T.O. 1F-4C-3-1-2

TECHNICAL MANUAL

STRUCTURAL REPAIR

ORGANIZATIONAL AND FIELD

FIXED STRUCTURE

USAF SERIES F-4C, F-4D, F-4E, F-4G, AND RF-4C AIRCRAFT

(ATCS)

MCDONNELL AIRCRAFT
N00019-69-C-0521
F42600-89-D-0284

Basic and all changes have been merged
to make this a complete publication

Published under authority of the Secretary of the Air Force

1 FEBRUARY 1975
CHANGE 85 - 18 AUGUST 1999

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

NOTE: The portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages are:

Original	0	1 February 1975	Change	43	15 October 1983
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Change	3	1 December 1975	Change	46	1 March 1984
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Change	27	1 February 1981	Change	70	1 February 1989
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Change	29	1 June 1981	Change	72	1 August 1989
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Change	33	1 March 1982	Change	76	15 July 1990
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Change	40	15 May 1983	Change	83	4 October 1993
Change	41	1 July 1983	Change	84	1 February 1995
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G Blank	78	1-1 - 1-6	80	2-12A - 2-12B	80
i	83	2-1 - 2-2	80	2-13	58
ii	82	2-3 - 2-4	0	2-14	64
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2-19 - 2-39	13
2-40 - 2-41	0
2-42	13
2-42A	24
2-42B Blank	24
2-43	0
2-44	5
2-45 - 2-47	0
2-48	14
2-49	13
2-50 - 2-51	68
2-52 Blank	68
2-52A	80
2-52B Blank	78
2-52C - 2-52F Deleted	65–
2-53 - 2-54	7
2-55	13
2-56 - 2-58	0
2-59	47
2-60 Blank	47
2-60A - 2-60B	80
2-61 - 2-62	64
2-62A - 2-62B	80
2-63	19
2-64	10
2-65	37
2-66 - 2-68	10
2-69 - 2-70	80
2-71	10
2-72	70
2-72A	47
2-72B	64
2-73 - 2-74	64
2-74A Blank	64
2-74B - 2-74D	64
2-75	64
2-76 - 2-77	14
2-78	64
2-79 - 2-81	13
2-82 - 2-83	14
2-84 - 2-87	13
2-88	64
2-89	14
2-90	64
2-90A - 2-90B	65
2-91 - 2-92	14
2-93	0
2-94 - 2-95	10
2-96	5
2-97 - 2-101	10
2-102	14
2-102A - 2-102B	43
2-103	0
2-104	58
2-105 - 2-106	80
2-106A	12
2-106B	78
2-106C	61
2-106D Blank	61
2-107 - 2-110	80
2-111	55
2-112	64
2-113	47
2-114	0
2-114A	64
2-114B Blank	64
2-115	14
2-116 - 2-117	0
2-118	14
2-119 - 2-120	83
2-120A	64
2-120B	5
2-120C	7
2-120D Blank	7
2-121 - 2-122	5
2-122A - 2-122B	65
2-123	11
2-124	0
2-124A	12
2-124B Blank	12
2-125	0
2-126	14
2-127	0
2-128	13
2-129	0
2-130 - 2-131	5
2-132	78
2-133 - 2-134 Deleted	35–
2-135	69
2-136	77
2-137 - 2-141	14
2-142 - 2-144	0
2-145	13
2-146	39
2-146A - 2-146B	52
2-147 - 2-148	80
2-148A - 2-148B	69
2-149 - 2-155	0
2-156 - 2-159	7
2-160	13
2-160A	52
2-160B Blank	52
2-161	52
2-162	13
2-163	11
2-164	66
2-164A	80
2-164B Blank	78
2-165	53
2-166	67
2-167	77
2-168	67
2-169 - 2-170	80
2-170A Added	80
2-170B Blank	80
2-171 - 2-173	34
2-174	73
2-175	79
2-176	76
2-177	79
2-178	74
2-178A	70
2-178B Blank	70
2-179	0
2-180	70
2-180A	63
2-180B	75
2-181	13
2-182	0
2-183	47
2-184	7
2-185 - 2-186	80
2-186A	58
2-186B Blank	25
2-187 - 2-188	7
2-189	58
2-190	51
2-190A	51
2-190B	50
2-190C	65
2-190D Blank	65
2-191	50
2-192	51
2-192A Blank	51
2-192B	51
2-193	0
2-194	58
2-194A	71
2-194B	29
2-194B1 Blank	29
2-194B2	29
2-194C - 2-194D	80
2-194E - 2-194F	14
2-195	58
2-196	0
2-197 - 2-198	7
2-198A	34
2-198B Blank	34
2-199	54
2-200	48

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2-203	0
2-204	71
2-205	11
2-206	31
2-206A	37
2-206B Blank	37
2-207	3
2-208	40
2-209	25
2-210	34
2-211	10
2-212	5
2-213	32
2-214	23
2-215	44
2-216	78
2-216A Blank	77
2-216B	77
2-217	11
2-218	19
2-219	34
2-220	77
2-221	13
2-222	34
2-222A	58
2-222B	46
2-223	0
2-224	72
2-224A - 2-224B	52
2-224C	77
2-224D	52
2-225	61
2-226	67
2-226A Blank	67
2-226B	67
2-227 - 2-228	80
2-229 - 2-230	0
2-231 - 2-232	80
2-233	65
2-234 - 2-236	13
2-236A	7
2-236B	40
2-236C	51
2-236D Blank	51
2-237 - 2-238	0
2-239	78
2-240	77
2-240A	77
2-240B	51
2-240C - 2-240F Deleted	62–
2-241	77
2-242	13
2-243	0
2-244	10
2-245	7
2-246	51
2-246A	80
2-246B Blank	26
2-247	0
2-248	59
2-249	67
2-250 Blank	67
2-251	59
2-252	13
2-253	45
2-254	0
2-254A	1
2-254B Blank	1
2-255	68
2-256 - 2-257	0
2-258	7
2-258A - 2-258B	34
2-259	55
2-260 - 2-261	0
2-262	54
2-263	62
2-264 - 2-265	14
2-266 Blank	10
3-1 - 3-2	80
3-3	0
3-4	13
3-5 - 3-6	80
3-6A	80
3-6B Blank	13
3-7	43
3-8	7
3-9 - 3-10	80
3-10A Added	80
3-10B Blank	80
3-11	3
3-12	47
3-13 - 3-14	27
3-15	0
3-16	47
3-17 - 3-18	13
3-19 - 3-20	47
3-21	3
3-22	10
3-23	67
3-24	0
3-24A	47
3-24B Blank	10
3-25	10
3-26	43
3-26A	43
3-26B Blank	43
3-27	0
3-28	70
3-28A Blank	70
3-28B	70
3-29	0
3-30	58
3-30A - 3-30C	52
3-30D Blank	52
3-31	13
3-32	0
3-32A - 3-32B	13
3-32C - 3-32D	80
3-33	80
3-34 Blank	80
3-35	0
3-36 - 3-37	13
3-38 - 3-39	0
3-40	3
3-41	27
3-42	37
3-43	27
3-44 - 3-47	13
3-48	3
3-49 - 3-50	5
3-50A	10
3-50B	5
3-50B1	5
3-50B2	13
3-50C	3
3-50D	10
3-50E - 3-50F	3
3-51	3
3-52	40
3-52A - 3-52D	83
3-53 - 3-54	83
3-55	58
3-56	47
3-56A	47
3-56B	78
3-57 - 3-58	82
3-58A Added	82
3-58B Blank	82
3-59	27
3-60	10
3-60A	27
3-60B Blank	3
3-61	3
3-62 - 3-64	1
3-64A	1
3-64B Blank	1
3-65 - 3-66	27
3-66A	68
3-66B Blank	68
3-67	3
3-68 - 3-69	10

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LIST OF EFFECTIVE PAGES

Page No.	*Change No.
3-70 - 3-72	13
3-73	65
3-74 - 3-78	13
3-78A	13
3-78B Blank	1
3-79 - 3-82	13
3-82A	13
3-82B Blank	13
3-82C - 3-82D	47
3-83	47
3-84	50
3-85	47
3-86	11
3-87	0
3-88	27
3-88A	41
3-88B Blank	41
3-89	3
3-90	0
3-91	3
3-92	21
3-92A	21
3-92B	36
3-93 Blank	21
3-94	21
3-95	0
3-96	10
3-96A Blank	41
3-96B	41
3-97	48
3-98	10
3-98A - 3-98F	82
3-98G - 3-98H Added	82
3-99	0
3-100	3
3-100A	3
3-100B	13
3-100C - 3-100D	10
3-100E - 3-100G	3
3-100H Blank	3
3-101	13
3-102	0
3-102A	1
3-102B Blank	1
3-103	72
3-104 - 3-107	13
3-108	72
3-108A	72
3-108B Blank	72
3-109	47
3-110	72
3-110A	72
3-110B Blank	72
3-111	78
3-112 - 3-114	27
3-115 - 3-116	13
3-116A Added	**85**
3-116B Blank	**85**
3-117 - 3-118	47
3-118A	47
3-118B Blank	47
3-119 - 3-123	0
3-124	10
3-124A	13
3-124B Blank	13
3-125	13
3-126	7
3-127	13
3-128	47
3-128A	10
3-128B Blank	3
3-129	0
3-130 - 3-131	13
3-132	0
3-133	13
3-134	3
3-134A	3
3-134B Blank	3
3-135	78
3-136 - 3-141	0
3-142	13
3-143 - 3-144	10
3-145 Blank	10
3-146 - 3-147	27
3-148	10
3-149	13
3-150	36
3-151 - 3-152	0
3-152A	13
3-152B Blank	10
3-153	0
3-154 - 3-155	13
3-156	0
3-157 - 3-158	80
3-158A	80
3-158B Blank	18
3-159 - 3-160	80
3-161	7
3-162	13
3-163	7
3-164	13
3-165	78
3-166	0
3-167	73
3-168 - 3-171	0
3-172	7
3-173 - 3-176	13
3-176A	52
3-176B Blank	52
3-177 - 3-178	80
3-178A - 3-178B	80
3-179 - 3-181	24
3-182	53
3-182A - 3-182B	80
3-182C - 3-182D Deleted	77
3-182E - 3-182F	59
3-183 - 3-184	80
3-184A Added	80
3-184B Blank	80
3-185	60
3-186	78
3-187 Blank	11
3-188	11
3-189	3
3-190	28
3-190A	60
3-190B Blank	60
3-191 - 3-192	80
3-193 - 3-194	3
3-194A	13
3-194B	3
3-194C	10
3-194D Blank	10
3-195	48
3-196	0
3-197	75
3-198	0
3-199 - 3-200	13
3-200A	58
3-200B Blank	48
3-201	58
3-202 - 3-203	0
3-204	13
3-205 - 3-208	0
3-209 - 3-210	22
4-1	83
4-2	80
4-2A - 4-2B	80
4-3	53
4-4	58
4-5	45
4-6	78
4-6A - 4-6B Deleted	11
4-7 - 4-8	0
4-9	16
4-10 - 4-11	0
4-12	16
4-13 - 4-14	13
4-15	16
4-16	13
4-16A	53
4-16B Blank	43

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4-17	43
4-18 - 4-26	0
4-27 - 4-37	13
4-38	0
4-39	28
4-40 - 4-42	0
4-43	13
4-44	72
4-44A Blank	10
4-44B	10
4-45 - 4-46	13
4-47	0
4-48 - 4-49	71
4-50	0
4-51	13
4-52	61
4-52A	84
4-52B Blank	52
4-53	63
4-54	71
4-54A - 4-54B	84
4-55	84
4-56	80
4-57	83
4-58	80
4-58A - 4-58B Deleted	80
4-59 - 4-60	80
4-60A - 4-60B	80
4-61	37
4-62	0
4-62A	47
4-62B Blank	47
4-63	47
4-64 - 4-65	0
4-66	45
4-67	10
4-68	0
4-69	45
4-70	13
4-71	45
4-72	13
4-73	45
4-74	26
4-75	5
4-76	26
4-76A	52
4-76B Blank	52
4-77 - 4-78	67
4-79	58
4-80	70
4-81	19
4-82	0
4-83 - 4-84	19
4-84A	58
4-84B - 4-84C	69
4-84D Blank	69
4-85 - 4-87	66
4-88	61
4-89	79
4-90	61
4-90A	79
4-90B Blank	79
4-91 - 4-92	68
4-92A	79
4-92B	61
4-93	0
4-94 - 4-95	11
4-96	13
4-96A - 4-96B	11
4-96C	51
4-96D	58
4-97 - 4-98	0
4-99	13
4-100 Blank	1
4-100A	3
4-100B	33
4-101	13
4-102	0
4-103	13
4-104	0
4-104A - 4-104B	3
4-105	3
4-106	0
4-107	13
4-108	0
4-109 - 4-110	84
4-110A - 4-110B	84
4-111	66
4-112	0
4-112A - 4-112B Added	80
4-113	0
4-114	56
4-115	64
4-116	67
4-117	0
4-118	13
4-119 - 4-120	17
4-121	0
4-122	13
4-123	0
4-124	10
4-125	0
4-126	10
4-127	13
4-128 - 4-129	0
4-130	13
4-131 - 4-132	0
4-133	13
4-134	0
4-135	13
4-136	44
4-137	0
4-138	71
4-139 - 4-140	84
4-140A - 4-140B Added	84
4-141 - 4-142	80
4-143	0
4-144	14
4-145	54
4-146	58
4-146A	58
4-146B Blank	47
4-147 - 4-148	60
4-149 - 4-150	0
4-151	56
4-152	48
4-153	0
4-154	54
4-155 - 4-158	80
4-158A	63
4-158B Blank	63
4-159	0
4-160 - 4-161	13
4-162	7
4-163	13
4-164	0
4-165 - 4-166	58
4-167	13
4-168	0
4-169 - 4-172	80
4-173	10
4-174	0
4-174A - 4-174B	67
4-175	0
4-176	13
4-177	0
4-178	79
4-179	10
4-180	79
4-181 - 4-183	10
4-184	22
4-184A - 4-184B	13
4-185 - 4-186	13
4-187 - 4-188	37
4-188A	13
4-188B	10
4-188C	13
4-188D	10
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4-189 - 4-191	83
4-192	80
4-193 - 4-194	13
4-194A - 4-194B	13
4-194C	43
4-194D Blank	43
4-195	49
4-196 - 4-198	3
4-199	11
4-200	10
4-201 - 4-202	67
4-202A	3
4-202B Blank	3
4-203	5
4-204	0
4-205	11
4-206	13
4-206A - 4-206B	5
4-206C	67
4-206D Blank	67
4-207 - 4-208	45
4-209 - 4-210	50
4-211	11
4-212	50
4-212A	75
4-212B Blank	75
4-212C - 4-212F Deleted	72
4-213	58
4-214	50
4-214A - 4-214B Deleted	49
4-215 - 4-216	70
4-216A	58
4-216B Blank	57
4-217	51
4-218 - 4-219	0
4-220	51
4-221 - 4-222	80
4-222A - 4-222B Deleted	52
4-223 - 4-224	80
4-225	0
4-226	11
4-226A	56
4-226B	52
4-227 - 4-228	0
4-229 - 4-230	10
4-231 - 4-234	80
4-235 - 4-236	0
4-237	13
4-238 - 4-239	58
4-240	11
4-240A	56
4-240B Blank	47
4-241 - 4-242	83
4-243 - 4-247	0
4-248	31
4-249 - 4-250	83
4-251 Added	83
4-252 Blank	83
5-1 - 5-2	80
5-2A	81
5-2B Blank	80
5-3 - 5-6	81
5-7	25
5-8 - 5-10	0
5-11 - 5-12	11
5-12A	43
5-12B Blank	43
5-13	43
5-14	11
5-15	13
5-16	0
5-17	13
5-18 - 5-23	0
5-24 - 5-25	63
5-26	13
5-27	0
5-28	11
5-28A Blank	11
5-28B	11
5-29	0
5-30	33
5-31	13
5-32	55
5-32A	55
5-32B Blank	33
5-33	64
5-34	13
5-35 - 5-36	80
5-36A Added	80
5-36B Blank	80
5-37	53
5-38 - 5-39	13
5-40	0
5-40A	51
5-40B - 5-40C	73
5-40D	66
5-40E - 5-40F	71
5-40G	69
5-40H Blank	69
5-41 - 5-42	0
5-43 - 5-44	80
5-44A - 5-44B	61
5-45 - 5-46	13
5-47 - 5-48	0
5-49 - 5-50	13
5-51 - 5-52	65
5-52A	13
5-52B Blank	13
5-53	0
5-54 - 5-55	28
5-56 - 5-57	3
5-58	62
5-59 - 5-60	0
5-60A - 5-60B	3
5-61	13
5-62 Blank	0
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SECTION I

INTRODUCTION

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GENERAL INFORMATION

1-1. PURPOSE.

1-2. This manual is one of a series providing structural repair instructions to personnel at all maintenance levels. This manual provides coverage on fixed structure for F-4C, F-4D, F-4E, F-4G, and RF-4 aircraft manufactured by McDonnell Douglas Corporation.

1-3. GENERAL STRUCTURAL INFORMATION. Refer to T.O. 1F-4C-3-1-1 for the following general information:

a. Purpose of manuals.

b. Conventions and Legends.

c. How to use the manuals.

d. Related publications and information.

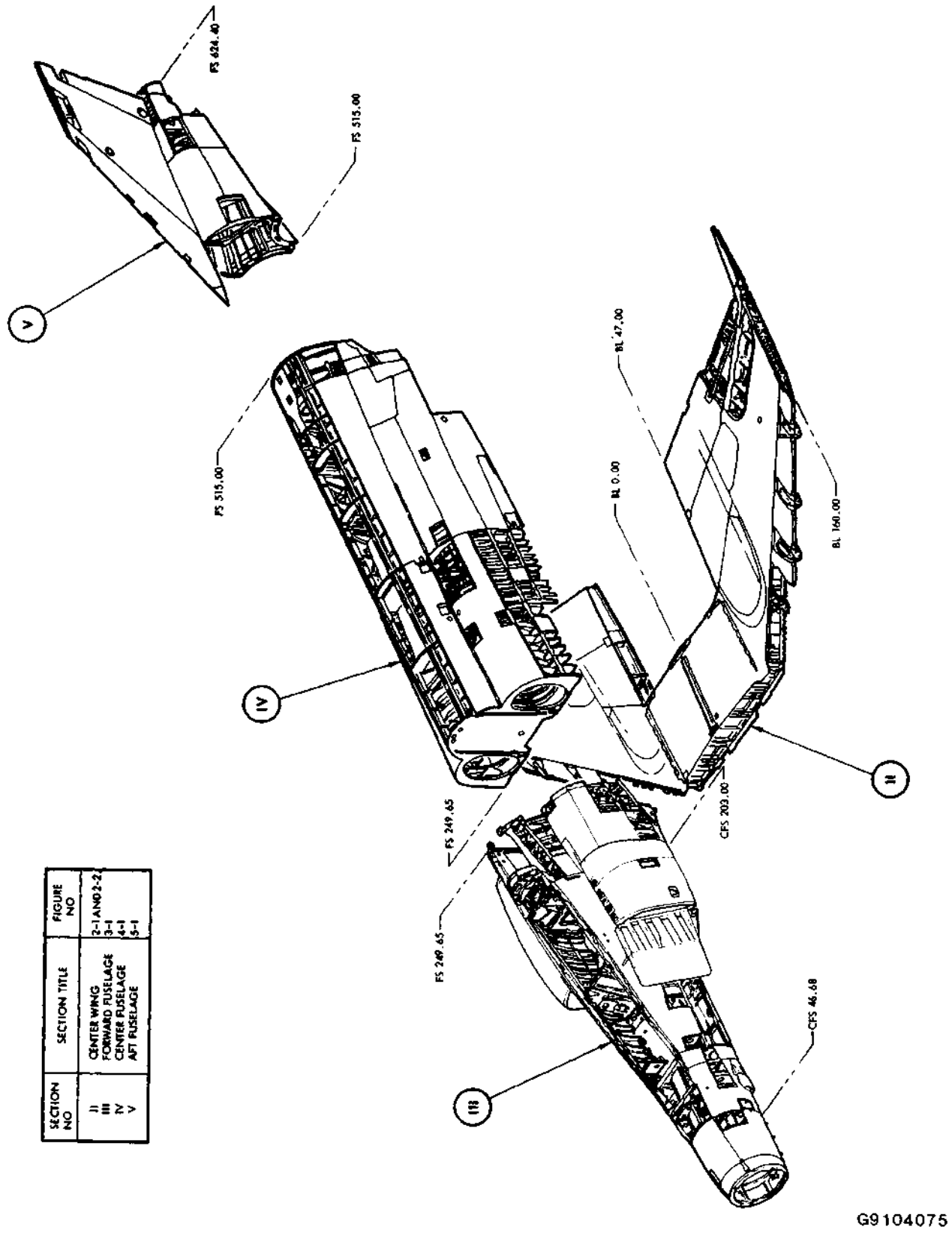
1-4. SCOPE. See figure 1-1.

1-5. Fixed structure consists of the center wing section, forward fuselage, center fuselage, and aft fuselage. The center wing section is joined to the center fuselage by a production type splice. Since it is impractical to break this splice at organizational/field maintenance, repairs to the fixed structure must be made at the aircraft site.

1-6. CENTER WING. The center wing fixed structure extends from centerline of aircraft BL 0.00 outboard on each side of the aircraft to the wingfold ribs BL 160.00. Hinged structure is provided for support of the control surfaces such as aileron, flaps, and speedbrake. The hinges are considered as a unit for purposes of wear tolerances and negligible damage. This information is included with the fixed structure.

1-7. FORWARD FUSELAGE. The F-4C AND F-4D forward fuselage extends from CFS 46.68 to FS 249.65; the F-4E AND F-4G extends from CFS 2.30 to FS 249.65 and the RF-4 from CFS - 6.20 to FS 249.65. The forward fuselage structure consists of two parts; main structural assembly and engine air ducts. The engine air duct extends from the leading edge of the fixed ramp to FS 203.00. The engine air duct aft of FS 203.00 is an integral part of the forward fuselage. The engine air duct forward of FS 203.00 is removable at depot maintenance. The hinges are considered as a unit for purposes of wear tolerances and negligible damage. This information is included with the fixed structure.

1-8. CENTER FUSELAGE. The center fuselage extends from FS 249.65 to FS 515.00. It is spliced to the wing by match angles at BL 47.00 and by 16 attach bolts on the front and main spar. Supporting structure is provided for the engines and engine doors. The center fuselage structure consists of two parts; main structural assembly and engine compartment. The hinges are considered as a unit for purposes of wear tolerances and negligible damage. This information is included with the fixed structure.



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Figure 1-1. Fixed Structure

1-9. AFT FUSELAGE. The aft fuselage fixed structure extends from the production splice at FS 515.00 to FS 624.40. The aft fuselage consists of two parts; main structural assembly and vertical fin. The vertical fin is attached to the main structural assembly by a production splice. Removal and replacement of the vertical fin is accomplished at depot maintenance. The hinges are considered as a unit for purposes of wear tolerances and negligible damage. This information is included with the fixed structure.

1-10. TECHNICAL DIRECTIVES.

1-11. The current Technical Directives which affect the text and illustrations in this manual are listed in table 1-1.

1-12. REFERENCES TO RELATED F/RF-4 PUBLICATIONS.

1-13. When a reference is made to related F/RF-4 publications, and the reference is applicable to more than one F/RF-4 series aircraft; the reference will appear as shown in the following example:

Refer to T.O. 1F-4( )-2-4.

This indicates a reference to T.O. 1F-4C-2-4, T.O. 1F-4D-2-4, T.O. 1F-4E-2-4 or T.O. 1F-4(R)C-2-4; as applicable. Refer to T.O. 1F-4C-3-1-1 for a list of related F/RF-4 publications.

1-14. STRUCTURAL INFORMATION DATA CHANGES.

1-15. Deleted

1-16. SAFETY SUMMARY.

1-17. Personnel should be familiar with the following warnings before using chemical conversion coating, sealants, cements, solvents, and primers.

WARNING

- When using chemical conversion coating, Specification MIL-S-8802/81733 sealants, cements, solvents, and primers, ensure adequate ventilation. Avoid skin and eye contact. Approved respirators will be worn when applying these substances. The local bioenvironmental engineer will furnish information concerning specific respiratory requirements and protective clothing.
- When involved with vac-cadmium operations, the local bioenvironmental engineer will provide specific requirements concerning protective equipment.

1-18. Personnel should be familiar with the following warning on structural repair methods:

WARNING

When drilling or reaming holes, appropriate size drill stops must be used. Drill stops prevent damage to lines, electrical wiring, and other structural components. Therefore, use drill stops when drilling new holes, drilling out (removing) fasteners or final reaming (sizing) for new fastener installations.

1-19. HAZARDOUS MATERIALS. Materials listed in table 1-2 may be hazardous, detrimental to health, corrosive or may exceed Environmental Protection Agency (EPA) and clean air standards under certain conditions. Ensure proper equipment is used, clothing is worn, and precautions are taken when materials are utilized.

Table 1-1. Record of Applicable Time Compliance Directives

TECHNICAL DIRECTIVE (T.O.)	DIRECTIVE DATE	TITLE	MANUAL CHANGE/REVISION SUPPLEMENT DATE
1F-4-755	1 Aug 70	Installation of Class V MOD 1747 (Seek Silence) in F/RF-4C/D Aircraft (ECP-MDA-F4-703S3)	15 Feb 71
1F-4-776	1 Mar 70	Incorporation of Additional Formation Lights, F/RF-4C/D/E Aircraft and Trainers TFE-5, TFE-105, TFE-205, TFE-20, TFE-120, CT-43 and ST-49 (ECP-MDA-F4-852 and 852S1)	15 Feb 71
1F-4-908	1 Aug 72	Deletion of Pressure Suit Heat Exchanger and Installation of Integral Moisture Separator, F-4C/D/E, RF-4C Aircraft and Trainers (ECP-MDA-F4-715R1S1)	1 Apr 73
1F-4-991	30 Sep 75	Structural Fatigue Improvement, F-4C/D/E and RF-4C Aircraft (ECP-MDA-F4-1014R1S3, 1014R1S10, and 1014R1S12)	1 Jun 74
1F-4-1035 1F-4-1035F	15 Feb 74 15 Jun 74	Inspect, Remove and Replace Fuel Cell No. 4 Web Assembly, Part No. 32-32140-F-4C/D/E AND RF-4C Aircraft	15 Jul 75 15 Jul 75
1F-4-1071	15 Feb 76	Modification of Fuel Cell Cavities Nos. 3, 4, 5, and 6 F-4C/D/E AND RF-4C Aircraft	15 Dec 76
1F-4-1100	1 Aug 78	Fatigue Improvement - Lower Skin at Forward MLG Rib F-4 Aircraft (ECP-MDA-F4-8167R1 PT. III)	1 May 78
1F-4-1123	1 May 78	Fatigue Improvement, Wingfold Rib F-4 Aircraft (ECP-MDA-F4-8167R1 PT. II)	1 May 78
1F-4C-597		Installation of Class V MOD 2012 in The Wild Weasel F-4C Aircraft	15 Feb 71
1F-4C-598	20 Mar 70	Multi-Station ECM Wiring Provisions, Inboard Wing Pylon, F-4C Aircraft	15 Feb 71
1F-4C-603	15 Apr 71	Installation of Group A Provisions for Strike Camera Mode on F-4C Aircraft	15 Feb 71
1F-4E-532 1F-4E-532D	30 Mar 71 3 Nov 72	Installation of AN/ASQ 19B, Radio Secure Voice Equipment - F-4E Aircraft and Trainers (ECP-MDA-F4-703S3)	15 Nov 72 15 Nov 72
1F-4E-566	15 Mar 73	Installation of Two Position Leading Edge Slat - F-4E Aircraft (ECP MDA-F4-7176)	1 Sep 73
1F-4E-591	1 Jul 75	Radar Warning Improvements, AN/ALR-46 F-4E	1 Feb 75

Table 1-1. Record of Applicable Time Compliance Directives (CONT)

TECHNICAL DIRECTIVE (T.O.)	DIRECTIVE DATE	TITLE	MANUAL CHANGE/REVISION SUPPLEMENT DATE
1F-4E-600	30 Jan 78	Installation of Group A Provisions for the AN/APR-38 Radar Warning Receiver, AN/ASG-30 Lead Computing Optical Sight, Airborne Digital System Recorder, Dual Needle Tachometer Bendix P/N 3571270-2001, AN/AGM-45 A/B-7-9-10 Improved Shrike and the AN/AGM-78D-2 Standard Antiradiation Missile, F-4E Aircraft	15 Dec 77
1F-4(R)C-626	30 Mar 70	Multi-Station ECM Wiring Provisions for RF-4C and Inboard Wing Pylons	15 Feb 71
1F-4(R)C-647	15 Apr 74	Refaired Nose Molding, RF-4C Aircraft	1 Sep 73
1F-4(R)C-655	1 Jun 75	Radar Warning Improvements, AN/ALR-46 RF-4C	1 Feb 75
1F-4(R)C-710	1 Dec 87	Structural Fatique Improvements RF-4C Aircraft	
1F-4G-502	7 Feb 79	Installation Provisions For New 600 Gallon Drop Tank, F-4G Aircraft	1 Feb 81
1F-4D-578	1 Jan 82	Removal of AN/APS-107 and Installation of AN/ALR-69 to Include Compass Tie, F-4D and Trainers	1 Feb 81
1F-4-1308	1 Dec 83	Installation Provisions for High Performance Centerline Tank F-4C, F-4D, F-4E, and RF-4C Aircraft	
1F-4(R)C-671	1 Jul 84	Installation of AN/APD-12 Radar Imaging Set in RF-4C Aircraft	
1F-4-1300	15 Apr 85	Replacement of Stabilator Attach Fitting, Fuselage Station 613.44, F-4 Aircraft	15 Nov 85
1F-4-1485	30 Apr 86	Damage To Forward Missile Launcher Fitting	1 Aug 86
1F-4D-547	20 Feb 70	Multi-Station ECM Wiring Provisions F-4D; Inboard Wing Pylons	15 Mar 88
1F-4E-626	1 Nov 78	Installation of Digital Modular Avionics System AN/ARN-101(V) in F-4E Aircraft	15 Mar 88
1F-4(R)C-667	1 Sep 78	Installation of Digital Modular Avionics System AN/ARN-101(V) in RF-4C Aircraft	15 Mar 88
1F-4-1481	1 Sep 90	Fatigue Improvement of Upper Forward Engine Mount Back Up Structure, F-4E/G and RF-4C Aircraft	1 Jul 91

Table 1-2. Hazardous Materials

NOUN	SPECIFICATION	SECTION
Coating, chromate conversion	MIL-C-5541	I, II, III, IV, V
Compound sealing	MIL-S-8802	I, II, III, IV, V
Compound, sealing	MIL-S-81733	I, II, III, IV, V
Adhesive	EC2216 A/B	II, III
Compound, sealing	MIL-S-85334	II
Resin, epoxy	Ciba-Geigy RP4014	II
Compound, retaining, Loctite	MIL-R-46082	II
Primer, Loctite	MIL-S-22473	II
Enamel	TT-E-489	II
Enamel	TT-E-527	III
Primer, zinc chromate	TT-P-1751	III
Compound, aluminum filled	RP1250	III
Adhesive	MMM-A-1617	II
Resin, epoxy	MIL-R-21931	III
Adhesive	MMM-A-134	III
Adhesive	MIL-S-23586	III
Adhesive	MIL-A-46146	IV
Coating, antichafe	822-T-200	IV
Adhesive	MIL-A-8623	V

SECTION II

CENTER WING

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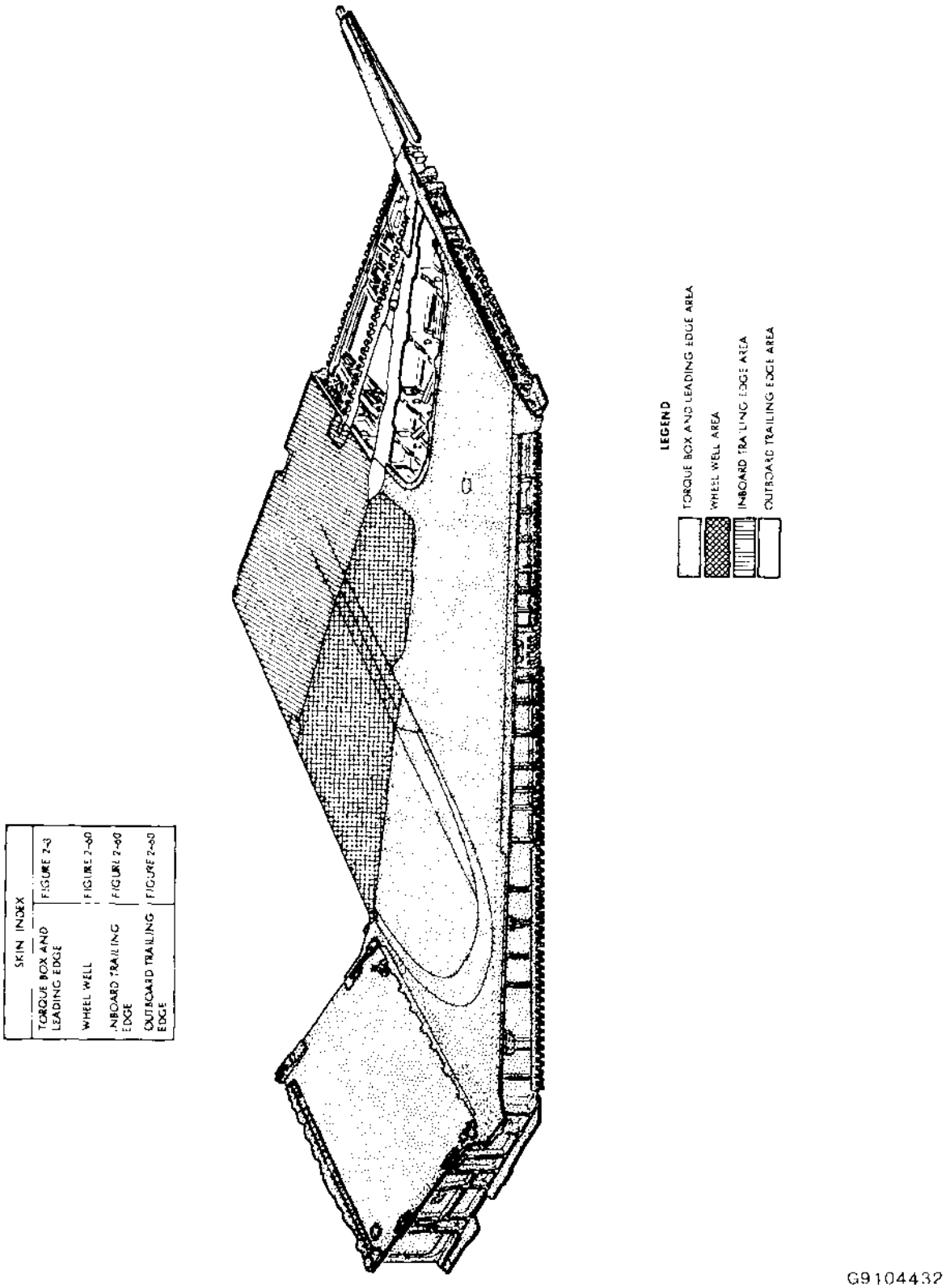
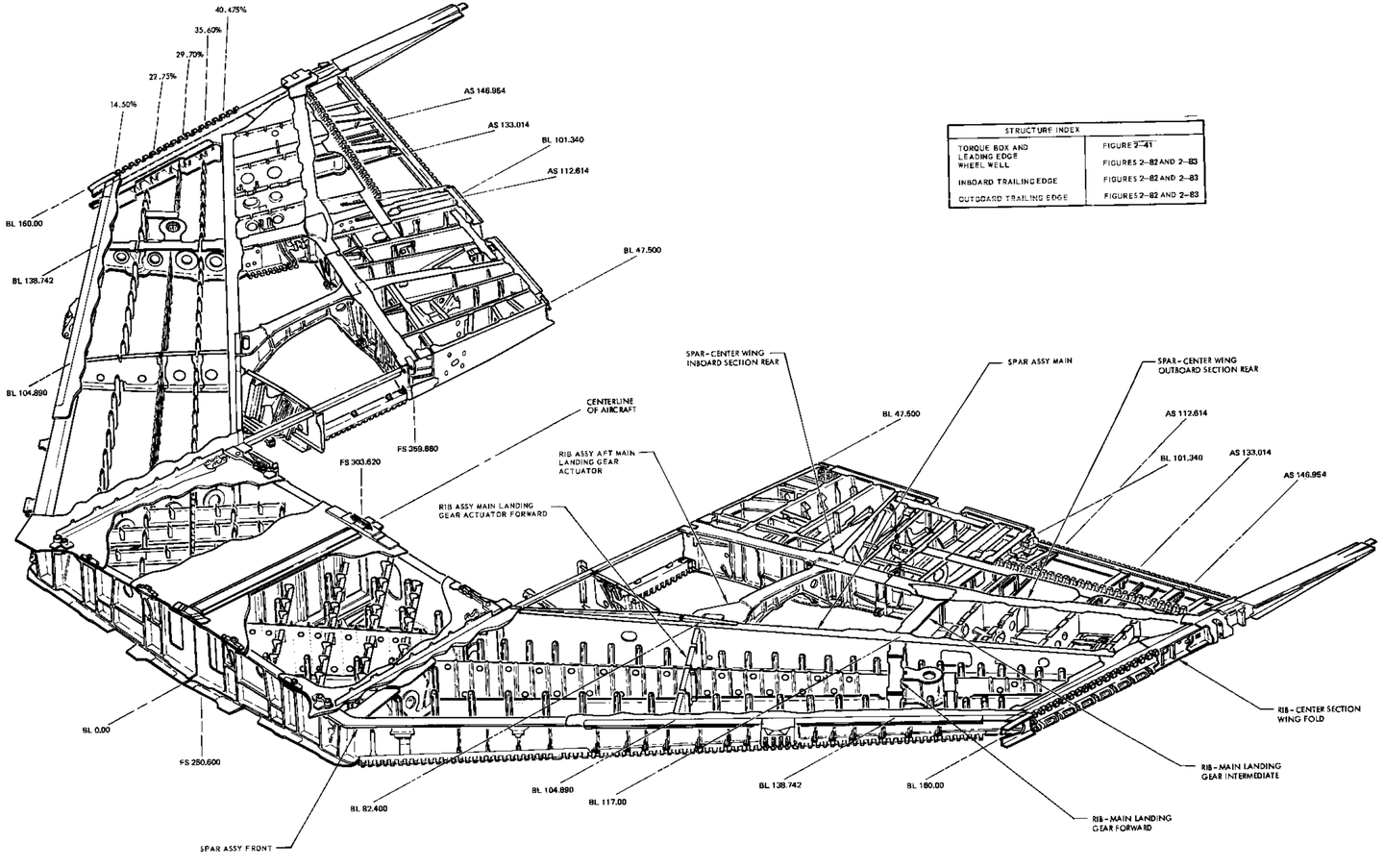


Figure 2-1. Center Wing Section Index - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295, and RF-4C; also F-4E 66-287 and 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 1 of 3)



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TORQUE BOX AND LEADING EDGE WHEEL WELL	FIGURE 2-81
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4C-3-1-2-1297-21

Figure 2-1. Center Wing Section Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 2 of 3)

STRUCTURE INDEX	
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WHEEL WELL	FIGURES 2-82 AND 2-83
INBOARD TRAILING EDGE	FIGURES 2-82 AND 2-83
OUTBOARD TRAILING EDGE	FIGURES 2-82 AND 2-83

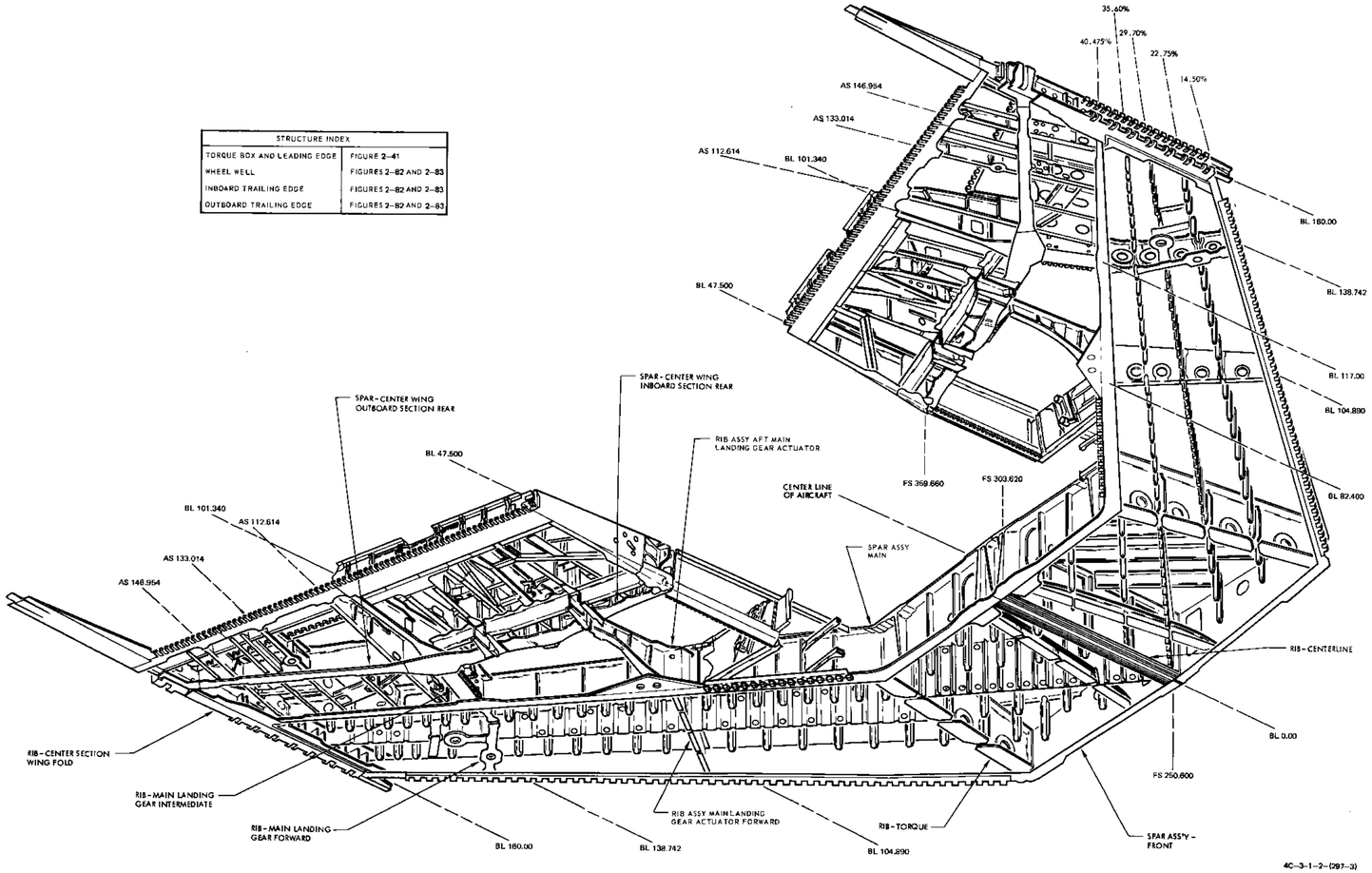


Figure 2-1. Center Wing Section Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 3 of 3)

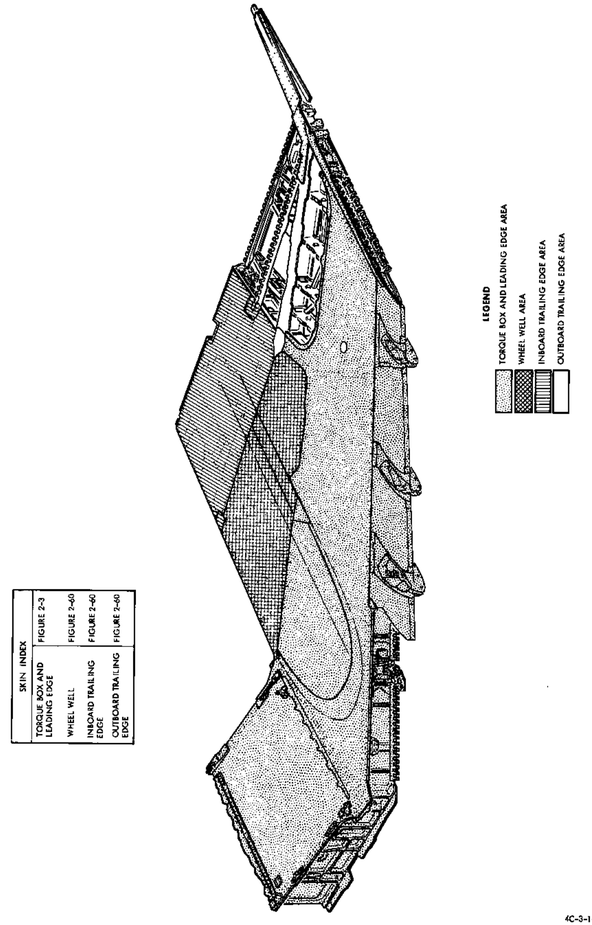
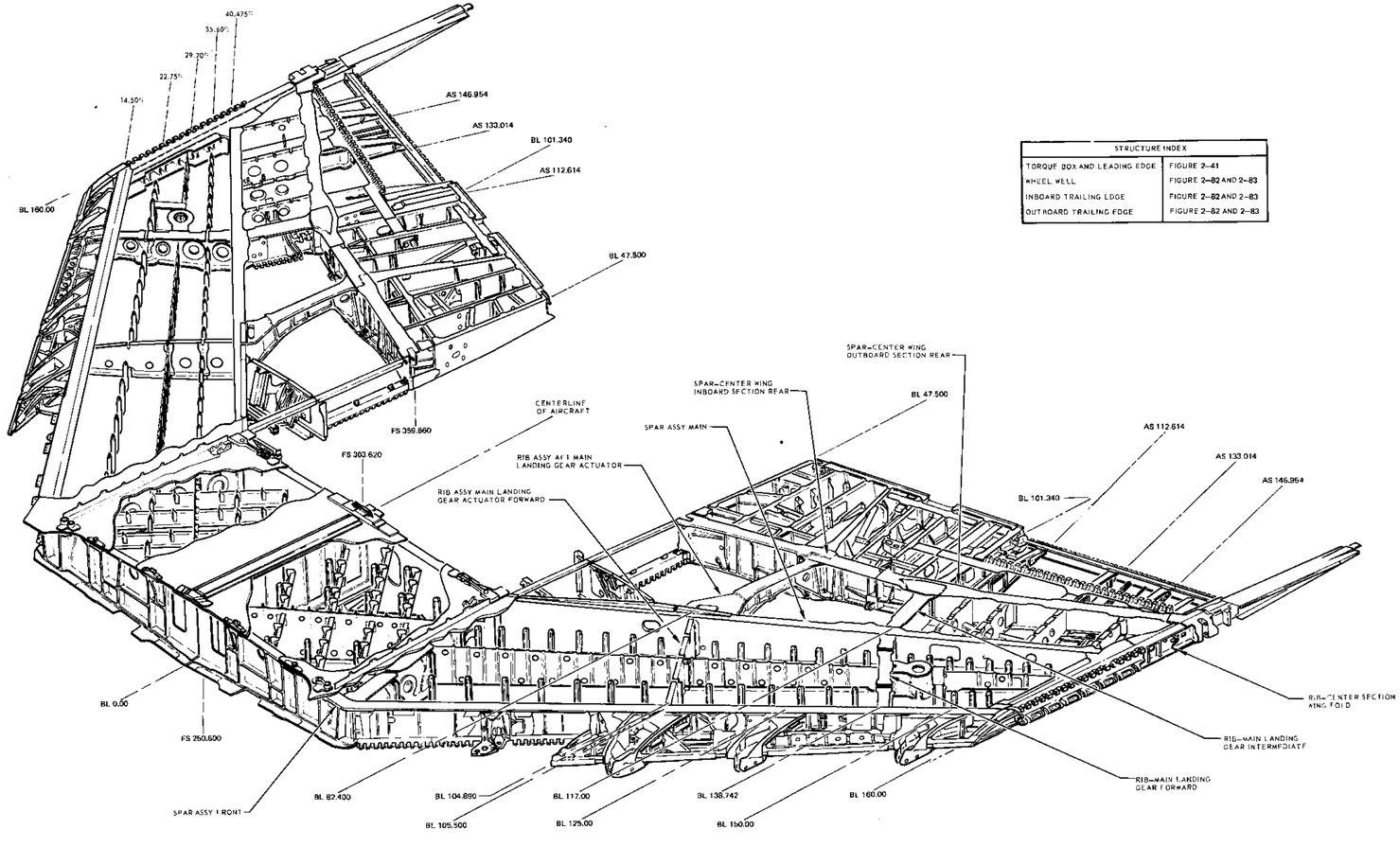


Figure 2-2. Center Wing Section Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G (Sheet 1 of 3)



STRUCTURE INDEX	
TORQUE BOX AND LEADING EDGE	FIGURE 2-41
WHEEL WELL	FIGURE 2-82 AND 2-83
INBOARD TRAILING EDGE	FIGURE 2-82 AND 2-83
OUTBOARD TRAILING EDGE	FIGURE 2-82 AND 2-83

4C 3-1-2-053-21B

Figure 2-2. Center Wing Section Index-F4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSC F-4E 72-121 AND UP AND F-4G (Sheet 2 of 3)

STRUCTURE INDEX	
TORQUE BOX AND LEADING EDGE	FIGURE 2-41
WHEEL WELL	FIGURES 2-82 AND 2-83
INBOARD TRAILING EDGE	FIGURES 2-82 AND 2-83
OUTBOARD TRAILING EDGE	FIGURES 2-82 AND 2-83

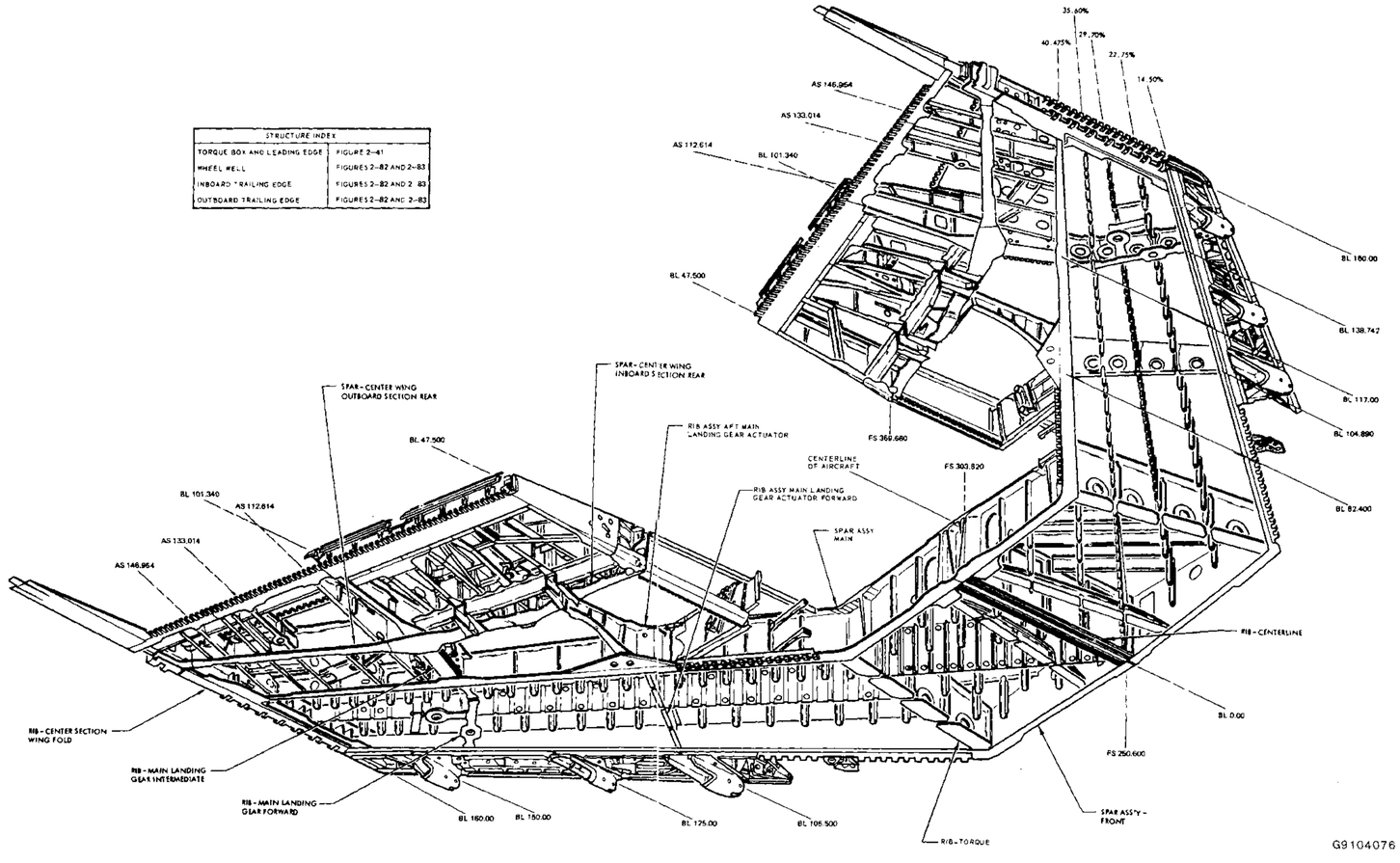


Figure 2-2. Center Wing Section Index - F-4E 66-287 and 66-296 through 71-1402 after T.O. 1F-4E-566, also F-4E 72-121 and up and F-4G (Sheet 2 of 3)

INTRODUCTION

2-1. **GENERAL.** See figures 2-1 and 2-2.

2-2. The center wing structure discussed in this section is fixed structure. Doors and control surfaces are not included. Doors are discussed in T.O. 1F-4C-3-1-3, while control surfaces are discussed in T.O. 1F-4C-3-1-4. The main subsections are; center wing main structure and center wing and components hinge tolerances. The main structure gives detailed description of parts, negligible damage and corrosion removal limits, repairs, and replacement. The center wing and components hinge tolerances gives allowable limits on hinge damage to ensure safety of flight.

2-2A. **STRUCTURAL INFORMATION DATA CHANGES.**

2-2B. Personnel should be familiar with the following data changes contained in this manual:

a. When alodine is specified in this manual, change to chemical conversion coating, Specification MIL-C-5541.

b. When sealant, Specification MIL-S-8802, is specified in this manual, change to sealant, Specification MIL-S-81733, except in the integral fuel cell areas.

2-2C. **SAFETY SUMMARY.**

2-2D. Personnel should be familiar with the following warnings before using chemical conversion coating, sealants, cements, solvents, and primers.

WARNING

When using chemical conversion coating, Specification MIL-S-8802/81733 sealants, cements, solvents, and primers, make sure of adequate ventilation. Avoid skin and eye contact. Approved respirators will be worn when applying these substances. The local bioenvironmental engineer will furnish information concerning specific respiratory requirements and protective clothing.

- When involved with vac-cadmium operations, the local bioenvironmental engineer will provide specific requirements concerning protective equipment.

2-3. **CONSTRUCTION.**

2-4. The center wing is a thick skin, multi-spar, cantilever structure. It is swept back 45 degrees from the fuselage side wall. The wing has a main load carrying box structure and a lighter trailing edge structure. The main skin materials used in construction are 7075 and 7178 alclad and aluminum alloys. Most skins are machined to varying thicknesses. The main ribs and spars are machined aluminum alloy forgings, with the lighter ribs and spars being channel shaped aluminum alloy or alclad sheets. The trailing edge is honeycomb structure.

CENTER WING MAIN STRUCTURE

2-5. **DESCRIPTION.** See figures 2-1 and 2-2.

2-6. The center wing main structure, consists of structure that splices to the forward and center fuselage and extends outboard on each side of the wing manufacturing splice BL 00.00 wing fold ribs BL 160.00. The wing is nested in the forward segment of center fuselage to form the lower mold line. The segment that is nested is known as the wing carry through structure and is part of the torque box structure. For repair purposes, this section divides center wing main structure into four subsections: torque box and leading edge, wheel well, inboard trailing edge, and outboard trailing edge. The torque box and leading edge area lies between front and main spars and wing fold ribs; besides acting as the main load carrying structure, it is an integral fuel cell and supports leading edge flaps by a continuous hinge along the front spar on F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295, and RF-4C; also F-4E 66-287, 66-296 through 71-236 before T.O. 1F-4E-566, and has a leading edge slat closure on F-4E 66-287 and 66-296 through 71-1402 after T.O. 1F-4E-566; and F-4E 72-121 and up and F-4G. Aft torque box lower mold line has a fatique strap on F-4E 66-287,66-296 through 71-1402 after T.O. 1F-4E-566; and F-4G. The wheel well area lies between the main and rear spars, and fuselage side-wall outboard to the main landing gear intermediate rib. The inboard trailing edge area lies aft of wheel well area between the rear spar and trailing edge closure beam, and fuselage side wall outboard to splice line along inboard spoiler and door 102 inboard edges. The outboard trailing edge area lies aft of the torque box main spar to trailing edge area to the wing fold rib. The center wing main structure and components hinge tolerances are discussed separately and as a joint analysis between hinge half and hinge pin.

2-7. **ACCESS FOR REPAIRS.**

2-8. Access to the interior of the center wing section is limited to the use of existing access openings, refer to T.O. 1F-4C-3-1-3, actuation of control surfaces or through landing gear door openings. Most of the wing skins are highly stress loaded and are machined skins which should not be peeled back,

Pages 2-8A and 2-8B are deleted in their entirety.

removed or cut into at organizational/field maintenance unless otherwise noted in appropriate paragraphs. If an additional access opening is required to gain access to skin or structure, depot engineering assistance must be obtained to determine safety of flight.

2-9. TORQUE BOX AND LEADING EDGE. See figures 2-3 and 2-41.

2-10. The torque box is the main load carrying structure in the wing and is also one of the largest fuel cells in the aircraft. The structure consists of leading edge slat closure on F-4E 66-287, and 66-296 through 71-1402 after T.O. 1F-4E-566 and F-4E 72-121 and up and F-4G, front spar, main spar, centerline closure rib, torque rib, landing gear ribs, wing fold rib, and upper and lower skins. An intermediate spar is midway between the front and main spar and consists of a corrugated sheet metal web. A series of posts, spaced about six inches apart, connect the upper and lower skins on each side of the corrugated web. The internal structure between the torque rib and centerline closure rib consists of a beam running diagonally to the centerline of the aircraft with rows of posts on each side of the web. Since the torque box is an integral fuel tank, seams are coated internally with sealant. Leakage around fasteners and general sealing of the torque box area is discussed in T.O. 1F-4C-3-1-6. If plate nuts are damaged, existing fasteners should be replaced by blind sealing type fasteners specified in paragraph 2-54.

2-11. LEADING EDGE SLAT CLOSURE. See figures 2-4 through 2-21. The leading edge slat closure consists of skins, fairings, and fittings.

2-12. Skins. See figures 2-4 through 2-17. Skins are machined from 7075 alclad.

2-13. Negligible Damage and Corrosion Removal Limits. Dents up to 0.060 in depth are negligible, provided that radius of depression is not less than two inches. Allowable depth of negligible damage and corrosion is as follows:

a. Skin, 53G970838-3, -4 and -25, -26, see figure 2-5.

b. Skin, 53G970838-5, -6 and -29, -30, see figure 2-8.

c. Skin, 53G970838-7, -8 and -33, -34, see figure 2-11.

d. Skin, 53G970838-17, -18 and -37, -38, see figure 2-14.

e. Skin, 53G970839-3, -4 and -5, -6, see figure 2-17.

Refer to T.O. 1F-4C-3-1-5 for rework procedure.

2-14. Repairs. Repairs are not practical at organizational/field maintenance because of construction.

2-15. Replacement. For replacement of 53G970838 and 53G970839 skins, see figures 2-6, 2-9, 2-12, 2-15, and 2-16.

2-16. Fairings. See figures 2-18 and 2-21. Fairings are machined from 7075 aluminum alloy.

2-17. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 are negligible, provided that radius of depression is not less than two inches for 53G970797 fairing. Allowable depth of negligible damage and corrosion is as follows:

a. Fairing, 53G970797, see figure 2-19.

b. Fairing, 53G970874, see figure 2-20.

c. Fairing, 53G970837, see figure 2-21.

Refer to T.O. 1F-4C-3-1-5 for rework procedure.

2-18. Repairs. Repairs are not practical at organizational/field maintenance because of construction.

2-19. Replacement. For fastener replacement in fairing 53G970797, see figure 2-18.

2-20. MACHINED TAPERED SKIN PANELS. See figures 2-22 and 2-26. The torque box skin panels consist of upper and lower machined skins. These skins are machined to various thicknesses from 7075 aluminum alloy plate and are the largest skin panels. In addition to integral machined flanges and lands for attachment of structure, integral stiffeners provide strength. The long narrow skin, 32-11002 or 53G970794, located at BL 160.00, fairs the upper torque box skin to the wing fold rib, see figure 2-3. Allowable gap and mismatch limits for skins other than noted in this section are covered in T.O. 1F-4C-3-1-1.

2-21. Upper Skin Panel. See figure 2-22. The upper skin panel is machine-tapered with the greatest thickness other than the land areas for beam and post attachment; at the center section torque rib reference line. The panel tapers spanwise from the torque rib inboard to the centerline closure rib. Outboard of the torque rib, the panel tapers to the wing fold rib. The chordwise taper between the torque rib and centerline closure rib extends from the 35.60 percent line to the front and main spars. The panel outboard of the torque rib increases in thickness from the front spar to the main spar. The skin panel has 10 major machined stiffeners spaced approximately six inches apart between the centerline closure rib and the torque rib. Three stiffeners are along the 22.75, 29.70, and 35.60 percent chord lines outboard of the torque rib. On the upper mold line surface, the only machined segment of the skin is where it is recessed to accept the bonded fairing.

2-22. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 are negligible, provided that the radius of the depression is not less than two inches and the damage does not create an oil-can tendency. Refer to T.O. 1F-4C-3-1-5 for method of detecting oil-cans. Negligible damage up to 0.010 in depth and unlimited in length is acceptable without blending. Corrosion must be blended. However, areas of missing paint should be touched up per T.O. 1F-4C-3-1-6. Damage limits of blended nicks, corrosion, scratches, and gouges are 0.040 in depth and unlimited in length between the front spar and the 35.60 percent chord line and 0.040 in depth and six inches in length between the 35.60 percent chord line and the main spar. The limits of 0.040 maximum can be exceeded if the following limitations can be adhered to:

a. Upper skin panel.

(1) The depth of the blend cut can be increased to 50 percent of skin thickness or 0.25 deep, whichever is less. See figure 2-22 for skin thickness.

(2) The surface area when blended should be confined inside a one inch diameter circle.

(3) Minimum radius of blend cuts should be 0.75.

(4) Edge of the blended out surface should be at least one inch diameter from edge of fastener countersink.

(5) Spacing between gouges or other repairs should be at least 10 inches.

Negligible damage limitations for nicks, and gouges to the leading edge of the skin panel, where it interlocks with the leading edge flaps, are shown in figure 2-24, on F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295, and RF-4; also F-4E 66-287 and 66-296 through 71-236 before T.O. 1F-4E-566. If damage exceeds negligible damage, interlock shall be replaced. For replacement of 32-11538-19, -20 interlock, see figure 2-25.

b. Skin, 53G970794-3, -4 and -5, -6. See figure 2-23. Dents to 0.060 in depth are negligible, provided radius of depression is not less than two inches. For rework of negligible damage refer to T.O. 1F-4C-3-1-5.

2-23. Repairs. Repair to the torque box upper skin is divided into permanent repair and one time flight repair. Permanent repairs can be installed on the skin without limiting performance of the aircraft. One time flight repair is installed on the skin at organizational/field maintenance to enable the aircraft to be ferried to depot for permanent repair.

a. Permanent Repairs. Damage limited to a 3/8-inch diameter hole and skin thickness of 0.25 minimum can be repaired by drilling a 3/8-inch diameter hole and installing a BB167-12 blind sealing bolt per T.O. 1F-4C-3-1-1. NDI eddy-current hole prior to blind bolt installation to verify no defects are present. Wet install blind bolt with sealant, Specification MIL-S-8802. If skin thickness is less than 0.25, repair per figure 2-31. If the damage cannot be cleaned up within a 3/8-inch diameter hole, but is limited to a one-inch diameter, use repair procedure shown in figure 2-30. Limitations of the permanent repairs are as follows:

CAUTION

These repairs shall not be used if cleaned up hole will extend into integral stiffener of the skin or the internal structure such as rib, fitting, etc. See figure 2-22 for the torque box skin diagram and figure 2-41 for location of ribs, fittings, etc.

(1) The edge of repair hole shall be at least one inch from edge of countersunk fastener hole.

(2) Repair in figure 2-30 should be used only if damage can be cleaned up in a one inch maximum hole.

(3) Minimum spacing between repairs shall be 10 inches.

b. One time ferry flight repair.

WARNING

When a one time flight repair is installed on the wing, the load factor during the ferry flight should be limited to 2.5g with a maximum speed of 450 knots calibrated airspeed or 0.8 Mach, whichever is less. This information shall be placarded in the cockpit.

Cracks which cannot be repaired under permanent skin repairs should be repaired by removing visible evidence of cracks by either cutting or filing and making a fluorescent-penetrant check of the area to ensure damage is removed. Refer to T.O. 33B-1-1 for inspection procedure. After damage is removed, enlarge hole so the final configuration has straight or elliptical sides. No reentrant corners or material should be permitted. However, it is mandatory that the final hole be absolutely minimum size. Corner radii should be at least 25 percent of cutout width (W). Example: Width = four inches, minimum

Pages 2-10A and 2-10B are deleted in their entirety.

corner radii should be one inch. Install applicable ABDR repair doubler per T.O. 1F-4C-39 as applies to damage location and cutout size.

Limitations of the one time flight repair are as follows:

(1) Chordwise - 90 degrees to percent lines running spanwise, dimension on repair hole should not exceed five inches. Spanwise parallel to percent lines, dimension should not exceed 10 inches.

(2) If an internal stiffener is damaged, contact structural engineering OO-ALC/LACE for disposition.

(3) This repair is not applicable if any internal structure, major ribs, fittings, etc., is damaged. If skin is damaged beyond limits given in this paragraph, local engineering should review the damages.

2-24. Replacement. Replacement is not practical at organizational/field maintenance. Replacement of 32-11002 or 53G970794 skin can be accomplished per paragraphs 2-25 through 2-28.

2-25. Tools and Equipment.

Brush, paint

Pan, mixing

Scales, 0 to 10 pounds capacity, 0.01 pounds graduation

Scraper, plastic

Spatulas, metal

2-26. Materials.

Cheesecloth, CCC-C-440

Sheet stock, 0.063, 7075-T6 alclad, QQ-A-250/13 (T6)

Sealant, see T.O. 1F-4C-3-1-6

2-27. Cleaning Procedure. Sealant must be applied only to a thoroughly cleaned and dry surface. Dust, filings, chips, shavings, dirt, and other loose foreign materials must be removed with a vacuum or a jet of clean dry air.

WARNING

Cleaning solvents are slightly toxic. Cleaning operations must be accomplished in a well ventilated area. Solvents are flammable and care must be taken to avoid open flames or sparks.

After all loose objects are removed, thoroughly clean area with a clean cloth dampened with solvent. Area must be wiped dry before solvent has evaporated.

2-28. Installation Procedure. Because of short working life of sealant, part must be cut, fitted, and ready for immediate installation at time of sealer application. Apply sealant to structure and skin mating surfaces. Part must be installed with a bonding pressure exerted within 30 minutes after sealant is applied. Pressure can be applied by using lead weight, C-clamps or tool shown in figure 2-23A which can be locally manufactured. Allow 12 hours curing time before removing pressure.

2-29. Lower Skin Panel. See figure 2-26. The lower skin panel is machine-tapered with greatest thickness, other than land areas for beam, post, and rib attachment, at the torque rib reference line. The panel tapers spanwise from torque rib inboard to center line closure rib. The panel also tapers from the torque rib outboard to the wing fold rib. The chordwise taper between torque rib and center line closure rib extends from 40.47 percent chord line to the front and main spars. The panel outboard of the torque rib increases in thickness from the front spar to the main spar. The skin panel has 10 major stiffeners spaced approximately six inches apart between center line closure rib and torque rib. Three stiffeners are along the 22.75, 29.70, and 35.60 percent chord line outboard of the torque rib. A wing pylon plate is located on lower surface of wing.

2-30. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 are negligible provided the radius of the depression is not less than two inches and the damage does not create an oil-can tendency. Refer to T.O. 1F-4C-3-1-5 for method of detecting oil-cans. Damage located within twice the diameter of the fasteners in spars and ribs not deeper than 0.005 are acceptable without blending. Damage in this area may be a maximum of 0.010 if blended. Corrosion must be blended regardless of location. However, areas of missing paint should be touched up per T.O. 1F-4C-3-1-6. Damage in areas not in the vicinity of fasteners may be 0.010 in depth without blending. Damage limits of blended scratches, corrosion, nicks, and gouges are 0.040 in depth and unlimited in length between front spar and the 22.75 percent line, 0.040 in depth and a maximum of six inches in length between 22.75 percent line and 35.60 percent line, and 0.040 in depth and a maximum of three inches in length between the 35.60 percent line and the main spar. The limits of 0.040 maximum can be exceeded if the following limitations can be adhered to:

a. Depth of blend cut can be increased to 50 percent of skin thickness or 0.25 deep, whichever is less. See figure 2-26 for skin thickness.

b. Surface area when blended should be confined inside a one-inch diameter circle.

c. Minimum radius of blend cuts should be 0.75.

d. Edge of blended out surface should be at least one inch from edge of fastener countersink.

e. Spacing between gouges or other repairs should be at least 10 inches.

For rework procedure, refer to T.O. 1F-4C-3-1-5. Refinish the surface according to the corrosion control procedure in T.O. 1F-4C-3-1-6. The exception to limitations is in the area of skin and main spar cap flange adjacent to landing gear side brace actuator where contact is made during hard landing. As required, skin should be polished with crocus cloth to a smooth finish. This negligible damage rework shall be confined to this area. The bare metal surface shall be refinished according to the corrosion control procedure in T.O. 1F-4C-3-1-6.

2-31. Repairs. Repairs to the torque box lower skin are divided into permanent repairs and one time flight repairs. Permanent repairs can be installed on the skin without limiting performance of aircraft. One time flight repair is installed on the wing skin at organizational/field maintenance to enable the aircraft to be ferried to depot for permanent repair.

a. Permanent Repairs. Damage to the lower torque box skin beyond negligible limits requires permanent repairs to be accomplished per procedural limitations shown in T.O. 1F-4C-3-2. Repairs do not apply to fatigue sensitive areas or where interference with internal structure results. Damage beyond T.O. repair limits requires Structural Engineering OO-ALC/LACE disposition.

CAUTION

These repairs shall not be used if cleaned up hole will extend into integral stiffener of skin or internal structure such as rib, fitting, etc. See figure 2-26 for the torque box skin diagram and figure 2-41 for location of ribs, fittings, etc.

(1) The edge of repair hole shall be at least one inch from edge of countersunk fastener hole.

(2) Minimum spacing between repairs shall be 10 inches.

b. Lower Torque Box Skin, 32-11422 or 53-111422, and Pylon Fitting, 32-11352, Repair. For repair, see figure 2-32A.

c. One time ferry flight repair.

Cracks which cannot be repaired under permanent skin repairs should be repaired by removing visible evidence of cracks by either cutting or filing and making a fluorescent-penetrant check of area to ensure damage is removed. Refer to T.O. 33B-1-1 for inspection procedure. After damage is removed, enlarge hole so final configuration has straight or elliptical sides. No reentrant corners or material should be permitted. However, it is mandatory that the final hole be of absolutely minimum size. Corner radii should be at least 25 percent of cutout width W. Example: Width = four inches, minimum corner radii should be one inch. Install applicable ABDR repair doubler per T.O. 1F-4C-39 as applies to damage location and cutout size.

WARNING

Wing fuel tanks must be completely drained and cockpit fuel selector valve placarded stating not to pressurize wing tanks.

Limitations of one time flight repair are as follows:

(1) Chordwise - 90 degrees to percent lines running spanwise, dimension on repair hole should not exceeds five inches. Spanwise parallel to percent lines, dimension should not exceed 10 inches.

(2) If an integral stiffener is damaged, contact structural engineering OO-ALC/LACE for disposition.

(3) This repair is not applicable if internal structure, major ribs, fittings, etc. are damaged.

If skin is damaged beyond limits given in this paragraph, local engineering should review damages. Figure 2-26 shows areas considered to be most fatigue sensitive places on the skin. The maximum degree of caution should be exercised in any repair affecting this area.

2-32. Replacement. Replacement is not practical at organizational/field maintenance. For replacement of wing pylon plate, 32-73034, see figure 2-33.

2-33. Straps and Splice Plate. Straps are machined from 4340 steel and splice plate from 7075 aluminum alloy.

2-34. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 are negligible, provided radius of depression is not less than two inches. Allowable depth of negligible damage and corrosion is as follows:

a. Splice plate, 53-111109, see figure 2-27.

b. Strap, 53G970773, see figure 2-28.

c. Strap, 53G970774, see figure 2-29.

Refer to T.O. 1F-4C-3-1-5 for rework procedure, however 53G970773 and 53G970774 straps shall be temper etch inspected after rework per MIL-STD-876. ■

2-35. Repairs. Repairs are not practical because of construction.

2-36. Replacement. For fastener replacement see figures 2-38 and 2-39.

2-37. **FAIRING.** See figure 2-3. The torque box upper fairing assembly, a shell type skin, consists of an aluminum alloy honeycomb core sandwich between two glass fiber cloths. Refer to T.O. 1F-4C-3-1-5 for allowable gap and mismatch limits. The corner fairing, 53-11061, is located on upper surface of the wing and fabricated from A356-T6 aluminum alloy. The wing fold bump fairing, 32-11582 or 32G11582, is located on lower surface of the wing and fabricated from AZ91C magnesium.

2-38. Negligible Damage and Corrosion Removal Limits. For negligible damage and corrosion removal limits to torque box upper fairing, refer to T.O. 1F-4C-3-1-5. Negligible damage for corner fairing and wing fold bump fairing is unblended damage and may be a maximum of 0.005 in depth and unlimited in length. Blended damage may be a maximum of 0.010 in depth and unlimited in length. Corrosion must be blended.

2-39. Repairs. For repairs to torque box upper fairing, refer to T.O. 1F-4C-3-1-5. Repairs to corner fairing and wing fold bump fairing are impractical.

2-40. Replacement. For replacement procedures, refer to T.O. 1F-4C-3-1-5. Use Part Kit 0245-1, -2 when replacing fairing. For replacement of corner fairing, see figure 2-34 and for replacement of wing fold bump fairing, see figure 2-35.

2-41. **SEALS.** See figure 2-3. The seals are on the leading edge of the torque box between fuselage sidewall and BL 95.00 if door 141 is not installed. The seals are fabricated from either 17-7PH or 301 corrosion-resistant steel and are bolted and riveted to the structure and skin. The seal is for aerodynamic aid when the inboard leading edge flap is lowered.

2-42. Negligible Damage. Damage is cause for repair or replacement.

2-43. Repairs. Repairs of cracks less than 0.50 in length shall be welded and inspected. For cracks longer than 0.50, a repair doubler will be added. Information, pertaining to welding, inspection, and repair procedures are explained in T.O. 1F-4C-3-1-4.

2-44. Replacement. Replacement of seals is accomplished by removing fasteners and installing the spared seal. Depending upon spare configuration, it may be necessary to drill attach holes and trim. Seals shall be fitted in accordance with boundary layer control fairing tolerance and contour requirements in T.O. 1F-4C-3-1-4.

2-45. **BEARING PLATES.** See figures 2-3 and 2-36. The bearing plates are on the lower surface of the torque box skin. On F-4C 63-7407 through 63-7662 and RF-4C 63-7742 through 64-1017, the plates are 0.010 301 corrosion-resistant steel, secured to the skin with 583 bonding film tape; on F-4C 63-7663 through 64-928, F-4D, F-4E, F-4G, and RF-4C 64-1018 through 72-156, the plate material and thickness are the same, but the material is perforated as shown in figure 2-36. The adhesive is Specification MIL-S-8802, Class B 1/2. When installing replacement plates, regardless of effectivity, install perforated plates per paragraph 2-51, except 32-11353-5, -7,-9, -11 bearing plates on F-4E 66-284 through 66-286 and 66-288 through 66-295, also F-4E 66-287, 66-296 through 71-236 before T.O. 1F-4E-566; 53-111353-7, -8, -9, -10 bearing plates, on F-4E 69-305 and 69-7254 after T.O. 1F-4E-566; F-4G 69-305 and 69-7254; 53G970865-15, -17 bearing plates, on F-4E 66-296 through 69-304 and 69-306 through 69-7253 and 69-7255 through 71-236 after T.O. 1F-4E-566; also F-4E 72-121 and up F-4G 69-236 through 69-304, 69-306 through 69-7253 and 69-7255 through 69-7588; 53G970865-3, -4, -5, -6 bearing plates on F-4E 66-287 and 71-237 through 71-1402 after T.O. 1F-4E-566; 53-111353-1, -2, -3, -4, -11, -12 bearing plates on F-4E 72-121 and up.

2-46. Negligible Damage. Damage is cause for replacement.

2-47. Repairs. Repairs are impractical because of size.

2-48. Replacement. Bearing plates that have been lost or damaged are to be replaced per paragraph 2-51.

2-49. Tools and Equipment.

Brush, paint

2-50. Materials.

Sheet stock, 0.010, 301 corrosion-resistant steel, Specification MIL-S-5059, condition, 1/2 hard

Sealant, see T.O. 1F-4C-3-1-6

Cheesecloth, Federal Specification CCC-C-440

Mat, abrasive, Specification MIL-A-9962

2-51. Procedure.

NOTE

For fabrication of bearing plates, select part number from figure 2-3 and fabricate from 0.010 301 corrosion-resistant steel, Specification MIL-S-5059, condition 1/2 hard, sheet stock per figure 2-36. Perforations of plates shall be made using 0.125 drill if perforated stock is not obtainable.

a. Scuff bond surface of bearing plate with abrasive mat and water.

b. Clean bond areas of wing and bearing plate with solvent:

WARNING

Provide adequate ventilation when using sealant, Specification MIL-S-81733. Avoid skin and eye contact. Do not use near flame, spark or other source of ignition.

CAUTION

Do not bond when temperature of sealant or structure is below 50°.

c. Bond with sealant. Apply sufficient sealant to either surface to fill all perforations to flushness and provide continuous sealant squeeze-out around periphery of bearing plate.

d. Locate bearing plate and press down to squeeze excess sealant from bond line. The sealant has sufficient body or substance to support bearing plate during cure. Use clamps to hold plates until sealant is tack-free when there is danger of movement. Do not use silicone based grease on suction cups.

e. Sealant must be cured to a tack-free, firm, rubbery condition, prior to trimming and clean-up.

f. On leading edge bearing plates, chamfer the forward edge as necessary if mismatch limits are exceeded per T.O. 1F-4C-3-1-1, contour smoothness requirement diagram.

2-52. TORQUE BOX FASTENERS. Fasteners in the torque box are primarily conventional lockbolts and bolts. The main exception is Taper-Lok fasteners in the aft edge of the lower skin inboard of the main landing gear trunnion. Forward edge of upper and lower skin, aft edge of lower skins, and lower centerline splice have Taper-Lok fasteners on F-4E 66-287 and 66-296 through 71-1402 after T.O. 1F-4E-566; also F-4E 72-121 and up and F-4G. These fasteners have tapered shanks and are installed in special tapered holes. The Taper-Loks control interference fit and increase joint strength. For a more detailed description of Taper-Lok fasteners, refer to T.O. 1F-4C-3-1-1. One row of fasteners around the perimeter of skins and fasteners attaching the front and main spars to center line splice rib and wing fold rib pass through a sealant channel groove. Bolts extending into the fuel cell but not passing through sealant channel groove are sealed with a gasket around the shank of flush head bolts and a packing with retainer under the head of protruding head bolts. See figures 2-37, 2-38, and 2-39 for fastener numbers and locations. For repair of chronic fuel leakage, caused by loose fasteners in wing root area at FS 303.00, refer to paragraph 2-53. See figure 2-39A for allowable loose and missing fasteners in doors and panels during flight.

2-53. Chronic Fuel Leak Repair at FS 303.00. Repair of chronic fuel leaks in the wing root area where the center fuselage joins the center wing main spar includes resealing of channel groove per T.O. 1F-4C-3-1-6 and replacement of fasteners per figure 2-40. Either of two methods may be used when evidence of loose fasteners or sealant extrusion is found. Method I incorporates the use of threaded fasteners in place of standard lockbolts, while method II uses tension lockbolts in place of standard lockbolts. Lockbolts further outboard should be checked and replaced if loose or if sealant extrusion is present. Reference figure 2-40B, for special method for gaining access to vertical fasteners in the spar web.

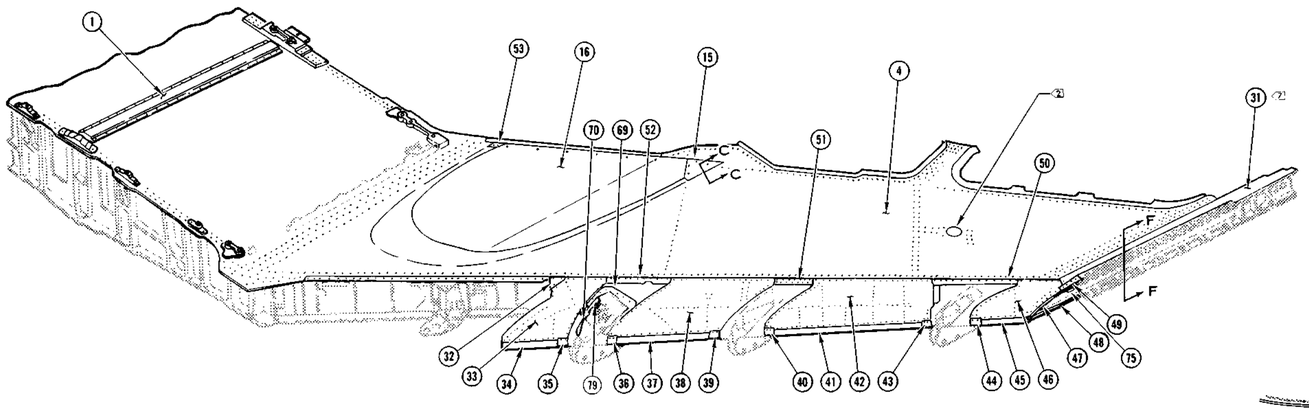
2-53A through 2-53B. Deleted.

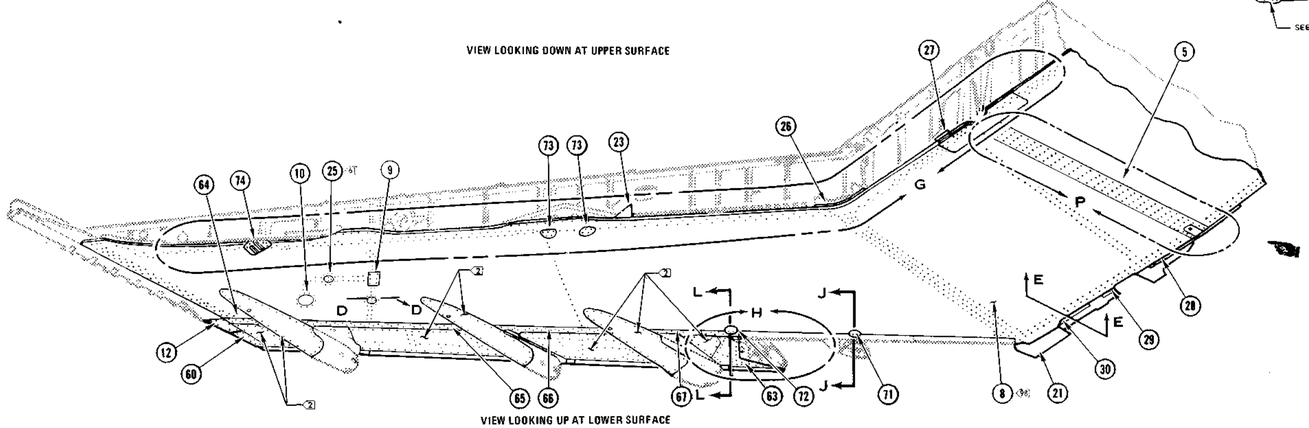
CAUTION

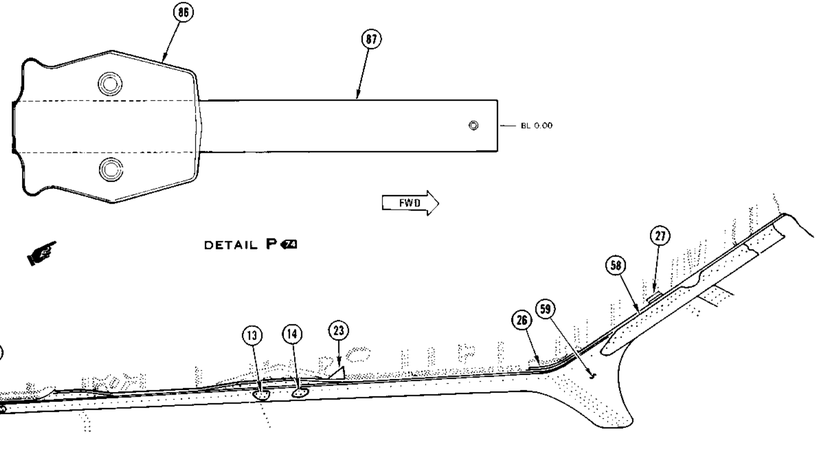
Fasteners removed to accomplish repair or sealing of components within wing torque box skin must be checked for correct length before reinstallation. Use 32D290025–1 Selector Assembly (or equal) as shown in TO 1F–4C–3–1–6, to determine correct bolt length.

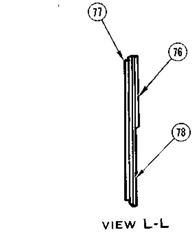
2–54. **Replacement.** See figures 2–37, 2–38, and 2–39. Access to replace fasteners or hardware is generally available with exception of hardware attached to some ribs. Replacement of damaged or missing fasteners hardware must be with the same type, with two exceptions. The first is when access to hardware is not available. In this case, the fasteners can be replaced with the blind fasteners shown in TO 1F–4C–3–1–1 within limitations shown in figures 2–37, 2–38, and 2–39. Tapping threads in skins or structure in lieu of nut replacement is not permitted. The second is removable fasteners passing through sealant channel groove and exposed to weather. Removal and installation of Taper–Lok fasteners require special tools and procedures and is accomplished at organizational maintenance by field activity personnel qualified to perform the task. The procedure and requirements for replacement of Taper–Loks is given in TO 1F–4C–3–1–1. Refer to TO 1F–4C–3–1–6 for treatment of fasteners for corrosion control.

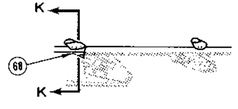
2-54A. **Doubler, 7653483, Fume Seal Repair.** See figure 2-40A. If fume seal in the area where main spar mates right side of keel is damaged during removal of fasteners covered by sealant, the area shall be repaired as shown. Fill entire area under 7653483-01 doubler with sealing compound before installing doubler per TO 1F-4C-3-1-6. ■

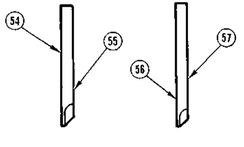


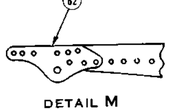












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Figure 2-3. Torque Box and Leading Edge Skin Repair Index (Sheet 1 of 5)

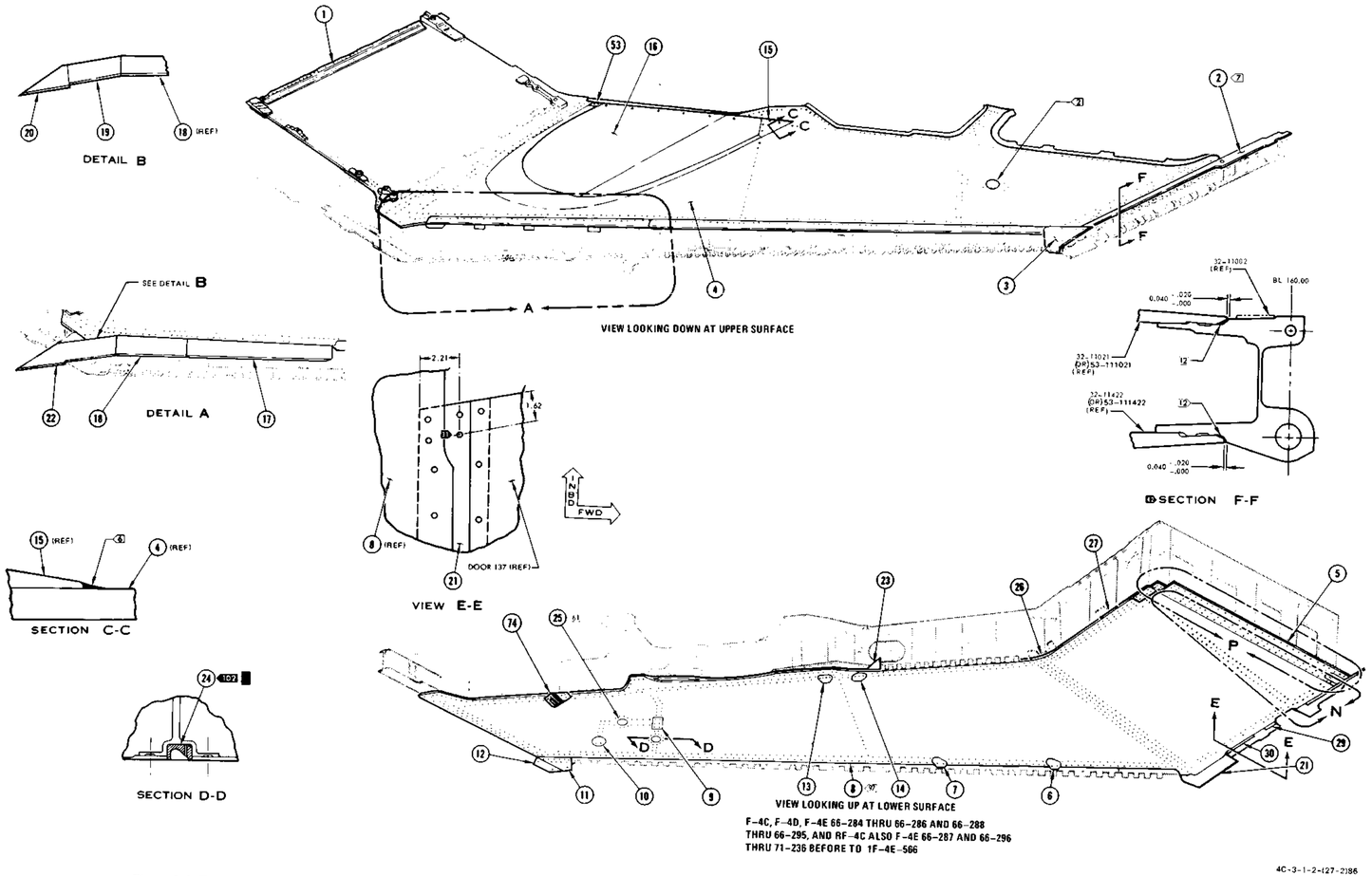
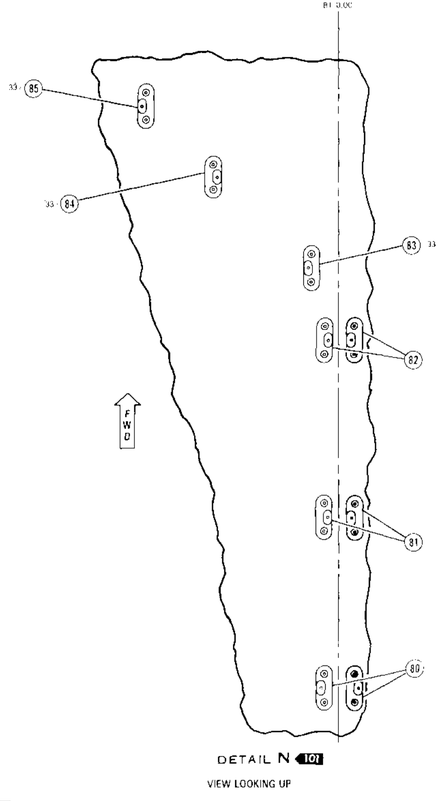


Figure 2-3. Torque Box and Leading Edge Skin Repair Index (Sheet 2 of 5)



MAJOR CHANGE

Figure 2-3. Torque Box and Leading Edge Skin Repair Index (Sheet 2A of 5)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-11107-3	PLATE	1M2326	7075-T6 AL ALY	QQ-A-200/11 (T6)
2	32-11002-629,-630	SKIN 7	0.063	7075-T6 AL ALY	QQ-A-250/13 (T6)
3	32-11404-119,-120	AFT SEAL	0.040	321 CRES	MIL-S-6721(A) (T1)
4 11	32-11021-21,-22	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
12	32-11021-39,-40	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
26	32-11021-53,-54	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
28	32-11021-45,-46	SKIN	5	7075-T651 AL ALY	QQ-A-250/12 (T651)
27	32-11021-59,-60	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
32	53-111021-5,-6	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
5 11	32-11109-9	PLATE	1M9560	7075-T6 AL ALY	QQ-A-200/11 (T6)
82	53-111109-3	PLATE	0.500	6AL-4V TITANIUM	MIL-T-9046, TYPE III, COMP C, ANNEALED
6 16	32-11401-235,-236	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
76	32-11353-9,-11	BEARING PLATE 8	0.010	301 CRES	MIL-S-5059 (H 1/2)
7 16	32-11401-233,-234	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
76	32-11353-5,-7	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
8 18	32-11422-5,-6	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
27	32-11422-7,-8	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
14	32-11422-21,-22	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
24	32-11422-25,-26	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
33	32-11422-31,-32	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
29	32-11422-35,-36	SKIN	3	7075-T651 AL ALY	QQ-A-250/12 (T651)
35	32-11422-61,-62	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
30	32-11422-41,-42	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
13	32-11422-57,-58	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
22	32-11422-59	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
82	53-111422-5,-6	SKIN		7075-T651 AL ALY	QQ-A-250/12 (T651)
9 16	32-11401-239,-240	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
15	32-11353-15	BEARING PLATE 8	0.010	301 CRES	MIL-S-5059 (H 1/2)
10 16	32-11401-237,-238	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
15	32-11353-13	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
11	32-11583-5,-6	SKIN	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
12 20	32-11582-5,-6 59	FAIRING	CASTING	AZ91C MAGNESIUM	QQ-M-56 (T4)
21	32-11582-7,-8	FAIRING	CASTING	AZ91C MAGNESIUM	QQ-M-56 (T4)
13 16	32-11401-231,-232	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
15	32-11353-3	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
14 16	32-11401-241,-242	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
15	32-11353-17	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (H 1/2)
15 83	53-11061-3,-4 60	CORNER FAIRING	CASTING	A356-T6 AL ALY	MIL-A-21180 (T6)
84	53-11061-5,-6	CORNER FAIRING	CASTING	A356-T6 AL ALY	MIL-A-21180 (T6)
16	53-11024-1,-2 13	FAIRING	9	9	9
17	32-11513-187,-188	SEAL	0.016	301 CRES	MIL-S-5059 (H 1/2)
18	32-11513-17,-18	SEAL	0.016	301 CRES	MIL-S-5059 (H 1/2)
19 17	32-11513-201,-202	SEAL	0.016	301 CRES	MIL-S-5059 (H 1/2)
20 17	32-11513-169,-170	SEAL	0.016	301 CRES	MIL-S-5059 (H 1/2)
21 34	53-11046-15,-16	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
35	53-11046-55,-56	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
46	53-110051-7,-18	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
22 41	32-11420-5,-6	SEAL	0.016	17-7PH CRES	MIL-S-25043
32	32-11420-55,-56	SEAL	0.016	17-7PH CRES	MIL-S-25043
14	32-11420-53,-54	SEAL	0.016	17-7PH CRES	MIL-S-25043
23	53-11076-3,-4	FILLER	CASTING	195-T6 AL ALY	QQ-A-596 (T6)
24	32-11123-7,-8	INSERT	2.25	4340 STEEL ALLOY	MIL-S-5000 10
25 16	32-73034-3,-4 61	PLATE	2.00	4340 STEEL ALLOY	MIL-S-5000 11
15	32-73034-5,-6	PLATE	2.00	4340 STEEL ALLOY	MIL-S-5000 11
26	32-11000-7,-8	TRIM STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
27	32-11000-41,-42	TRIM STRIP	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
28 45	53-11000-3	TRIM STRIP	0.125	2024-T3 ALCLAD	QQ-A-250/5 (T3)
60	53-111061-3	FILLER	0.125	6061-T6 AL ALY	QQ-A-250/11 (T6)
29	32-11000-11,-12	TRIM STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
30	32-11000-99,-100	TRIM STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
31	53G970794-3,-4 7	SKIN	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
32	53-111025-3,-4	FAIRING	0.375	7075-T7351 AL ALY	MMS159 (T7351)
33 44	53G970838-3,-4 53	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
62	53G970838-25,-26 53	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
34 63	53G970817-3,-4	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
64	53G970817-5,-6	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
35	53G970857-15,-16	BEARING STRAP	0.025	301 CRES	MIL-S-5059 (H 1/2)
36	53G970857-13,-14	BEARING STRAP	0.025	301 CRES	MIL-S-5059 (H 1/2)
37 71	53G970816-3,-4	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
86	53G970816-5,-6	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
73	53G970816-7,-8	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
38 43	53G970838-5,-6 54	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
62	53G970838-29,-30 54	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
39	53G970857-7,-8	BEARING STRAP	0.025	301 CRES	MIL-S-5059 (H 1/2)
40	53G970857-9,-10	BEARING STRAP	0.025	301 CRES	MIL-S-5059 (H 1/2)

4C-3-1-2-(27-3)G

Figure 2-3. Torque Box and Leading Edge Skin Repair Index (Sheet 3 of 5)

REF NO.		PART NUMBER		PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
41	83	53G970815-3,-4		FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	83	53G970815-5,-6		FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
42	44	53G970838-7,-8	55	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
		53G970838-33,-34	55	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	62						
43		53G970857-3,-4		BEARING STRAP	0.025	301 CRES	MIL-S-5059 (H1/2)
44		53G970857-5,-6		BEARING STRAP	0.025	301 CRES	MIL-S-5059 (H1/2)
45	95	53G970814-3,-4		FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	96	53G970814-5,-6		FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
46	44	53G970838-17,-18	56	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	62	53G970838-37,-38	56	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
47	63	53G970819-23,-24		SEAL	11M948	RUBBER, CLASS III, GRADE 50	ZZ-R-765
	64	53G970819-45,-46		SEAL	11M948	RUBBER, CLASS III, GRADE 50	ZZ-R-765
48		53G970819-21,-22		SEAL	11M948	RUBBER, CLASS III, GRADE 50	ZZ-R-765
49	71	53G970837-5,-6		FAIRING	1.00	7075-T651 AL ALY	QQ-A-250/12 (T651)
	89	53G970837-7,-8		FAIRING	1.00	7075-T651 AL ALY	QQ-A-250/12 (T651)
50	71	53G970838-23,-24		SKIN	0.090	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	69	53G970838-35,-36		SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
51	71	53G970838-21,-22		SKIN	0.090	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	69	53G970838-31,-32		SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
52	71	53G970838-19,-20		SKIN	0.090	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	69	53G970838-27,-28		SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
53	46	32-11401-245		FILLER	0.190	7075-T6 AL ALY	QQ-A-250/12 (T6)
	47	32-11401-705		FILLER	0.190	7075-T6 AL ALY	QQ-A-250/12 (T6)
54	44	53G970864-7,-8	8	PAD	0.250	7075-T7351 AL ALY	MMS159 (T7351)
55	44	53G970864-9,-10		PAD	0.020	301 CRES	MIL-S-5059 (H1/2)
56	71	53G970865-3,-4		PAD	0.250	7075-T651 AL ALY	QQ-A-250/12 (T651)
57	71	53G970865-5,-6		PAD	0.020	301 CRES	MIL-S-5059 (H1/2)
58		53G970774-11		STRAP	0.625	4340 STEEL ALLOY	AMS6359
59	50	53G970773-5,-6		STRAP	0.500	4340 STEEL ALLOY	AMS6359
	51	54G970773-7,-8		STRAP	0.500	4340 STEEL ALLOY	AMS6359
	52	53G970773-9,-10	70	STRAP	0.500	4340 STEEL ALLOY	AMS6359
	49	53G970773-11,-12		STRAP	0.500	4340 STEEL ALLOY	AMS6359
60	35	32-19277-7,-8		FAIRING	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
61		53-07961-7,-8		FITTING	FORGING	4340 MOD STEEL	AMS6427
62	89	53G970776-3		PLATE	0.080	2024-T3 AL ALY	QQ-A-250/4 (T3)
	109	32G971099-5,-6		PLATE	0.250	2024-T351 AL ALY	QQ-A-250/4 (T351)
63	44	53G970839-3,-4	57	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	62	53G970839-5,-6		SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
64	71	53G970818-3,-4		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	91	53G970818-15,-16		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	92	53G970818-23,-24		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
65	71	53G970818-11,-12		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	91	53G970818-19,-20		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	92	53G970818-27,-28		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
66	71	53G970818-13,-14		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	91	53G970818-21,-22		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	92	53G970818-29,-30		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
67	71	53G970818-9,-10		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	91	53G970818-17,-18		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	92	53G970818-25,-26		SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
68	71	53G970873-5,-6		FAIRING	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
69	87	53G970797-5,-6		FAIRING	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	88	53G970797-7,-8		FAIRING	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
70	71	53G970874-3,-4		FAIRING	0.750	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
71	62	53-111353-1,-2	97	PAD ASSEMBLY	0.100	301 CRES	MIL-S-5059 (H1/2)
72	62	53-111353-3,-4		PAD ASSEMBLY	0.100	301 CRES	MIL-S-5059 (H1/2)
73		53-111353-11,-12		BEARING PAD	0.100	301 CRES	MIL-S-5059 (H1/2)
74	65	32-55374-03,-04		FITTING	FORGING	4330 MOD STEEL	AMS6427
	45	32-55374-5,-6		FITTING	FORGING	4330 MOD STEEL	AMS6427
	62	32-55374-7,-8		FITTING	FORGING	4330 MOD STEEL	AMS6427
75	34	53-111096-3,-4		FILLER	CASTING	356-T6 AL ALY	AMS4260
76	92	53G970865-19	8	SPACER	0.037	7075-T6 AL ALY	QQ-A-250/12 (T6)
77	34	53-111353-9	8	PAD	0.100	301 CRES	MIL-S-5059 (H1/2)
	92	53G970865-15	8	PAD	0.100	301 CRES	MIL-S-5059 (H1/2)
78	34	53-111353-7	8	PAD	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
	92	53G970865-17	8	PAD	0.175	7075-T6 AL ALY	QQ-A-250/12 (T6)
79	72	53G970879-5,-6		BRACKET	1.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	73	53G970879-7,-8		BRACKET	1.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
	98	53G970879-9, 10		BRACKET	FORGING	7075 T73 AL ALY	QQ-A-367 (T73)
80		53-111052-13, -14		FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	75	53G971133 11, -12		FITTING	FORGING	7075 T73 AL ALY	MMS 136 COND T73
81		53-111052-11, -12		FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	75	53G971133-9, 10			FORGING	7075 T73 AL ALY	MMS 136 COND T73
82	101	53-111052-9, -10		FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
83	101	53-111052-15		FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
84	101	53-111052-6		FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
85	101	53-111052-4		FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
86	77	32G971112 3		DOUBLER	1.00	7075 T7351 AL ALY	QQ A 250 12 (T7351)
	75	32G971112 7		DOUBLER ASSY	1.00	7075 T7351 AL ALY	QQ A 250 12 (T7351)
	74	32G971113 3		SHIM, LAMINATED	0.062	5052 H39 AL ALY	MIL S 22499 CLASS 2 TYPE III
87	74	32G971114-7		PLATE	0.500	7075 T7351 AL ALY	MMS159 (T7351)

4C 3 1 2 (27 4IN

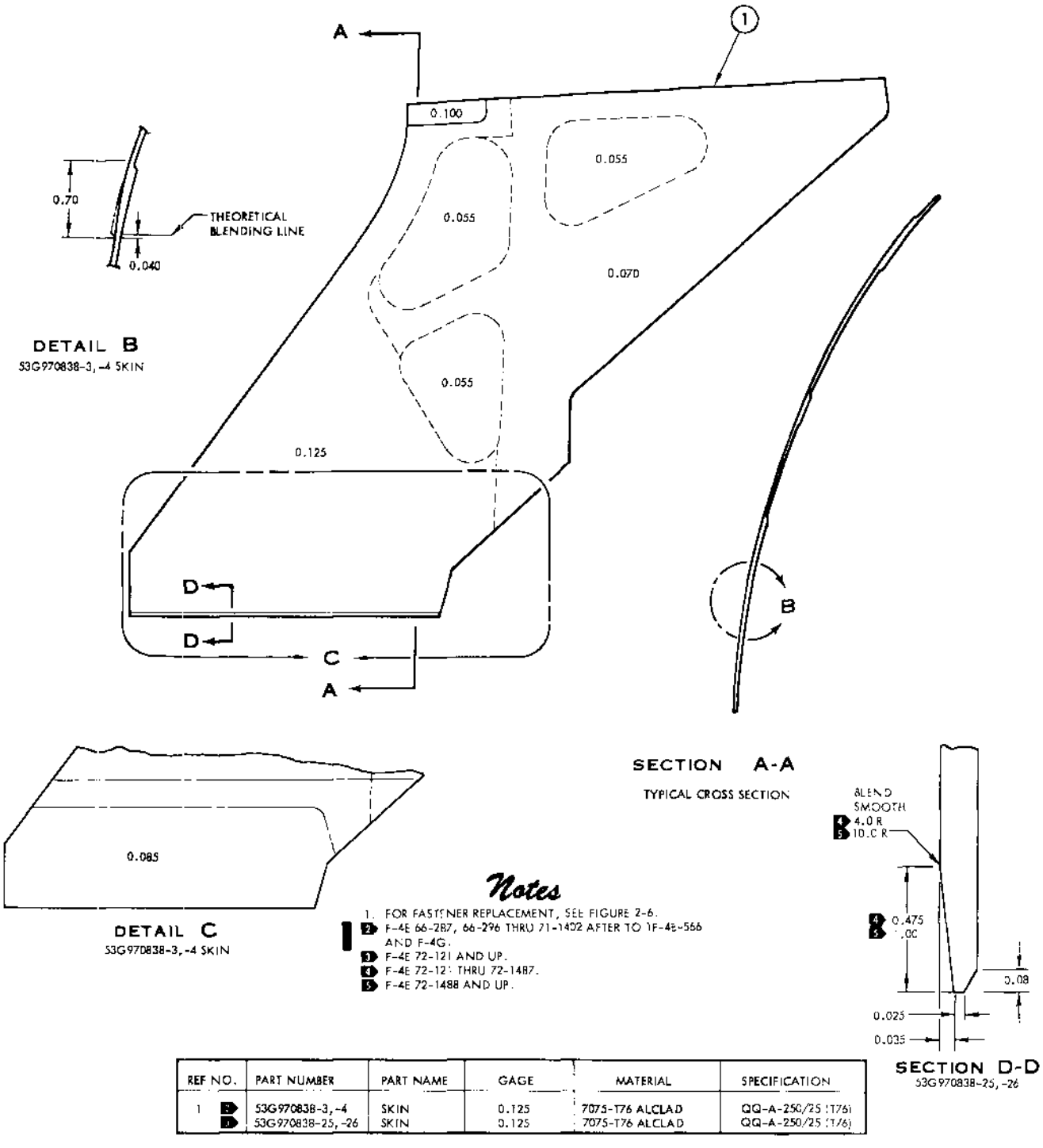
Figure 2-3. Torque Box and Leading Edge Skin Repair Index (Sheet 4 of 5)

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. FOR CENTER WING SECTION ACCESS OPENINGS REFERENCE T.O. 1F-4C-3-1-3
3. FOR SKIN THICKNESS SEE FIGURE 2-26.
4. DELETED.
5. FOR SKIN THICKNESS SEE FIGURE 2-22.
6. FILLET SEAL WITH EC1675, CLASS B 1/2. FOR SEALING REFERENCE T.O. 1F-4C-3-1-5.
7. FOR BONDING PROCEDURE REFER TO PARAGRAPH 2-24.
8. FOR FABRICATION AND INSTALLATION OF BEARING PLATES REFER TO TEXT.
9. FOR IDENTIFICATION OF PARTS AND REPLACEMENT PROCEDURE REFERENCE T.O. 1F-4C-3-1-5.
10. FORGED AND MACHINED IN THE C CONDITION, THEN HEAT TREATED TO 200-220 KSI.
11. FORGED AND MACHINED IN THE C CONDITION, THEN HEAT TREATED TO 180-200 KSI.
12. COMPLETELY FILL SPACE WITH SEALANT.
13. WHEN REPLACING FAIRING USE 0245-1, -2 PARTS KIT.
14. F-4C 64-738 THRU 64-928, F-4D, AND RF-4 64-1062 THRU 72-156.
15. F-4C 63-7663 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 64-1018 THRU 72-156.
16. F-4C 63-7407 THRU 63-7662 AND RF-4 63-7742 THRU 64-1017.
17. F-4C 63-7407 THRU 63-7468 AND RF-4 63-7742.
18. F-4C, F-4D 64-929 THRU 66-7655, AND RF-4 63-7742 THRU 64-928.
19. F-4D 66-7656 THRU 66-8825 AND RF-4 66-429 THRU 69-357. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
20. F-4C, F-4D 64-929 THRU 66-7455, AND RF-4 63-7742 THRU 66-398.
21. F-4D 66-7456 THRU 66-8825, F-4E, F-4G, AND RF-4.
22. F-4C, F-4D 64-929 THRU 65-611, AND RF-4 63-7742 THRU 65-901.
23. F-4D 65-612 THRU 66-8825, F-4E, F-4G, AND RF-4 65-902 THRU 72-156.
24. F-4E 66-284 THRU 66-295.
25. F-4E 66-296 THRU 67-335.
26. F-4E 66-284 THRU 68-538. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
27. F-4C 63-7663 THRU 64-928, F-4D 64-929 THRU 66-8686, AND RF-4 64-1018 THRU 66-450.
28. F-4D 66-8687 THRU 66-8825 AND RF-4 66-451 THRU 67-459.
29. RF-4 67-460 THRU 71-252.
30. F-4E 67-336 THRU 69-7578.
31. 0.250 $^{+.007}_{-.000}$ DIAMETER HOLE ON F-4E 68-303 AND UP, F-4G, AND RF-4 68-548 THRU 72-156 FOR ADDITIONAL CORROSION PREVENTION. IF HOLE DOES NOT EXIST, IT SHOULD BE DRILLED.
32. F-4C 63-7663 THRU 64-737 AND RF-4 64-1018 THRU 64-1061.
33. RIGHT SIDE.
34. F-4E 69-305 AND 69-7254 AFTER TO 1F-4E-564; ALSO F-4G 69-305 AND 69-7254.
35. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566. ALSO F-4E 72-121 AND UP AND F-4G.
36. RF-4 69-358 THRU 72-156 AND FUTURE PROCUREMENT FOR PRECEDING PART.
37. F-4E 69-236 THRU 71-1402, F-4G, AND FUTURE PROCUREMENT FOR PRECEDING PART.
38. F-4C, F-4D, F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7260, AND RF-4 63-7742 THRU 69-375.
39. F-4E/G 69-7261 THRU 69-7578 AND RF-4 69-376 THRU 72-156.
40. F-4E/G 69-7579 THRU 69-7588; F-4E 69-7589 AND UP.
41. F-4C 63-7469 THRU 63-7662 AND RF-4 63-7743 THRU 64-1017.
42. F-4D 66-8800 THRU 66-8825, F-4E 66-331 AND UP, F-4G, AND RF-4 67-428 THRU 72-156.
43. F-4E 69-7579 THRU 71-236.
44. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
45. RF-4 71-253 THRU 72-156.
46. F-4C, F-4D, F-4E 66-284 THRU 68-538; F-4E/G 69-236 THRU 69-268, AND RF-4 63-7742 THRU 69-359.
47. F-4E/G 69-269 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4 69-360 THRU 72-156.
48. F-4C, F-4D, F-4E 66-284 THRU 71-1402, F-4G, AND RF-4.
49. F-4C, F-4D, F-4E 66-284 THRU 72-159, F-4G, AND RF-4.
50. F-4E 71-237 THRU 71-1093.
51. F-4E 71-1094 THRU 71-1395.
52. F-4E 66-296 THRU 71-236 AND 71-1396 THRU 71-1402 AND F-4G.
53. FOR SKIN INDEX, SEE FIGURE 2-4.
54. FOR SKIN INDEX, SEE FIGURE 2-6.
55. FOR SKIN INDEX, SEE FIGURE 2-8.
56. FOR SKIN INDEX, SEE FIGURE 2-10.
57. FOR SKIN INDEX, SEE FIGURE 2-12.
58. F-4E 72-1491 AND UP.
59. FOR REPLACEMENT SEE FIGURE 2-35.
60. FOR REPLACEMENT SEE FIGURE 2-34.
61. FOR REPLACEMENT SEE FIGURE 2-33.
62. F-4E 72-121 AND UP.
63. F-4E 66-287, 69-7254 AND 71-237 THRU 71-1402 AFTER T.O. 1F-4E-566; ALSO F-4E 72-121 THRU 72-138 AND F-4G 69-7254.
64. F-4E 66-296 THRU 69-7253 AND 69-7255 THRU 71-236 AFTER T.O. 1F-4E-566; ALSO F-4G 69-236 THRU 69-7253, 69-7255 THRU 69-7588, AND F-4E 72-139 AND UP.
65. F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 63-7742 THRU 71-252; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE T.O. 1F-4E-566.
66. F-4E 72-160 AND UP.
67. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER T.O. 1F-4E-566; ALSO F-4E 72-121 THRU 72-168 AND F-4G.
68. F-4E 72-1476 AND UP.
69. F-4E 66-296 THRU 71-236 AND F-4G.
70. 53G970773-9, -10 AND -11, -12 INTERCHANGEABLE F-4E 66-296 THRU 71-236 AND F-4G.
71. F-4E 66-287 AND 71-237 THRU 71-1402 AFTER T.O. 1F-4E-566.
72. F-4E 71-237 THRU 71-1402 AFTER T.O. 1F-4E-566. ALSO F-4E 72-121 THRU 72-161.
73. F-4E 66-296 THRU 69-7589 AFTER T.O. 1F-4E-566. ALSO F-4E 72-162 THRU 72-1490 AND F-4G.
74. F-4D 66-8734, F-4E 67-218, 67-320.
75. RF-4C 68-587.
76. F-4C 63-7663 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, RF-4; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE T.O. 1F-4E-566.
77. F-4D 66-8734, F-4E 67-218, 67-320, RF-4 68-397, 68-587.
78. DELETED
79. DELETED
80. DELETED
81. DELETED
82. F-4E 71-237 THRU 71-1402 LEFT SIDE.
83. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER T.O. 1F-4E-566; ALSO F-4E 72-121 THRU 72-166 AND F-4G.
84. F-4E 72-167 AND UP.
85. DELETED.
86. F-4E 66-296 THRU 71-236 AFTER T.O. 1F-4E-566. ALSO F-4E 72-121 THRU 72-166 AND F-4G.
87. DELETED.
88. DELETED
89. F-4E 66-296 THRU 71-236 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G.
90. DELETED
91. F-4E/G 69-305 AND 69-7254.
92. F-4E 66-296 THRU 68-538, 69-7589 THRU 71-236; ALSO F-4E/G 69-236 THRU 69-304, 69-306 THRU 69-7253, 69-7255 THRU 69-7588.
93. DELETED
94. DELETED
95. F-4E 66-287 AND 71-237 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 THRU 72-162.
96. F-4E 66-296 THRU 71-236 AFTER TO 1F-4E-566, ALSO F-4E 72-163 AND UP AND F-4G.
97. SEAL WITH PR1422, MIL-S-8802 SEALANT.
98. FOR REPAIR, SEE FIGURE 2-32A.
99. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER T.O. 1F-4E-566 AND BEFORE T.O. 1F-4-1123; ALSO F-4G BEFORE T.O. 1F-4-1123.
100. F-4E 66-287 AND 66-296 THRU 71-1402 AND F-4G AFTER T.O. 1F-4-1123.
101. RF-4C 67-451, 67-453, 68-549, 68-577, 68-587, 68-593, 69-360, 69-361, 69-364 THRU 69-368, 69-371 THRU 69-375. AFTER TO 1F-4RJC-671, RIGHT SIDE.
102. FOR REPLACEMENT PROCEDURE OF 32-11123 INSERT, REFER TO FIGURE 2-48.

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Figure 2-3. Torque Box and Leading Edge Skin Repair Index (Sheet 5 of 5)



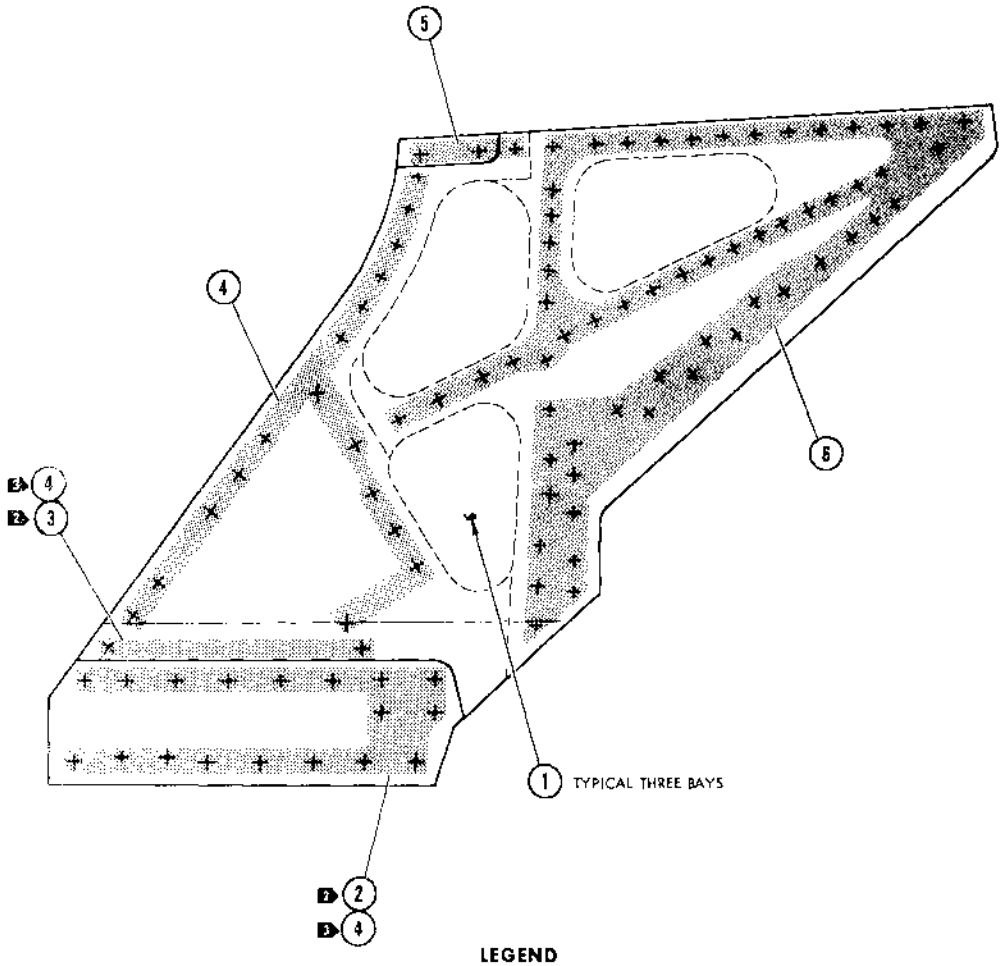
Notes

1. FOR FASTENER REPLACEMENT, SEE FIGURE 2-6.
2. F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
3. F-4E 72-121 AND UP.
4. F-4E 72-121 THRU 72-1487.
5. F-4E 72-1488 AND UP.

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	53G970838-3, -4	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	53G970838-25, -26	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)

4C-3-1-2-(261)F

Figure 2-4. Upper Leading Edge Closeure Skin, 53G970838-3, -4 and -25, -26 Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



LEGEND

1. UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH.
   BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2. 0.017 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
3. 0.021 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
4. 0.025 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
5. 0.020 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
6. 0.014 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.

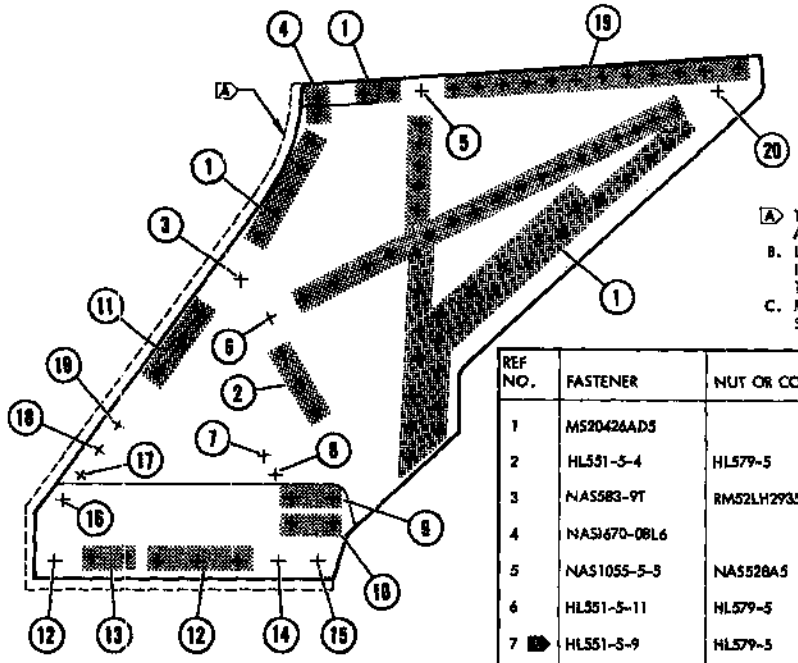
Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH THE FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS.
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. REMOVAL LIMITS APPLICABLE TO LAND AREAS MUST NOT BE EXTENDED INTO BAY AREAS.
   C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   D. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
   E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

2 53G970838-3, -4 SKIN.
3 53G970838-25, -26 SKIN.

4C-3-1-2-(276)B

Figure 2-5. Upper Leading Edge Closeure Skin, 53G970838-3, -4, and -25, -26, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



INSTALLATION PROCEDURE FOR NEW PART

A. TRIM EDGE TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS REFERENCE TO 1F-4C-3-1-1.
B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLE REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLE TO RECEIVE FASTENER.
C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

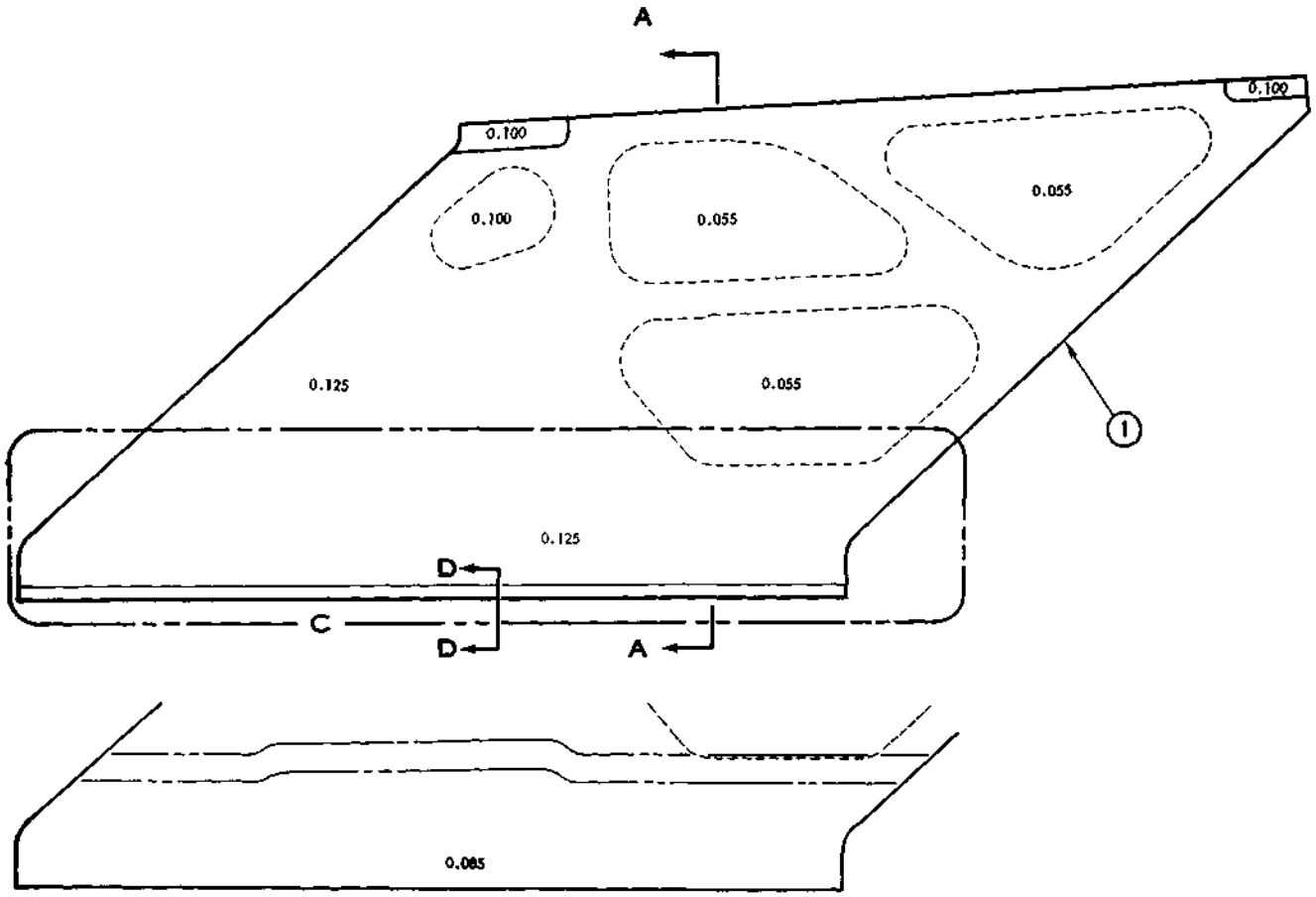
REF NO.	FASTENER	NUT OR COLLAR	NUT BASE	SPACER	TORQUE (INCH-LB)	HOLE SIZE
1	MS20426AD5					0.159 +.013 -.000
2	HL551-5-4	HL579-5				0.164 +.004 -.000
3	NAS583-9T	RM52LH2935-02	2935-0	53G970868-19	20-25	0.1900 +.0012 -.0000
4	NASI670-08L6					0.165 +.003 -.000
5	NAS1055-5-5	NAS528A5				0.156 +.006 -.000
6	HL551-5-11	HL579-5		53G970868-17, -18		0.164 +.004 -.000
7 [B]	HL551-5-9	HL579-5		53G970868-15, -16		0.164 +.004 -.000
[D]	HL551-5-9	HL579-5		53G970868-69, -70		0.164 +.004 -.000
8 [B]	HL551-5-10	HL579-5		53G970868-15, -16		0.164 +.004 -.000
[D]	NAS1581A3H10T	MS21042-3		53G970868-69, -70	20-25	0.190 +.004 -.000
[D]	NAS583-10T	MS21042-3		53G970868-15, -16	20-25	0.190 +.004 -.000
9 [F]	HL551-5-11	HL579-5		53G970868-13		0.164 +.004 -.000
[D]	NAS1581A3H11T	MS21042-3		53G970868-67	20-25	0.190 +.004 -.000
[D]	NAS583-13T	MS21042-3		53G970868-67	20-25	0.190 +.004 -.000
10 [D]	HL551-5-13	HL579-5		53G970868-13		0.164 +.004 -.000
[D]	NAS1581A3H13T	MS21042-3		53G970868-67	20-25	0.190 +.004 -.000
[D]	NAS583-11T	MS21042-3		53G970868-67	20-25	0.190 +.004 -.000
11	NAS583-8T	G19421-3-3-8-3			20-25	0.1900 +.0012 -.0000
12 [B]	HL557-8-9	HL683-8A HL83-8W [1]				0.2651 +.0017 -.0000
[B]	HT4013-4-9X	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
[D]	NAS1581A4H9T	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
13 [B]	HL557-6-9	HL683-6A HL83-6W [1]				0.2026 +.0017 -.0000
[B]	HT4013-3-9X	RM52LH2935-02	2935-0		20-25	0.2026 +.0017 -.0000
[D]	NAS583-9T	RM52LH2935-02	2935-0		20-25	0.2026 +.0017 -.0000
14 [B]	HL557-8-13	HL683-8A HL83-8W [1]				0.2651 +.0017 -.0000
[B]	HT4013-4-13X	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
[D]	NAS1581A4H13T	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
15 [B]	HT4013-4-13X	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
[D]	NAS1581A4H13T	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
16	HL551-5-12	HL579-5		53G970868-31		0.164 +.004 -.000
17	HL551-5-9	HL579-5		53G970868-31		0.164 +.004 -.000
18	HL551-5-7	HL579-5		53G970868-29		0.164 +.004 -.000
19	NAS1670-08L3					0.165 +.003 -.000
20 [F]	HL551-5-4	HL579-5				0.164 +.004 -.000
[D]	NAS1415-4	NAS1080C5				0.156 +.002 -.000

4C-3-1-2-(262)F

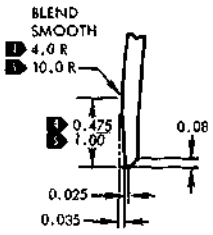
Notes

[1] COLLAR BASE.
[B] F-4E 66-287, 66-296 THRU 71-1079 AFTER TO 1F-4E-566 AND F-4G.
[D] F-4E 71-1080 THRU 71-1402 AFTER TO 1F-4E-566.
[D] F-4E 72-121 AND UP.
[B] F-4E 72-121 AND UP; ALSO F-4E 66-287, 66-296 THRU 71-1079 AFTER TO 1F-4E-566, AND F-4G.
[F] F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.

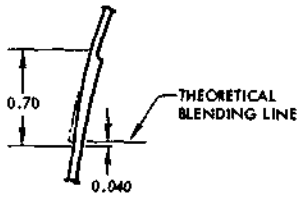
Figure 2-6. Upper Leading Edge Closure Skin, 53G970838-3, -4, and -25, -26, Replacement - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566, ALSO F-4E 72-121 AND UP AND F-4G



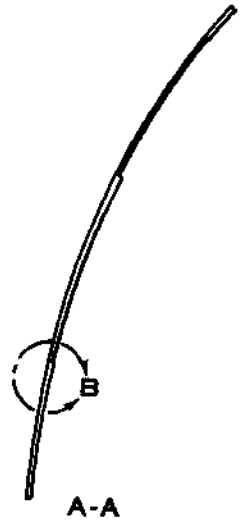
DETAIL C
53G970838-5, -6 SKIN



SECTION D-D
53G970838-29, -30 SKIN



DETAIL B
53G970838-5, -6 SKIN



A-A
TYPICAL CROSS SECTION

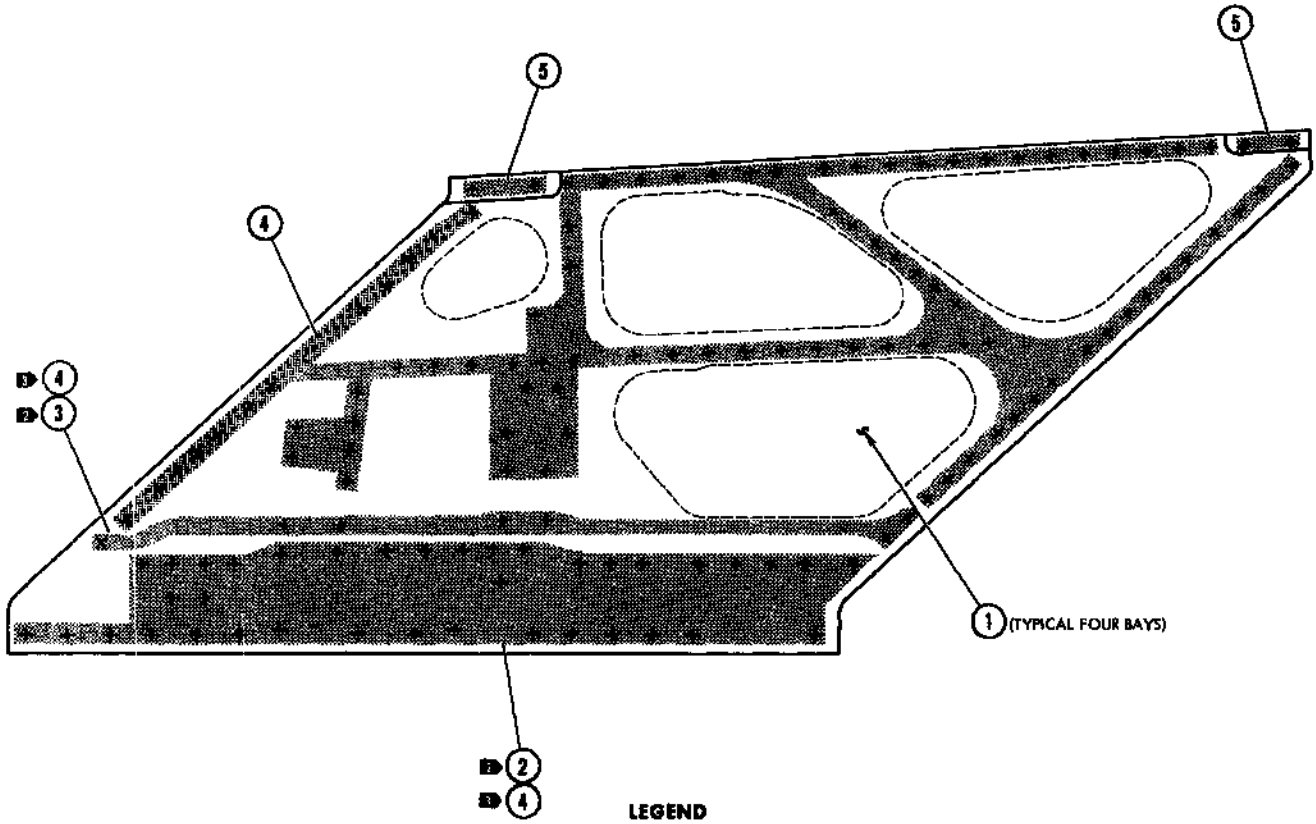
REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	53G970838-5, -6	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	53G970838-29, -30	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)

Notes

1. FOR FASTENER REPLACEMENT SEE FIGURE 2-9.
   F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
   F-4E 72-121 AND UP.
   F-4E 72-121 THRU 72-1487.
   F-4E 72-1488 AND UP.

4C-3-1-2-(263)F

Figure 2-7. Upper Leading Edge Closeure Skin, 53G970838-5, -6 and -29, -30, Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



LEGEND

1 UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH.
BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2 0.016 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
3 0.021 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
4 0.025 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
5 0.020 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.

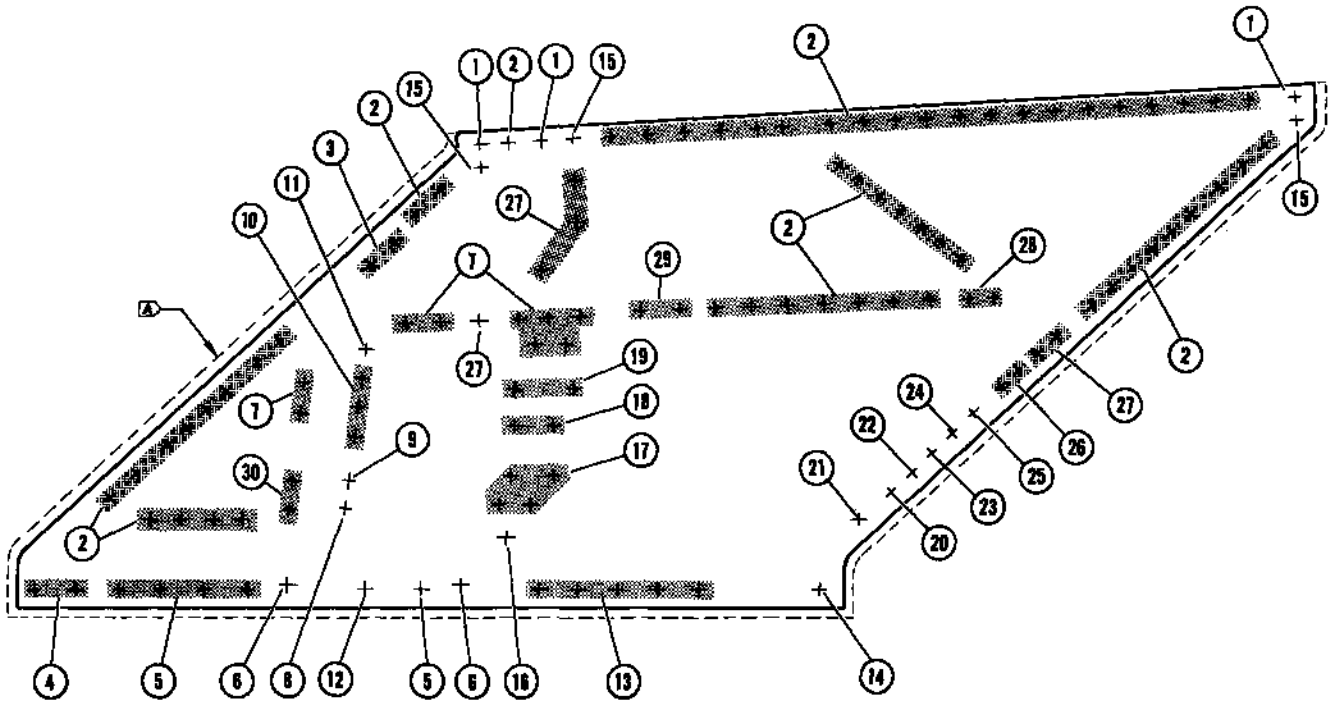
Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH THE FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS.
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. REMOVAL LIMITS APPLICABLE TO LAND AREAS MUST NOT BE EXTENDED INTO BAY AREAS.
   C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   D. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
   E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

▶ 53G970838-5, -6 SKIN.
▶ 53G970838-29, -30 SKIN.

4C-3-1-2-(277)B

Figure 2-8. Upper Leading Edge Closeure Skin, 53G970838-5, -6, and -29, -30, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



INSTALLATION PROCEDURE FOR NEW PART

(A) TRIM EDGE TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS REFERENCE TO 1F-4C-3-1-1.
B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLE REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLE TO RECEIVE FASTENER.
C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

(1) NUT OR COLLAR BASE.
(3) F-4E 66-287, 66-296 THRU 71-1079 AFTER TO 1F-4E-566 AND F-4G.
(4) F-4E 71-1080 THRU 71-1042 AFTER TO 1F-4E-566.
(5) F-4E 72-121 AND UP.
(6) F-4E 71-1080 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4E 72-121 AND UP.
(8) F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.

4C-3-1-2-(264-1)D

Figure 2-9. Upper Leading Edge Closeure Skin, 53G970838-5, -6, and -29, -30 Replacement - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 62-121 AND UP AND F-4G (Sheet 1 of 3)

REF NO.	FASTENER	COLLAR OR NUT	WASHER	SPACER	TORQUE (INCH-LB)	HOLE SIZE
1	HL551-6-6	HL579-6				0.190 +.004 -.000
	NAS1581A3H6T	MS21042-3	AN960PD10		20-25	0.190 +.004 -.000
2	MS20426AD5					0.159 +.013 -.000
3	HL551-8-8	HL579-8				0.2495 +.0017 -.0000
	NAS1581A4H8T	MS21042-3	AN960PD416		50-70	0.2495 +.0017 -.0000
4	HL557-8-12	HL683-8A HL83-8W				0.2651 +.0017 -.0000
	HT4013-4-12X	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
	NAS1581A4H12T	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
5	HL557-8-9	HL683-8A HL83-8W				0.2651 +.0017 -.0000
	HT4013-4-9X	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
	NAS1581A4H9T	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
6	HL557-6-9	HL683-6A HL83-6W				0.2026 +.0017 -.0000
	HT4013-3-9X	RM52LH2935-02	2935-0		20-25	0.2026 +.0017 -.0000
	NAS1581A4H12T	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
7	HL551-6-8	HL579-6				0.1895 +.0017 -.0000
	NAS583-8T	MS21042-3	AN960PD10		20-25	0.1895 +.0017 -.0000
8	NAS1581A3H10T	RM52LH2935-02	2935-0		20-25	0.1895 +.0017 -.0000
	NAS583-12T	RM52LH2935-02	2935-0		20-25	0.1895 +.0017 -.0000
9	NAS1581A3H7T	RM52LH2935-02	2935-0		20-25	0.1895 +.0017 -.0000
	NAS583-7T	RM52LH2935-02	2935-0		20-25	0.1895 +.0017 -.0000
10	HL551-5-6	HL579-5				0.164 +.004 -.000
	NAS583-6T	MS21042-3			20-25	0.1895 +.0017 -.0000
11	HL551-5-8	HL579-5				0.164 +.004 -.000
12	HL557-8-11	HL683-8A HL83-8W				0.2651 +.0017 -.0000
	HT4013-4-11X	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
	NAS1581A4H12T	RM52LH2935-048	2935-04		50-70	0.2651 +.0017 -.0000
13	HL557-8-16	HL579-8				0.2651 +.0017 -.0000
	HT4013-4-16X	MS21042-4	AN960-416L		50-70	0.2651 +.0017 -.0000
	NAS1581A4H16T	MS21042-4	AN960D416		50-70	0.2651 +.0017 -.0000
14	HL557-8-15	HL683-8A HL83-8W		53G970868-35		0.2651 +.0017 -.0000
	HT4013-4-15X	RM52LH2935-048	2935-04	53G970868-35	50-70	0.2651 +.0017 -.0000
	NAS1581A4H15T	RM52LH2935-048	2935-04	53G970868-35	50-70	0.2651 +.0017 -.0000
15	HL551-6-6	HL579-6				0.190 +.004 -.000
	NAS583-6T	MS21042-3	AN960PD10		20-25	0.190 +.004 -.000
16	HL551-6-12	HL579-6				0.190 +.004 -.000
	NAS1581A3H12T	MS21042-3	AN960PD10		20-25	0.190 +.004 -.000
	NAS583-12T	MS21042-3	AN960PD10		20-25	0.190 +.004 -.000
17	HL551-6-5	HL579-6				0.190 +.004 -.000
	NAS1581A3H5T	MS21042-3	AN960PD10		20-25	0.190 +.004 -.000
	NAS583-5T	MS21042-3	AN960PD10		20-25	0.190 +.004 -.000
18	HL551-6-6	HL683-6A HL83-6W				0.190 +.004 -.000
	NAS583-6T	RM52LH2935-02	2935-0		20-25	0.190 +.004 -.000
19	HL551-6-7	HL683-6A HL83-6W				0.190 +.004 -.000
	NAS583-7T	RM52LH2935-02	2935-0		20-25	0.190 +.004 -.000
20	HL551-5-7	HL579-5				0.164 +.004 -.000
	NAS583-11T	RM52LH2935-02	2935-0		20-25	0.1895 +.0017 -.0000
21	HL551-5-9	HL579-5				0.164 +.004 -.000
	NAS583-11T	RM52LH2935-02	2935-0		20-25	0.1895 +.0017 -.0000
22	HL551-5-5	HL579-5				0.164 +.004 -.000
	NAS583-9T	RM52LH2935-02	2935-0		20-25	0.1895 +.0017 -.0000

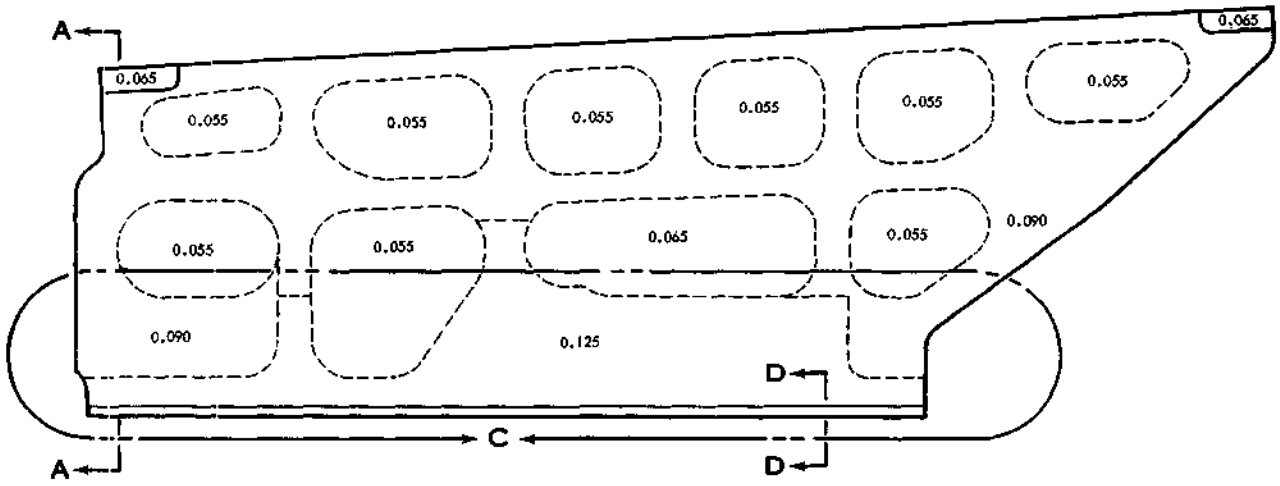
4C-3-1-2-(264-2)C

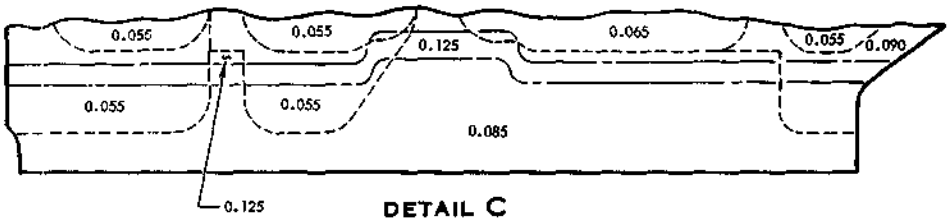
Figure 2-9. Upper Leading Edge Closure Skin, 53G970838-5, -6, and -29, -30 Replacement - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G (Sheet 2 of 3)

REF NO.	FASTENER	COLLAR OR NUT	WASHER	SPACER	TORQUE (INCH-LB)	HOLE SIZE
23 (6)	HL551-5-4	HL579-5				0.164 +.004 -.000
(5)	NAS583-8T	RMS2LH2935-02	2935-0 (1)		20-25	0.1895 +.0017 -.0000
24 (6)	HL551-5-4	HL579-5				0.164 +.004 -.000
(5)	NAS583-7T	RMS2LH2935-02	2935-0 (1)		20-25	0.1895 +.0017 -.0000
25 (6)	HL551-5-4	HL579-5				0.164 +.004 -.000
(5)	NAS583-6T	RMS2LH2935-02	2935-0 (1)		20-25	0.1895 +.0017 -.0000
26 (7)	HL551-5-4	HL579-5				0.164 +.004 -.000
(5)	NAS583-4T	MS21042-3	AN960PD10		20-25	0.1895 +.0017 -.0000
27 (7)	HL551-6-5	HL579-6				0.190 +.004 -.000
(5)	NAS583-5T	MS21042-3	AN960PD10		20-25	0.1895 +.0017 -.0000
28 (8)	HL551-5-4	HL579-5				0.164 +.004 -.000
(9)	NAS1055-5-4	NAS528A5				0.164 +.004 -.000
29 (8)	HL551-6-4	HL579-6				0.190 +.004 -.000
(9)	NAS583-4T	MS21042-3	AN960PD10		20-25	0.190 +.004 -.000
30 (7)	HL551-6-8	HL579-6				0.1895 +.0017 -.0000
(5)	NAS1581A3H8T	MS21042-3	AN960PD10		20-25	0.1895 +.0017 -.0000
(9)	NAS583-8T	MS21042-3	AN960PD10		20-25	0.1895 +.0017 -.0000

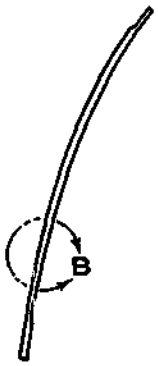
4C-3-1-2-(264-3)C

Figure 2-9. Upper Leading Edge Closure Skin, 53G970838-5, -6, and -29, -30 Replacement - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G (Sheet 3 of 3)

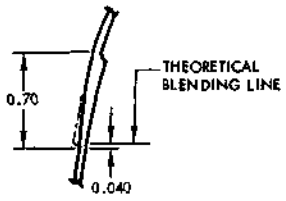




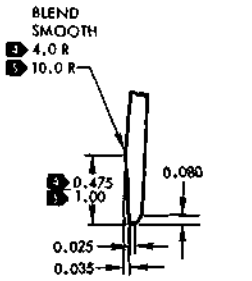
DETAIL C
53G970838-7, 8 SKIN



SECTION A-A
(TYPICAL CROSS SECTION)



DETAIL B
53G970838-7, 8 SKIN



SECTION D-D
53G970838-33, -34 SKIN

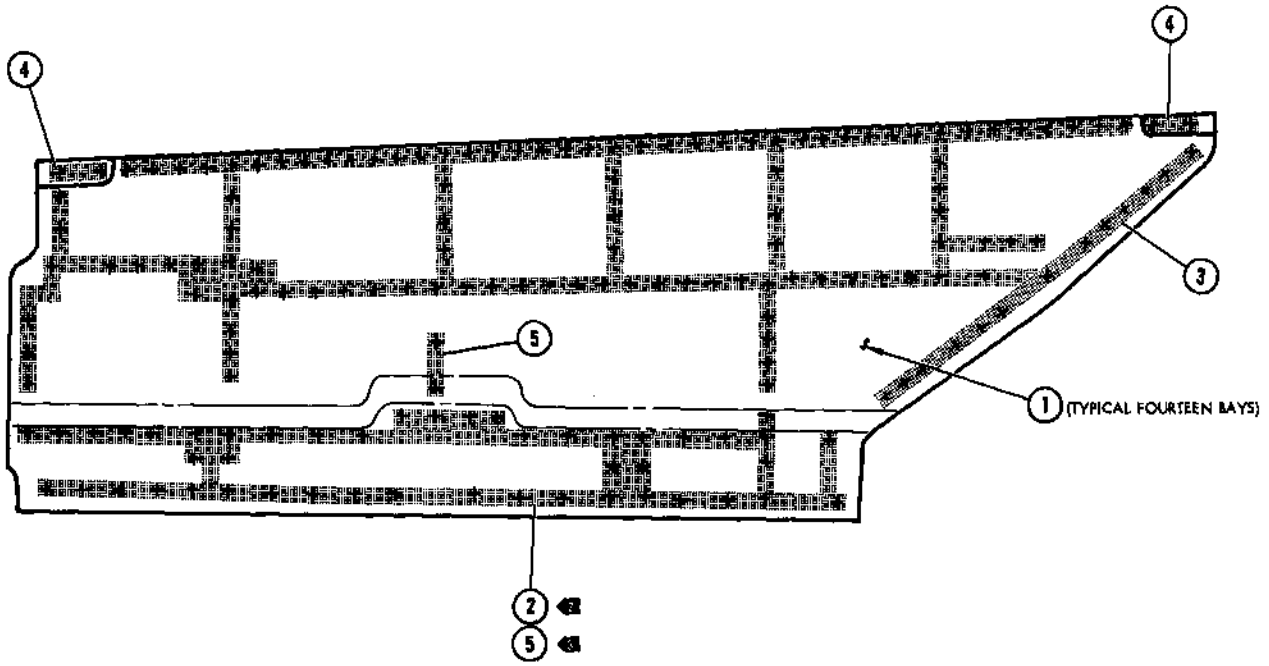
REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1 2	53G970838-7, -8	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
1 3	53G970838-33, -34	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)

Notes

1. FOR FASTENER REPLACEMENT, SEE FIGURE 2-12.
2. F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
3. F-4E 72-121 AND UP.
4. F-4E 72-121 THRU 72-1487.
5. F-4E 72-1488 AND UP.

4C-3-1-2-(265)F

Figure 2-10. Upper Leading Edge Closure Skin, 53G970838-7, -8 and -33, -34 Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



LEGEND

1. UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2. 0.017 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
3. 0.018 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
4. 0.013 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
5. 0.025 INCH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.

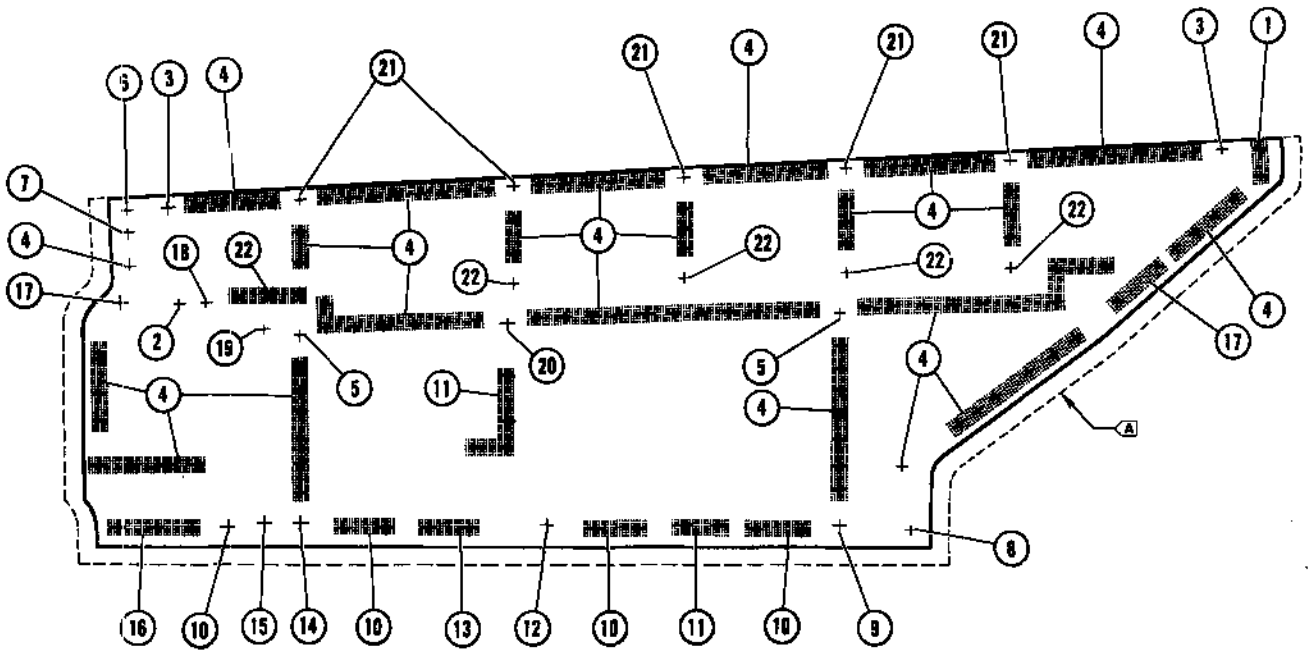
Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   - A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
     - (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
     - (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   - B. REMOVAL LIMITS APPLICABLE TO LAND AREAS MUST NOT BE EXTENDED INTO BAY AREAS.
   - C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   - D. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
   - E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

▶ 53G970838-7, -8 SKIN
▶ 53G970838-33, -34 SKIN

4C-3-1-2-(272)B

Figure 2-11. Upper Leading Edge Closure Skin, 53G970838-7, -8 and -33, -34, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



INSTALLATION PROCEDURE FOR NEW PART

A. TRIM EDGE TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS REFERENCE TO 1F-4C-3-1-1.
B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLE REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLE TO RECEIVE FASTENER.
C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

1. NUT BASE OR COLLAR BASE.
2. F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
3. F-4E 66-287, 66-296 THRU 71-1079 AFTER TO 1F-4E-566 AND F-4G.
4. F-4E 71-1080 THRU 71-1402 AFTER TO 1F-4E-566.
5. F-4E 72-121 AND UP.
6. F-4E 71-1080 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP.
7. F-4E 71-1080 THRU 71-1402 AFTER TO 1F-4E-566; ALSO 72-121 THRU 72-159.
8. F-4E 72-160 AND UP.
9. F-4E 72-121 THRU 72-159.

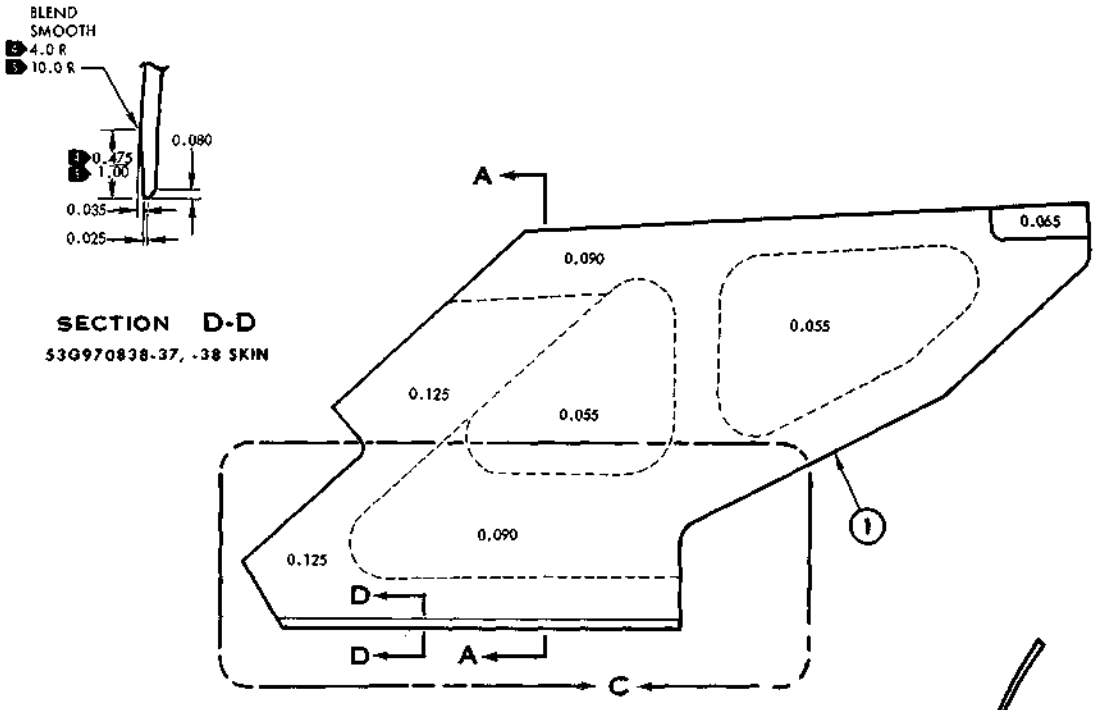
4C-3-1-2-(266-1)E

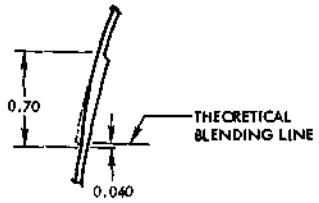
Figure 2-12. Upper Leading Edge Closure Skin, 53G970838-7, -8 and -33, -34 Replacement - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO 72-121 AND UP AND F-4G (Sheet 1 of 2)

REF NO.	FASTENER	COLLAR OR NUT	WASHER OR SPACER	TORQUE (INCH-LB)	HOLE SIZE
1	HL551-6-6	HL579-6			0.190 +.004 -.000
	NAS1581A3H3T	MS21042-3	AN960PD10	20-25	0.190 +.004 -.000
2	HT4016-3-4	MS21042-3	AN960PD10	20-25	0.190 +.004 -.000
	NAS1581A3H4T	MS21042-3	AN960PD10	20-25	0.190 +.004 -.000
3	NAS1097AD5				0.159 +.013 -.000
4	MS20426AD5				0.159 +.013 -.000
5	HL551-5-4	HL579-5			0.164 +.004 -.000
	NAS1055-5-4	NAS528A5			0.164 +.004 -.000
6	NAS1670-3L4				0.199 +.003 -.000
7	HT4016-3-4	MS21042L3	AN960C10L	20-25	0.191 +.006 -.000
	NAS1581A3H4T	MS21042-3	AN960PD10	20-25	0.191 +.006 -.000
8	HL557-8-14	HL683-8A HL83-8W [1]	53G970868-35		0.2651 +.0017 -.0000
	HT4013-4-14X	RM52LH2935-048 2935-04 [1]	53G970868-35	50-70	0.2651 +.0017 -.0000
	NAS1581A4H16T	RM52LH2935-048 2935-04 [1]	53G970868-77	50-70	0.2651 +.0017 -.0000
9	HL557-6-12	HL683-8A HL83-6W [1]			0.2026 +.0017 -.0000
	HT4013-3-12X	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
	NAS583-14T	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
10	HL557-8-8	HL683-8A HL83-8W [1]			0.2651 +.0017 -.0000
	HT4013-4-8X	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
	NAS1581A4H8T	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
11	HT4013-3-8X	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
	NAS1581A4H8T	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
12	HL557-6-8	HL683-6A HL83-6W [1]			0.2026 +.0017 -.0000
	HT4013-3-8X	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
	NAS1581A4H16T	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
13	HL643-8-12	SW2000-8A	SW2000-8W	50-70	0.2651 +.0017 -.0000
	HT4013-4-12X	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
	NAS1581A4H12T	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
14	HT4013-3-10X	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
	NAS1581A3H10T	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
15	HT4013-3-8X	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
	NAS1581A3H8T	RM52LH2935-02 2935-0 [1]		20-25	0.2026 +.0017 -.0000
16	HL557-8-13	HL683-8A HL83-8W [1]			0.2651 +.0017 -.0000
	HT4013-4-13	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
	NAS1581A4H13T	RM52LH2935-048 2935-04 [1]		50-70	0.2651 +.0017 -.0000
17	HT4016-3-8	MS21042L2	AN960C10L	20-25	0.1895 +.0017 -.0000
18	HL551-6-4	HL579-6			0.190 +.004 -.000
	NAS1581A3H4T	MS21042-3	AN960PD10	20-25	0.190 +.004 -.000
19	HL551-5-3	HL579-5			0.164 +.004 -.000
	NAS1055-5-3	NAS528A5			0.164 +.004 -.000
20	HL641-6-4	HL694-6			0.190 +.004 -.000
	NAS1581A3H4T	MS21042-3	AN960PD10	20-25	0.190 +.004 -.000
21	HL551-5-4	HL579-5			0.164 +.004 -.000
	NAS1055-5-4	NAS528A5			0.164 +.004 -.000
	NAS1581A3H4T	MS21042-3	AN960D10L	20-25	0.190 +.004 -.000
22	HL551-5-4	HL579-5			0.164 +.004 -.000
	NAS1055-5-4	NAS528A5			0.164 +.004 -.000
	NAS1581A3H4T	MS21042-3	AN960D10L	20-25	0.190 +.004 -.000

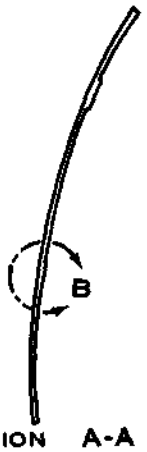
4C-3-1-2-(266-2)D

Figure 2-12. Upper Leading Edge Closure Skin, 53G970838-7, -8 and -33, -34 Replacement - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 ; ALSO 72-121 AND UP AND F-4G (Sheet 2 of 2)

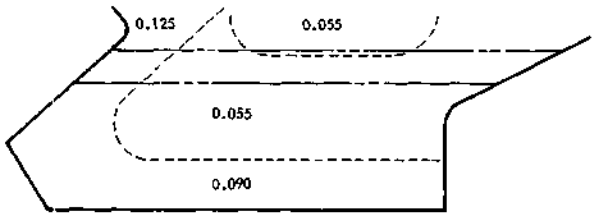




DETAIL B
53G970838-17, -18, SKIN



SECTION A-A
TYPICAL CROSS SECTION



DETAIL C
53G970838-17, -18, SKIN

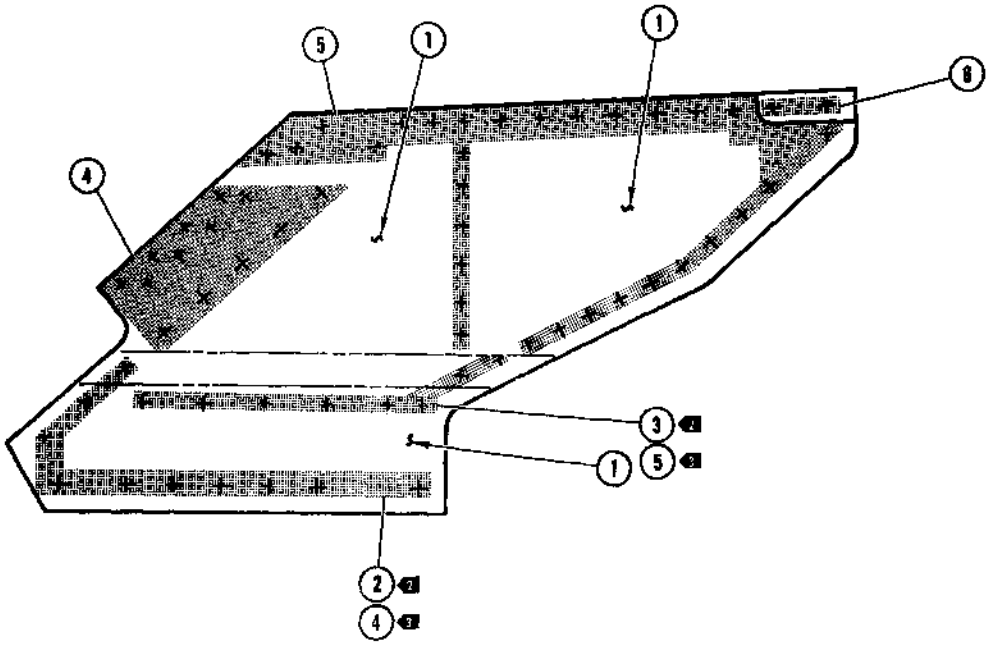
Notes

1. FOR FASTENER REPLACEMENT, SEE FIGURE 2-15.
2. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
3. F-4E 72-121 AND UP.
4. F-4E 72-121 THRU 72-1487.
5. F-4E 72-1488 AND UP.

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	53G970838-17, -18	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
	53G970838-37, -38	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)

4C-3-1-2-(267)E

Figure 2-13. Upper Leading Edge Closure Skin, 53G970838-17, -18 and -37, -38 Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



LEGEND

1 UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2 0.017 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
3 0.011 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
4 0.025 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
5 0.018 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
6 0.013 AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.

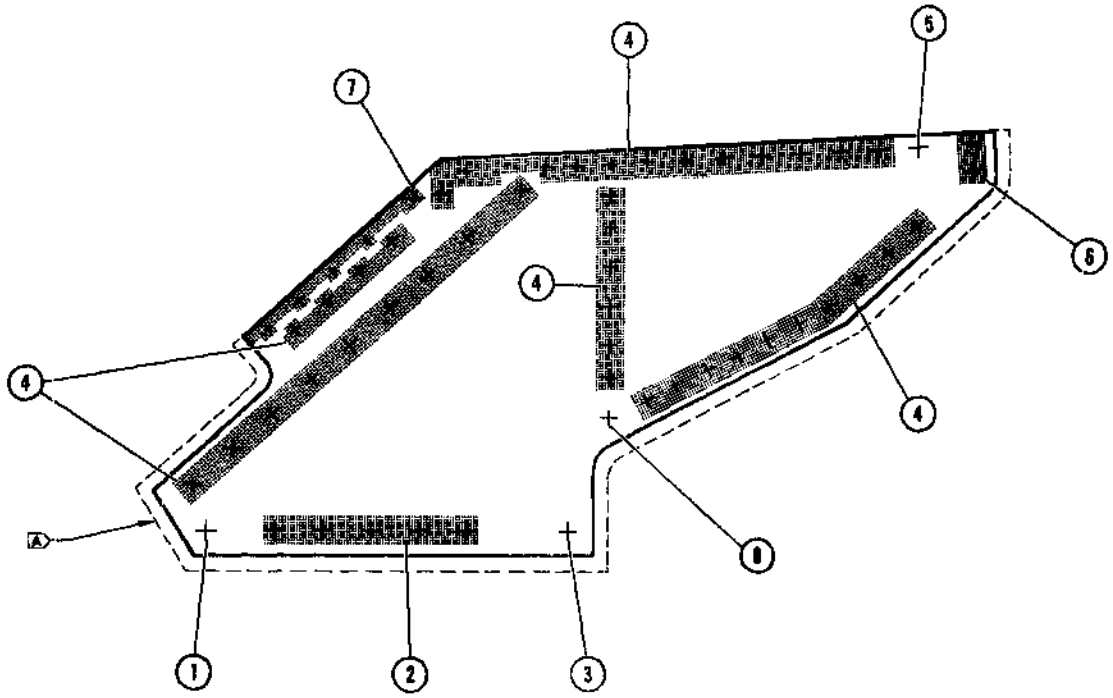
Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS.
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONEHALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. REMOVAL LIMITS APPLICABLE TO LAND AREAS MUST NOT BE EXTENDED INTO BAY AREAS.
   C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   D. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN TO-1F-4C-3-1-6.
   E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

▶ 53G970838-17, -18 SKIN.
▶ 53G970838-37, -38 SKIN

4C-3-1-2-(273)B

Figure 2-14. Upper Leading Edge Closure Skin, 53G970838-17, -18 and -37 , -38, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



REF NO.	FASTENER	NUT	NUT BASE	TORQUE (INCH-LB)	HOLE SIZE
1 ➧	NAS1703T10	RM52LH2935-02	2935-0	20-25	0.2026 $^{+.0017}_{-.0000}$
➧	NAS583-10T	RM52LH2935-02	2935-0	20-25	0.2026 $^{+.0017}_{-.0000}$
2 ➧	HL557-8-8	HL683-8A HL83-8W (1)			0.2651 $^{+.0017}_{-.0000}$
➧	HT4013-4-8X	RM52LH2935-048	2935-04	50-70	0.2651 $^{+.0017}_{-.0000}$
➧	NAS1581A4H8T	RM52LH2935-048	2935-04	50-70	0.2651 $^{+.0017}_{-.0000}$
3 ➧	HL557-8-12	HL683-8A HL83-8W (1)			0.2651 $^{+.0017}_{-.0000}$
➧	HT4013-4-12X	RM52LH2935-048	2935-04	50-70	0.2651 $^{+.0017}_{-.0000}$
➧	NAS1581A4H12T	RM52LH2935-048	2935-04	50-70	0.2651 $^{+.0017}_{-.0000}$
4	MS20426AD5				0.159 $^{+.013}_{-.000}$
5	NAS1097AD5				0.159 $^{+.013}_{-.000}$
6	NAS1670-08L5				0.165 $^{+.003}_{-.000}$
7	MS20450D8AD4				0.128 $^{+.014}_{-.000}$
8	HL551-5-4	HL579-5			0.164 $^{+.004}_{-.000}$

INSTALLATION PROCEDURE FOR NEW PART

(A) TRIM EDGE TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS REFERENCE TO 1F-4C-3-1-1.

B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLE REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLE TO RECEIVE FASTENER.

C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

(1) COLLAR BASE.

➧ F-4E 66-287 AND 66-296 THRU 71-1079 AFTER TO 1F-4E-566 AND F-4G.

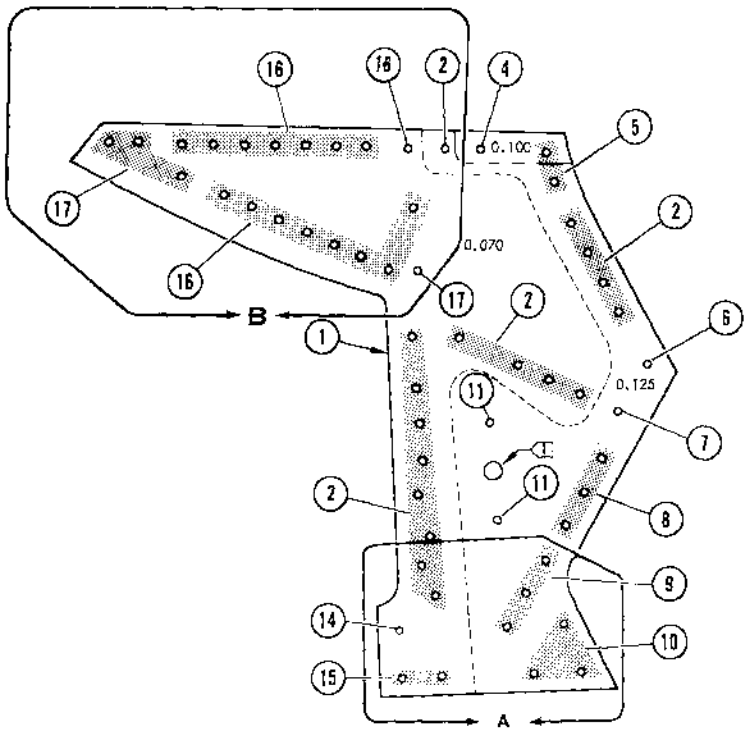
➧ F-4E 71-1080 THRU 71-1402 AFTER TO 1F-4E-566.

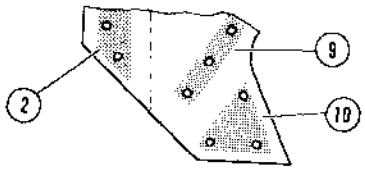
➧ F-4E 72-121 AND UP.

➧ F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.

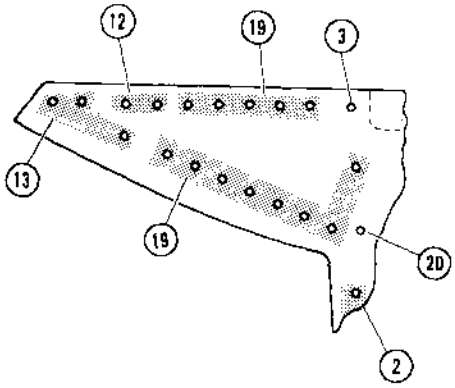
4C-3-1-2-(26B)E

Figure 2-15. Upper Leading Edge Closure Skin, 53G970838-17, -18 and -37, -38, Replacement - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G





DETAIL A
53G970839-3, -4 SKIN



DETAIL B
53G970839-3, -4 SKIN

4C-3-1-2-(271-1)A

Figure 2-16. Lower Leading Edge Skin, 53G970839-3, -4 and -5, -6, Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1 [D]	53G970839-3,-4	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)
[D]	53G970839-5,-6	SKIN	0.125	7075-T76 ALCLAD	QQ-A-250/25 (T76)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE INCH-LB	HOLE SIZE
2	MS20426AD5				$0.159^{+.013}_{-.000}$
3 [D]	NAS1055-5-5	NAS528A5			$0.154^{+.003}_{-.000}$
[D]	NAS1670-08L5				$0.165^{+.003}_{-.000}$
4	NAS1097AD5				$0.159^{+.013}_{-.000}$
5	NAS1670-08L6				$0.165^{+.003}_{-.000}$
6 [D]	HL551-6-8	HL579-6			$0.1895^{+.0017}_{-.0000}$
[D]	NAS583-8T	MS27042-3	AN960PD10	20-25	$0.1895^{+.0017}_{-.0000}$
7	HL551-08-8	HL579-5			$0.164^{+.004}_{-.000}$
8	HL551-08-7	HL579-5			$0.164^{+.004}_{-.000}$
9	HL551-08-11	SW2000-5A	SW2000-5W		$0.164^{+.004}_{-.000}$
10	HL551-08-12	SW2000-5A	SW2000-5W		$0.164^{+.004}_{-.000}$
11	NAS583-3T	RMF19421-3		20-25	$0.193^{+.004}_{-.000}$
12	NAS1670-08L2				$0.165^{+.003}_{-.000}$
13	NAS1670-08L3				$0.165^{+.003}_{-.000}$
14	HL551-6-8	HL683-6A	HL83-6W		$0.193^{+.004}_{-.000}$
15	HL551-6-10	HL683-6A	HL83-6W		$0.193^{+.004}_{-.000}$
16 [D]	NAS1670-08L2				$0.165^{+.003}_{-.000}$
17 [D]	NAS1670-08L3				$0.165^{+.003}_{-.000}$
18 [D]	NAS1670-08L5				$0.165^{+.003}_{-.000}$
19 [D]	MS20426AD5				$0.159^{+.013}_{-.000}$
[D]	NAS1670-08L2				$0.165^{+.003}_{-.000}$
20 [D]	MS20426AD5				$0.159^{+.013}_{-.000}$
[D]	NAS1670-08L3				$0.165^{+.003}_{-.000}$

Notes

[1] $0.437^{+.007}_{-.000}$ DIAMETER HOLE FOR GROUNDING JACK.

[D] F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.

[D] F-4E 72-121 AND UP.

[D] F-4E 66-287, 66-296 THRU 71-1079 AFTER TO 1F-4E-566 AND F-4G.

[D] F-4E 71-1080 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP.

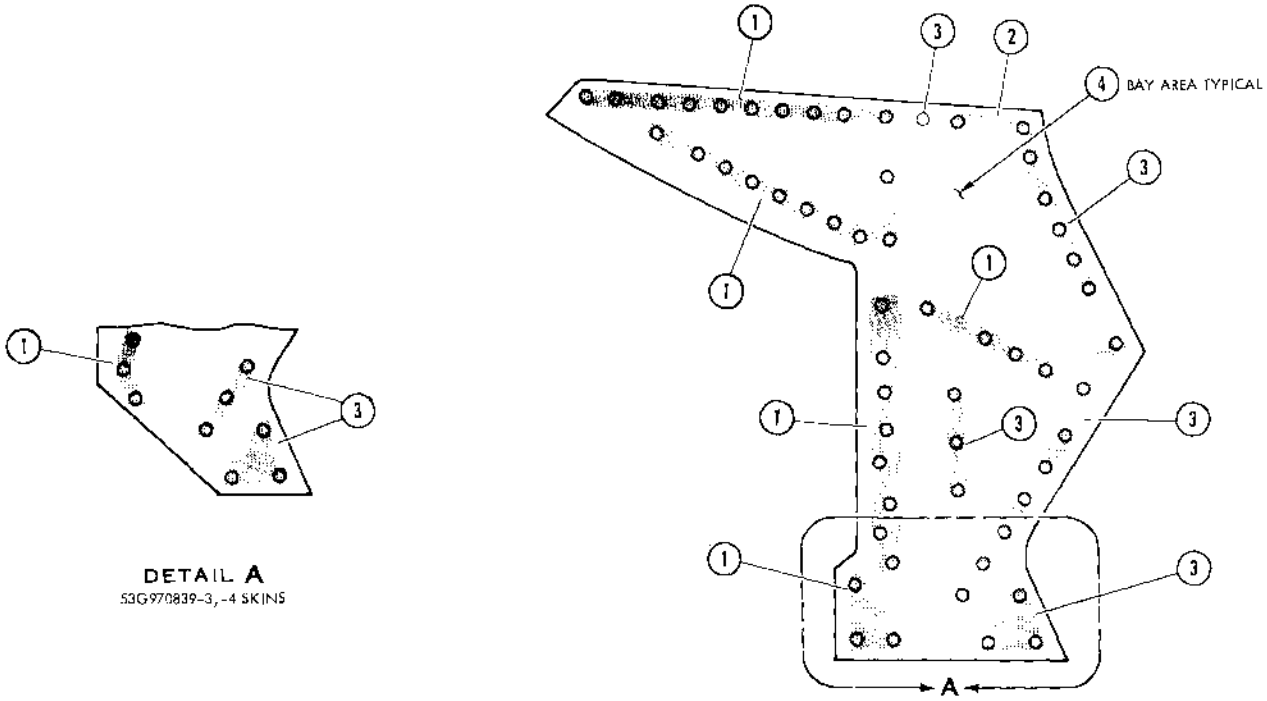
[D] F-4E 72-121 THRU 72-163.

[D] F-4E 72-164 AND UP.

[D] F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO 72-121 THRU 72-163 AND F-4G.

4C-3-1-2-(271-2)C

Figure 2-16. Lower Leading Edge Skin, 53G9708f39-4, -4 and -5, -6, Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G (Sheet 2 of 2)



DETAIL A
53G970839-3, -4 SKINS

LEGEND

1. 0.014 IN DEPTH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
2. 0.020 IN DEPTH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
3. 0.025 IN DEPTH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
4. 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS, UNBLENDED. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. 0.010 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS, UNBLENDED.

Note

NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH THE FOLLOWING RESTRICTIONS:

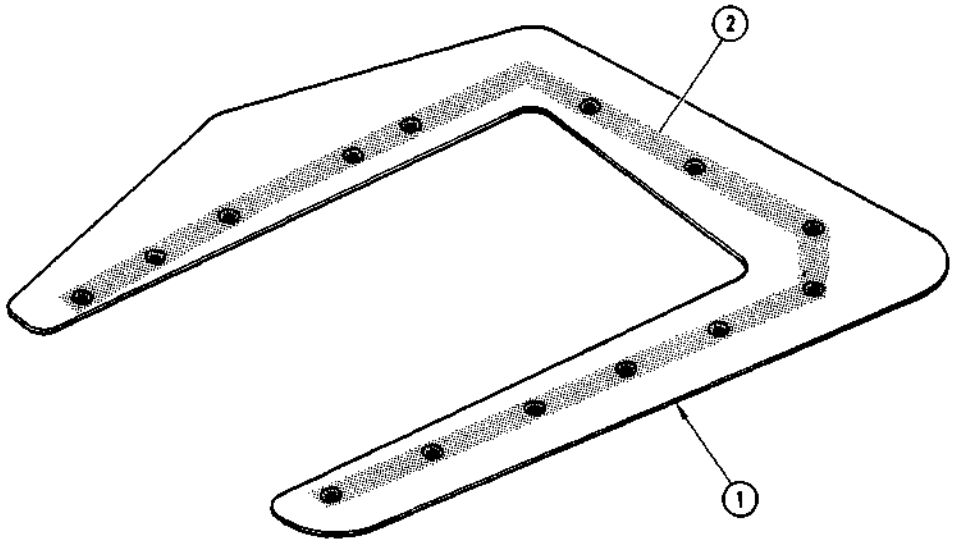
A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
   (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
   (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.

B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.

C. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

4C-3-1-2-1292(A

Figure 2-17. Lower Leading Edge Skin, 53G970839-3, -4, and -5, -6, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1 [1]	53G970797-5, -6	FAIRING	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
[2]	53G970797-7, -8	FAIRING	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)

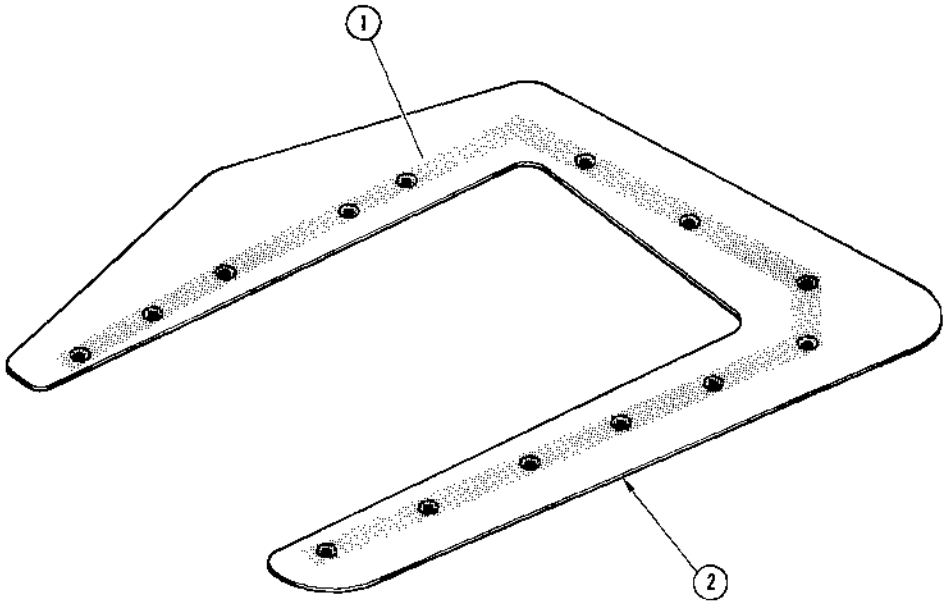
REF NO.	FASTENER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
2 [1]	HL551-5-4	HL579-5		$0.1635^{+.0022}_{-.0000}$
[2]	NAS1581A3H4T		20-25	$0.191^{+.006}_{-.000}$

Notes

[1] F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4E 72-121 THRU 72-168 AND F-4G.
[2] F-4E 72-1476 AND UP.

4C-3-1-2-(278)C

Figure 2-18. Upper Leading Edge Closure Fairing, 53G970797-5, -6, and -7, -8, Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



Notes

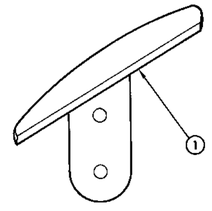
1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH THE FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS.
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

LEGEND

1. 0.016 IN DEPTH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
2. 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS UNBLENDED. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. 0.010 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS, BLENDED.

4C-3-1-2-(279)A

Figure 2-19. Upper Leading Edge Closure Fairing, 53G970797-5, -6, and -7, -8, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



LEGEND

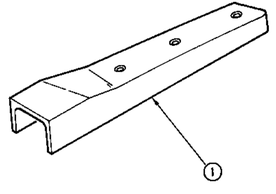
0.020 DEPTH AT 70 PERCENT OF AREA.

Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENER SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

4C-3-1-2-(281)A

Figure 2-20. Upper Leading Edge Closure Fairing, 53G790874-3, -4, Negligible Damage and Corrosion Removal Limits - F-4E 71-237 THRU 71-1402 AFTER TO 1F-4E-566



LEGEND

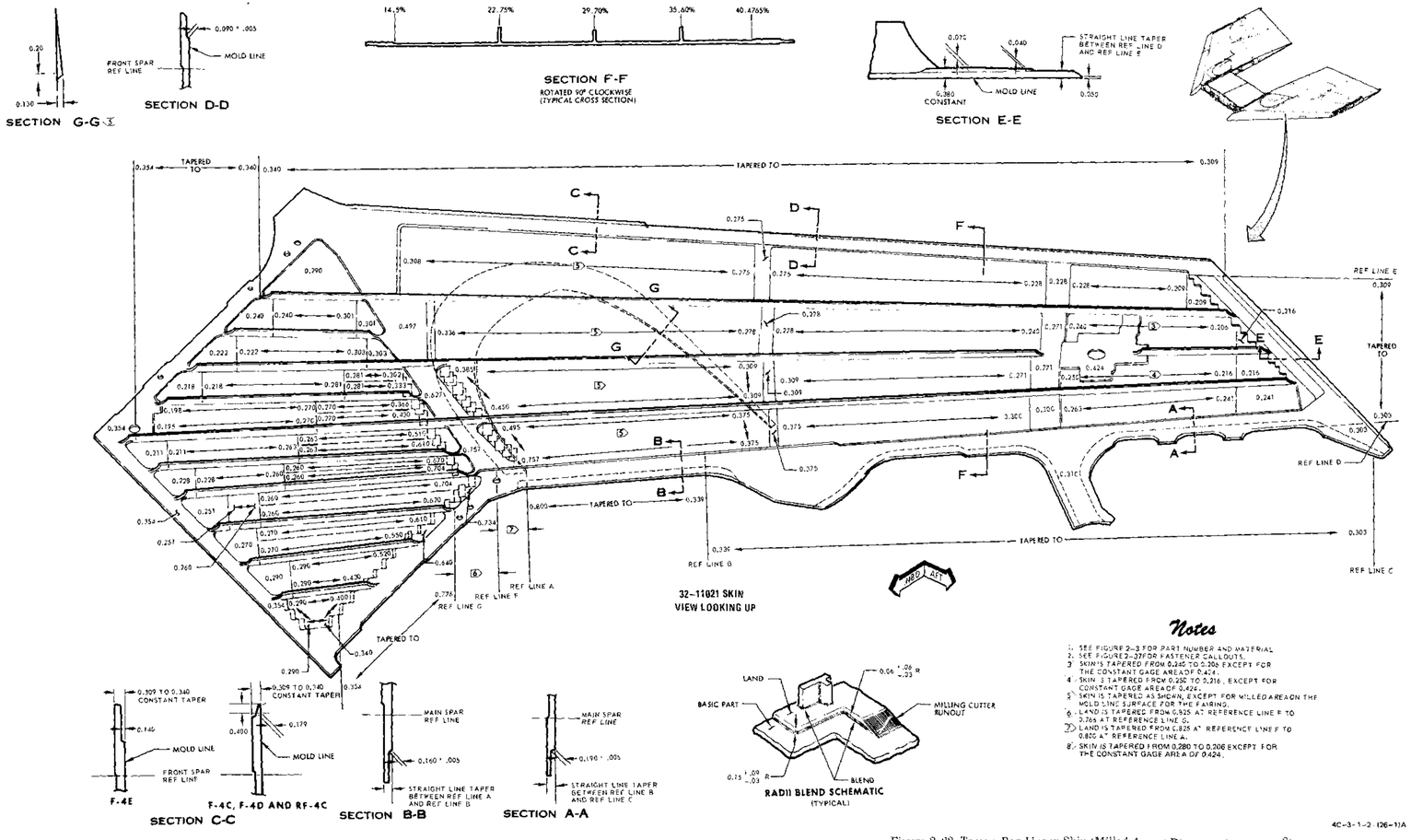
1 0.020 DEPTH AT 70 PERCENT OF AREA.

Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENER SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

4C-3-1-2-(280)A

Figure 2-21. Upper Leading Edge Closure Fairing, 53G970837-5, -6, and -7, -8, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



Notes

1. SEE FIGURE 2-3 FOR PART NUMBER AND MATERIAL.
2. SEE FIGURE 2-37 FOR FASTENER CALLOUTS.
3. SKIN IS TAPERED FROM 0.245 TO 0.266 EXCEPT FOR THE CONSTANT GAGE AREA OF 0.424.
4. SKIN IS TAPERED FROM 0.250 TO 0.316, EXCEPT FOR CONSTANT GAGE AREA OF 0.424.
5. SKIN IS TAPERED AS SHOWN, EXCEPT FOR MILLED AREA ON THE MOLD LINE SURFACE FOR THE FAIRING.
6. LAND IS TAPERED FROM 0.825 AT REFERENCE LINE F TO 0.765 AT REFERENCE LINE G.
7. LAND IS TAPERED FROM 0.825 AT REFERENCE LINE F TO 0.800 AT REFERENCE LINE A.
8. SKIN IS TAPERED FROM 0.280 TO 0.208 EXCEPT FOR THE CONSTANT GAGE AREA OF 0.424.

4C-3-1-2 (26-1)A

Figure 2-22. Torque Box Upper Skin (Milled Areas) Diagram (Sheet 1 of 2)

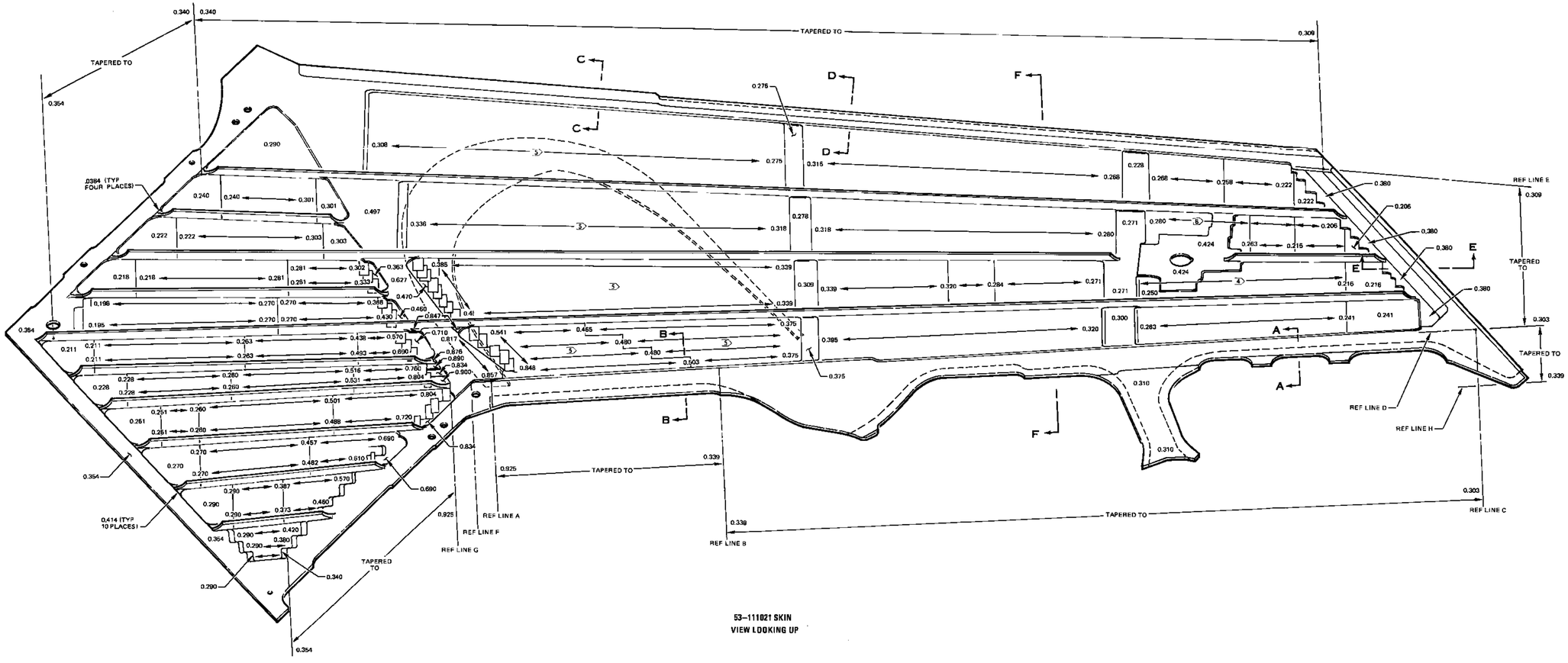
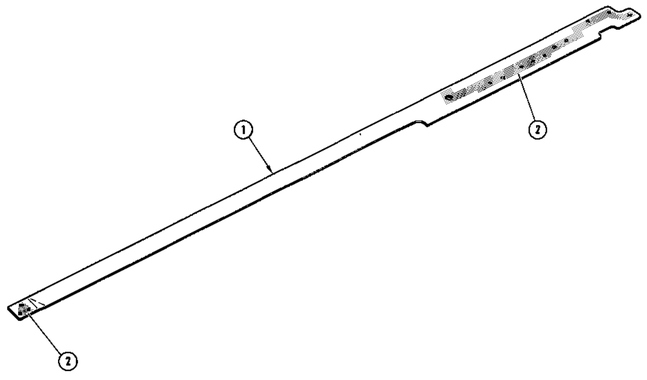


Figure 2-22. Torque Box Upper Skin (Milled Areas) Diagram (Sheet 2 of 2)

4C-3-1-2-128-2IA



LEGEND

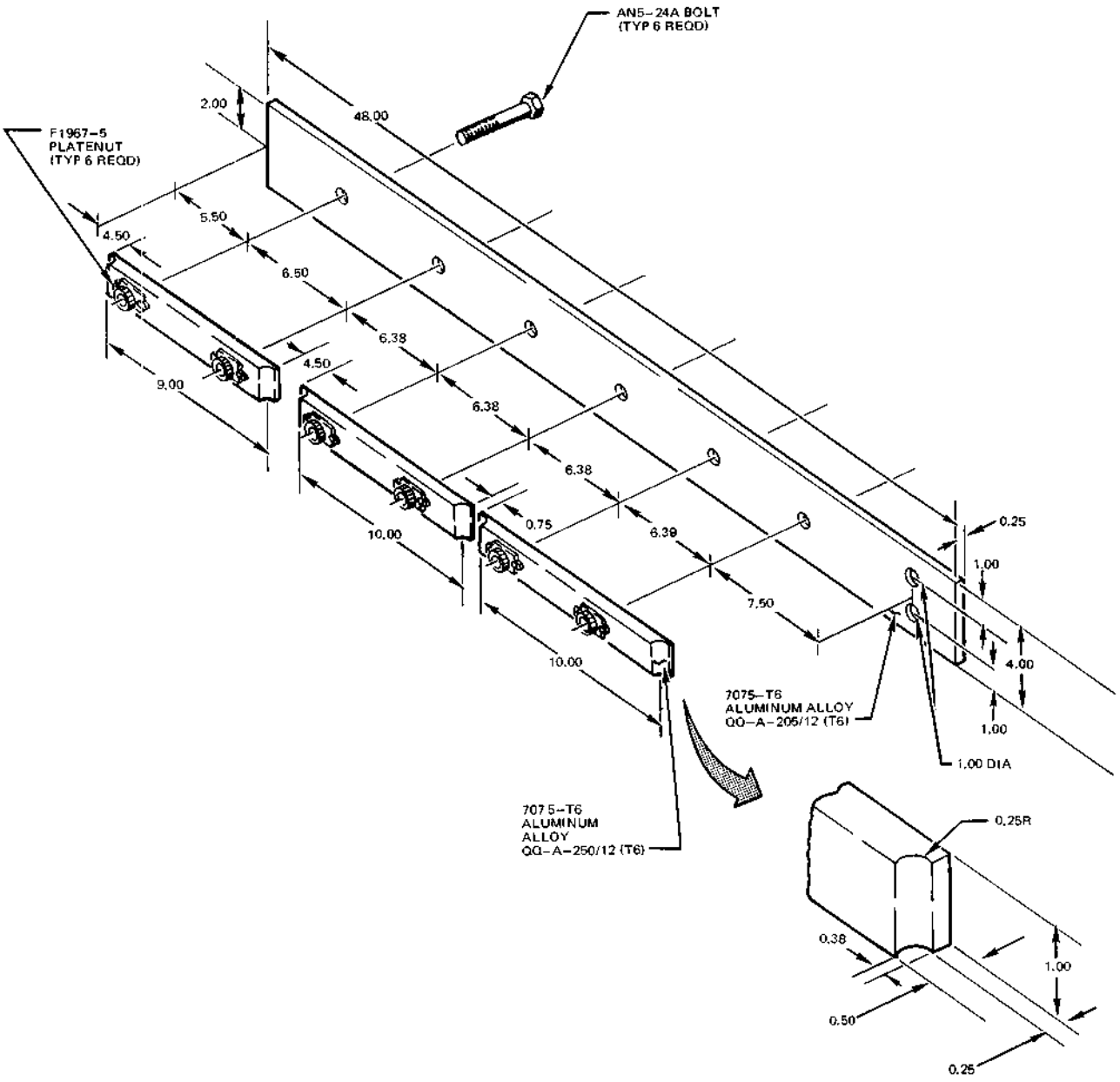
1 UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH.
CORROSION MUST BE BLENDED REGARDLESS OF DEPTH.
BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2 0.013 IN DEPTH AT 60 PERCENT OF FASTENERS IN A SINGLE ROW.

Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH THE FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS.
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE-HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORKED AREA PER CORRISION CONTROL PROCEDURE IN TO-1F-4C-3-1-6.
   D. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

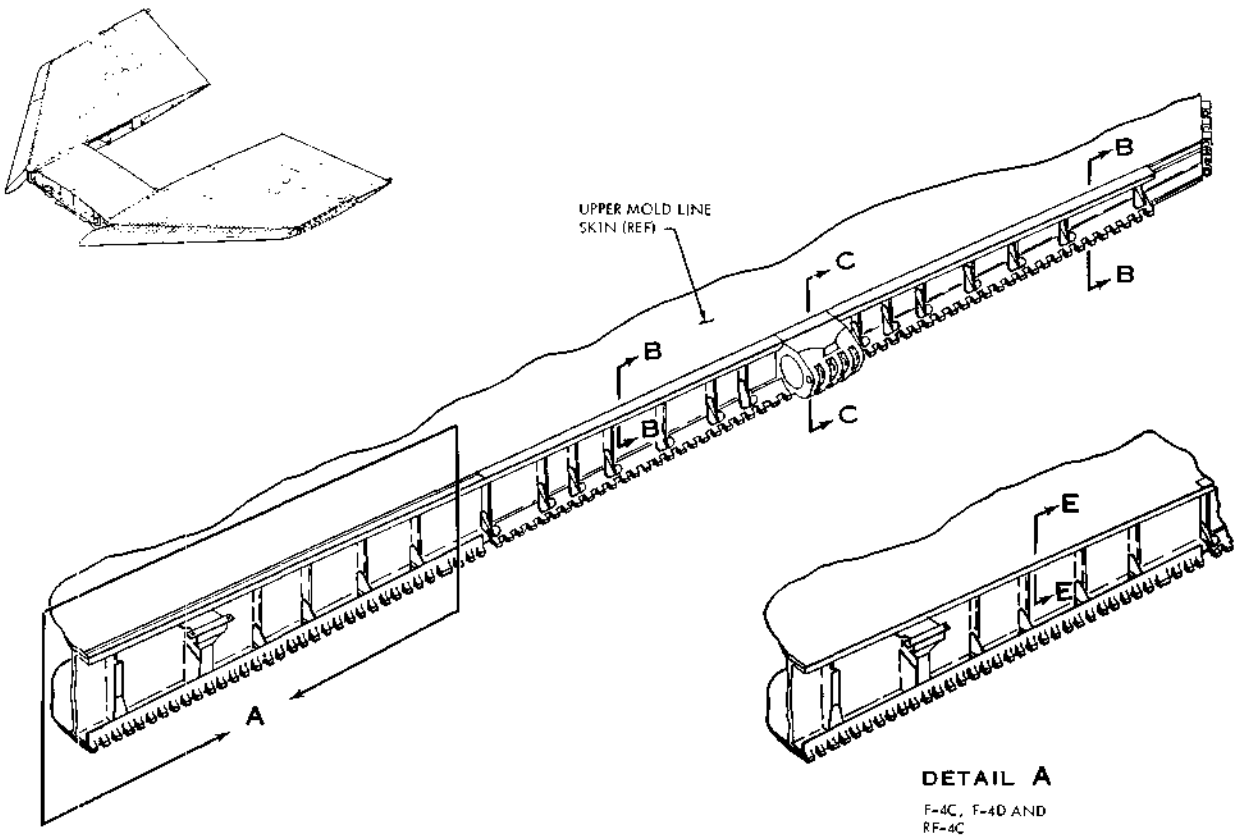
4C-3-1-2-(284)A

Figure 2-23. Wing Fold Bump Skin, 53G970794-3, -4, and -5, -6, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G



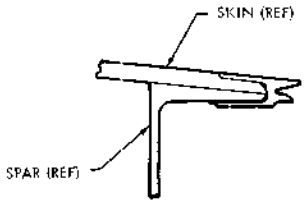
4C-3-1-2-(384)

Figure 2-23A. Optional Wing Fold Bump Skin Clamp

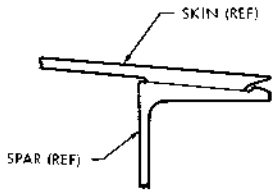


DETAIL A

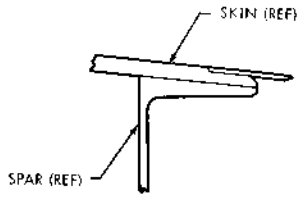
F-4C, F-4D AND RF-4C



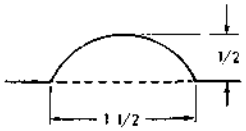
SECTION B-B



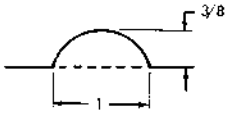
SECTION E-E



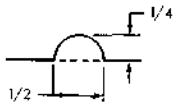
SECTION C-C



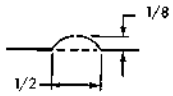
TYPE A



TYPE B



TYPE C



TYPE D

EXAMPLE

CONDITION V ALLOWS A TOTAL OF THREE GOUGES, TWO OF TYPE B AND ONE OF TYPE C.

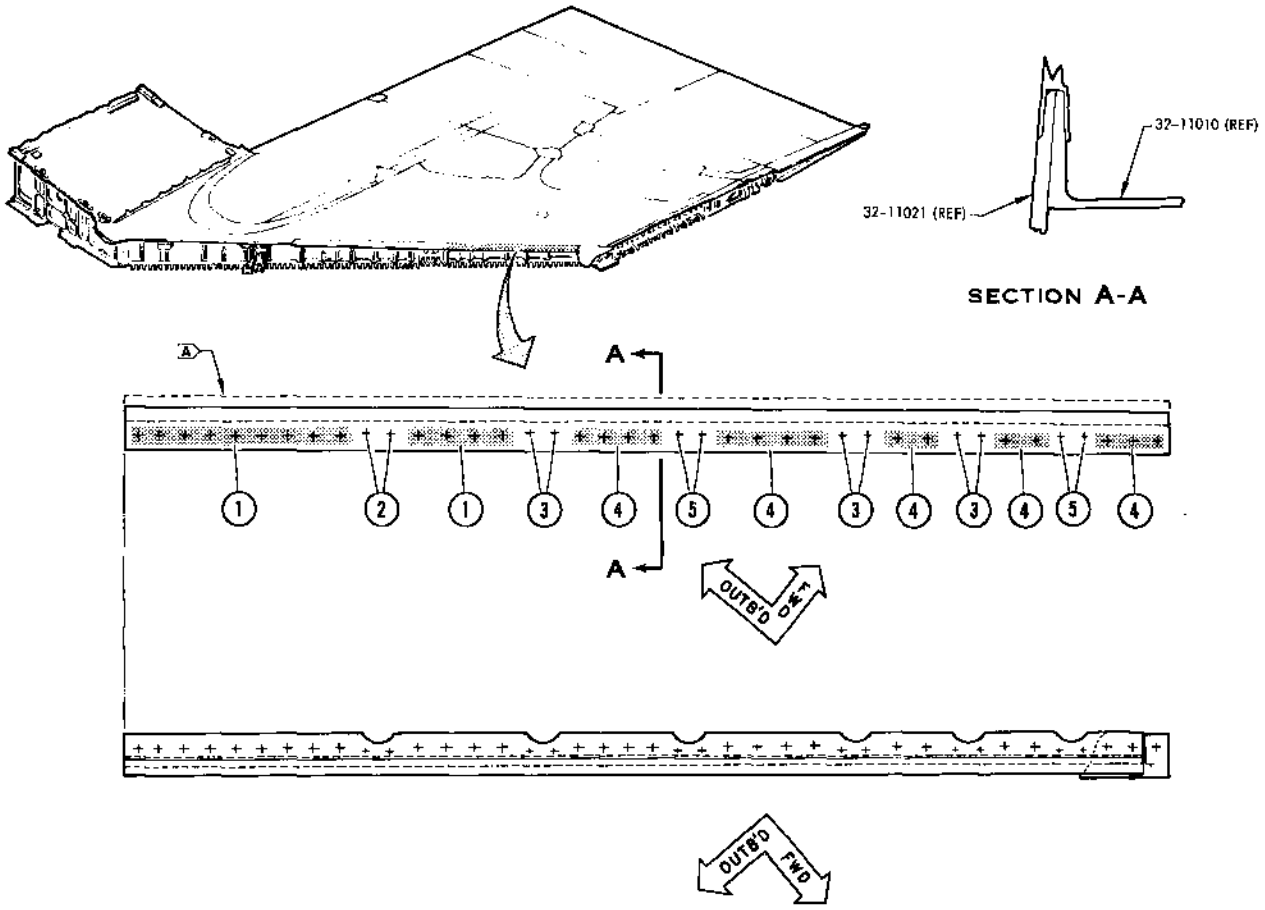
NEGLIGIBLE DAMAGE LIMITATIONS				
CONDITION	TYPE A	TYPE B	TYPE C	TYPE D
I	2	0	0	0
II	1	2	0	0
III	1	1	1	0
IV		3	0	0
V		2	1	0
VI		1	3	0
VII			4	0
VIII			3	2
IX			2	4
X			1	6
XI				8

Notes

1. GOUGES MUST BE FILED SMOOTH REGARDLESS OF SIZE.
2. DAMAGES DO NOT NECESSARILY HAVE TO BE FILED TO MAXIMUM ALLOWABLE LIMITS.

4C-3-1-2-(55)A

Figure 2-24. Torque Box Leading Edge Interlock Negligible Damage Limits - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566



INSTALLATION PROCEDURE FOR NEW PART

(A) TRIM EDGE TO FIT LEADING EDGE SKIN, REFERENCE T O 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIM LINE.

B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE T O 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES AS REQUIRED.

C. REFINISH TRIMMED EDGES, HOLES, AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T O 1F-4C-3-1-6.

REF NO.	FASTENER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1418-9	NAS1080C8		0.249 +.0017 -.0000
2	NAS1503-14T	MS21059L3	20-25	0.196 +.006 -.000
3	NAS1416-10	NAS1080C6		0.185 +.0017 -.0000
4	NAS1418-10	NAS1080C8		0.249 +.0017 -.0000
5	NAS1503-14T	F1967-3	20-25	0.196 +.006 -.000

4C-3-1-2-(313)A

Figure 2-25. Interlock Support, 32-11538-19, -20 Replacement - F-4C 63-7443 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566

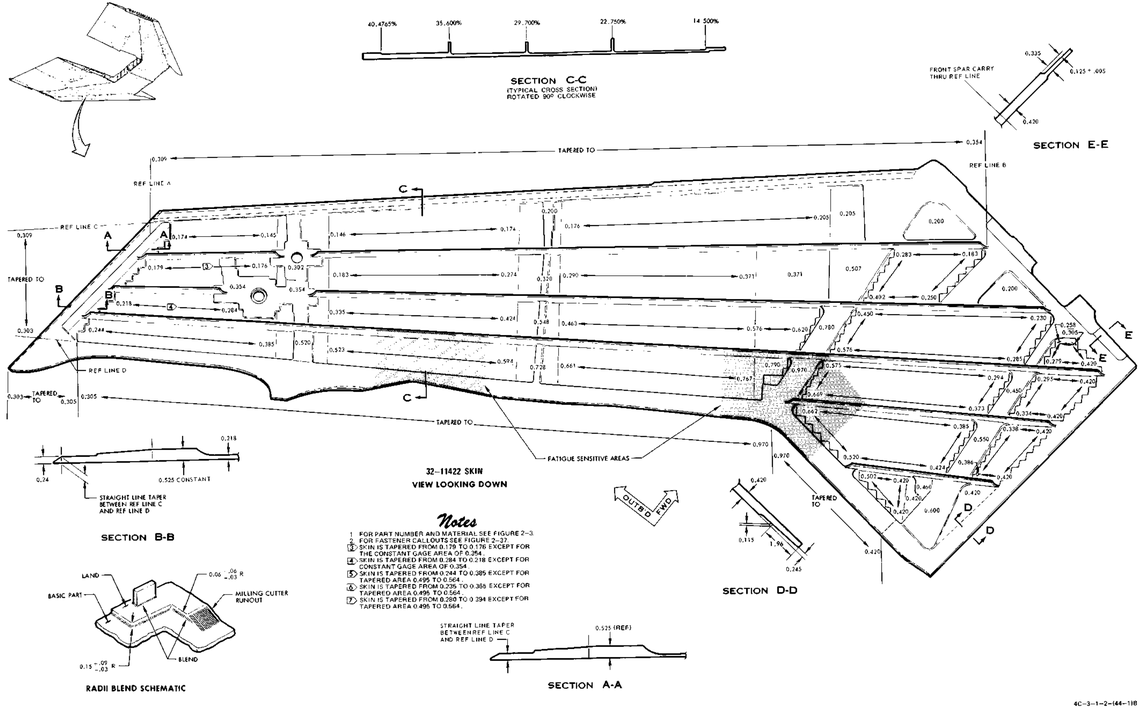


Figure 2-26. Torque Box Lower Skin (Milled Area) Diagram (Sheet 1 of 2)

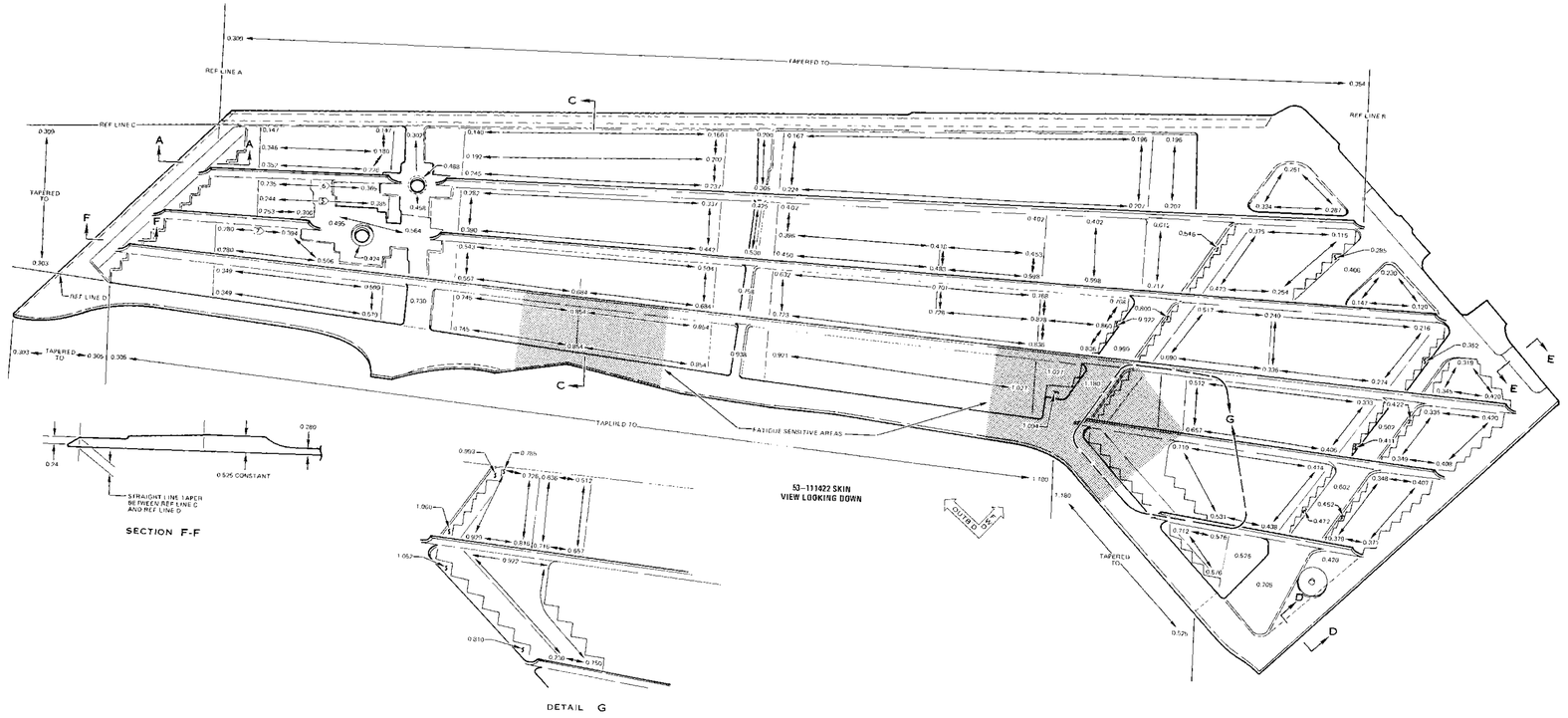
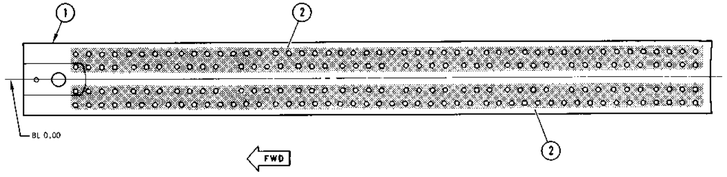


Figure 2-26. Torque Box Lower Skin (Milled Area) Diagram (Sheet 2 of 2)

4C-3-1-2-144-2(A



LEGEND

1. UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2. 0.012 AT 50 PERCENT OF FASTENERS IN A SINGLE ROW.

Note

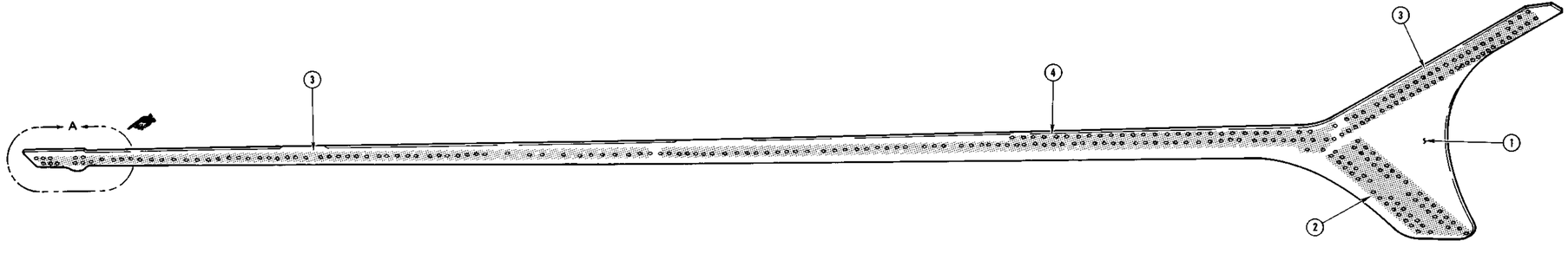
1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS.
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN TO-1F-4C-3-1-6.
   D. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

NOTE

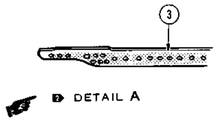
IF CORROSION IS FOUND, CONSULT LOCAL ENGINEERING.

4C-3-1-2-(285)B

Figure 2-27. Lower Splice Plate, 53-111109 Negligible Damage and Corrosion Removal Limits



53G970773-5, -6; -7, -8; -9, -10; -11, -12 STRAP



DETAIL A

LEGEND

1. UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH.
2. 0.014 IN DEPTH AT 50 PERCENT OF FASTENERS IN A SINGLE ROW.
3. 0.007 IN DEPTH AT 50 PERCENT OF FASTENERS IN A SINGLE ROW.
4. 0.025 IN DEPTH AT 50 PERCENT OF FASTENERS IN A SINGLE ROW

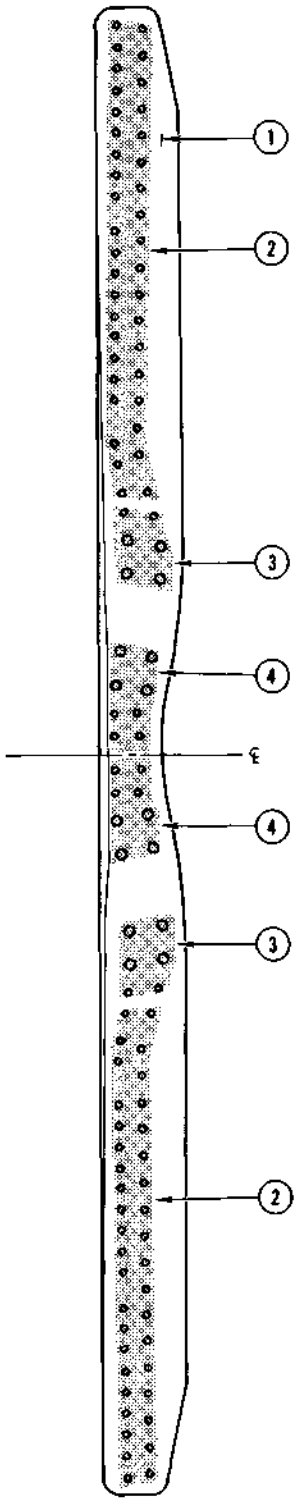
Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORK AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
   D. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

AFTER TO 1F-4-1123.

4C-2-1-2-(2831)B

Figure 2-28. Lower Mold Line Strap, 53G970773, Negligible Damage and Corrosion Removal Limits - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566.



LEGEND

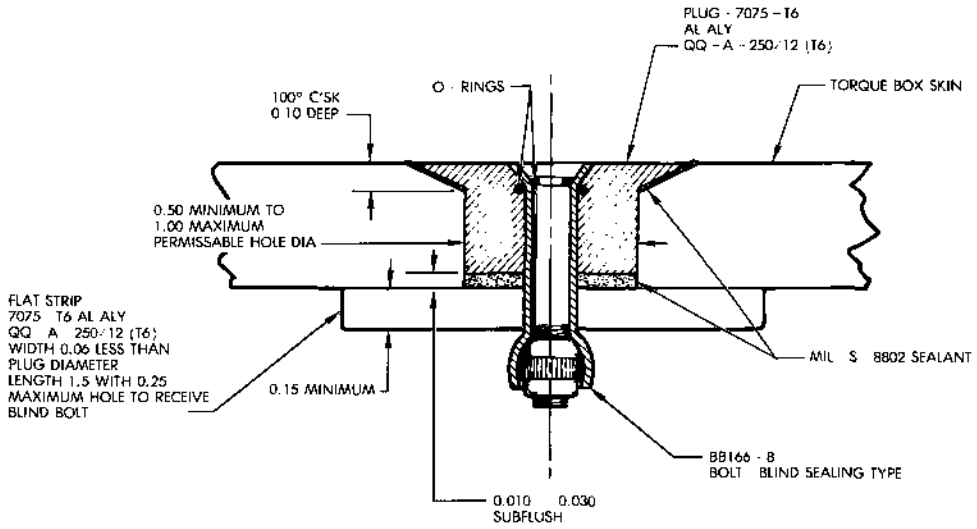
1. UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2. 0.007 IN DEPTH AT 50 PERCENT OF FASTENERS IN A SINGLE ROW.
3. 0.019 IN DEPTH AT 50 PERCENT OF FASTENERS IN A SINGLE ROW.
4. 0.050 IN DEPTH AT 50 PERCENT OF FASTENERS IN A SINGLE ROW.

Notes

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
   D. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

4C-3-1-2-(282)A

Figure 2-29. Lower Splice Strap, 53G970774, Negligible Damage and Corrosion Removal Limits - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G



Note

REFER TO TEXT FOR PROCEDURE, APPLICATION AND LIMITATIONS.

REPAIR PROCEDURE

A. REAM DAMAGE 0.50 MIN 1.00 MAX. DIA SUFFICIENT TO REMOVE DAMAGE.

B. NDI EDDY CURRENT HOLE TO VERIFY DEFECTS ARE REMOVED.

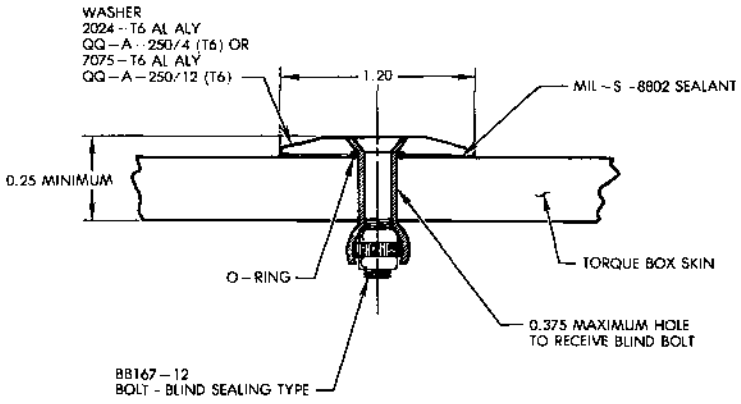
C MAKE FLAT RETAINING STRIP AND PLUG AS SHOWN. PLUG DIA. TO BE 0.0010 0.0022 DIA. INTERFERENCE FIT WITH REAMED HOLE.

D SULPHURIC ACID ANODIZE FLAT STRIP AND PLUG PRIOR TO INSTALLATION. CONVERSION COAT IS OPTIONAL IF ANODIZE UNAVAILABLE APPLY CONVERSION COAT TO REAMED SURFACE OF TORQUE BOX SKIN.

E. IMMERSE PLUG IN LIQUID NITROGEN PRIOR TO INSTALLATION. APPLY MIL - S - 8802 SEALANT TO LOWER SURFACE OF HOLE AND FLAT STRIP AREA BOND FLAT STRIP TO WING SKIN WITH MIL S 8802. WET INSTALL BLIND BOLT WITH MIL S 8802

4C-3-1-2-(42)E

Figure 2-30. Upper Torque Box Skins Permanent Repair Three-Eights To One Inch Diameter Maximum



Note

REFER TO TEXT FOR PROCEDURE, APPLICATION AND LIMITATIONS.

REPAIR PROCEDURE

A. REAM SKIN TO REMOVE ALL DAMAGE. FINAL REAM HOLE FOR A CLOSE TOLERANCE SLIP FIT PER TO 1F 4C - 3 - 1 - 1.

B. NDI EDDY CURRENT HOLE TO VERIFY DEFECTS ARE REMOVED.

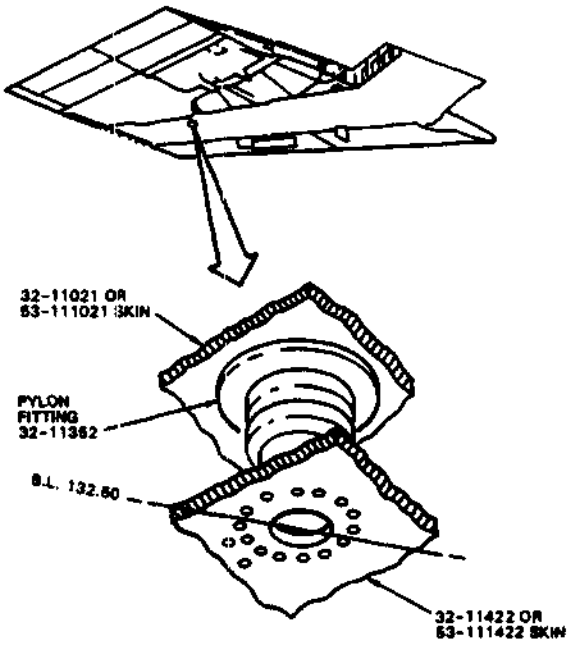
C. MANUFACTURE WASHER AS SHOWN IF SKIN THICKNESS IS LESS THAN 0.250. SULPHURIC ACID ANODIZE WASHER. APPLY CONVERSION COAT TO REAMED SKIN HOLE PER TO 1F-4C--3-1 6. OPTIONAL CONVERSION COAT WASHER IF SULPHURIC ACID ANODIZE IS NOT AVAILABLE.

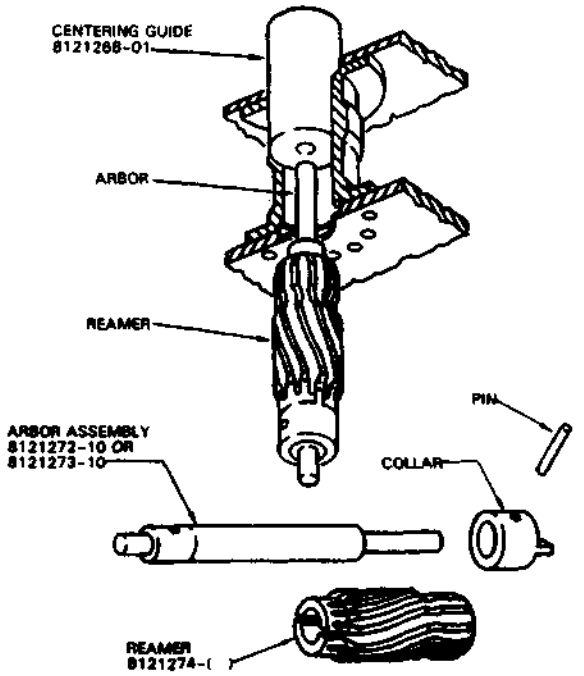
D. INSTALL BLIND BOLT WET WITH MIL--S-8802 SEALANT. FAY SEAL WASHER TO WING SKIN MATING SURFACE WITH MIL - S - 8802.

4C - 3 - 1 2 - (238)D

Figure 2-31. Upper Torque Box Skins Permanent Repair Three-Eights Inch Diameter Maximum

Figure 2-32 deleted.





REQUIREMENTS

THE BL 132.50 LOWER TORQUE BOX SKIN PYLON HOLE IS A FRACTURE CRITICAL LOCATION. BE SURE THE INSPECTION AND REWORK PROCEDURES ARE READ AND PERFORMED THOROUGHLY AND CAREFULLY BY PROPERLY TRAINED PERSONNEL. ANY QUESTIONS ARE TO BE DIRECTED TO OO-ALC/LACE STRUCTURAL ENGINEERING.

INSPECTION PROCEDURE

A. OBTAIN EDDY CURRENT EQUIPMENT LISTED PER T.O. 1F-4C-36 TO PERFORM REQUIRED NDI OF WING SKIN.
B. REMOVE PYLON ATTACH MECHANISM, 32-73032, FROM PYLON FITTING, 32-11362, REFERENCE T.O. 1F-4( )-2-10. INSPECT PYLON ATTACH MECHANISM 32-73032 IN ACCORDANCE WITH TO 1F-4( )-2-10. RETAIN MECHANISM FOR REINSTALLATION.
C. VISUALLY INSPECT LOWER TORQUE BOX SKIN UPPER, LOWER, AND HOLE INTERFACE SURFACES AND PYLON RIB INNER SURFACE FOR OBVIOUS DEFECTS OR CORROSION DAMAGE. SURFACE DEFECTS MAY BE BLENDED UP TO 0.030 INCH MAXIMUM DEPTH X 1.0 INCH MINIMUM RADIUS. SURFACE FINISH TO BE 125 MICRO-INCH OR BETTER. DAMAGE BEYOND LIMITS REQUIRES OO-ALC/LACE ENGINEERING DISPOSITION.
D. PERFORM EDDY-CURRENT INSPECTION OF PYLON HOLE IN LOWER TORQUE BOX SKIN, UPPER SURFACE SKIN AND RADIUS PER T.O. 1F-4C-36. VERIFY EDDY-CURRENT DEFECTS USING ACID ETCH FOLLOWED BY FLUORESCENT PENETRANT INSPECTION PER T.O. 1F-4C-36. ACID ETCH AND FLUORECENT PENETRANT INSPECTION SKIN UPPER SURFACE AND RADIUS. VERIFY SUSPECTED DEFECTS WITH HAND HELD EDDY-CURRENT PROBE.
   1. IF NO DEFECTS ARE NOTED, CONTINUE WITH STEP E OF INSPECTION PROCEDURE.
   2. CRACKS FOUND IN SKIN UPPER SURFACE RADIUS REQUIRE OO-ALC/LACE ENGINEERING DISPOSITION.
   3. IF PYLON HOLE HAS CRACK OR DEFECT SIZE ESTIMATED TO BE GREATER THAN 0.060 INCH OR IF HOLE SIZE IS 2.063 INCH DIAMETER OR LARGER, CONTACT OO-ALC/LACE, HILL AFB UT 84056-5609 FOR DISPOSITION PRIOR TO REWORK.
   4. IF PYLON HOLE HAS CRACK OR DEFECT LESS THAN 0.060 INCH, REPRODUCE FIGURE 2-11A1 TITLED "DEFECT INDICATIONS/LOCATIONS DATA" IN T.O. 1F-4C-36. RECORD HOLE SIZE, CRACK SIZE, AND ORIENTATION ON DEFECT INDICATION SHEET. PERFORM HOLE REWORK PROCEDURE PRIOR TO CONTINUATION OF INSPECTION PROCEDURE.
E. BRUSH CONVERSION COAT, MIL-C-5541, PRIME AND PAINT ALL REWORKED OR BARE SURFACES, REFERENCE T.O. 1F-4C-3-1-6. PRIME OUTER WING SKIN WITH PRIMER, MIL-P-85582.
F. INSTALL PYLON ATTACH MECHANISM, 32-73032, PER T.O. 1F-4( )-2-10.

HOLE REWORK PROCEDURE

NOTE

IF DEFECT IS A CORNER GOUGE, AREA MAY BE BLENDED NOT TO EXCEED 0.030 INCH BY 45° BEYOND CHAMFER. IF HOLE SIZE IS 2.063 INCH DIAMETER OR LARGER, CONTACT OO-ALC/LACE PRIOR TO REWORK.

A. THE FOLLOWING EQUIPMENT IS REQUIRED TO PERFORM THIS REWORK:
   1. PYLON HOLE REAMER TOOL KIT, 8121276-20.
   2. PYLON HOLE ABRASIVE REPAIR KIT, 8121313-20.

NOTE

THE 8121276-10 AND 8121313-10 KITS MAY BE USED IN LIEU OF 8121276-20 AND 8121313-20 KITS RESPECTIVELY, UNTIL SPARES ARE EXHAUSTED.

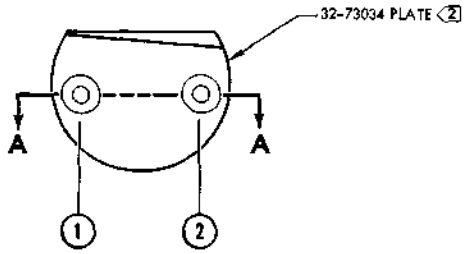
B. INSERT CENTERING GUIDE, 8121268-01, IN PYLON FITTING FROM TOP OF WING.
C. REAM HOLE FROM BOTTOM OF WING USING APPROPRIATE 1/16 INCH NEXT SIZE 8121274-( ) REAMER, AND MATCHING 8121272-10 OR 8121273-10 ARBOR. TURN REAMER WITH SLOW SPEED RIGHT-HAND TURNING HAND HELD DRILL MOTOR. REAMER SHALL BE KEPT WELL LUBRICATED.
D. PERFORM EDDY CURRENT INSPECTION OF OVERSIZED HOLE PER TO 1F-4C-36.
   1. IF DEFECT IS STILL PRESENT AND HOLE SIZE IS 2.063 INCH DIAMETER OR LARGER, CONTACT OO-ALC/LACE FOR DISPOSITION.
   2. IF DEFECT IS STILL PRESENT AND HOLE IS LESS THAN 2.063 INCH DIAMETER, REAM HOLE TO 2.063 INCH DIAMETER PER STEP C. PERFORM POST REAM EDDY CURRENT INSPECTION.
   3. IF NO DEFECT IS INDICATED, RECORD FINAL HOLE SIZE AND FINDINGS (POSITIVE OR NEGATIVE) ON DEFECT INDICATIONS SHEET AND FORWARD TO OO-ALC/LACE, HILL AFB UT 84056-5320.
E. CHAMFER UPPER AND LOWER EDGES OF SKIN AROUND HOLE TO 0.030 BY 45 DEGREES USING EXPANDING RUBBER DRUM (1.00 INCH DIAMETER X 1.00 INCH WIDE), ABRASIVE BAND (1.00 INCH DIAMETER X 1.00 INCH WIDE X 90 GRIT), BURNISHING WHEEL, 158M MANDREL 1342.
F. FINISH UPPER AND LOWER SKIN SURFACES AND INTERFACE OF HOLE TO 125 MICRO-INCH OR BETTER. CONTINUE WITH STEP E OF INSPECTION PROCEDURE.

G9104078

Figure 2-32A. Lower Torque Box Skin BL132.50 Pylon Hole Inspection and Rework After T.O. 1F-4-1302



SECTION A-A



INSTALLATION PROCEDURE FOR NEW PART

NO DRILLING OR TRIMMING REQUIRED.

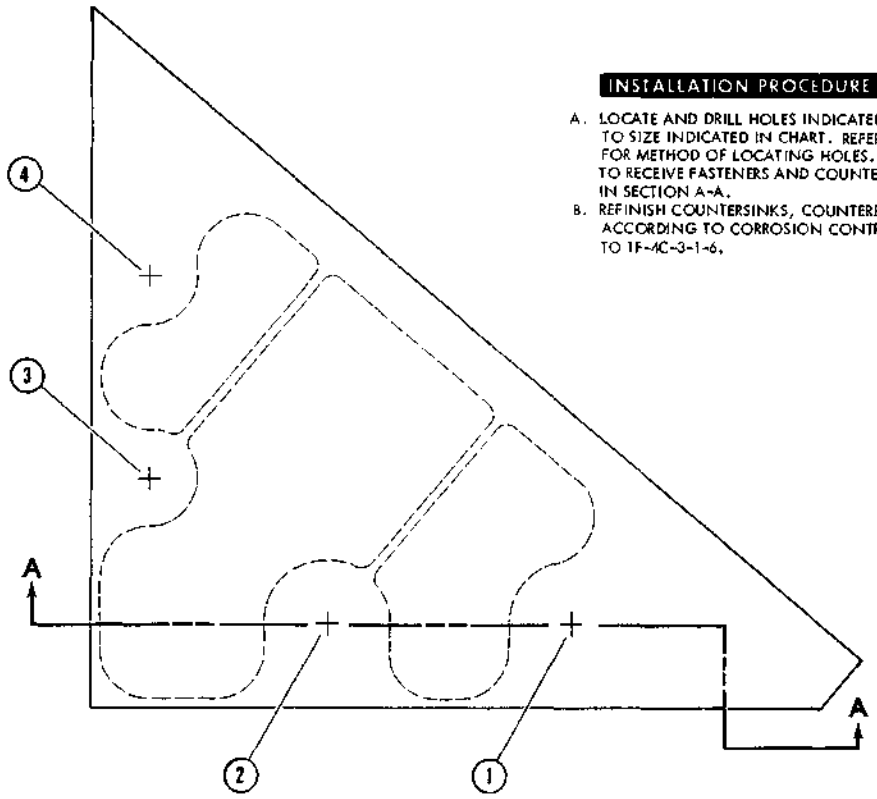
REF NO.	FASTENER	INSERT	TORQUE (INCH-LB)	HOLE SIZE	
				SKIN	STRUCT
1	MS24694S49	MS21209F1-15	15-25	0.191 $^{+.006}_{-.000}$	1
2	MS24694S50	MS21209F1-15	15-25	0.191 $^{+.006}_{-.000}$	1

Notes

1. FOR HOLE SIZE IN STRUCTURE AND REPLACEMENT OF INSERT, REFERENCE TO 1F-4C-3-1-1.
2. FOR REWORK OF PLATE, SEE FIGURE 2-32A.

4C-3-1-2-(244)C

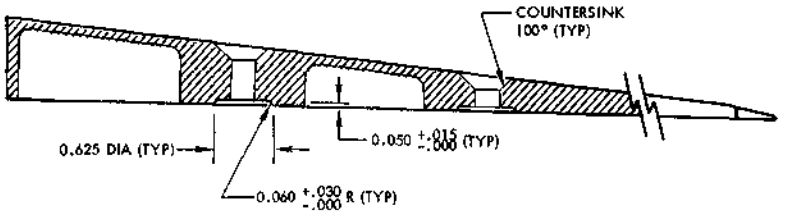
Figure 2-33. Wing Pylon Plate, 32-73034, Replacement



INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES TO RECEIVE FASTENERS AND COUNTERBORE HOLES AS SHOWN IN SECTION A-A.

B. REFINISH COUNTERSINKS, COUNTERBORES, AND HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.



SECTION A-A

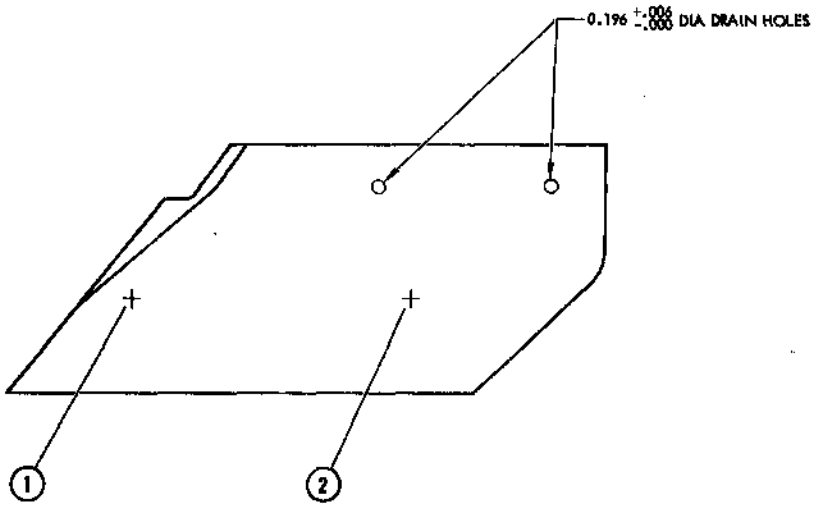
REF NO.	FASTENER	GASKET	SHIM	NUT	TORQUE (INCH-LB)	HOLE SIZE
1	NAS584-12T	NAS1523AA4F [2]	4M38A416L [3]	RMG1582-048-10-5L	60-70	0.2495 +.0017 -.0000
2	NAS584-17T	NAS1523AA4F [2]	4M38A416 [3]	RMG1582-048-10-5L	60-70	0.2495 +.0017 -.0000
3	NAS584-20T		4M38A416 [4]	RM52LH2935-048 2935-04 [1]	60-70	0.2495 +.0017 -.0000
4	NAS584-16T		4M38A416L [4]	RM52LH2935-048 2935-04 [1]	60-70	0.2495 +.0017 -.0000

Notes

[1] NUT BASE.
[2] GASKET INSTALLED BETWEEN FAIRING AND TORQUE BOX SKIN.
[3] SHIM AS REQUIRED BETWEEN FAIRING AND GASKET TO SPLINE MOLD LINE.
[4] SHIM AS REQUIRED BETWEEN FAIRING AND TORQUE BOX SKIN TO SPLINE MOLD LINE.

4C-3-1-2-(245)B

Figure 2-34. Corner Fairing, 53-11061, Replacement Index



INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES TO RECEIVE FASTENERS.
B. REFINISH COUNTERSINKS AND HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN T O 1F-4C-3-1-6.

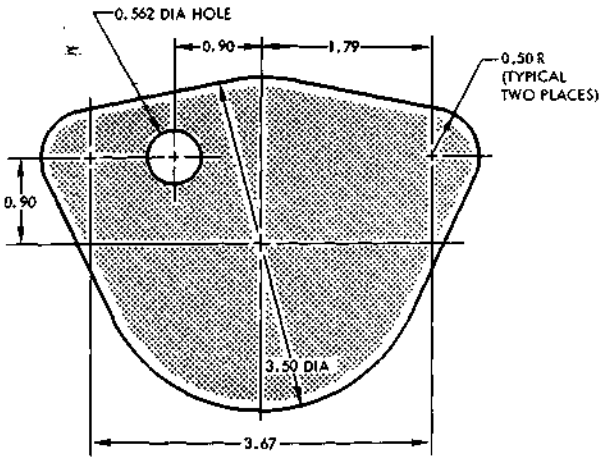
REF NO.		FASTENER	NUT	TORQUE (INCH-LB)	HOLE SIZE
1	(1)	NAS583-6T	F1967-3	20-25	0.191 +.006 -.000
	(2)	NAS583-13T	RMF19421-6-3	20-25	0.193 +.004 -.000
2	(1)	NAS583-15T	MS21051L3	20-25	0.1900 +.0012 -.0005
	(2)	NAS1703-11T	F1967-3	20-25	0.2026 +.0017 -.0000
	(3)	NAS583-16T	MS21051L3	20-25	0.1900 +.0012 -.0000

Notes

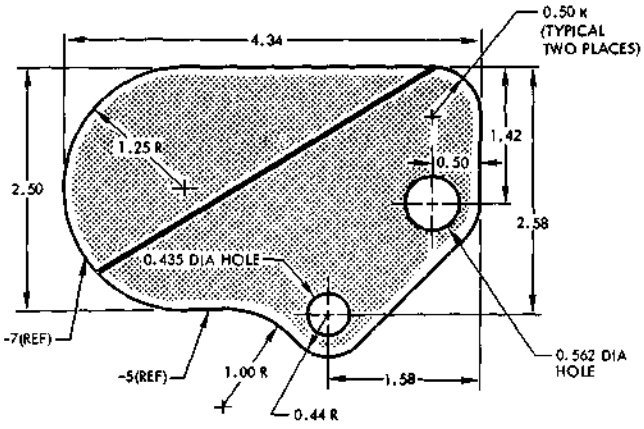
(1) F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4D 66-287 AND 66-296 THRU 71-1402 BEFORE TO 1F-4E-566.
(2) F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 THRU 72-1497 AND F-4G.
(3) F-4E 72-1498 AND UP.

4C-3-1-2-(243)F

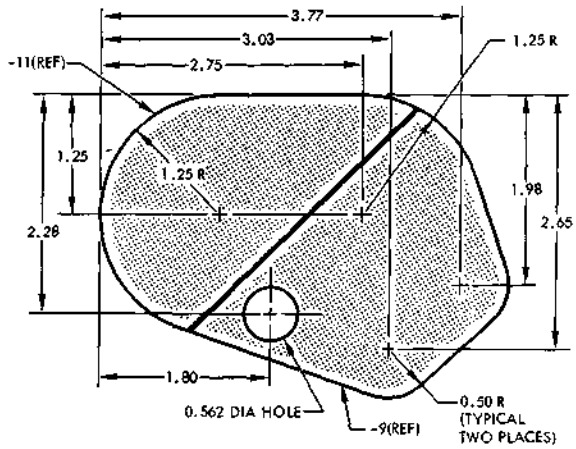
Figure 2-35. Wing Fold Bump Fairing, 32-11582 and 32G11582, Replacement



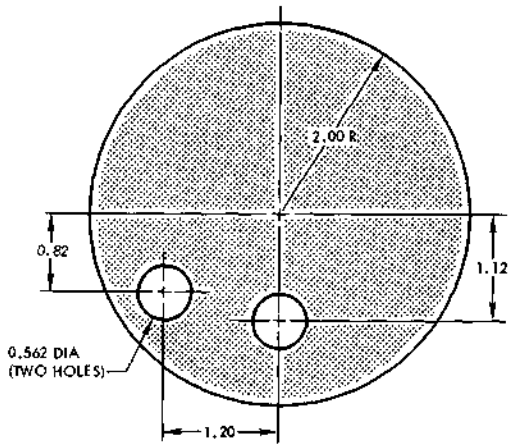
DETAILS 32-11401-231, -232 [3] [6]
32-11353-3 [1]



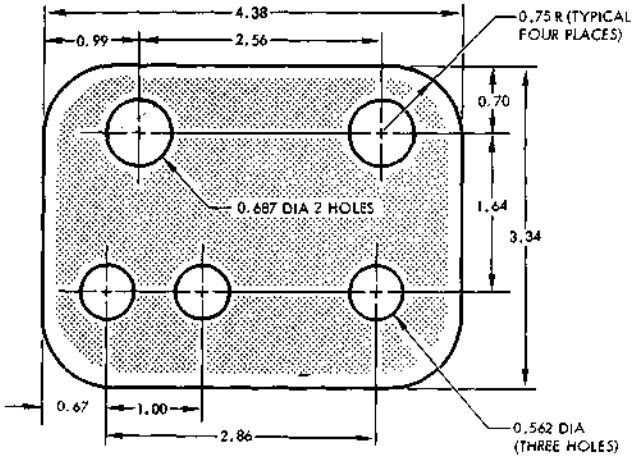
DETAILS 32-11401-233, -234 [3] [6]
32-11353-5 AND -7 [4]



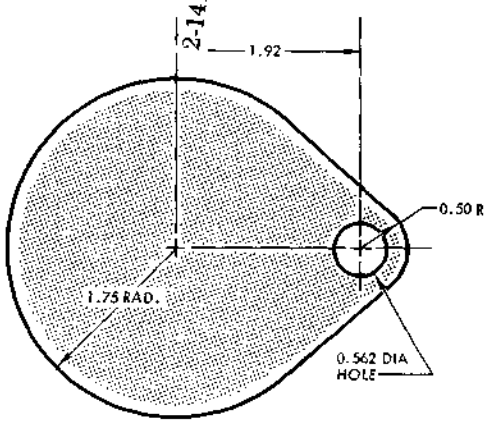
DETAILS 32-11401-235, -236 [3] [6]
32-11353-9 AND -11 [2]



DETAILS 32-11401-237, -238 [3] [6]
32-113[illegible] 13 [5]



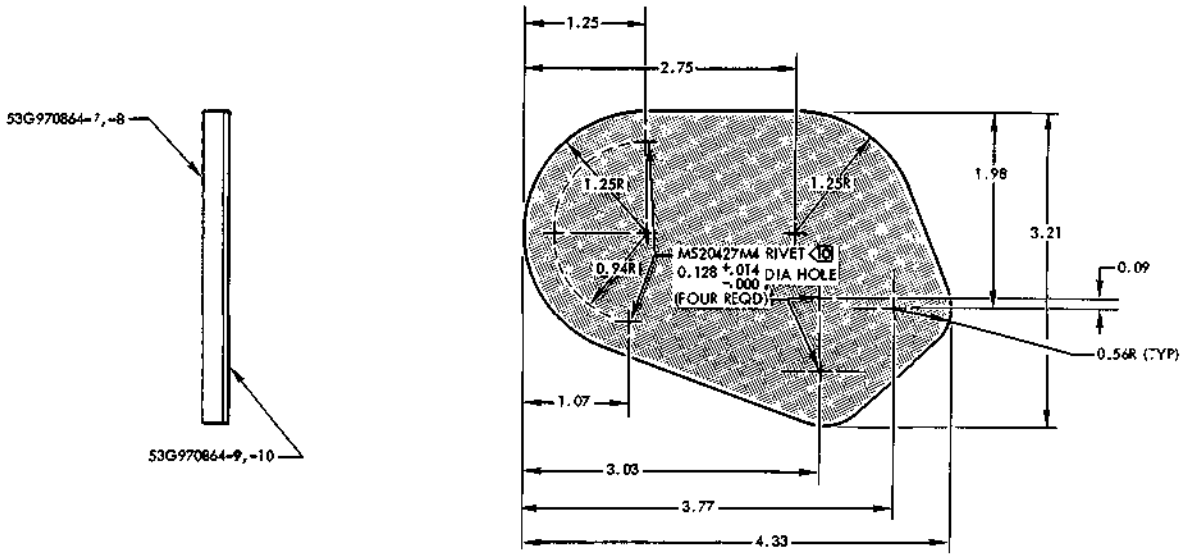
DETAILS 32-11401-239, -240 [3] [6]
32-11353-15, -915 [7] [5]



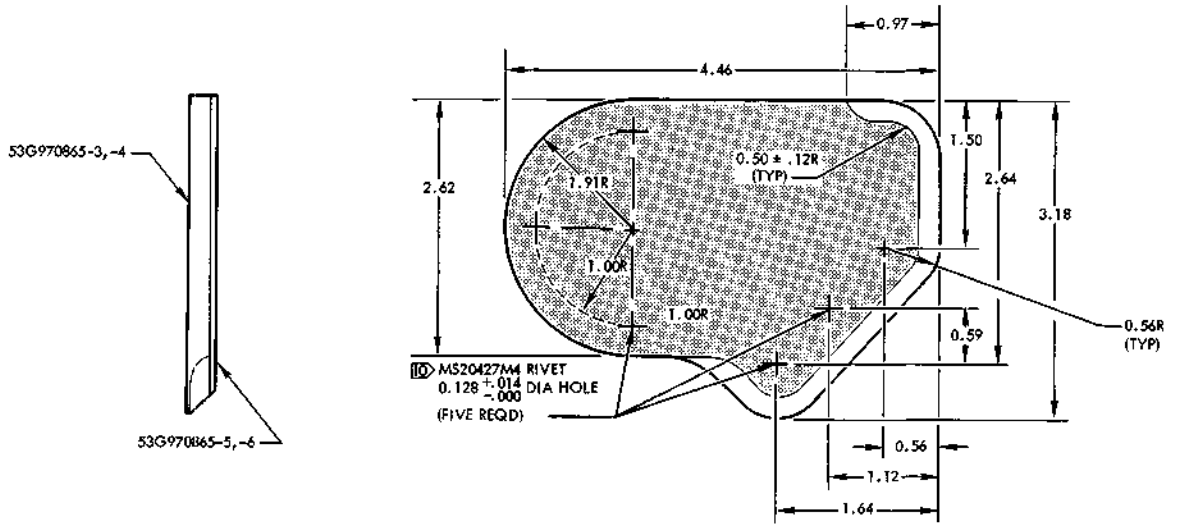
DETAILS 32-11401-241, -242 [3] [6]
32-11353-17 [5]

4C-3-1-2-(56-1)C

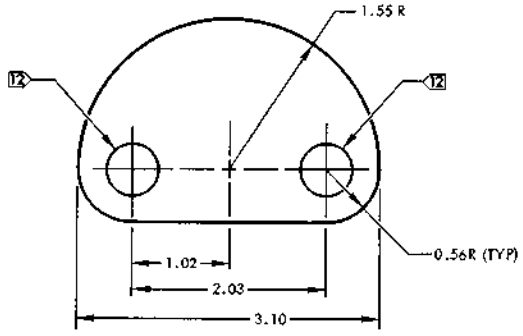
Figure 2-36. Bearing Plates Layout Patterns (Sheet 1 of 4)



DETAILS 53G970864-1, -2 ASSEMBLIES 9



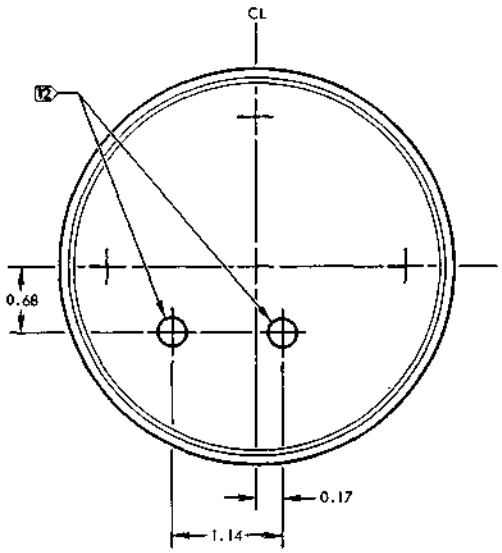
DETAILS 53G970865-1, -2 ASSEMBLIES 9



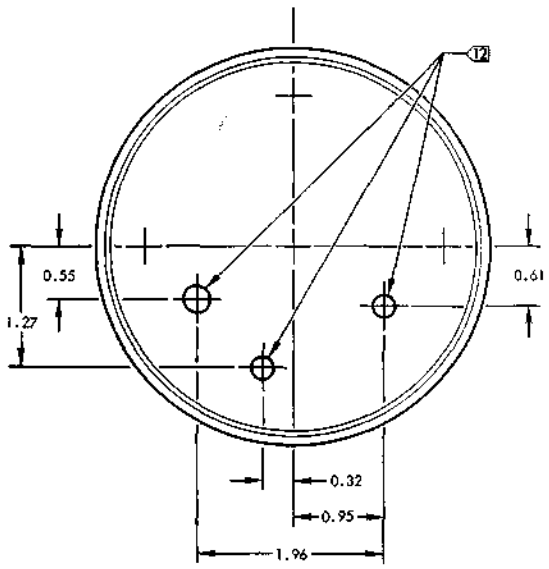
DETAIL 53-111353-11, -12 11

4C-3-1-2-(56-2)C

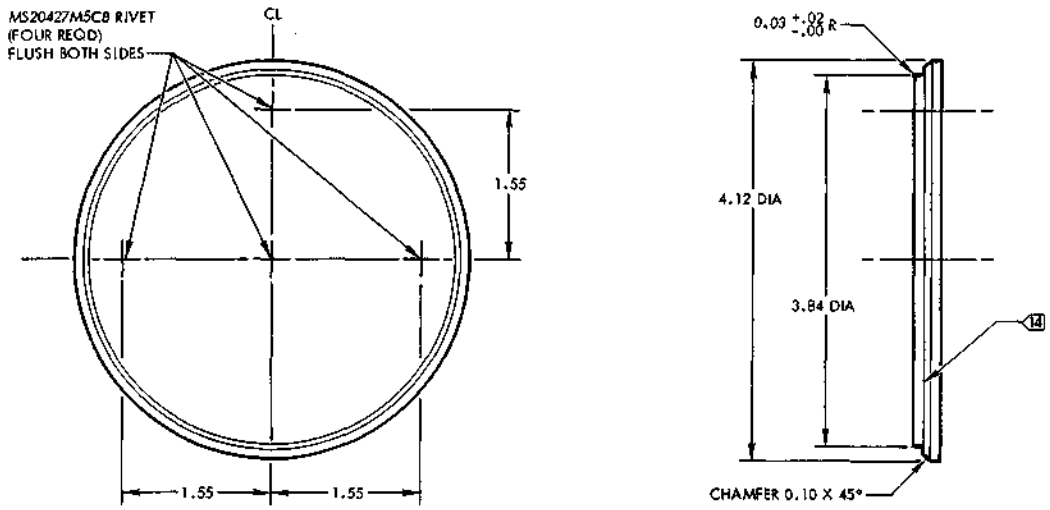
Figure 2-36. Bearing Plates Layout Patterns (Sheet 2 of 4)



DETAIL 53-111353-1, -2 ASSEMBLIES 11 13



DETAIL 53-111353-3, -4 ASSEMBLIES 11 13

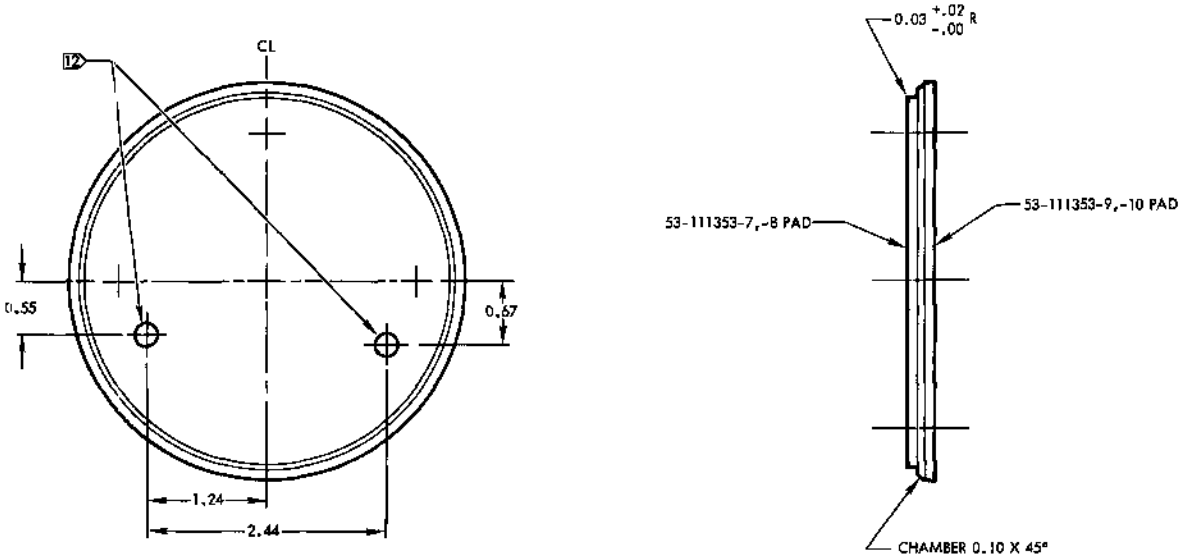


DETAIL 53-111353-5 ASSEMBLY

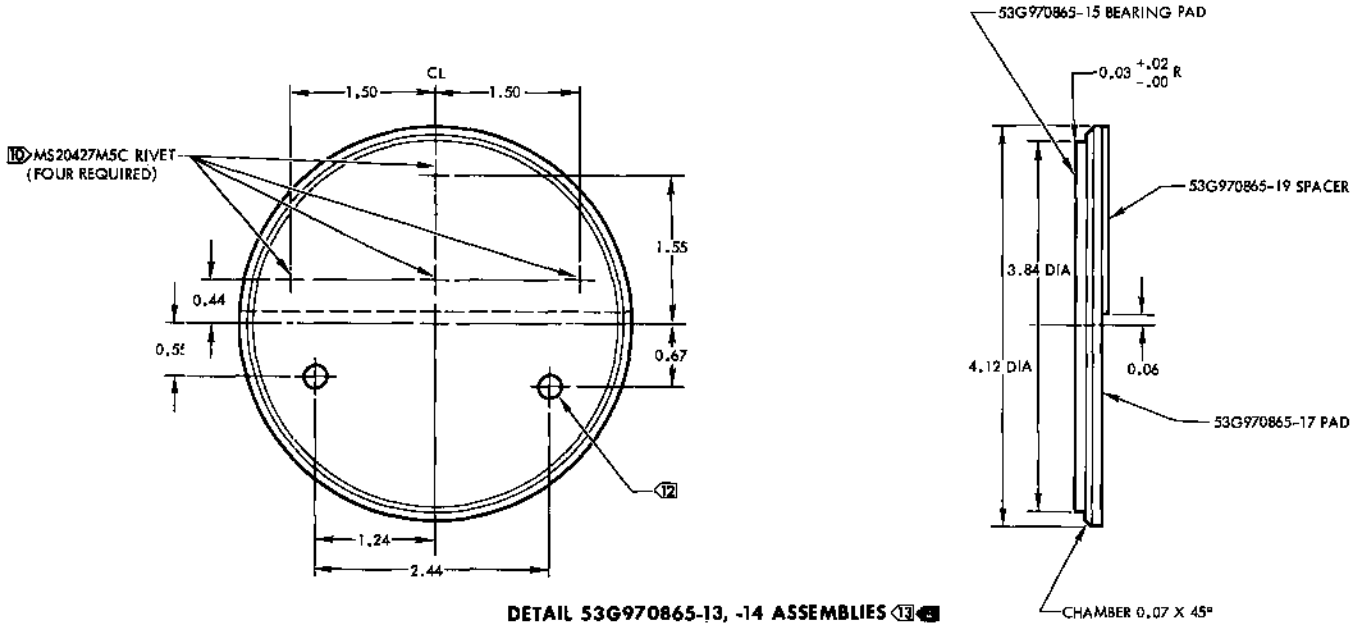
INSTALLATION PROCEDURE FOR NEW PART

A. NO TRIMMING OR DRILLING REQUIRED.
B. FOR INSTALLATION PROCEDURE REFER TO TEXT.

Figure 2-36. Bearing Plates Layout Patterns (Sheet 3 of 4)



DETAIL 53G970865-11, -12 ASSEMBLIES 13 15



DETAIL 53G970865-13, -14 ASSEMBLIES 13 15

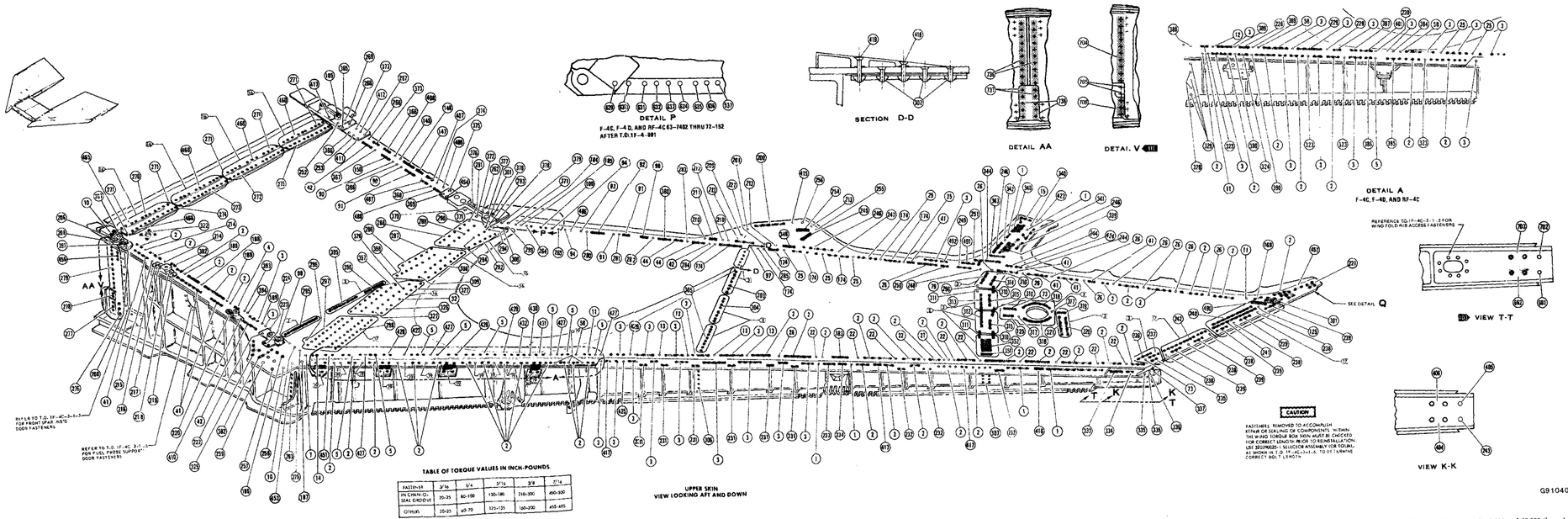
Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. DELETED.
3. REPLACE THESE PLATES WITH SUPERSEDING 32-11353 PLATES.
4. F-4E 66-296 THRU 69-304, 69-306 THRU 69-7253, AND 69-7255 THRU 71-236 AFTER TO 1F-4E-566; F-4G 69-236 THRU 69-304, 69-306 THRU 69-7253, AND 69-7255 THRU 69-7588.
5. F-4C 63-7663 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C 64-1018 THRU 72-156.
6. F-4C 63-7407 THRU 63-7662 AND RF-4C 63-7742 THRU 64-1017.
7. OMIT 0.562 AND 0.687 INCH DIAMETER HOLES.
8. F-4C 63-7663 THRU 64-928, F-4D, RF-4C, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
9. F-4E 66-287 AND 71-237 THRU 71-1402 AFTER TO 1F-4E-566.
10. DOUBLE FLUSH.
11. F-4E 72-121 AND UP.
12. SEE FIGURE 2-98 FOR FASTENER INDEX.
13. 53-111353-1, -2, -3, -4 AND 53G970865-11, -12, -13, -14 ASSEMBLIES MADE FROM 53-111353-5 ASSEMBLY.
14. BOND PARTS TOGETHER USING EC2216A/B, REFER TO TO 1F-4C-3-1-5 FOR USE OF EC2216A/B.
15. F-4E 69-305 AND 69-7254 AFTER TO 1F-4E-566; ALSO F-4G 69-305 AND 69-7254.

4C-3-1-2-(56-4)D

Figure 2-36. Bearing Plates Layout Patterns (Sheet 4 of 4)

All data on page 2-60 deleted.



FASTENER	3/16	1/4	5/16	3/8	7/16
IN COUNTERSEAL GROOVE	70-75	80-100	130-180	210-300	450-500
OTHERS	20-25	60-70	125-135	180-200	415-495

G9104079

Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295 and RF-4C; also F-4E 66-287, 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 1 of 14)

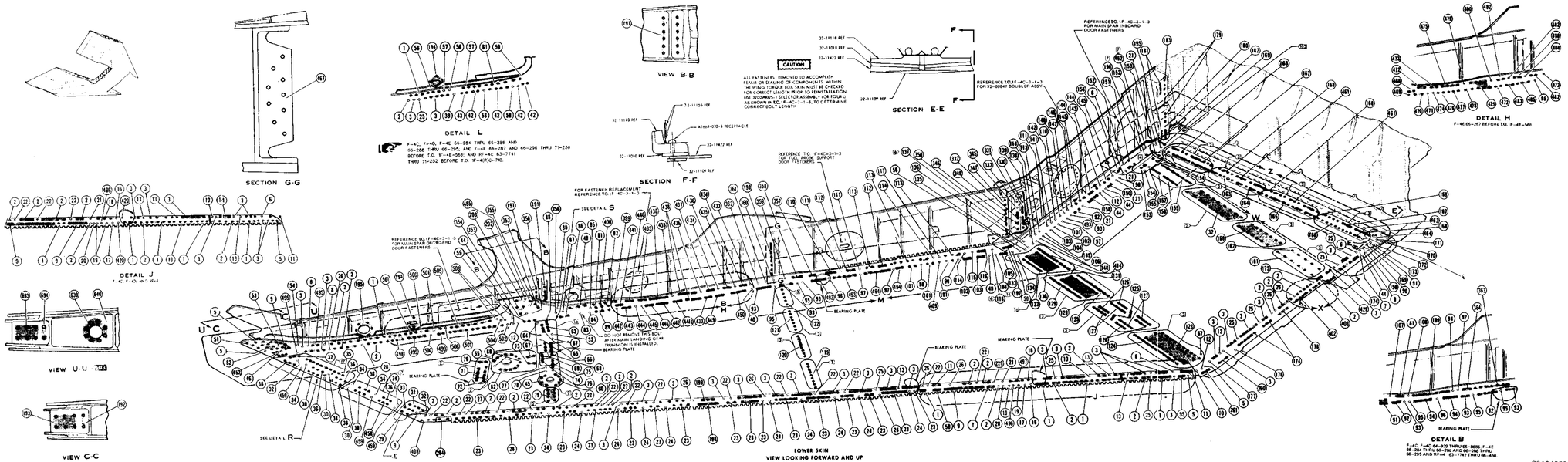
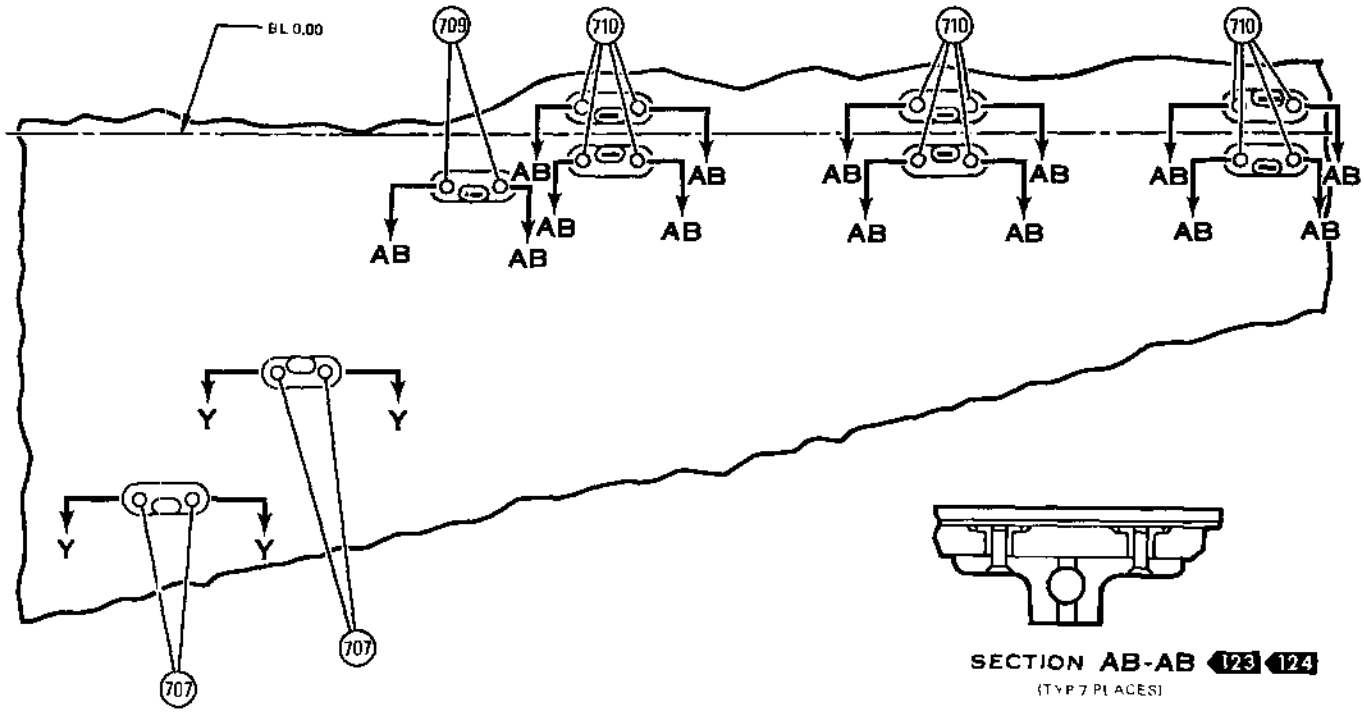
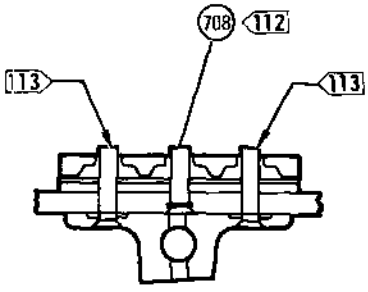


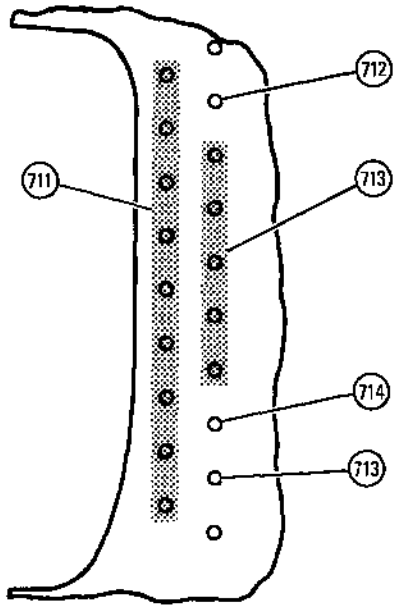
Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295 and RF-4C; also F-4E 66-287, 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 2 of 14)



DETAIL W 111



SECTION Y-Y
(TYP 2 PLACES)

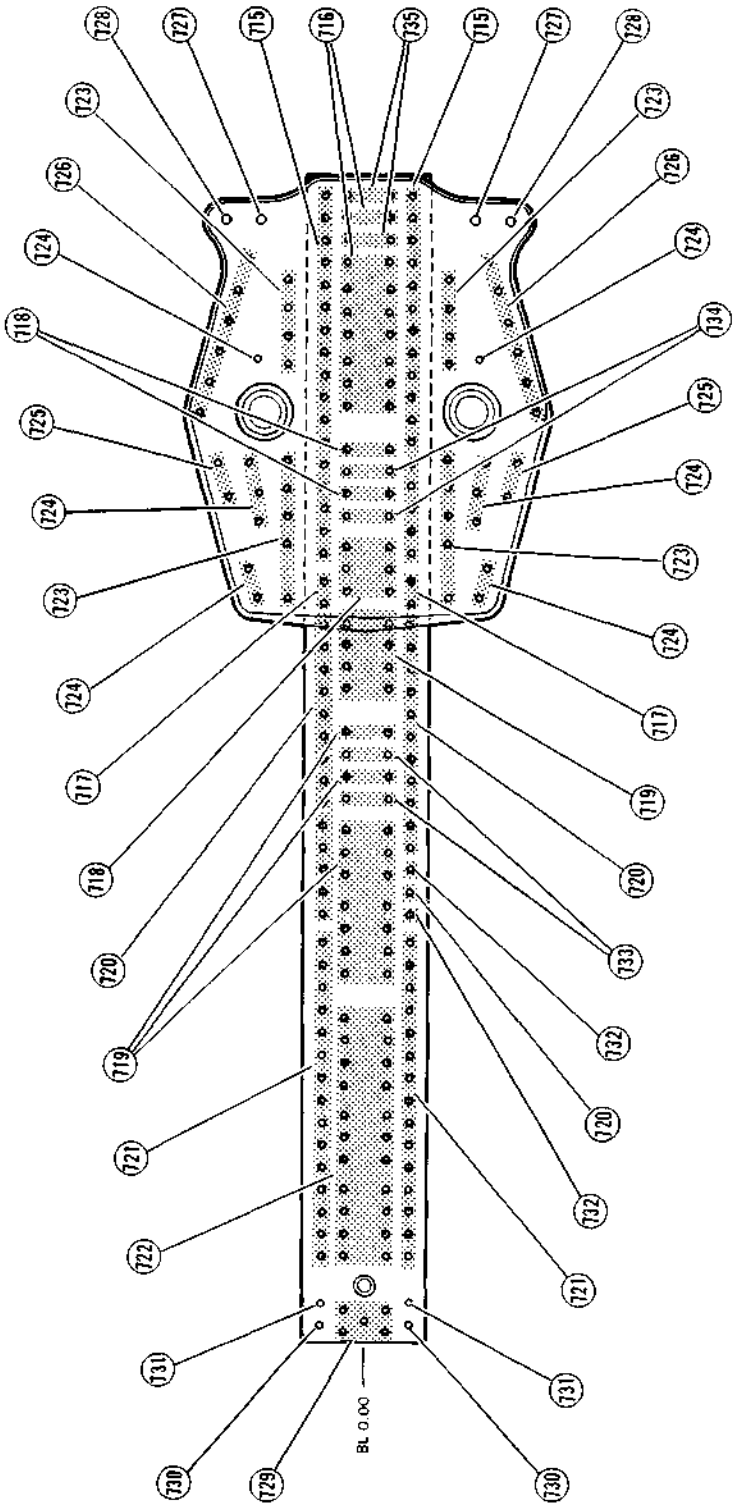


DETAIL X 111

MAJOR CHANGE

4C 3-1-2-(29-2.1)S

Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 2 A of 14)



MAJOR CHANGE

4C-3 1-2 (29- 2.2)S

Figure 2-37. Torque Box Skin and Structural Fastener Index-F-4C, F-4E 66-284 thru 66-286 and 66-288 thru 66-295 and RF-4C; also F-4E 66-287, 66-296 thru 71-236 before TO 1F-4E-566
(Sheet 2B of 11)

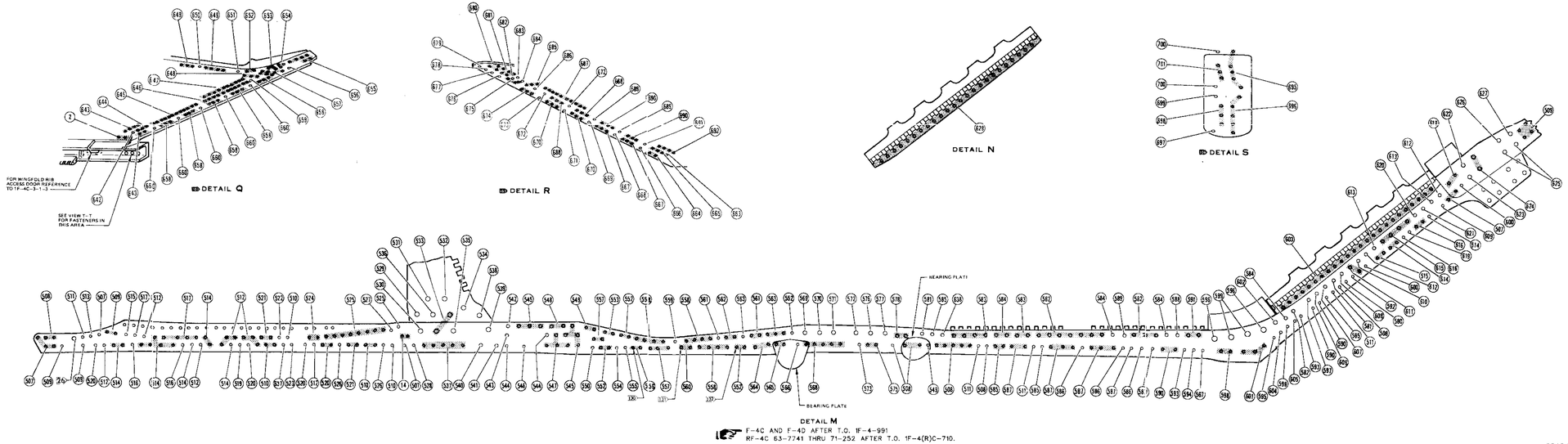


Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 through 66-296 and 66-288 through 66-296 and RF-4C, also F-4K 66-287, 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 3 of 14)

REF NO.	FASTENER (5)	GASKET (12)	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
1	NAS1418-9					NAS1080C8
2	NAS1418-10					NAS1080C8
3	NAS1418-11					NAS1080C8
4	NAS1418-17					NAS1080C8
5	NAS1418-12					NAS1080C8
6	NAS1418-13					NAS1080C8
7	NAS1418-14					NAS1080C8
8	NAS1418-15					NAS1080C8
9	NAS1418-8					NAS1080C8
10	NAS1418-19					NAS1080C
11	NAS584-14T				2935-04 (8)	RM52LH2935-048
12	NAS584-13T				2935-04 (8)	RM52LH2935-048
13	NAS584-11T					F1967-4
14	NAS584-15T				2935-04 (8)	RM52LH2935-048
15	NAS584-12T			AN960D416		MS21042-4
16	NAS584-14T			AN960D416		MS21042-4
17	NAS584-14T				32-11567-5	RM52LH2935-048
					2935-04 (8)	
18	NAS584-15T				32-11567-3	MS21086L4
					32-11401-23,-89 (92)	
19	NAS584-37T				32-11567-5	RM52LH2935-048
					2935-04 (8)	
20	NAS584-15T				32-11567-5	RM52LH2935-048
					2935-04	
21	NAS584-16T				2935-04 (8)	RM52LH2935-048
22	NAS584-10T					F1967-4
23	NAS584-8T				2935-04 (8)	RM52LH2935-048 OR G10851-3-( )-( ) OR F1934-31-( )-( ) OR F1967-( ) OR F39668-( )
24	NAS582-8T				2935-0	RM52LH2935-02
25	NAS584-11T				2935-04 (8)	RM52LH2935-048
26	NAS584-10T				2935-04	RM52LH2935-048
27	NAS584-9T				2935-04	RM52LH2935-048
28 (93)	NAS584-8T					F1967-4
28 (94)	NAS584-8T					67992N428
29	NAS584-11T				32-11401-193 (91)	MS21059L4
					32-11401-194 (100)	
30 (93)	NAS584-13T				32-11401-201	MS21059L4
30 (92)	NAS584-13T				32-11401-251	MS21059L4
30 (94)	NAS584-14T				32-11401-251	MS21059L4
31	HT4UA-11	810020-8				RMG1582-048-8-4
32	HT4UA-12	810020-8				F1934-4-2
33	HT4UA-12	810020-8				RMG1582-048-8-3

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295 and RF-4C; also F-4E 66-287, 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 4 of 14)

REF NO.	FASTENER	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
34	HT4UA-13	810020-8			32-11401-201	MS21059L4
	HT4UA-13	810020-8			32-11401-251	MS21059L4
35	HT4UA-11	810020-8				RMG15B2-048-8-10
36	HT4UA-12	810020-8			32-11401-187	MS21063L4-8-3
37	NAS584-11T				32-11401-189	MS21063L4-8-3
	NAS584-13T				32-11401-189	MS21063L4-8-3
38	NAS584-12T				32-11401-187	MS21063L4-8-3
	NAS584-13T				32-11401-187	MS21063L4-8-3
39	NAS584-12T				2935-04 [5]	RM52LH2935-048
	NAS584-14T				32-11002-167	RM52LH2935-048
					2935-04 [5]	
40	NAS1438-18					NAS1080C8
	NAS584-18T				2935-04 [5]	RM52LH2935-048
41	NAS1438-10					NAS1080C8
42	NAS1438-12					NAS1080C8
43	NAS1438-12					NAS1080C8
44	NAS1438-13					NAS1080C8
45	NAS585-11T					F1967-5
46	NAS1418-18				32-11401-55	NAS1080C8
					32-11401-121	
47	NAS1418-12					NAS1080C8
48	NAS1420-14					NAS1080C8
49	NAS584-24T				2935-04 [5]	RM52LH2935-048
50	NAS1418-26					NAS1080C8
51	NAS1420-11					NAS1080C10
52	NAS1420-12					NAS1080C10
53	NAS1416-8					NAS1080C6
54	NAS1416-14					NAS1080C6
55	NAS584-10T					RMRG51-048-8-24-6
56	NAS1438-12					NAS1080C8
57	NAS584-13T					F1967-4
58	NAS584-12T				2935-04	RM52LH2935-048
59	NAS583-12T				2935-0 [4]	RM52LH2935-02
60	NAS584-10T					F1934-4-2
61	HS61-8-17					NAS528AB
62	NAS584-10T					RMRG51-048-8-24-5
63	HT4UA12	810020-8				RMG15B2-048-8-4
64	HT4UA13	810020-8				F1967-4
65	HT4UA13	810020-8				RMG15B2-048-8-3
66	HT4UA10	810020-8				F1967-4
67	HT4UA9	810020-8				F1934-4-2
	HT4UA10	810020-8				F1934-4-2
68	HT4UA9	810020-8				RMG15B2-048-10-4
69	HT4UA9	810020-8				RMG15B2-048-8-3
70	HT4UA9	810020-8				RMG15B2-048-8-2L
71	HT4UA10	810020-8				RMG15B2-048-10-4
72	HT4UA9	810020-8				RMG15B2-048-12-4
73	HT4UA10	810020-8				F1934-4-2
74	HT5UA13	810020-10				F1967-5
75	HT4UA9	810020-8				RMG15B2-048-10-4
76	HT4UA8	810020-8				RMG15B2-048-10-4

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 4A of 14)

REF NO.		FASTENER 5	GASKET 12	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
77		HT4UA9	B10020-8				RMG15B2-048-10-2L
78		HT4UA8	B10020-8				RMG15B2-048-10-2L
79		HT4UA8	B10020-8				RMG15B2-048-8-4
80		HT5UA14	B10020-10		AN960D516		MS21042-5
81		NAS585-14T			AN960D516		MS21042-5
82		NAS585-15T			AN960D516		MS21042-5
83		NAS585-31T			AN960D516	32-11244-3	MS21042-5
84		NAS585-18T			AN960D516	32-11330-1	MS21042-5
85		NAS585-17T			AN960D516	32-11330-1	MS21042-5
86		NAS585-17T			AN960D516	32-11334-1	MS21042-5
87		NAS585-16T			AN960D516	32-11334-1	MS21042-5
88		NAS585-16T			AN960D516	32-11346-11	MS21042-5
89		NAS585-17T			AN960D516	32-11346-19	MS21042-5
90		NAS1438-15					NAS1080C8
91		NAS1438-16					NAS1080C8
92		NAS1438-17					NAS1080C8
93		NAS1438-18					NAS1080C8
94	30	NAS1438-19					NAS1080C8
	31	NAS1458-19					NAS1080-8
95		NAS584-18T				2935-04 4	RM52LH2935-048
						32-11401-261, -263 93	
96		NAS584-19T				2935-04	RM52LH2935-048
97		NAS584-20T				2935-04	RM52LH2935-048
98		NAS584-21T				2935-04 8	RM52LH2935-048
99		NAS584-22T				2935-04	RM52LH2935-048
100	30	NAS1438-20					NAS1080C8
	31	NAS1458-20					NAS1080-8
101		NAS1438-21					NAS1080C8
102		NAS1438-22					NAS1080C8
103		NAS1438-23					NAS1080C8
104		NAS1438-24					NAS1080C8
105		NAS1438-25					NAS1080C8
106		NAS1438-26					NAS1080C8
107		HS61-8-16					NAS528A8
108		HS61-8-18					NAS528A8
109		HS61-8-19					NAS528A8
110		NAS1440-19					NAS1080C10
111		NAS1440-22					NAS1080C10
112		NAS1440-23					NAS1080C10
113		NAS1440-24					NAS1080C10
114		NAS1440-25					NAS1080C10
115		NAS1440-26					NAS1080C10
116		NAS1440-27					NAS1080C10
117		NAS335CFA21			AN960D516		MS21042-5
118	34	NAS588-30T			AN960D816		NAS1022A8
	37	NAS588-32T			AN960D816		NAS1022A8
	35	NAS588-30T			AN960D816		NAS1022A8
119		HT4UA5	B10020-8				RMG15B2-048-8-9L
120		HT4UA7	B10020-8				RMG15B2-048-8-8L
121		HT4UA11	B10020-8				RMG15B2-048-8-7L
122		HT4UA14	B10020-8				RMG15B2-048-10-5L
123		HT4UA9	B10020-8				RMG15B2-048-10-10
124		HT4UA9	B10020-8				RMG15B2-048-10-11
125		HT4UA11	B10020-8				F1934-4-2
126		HT4UA11	B10020-8				RMG15B2-048-10-3
127		HT4UA11	B10020-8				RMG15B2-048-10-4
128		HT4UA16	B10020-8				RMG15B2-048-10-7
129		HT4UA16	B10020-8				RMG15B2-048-10-8
130		HT4UA19	B10020-8				RMG15B2-048-10-6
131	29	HT4UA19	B10020-8				RMG15B2-048-10-9
	30	HT4UA19	B10020-8				RMG15B2-048-8-3
132		HT4UA19	B10020-8				RMG15B2-048-10-5
133		HT5UA21	B10020-10			4M30C516-125	NS103072-054
134		HT5UA19	B10020-10				F1934-5-2
135		NAS584-27T				2935-04 4	RM52LH2935-048
136		NAS1418-27					NAS1080C8
137	34	NAS588-28T			AN960D816		NAS1022A8
	37	NAS588-30T			AN960D816		NAS1022A8
	36	NAS588-32T			AN960D816 12		NAS1022A8
	35	NAS586-32T			AN960D816		NAS1022A8
138	23	NAS1438-28					NAS1080C8
	24	NAS1438-31				32-11022-167	NAS1080C8
139		NAS1442-31					NAS1080C12
140		NAS1438-27					NAS1080C8
141		NAS1440-21					NAS1080C10
142		NAS1440-20					NAS1080C10
143		NAS1440-12					NAS1080C10
144		NAS1440-13					NAS1080C10
145		NAS1440-14					NAS1080C10
146		NAS1440-15					NAS1080C10
147		NAS1440-16					NAS1080C10
148		NAS1440-18					NAS1080C10
149		NAS584-25T				2935-04 4	RM52LH2935-048
150		NAS1438-14					NAS1080C8
151		HT7A15			AN960-716		MS21045L7
152		HT7A17			AN960-716		MS21045L7
153		HT7UA15	B10020-14		AN960-716		MS21045L7
154		HT7UA16	B10020-14		AN960-716		MS21045L7
155		HT7UA17	B10020-14		AN9600716		MS21045L7
156		NAS1420-17					NAS1080C10
157		HT4UA15	B10020-8				MS21059L4
158	39	HT4UA13	B10020-8			32-11401-209	MS21063L4-12-4

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 5 of 14)

REF NO.	FASTENER (5)	GASKET (13)	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
	HT4UA13	810020-8				RMG1582-048-12-4
159	HT4UA13	810020-8			32-11401-207	MS21062L4-12-7
	HT4UA13	810020-8				RMG1582-048-12-7
160	HT4UA10	810020-8			32-11401-207	MS21062L4-12-7
	HT4UA10	810020-8				RMG1582-048-12-7
161	HT4UA9	810020-8			32-11431-203	MS21062L4-16-6
	HT4UA9	810020-8				RMG1582-048-16-6
162	HT4UA9	810020-8			32-11401-205	MS21062L4-16-5
	HT4UA9	810020-8				RMG1582-048-16-5
163	NAS584-10T					RMG1582-048-8-17
164	NAS584-10T					RMG1582-048-8-7
	NAS584-10T					RMG1582-048-8-16
165	NAS584-10T					RMG1582-048-8-9
	NAS584-10T					RMG1582-048-8-16
166	NAS584-10T					RMG1582-048-8-15
167	NAS584-11T					RMG1582-048-8-3
168	NAS584-11T					RMG1582-048-8-4
169	NAS1418-16					NAS1080C8
170	NAS1418-25					NAS1080C8
171	NAS1418-24					NAS1080C8
172	NAS1418-20					NAS1080C8
173	NAS584-18T			AN960D416	2935-04 (11)	RM52LH2935-048
174	NAS1438-11					NAS1080C8
175	NAS584-11T			AN960D416	2935-04 (11)	RM52LH2935-048
176	NAS525-8-10					NAS528A8
177	NAS334CFA12			AN960D416		MS21042-4
178	NAS585-11T			AN960D516		MS21042-5
179	NAS1304-10					RMG1582-048-10-3
180	NAS1304-10					F1934-4-2
181	NAS584-13T					RMG1582-048-10-3
182	NAS584-14T					RMG1582-048-10-3
183	NAS584-15T					RMG1582-048-10-3
184	NAS1438-22				32-11401-245	NAS1080C8
	NAS1438-22				32-11401-705	NAS1080C8
185	NAS1438-23				32-11401-245	NAS1080C8
	NAS1438-23				32-11401-705	NAS1080-8
186	HT8A19			AN960D816	53-11066-3,-4	NAS1022A8
	66117H8-19			AN960D816	53-11066-3,-4	70938-8
187	HT8A25			AN960D816	53-11066-5,-6	NAS1022A8
					32-11298-5,-6	
					32-11091-3,-5	
	66117H8-20				53-11066-5,-6	66052-820
					32-11091-3,-5	
	66117H8-23				53-11066-5,-6	66052-820
					53-11091-3,-5	
188	NAS1304-11		AN960D416L			F1967-4
189	NAS1304-13		AN960D416L			F1967-4
190	NAS1304-9	NAS1523AA4F	AN960D416			RMG1582-048-8-8
191 (12)	NAS1304-12	NAS1523AA4F	AN960D416			F1934-4-2
192	NAS1304-11		AN960D416			F1972-4-2
193	NAS1305-10		AN960D516		32-11401-191	MS21063L5-12-3
194	AN4H7A		AN960D416			IN UNIT
195	AN4H13A	NAS1523AA4F	AN960D416			MS21059L4
196	HT7A19		AN960D716		53-11000-67,-73	28FT720
197	NAS588-32T		AN960D816			26007080
198	NAS584-12T				32-11401-29	LH2577-048
					32-11401-95	
					294081 (11)	
199	NAS584-15T				32-11401-29	LH2577-048
					32-11401-95	
					294081 (11)	
200	HT5A12			AN960D516	53-11022-21,-22	MS21042-5
201	HT6A13			AN960D616		MS21042-6
202	NAS588-14T			AN960D816		NAS1022A8
203	NAS588-15T				2935-08 (11)	12NE2935-080
204	NAS584-10T					F1967-4
205	NAS584-10T					MS21060-4
206	NAS1428-17					NAS1080C8
207	NAS1304-17		AN960D416L	AN960D416	2935-04 (11)	RM52LH2935-048
208	NAS1428-15					NAS1080C8
209	HT6A19			AN960D616		MS21042-6
210	NAS1438-33					NAS1080C8
211	NAS1438-34					NAS1080C8
212	NAS1438-35					NAS1080C8
213	HT6A17			AN960D616	53-11002-5,-13	MS21042-6
214	NAS1304-10		AN960D416L		2935-04 (11)	RM52LH2935-048
215	NAS1304-14				2935-04 (11)	RM52LH2935-048
216	NAS1304-16		AN960D416			MS21061L4
217	NAS1304-17		AN960D416			MS21061L4
218	NAS1448-14					NAS1080C8
219	NAS1448-12					NAS1080C8
220	NAS1428-18					NAS1080C8
221	NAS334CFA11			AN960D416		MS21042-4
222	NAS1428-23					NAS1080C8
	NAS1428-25					NAS1080C8
223	NAS1428-8					NAS1080C8
224	NAS1428-21					NAS1080C8
	NAS1428-23					NAS1080C8
225	NAS1504-12T			AN960D416		MS21042-4
	NAS584-14T			AN960D416		MS21042-4
226	NAS334CFA14-5		AN960D416			MS21042-4
227	5FH22-6-24			AN960D616		70938-6

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 6 of 14)

REF NO.	FASTENER [3]	GASKET [13]	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
228	NAS584-18T				32-11567-5	RMS2LH2935-048
					32-11401-21	2935-04 [8]
					32-11401-87	
229	NAS584-12T					F1967-4
230	NAS584-17T			AN960D416	32-11401-15	RMS2LH2935-048
					32-11401-81	2935-04 [8]
231	NAS1416-11					NAS1080C6
232	NAS1416-10					NAS1080C6
233	NAS584-15T			AN960D416	32-11401-31	MS21042-4
					32-11401-97	
234	NAS584-16T			AN960D416	32-11401-31	MS21042-4
					32-11401-97	
235	NAS584-9T				32-11401-194 [10]	MS21059L4
					32-11401-193 [9]	
236	HT4UA9	810020-8				RMG1582-048-8-4
237	H74UA10	810020-8				RMG1582-048-8-3
238 [12]	NAS584-12T				32-11401-201	MS21059L4
[14]	NAS584-12T				32-11401-251	MS21059L4
239	NAS584-11T				32-11401-187	MS21063L4-8-3
240	HT4UA9	810020-8				RMG1582-048-8-10
241	HT4UA9	810020-8				RMG1582-048-8-11
242	H74UA9	810020-8			32-11401-195	MS21063L4-12
243	NAS1305-8		AN960D516		32-11401-197	MS21063L5-10-3
244	NAS1438-8					NAS1080C8
245 [12]	HT6A11			AN960D616		MS21042-6
[14]	HT6A10			AN960D616		MS21042-6
246	NAS1440-9					NAS1080C10
247	NAS1440-10					NAS1080C10
248	NAS584-10T			AN960D416	32-11346-13	MS21042-4
249	NAS584-10T			AN960D416	32-11346-15	MS21042-4
250 [12]	NAS584-12T			AN960D416	32-11346-17	MS21042-4
[14]	NAS584-10T				2935-04 [8]	RMS2LH2935-048
251	HS61-8-11					NAS528A8
252	MS20005-22		MS20002C5		2935-05	RMS2LH2935-054
253	MS20005-14		MS20002C5		2935-05 [8]	RMS2LH2935-054
254	H76A11			AN960D616		MS21042-6
255	HT6A9			AN960D616		MS21042-6
256	HT6A10			AN960D616		MS21042-6
257	NAS1055-8-8					NAS528A8
258 [12]	NAS1055-8-22					NAS528A8
[14]	NAS1055-8-21					NAS528A8
259	NAS1055-8-7					NAS528A8
260 [12]	HT8A15			AN960D816	32-11284-3	NAS1022A8
[15]	66117H8-15			AN960D816	32-11284-3	70938-8
261 [12]	HT8A15			AN960D816	53-11066-7, -8	NAS1022A8
[15]	66117H8-15			AN960D816	53-11066-7, -8	70938-8
262 [16]	NAS1452-31					NAS1080C12
[17]	HL552-12-31					HL587-12-6
[18]	NAS2906-34 [21]		AN960D616L	66052W6 [4]		66052N624
263	MS20007-18	NAS1523AA7F	MS20002C7		4M30D716-064	MS21059L7
					4M30D716-125	
					32-11401-49, -115	
264	NAS584-24T				53-11067-3 [11]	RMS2LH2935-048
					2935-04 [8]	
265	NAS584-25T				53-11067-5 [11]	RMS2LH2935-048
					2935-04 [8]	
266	NAS1450-11					NAS1080C10
267	NAS1450-14					NAS1080C10
268	NAS1450-18					NAS1080C10
269	NAS1450-20					NAS1080C10
270	NAS584-13T					RMG1582-048-8-3
271	NAS584-13T					RMG1582-048-8-4
272 [12]	NAS1304-12		AN960D416L			RMG1582-048-8-7
[14]	NAS1304-12		AN960D416L			RMG1582-048-8-16
273 [12]	NAS1304-12		AN960D416L			RMG1582-048-8-9
[14]	NAS1304-12		AN960D416L			RMG1582-048-8-16
274 [12]	NAS1304-12		AN960D416L			RMG1582-048-8-15
[14]	NAS1304-12		AN960D416L			RMG1582-048-8-12
275	NAS1304-12		AN960D416L			RMG1582-048-8-17
276 [12]	NAS584-9T					RMG1582-048-8-3
[14]	NAS584-10T					RMG1582-048-8-3
277 [12]	NAS584-16T					RMG1582-048-8-5
[14]	NAS584-18T					RMG1582-048-8-5
278 [12]	NAS1304-15		AN960D416L			RMG1582-048-8-5
[14]	NAS1304-17		AN960D416L			RMG1582-048-8-5
279 [12]	NAS1304-9		AN960D416L			RMG1582-048-8-10
[14]	NAS1304-12		AN960D416L			RMG1582-048-8-10
280	NAS584-26T				53-11067-7	RMS2LH2935-048
					2935-04 [8]	
281	NAS584-28T				53-11067-9	RMS2LH2935-048
					2935-04 [8]	
282	NAS584-31T				53-11067-11 [11]	RMS2LH2935-048
					2935-04 [8]	
283	NAS584-32T				53-11067-13	RMS2LH2935-048
					2935-04 [8]	
284	NAS584-34T				53-11067-15	RMS2LH2935-048
					2935-04 [8]	
285	NAS584-16T				2935-04 [8]	RMS2LH2935-048
286	NAS1304-18		AN960D416L			RMG1582-048-10-4
287	NAS1304-18		AN960D416L			F1934-4-2
288	NAS1304-20		AN960D416L			RMG1582-048-10-4
289 [12]	NAS1304-21		AN960D416L			RMG1582-048-10-4

4C-3-1-2-(29-7)G

Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 7 of 14)

REF NO.	FASTENER ⟨5⟩	GASKET ⟨13⟩	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
32	NAS1304-22		AN960D416L			RMG1582-048-10-4
290	NAS1304-17	NAS1523AA4F	AN960D416L			F1934-4-2
291 16	NAS1304-24	NAS1523AA4F	AN960D416L		32-11401-225,-226	F1934-4-2
29	NAS1304-18	NAS1523AA4F	AN960D416L			F1934-4-2
292	HT4UA16	810020-8				F1967-4
293	NAS1304-24		AN960D416L			F1967-4
294	NAS1304-22		AN960D416L			F1967-4
295	NAS1304-10		AN960D416L			RMG1582-048-8-10
296	HT4UA8	810020-8				F1934-4-2
297	HT4UA8	810020-8				RMG1582-048-10-10
298	HT4UA8	810020-8				RMG1582-048-10-11
299 26	NAS1304-24		AN960D416L		32-11401-223,-224	F1967-4
27	NAS584-24T		AN960D416L		32-11401-223,-224	F1967-4
300	HT5UA17	810020-10			NAS463X-DD516	F1967-5
301	NAS1304-26		AN960D416L		4M30D416-25	F1967-4
302	HT4UA8	810020-8				RMG1582-048-10-5L
303	HT4UA7	810020-8				RMG1582-048-8-7L
304	HT4UA6	810020-8				RMG1582-048-8-8L
305	HT4UA6	810020-8				RMG1582-048-8-9L
306	NAS1304-7	NAS1523AA4F	AN960D416			RMG1582-048-8-5
307	NAS1305-10	NAS1523AA5F	AN960D516			F1967-5
308	HT4UA13	810020-8				RMG1582-048-10-8
309	HT4UA13	810020-8				RMG1582-048-10-7
310	HT4UA9	810020-8				F1967-4
311	HT4UA7	810020-8				F1934-4-2
312	HT4UA7	810020-8				RMG1582-048-8-5
313	HT4UA7	810020-8				RMG1582-048-10-4
314	HT4UA9	810020-8			32-11401-167	RMG1582-048-8-3
315	HT4UA7	810020-8				RMG1582-048-8-3
316 17	HT5UA14	810020-10			32-11401-93 32-11401-27	F1967-5
28	HT5UA11	810020-10			32-11401-93 32-11401-27	F1967-5
317	NAS584-11T					F1934-4-2
318	NAS584-11T				32-11401-181	RMG1582-048-12-6
319	HT4UA11					RMG1582-048-8-2L
320	HT4UA11	810020-8			32-11401-169	RMG1582-048-10-4
321	HT4UA10	810020-8				RMG1582-048-12-4
322	AN4H12A	NAS1523AA4F	AN960D416		NAS463XDD416	MS21059L4
323	NAS1448-8					NAS1080C6
324	NAS584-12T			AN960D416L	32-11401-21 32-11401-87	LH2577-048
325	NAS333CFA7			AN960D10		MS21042-3
326	HT4UA12	810020-8				RMG1582-048-10-3
327	HT4UA12	810020-8				RMG1582-048-10-4
328	NAS1307-15	NAS1523AA7F	AN960D716		4M30D716-125 32-11401-47 32-11401-113	MS21059L7
329	MS20007-14	NAS1523AA7F	MS20002C7		4M30D716-125 32-11401-47 32-11401-113	MS21059L7
330	HT6UA12	810020-12		NAS463D616M 4M30D616-125	32-11401-215 32-11401-219	MS21059L6
331	HT6UA14	810020-12		NAS463DD616M 4M30D616-125	32-11401-215 32-11401-219	MS21059L6
332	HT6UA15	810020-12		NAS463DD616L 4M30D616-125	32-11401-217 32-11401-221	MS21059L6
333	NAS584-9T				32-11002-153	MS21062L4-8-3
334	NAS584-12T				32-11002-153	MS21060-4
335	NAS583-12T					MS21060-3
336	NAS1503-10T			AN960D10L		MS21042-3
337	NAS1503-13T					MS21062-3
338	NAS583-12T					F1967-3
339	NAS1420-9					NAS1080C10
340	NAS584-9T			AN960D416		MS21042-4
341	NAS525-8-9					NAS528A8
342	NAS1438-9					NAS1080C 8
343 18	NAS585-18T			AN960D516		MS21042-5
19	66117H6-16			AN960D616		70938-6
344 20	NAS585-16T			AN960D516	32-11002-5 32-11002-39	MS21042-5
21	66117H6-16			AN960D616	32-11002-5 32-11002-39	70938-6
345	HT6UA17	810020-12		NAS463DD616M 4M30D616-125	32-11401-217 32-11401-221	MS21059L6
346	HT6UA14	810020-12		NAS463DD616 4M30D616-125	32-11401-217 32-11401-221	MS21059L6
347	HT6UA19	810020-12		NAS463DD616L 4M30D616-125	32-11401-217 32-11401-221	MS21059L6
348	HT5A17			AN960D516		MS21059L5
349	HT6UA18	810020-12		NAS463DD616 4M30D616-125	32-11401-217 32-11401-221	MS21059L6
350	HT6UA16	810020-12		NAS463DD616M 4M30D616-125	32-11401-217 32-11401-221	MS21059L6
351	HT4UA8	810020-8			32-11401-253	RMG1582-048-8-6
352	HT4UA7	810020-8				RMG1582-048-8-6
353	NAS588-21T				2935-08 ⟨11⟩	12NE2935-080
354	NAS588-22T				2935-08 ⟨11⟩	12NE2935-080
355	NAS588-23T			AN960D816		NAS1022A8
356	NAS588-23T				2935-08 ⟨11⟩	12NE2935-080
357	NAS1440-29				32-11002-287	NAS1080C10

4C-3-1-2-(29-8)G

Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 8 of 14)

REF NO.	FASTENER (5)	GASKET (12)	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
358	HT7A29				32-11002-187 32-11002-189 2935-07 (3)	12NE2935-070
359	HT7A29				32-11002-187 32-11002-189 2935-07 (3)	12NE2935-070
360	HT7A25			AN960D716	32-11002-187 32-11002-189	28FT720
361	HT7A23			AN960D716	32-11002-187 32-11002-189	28FT720
362	HT7A21			AN960D716	32-11002-187 32-11002-189	28FT720
363	NAS1438-20				32-11002-199 32-11002-201	NAS1080C8
364	NAS1438-21				32-11002-199 32-11002-201	NAS1080C8
365 (27)	NAS1440-19					NAS1080C10
(28)	NAS1420-19					NAS1080C10
366	NAS1450-13					NAS1080C10
367	NAS1304-13		AN960D416L		2935-04 (3)	RM52LH2935-048
368	NAS1304-18		AN960D416L		2935-04 (3)	RM52LH2935-048
369 (56)	NAS1448-26					NAS1080C8
(58)	NAS1468-28					NAS1080-8
(97)	NAS2905-29		AN960D516L		2935-05 (3)	RM52LH2935-054
370	NAS1304-30		AN960D416L		2935-04 (3)	RM52LH2935-048
371 (93)	NAS1438-30					NAS1080C8
(95)	NAS1304-30				2935-04 (3)	RM52LH2935-048
372	NAS1304-30		AN960D416L		2935-04 (3)	RM52LH2935-048
373	NAS1450-12					NAS1080C10
374 (80)	NAS1450-17					NAS1080C10
(81)	NAS1470-17					NAS1080P10
375 (96)	NAS1450-27					NAS1080C10
(81)	NAS1470-28					NAS1080P10
(97)	NAS2905-29		AN960D516L		2935-05 (3)	RM52LH2935-054
376 (96)	NAS1450-32					NAS1080C10
(81)	NAS1450-32					NAS1080P10
(97)	NAS2905-38 (21)		AN960D516L		2935-05 (3)	RM52LH2935-054
377 (45)	NAS1452-33			AN960D616	32-11401-185	NAS1080C12
(57)	NAS1452-33			AN960D616	32-11401-255	NAS1080C12
(56)	NAS1452-33			AN960D616	32-11401-475	NAS1080C12
(81)	HL552-12-33				32-11401-475	HL587-12-6
378 (25)	NAS1442-33			AN960D616	32-11401-185	NAS1080C12
(57)	NAS1442-33			AN960D616	32-11401-225	NAS1080C12
(56)	NAS1442-33			AN960D616	32-11401-475	NAS1080C12
(81)	HL553-12-33				32-11401-475	HL587-12-6
379 (80)	NAS1304-31		AN960D416L		2935-04 (3)	RM52LH2935-048
(81)	NAS1304-32 (21)			AN960D416 (22)	67992W428 (3)	67992N428
380	NAS1438-14					NAS1080C8
381	NAS1418-16				32-11401-61 32-11401-127	NAS1080C8
382	AN3-7A		AN960D10L	AN960D10		MS21042-3
383	NAS584-15T				32-11401-31 32-11401-97 294081 (3)	LH2577-048
384	NAS1418-14				32-11401-19 32-11401-85	NAS1080C8
385	NAS1418-12				32-11401-19 32-11401-85	NAS1080C8
386	NAS1418-14				32-11401-17 32-11401-83	NAS1080C8
387	NAS584-14T				32-11401-15 2935-04 (3) 32-11401-31	RM52LH2935-048
388	NAS584-15T				2935-04 (3)	RM52LH2935-048
389	NAS584-14T				32-11401-21 32-11401-87 2935-04 (3)	RM52LH2935-048
390	NAS1418-12				32-11401-21 2935-04 (3) 32-11401-87	NAS1080C8
391	NAS1428-15 (9) NAS1428-19 (10)					NAS1080C8 NAS1080C8
392	NAS1416-28				32-11145-3,-4	NAS1080C6
393	NAS1416-26				32-11147-3,-4	NAS1080C6
394	NAS1303-27		AN960D10L			MS21042-3
395 (46)	NAS1304-13		AN960D416L			RMG1582-048-8-7
(47)	NAS1304-10		AN960D416L			RMG1582-048-8-7
396	NAS1304-14		AN960D416L			RMG1582-048-8-5
397	HT4UA12	810020-8				RMG1582-048-10-8
398	NAS1304-18		AN960D416L			RMG1582-048-10-6
399	NAS584-20T			AN960D416	32-11002-115 32-11002-117	MS21042-4
400	NAS585-20T			AN960D516		MS21042-5
401 (48)	NAS584-17T			AN960D416	32-11401-15 32-11401-81 2935-04 (3)	RM52LH2935-048
(97)	NAS584-21T			AN960D416	32-11567-5 32-11401-15 2935-04 (3) 32-11401-81	RM52LH2935-048

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 9 of 14)

REF NO.	FASTENER	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
402	NAS1438-10					NAS1080C8
	NAS1438-11					NAS1080C8
403	NAS1438-11					NAS1080C8
	NAS1438-12					NAS1080C8
404	NAS1303-8	NAS1523AA3F	AN960D516L		32-11401-197	MS21063L3-10-3
405	NAS585-9T				32-11401-197	MS21063L3-10-3
406	NAS1303-9	NAS1523AA3F	AN960D516		32-11401-197	MS21063L3-10-3
407	NAS1440-17					NAS1080C10
	NAS1460-17					NAS108010
408	NAS1303-10					MS21069L3
409	NAS525-8-21					NAS528A8
410	NAS1448-13					NAS1080C8
411	NAS1430-14					NAS1080C10
412	NAS1430-13					NAS1080C10
413	NAS1438-26					NAS1080C8
	NAS1418-26					NAS1080C8
414	HT4HA19	810020-8				RMG1582-048-10-8
	HT4HA19	810020-8				RMG1582-048-10-5
415	HT6A12		AN960D616			MS21042-6
416	NAS1303-14T					MS21059L3
417	NAS1303-14T					F1967-3
418	NAS584-12T	NAS1523AA4F				RMG1582-048-10-5L
	NAS584-12T	NAS1523AA4F			4M38A416L	RMG1582-048-10-5L
419	NAS584-17T	NAS1523AA4F				RMG1582-048-10-5L
	NAS584-17T	NAS1523AA4F			4M38A416	RMG1582-048-10-5L
420	NAS 584-14T			AN960D416		MS21042-4
421	NAS584-14T				2935-04	RM52LH2935-048
422	NAS584-19T				2935-04	RM52LH2935-048
423	NAS584-14T			AN960D416		MS21042-4
424	NAS584-9T				2935-04	RM52LH2935-048
425	NAS1418-13					NAS1080C8
	NAS1418-11					NAS1080C8
426	NAS584-11T					F1967-4
	NAS1418-14					NAS1080C8
427	NAS584-13T					F1967-4
428	NAS584-17T				32-11401-269,-271	RM52LH2935-048
					2935-04	
	NAS584-17T				32-11401-281,-280	RM52LH2935-048
					2935-04	
					2935-04	
429	NAS584-15T					RM52LH2935-048
					32-11401-295,-401	
430	NAS584-18T				2935-04	RM52LH2935-048
					32-11401-295,-401	
431	NAS584-17T				2935-04	RM52LH2935-048
					32-11401-269,-271	
	NAS584-17T				2935-04	RM52LH2935-048
					32-11401-281,-280	
432	NAS584-22T			AN960D416	32-11567-5	RM52LH2935-048
					32-11401-295,-401	
					2935-04	
433	TL100-4-18			TLN1020-4W		TLN1020-4N
434	TL100-4-21			TLN1020-4W		TLN1020-4N
435	TL100-4-20			TLN1020-4W		TLN1020-4N
	TL100-4-21			TLN1020-4W		TLN1020-4N
436	TL100-4-22			TLN1020-4W		TLN1020-4N
437	TL100-4-23			TLN1020-4W		TLN1020-4N
438	TL100-4-19			TLN1020-4W		TLN1020-4N
439	TL100-4-21			TLN1020-4W	32-11401-485	TLN1020-4N
440	TL100-4-17			TLN1020-4W		TLN1020-4N
441	TL100-4-16			TLN1020-4W		TLN1020-4N
442	TL100-4-17			TLN1020-4W	32-11401-477	TLN1020-4N
443	TL100-4-18			TLN1020-4W	32-11401-477	TLN1020-4N
444	TL100-4-18			TLN1020-4W	32-11401-483	TLN1020-4N
445	TL100-4-19			TLN1020-4W	32-11401-483	TLN1020-4N
446	TL100-4-20			TLN1020-4W	32-11401-483	TLN1020-4N
447	TL100-4-21			TLN1020-4W	32-11401-479	TLN1020-4N
					32-11401-480	
448	TL100-4-21			TLN1020-4W	32-11401-481	TLN1020-4N
449	TL100-4-20			TLN1020-4W	32-11401-481	TLN1020-4N
450	TL100-4-19			TLN1020-4W	32-11401-487	TLN1020-4N
451	NAS584-19T				32-11401-265	RM52LH2935-048
					32-11401-267	
					2935-04	
452	NAS1418-17				32-11401-55	NAS1080C8
					32-11401-121	
453	HT8A25			AN960D816	53-11066-5,-6	NAS1022A8
					32-11298-5,-6	
					32-11091-3,-5	
	66117H8-22				53-11066-5,-6	66052-820
					32-11091-3,-5	
	66117H8-24				53-11066-5,-6	66052-820
					32-11091-3,-5	
454	NAS1304-28		AN960D416L		2935-04	RM52LH2935-048
	NAS2904-29T		AN960D516L		2935-05	RM52LH2935-054
455	NAS588-8T				2935-04	12NE2935-080
456	NAS1304-7		AN960D416L			RMG1582-048-8-3
457	NAS334CPA11			AN960D416		MS21042-4
	NAS1418-10					NAS1080C8

G9104083

Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295 and RF-4C; also F-4E 66-287, 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 10 of 14)

REF NO.	FASTENER (5)	GASKET (13)	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
458	NAS584-12T				32-11401-187	MS21062L4-8-3
459	NAS584-13T				32-11401-201	MS21059L4
	NAS584-13T				32-11401-251	MS21059L4
460	NAS584-13T					RMG1582-048-8-3
	NAS584-13T					RMG1582-048-8-3L
461	NAS584-11T					RMG1582-048-8-3
	NAS584-11T					RMG1582-048-8-3L
462	53-11000-103		AN960D716		53-11000-67,-73	28F7720
463 (2)	NAS584-10T					RMG1582-048-8-15
	NAS584-10T					MS21063L4-8-3
464 (2)	NAS584-10T					RMG1582-048-8-15
	NAS584-10T					MS21063L4-8-3
465 (2)	NAS1304-12		AN960D416L			RMG1582-048-8-15
	NAS464P4-12		AN960D416L			MS21063L4-8-3
466 (2)	NAS1304-12		AN960D416L			RMG1582-048-8-15
	NAS1304-12		AN960D416L			MS21063L4-8-3
467	32-111557-7 (20)		AN960D616	AN960D516		MS21042-5
468	TL116-5-16					TLN1040L5
469	TL116-5-17				32G11401-41	TLN1040L5
470	TL116-5-18				32G11401-41	TLN1040L5
471	TL116-5-18				32G11401-47	TLN1040L5
472	TL116-5-17					TLN1040L5
473	TL116-5-18					TLN1040L5
474	TL116-5-19				32G11401-47	TLN1040L5
475	TL116-5-19					TLN1040L5
476	TL116-5-20				32G11401-47	TLN1040L5
477	TL116-5-21 (11)				32G11401-43,-44	TLN1040L5
478	TL116-5-21				32G11401-45	TLN1040L5
479	TL116-5-21				32G11401-49	TLN1040L5
480	TL116-5-22					TLN1040L5
481	TL116-5-23					TLN1040L5
482	TL116-5-21					TLN1040L5
483	TL116-5-20				32G11401-45	TLN1040L5
484	TL116-5-20					TLN1040L5
485	TL116-5-19				32G11401-51	TLN1040L5
486	NAS1438-18					NAS1080C8
	NAS1438-18					NAS1080-8
487	NAS1438-17					NAS1080C8
	NAS1438-17					NAS1080-8
488	NAS1438-18					NAS1080C8
	NAS1438-18					NAS1080-8
489	NAS1440-18					NAS1080C8
	NAS1440-18					NAS1080-8
490	NAS584-11T				32-11401-189	MS21063L4-8-3
491 (2)	HS61-8-11					NAS528A8
	HS61-8-13					NAS528A8
492 (2)	NAS1418-11					NAS1080C8
	NAS334CFA12					F1972-4-2
493	NAS1438-19					NAS1080C8
494	NAS1438-20					NAS1080C8
495	NAS584-17T				2935-04 (1)	RM52LH2935-048
496 (2)	NAS584-37T				53-11074-3 (12)	RM52LH2935-048
					2935-04 (1)	
	NAS584-37T				53-11074-5 (12)	RM52LH2935-043
					2935-04 (1)	
497	NAS584-15T				32-11567-3	MS21066L4
					32-11401-297,-403 (9)	
498	TL100-4-10			TLN1020L4W		TLN1020L4N
499	TL100-4-11			TLN1020L4W		TLN1020L4N
500	TL100-4-11			TLN1020L4W	32-11002-167	TLN1020L4N
501	TL100-4-12			TLN1020L4W		TLN1020L4N
502	TL100-4-13 (18)			TLN1020L4W		TLN1020L4N
503	TL100-4-15			TLN1020L4W	32-11401-721	TLN1020L4N
504	TL100-4-16			TLN1020L4W	32-11401-721	TLN1020L4N
505	TL100-4-14			TLN1020L4W	32-11401-721	TLN1020L4N
506	TL400-5-15			TLN1020L5W		TLN1020L5N
507	HL551-10-17			HL683-10W (1)		HL683-10A
508	HL551-10-20			HL683-10W		HL683-10A
509	NAS585-18T				2935-05 (1)	RM52LH2935-054
510	HL551-10-14					HL683-10A
511	NAS585-21T				2935-05 (1)	RM52LH2935-054
512	HL551-10-12			HL683-10W (1)		HL683-10A
513	HT309-5-11 (19)			53G11002-229		LH9376-5
	NAS1420-12 (19)					NAS1080C10
514	HL551-10-11			HL683-10W (1)		HL683-10A
515	HL551-10-16			HL683-10W		HL683-10A
516	NAS585-11T				2935-05 (1)	RM52LH2935-054
517	HL551-10-10			HL683-10W (1)		HL683-10A
518	HL551-10-9			HL683-10W		HL683-10A
519	NAS585-12T				2935-05 (1)	RM52LH2935-054
520	NAS585-13T				2935-05 (1)	RM52LH2935-054
521	NAS585-13T					RM52LH2935-054
522	NAS1305-14					RM12LHA30228054
523	NAS585-15T				2935-05 (1)	RM52LH2935-054
					32-11002-167	
524	NAS1305-14					RM12LHA30228054
525	HS61-10-18					NAS528A5
526	NAS585-13T				2935-05 (1)	RM52LH2935-054

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295 and RF-4C; also F-4E 66-287, 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 11 of 14)

REF NO.	FASTENER (5)	GASKET (13)	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
527	NAS585-19T				2935-05 (8)	RM52LH2935-054
528	HL551-10-18			HL683-10W	53G970351-5, -6	HL683-10A
529	TL300L9-21			TLN1023L9W		TLN1023L9N
	TL841-9052-21			TLN1023L9W		TLN1023L9N
530	TL300L9-22			TLN1023L9W		TLN1023L9N
	TL841-9052-22			TLN1023L9W		TLN1023L9N
531	TL300L9-15			TLN1023L9W		TLN1023L9N
	TL841-9052-15			TLN1023L9W		TLN1023L9N
532	TL300L9-16			TLN1023L9W		TLN1023L9N
	TL841-9052-16 (18) (50) (90)			TLN1023L9W (8)		TLN1023L9N
533	TL300L9-23			TLN1023L9W		TLN1023L9N
	TL841-9054-23			TLN1023L9W		TLN1023L9N
534	TL300L9-19		53G11002-221	TLN1023L9W		TLN1023L9N
	TL841-9054-19			TLN1023L9W		TLN1023L9N
535	TL300L9-24			TLN1023L9W		TLN1023L9N
	TL841-9054-24			TLN1023L9W		TLN1023L9N
536	TL300L9-22			TLN1023L9W		TLN1023L9N
	TL841-9054-22			TLN1023L9W		TLN1023L9N
537	NAS585-18T				2935-05 (8)	RM52LH2935-054
					32G11002-101, -102 (91)	
538	TL300L9-22		53G11002-221	TLN1023L9W		TLN1023L9N
	TL841-9056-22 (18) (50) (90)			TLN1023L9W (8)		TLN1023L9N
539	TL300L9-23		53G11002-221	TLN1023L9W		TLN1023L9N
	TL841-9056-23			TLN1023L9W		TLN1023L9N
540	NAS586-16T			AN960D616L		MS21042-6
541	NAS586-18T (9)			AN960D616L	32-11334-1,-3	MS21042-6
	NAS586-18T (10)			AN960D616L	32-11334-2,-4	MS21042-6
542	NAS586-15T			32G11401-229		LH9376-6
543	NAS586-17T			AN960D616L		MS21042-6
544	NAS1506-18T			AN960D616L		MS21042-6
545	NAS586-16T				66052W6 (8)	66D52N6
546	32G11401-429			AN960D516L	32-11244-3	MS21042-5
547	NAS586-15T			AN960D616L		MS21042-6
548	NAS586-21T			AN960D616L		MS21042-6
549	NAS585-20T				2935-05 (8)	RM52LH2935-054
550	TL100-4-17			TLN1020-4W	32-11401-447	TLN1020-4N
551	TL100-4-16			TLN1020-4W		TLN1020-4N
552	TL100-4-18			TLN1020-4W		TLN1020-4N
553	TL100-4-17			TLN1020-4W		TLN1020-4N
554	TL100-4-18			TLN1020-4W	32-11401-483	TLN1020-4N
555	TL100-4-19			TLN1020-4W	32-11401-483	TLN1020-4N
556	TL100-4-20			TLN1020-4W	32-11401-483	TLN1020-4N
557	TL100-4-21			TLN1020-4W	32-11401-479	TLN1020-4N
558	TL100-4-19			TLN1020-4W		TLN1020-4N
559	TL100-4-21			TLN1020-4W (8)	32-11401-485	TLN1020-4N
560	TL100-4-21			TLN1020-4W	32-11401-481	TLN1020-4N
561	TL100-4-22			TLN1020-4W		TLN1020-4N
562	TL100-4-23			TLN1020-4W		TLN1020-4N
563	TL100-4-21			TLN1020-4W		TLN1020-4N
564	TL100-4-20			TLN1020-4W	32-11401-481	TLN1020-4N
565	TL100-4-19			TLN1020-4W	32-11401-487	TLN1020-4N
566	NAS585-23T				2935-05 (8)	RM52LH2935-054
					53G11022-99 (91)	
567	HL553-10-26			HL683-10W (8)		HL683-10A
568	HL553-10-23			HL683-10W	53G11002-99 (91)	HL683-10A
569	TL300L8-24		53G11002-225			TLN1000L8
	TL841-8074-24		53G11002-225			TLN1000L8
570	TL300L8-24		53G11002-225			TLN1000L8
	TL841-8076-24 (18) (50) (90)		53G11002-225			TLN1000L8
571	TL300L8-25		53G11002-225			TLN1000L8
	TL841-8076-25		53G11002-225			TLN1000L8
572	TL300L8-29		53G11002-225			TLN1000L8
	TL841-8078-29		53G11002-225			TLN1000L8
573	NAS585-23T				2935-05 (8)	RM52LH2935-054
					53G11002-167,-168 (91)	
574	DELETED					
575	HL553-10-23			HL683-10W	53G11002-167,-168	HL683-10N
576	TL300L8-29			TLN1020-8 (8)		TLN1020-8N
	TL841-8078-29 (18) (50) (90)			TLN1020-8		TLN1020-8N
577	TL300L8-29			TLN1020-8W		TLN1020-8N
	TL841-8080-29			TLN1020-8W		TLN1020-8N
578	NAS586-30T			32G11401-229		LH9376-6
579	DELETED					
580	HL551-10-19			HL683-10W		HL683-10A
581	HL551-12-20			HL683-12W		HL683-12A
582	HL551-12-25			HL683-12W (8)		HL683-12A
583	HL551-12-24			HL683-12W		HL683-12A
584	HL551-12-26			HL683-12W		HL683-12A
585	HL551-10-21			HL683-10W		HL683-10A
586	NAS585-22T				2935-05 (8)	RM52LH2935-054
587	HL551-10-22			HL683-10W (8)		HL683-10A
588	HL551-12-27			HL683-12W		HL683-12A
589	NAS1704T29			4M36-02003	53G971099-3 (101)	MS21042-4
590	HL551-10-23			HL683-10W		HL683-10A
591	HL551-12-28			HL683-12W (8)		HL683-12A
592	HL551-10-18			HL683-10W		HL683-10A
593	HL551-10-24			HL683-10W		HL683-10A
594	NAS585-24T				2935-05 (8)	RM52LH2935-054

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 12 of 14)

REF NO.	FASTENER (5)	GASKET (13)	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
595	HL551-10-29			HL683-10W (8)		HL683-10A
596	TL300L9-32 (18) (50) (90)					TLN1000-9N
	TL841-9100-32 (18) (50) (90)			53G11002-221		TLN1000-9N
597	HL551-12-23			HL683-12W (8)		HL683-12A
598	HL551-10-27			HL683-10W (8)		HL683-10A
599	TL300L-9-36 (18) (50) (90)			TLN1023L9W (8)		TLN1023L9N
				53G11002-207		TLN1023L9N
				53G11002-209		
	TL841-9100-36 (18) (50) (90)			TLN1023L9W (8)		TLN1023L9N
				53G11002-207		
				53G11002-209		
600	NAS585-17T				2935-05 (8)	RM52LH2935-054
601	NAS585-28T				2935-05 (8)	RM52LH2935-054
602	TL300L7-32 (18) (50) (90)			TLN1020-7W (8)		TLN1020-7N
	TL841-7096-32 (18) (50) (90)			TLN1020-7W (8)		TLN1020-7N
603	HL553-8-18					HL587-8
604	HL551-10-28			HL683-10W (8)		HL683-10A
605	NAS585-27T				2935-05 (8)	RM52LH2935-054
606	HL551-12-22			HL683-12W (8)		HL683-12A
607	HL551-12-21			HL683-12W (8)		HL683-12A
608	HL551-12-19			HL683-12W (8)		HL683-12A
609	NAS585-16T				2935-05 (8)	RM52LH2935-054
610	HL551-12-18			HL683-12W (8)		HL683-12A
611	HL551-12-17			HL683-12W (8)		HL683-12A
612	HL551-12-16			HL683-12W (8)		HL683-12A
613	HL551-12-15			HL683-12W (8)		HL683-12A
614	HL551-10-15			HL683-10W (8)		HL683-10A
615	HL551-12-14			HL683-12W (8)		HL683-12A
616	HL551-10-14			HL683-10W (8)		HL683-10A
617	DELETED					
618	DELETED					
619	NAS585-14T				2935-05 (8)	RM52LH2935-054
620	NAS586-14T				66052W6 (8)	66052N624
621	NAS586-15T				66052W6 (8)	66052N624
622	TL300L8-16 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
	TL841-8038-16 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
623	TL310L8-16 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
	TL841-8046-16 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
624	TL310L8-16 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
	TL842-8038-16 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
625	TL300L8-18 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
	TL841-8048-18 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
626	TL300L8-21 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
	TL841-8038-21 (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
627	TL300-8-20 (9) (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
	TL841-8040-20 (10) (18) (50) (90)			TLN1020-8W (8)		TLN1020-8N
628	NAS1458-17					NAS1080C6
629	TL100-5-33 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
	TL826-5X33 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
630	TL100-5-30 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
	TL806-5K30 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
631	TL936-5-25-81 (18) (50) (90) (95)			TLN1040L5W (8) (94)		TLN1040L5N
	TL809-5N25-87 (18) (50) (90) (95)			TLN1040L5W (8) (94)		TLN1040L5N
632	TL100-5-25 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
	TL805-5P25 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
633	TL936-5-25-85 (18) (50) (90) (95)			TLN1040L5W (8) (94)		TLN1040L5N
	TL809-5N25-89 (18) (50) (90) (95)			TLN1040L5W (8) (94)		TLN1040L5N
634	TL100-5-22 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
	TL806-5F22 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
635	TL100-5-22 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
	TL806-5E22 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
636	TL100-5-22 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
	TL806-5D22 (18) (50) (90)			TLN1040L5W (8) (94)		TLN1040L5N
637	HL551-10-13				32G11401-475	HL683-10A
					HL683-10W (8)	
638 (99)	NAS1581A6H19T			53G971099-5	32-11401-53	MS21042-6
					32-11401-119	
J	NAS1581A6H19T			53G971099-5	33-11401-469	MS21042-6
					32-11401-471	
639	66051-4-9		MS20002C4			MS21059L4
640	66051-4-9		MS20002C4			MS21061L4
641	NAS1704T9				32-11401-194 (10)	MS21059L4
					32-11401-193 (9)	
642	54267-4-10					F1934-4-2
643	54267-4-9					G19179-4-2-8-4
644 (101)	54267-4-10					G19179-4-2-8-3
645	54267-4-9				32-11401-195	MS21063L4-8-12
646	54267-4-9					G19179-4-2-8-11
647	54267-4-9					G19179-4-2-8-10
648	NAS1704T11				32-11401-189	MS21063L4-8-3
649	HL551-8-10					65956-4
650	NAS584-10T				67992W428 (8)	67992N428

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Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 13 of 14)

REF NO.	FASTENER (5)	GASKET (13)	WASHER		SHIM OR SPACER	NUT OR COLLAR
			UNDERHEAD	UNDERNUT		
651	NAS584-14T				67992W428 (8)	67992N428
652	HL551-8-16					65956-4
653	HL557-8-12					65956-4
654	HL557-8-10					65956-4
655	NAS1704T11			4M36-02078		MS21042-4
656	HL557-8-11				32G971108-7	65956-4
657	HL557-8-16					65956-4
658	NAS1704T11				32-11401-187	MS21063L4-8-3
659	54267-4-11					F1934-4-2
660	NAS1704T12				32-11401-251	MS21059L4
661	NAS2905-9		AN960D516L		32-11401-197	MS21063L5-10-3
662	NAS2905-9	NAS1523AA5F	AN960D516L		32-11401-197	MS21063L5-10-3
663	HT5UA12	810020-10			32G971086-13 (10)	MS21059L5
					32G971086-14 (9)	
664	NAS585-11T				32G971086-13 (10)	MS21059L5
103					32G971086-14 (9)	
665	HT5UA12	810020-10			32G971086-13 (10)	MS21063L5-8-3
					32G971086-14 (9)	
666	NAS585-14T				32G971086-11	MS21061L5
667	NAS585-13T				32G971086-9	MS21063L5-8-3
668	NAS585-14T				32G971086-7	MS21061L5
669	NAS585-15T				32G971086-7	MS21061L5
670	NAS585-14T				32G971086-5 (K)	MS21063L5-8-3
					32G971086-6 (9)	
671	NAS585-15T				32G971086-5 (10)	MS21063L5-8-3
					32G971086-6 (9)	
672	HT5UA14	810020-10			32G971086-5 (10)	MS21059L5
					32G971086-6 (9)	
673	NAS585-14T				32G971086-5 (10)	MS21061L5
					32G971086-6 (9)	
674	NAS585-13T				32G971086-3 (10)	MS21063L5-8-3
					32G971086-4 (9)	
675 104	NAS585-17T				67992W524 (8)	67992N524
					32-11401-55,-121	
105	HL219-10-17				HL382-10PBW (8)	HL382-10A
					32-11401-55,-121	
676	NAS586-13T				TLN1020L6W (8)	TLN1020L6N
					32G971108-5	
677	NAS586-12T				TLN1020L6W (8)	TLN1020L6N
					32G971108-3	
678 103	NAS586-12T				TLN1020L6W (8)	TLN1020L6N
					32G971108-5	
679	HL551-12-12			AN960D616		65956-6
680	NAS585-8T				TLN1020L5W (8)	TLN1020L5N
681	NAS585-12T				67992W524 (8)	67992N524
682 104	NAS585-18T				67992W524 (8)	67992N524
					32-11401-55,-121	
105	HL219-10-20				HL382-10PBW (8)	HL382-10A
					32-11401-55,-121	
683 104	NAS585-18T				67992W524 (8)	67992N524
					32-11401-55,-121	
105	HL219-10-18				HL382-10PBW (8)	HL382-10A
					32-11401-55,-121	
684 104	NAS585-18T				67992W524 (8)	67992N524
					32-11401-55,-121	
105	NAS1605T18				67992W524 (8)	67992N524
					32-11401-55,-121	
685	NAS585-14T				32G971086-3 (K)	MS21063L5-8-3
					32G971086-4 (9)	
686	HT5UA13	810020-10			32G971086-3 (10)	MS21059L5
					32G971086-4 (9)	
687	HT5UA12	810020-10			32G971086-5 (10)	MS21063L5-8-10
					32G971086-6 (9)	
688	HT5UA13	810020-10			32G971086-5 (10)	MS21063L5-8-3
103					32G971086-6 (9)	
689	HT5UA14	810020-10			32G971086-7	MS21059L5
690	HT5UA13	810020-10			32G971086-9	MS21063L5-8-3
691	HT5UA14	810020-10			32G971086-11	MS21059L5
692	HT5UA11	810020-10			32G971086-13 (10)	MS21063L5-8-4
					32G971086-14 (9)	
693	NAS2905-10		AN960D516		32-11401-191	MS21063L5-10-3
694	NAS2904-11		AN960D416			F1972-4-2
695	HT5UA12	810020-10				32G971074-1,-2
696	HT5UA9	810020-10				53G971110-33,-34
697	HT6UA14 (107)	810020-12				53G971110-3,-4
	HT6UA21 (108)	810020-12				53G971110-23,-24
698 106	HT5UA10	810020-10			32G971073-5	MS21063L5-8-3
699	HT5UA14 (107)	810020-10				53G971110-3,-4
	HT5UA10 (108)	810020-10				53G971110-23,-24
700	HT5UA13	810020-10				53G971110-9,-10
701	HT5UA13	810020-10			32G971073-5	MS21063L5-8-3
702 109	NAS2905-8		AN960D516L		32-11401-197	MS21063L5-10-3
110	NAS1705T9				32-11401-197	MS21063L5-10-3
703 109	NAS2905-9	NAS1523AA5F	AN960D516L		32-11401-197	MS21063L5-10-3
110	54267-5-9				32-11401-197	MS21063L5-10-3

4C-3-1-2-(29-14)A

Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4C; ALSO F-4E 66-287, 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 14 of 14)

REF NO.	FASTENER (5)	GASKET (13)	WASHER		SHIM OR SPACER	NUT OR COLLAR
			UNDERHEAD	UNDERNUT		
704	NAS1304-12		AN960D418L			RMG15B2-048-8-10
705	NAS1304-17		AN960D418L			RMG15B2-048-8-5
706	NAS1304-18T		AN960D416L			RMG15B2-048-8-6
707	HT4062-3-11					G19178-4-2-8
708	HT4UA-8					G19178-4-2-8
709	HT4062-14					RMG15B2-048-8-16
710	HT4062-15					RMG15B2-048-8-4
711	HL557-8-13			HL382-8PBW		HL382-8
712	NAS1704-13			AN960D416		67992N428
						67992W428 (6)
713	HL557-8-12			HL382-8PBW		HL382-8
714	NAS1704-12			AN960D416		67992N428
						67992W428 (6)

Notes

1. ADDITIONAL INFORMATION MAY BE FOUND IN TEXT.
2. ONE SUBSTITUTION IS ALLOWABLE WITHIN THE ENCIRCLED AREA, USING A BLIND BOLT FASTENER.
3. TWO SUBSTITUTIONS ARE ALLOWABLE WITHIN THE ENCIRCLED AREA, USING BLIND BOLT FASTENERS.
4. NO SUBSTITUTION IS ALLOWABLE WITHIN THE ENCIRCLED AREA.
5. THE "HT" FASTENER SERIES THAT CARRIES A LETTER "A" AS THE FIFTH DIGIT (EXAMPLE, HT4UA-10) INDICATES THAT THE FASTENER HAS AN "O" RING AROUND THE SHANK AND IS ORDERED AS ONE ASSEMBLY. UPON REMOVING FASTENER, THE "O" RING SHOULD BE REPLACED. WHEN REINSTALLING THE ASSEMBLY, THE "O" RING SHOULD BE LUBRICATED WITH VV-P-236.
6. TORQUE TO 480-690 INCH-POUNDS.
7. TORQUE TO 450-500 INCH-POUNDS.
8. NUT OR COLLAR BASE.
9. RIGHT SIDE.
10. LEFT SIDE.
11. INSTALL SPACERS PER TO1F-4C-3-1-5.
12. TWO REQUIRED.
13. GASKETS SHOULD BE PLACED NEXT TO THE SPAR OR SKIN UNDER THE FASTENER HEAD.
14. TORQUE 480-690 INCH-POUNDS ON F-4C 63-7407 THRU 63-7526 AND RF-4C-7742 THRU 63-7749, TORQUE 185-210 INCH-POUNDS ON F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 68-451, AND RF-4C 63-7750 THRU 68-593, TORQUE 290-410 INCH-POUNDS ON F-4E 68-452 AND UP AND RF-4C 68-594 THRU 72-156.
15. SHIM AS REQUIRED FOR MISMATCH REQUIREMENTS. INSTALL SHIM BETWEEN FAIRING AND WASHER.
16. THREE SUBSTITUTIONS ARE ALLOWABLE WITHIN THE ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO ADJACENT BLIND FASTENERS IS PERMISSIBLE.
17. FOUR SUBSTITUTIONS ARE ALLOWABLE WITHIN THE ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO ADJACENT BLIND FASTENERS IS PERMISSIBLE.
18. THESE FASTENERS ARE SPECIAL TAPERED FASTENERS AND MUST BE REMOVED AND INSTALLED ONLY BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH TO1F-4C-3-1-1.
19. FOR THIS FASTENER REFER TO DOOR 141, 32-11009, IN TO1F-4C-3-1-3.
20. THE MAXIMUM CLEARANCE BETWEEN BOLT AND HOLE IS 0.0027 BEFORE REWORK IS REQUIRED.
21. INSTALL HEAD DOWN.
22. INSTALL UNDER NUT BASE.
23. F-4C 63-7407 THRU 63-7604 AND RF-4C 63-7742 THRU 64-999.
24. F-4C 63-7605 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1000 THRU 72-156.
25. F-4C 63-7407 THRU 64-672 AND RF-4C 63-7742 THRU 64-1037.
26. LEAVE 0.3745 $^{+.0022}_{-.0000}$ OPEN TO ACCOMMODATE WING JACK PAD.
27. F-4C 63-7407 THRU 63-7662 AND RF-4C-7742 THRU 64-1017.
28. F-4C 63-7663 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1018 THRU 72-156.
29. F-4C 63-7407 THRU 64-737 AND RF-4C 63-7742 THRU 64-1061.
30. F-4C 64-738 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1062 THRU 72-156.
31. F-4C 63-7407 THRU 63-7489.
32. F-4C 63-7490 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C.
33. F-4E 68-366 THRU 71-236.
34. F-4C 63-7407 THRU 63-7420.
35. F-4C 63-7407 THRU 64-817 AND RF-4C 63-7742 THRU 64-1077.
36. F-4C 64-818 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1078 THRU 72-156.
37. F-4C 63-7421 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749.
38. F-4C 63-7527 THRU 64-819 AND RF-4C 63-7750 THRU 64-1077.
39. F-4C 64-820 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1078 THRU 72-156.
40. F-4C 63-7407 THRU 64-904, F-4D 64-929 THRU 64-948, AND RF-4C 63-7742 THRU 65-849.
41. F-4C 63-7407 THRU 64-908, F-4D 64-929 THRU 64-944, AND RF-4C 63-7742 THRU 65-848.
42. F-4C 64-909 THRU 64-928, F-4D 64-945 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 65-859 THRU 72-156.
43. F-4C 63-7407 THRU 64-779 AND RF-4C 63-7742 THRU 64-1061.
44. F-4C 64-780 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1062 THRU 72-156.
45. F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 63-7750 THRU 72-156.
46. F-4C 63-7407 THRU 63-7597 AND RF-4C 63-7742 THRU 63-7763.
47. F-4C 63-7598 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-997 THRU 72-156.
48. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4C 63-7742 THRU 65-838.
49. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 65-839 THRU 72-156.
50. OVERSIZE REPAIR FASTENERS FOR TAPER-LOK FASTENERS.
    A. TL300-8 FIRST OVERSIZE TL310-8 SECOND OVERSIZE TL330-8.
    B. TL300L8 FIRST OVERSIZE TL310L8 SECOND OVERSIZE TL330L8.
    C. TL310L8, FIRST OVERSIZE TL330L8 SECOND OVERSIZE TL340L8.
    D. TL841, FIRST OVERSIZE TL842, SECOND OVERSIZE TL843.
    E. TL842, FIRST OVERSIZE TL843, SECOND OVERSIZE TL844.
    F. TL851, FIRST OVERSIZE TL852, SECOND OVERSIZE TL853.
    G. TL100-5, FIRST OVERSIZE TL110-5, SECOND OVERSIZE TL1305.
    H. TL826-5, FIRST OVERSIZE TL827-5, SECOND OVERSIZE TL828-5.
    J. TL806-5, FIRST OVERSIZE TL816-5, SECOND OVERSIZE TL836-5.
    K. TL300L9, FIRST OVERSIZE TL310L9, SECOND OVERSIZE TL330L9.
    L. TL936-5, FIRST OVERSIZE TL956-5, SECOND OVERSIZE TL966-5.
    M. TL809-5, FIRST OVERSIZE TL819-5, SECOND OVERSIZE TL839-5.
51. F-4C, F-4D, AND RF-4C.
52. F-4E 66-284 THRU 71-236.
53. F-4C, F-4D, AND F-4E 66-284 THRU 71-236.
54. F-4D 66-8687 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 66-450 THRU 72-156.
55. RF-4.
56. F-4D 66-8733 THRU 66-8825, F-4E 66-305 THRU 69-268, AND RF-4C 66-461 THRU 69-359.
57. F-4C 64-673 THRU 64-928, F-4D 64-929 THRU 66-8732, F-4E 66-284 THRU 66-304, AND RF-4C 64-1038 THRU 66-460.
58. F-4C, F-4D, F-4E 66-284 THRU 67-219, AND RF-4C 63-7742 THRU 67-453.
59. F-4E 67-220 THRU 71-236 AND RF-4C 67-454 THRU 72-156.
60. F-4C, F-4D 64-929 THRU 66-8801, F-4E 66-284 THRU 66-338, AND RF-4C 63-7742 THRU 67-430.
61. F-4D 66-8802 THRU 66-8825, F-4E 66-339 THRU 71-236, AND RF-4C 67-431 THRU 72-156.
62. F-4C, F-4D, F-4E 66-284 THRU 67-212, AND RF-4C.
63. F-4E 67-213 THRU 71-236.
64. F-4C, F-4D, F-4E 66-284 THRU 67-219, AND RF-4C 63-7742 THRU 67-442.
65. F-4E 67-220 THRU 71-236 AND RF-4C 67-443 THRU 72-156.
66. F-4C, F-4D, F-4E 66-284 THRU 67-308, AND RF-4C 63-7742 THRU 67-456.
67. F-4E 67-309 THRU 71-236 AND RF-4C 67-457 THRU 72-156.
68. F-4E 66-284 THRU 67-341.
69. F-4E 67-342 THRU 71-236.
70. F-4E 66-297 THRU 67-387.
71. F-4E 67-388 THRU 71-236.
72. F-4C, F-4D, F-4E 66-284 THRU 68-392, AND RF-4C 63-7742 THRU 68-569.
73. F-4E 68-393 THRU 71-236 AND RF-4C 68-570 THRU 72-156.
74. F-4C, F-4D, F-4E 66-284 THRU 68-404, AND RF-4C 63-7742 THRU 68-573.
75. F-4E 68-405 THRU 71-236 AND RF-4C 68-574 THRU 72-156.
76. F-4C 64-905 THRU 64-928, F-4D 64-949 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 65-850 THRU 72-156.
77. F-4C, F-4D, F-4E 66-284 THRU 69-303, AND RF-4C 63-7742 THRU 69-366.
78. F-4E 69-304 THRU 71-236 AND RF-4C 69-367 THRU 72-156.
79. F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 67-219, AND RF-4C 63-7750 THRU 67-442.
80. F-4C, F-4D, F-4E 66-284 THRU 69-268, AND RF-4C 63-7742 THRU 69-359.
81. F-4E 69-269 THRU 71-236 AND RF-4C 69-360 THRU 72-156.
82. F-4C, F-4D 64-929 THRU 66-8685, F-4E 66-284 THRU 66-295, AND RF-4C 63-7742 THRU 66-450.
83. F-4D 66-8686 THRU 66-8825, F-4E 66-926 THRU 71-236, AND RF-4C 66-451 THRU 72-156.
84. F-4C, F-4D, F-4E 66-284 THRU 68-365, AND RF-4C.
85. F-4D 66-8687 THRU 66-8825,F-4E 66-284 THRU 69-7589, AND RF-4C 66-450 THRU 69-384.
86. F-4E 71-224 THRU 71-236 AND RF-4C 71-248 THRU 72-156.
87. F-4C, F-4D 64-929 THRU 66-7593, AND RF-4C 63-7742 THRU 66-419.
88. F-4D 66-7594 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 66-420 THRU 72-156.
89. INSTALL HT309-11 FASTENER IF CLEARANCE PERMITS OR INSTALL NAS1420-12 FASTENER AS ALTERNATE.

4C-3-1-2-(29-15)L

Figure 2-37. Torque Box Skin and Structural Fastener Index - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 14A of 14)

Notes

1. ADDITIONAL INFORMATION MAY BE FOUND IN TEXT.
2. ONE SUBSTITUTION IS ALLOWABLE WITHIN THE ENCIRCLED AREA, USING A BLIND BOLT FASTENER.
3. TWO SUBSTITUTIONS ARE ALLOWABLE WITHIN THE ENCIRCLED AREA, USING BLIND BOLT FASTENERS.
4. NO SUBSTITUTION IS ALLOWABLE WITHIN THE ENCIRCLED AREA.
5. THE "HT" FASTENER SERIES THAT CARRIES A LETTER "A" AS THE FIFTH DIGIT (EXAMPLE, HT4UA-101 INDICATES THAT THE FASTENER HAS AN "O" RING AROUND THE SHANK AND IS ORDERED AS ONE ASSEMBLY. UPON REMOVING FASTENER, THE "O" RING SHOULD BE REPLACED. WHEN REINSTALLING THE ASSEMBLY, THE "O" RING SHOULD BE LUBRICATED WITH VV-P-236.
6. TORQUE TO 480-690 INCH-POUNDS.
7. TORQUE TO 450-500 INCH-POUNDS.
8. NUT OR COLLAR BASE.
9. RIGHT SIDE.
10. LEFT SIDE.
11. INSTALL SPACERS PER TO1F-4C-3-1-5.
12. TWO REQUIRED.
13. GASKETS SHOULD BE PLACED NEXT TO THE SPAR OR SKIN UNDER THE FASTENER HEAD.
14. TORQUE 480-690 INCH-POUNDS ON F-4C 63-7407 THRU 63-7526 AND RF-4C-7742 THRU 63-7749, TORQUE 185-210 INCH-POUNDS ON F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 68-451, AND RF-4C 63-7750 THRU 68-593, TORQUE 290-410 INCH-POUNDS ON F-4E 68-452 AND UP AND RF-4C 68-594 THRU 72-156.
15. SHIM AS REQUIRED FOR MISMATCH REQUIREMENTS. INSTALL SHIM BETWEEN FAIRING AND WASHER.
16. THREE SUBSTITUTIONS ARE ALLOWABLE WITHIN THE ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO ADJACENT BLIND FASTENERS IS PERMISSIBLE.
17. FOUR SUBSTITUTIONS ARE ALLOWABLE WITHIN THE ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO ADJACENT BLIND FASTENERS IS PERMISSIBLE.
18. THESE FASTENERS ARE SPECIAL TAPERED FASTENERS AND MUST BE REMOVED AND INSTALLED ONLY BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH TO1F-4C-3-1-1.
19. FOR THIS FASTENER REFER TO DOOR 141, 32-11009, IN TO1F-4C-3-1-3.
20. THE MAXIMUM CLEARANCE BETWEEN BOLT AND HOLE IS 0.0027 BEFORE REWORK IS REQUIRED.
21. INSTALL HEAD DOWN.
22. INSTALL UNDER NUT BASE.
23. F-4C 63-7407 THRU 63-7604 AND RF-4C 63-7742 THRU 64-999.
24. F-4C 63-7605 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1000 THRU 72-156.
25. F-4C 63-7407 THRU 64-672 AND RF-4C 63-7742 THRU 64-1037.
26. LEAVE 0.3745 $^{+.0022}_{-.0000}$ OPEN TO ACCOMMODATE WING JACK PAD.
27. F-4C 63-7407 THRU 63-7662 AND RF-4C-7742 THRU 64-1017.
28. F-4C 63-7663 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1018 THRU 72-156.
29. F-4C 63-7407 THRU 64-737 AND RF-4C 63-7742 THRU 64-1061.
30. F-4C 64-738 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1062 THRU 72-156.
31. F-4C 63-7407 THRU 63-7489.
32. F-4C 63-7490 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C.
33. F-4E 68-366 THRU 71-236.
34. F-4C 63-7407 THRU 63-7420.
35. F-4C 63-7407 THRU 64-817 AND RF-4C 63-7742 THRU 64-1037.
36. F-4C 64-818 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1078 THRU 72-156.
37. F-4C 63-7421 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749.
38. F-4C 63-7527 THRU 64-819 AND RF-4C 63-7750 THRU 64-1077.
39. F-4C 64-820 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1078 THRU 72-156.
40. F-4C 63-7407 THRU 64-904, F-4D 64-929 THRU 64-948, AND RF-4C 63-7742 THRU 65-849.
41. F-4C 63-7407 THRU 64-908, F-4D 64-929 THRU 64-944, AND RF-4C 63-7742 THRU 65-848.
42. F-4C 64-909 THRU 64-928, F-4D 64-945 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 65-859 THRU 72-156.
43. F-4C 63-7407 THRU 64-779 AND RF-4C 63-7742 THRU 64-1061.
44. F-4C 64-780 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-1062 THRU 72-156
45. F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 63-7750 THRU 72-156.
46. F-4C 63-7407 THRU 63-7597 AND RF-4C 63-7742 THRU 63-7763.
47. F-4C 63-7598 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, AND RF-4C 64-997 THRU 72-156.
48. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4C 63-7742 THRU 65-838.
49. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 65-839 THRU 72-156.
50. OVERSIZE REPAIR FASTENERS FOR TAPER-LOK FASTENERS.
    A. TL300-8 FIRST OVERSIZE TL310-8 SECOND OVERSIZE TL330-8.
    B. TL300L8 FIRST OVERSIZE TL310L8 SECOND OVERSIZE TL330L8.
    C. TL310L8, FIRST OVERSIZE TL330L8 SECOND OVERSIZE TL340L8.
    D. TL841, FIRST OVERSIZE TL842, SECOND OVERSIZE TL843.
    E. TL842, FIRST OVERSIZE TL843, SECOND OVERSIZE TL844.
    F. TL851, FIRST OVERSIZE TL852, SECOND OVERSIZE TL853.
    G. TL100-5, FIRST OVERSIZE TL110-5, SECOND OVERSIZE TL1305.
    H. TL826-5, FIRST OVERSIZE TL827-5, SECOND OVERSIZE TL828-5.
    J. TL806-5, FIRST OVERSIZE TL816-5, SECOND OVERSIZE TL836-5.
    K. TL300L9, FIRST OVERSIZE TL310L9, SECOND OVERSIZE TL330L9.
    L. TL936-5, FIRST OVERSIZE TL956-5, SECOND OVERSIZE TL966-5.
    M. TL809-5, FIRST OVERSIZE TL819-5, SECOND OVERSIZE TL839-5.
51. F-4C, F-4D, AND RF-4C.
52. F-4E 66-284 THRU 71-236.
53. F-4C, F-4D, AND F-4E 66-284 THRU 71-236.
54. F-4D 66-8687 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 66-450 THRU 72-156.
55. RF-4.
56. F-4D 66-8733 THRU 66-8825, F-4E 66-305 THRU 69-268, AND RF-4C 66-461 THRU 69-359.
57. F-4C 64-673 THRU 64-928, F-4D 64-929 THRU 66-8732, F-4E 66-284 THRU 66-304, AND RF-4C 64-1038 THRU 66-460.
58. F-4C, F-4D, F-4E 66-284 THRU 67-219, AND RF-4C 63-7742 THRU 67-453.
59. F-4E 67-220 THRU 71-236 AND RF-4C 67-454 THRU 72-156.
60. F-4C, F-4D 64-929 THRU 66-8801, F-4E 66-284 THRU 66-338, AND RF-4C 63-7742 THRU 67-430.
61. F-4D 66-8802 THRU 66-8825, F-4E 66-339 THRU 71-236, AND RF-4C 67-431 THRU 72-156.
62. F-4C, F-4D, F-4E 66-284 THRU 67-212, AND RF-4C.
63. F-4E 67-213 THRU 71-236.
64. F-4C, F-4D, F-4E 66-284 THRU 67-219, AND RF-4C 63-7742 THRU 67-442.
65. F-4E 67-220 THRU 71-236 AND RF-4C 67-443 THRU 72-156.
66. F-4C, F-4D, F-4E 66-284 THRU 67-308, AND RF-4C 63-7742 THRU 67-456.
67. F-4E 67-309 THRU 71-236 AND RF-4C 67-457 THRU 72-156.
68. F-4E 66-284 THRU 67-341.
69. F-4E 67-342 THRU 71-236.
70. F-4E 66-297 THRU 67-387.
71. F-4E 67-388 THRU 71-236.
72. F-4C, F-4D, F-4E 66-284 THRU 68-392, AND RF-4C 63-7742 THRU 68-569.
73. F-4E 68-393 THRU 71-236 AND RF-4C 68-570 THRU 72-156.
74. F-4C, F-4D, F-4E 66-284 THRU 68-404, AND RF-4C 63-7742 THRU 68-573.
75. F-4E 68-405 THRU 71-236 AND RF-4C 68-574 THRU 72-156.
76. F-4C 64-905 THRU 64-928, F-4D 64-949 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 65-850 THRU 72-156.
77. F-4C, F-4D, F-4E 66-284 THRU 69-306, AND RF-4C 63-7742 THRU 69-366.
78. F-4E 69-304 THRU 71-236 AND RF-4C 69-367 THRU 72-156.
79. F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 67-219, AND RF-4C 63-7750 THRU 67-442.
80. F-4C, F-4D, F-4E 66-284 THRU 69-268, AND RF-4C 63-7742 THRU 69-359.
81. F-4E 69-269 THRU 71-236 AND RF-4C 69-360 THRU 72-156.
82. F-4C, F-4D 64-929 THRU 66-8685, F-4E 66-284 THRU 66-295, AND RF-4C 63-7742 THRU 66-450.
83. F-4D 66-8686 THRU 66-8825, F-4E 66-926 THRU 71-236, AND RF-4C 66-451 THRU 72-156.
84. F-4C, F-4D, F-4E 66-284 THRU 68-365, AND RF-4C.
85. F-4D 66-8687 THRU 66-8825, F-4E 66-284 THRU 69-7589, AND RF-4C 66-450 THRU 69-384.
86. F-4E 71-224 THRU 71-236 AND RF-4C 71-248 THRU 72-156.
87. F-4C, F-4D 64-929 THRU 66-7593, AND RF-4C 63-7742 THRU 66-419.
88. F-4D 66-7594 THRU 66-8825, F-4E 66-284 THRU 71-236, AND RF-4C 66-420 THRU 72-156.
89. INSTALL HT309-11 FASTENER IF CLEARANCE PERMITS OR INSTALL NAS1420-12 FASTENER AS ALTERNATE.

MAJOR CHANGE

4C-3-1-2-(29-16)S

Figure 2-37. Torque Box Skin and Structural Fastener Index-F-4C, F-4E 66-284 thru 66-286 and 66-288 thru 66-295 and RF-4C; also F-4E 66-287, 66-296 thru 71-236 before TO 1F-4E-566 (Sheet 14B of 14)

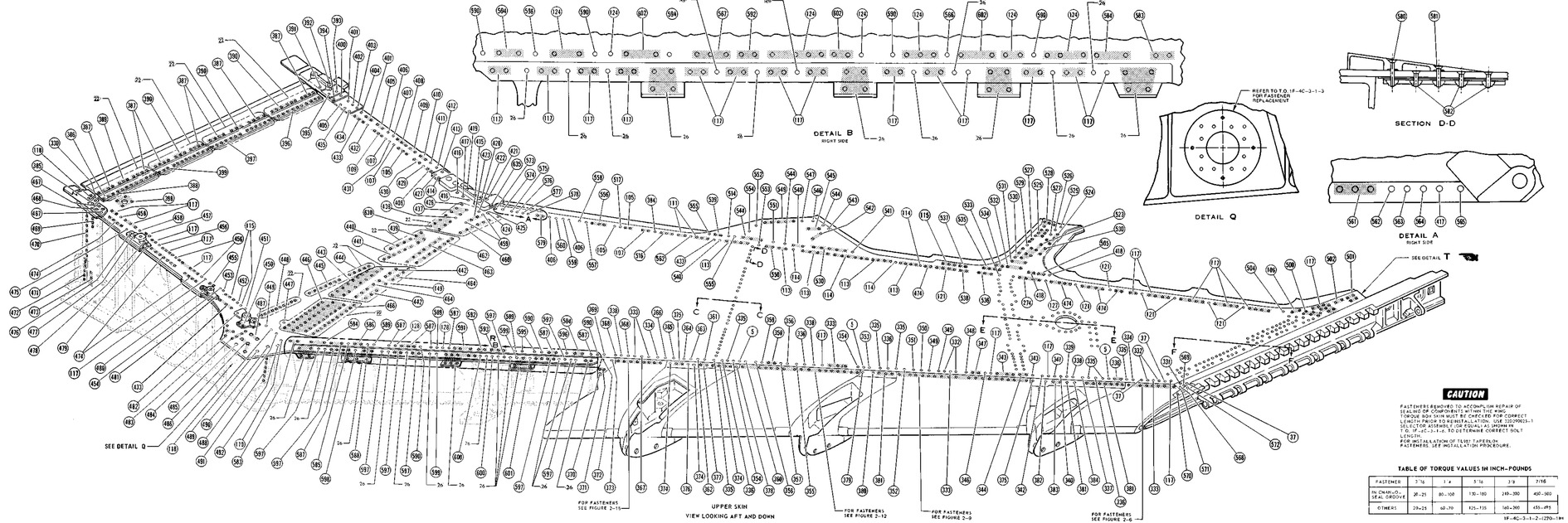
Notes

(90) IF RIB, 32-11416 MATERIAL IS 7075-T7352 INSTALL STANDARD FASTENER, IF MATERIAL IS 7079-T6 INSTALL STEPPED FASTENER.
(91) RADIUS BLOCK.
(92) BOLT STOP.
(93) MAXIMUM UNSHIMMED GAP SHALL NOT EXCEED 0.008. MAXIMUM SHIM THICKNESS SHALL NOT EXCEED +.06-.09 FOR +.03-.06 NOMINAL GAP. MAXIMUM LAMINATED SHIM SHALL NOT EXCEED +.031 FOR +.03-.06 NOMINAL GAP.
(94) USE WASHER AS REQUIRED TO PROVIDE OPTIMUM FASTENER GRIP, AN960-D516, AN960D516L, AN960D716, AN960D716L, USE 32G11401-423 OR 32G11401-425 IF BINDING OCCURS BETWEEN FASTENER SHANKS AND STANDARD WASHERS.
(95) THIS FASTENER INCORPORATES AN NAS1081-08A4 SET SCREW IN HEAD OF BOLT.
(96) F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4C 63-7742 THRU 65-838 BEFORE TO 1F-4-991; ALSO F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, AND RF-4C 65-839 THRU 69-359.
(97) F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4C 63-7742 THRU 65-838 AFTER TO 1F-4-991.
(98) F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, RF-4C 63-7742 THRU 65-838 BEFORE TO 1F-4-991, AND F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566; ALSO F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C 65-839 THRU 72-156.
(99) F-4C 63-7407 THRU 64-928, F-4D 64-929 THRU 66-8825, AND RF-4C 63-7742 THRU 66-450.
(100) RF-4C 66-451 THRU 71-252.
(101) SLEEVE.
(102) IF FUME SEAL IS DAMAGED WHEN REMOVING THESE TWO FASTENERS, REPAIR PER FIGURE 2-40A.
(103) F-4E 66-284 THRU 66-286, 66-288 THRU 66-295, F-4C, F-4D, AND RF-4C AFTER TO 1F-4-1123.
(104) RF-4C 71-253 THRU 72-156 AFTER TO 1F-4-1123.
(105) RF-4C 63-7742 THRU 71-252, F-4C, AND F-4D AFTER TO 1F-4-1123.
(106) F-4E 66-284 THRU 66-286, 66-288 THRU 66-295, F-4C, AND F-4D AFTER TO 1F-4-1100.
(107) FASTENER USED WITH 32-11127 OR 32-11352 PYLON FITTING INSTALLED.
(108) FASTENER USED WITH AF66H32436 PYLON FITTING ASSEMBLY INSTALLED.
(109) F-4C 63-7407 THRU 63-7526 AND RF-4C 63-7740 THRU 66-7749 AFTER TO 1F-4-1123.
(110) F-4C 63-7527 THRU 64-928, F-4D, RF-4C 63-7750 THRU 72-156 AND F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AFTER TO 1F-4-1123.
(111) RF-4C 67-451, 67-453, 68-549, 68-577, 68-587, 68-593, 69-360, 69-361, 69-364 THRU 69-368, 69-371 THRU 69-375. AFTER TO 1F-4[R]C-671.
(112) FLUSH IN 32-11422 SKIN.
(113) SEAL WITH MIL-S-8802 PER TO 1F-4C-3-1-6.
(114) F-4D 66-8734, RF-4C 66-397.
(115) NEXT OVERSIZE FASTENER IS 66117H-5 AND SECOND OVERSIZE IS HT307-5.
(116) RF-4C 68-587.
(117) NEXT OVERSIZE FASTENER IS HT307-5 AND SECOND OVERSIZE IS HT308-5.
(118) FILL COUNTERSINK CAVITY ON TOP SURFACE OF FASTENER HEAD WITH TYPE II EPOXY FILLER. SEE TO 1F-4C-3-1-6.
(119) NEXT OVERSIZE FASTENER IS TL816A7 AND SECOND OVERSIZE IS TL846A7.
(120) F-4D 66-8734, RF-4C 66-397.
(121) DELETED
(122) DELETED
(123) RF-4C 68-587.
(124) F-4D 66-8734, RF-4C 67-397.
(125) FASTENER MUST BE INSTALLED PRIOR TO INSTALLATION OF 32G971112-7 DOUBLER ASSEMBLY.
(126) TORQUE BOLT 70-80 INCH-POUNDS, EXCEPT IN CHANNEL SEAL GROOVE TORQUE 80-100 INCH-POUNDS.
(127) 53G971112-3 BUSHING AND MS21209F1-20 HELICAL COIL INSERT ARE COMPONENTS OF 32G971112-7 DOUBLER ASSEMBLY.
(128) TORQUE BOLT 125-135 INCH-POUNDS, EXCEPT IN CHANNEL SEAL GROOVE TORQUE BOLT 130-180 INCH-POUNDS.
(129) INSTALL TAPER-LOK FASTENER WET WITH MIL-S-8802 CLASS A SEALANT PER PS19236. DO TAPER-LOK BOLT INSTALLATION, CRACK INSPECTION AND REPAIR PROCEDURE PER PS19236.
(130) RETROFIT FASTENER IS TL936-5-20-57 SEALANT INJECTION TAPERLOC FOR FUTURE REPLACEMENT.
(131) RETROFIT FASTENER IS TL936-5-21-59 SEALANT INJECTION TAPERLOC FOR FUTURE REPLACEMENT.
(132) RETROFIT FASTENER IS TL936-5-18-64 SEALANT INJECTION TAPERLOC FOR FUTURE REPLACEMENT.

MAJOR CHANGE

4C-3-1-2 (29-17)S

Figure 2-37. Torque Box Skin and Structural Fastener Index-F-4C, F-4E 66-284 thru 66-286 and 66-288 thru 66-295 and RF-4C; also F-4E 66-287, 66-296 thru 71-236 before TO 1F-4E-566
(Sheet 14C of 14)



CAUTION

FASTENERS REMOVED TO ACCOMPLISH REPAIR OF SEALING OF COMPONENTS WITHIN THIS AREA, TORQUE BOX SKIN MUST BE CHECKED FOR CORRECT LENGTH PRIOR TO REINSTALLATION. USE 2022900(3)-1 SELECTOR ASSEMBLY (OR EQUAL) AS SHOWN IN T.O. 1F-4C-3-1-4, TO DETERMINE CORRECT BOLT LENGTH.
FOR INSTALLATION OF TELSET TAPERLOK FASTENERS, SEE INSTALLATION PROCEDURE.

TABLE OF TORQUE VALUES IN INCH-POUNDS

FASTENER	3/16	1/4	5/16	3/8	7/16
MACHINE-SEAL GROOVE	20-25	80-100	130-180	210-300	400-500
OTHERS	20+25	60-70	125-135	160-200	455-495

1F-4C-3-1-2-1270-18H

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 1 of 17)

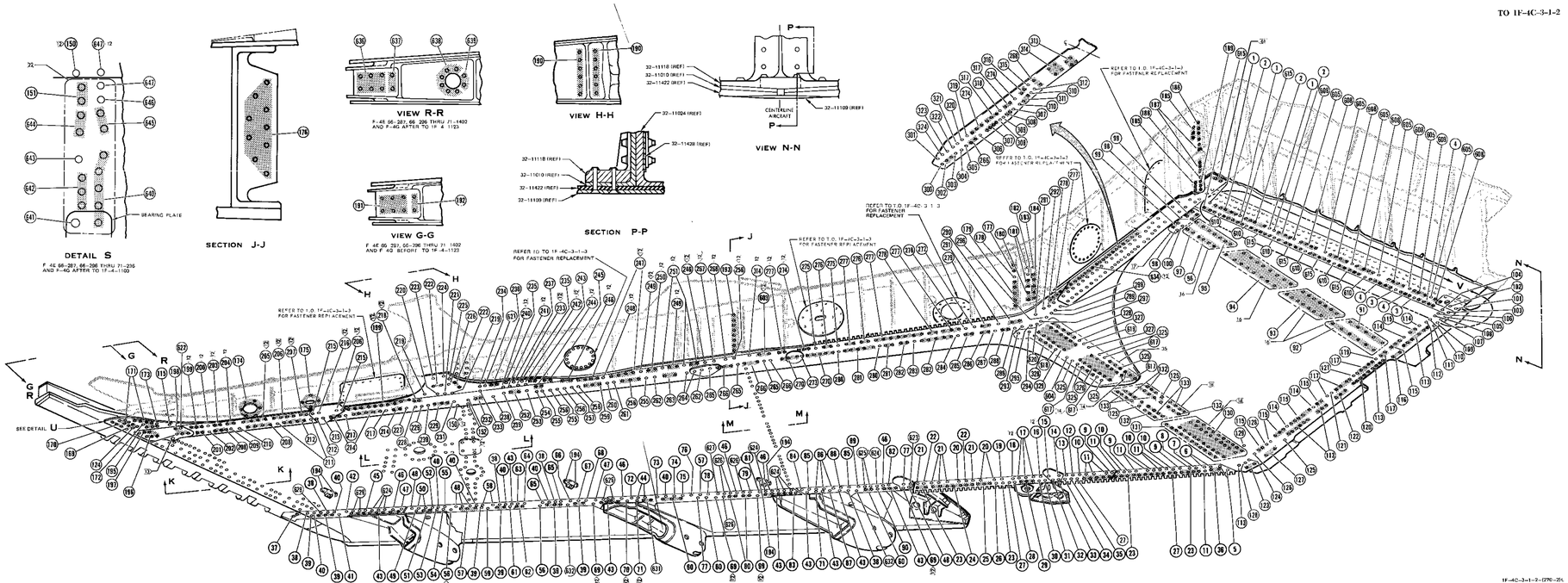
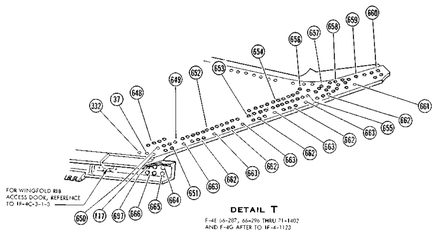
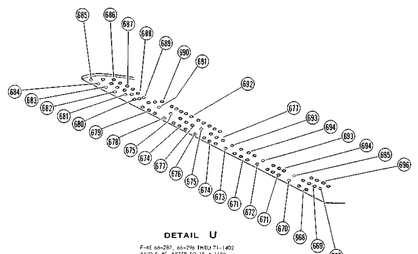


Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 2 of 17)

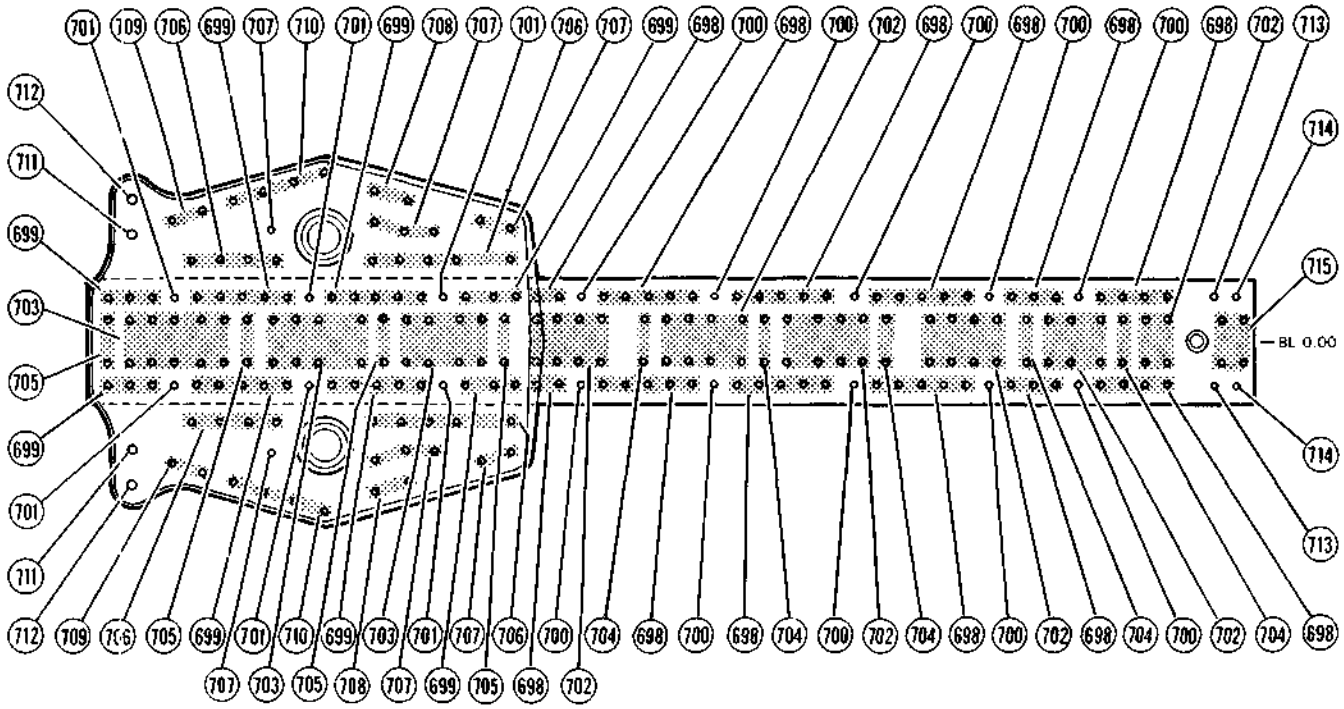
1F-4C-3-1-2-1276-21A





1F-4C-3-1-2-2570-2101

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 2A of 17)

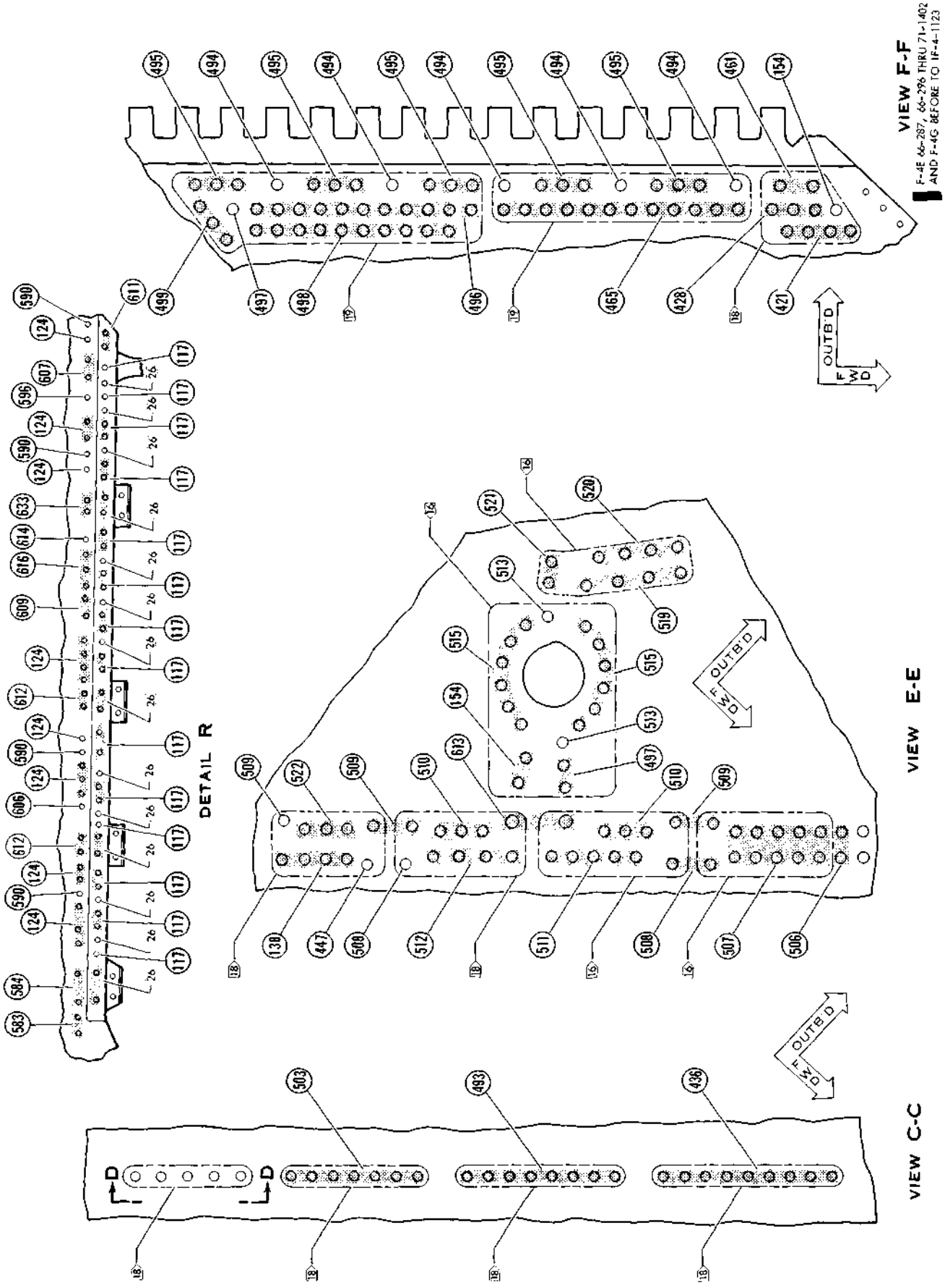


DETAIL V 67

MAJOR CHANGE

4C-3-1-2-(270-2.2)L

Figure 2-38. Torque Box Skin and Structural Fastener Index-F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 2B of 17)



4C-3-1-2-(270-3)H

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 3 of 17)

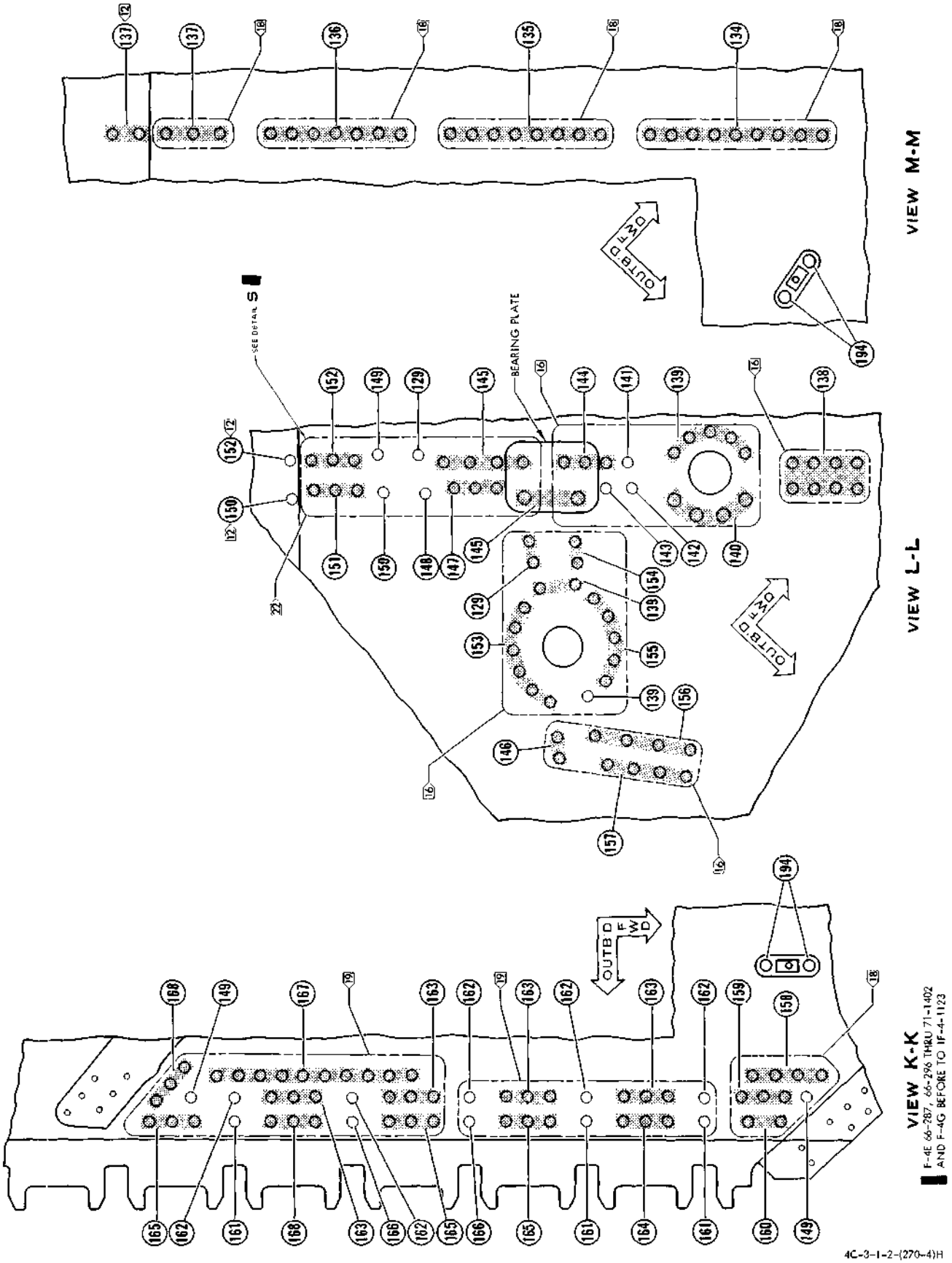
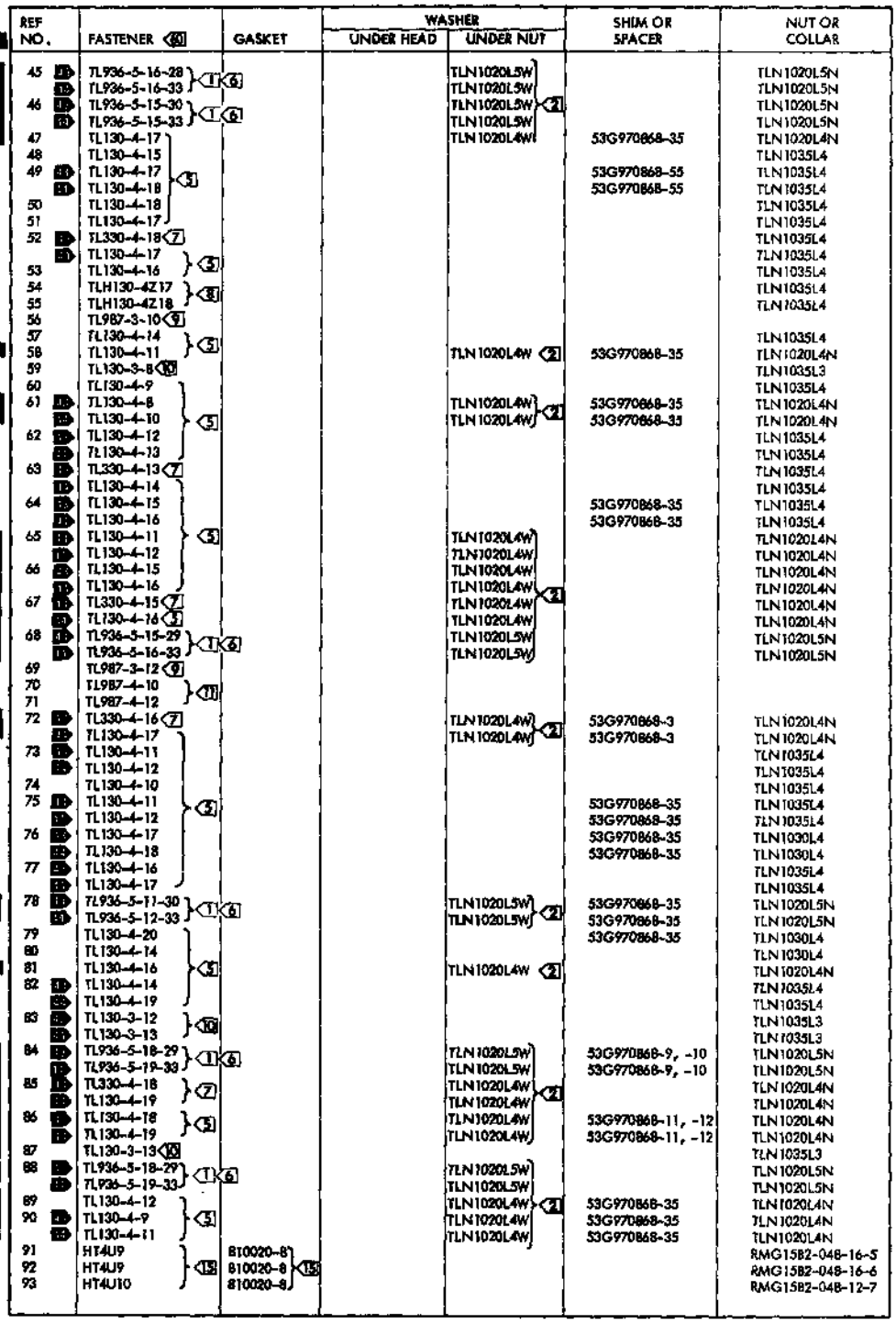


Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 4 of 17)

REF NO.	FASTENER ⟨60⟩	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
1	36 TL975-5-12-14					TLN1000L5
	37 TL814-5-12-14 ⟨74⟩					TLN1000L5
	38 TL815-5-12-38 ⟨74⟩					TLN1000L5
	39 TL936-5-12-38					TLN1000L5
2	40 TL816-5Z12 ⟨74⟩					TLN1000L5
	41 TL330-4-12					TLN1030L4
3	36 TL975-5-12-14			53-07798-5		TLN1000L5
	37 TL814-5-12-14 ⟨74⟩			53-07798-5		TLN1000L5
	38 TL815-5-12-38 ⟨74⟩			53-07798-5		TLN1000L5
	39 TL936-5-12-38			53-07798-5		TLN1000L5
4	36 TL816-5Z12 ⟨74⟩			53-07798-5		TLN1000L5
	37 TL813-5Z12 ⟨74⟩			53-07798-5		TLN1000L5
	36 TL311-5-12			53-07798-5		TLN1000L5
	39 TL100-5-11					TLN1000L5
5	NAS1704T14				2935-04 ⟨2⟩	RM52LH2935-048
6	TL130-4-15				53G970868-63	TLN1035L4
7	TL130-4-13 ⟨74⟩				53G970868-63	TLN1035L4
8	TL130-4-14 ⟨74⟩				53G970868-65	TLN1035L4
9	TL330-4-11					TLN1035L4
10	TL936-5-11-30 ⟨1⟩			TLN1020L5W ⟨2⟩		TLN1020L5N
11	TL130-4-11					TLN1035L4
12	TL130-4-17 ⟨3⟩					TLN1035L4
	TL330-4-11 ⟨4⟩					TLN1035L4
13	TL130-4-17 ⟨3⟩					TLN1035L4
	TL130-4-11 ⟨4⟩					TLN1035L4
14	55 TL130-4-17 ⟨3⟩					TLN1035L4
	50 TL130-4-11 ⟨4⟩ ⟨5⟩					TLN1035L4
	56 TL130-4-15 ⟨4⟩					TLN1035L4
15	42 TL100-5-19 ⟨5⟩			AN960D516		TLN1000L5
	43 TL330-4-14 ⟨7⟩			TLN1020L4W ⟨2⟩		TLN1020L4N
16	44 TL100-5-19			AN960D516		TLN1000L5
	45 TL936-5-15-30 ⟨1⟩			TLN1020L5W ⟨2⟩		TLN1020L5N
17	TL987-4-28 ⟨11⟩					
18	42 TL130-4-16 ⟨5⟩			AN960D416		TLN1030L4
	43 TL330-4-16 ⟨7⟩			TLN1020L4W ⟨2⟩		TLN1020L4N
19	TL936-5-12-30 ⟨1⟩			TLN1020L5W ⟨2⟩	53G970868-3	TLN1020L5N
20	TL130-4-12					TL1035L4
21	49 TL130-4-12 ⟨5⟩					TLN1035L4
	55 TL330-4-12 ⟨7⟩					TLN1035L4
22	TL936-5-12-30 ⟨1⟩			TLN1020L5W ⟨2⟩		TLN1020L5N
23	TL130-4-9					TLN1035L4
24	TL130-4-8					TLN1035L4
25	TL130-4-11 ⟨3⟩					TLN1035L4
	TL130-4-8 ⟨4⟩					TLN1035L4
26	TL130-4-11 ⟨3⟩					TLN1035L4
	TL130-4-9 ⟨4⟩					TLN1035L4
27	TL130-4-10					TLN1035L4
28	TL130-4-18				32G11565-3	TLN1035L4
29	TL130-4-37			TLN1020L4W ⟨2⟩	53G970868-27	TLN1020L4N
30	TL130-4-18				32G11565-3	TLN1035L4
31	48 TL130-4-12			AN960D416		TLN1000L4
	43 TL130-4-12			TLN1020L4W ⟨2⟩		TLN1020L4N
32	49 TL130-4-9					TLN1035L4
	50 TL130-4-13 ⟨5⟩					TLN1035L4
33	50 TL130-4-18 ⟨3⟩					TLN1035L4
	51 TL130-4-9 ⟨4⟩					TLN1035L4
	50 TL130-4-13 ⟨4⟩					TLN1035L4
34	TL130-4-15 ⟨3⟩					TLN1035L4
	TL130-4-9 ⟨4⟩					TLN1035L4
35	TL130-4-15 ⟨3⟩					TLN1035L4
	TL130-4-10 ⟨4⟩					TLN1035L4
36	NAS1704T18				2935-04 ⟨2⟩	RM52LH2935-048
37	NAS1703T11				2935-0 ⟨2⟩	RM52LH2935-02
38	50 TL130-4-9					TLN1035L4
	52 TL130-4-10 ⟨5⟩					TLN1035L4
39	53 TL130-4-8					TLN1035L4
	54 TL130-4-9					TLN1035L4
40	48 TL936-5-11-30 ⟨1⟩ ⟨6⟩			TLN1020L5W		TLN1020L5N
	41 TL936-5-11-33			TLN1020L5W		TLN1020L5N
41	TL130-4-10 ⟨5⟩			TLN1020L4W ⟨2⟩	53G970868-35	TLN1020L4N
42	43 TL330-4-18 ⟨7⟩			TLN1020L4W	53G970868-35	TLN1020L4N
	44 TL130-4-18 ⟨5⟩			TLN1020L4W	53G970868-35	TLN1020L4N
43	49 TL130-4-13 ⟨5⟩					TLN1035L4
	54 TL130-4-14					TLN1035L4
44	51 TL330-4-14 ⟨7⟩					TLN1035L4
	44 TL130-4-16 ⟨5⟩					TLN1035L4

4C-3-1-2-(270-5)L

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 5 of 17)



REF NO.	FASTENER (20)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
45	TL936-5-16-28 (1)	(6)		TLN1020L5W		TLN1020L5N
	TL936-5-16-33 (1)	(6)		TLN1020L5W		TLN1020L5N
46	TL936-5-15-30 (1)	(6)		TLN1020L5W (2)		TLN1020L5N
	TL936-5-15-33 (1)	(6)		TLN1020L5W		TLN1020L5N
47	TL130-4-17			TLN1020L4W	53G970868-35	TLN1020L4N
48	TL130-4-15					TLN1035L4
49	TL130-4-17 (3)				53G970868-55	TLN1035L4
	TL130-4-18 (3)				53G970868-55	TLN1035L4
50	TL130-4-18					TLN1035L4
51	TL130-4-17					TLN1035L4
52	TL330-4-18 (7)					TLN1035L4
	TL130-4-17 (5)					TLN1035L4
53	TL130-4-16					TLN1035L4
54	TLH130-4Z17 (8)					TLN1035L4
55	TLH130-4Z18					TLN1035L4
56	TL987-3-10 (9)					
57	TL130-4-14					TLN1035L4
58	TL130-4-11 (5)			TLN1020L4W (2)	53G970868-35	TLN1020L4N
59	TL130-3-8 (10)					TLN1035L3
60	TL130-4-9					TLN1035L4
61	TL130-4-8			TLN1020L4W	53G970868-35	TLN1020L4N
	TL130-4-10 (5)			TLN1020L4W (2)	53G970868-35	TLN1020L4N
62	TL130-4-12					TLN1035L4
	TL130-4-13					TLN1035L4
63	TL330-4-13 (7)					TLN1035L4
	TL130-4-14					TLN1035L4
64	TL130-4-15				53G970868-35	TLN1035L4
	TL130-4-16				53G970868-35	TLN1035L4
65	TL130-4-11 (5)			TLN1020L4W		TLN1020L4N
	TL130-4-12			TLN1020L4W		TLN1020L4N
66	TL130-4-15			TLN1020L4W		TLN1020L4N
	TL130-4-16			TLN1020L4W (2)		TLN1020L4N
67	TL330-4-15 (7)			TLN1020L4W		TLN1020L4N
	TL130-4-16 (5)			TLN1020L4W		TLN1020L4N
68	TL936-5-15-29 (1)	(6)		TLN1020L5W		TLN1020L5N
	TL936-5-16-33 (1)	(6)		TLN1020L5W		TLN1020L5N
69	TL987-3-12 (9)					
70	TL987-4-10 (11)					
71	TL987-4-12					
72	TL330-4-16 (7)			TLN1020L4W	53G970868-3	TLN1020L4N
	TL130-4-17			TLN1020L4W (2)	53G970868-3	TLN1020L4N
73	TL130-4-11					TLN1035L4
	TL130-4-12					TLN1035L4
74	TL130-4-10					TLN1035L4
75	TL130-4-11 (5)				53G970868-35	TLN1035L4
	TL130-4-12				53G970868-35	TLN1035L4
76	TL130-4-17				53G970868-35	TLN1030L4
	TL130-4-18				53G970868-35	TLN1030L4
77	TL130-4-16					TLN1035L4
	TL130-4-17					TLN1035L4
78	TL936-5-11-30 (1)	(6)		TLN1020L5W	53G970868-35	TLN1020L5N
	TL936-5-12-33 (1)	(6)		TLN1020L5W (2)	53G970868-35	TLN1020L5N
79	TL130-4-20				53G970868-35	TLN1030L4
80	TL130-4-14					TLN1030L4
81	TL130-4-16 (5)			TLN1020L4W (2)		TLN1020L4N
82	TL130-4-14					TLN1035L4
	TL130-4-19					TLN1035L4
83	TL130-3-12 (10)					TLN1035L3
	TL130-3-13 (10)					TLN1035L3
84	TL936-5-18-29 (1)	(6)		TLN1020L5W	53G970868-9, -10	TLN1020L5N
	TL936-5-19-33 (1)	(6)		TLN1020L5W	53G970868-9, -10	TLN1020L5N
85	TL330-4-18 (7)			TLN1020L4W (2)		TLN1020L4N
	TL130-4-19			TLN1020L4W		TLN1020L4N
86	TL130-4-18 (5)			TLN1020L4W	53G970868-11, -12	TLN1020L4N
	TL130-4-19			TLN1020L4W	53G970868-11, -12	TLN1020L4N
87	TL130-3-13 (10)					TLN1035L3
88	TL936-5-18-29 (1)	(6)		TLN1020L5W		TLN1020L5N
	TL936-5-19-33 (1)	(6)		TLN1020L5W		TLN1020L5N
89	TL130-4-12			TLN1020L4W (2)	53G970868-35	TLN1020L4N
90	TL130-4-9 (5)			TLN1020L4W	53G970868-35	TLN1020L4N
	TL130-4-11 (5)			TLN1020L4W	53G970868-35	TLN1020L4N
91	HT4U9	B10020-8 (15)				RMG15B2-048-16-5
92	HT4U9 (12)	B10020-8 (15)				RMG15B2-048-16-6
93	HT4U10	B10020-8 (15)				RMG15B2-048-12-7

4C-3-1-2-(270-6)C

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 6 of 17)

REF NO.	FASTENER	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
94	HT4U12	810020-8				F1934-4-2
95	HT4U13	810020-8				RMG1582-048-12-7
96	HT4U13	810020-8				RMG1582-048-12-4
97	HT4U15 (15)	810020-8 (15)				MS21059L4
98	HT7U16	810020-14		AN960-716		MS21045L7
99	HT7U15	810020-14		AN960-716		MS21045L7
100	HT7U17	810020-14		AN960-716		MS21045L7
101	NAS1418-25					NAS1080C8
102	NAS1418-24					NAS1080C8
103	NAS1418-20					NAS1080C8
104	NAS584-18T			AN960D416	2935-04 (2)	RM52LH2935-048
105	NAS1438-16					NAS1080C8
106	NAS1418-16					NAS1080C8
107	NAS1438-15					NAS1080C8
108	NAS1418-15					NAS1080C8
109	NAS1438-14					NAS1080C8
110	NAS1418-14					NAS1080C8
111	NAS1438-13					NAS1080C8
112	NAS1418-13					NAS1080C8
113	NAS1438-11					NAS1080C8
114	NAS584-11T				2935-04 (2)	RM52LH2935-048
115	NAS1419-11					NAS1080C8
116	NAS584-14T				2935-04 (2)	RM52LH2935-048
117	NAS1418-10					NAS1080C8
118	NAS1418-19					NAS1080C8
119	NAS584-11T			AN960D416	2935-04 (2)	RM52LH2935-048
120	NAS1438-10					NAS1080C8
121	NAS584-10T				2935-04 (2)	RM52LH2935-048
122	NAS525-8-10					NAS528A8
123	66117H8-15			AN960D816	53-11066-7,-8	70938-8
124	NAS1418-12					NAS1080C8
125	HT4U11 (15)	810020-8 (15)				F1934-4-2
126	NAS334CFA12			AN960D416		MS21042-4
127	66117H8-15			AN960D816	32-11284-3	70938-8
128	NAS584-13T				2935-04 (2)	RM52LH2935-048
129	HT4U10	810020-8				F1934-4-2
130	HT4U9	810020-8				RMG1582-048-10-10
131	HT4U9	810020-8				RMG1582-048-10-11
132	HT4U11	810020-8				RMG1582-048-10-3
133	HT4U11 (15)	810020-8 (15)				RMG1582-048-10-4
134	HT4U5	810020-8				RMG1582-048-8-9L
135	HT4U7	810020-8				RMG1582-048-8-8L
136	HT4U11	810020-8				RMG1582-048-8-7L
137	HT4U14	810020-8				RMG1582-048-10-5L
138	HT4U8	810020-8				RMG1582-048-8-4
139	NAS584-10T					F1934-4-2
140	NAS585-11T					F1967-5
141	HT4U8	810020-8				RMG1582-048-10-4
142	HT4U8	810020-8				RMG1582-048-10-2L
143	HT4U9	810020-8				RMG1582-048-10-2L
144	HT4U9	810020-8				RMG1582-048-10-4
145	HT5U13	810020-10				F1967-5
146	HT4U-9 (15)	810020-8 (15)				RMG1582-048-8-2L
147	HT4U9	810020-8				RMG1582-048-8-3
148	HT4U10	810020-8				F1967-4
149	HT4U12	810020-8				F1934-4-2
150	HT4U13	810020-8				F1967-4
151	HT4U13	810020-8				RMG1588-048-8-3
152	HT4U12	810020-8				RMG158-048-8-4
153	NAS584-10T					RG1000-048-8-24-6
154	HT4U10 (15)	810020-8 (15)				F1934-4-2
155	NAS584-10T					RG1000-048-8-24-5
156	HT4U9	810020-8				RMG1582-048-12-4
157	HT4U10 (15)	810020-8 (15)				RMG1582-048-10-4
158	HT4U11	810020-8				RMG1582-048-8-4
159	HT4U12	810020-8				RMG1582-048-8-3
160	NAS584-11T				32-11401-193,-194	MS21059L4
161	NAS584-13T				32-11401-251	MS21059L4
162	HT4U13 (15)	810020-8 (15)			32-11401-251	MS21059L4
163	HT4U12	810020-8			32-11401-187	MS21063L4-8
164	NAS584-12T				32-11401-187	MS21063L4-8
165 (57)	NAS584-12T				32-11401-187	MS21063L4-8
(58)	NAS584-13T				32-11401-187	MS21063L4-8
166 (57)	NAS584-13T				32-11401-251	MS21059L4
(58)	NAS584-14T				32-11401-251	MS21059L4
167	HT4U11 (15)	810020-8 (15)				RMG1582-048-8-10

4C-3-1-2-(270-7)E

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 7 of 17)

REF NO.	FASTENER (60)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
168 (67)	NAS584-11T				32-11401-189	MS21063L4-8
(68)	NAS584-13T				32-11401-189	MS21063L4-8
169	NAS1420-12					NAS1080C10
170	NAS1420-11					NAS1080C10
171	NAS1418-8					NAS1080C8
172	NAS1416-8					NAS1080C6
173	NAS1416-14					NAS1080C6
174	AN4H13A	NAS1523AA4F	AN960D416			MS21059L4
175	AN4H7A	NAS1523AA4F	AN960D416			MS21059L4
176	32-111557-7 (20)		AN960D616	AN960D616		MS21042-5
177	HT6U19 (15)	810020-12 (15)			NAS463DD616L	MS21059L6
					4M30D616-125	
					32-11401-217	
					32-11401-221	
178	HT6U18 (15)	810020-12 (15)			NAS463DD616	MS21059L6
					4M30D616-125	
					32-11401-217	
					32-11401-221	
179	HT6U16 (15)	810020-12 (15)			NAS463DD616M	MS21059L6
					4M30D616-125	
					32-11401-217	
					32-11401-221	
180	HT6U14 (15)	810020-12 (15)			NAS463DD616	MS21059L6
					4M30D616-125	
					32-11401-217	
					32-11401-221	
181	HT6U15 (15)	810020-12 (15)			NAS463DD616L	MS21059L6
					4M30D616-125	
					32-11401-217	
					32-11401-221	
182	HT6U17 (15)	810020-12 (15)			NAS463DD616M	MS21059L6
					4M30D616-125	
					32-11401-217	
					32-11401-221	
183	HT6U12 (15)	810020-12 (15)			NAS463DD616M	MS21059L6
					4M30D616-125	
					32-11401-215	
					32-11401-219	
184	HT6U14 (15)	810020-12 (15)			NAS463DD616M	MS21059L6
					4M30D616-125	
					32-11401-215	
					32-11401-219	
185	NAS584-13T					RMG1582-048-10-3
186	NAS584-15T					RMG1582-048-10-3
187	NAS1304-10					RMG1582-048-10-3
188	NAS1304-10					F1934-4-2
189	NAS584-14T					RMG1582-048-10-3
190	NAS1304-9	NAS1523AA4F	AN960D416			RMG1582-048-8-8
191	NAS1305-10		AN960D516		32-11401-191	MS21063L5-12
192	NAS1304-11		AN960D416			F1972-4-2
193	NAS1304-9	NAS1523AA4F	AN960D416			RMG1582-048-8-8
194	NAS464P3A6	NAS1523AA3F	AN960-10L			BN566-1032-3
195	HT308-4-19				32G11401-143, -145	RM52LH2935-048
					2935-04 (2)	
196	HT308-4-20				32G11401-143, -145	RM52LH2935-048
					2935-04 (2)	
197	HT308-4-21				32G11401-143, -145	RM52LH2935-048
					2935-04 (2)	
198	HT308-4-14				2935-04 (2)	RM52LH2935-048
199	TL100-5-17			TLN1020L5W (2)		TLN1020L5N
200	TL100-5-15			TLN1020L5W		TLN1020L5N
201	HL219-8-13			HL382-8PBW		HL382-8A
202	NAS1604T12				2935-04 (2)	RM52LH2935-048
203	TL100-5-10			TLN1020L5W		TLN1020L5N
204	TL100-5-11			TLN1020L5W	53G970868-37, -38	TLN1020L5N
205	TL100-5-11			TLN1020L5W (2)	53G970868-39	TLN1020L5N
206	TL100-5-11			TLN1020L5W		TLN1020L5N
207	TL100-5-13			TLN1020L5W		TLN1020L5N
208	HL219-8-12			HL382-8PBW		HL382-8A
209	TL130-4-12			TLN1035L4W		TLN1035L4N
210	TL936-5-13-44 (1)			TLN1020L5W		TLN1020L5N
211	TL936-5-14-50 (1)			TLN1020L5W (2)		TLN1020L5N
212	TL130-4-14			TLN1035L4W		TLN1035L4N
213	TL130-4-17			TLN1035L4W	32G11002-47	TLN1035L4N
214	TL130-4-15			TLN1035L4W		TLN1035L4N

4C-3-1-2-(270-B)E

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 8 of 17)

REF NO.	FASTENER (60)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
215	TL200-5-17			TLN1020L5W		TLN1035L5N
216	TL100-5-12			TLN1020L5W (2)		TLN1035L5N
217	TL936-5-15-60 (1)			TLN1020L5W		TLN1020L5N
218	TL330-3-12			TLN1035L3W		TLN1035L3N
219	HL219-16-21			HL382-16 PBW		HL382-16A
220	HL219-16-22			HL382-16 PBW		HL382-16A
221	HL219-16-23			HL382-16 PBW		HL382-16A
222	NAS588-21T				2935-08 (2)	12NE2935-080
223	NAS588-15T				2935-08 (2)	12NE2935-080
224	NAS588-14T			AN960D816		NAS1022A8
225	NAS588-18T				2935-08 (2)	12NE2935-080
226	NAS588-23T			AN960D816		NAS1022A8
227	TL130-4-16			TLN1035L4W		TLN1035L4N
228	TL130-4-17			TLN1035L4W		TLN1035L4N
229	HL219-8-17			HL382-8 PBW		HL382-8A
230	NAS1604T17				2935-04 (2)	RM52LH2935-048
231	NAS1605T20				32G11346-3 2935-05 (2)	RM52LH2935-054
232	NAS1605T21			32G11334-3, -4	32G11334-3, -4 2935-05 (2)	RM52LH2935-054
233	NAS585-16T			AN960D516		MS21042-5
234	TL300-6-14			TLN1020L6W		TLN1020L6N
235	TL300-6-16			TLN1020L6W		TLN1020L6N
236	TL100-6-17			TLN1020L6W		TLN1020L6N
237	TL300-6-20			TLN1020L6W		TLN1020L6N
238	NAS1605T36				2935-05 (2)	RM52LH2935-054
239	NAS1605T22				32G11330-3, -4 2935-05 (2)	RM52LH2935-054
240	NAS585-17T			AN960D516	32G11330-3, -4	MS21042-5
241	NAS585-14T			AN960D516		MS21042-5
242	NAS585-15T			AN960D516		MS21042-5
243	TL310-4-21			TLN1020L4W		TLN1020L4N
244	TL100-4-16			TLN1020L4W		TLN1020L4N
245	TL100-4-17			TLN1020-4W		TLN1020L4N
246	TL100-4-18			TLN1020-4W		TLN1020L4N
247	TL100-4-19			TLN1020L4W (2)		TLN1020-4N
248	TL100-4-21			TLN1020L4W	32-11401-485	TLN1020-4N
249	TL100-4-22			TLN1020L4W		TLN1020-4N
250	TL100-4-23			TLN1020L4W		TLN1020-4N
251	TL100-4-21			TLN1020L4W		TLN1020-4N
252	NAS1605T21				53G97086B-43, -44 2935-05 (2)	RM52LH2935-054
253	NAS1605T19				2935-05 (2)	RM52LH2935-054
254	TL110-4-21			TLN1020L4W		TLN1020L4N
255	TL110-4-22			TLN1020L4W		TLN1020L4N
256	TL110-4-23			TLN1020L4W		TLN1020L4N
257	TL936-5-24-85 (1)			TLN1020L5W		TLN1020L5N
258	TL110-4-24			TLN1020L4W		TLN1020L4N
259	TL110-4-25			TLN1020L4W (2)		TLN1020L4N
260	TL936-5-25-87 (1)			TLN1020L5W	32G11401-131	TLN1020L5N
261	TL110-4-25			TLN1020L4W	32G11401-131	TLN1020L4N
262	TL936-23-92 (1)			TLN1020L5W		TLN1020L5N
263	TL110-4-24			TLN1020L4W	32G11401-131	TLN1020L5N
264	TL110-4-23			TLN1020L4W	32G11401-139	TLN1020L5N
265	NAS1604T22				2935-04 (2)	RM52LH2935-048
266	HL219-8-22			HL382-8 PBW		HL382-8A
267	HT308-7-21					28FT720
268	HT308-7-23					28FT720
269	HT308-7-25					28FT720
270	HL219-8-23			HL382-8 PBW		HL382-8A
271	HT308-7-29					28FT720
272	HL219-10-30			HL382-10 PBW		HL382-10A
273	NAS1604T23				2935-04 (2)	RM52LH2935-048
274	HL219-10-19			HL382-10 PBW		HL382-10A
275	HL219-10-26			HL382-10 PBW		HL382-10A
276	HL219-10-27			HL382-10 PBW		HL382-10A
277	HL219-10-28			HL382-10 PBW		HL382-10A
278	HL219-10-29			HL382-10 PBW		HL382-10A
279	HL219-10-31			HL382-10 PBW		HL382-10A
280	NAS1604T24				2935-04 (2)	RM52LH2935-048
281	HL219-8-24			HL382-8 PBW		HL382-8A
282	HL219-8-25			HL382-8 PBW		HL382-8A
283	NAS1604T25				2935-04 (2)	RM52LH2935-048
284	NAS1604T26				2935-04 (2)	RM52LH2935-048
285	HL219-8-26			HL382-8 PBW		HL382-8A
286	HL219-8-27			HL382-8 PBW		HL382-8A
287	NAS1604T28				2935-04 (2)	RM52LH2935-048

4C-3-1-2-(270-9)H

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 9 of 17)

REF NO.	FASTENER (60)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
288	HL219-8-29			HL382-8 PBW		HL382-8A
289	HL219-8-30			HL382-8 PBW		HL382-8A
290	NAS1608T36			AN960D816		NAS1022A8
291	NAS1608T34			AN960D816		NAS1022A8
292	HL219-12-35			HL382-12 PBW		HL382-12A
293	HT51U25 (34) (15)	810020-101 (15)			4M30C516-125	NS103072-054
294	HT51U23	810020-10				F1934-5-2
295	NAS1604T31				2935-04 (2)	RM52LH2935-048
296	HL219-8-31			HL382-8 PBW		HL382-8A
297	HL219-8-35			HL382-8 PBW		HL382-8A
298	NAS1604T29				2935-04 (2)	RM52LH2935-048
299	HL219-8-32			HL382-8 PBW		HL382-8A
300	HL734-8-32			HL776-8 PBW		HL776-8A
301	HL734-10-27			HL776-10 PBW		HL776-10A
302	HL734-8-27			HL776-8 PBW		HL776-8A
303	HL734-8-25			HL776-8 PBW		HL776-8A
304	HL734-8-24			HL776-8 PBW		HL776-8A
305	HL734-8-23			HL776-8 PBW		HL776-8A
306	HL219-8-21			HL382-8 PBW		HL382-8A
307	HL219-8-19			HL382-8 PBW		HL382-8A
308	HL219-8-18			HL382-8 PBW		HL382-8A
309	NAS1604T18				2935-04 (2)	RM52LH2935-048
310	NAS1604T21				2935-04	RM52LH2935-048
311	HL219-8-20			HL382-8 PBW		HL382-8A
312	HT308-7-22					28FT720
313	TL130-4-27			TLN1035-4W (2)		TLN1035-4N
314	HT308-7-27					28FT720
315	HT308-7-24					28FT720
316	HL219-10-22			HL382-10 PBW		HL382-10A
317	HL219-10-18			HL382-10 PBW		HL382-10A
318	HL219-10-17			HL382-10 PBW		HL382-10A
319	HL219-10-20			HL382-10 PBW		HL382-10A
320	HL219-10-21			HL382-10 PBW		HL382-10A
321	HL734-10-23			HL776-10 PBW		HL776-10A
322	HL734-10-24			HL776-10 PBW		HL776-10A
323	HL734-10-25			HL776-10 PBW		HL776-10A
324	HL734-10-25			HL776-10 PBW		HL776-10A
325	HT41U19	810020-8				RMG1582-048-10-8
326	HT41U19	810020-8				RMG1582-048-10-7
327	HT41U23 (33) (15)	810020-8 (15)				RMG1582-048-8-3
328	HT41U23	810020-8				RMG1582-048-10-5
329	HT41U23	810020-8				RMG1582-048-10-6
330	NAS1304-17		AN960D416L	AN960D416	2935-04	RM52LH2935-048
331	NAS1703T12				2935-0	RM52LH2935-02
332	HL557-8-12				HL83-8W	HL683-8A
333 (29)	NAS1704T11				2935-04	RM52LH2935-048
(30)	NAS1704T12				2935-04	RM52LH2935-048
334 (29)	HL557-8-17				HL83-8W	HL683-8A
(30)	NAS1704T17				2935-04	RM52LH2935-048
335 (29)	NAS1704T14				2935-04 (2)	RM52LH2935-048
(30)	NAS1704T15				2935-04	RM52LH2935-048
336 (29)	HL557-8-14				HL83-8W	HL683-8A
(30)	NAS1704T15				2935-04	RM52LH2935-048
337 (29)	HL557-8-16				HL83-8W	HL683-8A
(30)	NAS1704T16				2935-04	RM52LH2935-048
338	NAS1704T15				2935-04	RM52LH2935-048
339 (29)	HL557-8-14				HL83-8W	HL683-8A
(30)	NAS1704T19				53G970868-59	RM52LH2935-048
					2935-04	
340 (29)	HL557-8-18				HL83-8W	HL683-8A
(30)	NAS1704T19				2935-04 (2)	RM52LH2935-048
341 (29)	NAS1704T19				2935-04	RM52LH2935-048
(30)	NAS1704T20				2935-04	RM52LH2935-048
342 (29)	HL6638-8-16				HL83-8W	HL683-8A
					53G970868-35	
(39)	HT307-4-16				2935-04 (2)	RM52LH2935-048
					53G970868-35	
343 (29)	NAS1704T15				2935-04	RM52LH2935-048
(30)	NAS1704T16				2935-04	RM52LH2935-048
344 (29)	HL557-8-15				HL83-8W	HL683-8A
(30)	NAS1704T16				2935-04	RM52LH2935-048
345	NAS1704T11				2935-04 (2)	RM52LH2935-048
346 (29)	HT41N13			K49089-4		H49089-4XN
(30)	NAS1704T14				2935-04	RM52LH2935-048
347 (29)	HL643-8-13			K49089-4		H49089-4XN
(30)	NAS1704T14				2935-04	RM52LH2935-048
348	NAS1704T18			4M36-02074	2935-04	RM52LH2935-048

4C-3-1-2-(270-10)H

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 10 of 17)

REF NO.	FASTENER	GASKET	WASHER		SHIM OR SPACER	NUT OR COLLAR
			UNDER HEAD	UNDER NUT		
349	NAS1704T15			AN960-416L		MS21042-4
350 29	NAS1704T15			AN960-416L		MS21042-4
30	NAS1704T16			AN960-416L		MS21042-4
351 29	NAS1704T15			AN960-416L		MS21042-4
30	NAS1704T16					MS21061L4
352 29	HL557-8-20				HL83-8W	HL683-8A
30	NAS1704T20				2935-04 (2)	RM52LH2935-048
353 29	HL557-8-16				HL83-8W	HL683-8A
					53G970868-3	
30	NAS1704T16				2935-04 (2)	RM52LH2935-048
					53G970868-3	
354 29	HL557-8-14				HL83-8W	HL683-8A
30	NAS1704T14				2935-04	RM52LH2935-048
355 29	NAS1704T11				2935-04 (2)	RM52LH2935-048
30	NAS1704T15				2935-04	RM52LH2935-048
356 29	HL557-8-23				53G970868-35	HL579-8
30	NAS1704T23				2935-04 (2)	RM52LH2935-048
					53G970868-35	
357	NAS1704T16			AN960-416L		MS21042-4
358 29	HL557-8-16					HL579-8
30	NAS1704T17			AN960-416L		MS21042-4
359 29	NAS1704T16			AN960-416L		MS21042-4
30	NAS1704T17			AN960-416L		MS21042-4
360 29	HL557-8-16				HL83-8W (2)	HL683-8A
					53G970868-35	
30	NAS1704T16				2935-04 (2)	RM52LH2935-048
					53G970868-35	
361	NAS1704T16				2935-04 (2)	RM52LH2935-048
362	NAS1704T18				2935-04	RM52LH2935-048
					53G970868-7	
363 29	HL557-8-18				HL83-8W (2)	HL683-8A
					53G970868-5	
30	NAS1704T18				2935-04 (2)	RM52LH2935-048
					53G970868-5	
364 29	NAS1704T18				2935-04	RM52LH2935-048
30	NAS1704T19				2935-04	RM52LH2935-048
365 29	HL557-8-17				HL83-8W	HL683-8A
30	NAS1704T18				2935-04	RM52LH2935-048
366 29	NAS1704T17				2935-04 (2)	RM52LH2935-048
30	NAS1704T18				2935-04	RM52LH2935-048
367	NAS1704T12				2935-04	RM52LH2935-048
368 29	HL557-8-15				HL83-8W	HL683-8A
30	NAS1704T15				2935-04	RM52LH2935-048
369 29	HL557-8-15				HL83-8W	HL683-8A
					53G970868-35	
30	NAS1704T15				2935-04 (2)	RM52LH2935-048
					53G970868-35	
370	NAS583-6T					F1967-3
371	NAS583-5T					F1967-3
372	HT4013-4-13X				2935-04 (2)	RM52LH2935-048
373	NAS1703T13				2935-0	RM52LH2935-02
					53G970868-21	
374 29	HL557-8-13				HL83-8W	HL683-8A
30	HT4013-4-13X				2935-04	RM52LH2935-048
375 29	HL557-6-13				HL83-8W	HL683-6A
30	HT4013-3-13X				2935-0 (2)	RM52LH2935-02
376 29	HL557-8-19				HL83-8W	HL683-8A
30	HT4013-4-19X				2935-04	RM52LH2935-048
377	HT4013-3-13X				2935-0	RM52LH2935-02
378 29	HL557-8-15				HL83-8W	HL683-8A
					53G970868-35	
30	HT4013-4-15X				2935-04 (2)	RM52LH2935-048
					53G970868-35	
379 29	HL557-8-16				HL83-8W (2)	HL683-8A
					53G970868-57	
30	HT4013-4-16X				2935-04 (2)	RM52LH2935-048
					53G970868-57	
380 29	HL557-8-14				HL83-8W (2)	HL683-8A
					53G970868-35	
30	HT4013-4-14X				2935-04 (2)	RM52LH2935-048
					53G970868-35	
381 29	HL557-8-12				HL83-8W	HL683-8A
30	HT4013-4-12X				2935-04	RM52LH2935-048
382 29	HL6638-8-13				HL83-8W (2)	HL683-8A
30	HT307-4-13				2935-04	RM52LH2935-048
383 29	HL557-8-16				HL83-8W	HL683-8A
30	HT4013-4-16X				2935-04	RM52LH2935-048

4C-3-1-2-(270-11)E

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 11 of 17)

REF NO.	FASTENER	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
384 [29]	HL557-6-12				HL83-6W } [2]	HL683-6A
[30]	HT4013-3-12X				2935-0 }	RM52LH2935-02
385	NAS1428-17					NAS1080C8
386	NAS464P4-12		AN960D416L			MS21063L4-8
387	NAS584-13T					RMG15B2-048-8-4
388	NAS1304-12		AN960D416L			MS21063L4-8
389	NAS584-13T					RMG15B2-048-8-3
390	NAS584-13T					RMG15B2-048-8-3L
391	NAS1418-26					NAS1080C8
392	NAS1438-25					NAS1080C8
393	NAS1450-20					NAS1080C10
394	NAS1420-19					NAS1080C10
395	MS20005-22		MS20002C5		2935-05 [2]	RM52LH2935-054
396	NAS1304-12		AN960D416L			RMG15B2-048-8-17
397	NAS1304-12		AN960D416L			RMG15B2-048-8-16
398	AN4H12A	NAS1523AA4F	AN960D416		NAS463XDD416	MS21059L4
399	NAS1304-12		AN960D416L			RMG15B2-048-8-12
400	NAS1450-18					NAS1080C10
401	NAS1450-12					NAS1080C10
402	NAS1430-12					NAS1080C10
403	NAS1450-14					NAS1080C10
404	NAS1450-11					NAS1080C10
405	NAS1450-13					NAS1080C10
406 [30]	NAS1438-18					NAS1080C8
[3]	NAS1458-18					NAS1080-8
407	NAS1440-14					NAS1080C10
408	NAS1440-15					NAS1080C10
409	NAS1440-16					NAS1080C10
410	NAS1460-17					NAS1080C10
411	NAS1470-17					NAS1080P10
412	NAS1460-18					NAS1080-8
413	NAS1470-28					NAS1080P10
414	NAS1304-28		AN960D416L		2935-04 }	RM52LH2935-048
415	HL552-12-3T				} [2]	HL587-12-6
416	NAS1304-30		AN960D416L		2935-04 }	RM52LH2935-048
417	NAS1304-30				2935-04 }	RM52LH2935-048
418	NAS1438-8					NAS1080C8
419	NAS1470-30					NAS1080P10
420	HL552-12-38				32-11401-475	HL587-12-6
421	HT4U9 [15]	810020-8 [15]				RMG15B2-048-8-4
422	NAS1304-26		AN960D416L		4M30D416-25	F1967-4
423	NAS1304-24		AN960D416L			F1967-4
424	NAS584-24T		AN960D416L		32-11401-223, -224	F1967-4
425	HT5U17 [15]	810020-10 [15]			NAS463XDD516	F1967-5
426	NAS1304-18	NAS1523AA4F	AN960D416L			F1934-4-2
427	NAS1468-28					NAS1080-8
428	HT4U10 [15]	810020-8 [15]				RMG15B2-048-8-3
429	NAS1304-18		AN960D416		2935-04	RM52LH2935-048
430	NAS1458-17					NAS1080-8
431	NAS584-15T				2935-04	RM52LH2935-048
432	NAS1304-13		AN960D416L		2935-04 } [2]	RM52LH2935-048
433	NAS1438-12					NAS1080C8
434	NAS1430-14					NAS1080C10
435	MS20005-14		MS20002C5		2935-05	RM52LH2935-054
436	HT4U6 [15]	810020-8 [15]				RMG15B2-048-8-9L
437	NAS1304-17	600-015-1/4	AN960D416L			F1934-4-2
438	NAS1304-22		AN960D416L			RMG15B2-048-10-4
439	NAS1304-18		AN960D416L			F1934-4-2
440	NAS1304-18		AN960D416L			RMG15B2-048-10-4
441	NAS1304-18		AN960D416L			RMG15B2-048-10-6
442	HT4U12 } [15]	810020-8 } [15]				RMG15B2-048-10-3
443	HT4U12 }	810020-8 }				RMG15B2-048-10-8
444	NAS1304-14		AN960D416L			RMG15B2-048-8-5
445	NAS1304-10		AN960D416L			RMG15B2-048-8-7
446	HT4U8 } [15]	810020-8 } [15]				RMG15B2-048-10-10
447	HT4U8 }	810020-8 }				F1934-4-2
448	NAS1304-10		AN960D416L			RMG15B2-048-10
449	NAS584-21T				2935-04 [2]	RM52LH2935-048
450	NAS1428-8					NAS1080C8
451	NAS1428-23					NAS1080C8
452	NAS1304-13		AN960D416L			F1967-4
453	NAS1303-27		AN960D10L			MS21042-3
454	NAS1416-26				32-11147-3, -4	NAS1080C6
455	NAS1418-17					NAS1080C8
456	NAS1304-11		AN960D416L			F1967-4
457	NAS1416-28				32-11145-3, -4	NAS1080C6

4C-3-1-2-(270-12)E

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 12 of 17)

REF NO.	FASTENER	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
458	NAS1304-10		AN960D416L		2935-04 (2)	RM52LH2935-048
459	NAS1304-22		AN960D416L			F1967-4
460	HT4U16 (15)	810020-8 (15)				F1967-4
461	NAS584-9T				32-11401-194, -193	MS21059L4
462	HT4U13	810020-8				RMG15B2-048-10-8
463	HT4U13	810020-8				RMG15B2-048-10-7
464	HT4U12 (15)	810020-8 (15)				RMG15B2-048-10-4
465	HT4U9	810020-8			32-11401-195	MS21063L4-8
466	HT4U8	810020-8				RMG15B2-048-10-11
467	NAS1428-15					NAS1080C8
468	NAS1428-15 (3)					NAS1080C8
	NAS1428-19 (4)					NAS1080C8
469	NAS1304-7		AN960D416L			RMG15B2-048-8-3
470	NAS1304-12		AN960D416L			RMG15B2-048-8-10
471	NAS1304-17		AN960D416L			RMG15B2-048-8-5
472	NAS584-18T					RMG15B2-048-8-5
473	NAS584-10T					RMG15B2-048-8-3
474	NAS1438-10					NAS1080C8
475	NAS1304-14				2935-04 (2)	RM52LH2935-048
476	NAS1304-16		AN960D416			MS21061L4
477	NAS1304-17		AN960D416			MS21061L4
478	NAS1448-14					NAS1080C8
479	NAS1448-12					NAS1080C8
480	NAS1428-18					NAS1080C8
481	NAS1448-13					NAS1080C8
482	NAS1428-25					NAS1080C8
483	NAS333CFA-7			AN960D10		MS21042-3
484	AN3-7A		AN960D10L	AN960D10		MS21042-3
485	NAS1055-8-7					NAS528A8
486	NAS1055-8-8					NAS528A8
487	66117H8-19			AN960D816	53-11066-3, -4	NAS1022A8
488	NAS584-18T				32-11567-5	RM52LH2935-048
					32-11401-21	
					2935-04 (2)	
489	NAS1055-8-21					NAS1022A8
490	66117H8-24				53-11066-5, -6	66052N820
					32-11091-3, -5	
491	MS20007-18	NAS1523AA7F	MS20002C7		4M30D716-064	MS21059L7
					4M30D716-125	
					32-11401-49, -115	
492	66117H8-23				53-11066-5, -6	66052N820
					53-11091-3, -5	
493	HT4U6 (15)	810020-8 (15)				RMG15B2-048-8-8L
494	NAS584-12T				32-11401-251	MS21059L4
495	NAS584-11T				32-11401-187	MS21063L4-8
496	HT4U9	810020-8				RMG15B2-048-8-11
497	HT4U11 (15)	810020-8 (15)				F1934-4-2
498	HT4U9	810020-8				RMG15B2-048-8-10
499	NAS584-11T				32-11401-189	MS21063L4-8
500	NAS1418-16				32-11401-61	NAS1080C8
					32-11401-127	
501	NAS334CFA11			AN960D416		MS21042-4
502 (30)	NAS334CFA11			AN960D416		MS21042-4
(1)	NAS1418-10					NAS1080C8
503	HT4U7 (15)	810020-8				RMG15B2-048-8-7L
504	NAS584-14T				2935-04 (2)	RM52LH2935-048
505	NAS584-9T				2935-04 (2)	RM52LH2935-048
506	HT4U8	810020-8			32-11401-253	RMG15B2-048-8-6
507	HT4U7	810020-8				RMG15B2-048-8-6
508	HT4U7	810020-8				F1934-4-2
509 (35)	HT4UA9 (15)	810020-8 (15)				F1967-4
(30)	HT4U10	810020-8				F1934-4-2
510	HT4U7	810020-8				RMG15B2-048-8-3
511	HT4U7	810020-8				RMG15B2-048-8-5
512	HT4U7	810020-8				RMG15B2-048-10-4
513	NAS584-11T					F1934-4-2
514	NAS1438-35					NAS1080C8
515	NAS584-11T				32-11401-181	RMG15B2-048-12-6
516	NAS1438-14					NAS1080C8
517	NAS584-28T				53-11067-9 (23)	RM52LH2935-048
					2935-04 (2)	
518	NAS584-32T				53-11067-13 (23)	RM52LH2935-048
					2935-04 (2)	
519	HT4U10 (15)	810020-8 (15)				RMG15B2-048-12-4
520	HT4U11 (15)	810020-8 (15)			32-11401-169	RMG15B2-048-10-4

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Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 13 of 17)

REF NO.	FASTENER (60)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
521	HT4U11 } (15)	810020-8 } (15)				RMG1582-048-8-2L
522	HT4U9 }	810020-8 }			32-11401-167	RMG1582-048-8-3
523	NAS1420-9					NAS1080C10
524	NAS525-8-9					NAS528A8
525	NAS584-9T			AN960D416		MS21043-4
526	NAS584-14T			AN960D416		MS21043-4
527	NAS1418-9					NAS1080C8
528	NAS584-12T			AN960D416		MS21043-4
529	NAS1438-9					NAS1080C8
530	NAS1440-9					NAS1080C10
531	66117H6-16			AN960D616		70938-6
532	66117H6-16			AN960D616	32-11002-5	70938-6
					32-11002-39	
533	NAS584-10T			AN960D416	32-11346-13	MS21042-4
534	HS61-8-11					NAS528A8
535 (28)	HS61-8-11					NAS528A8
(57)	HS61-8-13					NAS528A8
536	NAS584-10T			AN960D416	32-11346-15	MS21042-4
537	NAS334CFA12					F1972-4-2
538	NAS584-10T				2935-04 (2)	RM52LH2935-048
539	NAS1438-34					NAS1080C8
540	NAS584-34T				53-11067-15 (23)	RM52LH2935-048
					2935-04 (2)	
541	NAS1440-10					NAS1080C10
542	HT6A10			AN960D616		MS21042-6
543	HT6A9			AN960D616		MS21042-6
544	HT6A17			AN960D616	53-11002-5,-13	MS21042-6
545	HT6A11			AN960D616		MS21042-6
546	HT6A10			AN960D616		MS21042-6
547	HT6A12			AN960D616		MS21042-6
548	HT5A17			AN960D516		MS21042-5
549	HT5A12			AN960D516		MS21042-5
550	NAS584-16T				2935-04 (2)	RM52LH2935-048
551	SFH22-6-24			AN960D616		70938-6
552	HT6A13			AN960D616		MS21042-6
553	NAS584-20T				2935-04 (2)	RM52LH2935-048
554	HT6A19			AN960D616		MS21042-6
555	NAS1438-33					NAS1080C8
556	NAS1438-17					NAS1080C8
557	NAS584-26T				53-11067-7 (23)	RM52LH2935-048
558	NAS1438-18					NAS1080C8
559 (58)	NAS1438-19					NAS1080C8
(58)	NAS1458-19					NAS1080-8
560	NAS584-25T				53-11067-5 (23)	RM52LH2935-048
					2935-04 (2)	
561	NAS1458-20					NAS1080-8
562	NAS584-24T				53-11067-3 (23)	RM52LH2935-048
					2935-04 (2)	
563	NAS1458-23				32-11401-705	NAS1080-8
564	NAS1458-22				32-11401-705	NAS1080-8
565	NAS1304-32 (24)			AN960D416	67992W428 (2)	67992N428
566	NAS584-13T			AN960D416		MS21042-4
567	NAS584-22T			AN960D416	32-11567-5	RM52LH2935-048
					32-11401-295,-401 (21)	
					2935-04 }	
568	NAS1703T10				2935-0 } (2)	RM52LH2935-02
569	NAS1703T11				2935-0 }	RM52LH2935-02
570	NAS583-12T				53G970845-3,-4	F1967-3
					53G970842-177,-179	
571	NAS583-12T				53G970845-5,-6	F1967-3
					53G970842-177,-179	
572	NAS583-12T				53G970842-177,-179	F1967-3
573	TL400-5-31			TLN1020L5W }		TLN1020L5N
574	TL330-4-29			TLN1035L4W }		TLN1020L4N
575	TL936-5-23-81 (1)			TLN1020L5W	32G11401-225	TLN1020L5N
					53-07778-23 (25)	
576	TL330-4-23			TLN1035L4W } (2)	32G11401-225	TLN1020L4N
					53-07778-23 }	
577	TL936-5-24-85 (1)			TLN1020L5W	53-07778-23 } (25)	TLN1020L5N
578	TL330-4-21			TLN1035L4W	53-07778-23 }	TLN1035L4N
579	TL330-4-21			TLN1035L4W }	53-07778-21 }	TLN1035L4N
580	NAS584-17T	NAS1523AA4F			4M38A416 } (26)	RMG1582-048-10-5L
581	NAS584-12T	NAS1523AA4F			4M38A416L }	RMG1582-048-10-5L
582	HT4U8 (15)	810020-8 (15)				RMG1582-048-10-5L
583	NAS584-15T				2935-04 (2)	RM52LH2935-048

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Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 14 of 17)

REF NO.	FASTENER 60	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
584	NAS584-19T				32-11401-265 32-11401-267 2935-04 (2)	RM52LH2935-048
585 29	NAS584-13T				53-07760-7	F1967-4
28	NAS584-13T					F1967-4
586 26	NAS584-17T				53-07760-7 2935-04	RM52LH2935-048
25	NAS584-17T				2935-04 (2)	RM52LH2935-048
587	NAS1418-12					NAS1080E8
588	NAS584-12T				2935-04	RM52LH2935-048
	NAS584-17T				53-110132-57 2935-04 (2)	RM52LH2935-048
589 27	NAS584-12T				2935-04	RM52LH2935-048
28	NAS1418-12					NAS1080E8
590	NAS584-13T					F1967-4
591	NAS584-17T				53-110132-53 2935-04 (2)	RM52LH2935-048
592	NAS584-15T				32-11401-295, -401 (21) 2935-04 (2)	RM52LH2935-048
593	NAS584-22T			AN960D416	32-11401-295, -401 (21) 2935-04 (2)	RM52LH2935-048
594	NAS584-18T				32-11401-295, -401 (21) 2935-04	RM52LH2935-048
595	NAS584-17T				2935-04 (2)	RM52LH2935-048
596	NAS584-12T				2935-04	RM52LH2935-048
597	NAS1418-8					NAS1080E8
598	NAS1418-14					NAS1080E8
599	NAS1420-8					NAS1080E10
600	NAS1418-10					NAS1080E8
601	NAS584-8T				2935-04 (2)	RM52LH2935-048
602	NAS584-17T				32-11401-281, -283 2935-04	RM52LH2935-048
603	HT308-7-29				66052W720 (2)	66052N720
604	HT41U20 (15) (33)	810020-8				RMG15B2-048-10-8
605 35	TL975-5-12-14					TLN1000L5
37	TL814-5-12-14 (74)					TLN1000L5
38	TL815-5-12-38 (74)					TLN1000L5
39	TL936-5-12-38					TLN1000L5
606	NAS584-13T				2935-04 (2)	RM52LH2935-048
607	NAS584-14T				2935-04 (2)	RM52LH2935-048
608 40	TL816-5Z12 (74)				32-11401-277, -279 (21)	TLN1000L5
41	TL330-4-12					TLN1030L4
609	NAS1704T15				2935-04 (2) 32-11401-295, -401 (21)	RM52LH2935-048
610 36	TL975-5-12-14			53-07798-5		TLN1000L5
37	TL814-5-12-14 (74)			53-07798-5		TLN1000L5
38	TL815-5-12-38 (74)			53-07798-5		TLN1000L5
39	TL936-5-12-38			53-07798-5		TLN1000L5
611	NAS1418-10				32-11401-285	NAS1080C8
612 34	NAS584-17T				2935-04 (2) 32-11401-269, -271 (21)	RM52LH2935-048
35	NAS584-17T				2935-04 (2) 32-11401-281, -283 (21)	RM52LH2935-048
613 36	HT5U11 (15)	810020-10 (15)			32-11401-93	F1967-5
39	NAS584-11T					F1934-4-2
614	NAS1704T17				2935-04 (2) 32-11401-295, -401 (21)	RM52LH2935-048
615 36	TL816-5Z12 (74)			53-07798-5		TLN1000L5
37	TL813-5Z12 (74)			53-07798-5		TLN1000L5
38	TL311-5-12			53-07798-5		TLN1000L5
39	TL100-5-11					TLN1000L5
616	NAS1704T21				32-11567-5 2935-04 (2) 32-11401-295, -401 (21)	RM52LH2935-048
617 43	HT41U19	810020-8				G15B2-048-10-8
44	HT41U21		53G970758-3			G15B2-048-10-8
618 42	HT41U23 (33) (15)	810020-8 (15)				G15B2-048-10-5
43	HT41U25		53G970758-3			RMG15B2-048-10-5
619 43	HT41U23	810020-8				RMG15B2-048-8-3
44	HT41U25		53G970758-3			G15B2-048-8-3
620	HL219-8-34			HL383-8P8W		BA
621	TL100-6-16			TLN1020L6W (2)		20L6N

4C-3-1-2 (270 15)L

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; AND F-4G (Sheet 15 of 17)

REF NO.	FASTENER (60)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
622 53	HT308-4-14				2935-04 (2)	RM52LH2935-048
54	TL985-5-24				2935-05 (2)	RM52LH2935-054
623 53	TL130-4-16					TLN1035L4
54	TL130-4-13					TLN1035L4
624 53	TL130-4-14					TLN1035L4
54	TL130-4-15					TLN1035L4
625 53	TL130-4-10 (5)					TLN1035L4
54	TL130-4-11					TLN1035L4
626 53	TL130-4-14					TLN1030L4
54	TL130-4-15					TLN1030L4
627 53	TL130-4-20				53G970868-35	TLN1030L4
54	TL130-4-22				53G970868-35	TLN1030L4
628 53	TL330-4-9 (7)					TLN1035L4
54	TL130-4-10 (5)					TLN1035L4
629 53	TL330-4-14 (7)					TLN1035L4
54	TL130-4-15 (5)					TLN1035L4
630	NAS1304-20		AN960D416L			RMG15B2-048-10-4
631 53	TL130-4-13 (5)					TLN1035L4
54	TL130-4-15 (5)					TLN1035L4
632	TL130-3-8 (10)					TLN1035L3
54	TL130-3-9 (10)					TLN1035L3
633	NAS584-17T				2935-04 (2)	RM52LH2935-048
					32-11401-281,-283	
634	NAS1456-17					NAS1080C6
635	TL400-5-31				TLN1020L5W (2)	TLN1020L5N
636	NAS2905-10		AN960D516		32-11401-191	MS21063L5-10-3
637	NAS2904-11		AN960D416			F1972-4-2
638	66051-4-9		MS20002C4			MS21059L4
639	66051-4-9		MS20002C4			MS21061L4
640	HT5UA9					53G971110-33,-34
641 63	HT6UA14					53G971110-3,-4
64	HT6UA21					53G971110-23,-24
642	HT5UA10				32G971073-5	MS21063L5-8-3
643 63	HT5UA14					53G971110-3,-4
64	HT5UA10					53G971110-23,-24
644	HT5UA13					53G971110-7,-8
645	HT5UA12					53G971110-5
646 65	HT5UA12			AN960D516 (62)		MS21042-5
66	HT5UA11			AN960D516 (62)		MS21042-5
647 65	HT5UA12					G19179-4-2-8-4
66	HT5UA11					G19179-4-2-8-4
648	54267-4-9					G19179-4-2-8-4
649	54267-4-10					G19179-4-2-8-3
650	54267-4-10					F1934-4-2
651	NAS1704T9				32-11401-194,-193	MS21059L4
652	54267-4-9				32-11401-195	MS21063L4-8-12
653	54267-4-9					G19179-4-2-8-11
654	54267-4-9					G19179-4-2-8-10
655	54267-4-11					F1934-4-2
656	NAS1704T11				32-11401-189	MS21063L4-8-3
657	HL557-8-16					65956-4
658	HL557-8-12					65956-4
659	HL557-8-10					65956-4
660	NAS1704T11			4M36-02078		MS21042-4
661	HL557-8-11				32G971108-7	65956-4
662	NAS1704T11				32-11401-187	MS21063L4-8-3
663	NAS1704T12				32-11401-251	MS21059L4
664	NAS2905-10		AN960D516L		32-11401-197	MS21063L5-10-3
665	NAS2905-10		AN960D516L		32-11401-197	MS21063L5-10-3
					53G970819-11,-29,-35	
666	NAS2905-9	NAS1523AA5F	AN960D516L		32-11401-197	MS21063L5-10-3
667	HT5UA12				32G971086-13,-14	MS21059L5
668	NAS585-11T				32G971086-13,-14	MS21059L5
669	HT5UA12				32G971086-13,-14	MS21063L5-8-3
670	NAS585-14T				32G971086-11	MS21061L5
671	NAS585-13T				32G971086-9	MS21063L5-8-3
672	NAS585-14T				32G971086-7	MS21061L5
673	NAS585-15T				32G971086-7	MS21061L5
674	NAS585-14T				32G971086-5,-6	MS21063L5-8-3
675	HT5UA14				32G971086-5,-6	MS21059L5
676	NAS585-15T				32G971086-5,-6	MS21061L5
677	HT5UA13				32G971086-5,-6	MS21063L5-8-3
678	NAS585-14T				32G971086-5,-6	MS21061L5
679	NAS585-13T				32G971086-3,-4	MS21063L5-8-3
680	66117H5-17				67992W524 (2)	67992N524
681	66117H5-21				67992W524 (2)	67992N524
682	NAS586-13T				32G971108-5	TLN1020L6N
					TLN1020L6W (2)	
683	NAS586-12T				32G971108-3	TLN1020L6N
					TLN1020L6W (2)	
684	NAS586-12T				32G971108-5	TLN1020L6N
					TLN1020L6W (2)	
685	HL551-12-12		AN960D616			65956-6
686	NAS585-8T				TLN1020L5W (2)	TLN1020L5N
687	NAS585-12T				67992W524 (2)	67992N524
688	66117H5-22				67992W524 (2)	67992N524
689	66117H5-18				TLN1020L5W (2)	TLN1020L5N
690	NAS585-14T				32G971086-3,-4	MS21063L5-8-3

4C-3-1-2-(270-16)H

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 16 of 17)

REF NO.	FASTENER (60)	GASKET	WASHER		SHIM OR SPACER	NUT OR COLLAR
			UNDER HEAD	UNDER NUT		
691	HT5UA13				32G971086-3, -4	MS21059L5
692	HT5UA12				32G971086-5, -6	MS21063L6-8-10
693	HT5UA14				32G971086-7,	MS21059L55
694	HT5UA13				32G971086-9,	MS1063L5-8-3
695	HT5UA14				32G971086-11	MS21059L5
696	HT5UA11				32G971086-13,-14	MS21063L5-8-4
697	54267-5-9					MS2106365-10-3
698 (67)	TL836-5R13 (41) (73)			53-07798-7		TLN1030L5
699 (67)	TL836-5N19 (46) (73)			53-07798-7		TLN1030L5
700 (67)	TL839-5R13-54 (69) (73)			53-07798-7		TLN1030L5
701 (67)	TL839-5N19-91 (69) (73)			53-07798-7		TLN1030L5
702 (67)	TL836-5R15 (41) (73)			53-07798-7		TLN1030L5
703 (67)	TL836-5R21 (46) (73)			53-07798-7		TLN1030L5
704 (67)	TL839-5R15-54 (69) (73)			53-07798-7		TLN1030L5
705 (67)	TL839-5T21-94 (45) (73)			53-07798-7		TLN1030L5
706 (67)	TL100-5-17 (70) (73)	NAS1523-5E		AN960D516	TLN1020L5W	TLN1020L5N
707 (67)	TL100-5-16 (70) (73)	NAS1523-5E		AN960D516	TLN1020L5W	TLN1020L5N
708 (67)	TL100-5-15 (70) (73)	NAS1523-5E		AN960D516	TLN1020-5W	TLN1020L5N
709 (67)	TL100-5-19 (70) (73)	NAS1523-5E		AN960D516	TLN1020-5W	TLN1020L5N
710 (67)	TL100-5-18 (70) (73)	NAS1523-5E		AN960D516	TLN1020-5W	TLN1020L5N
711 (67)	TL110-7-25 (71) (73)	NAS1523-7E		AN960JD716	TLN1020-7W	TLN1020-7N
712 (67)	TL110-7-24 (71) (73)	NAS1523-7E		AN960JD716	TLN1020-7W	TLN1020-7N
713 (67)	NAS1604T18 (72)			AN960D416	67992W428	67992N428
714 (67)	NAS1604T19 (72)			AN960D416	67992W428	67992N428
715 (67)	NAS1604T21 (72)			AN960D416	67992W428	67992N428

INSTALLATION PROCEDURE FOR TL985, TL987 AND TL988 TAPER LOK FASTENERS

A. WITH FITTINGS CLAMPED TO SPAR, SKIN, HINGE, AND ALL MATE WITH 63G97802 OR 32G11401 ITEMS, MEASURE AND RECORD ACTUAL HEAD PROTRUSION OF FASTENER. PRESS IN PLACE WITH FIRM THUMB PRESSURE PRIOR TO TAKING MEASUREMENT. TAKE MEASUREMENT (a) FROM SURFACE OF HINGE TO TOP OF FASTENER.

B. REMOVE FITTINGS FROM SPAR AND INSERT SAME FASTENER IN FITTINGS. PRESS IN PLACE WITH FIRM THUMB PRESSURE. MEASURE AND RECORD HEAD PROTRUSION (b) FROM SURFACE OF FITTINGS TO TOP OF FASTENER.

C. SUBTRACT HEAD PROTRUSION (b) FROM (a). THIS VALUE (c) IS MAXIMUM HEAD PROTRUSION ALLOWABLE AFTER HOLE HAS BEEN HAND REAMED TO ENLARGE HOLE. SUBTRACT 0.09 INCH FROM (c) VALUE TO OBTAIN MINIMUM PROTRUSION VALUE.

(b)-(a) = MAXIMUM HEAD PROTRUSION FROM SURFACE OF FITTING TO TOP OF FASTENER.

(c) - 0.09 INCH = MINIMUM HEAD PROTRUSION FROM SURFACE OF FITTING TO TOP OF FASTENER.

D. WITH FITTINGS REMOVED FROM SPAR AND USING "T" HANDLE, PSMT1363-1 #0 Sq. DRIVE, ON HAND REAMER, SP124-53-070804, TAPER HAND REAM HOLE WITHIN ACCEPTABLE PROTRUSION LIMITS OF STEP C.

4C-3-1-2-(270-16.1)L

Figure 2-38. Torque Box Skin and Structural Fastener Index-F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 16A of 17)

Notes

1. THIS FASTENER INCORPORATES AN NAS1081-0864 SET SCREW IN THE HEAD OF THE BOLT.
2. NUT OR COLLAR BASE.
3. LEFT SIDE.
4. RIGHT SIDE.
5. FOR TL130-4 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL140-4 TAPER-LOK BOLT, SECOND REPAIR OVERSIZE FASTENER IS TL150-5 TAPER-LOK BOLT AND TLN1502L3 NUT.
6. FOR TL936-3 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL940-3 TAPER-LOK BOLT PLUS ONE GRIP LONGER, SECOND REPAIR OVERSIZE FASTENER IS TL946-5 TAPER-LOK BOLT PLUS ONE GRIP LONGER.
7. FOR TL330-4 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL340-4 TAPER-LOK BOLT, SECOND REPAIR OVERSIZE FASTENER IS TL350-5 TAPER-LOK BOLT AND TLN3505L5 NUT.
8. FOR TL1120-42 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL1140-42 TAPER-LOK BOLT, SECOND REPAIR OVERSIZE FASTENER IS TLH1100-32 TAPER-LOK BOLT AND TLN1103L5 NUT.
9. FOR TL987-3 TAPER-LOK PIN, FIRST REPAIR OVERSIZE FASTENER IS TL988-3 TAPER-LOK PIN, SECOND REPAIR OVERSIZE FASTENER IS TL989-4 TAPER-LOK PIN.
10. FOR TL150-3 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL160-3 TAPER-LOK BOLT, SECOND REPAIR OVERSIZE FASTENER IS TL100-4 TAPER-LOK BOLT AND TLN1103L4 NUT.
11. FOR TL987-4 TAPER-LOK PIN, FIRST REPAIR OVERSIZE FASTENER IS TL988-4 TAPER-LOK PIN, SECOND REPAIR OVERSIZE FASTENER IS TL989-5 TAPER-LOK PIN.
12. FASTENER FLUSH IN TORQUE BOX SKIN UNDERNEATH FATIGUE STRAP, PYLON FITTING, HINGE, OR SILL PLATE.
13. HOLE DIAMETER 0.370 + .005.
14. TORQUE 30-90 INCH POUNDS.
15. FASTENER AND GASKET MAY BE ORDERED AS AN ASSEMBLY BY ADDING THE LETTER (A) AS FIFTH DIGIT TO FASTENER PART NUMBER.
16. ONE SUBSTITUTION IS ALLOWABLE WITHIN ENCIRCLED AREA, USING A BLIND BOLT FASTENER.
17. NO SUBSTITUTIONS ALLOWABLE WITHIN ENCIRCLED AREA.
18. TWO SUBSTITUTIONS ARE ALLOWABLE WITHIN ENCIRCLED AREA, USING BLIND BOLT FASTENERS.
19. FOUR SUBSTITUTIONS ARE ALLOWABLE WITHIN ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO ADJACENT BLIND FASTENERS IS PERMISSIBLE.
20. MAXIMUM CLEARANCE BETWEEN BOLT AND HOLE IS 0.0027 BEFORE REWORK IS REQUIRED.
21. MAXIMUM UNSHIMMED GAP SHALL NOT EXCEED 0.080. MAXIMUM SHIM THICKNESS SHALL NOT EXCEED +.06 -.00 FOR +.03 -.02 NOMINAL GAP. MAXIMUM LAMINATED SHIM SHALL NOT EXCEED +.031 FOR +.03 -.06 NOMINAL GAP.
22. THREE SUBSTITUTIONS ARE ALLOWABLE WITHIN ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO ADJACENT BLIND FASTENERS IS PERMISSABLE.
23. INSTALL SPACERS, REFERENCE TO 1F-4C-3-1-5.
24. INSTALL HEAD DOWN.
25. RADIUS BLOCK.
26. FOR FASTENERS IN DOOR 141, REFERENCE TO 1F-4C-3-1-3.
27. F-4E 71-237.
28. F-4E 71-238 THRU 71-1402.
29. F-4E 66-287 AND 71-237 THRU 71-1079.
30. F-4E 66-296 THRU 71-236 AND 71-1080 THRU 71-1402 AND F-4G.
31. F-4E 71-240 THRU 71-260.
32. F-4E 71-237 THRU 71-239 AND 71-247 THRU 71-1402.
33. FOR H16UA BOLT, FIRST REPAIR OVERSIZE FASTENER IS H17UA BOLT, SECOND REPAIR OVERSIZE FASTENER IS H19UA BOLT.
34. FOR H15UA BOLT, FIRST REPAIR OVERSIZE FASTENER IS H17UA BOLT, SECOND REPAIR OVERSIZE FASTENER IS H19UA BOLT.
35. MS21042 NUTS MAY BE USED TO REPLACE DAMAGED OR MISSING PLATE NUTS IN THIS AREA, EXCEPT AT SEALANT INJECTION AND OBSERVATION HOLES. NO MORE THAN THREE BLIND BOLT FASTENERS BETWEEN ANY TWO PLATE NUTS AND 40.675 PERCENT LINE. NO MORE THAN TWO BLIND BOLTS ARE PERMITTED BETWEEN 29.70 PERCENT AND 35.60 PERCENT LINE. TWO ADJACENT BLIND BOLTS ARE NOT PERMITTED. IN ABOVE LIMITS CANNOT BE MET, ORIGINAL TYPE FASTENERS AND MS21042 NUTS ARE TO BE INSTALLED. TO ACCOMPLISH THIS, AN ACCESS HOLE MUST BE CUT ON WEB OF MAIN SPAR AND COVER PLATE INSTALLED PER TO 1F-4C-3-1-3.
36. F-4E 66-287.
37. F-4E 66-296 THRU 67-363.
38. F-4E 67-364 THRU 71-236 AND F-4G.
39. F-4E 71-237 THRU 71-1402.
40. F-4E 66-287 AND 66-296 THRU 67-363.
41. F-4E 67-364 THRU 71-1402 AND F-4G.
42. F-4E 66-296 THRU 71-236, 71-238 THRU 71-1402 AND F-4G.
43. F-4E 66-296 THRU 68-538, 69-7253 THRU 69-7588, AND F-4E/G 69-7254 THRU 69-7588.
44. F-4E 66-287 AND 69-7254, 71-237 THRU 71-1402 AND F-4E/G 69-7254.
45. F-4E 66-287 AND 66-296 THRU 67-317.
46. F-4E 67-318 THRU 71-1402 AND F-4G.
47. F-4E 66-287 AND 66-296 THRU 71-1402.
48. F-4E 66-296 THRU 68-538, 71-237 THRU 71-1402, AND F-4E/G 69-7254 THRU 69-7588.
49. F-4E/G 69-309 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
50. F-4E 66-287 AND 66-296 THRU 68-538, AND F-4E/G 69-236 THRU 69-308.
51. F-4E/G 69-309 THRU 69-7588 AND F-4E 69-7589 THRU 71-1402.
52. F-4E 66-287 AND 66-296 THRU 66-387.
53. F-4E 66-388 THRU 71-236 AND F-4G.
54. F-4E 66-287 AND 66-296 THRU 71-236 AND F-4G.
55. F-4E 66-287 AND 66-296 THRU 67-317.
56. F-4E 67-320 THRU 71-1402 AND F-4G.
57. F-4E 66-287 AND 66-296 THRU 71-1402 AND F-4G.
58. TAPER-LOK FASTENERS ARE SPECIAL IMPRESS FASTENERS AND MUST BE REMOVED AND INSTALLED BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH TO 1F-4C-3-1-1.
59. IF FUME SEAL IS DAMAGED WHEN REMOVING THESE TWO FASTENERS, REPAIR PER FIGURE 2-42A.
60. TWO REQUIRED.
61. FASTENER USED WITH 32-11127 OR 32-11352 PYLON-FITTING INSTALLED.
62. FASTENER USED WITH AF66H07406 PYLON FITTING INSTALLED.
63. F-4E 66-287, 66-296 THRU 68-420, 68-454 THRU 71-236 AND F-4G AFTER TO 1F-4-1100.
64. F-4E 68-421 THRU 68-453 AFTER TO 1F-4-1100.
65. F-4E 67- 218, 67- 320.
66. FOR TL836-5 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL846-5, SECOND REPAIR OVERSIZE FASTENER IS TL856-5.
67. FOR TL830-7 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL840-7, SECOND REPAIR OVERSIZE FASTENER IS TL850-8.
68. FOR TL100-5 TAPER-LOCK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL110-5, SECOND REPAIR OVERSIZE FASTENER IS TL120-5.
69. FOR TL110-7 TAPER-LOK BOLT, FIRST REPAIR OVERSIZE FASTENER IS TL1130-77, SECOND REPAIR OVERSIZE FASTENER IS TL140-7.
70. INSTALL MOLDSEAL FASTENERS INTO THRU CHANNEL SEAL GROOVE TORQUE BOLT 80 - 100 INCH - POUNDS.
71. INSTALL MOLDSEAL FASTENERS NOT THRU CHANNEL SEAL GROOVE WET WITH MIL - S - 8802 CLASS A SEALANT BY DIPPING HALF THE SHANK IN SEALANT AND INSTALL PER FSI9036. INSTALL MOLDSEAL FASTENERS GOING THRU CHANNEL SEAL GROOVE THUMB TIGHT, THEN APPLY MIL - S - 8802 CLASS A SEALANT TO COUNTERSINK AND INSTALL PER FSI9036 TORQUE TO 80 - 100 INCH - POUNDS.
72. AFTER TO32-31 - 4 - 1445, TL120 - 5 OR FIRST REPAIR OVERSIZE TL - 140 - 5 SEALANT INJECTION TAPERLOKS WILL BE TL946 - 5. FIRST OVERSIZE REPAIR WILL BE TL976 - 5.

4C-2-1-2-270-17A

Figure 2-38. Torque Box Skin and Structural Fastener Index - F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 (Sheet 17 of 17)

CAUTION

FASTENERS REMOVED TO ACCOMPLISH REPAIR OF SEALING OF COMPONENTS WITHIN WALL FORWARD BOX SKIN MUST BE CHECKED FOR CORRECT LENGTH PRIOR TO REINSTALLATION. USE SPECIFIED SELECTOR ASSEMBLY FOR EQUALS AS SHOWN IN 1-1 OF 4C-3-1-6. FOR INSTALLATION OF TAPER LOK FASTENERS, SEE INSTALLATION PROCEDURE.

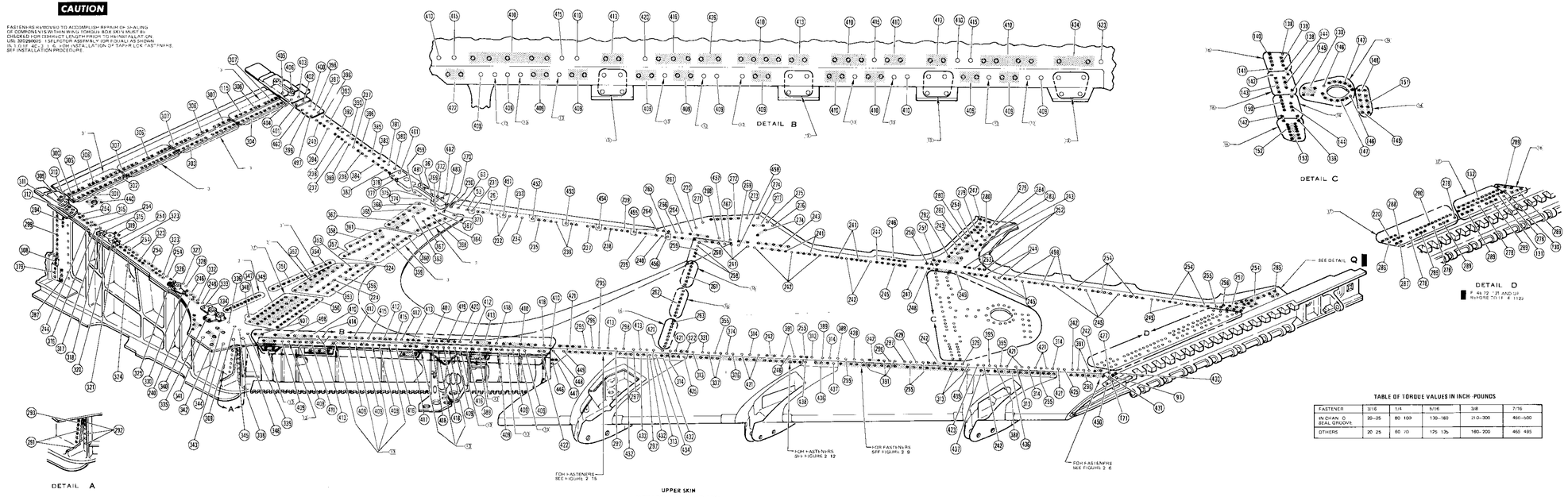


TABLE OF TORQUE VALUES IN INCH-POUNDS

FASTENER	3/16	1/4	5/16	3/8	7/16
IN CHAN O SEAL GROOVE	20-25	80 100	130-160	210-300	460-500
OTHERS	20 25	60 70	125 135	160-200	460 495

4C-3 1-2 (280 1.)

Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 1 of 12)

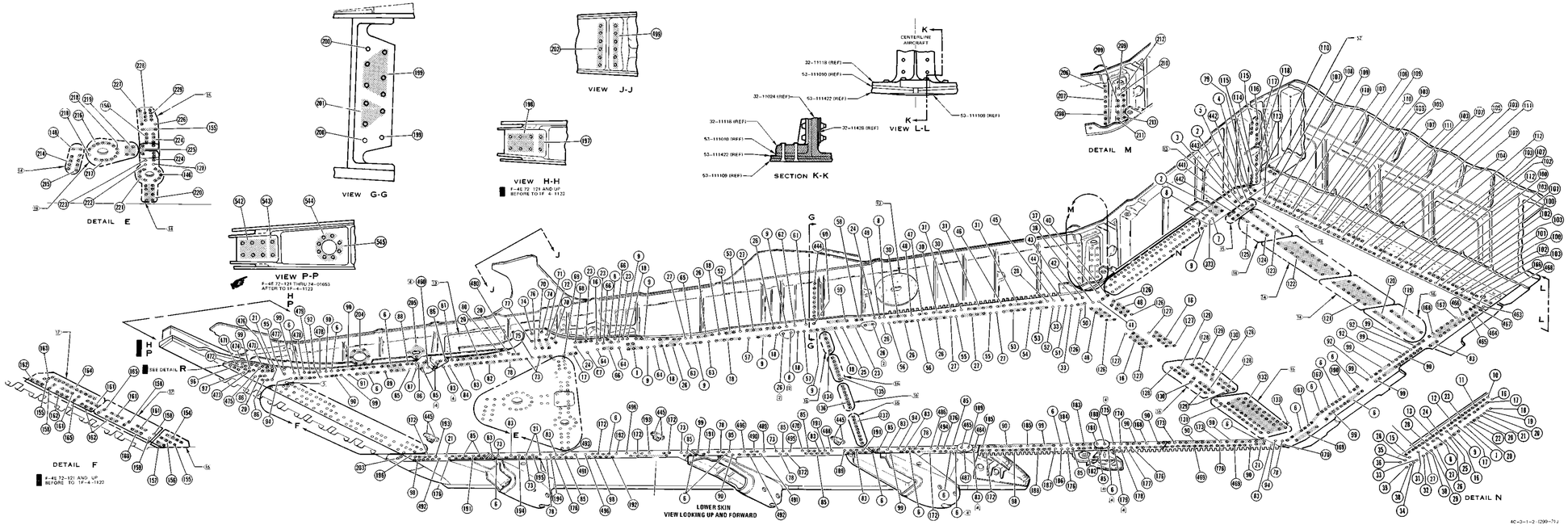
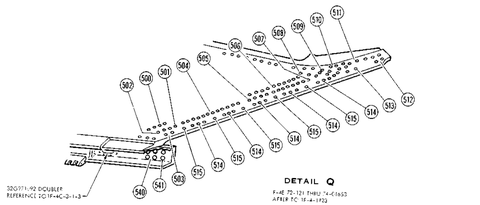
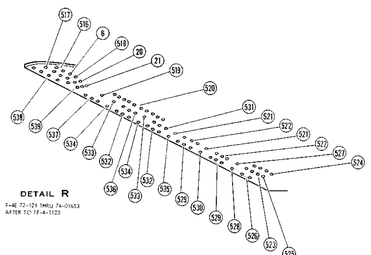


Figure 2-39. Torque Box Skin and Structural Fasteners Index- F-4E 72-121 AND UP (Sheet 2 of 12)





4C-3-1-2-299-2.6.1

Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 2A of 12)

REF NO.	FASTENER (47)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
1	TL100-4-21			TLN1020L4W AN960D416		TLN1020L4N
2	TL100-7-20			TLN1020L7W		TLN1020L7N
3	TL100-7-20			AN960D716 TLN1020L7W		TLN1020L7N
4	TL936-5-22-58 (1)			TLN1020L5W		TLN1020L5N
5	TL100-7-21			TLN1020L7W		TLN1020L7N
6	TL100-4-13			TLN1020L4W		TLN1020L4N
7	TL936-5-19-72 (1)			TLN1020L5W		TLN1020L5N
8	TL100-5-23			TLN1020L5W		TLN1020L5N
9	TL100-4-21			TLN1020L4W		TLN1020L4N
10	TL100-3-15			TLN1020L3W		TLN1020L3N
11	TL100-3-16			TLN1020L3W		TLN1020L3N
12	TL100-3-17			TLN1020L3W		TLN1020L3N
13	TL100-3-18			TLN1020L3W		TLN1020L3N
14	TL100-3-19			TLN1020L3W		TLN1020L3N
15	TL100-3-20			TLN1020L3W		TLN1020L3N
16	TL100-5-21			TLN1020L5W		TLN1020L5N
17	TL100-5-21			AN960D516 TLN1020L5W		TLN1020L5N
18	TL100-4-23			AN960D416 TLN1020L4W		TLN1020L4N
19	TL936-5-21-78 (1)			TLN1020L5W		TLN1020L5N
20	TL100-4-19			TLN1020L4W		TLN1020L4N
21	TL100-4-19			AN960D416 TLN1020L4W		TLN1020L4N
22	TL936-5-20-90 (1)			TLN1020L5W		TLN1020L5N
23	TL100-5-19			TLN1020L5W		TLN1020L5N
24	TL100-5-23			AN960D516 TLN1020L5W		TLN1020L5N
25	TL936-5-23-96 (1)			TLN1020L5W		TLN1020L5N
26	TL100-4-23			TLN1020L4W		TLN1020L4N
27	TL100-4-25			AN960D416 TLN1020L4W		TLN1020L4N
28	TL100-5-29			TLN1020L5W		TLN1020L5N
29	TL936-5-26-103 (1)			TLN1020L5W		TLN1020L5N
30	TL100-5-27			AN960D516 TLN1020L5W		TLN1020L5N
31	TL100-5-27			TLN1020L5W		TLN1020L5N
32	TL100-4-27			TLN1020L4W		TLN1020L4N
33	TL100-4-29			AN960D416 TLN1020L4W		TLN1020L4N
34	TL936-5-30-110 (1)			TLN1020L5W		TLN1020L5N
35	TL100-5-31			TLN1020L5W		TLN1020L5N
36 (48)	TL100-6-33			TLN1020L6W		TLN1020L6N
(49)	TL100-6-36			TLN1020L6W		TLN1020L6N
37 (48)	TL100-8-33			TLN1020L8W		TLN1020L8N
(49)	TL100-8-37			TLN1020L8W		TLN1020L8N
38	TL100-4-31			AN960D416 TLN1020L4W		TLN1020L4N
39	TL100-4-31			TLN1020L4W		TLN1020L4N
40	TL100-5-33			AN960D516 TLN1020L5W		TLN1020L5N
41	TL936-5-32-117 (1)			TLN1020L5W		TLN1020L5N
42	TL100-8-41 } (49)			TLN1020L8W		TLN1020L8N
43	TL100-8-39 }			TLN1020L8W		TLN1020L8N
44 (48)	TL100-8-29			TLN1020L8W		TLN1020L8N
(49)	TL100-8-33			TLN1020L8W		TLN1020L8N
45	TL100-5-31			AN960D516 TLN1020L5W		TLN1020L5N
46	TL100-5-29			AN960D516 TLN1020L5W		TLN1020L5N
47	TL100-5-26			TLN1020L5W		TLN1020L5N
48	TL100-5-25			TLN1020L5W		TLN1020L5N
49	TL100-5-25			AN960D516 TLN1020L5W		TLN1020L5N
50	TL100-4-29			TLN1020L4W		TLN1020L4N
51	TL936-5-28-113 (1)			TLN1020L5W		TLN1020L5N
52	TL100-4-27			AN960D416 TLN1020L4W		TLN1020L4N
53	TL100-4-25			TLN1020L4W		TLN1020L4N
54	TL936-5-26-111 (1)			TLN1020L5W		TLN1020L5N
55	TL936-5-25-106 (1)			TLN1020L5W		TLN1020L5N
56	TL936-5-24-100 (1)			TLN1020L5W		TLN1020L5N
57	TL936-5-23-91 (1)			TLN1020L5W		TLN1020L5N
58	TL100-5-32			TLN1020L5W		TLN1020L5N
59	TL100-7-31			TLN1020L7W		TLN1020L7N
60	TL100-7-29			TLN1020L7W		TLN1020L7N
61	TL100-7-28			TLN1020L7W		TLN1020L7N
62	TL100-7-27			TLN1020L7W		TLN1020L7N
63	TL936-5-24-85 (1)			TLN1020L5W		TLN1020L5N
64	TL936-5-22-79 (1)			TLN1020L5W		TLN1020L5N

4C-3-1-2-(290-3)D

Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 3 of 12)

REF NO.	FASTENER (47)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
65	TL100-4-25			AN960D416 TLN1020L4W	32-11401-485	TLN1020L4N
66	TL100-5-19			AN960D516 TLN1020L5W		TLN1020L5N
67	NAS585-39T			AN960D516	32-11244-3	MS21042-5
68	TL100-5-17			TLN1020L5W		TLN1020L5N
69	TL936-5-20-74 (1)			TLN1020L5W	32-11346-29	TLN1020L5N
70	TL100-8-25			TLN1020L8W		TLN1020L8N
71	TL100-8-22			TLN1020L8W		TLN1020L8N
72	TL100-8-26			TLN1020L8W		TLN1020L8N
73	TL100-4-17			TLN1020L4W		TLN1020L4N
74	TL100-8-19			TLN1020L8W		TLN1020L8N
75	TL936-5-18-71 (1)			TLN1020L5W		TLN1020L5N
76	TL100-8-23			TLN1020L8W		TLN1020L8N
77	TL100-8-24			TLN1020L8W		TLN1020L8N
78	TL100-4-17			AN960D416 TLN1020L4W		TLN1020L4N
79 (48)	TL100-4-21			TLN1020L4W AN960D416		TLN1020L4N
(48)	TL100-4-19			TLN1020L4W AN960D416		TLN1020L4N
80	TL100-4-20			TLN1020L4W		TLN1020L4N
81	TL100-3-11			TLN1020L3W		TLN1020L3N
82	TL936-5-17-64 (1)			TLN1020L5W		TLN1020L5N
83	TL100-4-15			TLN1020L4W		TLN1020L4N
84	TL936-5-16-59 (1)			TLN1020L5W		TLN1020L5N
85	TL100-4-15			AN960D416 TLN1020L4W		TLN1020L4N
86	TL200-4-17			TLN1020L4W		TLN1020L4N
87	TL936-5-15-55 (1)			TLN1020L5W		TLN1020L5N
88	TL100-4-14			TLN1020L4W		TLN1020L4N
89	TL936-5-14-51 (1)			TLN1020L5W		TLN1020L5N
90	TL100-4-11			TLN1020L4W		TLN1020L4N
91	TL936-5-13-44 (1)			TLN1020L5W		TLN1020L5N
92	TL936-5-13-41 (1)			TLN1020L5W		TLN1020L5N
93	NAS583-12T				53G970842-177,-179	F1967-3
94	TL936-5-17-32 (1)			TLN1020L5W		TLN1020L5N
95	TL100-4-22			AN960D416 TLN1020L4W		TLN1020L4N
96	TL100-5-12			AN960D516 TLN1020L5W		TLN1020L5N
97	TL100-5-12			TLN1020L5W		TLN1020L5N
98	TL100-4-9			AN960D416 TLN1020L4W		TLN1020L4N
99	TL100-4-13			AN960D416 TLN1020L4W		TLN1020L4N
100	TLD100-4-13E			TLN1023CD3-4W		TLN1023L4N
101	TLD936-5-14E51 (1)			TLN1023CD3-5W		TLN1023L5N
102	TLD936-5-16E53 (1)			TLN1023CD3-5W		TLN1023L5N
103	TLD100-4-15E			TLN1023CD3-4W		TLN1023L4N
104	TLD936-5-15E55 (1)			TLN1023CD3-5W		TLN1023L5N
105	TLD936-5-16E59 (1)			TLN1023CD3-5W		TLN1023L5N
106	TLD936-5-16E19 (1)			TLN1023CD3-5W		TLN1023L5N
107	TLD100-4-17E			TLN1023CD3-4W		TLN1023L4N
108	TLD936-5-17E64 (1)			TLN1023CD3-5W		TLN1023L5N
109	TLD100-4-19E			TLN1023CD3-4W		TLN1023L4N
110	TLD936-5-19E64 (1)			TLN1023CD3-5W		TLN1023L5N
111	TLD936-5-18E59 (1)			TLN1023CD3-5W		TLN1023L5N
112	TLD936-5-17E56 (1)			TLN1023CD3-5W		TLN1023L5N
113	NAS584-14T		AN960D416			RMG1582-048-8-3
114	NAS1304-10		AN960D416			F1934-4-2
115	NAS584-13T					RMG1582-048-8-3
116	NAS584-15T					RMG1582-048-8-3
117	NAS1304-10		AN960D416			RMG1582-048-10-3
118	NAS1304-10		AN960D416			RMG1582-048-8-3
119	HT4U11	810020-8				RMG1582-048-16-5
120	HT4U11	810020-8				RMG1582-048-16-6
121	HT4U12	810020-8				RMG1582-048-12-7
122	HT4U14 (6)	810020-8 (6)				F1934-4-2
123	HT4U17	810020-8				RMG1582-048-12-7
124	HT4U16	810020-8				RMG1582-048-12-4
125	HT4U18	810020-8				MS21059L4
126	TL936-5-25-115 (1)			TLN1020L5W		TLN1020L5N
127	TL936-5-21-96 (1)			TLN1020L5W		TLN1020L5N
128	HT4U11	810020-8				RMG1582-048-10-4
129	HT4U11	810020-8				RMG1582-048-10-3
130	HT4U11	810020-8				F1934-4-2
131	HT4U9 (6)	810020-8 (6)				RMG1582-048-10-11
132	HT4U9	810020-8				RMG1582-048-10-10
133	HT4U9	810020-8				F1934-4-2
134	HT4U18	810020-8				RMG1582-048-10-5L
135	HT4U14	810020-8				RMG1582-048-8-7L

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Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 4 of 12)

REF NO.	FASTENER (47)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
136	HT4U10	810020-8				RMG1582-048-8-8L
137	HT4U7	810020-8				RMG1582-048-8-9L
138	HT4U9	810020-8				F1967-4
139	HT4U9	810020-8			32-11401-167	RMG1582-048-8-3
140	HT4U8 (6)	810020-8 (6)				RMG1582-048-8-4
141	HT4U8	810020-8				F1934-4-2
142	HT4U7	810020-8				F1934-4-2
143	HT4U7	810020-8				RMG1582-048-10-4
144	HT4U7	810020-8				RMG1582-048-8-3
145	HT5U11	810020-10			32-11401-27 32-11401-93	F1967-5
146	NAS584-11T					F1934-4-2
147	NAS584-11T					RMRG51-048J-8-24-6
148	HT4U11	810020-8				RMG1582-048-8-2L
149	HT4U10 (6)	810020-8 (6)				RMG1582-048-12-4
150	HT4U7	810020-8				RMG1582-048-8-5
151	HT4U11	810020-8			32-11401-3 32-11401-69 32-11401-169	RMG1582-048-10-4
152	HT4U7	810020-8				RMG1582-048-8-6
153	HT4U8	810020-8				RMG1582-048-8-6
154	HT4U11 (6)	810020-8 (6)				RMG1582-048-8-4
155	HT4U12	810020-8				F1934-4-2
156	HT4U12	810020-8				RMG1582-048-8-3
157	NAS584-11T					MS21059L4
158	NAS584-13T				32-11401-251	MS21059L4
159	HT4U13 (6)	810020-8 (6)			32-11401-251	MS21059L4
160	NAS584-12T				32-11401-187	MS21063L4-8-3
161	HT4U12 (6)	810020-8 (6)			32-11401-187	MS21063L4-8-3
162	NAS584-13T				32-11401-187	MS21063L4-8-3
163	NAS584-13T				32-11401-189	MS21063L4-8-3
164	HT4U11 (6)	810020-8 (6)				RMG1582-048-8-10
165	NAS584-14T				32-11401-251	MS21059L4
166 (20)	TL936-5-14-38 (1)			TLN1020L5W		TLN1020L5N
21	TLD936-5-20E38 (1)			TLN1023CD3-5W		TLN1023L5N
167	TL936-5-11-39 (1)			TLN1020L5W		TLN1020L5N
168	TL936-5-12-40 (1)			TLN1020L5W		TLN1020L5N
169	TL100-8-14			AN960D816 TLN1020L8W		TLN1020L8N
170	TL100-8-15			AN960D816 TLN1020L8W		TLN1020L8N
171	NAS583-12T				53G970845-5,-6 53G970842-177,-179	F1967-3
172	TL100-4-9			TLN1020L4W		TLN1020L4N
173	TL936-5-12-30 (1)			TLN1020L5W		TLN1020L5N
174	TL936-5-12-39 (1) (7)			TLN1020L5W		TLN1020L5N
	TL936-5-12-40 (1) (8)			TLN1020L5W		TLN1020L5N
175	TL100-4-11 (7)			TLN1020L4W		TLN1020L4N
	TL100-4-15 (8)			TLN1020L4W		TLN1020L4N
176	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
177	TL100-4-13 (7)			TLN1020L4W		TLN1020L4N
	TL100-4-11 (8)			AN960D416 TLN1020L4W		TLN1020L4N
178	TL100-4-13 (7)			TLN1020L4W		TLN1020L4N
	TL100-4-9 (8)			TLN1020L4W		TLN1020L4N
179	TL100-4-21 (7)			TLN1020L4W		TLN1020L4N
	TL100-4-17 (8)			AN960D416 TLN1020L4W		TLN1020L4N
180 (30)	TL100-5-15			AN960D516		TL1000L5
35	TL100-5-17			AN960D516		TLN1000L5
181 (29)	TL100-5-15					TL1000L5
35	TL100-5-19					TLN1000L5
182	TL100-4-37			TLN1020L4W		TLN1020L4N
183	TL986-4-28 (9)					
184 (28)	TL936-5-17-39 (1)			TLN1020L5W		TLN1020L5N
29	TL936-5-21-30 (1)			TLN1020L5W		TLN1020L5N
185	TL936-5-13-31 (1)			TLN1020L5W		TLN1020L5N
186	TL100-4-9 (7)			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-9 (8)			TLN1020L4W		TLN1020L4N
187	TL100-4-11 (7)			TLN1020L4W		TLN1020L4N
	TL100-4-9 (8)			TLN1020L4W		TLN1020L4N
188	TL100-4-11 (7)			TLN1020L4W		TLN1020L4N
	TL100-4-9 (8)			AN960D416 TLN1020L4W		TLN1020L4N
189	TL100-4-17 (2)			AN960D416 TLN1020L4W		TLN1020L4N
190	TL936-5-14-43 (1)			TLN1020L5W		TLN1020L5N
191	TL936-5-15-30 (1)			TLN1020L5W		TLN1020L5N
192	TL100-4-16			TLN1020L4W		TLN1020L4N
193	TL100-5-10-28 (1)			TLN1020L5W		TLN1020L5N
194	TL100-5-16-29 (1)			TLN1020L5W		TLN1020L5N

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Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 5 of 12)

REF NO.	FASTENER (47)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
195	TL985-4-28 (12)					
20	TL985-4-16 (12)			TLN1020L5W		TLN1020L5N
196	TL936-5-9-28 (1)			AN960D416		F1972-4-2
197	NAS1304-11			AN960D516		MS21063L5-12-3
198	NAS1303-10		AN960D516L	AN960D516		LH3393-054
199	NAS625-11		MS20002C5			
200	NAS625-16		AN960D516L	AN960D516		LH3393-054
			MS20002C5			
201	NAS625-12		AN960D516L	AN960D516		LH3393-054
			MS20002C5			
202	HT4U8 (4)	NAS1523AA4F	AN960D416			F1934-4-2
	NAS1304-11	NAS1523AA4F	AN960D416			F1934-4-2
203	NAS583-11T					RM52LH2935-02
						2935-0 (K)
204	AN4H13A	NAS1523AA4F	AN960D416			MS21059L4
205	AN4H7A	NAS1523AA4F	AN960D416			MS21059L4
206	HT6U19	810020-12			NAS463DD616L	MS21059L6
					4M30D616-125	
207	HT6U18	810020-12			NAS463DD616	MS21059L6
					4M30D616-125	
208	HT6U16	810020-12			NAS463DD616	MS21059L6
					4M30D616-125	
209	HT6U15	810020-12			NAS463DD616L	MS21059L6
					4M30D616-125	
210	HT6U17 (6)	810020-12 (6)			NAS463DD616M	MS21059L6
					4M30D616-125	
211	HT6U14	810020-12			NAS463DD616	MS21059L6
					4M30D616-125	
212	HT6U12	810020-12			NAS463DD616M	MS21059L6
					4M30D616-125	
213	HT6U14	810020-12			NAS463DD616M	MS21059L6
					4M30D616-125	
214	HT4U12	810020-8			32-11401-169	RMG1582-048-10-4
215	HT4U11	810020-8				RMG1582-048-12-4
216	NAS584-13T				32-11401-181	RG1000-048-8-24-6
217	NAS584-12T				32-11401-179	RG1000-048-8-24-5
218	NAS584-13T					F1934-4-2
219	HT4U13 (6)	810020-8 (6)				F1934-4-2
220	HT4U9 (6)	810020-8 (6)				RMG1582-048-8-4
221	NAS584-12T					F1967-4
222	HT4U10	810020-8				RMG1582-048-10-2L
223	HT4U12	810020-8				RMG1582-048-10-2L
224	HT4U12	810020-8				RMG1582-048-10-4
225	HT5U16	810020-10			32-11401-27	F1967-5
	(6)	(6)			32-11401-93	
226	HT4U15	810020-8				F1934-4-2
227	HT4U16	810020-8				F1967-4
228	HT4U16	810020-8			32-11401-167	RMG1582-048-10-3
229	HT4U15	810020-8				RMG1582-048-8-4
230	TL100-4-33			TLN1020L4W		TLN1020L4N
231	TL936-5-25-85 (1)			TLN1020L5W		TLN1020L5N
232	NAS1458-19					NAS1080-8
233	NAS1458-18					NAS1080-8
234	NAS1438-18					NAS1080C8
235	NAS1438-17					NAS1080C8
236	NAS1438-16					NAS1080C8
237	NAS1438-15					NAS1080C8
238	NAS1438-14					NAS1080C8
239	NAS1438-13					NAS1080C8
240	NAS1438-12					NAS1080C8
241	NAS1438-11					NAS1080C8
242	NAS584-11T					RM52LH2935-048
						2935-04 (K)
243	NAS1440-9					NAS1080-10
244	NAS1438-10					NAS1080C8
245	NAS584-10T					RM52LH2935-048
						2935-04 (K)
246	NAS1418-11					NAS1080C8
247	NAS584-12T			AN960D416		MS21042-4
248	NAS584-10T			AN960D416		MS21042-4
249	NAS584-10T			AN960D416	32-11346-13	MS21042-4
250	HS61-8-13					NAS528A8
251	HS61-8-11					NAS528A8
252	NAS1438-8					NAS1080C8
253	NAS584-9T					RM52LH2935-048
						2935-04 (K)
254	NAS1418-10					NAS1080C8
255	NAS584-14T					RM52LH2935-048
						2935-04 (K)
256	NAS1418-16					NAS1080C8

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Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 6 of 12)

REF NO.	FASTENER (47)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
257	NAS1418-16				32-11401-61 32-11401-127	NAS1080C8
258	HT4U8					RMG15B2-048-10-5L
259	NAS584-12T					RMG15B2-048-10-5L
260	NAS584-17T					RMG15B2-048-10-5L
261	HT4U7					RMG15B2-048-10-7L
262	HT4U6					RMG15B2-048-10-8L
263	HT4U6					RMG15B2-048-10-9L
264	NAS1438-33					NAS1080C8
265	NAS1438-34					NAS1080C8
266	NAS1438-35					NAS1080C8
267	66117H6-17			AN960D616		MS21042-6
268	HT309-6-24			AN960D616		LH9376-6
269	66117H5-17			AN960D516		LH9376-5
270	66117H6-19			AN960D616	53-11002-5 53-11002-13	MS21042-6
271	66117H6-13			AN960D616	53-11002-5 53-11002-13	MS21042-6
272	66117H5-12			AN960D516	53-11002-21, -22	LH9376-5
273	66117H6-12			AN960D616	53-11002-21, -22	LH9376-6
274	66117H6-10			AN960D616		LH9376-6
275	66117H6-17			AN960D616		LH9376-6
276	66117H6-9			AN960D616		LH9376-6
277	66117H6-11			AN960D616		LH9376-6
278	NAS584-12T				32-11401-251	MS21059L4
279	NAS584-9T			AN960D416		MS21042-4
280	NAS1418-9					NAS1080C8
281	NAS1438-9					NAS1080C8
282	66117H6-16			AN960D616		LH9376-6
283	NAS525-8-9					NAS528A8
284	NAS584-14T			AN960D416		MS21042-4
285	NAS334CFA-11			AN960D416		MS21042-4
286	HT4U10					F1934-4-2
287	NAS584-9T					MS21059L4
288	HT4U10					RMG15B2-048-8-3
289	NAS584-11T				32-11401-187	MS21063L4-8-3
290	HT4U9 (6)	810020-8 (6)			32-11401-195	RMG15B2-048-8-12
291	NAS1307-15	NAS1523AA7F	AN960D716		4M30D716-125	MS21059L7
292	MS20007-14	NAS1523AA7F	MS20002C7		4M30D716-125 32-11401-47 32-11401-113	MS21059L7
293	MS20007-12	NAS1523AA7F	MS20002C7		4M30D716-064 4M30D716-125 32-11401-49 32-11401-115	MS21059L7
294	NAS1304-7		AN960D416L			RMG15B2-048-8-3
295	NAS584-12T					RM52LH2935-048 2935-04 (10)
296	NAS584-12T					F1967-4
297	NAS584-18T					RM52LH2935-048 2935-04 (10)
298	NAS584-18T					F1967-4
299	NAS584-12T		AN960D416L			RMG15B2-048-8-10
300	NAS464P4-12					MS21063L4-8-3
301	NAS1304-12		AN960D416L			MS21063L4-8-3
302	NAS1304-12		AN960D416L			RMG15B2-048-8-12
303	NAS1304-12		AN960D416L			RMG15B2-048-8-16
304	NAS1304-12		AN960D416L			RMG15B2-048-8-17
305	NAS584-13T				32-11401-177	RMG15B2-048-8-4
306	NAS584-13T					RMG15B2-048-8-3L
307	NAS584-13T					RMG15B2-048-8-4
308	NAS584-17T					RMG15B2-048-8-5
309	NAS1418-19					NAS1080C8
310	NAS1304-17		AN960D416L	AN960D416		RM52LH2935-048 2935-04 (10)
311	NAS1428-17					NAS1080C8
312	NAS1428-15					NAS1080C8
313	NAS584-16T					RM52LH2935-048 2935-04 (10)
314	NAS584-15T					F1967-4
315	NAS1304-10		AN960D416L			RM52LH2935-048 2935-04 (10)
316	NAS1304-14					RM52LH2935-048 2935-04 (10)
317	NAS1304-16		AN960D416			RM52LH2935-048 2935-04 (10)
318	NAS1304-17		AN960D416		32-11145-3, -4	RM52LH2935-048 2935-04 (10)
319	NAS1416-28					NAS1080C6
	NAS583-28T		AN960D10	AN960D10		MS21042-3
320	NAS1448-14					NAS1080C8

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Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 7 of 12)

REF NO.	FASTENER (47)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
321	NAS1448-12					NAS1080C8
322	NAS584-14T					RM52LH2935-048
						2935-04 (30)
323	NAS1304-11		AN960D416L			F1967-4
324	NAS1438-10					NAS1080C8
325	NAS1448-18					NAS1080C8
326 (30)	NAS1418-17					NAS1080C8
327 (31)	NAS1416-26				32-11147-3,-4	NAS1080C6
	NAS583-27T		AN960D10	AN960D10		MS21042-3
328 (32)	NAS1303-27		AN960D10L			MS21042-3
	NAS583-27T		AN960D10		32-11147-3,-4	MS21042-3
329	NAS584-16T			AN960D416		F1967-4
330	NAS1448-13					NAS1080C8
331	NAS584-23T		AN960D416			MS21042-4
332	NAS1304-13		AN960D416L			F1967-4
333	NAS1428-25				32-11401-491,-492	NAS1080C8
334	NAS1428-23				32-11401-491,-492	NAS1080C8
335	NAS1448-8					NAS1080C8
336	NAS584-21T					RM52LH2935-048
						2935-04 (30)
337	NAS584-17T			AN960D416		MS21042-4
338 (49)	NAS334CFA14-5		AN960D416			MS21042-4
(50)	NAS584-18T					RM52LH2935-048
						2935-04 (30)
339	NAS1418-14		AN960D416			NAS1080C8
340	NAS583-7T					MS21042-3
341	NAS1055-7					NAS528A8
342	NAS1055-8					NAS528A8
343	NAS1055-21					NAS528A8
344	66117H8-19		AN960D816		53-11066-5,-6	70938-8
345	66117H8-24 (11)				53-11066-5,-6	66052N820
					53-111012-15,-17	
346	66117H8-23				53-11066-5,-6	66052N820
					53-111012-15,-17	
347	NAS1304-10		AN960D416L			RMG15B2-048-8-10
348	HT4U8	810020-8				F1934-4-2
349	HT4U8 (6)	810020-8				RMG15B2-048-10-10
350	HT4U8	810020-8				RMG15B2-048-10-11
351	NAS1304-10		AN960D416L			RMG15B2-048-8-7
352	HT4U12 (6)	810020-8				RMG15B2-048-10-8
353	HT4U12	810020-8 (6)				RMG15B2-048-10-3
354	NAS1304-14		AN960D416L			RMG15B2-048-8-5
355	NAS584-17T					F1967-4
356	HT4U12 (6)	810020-8				F1934-4-2
357	NAS1304-18		AN960D416L			RMG15B2-048-10-6
358	NAS1304-18		AN960D416L			RMG15B2-048-10-4
359	HT4U13 (6)	810020-8				RMG15B2-048-10-7
360	HT4U13	810020-8				RMG15B2-048-10-8
361	NAS1304-18		AN960D416L			F1934-4-2
362	NAS1304-21		AN960D416L			RMG15B2-048-10-4
363	NAS1304-24		AN960D416L			RMG15B2-048-10-4
364	HT4U18 (6)	810020-8				F1967-4
365	NAS1304-19		AN960D416L			F1967-4
366	NAS1304-20	(6)	AN960D416L			F1967-4
367	NAS1304-23		AN960D416L			F1967-4
368	NAS1304-26		AN960D416L			F1967-4
369	NAS1304-28		AN960D416L		4M30D416-125	F1967-4
370	NAS584-26T				32-11401-223,-224	F1967-4
371	HT4U19 (6)	810020-10			NAS463X-DD516	F1967-5
372	TL100-6-33			TLN1020L6W	32-11401-475	TLN1020L6N
373 (48)	TL100-4-21		TLN1020L4W			TLN1020L4N
(48)	TL100-4-19		TLN1020L4W			TLN1020L4N
374	NAS584-16T		AN960D416			MS21042-4
375	TL936-5-33-89 (1)			TLN1020L5W		TLN1020L5N
376	NAS584-23T		AN960D416			MS21042-4
377	NAS1304-28		AN960D416			RM52LH2935-048
						2935-04 (30)
378	NAS1468-28					NAS1080-8
379	NAS584-18T					RMG1582-048-8-5
380	NAS1460-18					NAS1080P10
381	NAS1470-18					NAS1080P10
382	NAS1304-18		AN960D416L			RM52LH2935-048
						2935-04 (30)
383	NAS1460-17					NAS1080P10
384	NAS1458-17					NAS1080-8
385	NAS1440-16					NAS1080C10
386	NAS1440-15					NAS1080C10
387	NAS584-10T					RMG15B2-048-8-10
388	NAS584-19T			53G970868-59		F1967-4
				53G970868-101L		
389	NAS584-15T					RM52LH2935-048
						2935-04 (30)
390	NAS1440-14					NAS1080C10
391	NAS584-12T					RM52LH2935-048
						2935-04 (30)

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Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 8 of 12)

REF NO.	FASTENER ⟨47⟩	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
392	NAS1450-13					NAS1080C10
393	NAS1450-12					NAS1080C10
394	NAS1304-13		AN960D416L			RM52LH2935-048
						2935-04 ⟨10⟩
395	NAS584-19T				53G970868-59	RM52LH2935-048
					53G970868-1011	2935-04 ⟨10⟩
396 ⟨10⟩	NAS1450-11					NAS1080C10
⟨10⟩	NAS1438-11					NAS1080C10
397 ⟨10⟩	HS2601-5Z17		AN960D516			66052N524
						66052W5 ⟨10⟩
⟨10⟩	HS2601-5Z20		AN960D516			66052N524
						66052W5 ⟨10⟩
398 ⟨10⟩	HS2601-5Z16		AN960D516			66052N524
						66052W5 ⟨10⟩
⟨10⟩	HS2601-5Z20		AN960D516			66052N524
						66052W5 ⟨10⟩
399	MS20005-16		MS20002C5			RM52LH2935-054
						2935-05 ⟨10⟩
400 ⟨10⟩	HS2601-5Z15		AN960D516			66052N524
						66052W5 ⟨10⟩
⟨10⟩	HS2601-5Z17		AN960D516			66052N524
						66052W5 ⟨10⟩
401 ⟨10⟩	HS2623-5Z23					66052N524
						66052W5 ⟨10⟩
⟨10⟩	HS2601-5Z21		AN960D516			66052N524
						66052W5 ⟨10⟩
402 ⟨10⟩	HS2601-5Z22		AN960D516			66052N524
						66052W5 ⟨10⟩
⟨10⟩	HS2601-5Z20		AN960D516			66052N524
						66052W5 ⟨10⟩
403 ⟨10⟩	HS2601-5Z25		AN960D516			66052N524
						66052W5 ⟨10⟩
⟨10⟩	HS2601-5Z23		AN960D516			66052N524
						66052W5 ⟨10⟩
404	MS20005-24		MS20002C5			RM52LH2935-054
						2935-05 ⟨10⟩
405 ⟨10⟩	HS2623-4Z31					66052N428
						66052W4 ⟨10⟩
⟨10⟩	HS2623-4Z28					66052N428
						66052W4 ⟨10⟩
406 ⟨10⟩	HS2623-4Z30					66052N428
						66052W4 ⟨10⟩
⟨10⟩	HS2623-4Z27					66052N428
						66052W4 ⟨10⟩
407	NAS584-15T					RM52LH2935-048
						2935-04 ⟨10⟩
408	NAS584-19T					RM52LH2935-048
						2935-04 ⟨10⟩
409	NAS1418-8					NAS1080C8
410	NAS1418-12					NAS1080C8
411	NAS584-17T					G29504-4-2-8-3F
412	NAS584-15T					G29504-4-2-8-3F
413	NAS584-17T					RM52LH2935-048
						2935-04 ⟨10⟩
414	NAS584-17T					F1967-4
415	NAS584-13T					F1967-4
416	NAS1420-8					NAS1080C10
417	NAS584-17T				4M49L40M-8-3	G19179-4-2-8-3L
418	NAS1418-13					NAS1080C8
419	NAS584-22T		AN960D416			RM52LH2935-048
						2935-04 ⟨10⟩
420	NAS584-18T		AN960D416			RM52LH2935-048
						2935-04 ⟨10⟩
421	NAS584-15T					RM52LH2935-048
						2935-04 ⟨10⟩
422	NAS584-10T				32-1140T-285	MS21064L4-8-2
423	66117H4-17			66052W4 ⟨10⟩		66052N428
424	NAS584-19T					RM52LH2935-048
						2935-04 ⟨10⟩
425	NAS584-17T					RM52LH2935-048
						2935-04 ⟨10⟩
426	NAS584-15T		AN960D416			RM52LH2935-048
						2935-04 ⟨10⟩
427	NAS583-12T					RM52LH2935-02
						2935-0 ⟨10⟩
428	NAS584-20T					RM52LH2935-048
						2935-04 ⟨10⟩
429	NAS584-14T					F1967-4
430	NAS583-11T					RM52LH2935-02
						2935-0 ⟨10⟩
431	NAS583-8T					RM52LH2935-02
						2935-0 ⟨10⟩
432	NAS1581A4H13T					RM52LH2935-048
						2935-04 ⟨10⟩
433	NAS1581A4H19T					RM52LH2935-048
						2935-04 ⟨10⟩
434	NAS583-13T					RM52LH2935-02
						2935-0 ⟨10⟩

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Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 9 of 12)

REF NO.	FASTENER (47)	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR
435	NAS1581A4H15T					RM52LH2935-048 2935-04 (10)
436	NAS1581A4H12T					RM52LH2935-048 2935-04 (10)
437	NAS1581A4H16T				53G970868-77	RM52LH2935-048 2935-04 (10)
438	NAS1581A4H14T					RM52LH2935-048 2935-04 (10)
439	66117H4-14					66052N428 66052W4 (10)
440	AN4H12A	NAS1523AA4F	AN960D416		NAS463X-DD416	MS21059L4
441	HT7U19	810020-14				MS21045L7
442	HT7U20	810020-14				MS21045L7
443	HT7U21	810020-14				MS21045L7
444	NAS1304-9	NAS1523AA4F	AN960D416			RMG15B2-048-8-8
445	NAS464P3A6	NAS1523AA3F	AN960D10L			BN566-1032-3
446	NAS583-6T					F1967-3
447	NAS583-5T					F1967-3
448	HT4013-4-13X					RM52LH2935-048 2935-04 (10)
449	NAS1703T13					RM52LH2935-02 2935-0 (10)
450	NAS583-12T				53G970845-3,-4 53G970842-177,-179	F1967-3
451	NAS584-25T				53-11067-5	RM52LH2935-048 2935-04 (10)
452	NAS584-26T				53-11067-7	RM52LH2935-048 2935-04 (10)
453	NAS584-28T				53-11067-9	RM52LH2935-048 2935-04 (10)
454	NAS584-31T				53-11067-11	RM52LH2935-048 2935-04 (10)
455	NAS584-32T				53-11067-13	RM52LH2935-048 2935-04 (10)
456	NAS584-34T				53-11067-15	RM52LH2935-048 2935-04 (10)
457	NAS584-20T				4M38A416L	RM52LH2935-048 2935-04 (10)
458	NAS584-16T				4M38A416L	RM52LH2935-048 2935-04 (10)
459	NAS1304-34		AN960D416			RM52LH2935-048 2935-04 (10)
460 (27)	TL100-4-15			AN960D416 TLN1020L4W		TLN1020L4N
(25)	TL100-4-12			AN960D416 TLN1020L4W		TLN1020L4N
461 (41)	NAS1304-28		AN960D416			RM52LH2935-048 2935-04 (10)
(47)	NAS1305-30		AN960D516			RM52LH2935-054 2935-05 (10)
462	H52601-5Z16		AN960D516			66052N524 66052W5 (10)
463 (28)	TL100-4-13			AN960D416 TL1020L4W		TLN1020L4N
(29)	TLD100-4-20E			AN960D416 TLN1023CD34W		TLN1023L4N
464 (26)	TL100-4-11			TLN1020L4W		TLN1020L4N
(29)	TL100-4-16			TLN1020L4W		TLN1020L4N
465 (26)	TL100-4-11			TLN1020L4W		TLN1020L4N
(29)	TL100-4-15			TLN1020L4W		TLN1020L4N
466 (26)	TL100-4-11			TLN1020L4W		TLN1020L4N
(29)	TL100-4-14			TLN1020L4W		TLN1020L4N
467 (28)	TL100-4-13			AN960D416 TLN1020L4W		TLN1020L4N
(27)	TL100-4-17			AN960D416 TLN1020L4W		TLN1020L4N
468 (24)	TL100-4-15			TLN1020L4W		TLN1020L4N
(21)	TLD100-4-25E			TLN1023CD34W		TLN1023L4N
469 (28)	TL100-4-9			TLN1020L4W		TLN1020L4N
(29)	TL100-4-10			TLN1020L4W		TLN1020L4N
470 (28)	TL100-4-15			AN960D416 TLN1020L4W		TLN1020L4N
(31)	TL100-4-20			AN960D416 TLN1020L4W		TLN1020L4N
471 (34)	TL100-4-9			AN960D416 TLN1020L4W		TLN1020L4N
(33)	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
(32)	TL100-4-9			AN960D416 TLN1020L4W		TLN1020L4N
472 (26)	TL100-4-9			AN960D416 TLN1020L4W		TLN1020L4N
(29)	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
473 (26)	TL100-4-13			AN960D416 TLN1020L4W		TLN1020L4N
(29)	TL100-4-14			AN960D416 TLN1020L4W		TLN1020L4N

4C-3-1-2-(290-10)G

Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 10 of 12)

REF NO.	FASTENER ⟨47⟩	GASKET	WASHER		SHIM OR SPACER	NUT OR COLLAR
			UNDER HEAD	UNDER NUT		
474	TL100-4-9			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
475	TL100-3-8			TLN1020L3W		TLN1020L3N
	TL100-3-9			TLN1020L3W		TLN1020L3N
	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-9			AN960D416 TLN1020L4W		TLN1020L4N
476	TL100-4-19			TLN1020L4W		TLN1020L4N
	TL100-4-22			TLN1020L4W		TLN1020L4N
477	TL100-3-14			TLN1020L3W		TLN1020L3N
	TL100-3-16			TLN1020L3W		TLN1020L3N
478	TL100-4-15			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-16			AN960D416 TLN1020L4W		TLN1020L4N
479	TL100-4-17			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-18			AN960D416 TLN1020L4W		TLN1020L4N
480	TL100-3-15			TLN1020L3W	32-11401-59, -125	TLN1020L3N
	TL100-3-19			TLN1020L3W	32-11401-59, -125	TLN1020L3N
	TL100-3-16			TLN1020L3W	32-11401-59, -125	TLN1020L3N
481	TL936-5-33-89 ⟨1⟩			TLN1020L5W		TLN1020L5N
	TL100-5-36			TLN1020L5W		TLN1020L5N
482	TL100-6-27			TLN1020L6W		TLN1020L6N
	TL100-6-34			TLN1020L6W		TLN1020L6N
483	TL100-6-35			TLN1020L6W		TLN1020L6N
	TL100-6-34			TLN1020L6W		TLN1020L6N
484	TL100-4-17			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
485	TL100-5-9			TLN1020L5W		TLN1020L5N
	TL100-5-19			TLN1020L5W		TLN1020L5N
486	TL100-4-13			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-10			AN960D416 TLN1020L4W		TLN1020L4N
487	TL100-4-13			TLN1020L4W		TLN1020L4N
	TL100-4-17			TLN1020L4W		TLN1020L4N
488	TL100-4-21			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-18			AN960D416 TLN1020L4W		TLN1020L4N
489	TL100-4-13			TLN1020L4W		TLN1020L4N
	TL100-4-10			TLN1020L4W		TLN1020L4N
490	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-10			AN960D416 TLN1020L4W		TLN1020L4N
491	TL100-4-11			TLN1020L4W		TLN1020L4N
	TL100-4-9			TLN1020L4W		TLN1020L4N
492	TL100-4-11			AN960D416 TLN1020L4W		TLN1020L4N
	TL100-4-9			AN960D416 TLN1020L4W		TLN1020L4N
493	TL100-4-9			TLN1020L4W		TLN1020L4N
	TL100-4-15			TLN1020L4W		TLN1020L4N
494	TL936-5-13-31 ⟨1⟩			TLN1020L5W		TLN1020L5N
	TL936-5-10-30 ⟨1⟩			TLN1020L5W		TLN1020L5N
495	TL936-5-12-30 ⟨1⟩			AN960D516 TLN1020L5W		TLN1020L5N
	TL936-5-10-30 ⟨1⟩			AN960D516 TLN1020L5W		TLN1020L5N
496	TL936-5-12-30 ⟨1⟩			TLN1020L5W		TLN1020L5N
	TL936-5-10-30 ⟨1⟩			TLN1020L5W		TLN1020L5N
497	HS2601-5Z-17			AN960D516		66052N524 66052W5 ⟨K⟩
498	NAS1438-10					NAS1080C8
	NAS1418-10					NAS1080C8
499	HT4U8 ⟨6⟩	NAS1523AA4F	AN960D416			F1934-4-2
	NAS1304-12	NAS1523AA4F	AN960D416			F1934-4-2

4C-3-1-2-(290-11)G

Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 11 of 12)

REF NO.	FASTENER ⟨47⟩	GASKET	WASHER		SHIM OR SPACER	NUT OR COLLAR
			UNDER HEAD	UNDER NUT		
500	54267-4-9					G19179-4-2-8-4
501	54267-4-10					G19179-4-2-8-3
502	54267-4-10					F1934-4-2
503	NAS1704T9				32-11401-194,-193	MS21059L4
504	54267-4-9				32-11401-195	MS21062L4-8-12
505	54267-4-9					G19179-4-2-8-11
506	54267-4-9					G19179-4-2-8-10
507	54267-4-11					F1934-4-2
508	NAS1704T11				32-11401-189	MS21063L4-8-3
509	HL557-8-16				32-11401-61,-127	65956-4
510	HL557-8-12					65956-4
511	HL557-8-10					65956-4
512	NAS1704T11			4M36-02078		MS21042-4
513	HL557-8-11				32G971108-7	65956-4
514	NAS1704T11				3211401-187	MS21063L4-8-3
515	NAS1704T12				32-11401-251	MS21059L4
516	TL100-4-11			AN960D516(2) TLN1020L4W		TLN1020L4N
517	TL100-4-9			AN960D516(2) TLN1020L4W		TLN1020L4N
518	TL100-4-14			TLN1020L4W		TLN1020L4N
519	HT5U13	810020-10			32G971086-3,-4	MS21059L5
520	HT5U12	810020-10			32G971086-5,-6	MS21063L5-8-10
521	HT5U14	810020-10			32G971086-7	MS21059L5
522	HT5U13 ⟨6⟩	810020-10 ⟨6⟩			32G971086-9	MS21063L5-8-3
523	HT5U12	810020-10			32G971086-13,-14	MS21063L5-8-3
524	HT5U11	810020-10			32G971086-13,-14	MS21063L5-8-4
525	HT5U12	810020-10			32G971086-13,-14	MS21059L5
526	NAS585-11T				32G971086-13,-14	MS21059L5
527	HT5U14 ⟨6⟩	810020-10 ⟨6⟩			32G971086-11	MS21059L5
528	NAS585-14T				32G971086-11	MS21061L5
529	NAS585-13T				32G971086-9	MS21063L5-8-3
530	NAS585-14T				32G971086-7	MS21061L5
531	HT5U13 ⟨6⟩	810020-10 ⟨6⟩			32G971086-5,-6	MS21063L5-8-3
532	NAS585-14T				32G971086-5,-6	MS21063L5-8-3
533	HT5U14 ⟨6⟩	810020-10 ⟨6⟩			32G971086-5,-6	MS21059L5
534	NAS585-15T				32G971086-5,-6	MS21061L5
535	NAS585-15T				32G971086-7	MS21061L5
536	NAS585-15T				32G971086-5,-6	MS21061L5
537	NAS585-13T				32G971086-5,-6	MS21063L5-8-3
538	TL100-5-13			AN960D616 TLN1020L5W		TLN1020L5N
539	TL100-4-17			TLN1020L4W		TLN1020L4N
540	NAS2905-9	NAS1523AA5F	AN960D516L		32-11401-197	MS21063L5-10-3
541	NAS2905-9		AN960D516L		32-11401-197	MS21063L5-10-3
542	NAS2905-10		AN960D516		32-11401-191	MS21063L5-10-3
543	NAS2904-11		AN960D416			F1972-4-2
544	66051-4-9		MS20002C4			MS21059L4
545	66051-4-9		MS20002C4			MS21061L4

4C-3-1-2-(290-A1.1)

Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 11A of 12)

INSTALLATION PROCEDURE FOR TL985, TL986 AND TL987 TAPER LOK FASTENERS

A. WITH FITTINGS CLAMPED TO SPAR, SKIN, HINGE, AND ALL MATING 53G970802OR 53-111401 ITEMS, MEASURE AND RECORD ACTUAL HEAD PROTRUSION OF FASTENER. PRESS IN PLACE WITH FIRM THUMB PRESSURE PRIOR TO TAKING MEASUREMENT. TAKE MEASUREMENT (a) FROM SURFACE OF HINGE TO TOP OF FASTENER.

B. REMOVE FITTINGS FROM SPAR AND INSERT SAME FASTENER IN FITTINGS. PRESS IN PLACE WITH FIRM THUMB PRESSURE. MEASURE AND RECORD HEAD PROTRUSION (b) FROM SURFACE OF FITTINGS TO TOP OF FASTENER.

C. SUBTRACT HEAD PROTRUSION (a) FROM (b). THIS VALUE (c) IS MAXIMUM HEAD PROTRUSION ALLOWABLE AFTER HOLE HAS BEEN HAND REAMED TO ENLARGE HOLE. SUBTRACT 0.09 INCH FROM (c) VALUE TO OBTAIN MINIMUM PROTRUSION VALUE.

(b) - (a) - (c) = MAXIMUM HEAD PROTRUSION FROM SURFACE OF FITTING TO TOP OF FASTENER.

(c) - 0.09 INCH = MINIMUM HEAD PROTRUSION FROM SURFACE OF FITTING TO TOP OF FASTENER.

D. WITH FITTINGS REMOVED FROM SPAR AND USING T-HANDLE, PSMT1363-1 NUMBER O SQUARE DRIVE, ON HAND REAMER, SPT24-53-07084, TAPER HAND REAM HOLE WITHIN ACCEPTABLE PROTRUSION LIMITS OF STEP C.

Notes

(1) THIS FASTENER INCORPORATES AN NAS1081-08A4 SET SCREW IN HEAD OF BOLT.
(2) FASTENERS ARE TO BE 0.005 TO 0.010 SUB-FLUSH IN BEARING PLATE. GRINDING ON HEAD OF PIN FOR COMPLIANCE IS NOT PERMITTED.
(3) THREE SUBSTITUTIONS ARE ALLOWABLE WITHIN ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO ADJACENT BLIND FASTENERS ARE PERMISSIBLE.
(4) FLUSH IN SKIN OR HINGES.
(5) 0.703 ± .005 DIAMETER HOLE.
(6) FASTENER AND GASKET MAY BE ORDERED AS AN ASSEMBLY BY ADDING THE LETTER (A) AS FIFTH DIGIT TO FASTENER PART NUMBER.
(7) LEFT SIDE.
(8) RIGHT SIDE
(9) FOR REPLACEMENT, SEE FIGURE 2-47.
(10) NUT BASE.
(11) TORQUE 480-690 INCH POUNDS.
(12) FASTENER IS TO BE FLUSH TO 0.015 INCH SUB-FLUSH IN 53-111422 SKIN. GRINDING ON HEAD FOR COMPLIANCE IS NOT PERMITTED.
(13) REPLACE FASTENERS IN ACCORDANCE WITH TO 1F-4C-3-1-3.
(14) ONE SUBSTITUTION IS ALLOWABLE WITHIN ENCIRCLED AREA, USING A BLIND BOLT FASTENER.
(15) NO SUBSTITUTION ALLOWABLE WITHIN ENCIRCLED AREA.
(16) TWO SUBSTITUTIONS ARE ALLOWABLE WITHIN ENCIRCLED AREA, USING BLIND BOLT FASTENERS.
(17) FOUR SUBSTITUTIONS ARE ALLOWABLE WITHIN ENCIRCLED AREA, USING BLIND BOLT FASTENERS. A MAXIMUM OF TWO BLIND FASTENERS ARE PERMISSIBLE.
(18) $0.769\ ^{+.005}_{-.000}$ DIAMETER HOLE.
(19) TORQUE FASTENER 185 TO 215 INCH POUNDS.
(20) F-4E 72-121 THRU 72-140.
(21) F-4E 72-141 AND UP.
(22) F-4E 72-121 THRU 72-157.
(23) F-4E 72-158 AND UP.
(24) F-4E 72-121 THRU 72-161.
(25) F-4E 72-162 AND UP.
(26) DELETED.
(27) DELETED.
(28) F-4E 72-121 THRU 72-137.
(29) F-4E 72-138 AND UP.
(30) F-4E 72-138 THRU 72-159.
(31) F-4E 72-160 AND UP.
(32) F-4E 72-138 THRU 72-1479.
(33) F-4E 72-1480 AND UP.
(34) F-4E 72-121 THRU 72-159.
(35) F-4E 72-160 THRU 72-1479.
(36) F-4E 72-121 THRU 72-165.
(37) F-4E 72-166 AND UP.
(38) F-4E 72-121 THRU 72-1487.
(39) F-4E 72-1488 AND UP.
(40) F-4E 72-121 THRU 72-1479.
(41) F-4E 72-121 THRU 72-138.
(42) F-4E 72-139 AND UP.
(43) F-4E 72-121 THRU 72-1493.
(44) F-4E 72-1494 AND UP.
(45) F-4E 72-121 THRU 72-1489. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(46) F-4E 72-1490 AND UP. FUTURE PROCUREMENT FOR PRECEEDING PART.
(47) TAPER-LOK FASTENERS HAVE A SPECIAL SHANK AND MUST BE REMOVED AND INSTALLED BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH TO 1F-4C-3-1-1.
(48) F-4E 72-121 THRU 73-01204.
(49) F-4E 74-00643 AND UP.
(50) F-4E 72-121 THRU 74-01049.
(51) F-4E 74-01050 AND UP.
(52) IF FUME SEAL IS DAMAGED WHEN REMOVING THESE TWO FASTENERS, REPAIR PER FIGURE 2-40A.

4C-3-1-2-(290-12)H

Figure 2-39. Torque Box Skin and Structural Fasteners Index - F-4E 72-121 AND UP (Sheet 12 of 12)

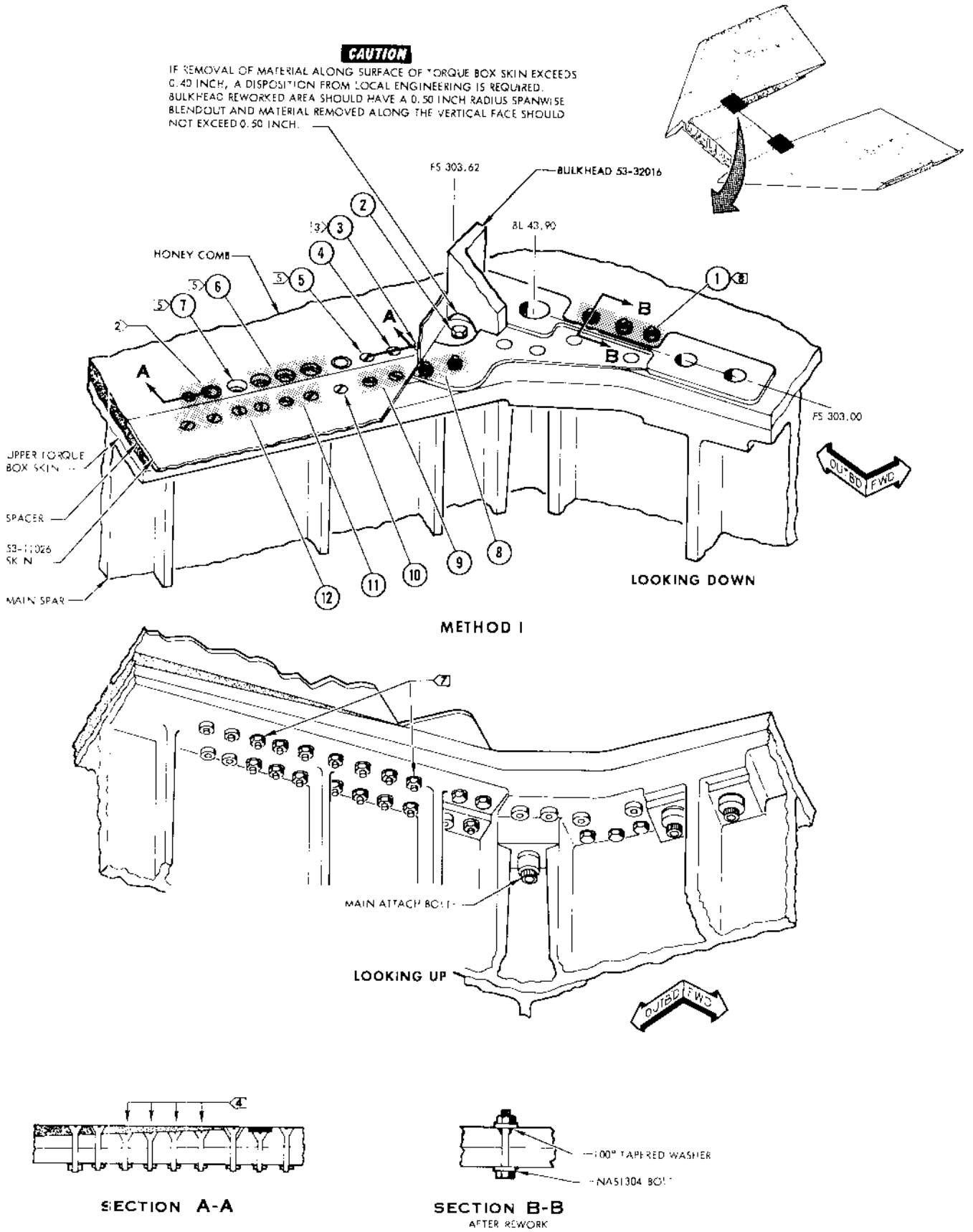
EXTERNAL DOORS AND PANEL					
DOOR NUMBER	PART NUMBER	F-4C	F-4D	RF-4C	F-4E/G
86L	32-11032	X	X	X	X
86R	32-11032	X	X	X	X
88L	32-11035	X	X	X	X
88R	32-11035	X	X	X	X
89L	32-11042	X	X	X	X
89R	32-11042	X	X	X	X

Notes

1. DOORS LISTED ABOVE CAN HAVE LOOSE OR MISSING FASTENERS IN FLIGHT SUBJECT TO THE FOLLOWING LIMITATIONS:
   A. LOOSE FASTENERS ARE CONSIDERED MISSING FASTENERS.
   B. NO CORNER FASTENERS CAN BE MISSING.
   C. WHEN MISSING FASTENERS ARE ALLOWED, ONE IN TEN FASTENERS IN A STRAIGHT LINE PATTERN CAN BE MISSING, BUT MUST HAVE MINIMUM OF TEN FASTENER SEPARATION.
   D. NO MISSING FASTENERS IN THE LEADING EDGE ROW OF WING LEADING EDGE DOORS AND PANELS.
   E. REPLACE ALL MISSING FASTENERS AT NEXT DOOR REMOVAL.
2. NO LOOSE OR MISSING FASTENERS ARE ALLOWED IN DOORS WITH LESS THAN 30 FASTENERS OR CENTER WING TORQUE BOX DOORS AND PANELS.

4C-3-1-2-(418)

Figure 2-39A. Allowable Loose and Missing Fasteners in Flight



4C-3-1-2-(54-1)A

Figure 2 40. Chronic Fuel Leakage in Wing Root Area at F S 303.00 Repair - F-4C, F-4D, F 4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF 4C; ALSO F-4E 66 287 AND 66-296 THRU 71-236 BEFORE TO 1F 4E-566 (Sheet 1 of 4)

TABLE I

REF NO.	FASTENER	WASHER	NUT	TORQUE (INCH-LB)	HOLE SIZE ⑨
1	NAS1304-30	AN960D416L ④ 100° TAPERED WASHER	MS21042-4	50-70	0.2500 $^{+.0012}_{-.0005}$
2	NAS1304-31	AN960D416L ④	MS21042-4	50-70	0.2500 $^{+.0012}_{-.0005}$
3	NAS584-31T	AN960D416	MS21042-4	50-70	0.2500 $^{+.0012}_{-.0005}$
4	NAS584-22T	AN960D416	MS21042-4	50-70	0.2500 $^{+.0012}_{-.0005}$
5	NAS584-23T	AN960D416	MS21042-4	50-70	0.2500 $^{+.0012}_{-.0005}$
6	NAS584-20T	AN960D416	MS21042-4	50-70	0.2500 $^{+.0012}_{-.0005}$
7	NAS584-19T	AN960D416	MS21042-4	50-70	0.2500 $^{+.0012}_{-.0005}$
8	NAS1305-21	AN960D516 ⑥	MS21042-5	100-140	0.3125 $^{+.0012}_{-.0005}$
9	NAS585-22T	AN960D516	MS21042-5	100-140	0.3125 $^{+.0012}_{-.0005}$
10	NAS585-23T	AN960D516	MS21042-5	100-140	0.3125 $^{+.0012}_{-.0005}$
11	NAS585-24T	AN960D516	MS21042-5	100-140	0.3125 $^{+.0012}_{-.0005}$
12	NAS585-25T	AN960D516	MS21042-5	100-140	0.3125 $^{+.0012}_{-.0005}$

TABLE II
OVERSIZE FASTENERS

FASTENER	HOLE SIZE
NAS1704T	0.2656 TO 0.2666
NAS1604T	0.2812 TO 0.2822
NAS1705T	0.3281 TO 0.3291
NAS1605T	0.3437 TO 0.3447

THREADED FASTENER REMOVAL AND REPLACEMENT PROCEDURE REFERENCE NUMBERS 1 AND 2, METHOD 1

A. REFERENCE NUMBER 1 REMOVAL.
   (1) LOOSEN ATTACHED NUTS APPROXIMATELY FOUR TURNS.
   (2) FORCE BOLTS UP SO HEADS MAY BE CUT OFF, USING HACKSAW BLADE, OR EQUIVALENT. ACCESS MAY BE GAINED THROUGH DOOR 39L/R.
   (3) DE-BURR REMAINING BOLT SHANK AND PULL FASTENER DOWN THROUGH HOLE.
B. REFERENCE NUMBER 2 REMOVAL.

NOTE

REFER TO SHEET 1, CAUTION NOTE, FOR BULKHEAD REMOVAL LIMITS, IF APPLICABLE.

   (1) FASTENER SOMETIMES IS LOCATED UNDER BULKHEAD, IF THIS OCCURS BULKHEAD WILL HAVE TO BE REWORKED.
   (2) DRILL OFF HEAD OF FASTENER AND PULL BOLT THROUGH FROM THE BOTTOM.
C. REPLACEMENT.
   (1) INSTALL FASTENER CALLED OUT IN TABLE I IN THE HEAD DOWN POSITION FROM BOTTOM SIDE OF AIRCRAFT, AFTER COMPLETION OF RESEALING. ACCESS FOR FASTENER INSTALLATION IS GAINED THROUGH DOORS 75L/R.

LOCK BOLT REMOVAL AND REPLACEMENT PROCEDURE REFERENCE NUMBERS 3 THRU 12, METHOD 1

A. REMOVAL.

CAUTION

WHEN USING CIRCULAR SAW USE EXTREME CARE TO AVOID DAMAGING TORQUE BOX SKIN.

   (1) USING A CIRCULAR SAW CUT A HOLE THRU THE HONEYCOMB DIRECTLY OVER HEADS OF FASTENERS IN CHANNEL GROOVE AREA UTILIZING MINIMUM HOLE DIAMETER.

CAUTION

USE CARE WHEN PUNCHING OUT FASTENERS TO MAKE SURE THEY DO NOT HIT HYDRAULIC LINES LOCATED INSIDE DOOR 75L/R.

   (2) REMOVE FASTENERS BY DRILLING OFF THE HEAD AND PUNCHING FASTENER THRU THE BOTTOM.
B. REPLACEMENT.
   (1) INSTALL FASTENERS CALLED OUT IN TABLE I.

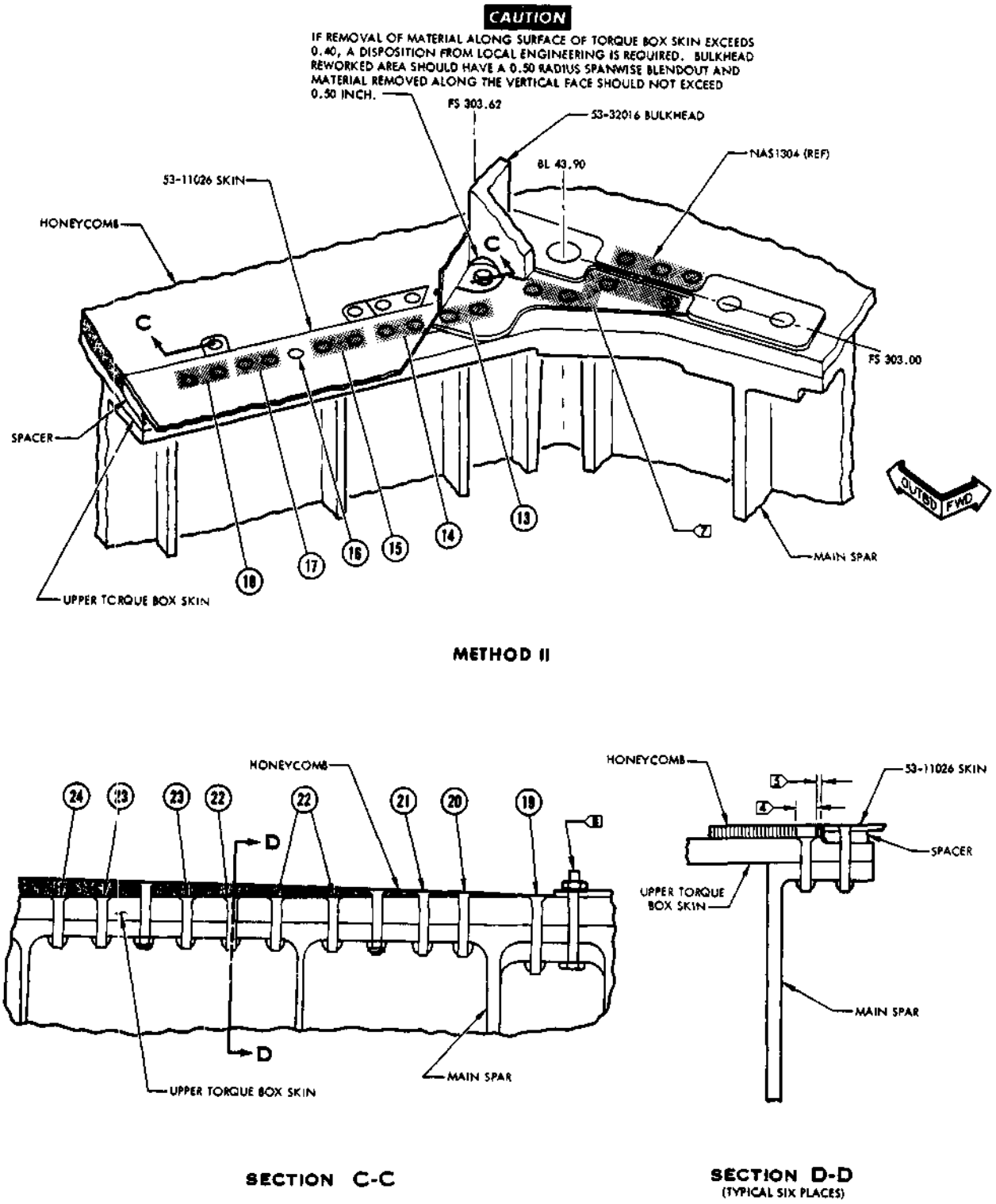
Notes

METHOD 1

1. FOR RESEALING OF CHANNEL GROOVE AREA, REFERENCE TO 1F-4C-3-1-6.
2. IF FASTENERS SHOW EVIDENCE OF LOOSENESS OR SEALANT AROUND COLLAR THEY SHALL BE REPLACED, PER LOCKBOLT PROCEDURE.
3. FASTENER HEAD MAY BE PARTIALLY COVERED BY THE FUSELAGE. DO NOT REPLACE UNLESS ACCESSIBLE OR COLLAR OF FASTENER IS LOOSE. IF REPLACED, GRIND BOLT HEAD FLUSH WITH SKIN AFTER INSTALLATION.
4. FILL HOLES FLUSH WITH SKIN SURFACE AFTER REWORK, WITH SEALANT. PER TO 1F-4C-3-1-6.
5. USE CIRCULAR SAW FOR THESE HOLES.
6. ONE UNDER HEAD, ONE UNDER NUT.
7. BACK SPOT FACING MAY BE REQUIRED TO PROVIDE FLAT SEAT FOR WASHER. REMOVE MINIMUM AMOUNT OF MATERIAL TO PROVIDE SEAT. A MINIMUM OF 3/64 INCH RADIUS IS REQUIRED ON CORNER OF SPOT FACING TOOL.
8. FASTENER NEED NOT BE REPLACED UNLESS LOOSE OR SHOWS SIGNS OF SEALANT AROUND COLLAR. A TAPERED WASHER SHOULD BE USED UNDER NUT IN COUNTERSINK HOLE.
9. CHECK SIZE OF HOLES. IF HOLES ARE OVERSIZE USE ONE OF THE OVERSIZE FASTENERS CALLED OUT IN TABLE II, OF LENGTH REQUIRED.

4C-3-1-2-(54-2)D

Figure 2-40. Chronic Fuel Leakage in Wing Root Area at F S 303.00 Repair - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 2 of 4)



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Figure 2-40. Chronic Fuel Leakage in Wing Root Area at F S 303.00 Repair - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295, and RF-4C; also F-4E 66-287 and 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 3 of 4)

TABLE III

REF NO.	FASTENER	COLLAR	⑥ HOLE SIZE
13	NAS1470-28	NAS1080P10	0.3105 +0.0015 −0.0000
14	NAS1460-21	NAS1080P10	0.3105 +0.0015 −0.0000
15	NAS1460-22	NAS1080P10	0.3105 +0.0015 −0.0000
16	NAS1460-23	NAS1080P10	0.3105 +0.0015 −0.0000
17	NAS1460-24	NAS1080P10	0.3105 +0.0015 −0.0000
18	NAS1460-25	NAS1080P10	0.3105 +0.0015 −0.0000
19	NAS1458-30	NAS1080-8	0.2480 +0.0015 −0.0000
20	NAS1458-22	NAS1080-8	0.2480 +0.0015 −0.0000
21	NAS1458-23	NAS1080-8	0.2480 +0.0015 −0.0000
22	NAS1458-20	NAS1080-8	0.2480 +0.0015 −0.0000
23	NAS1458-19	NAS1080-8	0.2480 +0.0015 −0.0000
24	NAS1458-18	NAS1080-8	0.2480 +0.0015 −0.0000

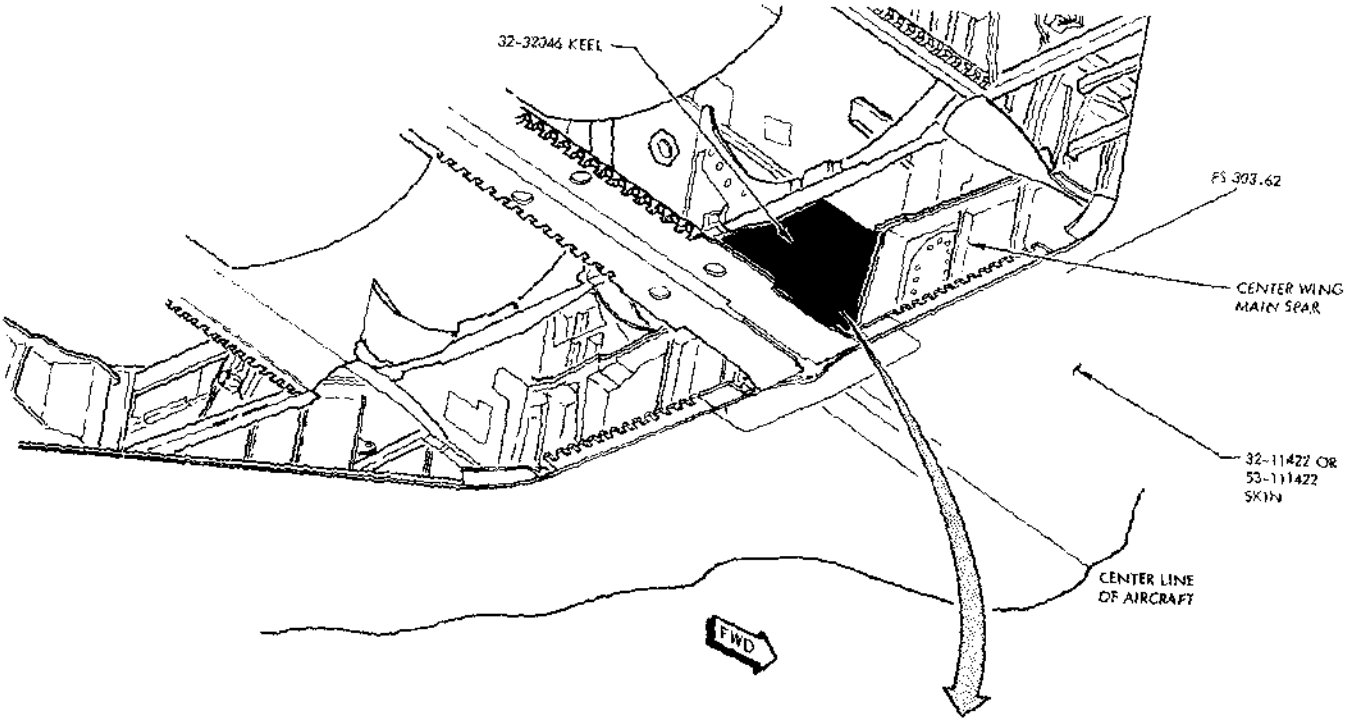
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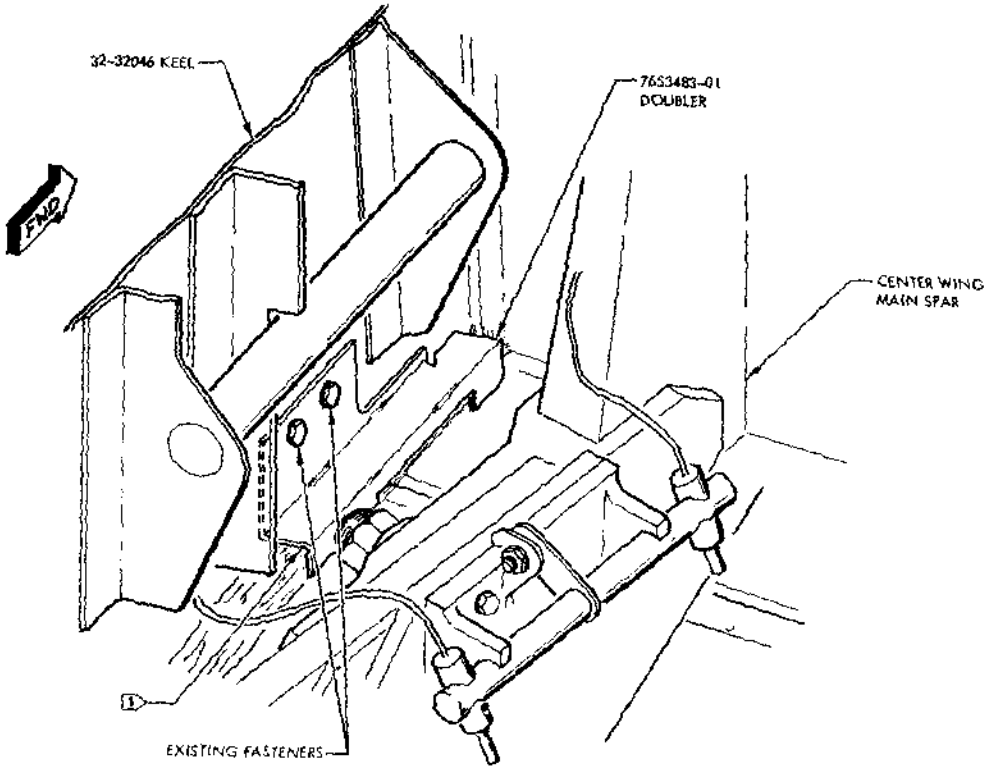
METHOD II

1. INSTALL REPLACEMENT FASTENERS FOR METHOD II, PER TABLE III.
2. RESEAL THE SEALANT CHANNEL WITH DOW-CORNING, FLURO SILICONE CHANNEL SEALANT, SPECIFICATION MIL-S 86334. THE RESEALING OPERATION IS TO INCLUDE ALL SECTIONS IN WHICH LOCKBOLTS WERE REPLACED. FOR METHODS OF RESEALING THE CHANNEL GROOVE REFER TO T.O. 1F-4C-3-1-6.
3. IF METHOD HAS BEEN PREVIOUSLY INCORPORATED, DO NOT INCORPORATE METHOD II. EITHER METHOD MAY BE USED EXCEPT AS PREVIOUSLY STATED.
④ REMOVE THE SUBFLUSH FASTENERS UNDER THE HONEYCOMB PER THE FOLLOWING:
   A. CUT OUT THE HONEYCOMB DIRECTLY OVER THE HEAD OF THE LOCKBOLTS USING A 0.562 INCH DIAMETER CIRCULAR SAW.
   B. REMOVE HYDRAULIC LINES LOCATED DIRECTLY UNDER THE LOCKBOLTS TO BE REMOVED. REMOVE EXISTING FASTENERS RECOUNTERSINK AND INSTALL FASTENERS CALLED OUT IN TABLE III.
   C. FILL THE HOLES IN THE HONEYCOMB PANEL WITH EITHER MIL-S-8802 1/2 SEALANT OR ALUMINUM FILLED RP1250 PER T.O. 1F-4C-3-1-5.
⑤ IF THE DISTANCE BETWEEN THE EDGE OF THE HONEYCOMB AND THE 0.562 DIAMETER HOLE IS LESS THAN 0.050, REWORK HOLE INTO A SLOT CONFIGURATION.
⑥ RECOUNTERSINK ONLY EXISTING COUNTERSINK LOCATIONS. NO NEW COUNTERSINK LOCATIONS ALLOWED.
⑦ REPLACEMENT OF THESE FASTENERS CAN ONLY BE ACCOMPLISHED IF THE WING IS REMOVED FROM THE FUSELAGE.
⑧ REINSTALL THE SAME TYPE FASTENER, HEAD DOWN, TO PROVIDE CAPABILITY FOR LOCAL REINJECTION OF SEALANT.

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Figure 2-40. Chronic Fuel Leakage in Wing Root Area at F.S 303.00 Repair - F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295, and RF-4C; also F-4E 66-287 and 66-296 through 71-236 before T.O. 1F-4E-566 (Sheet 4 of 4)



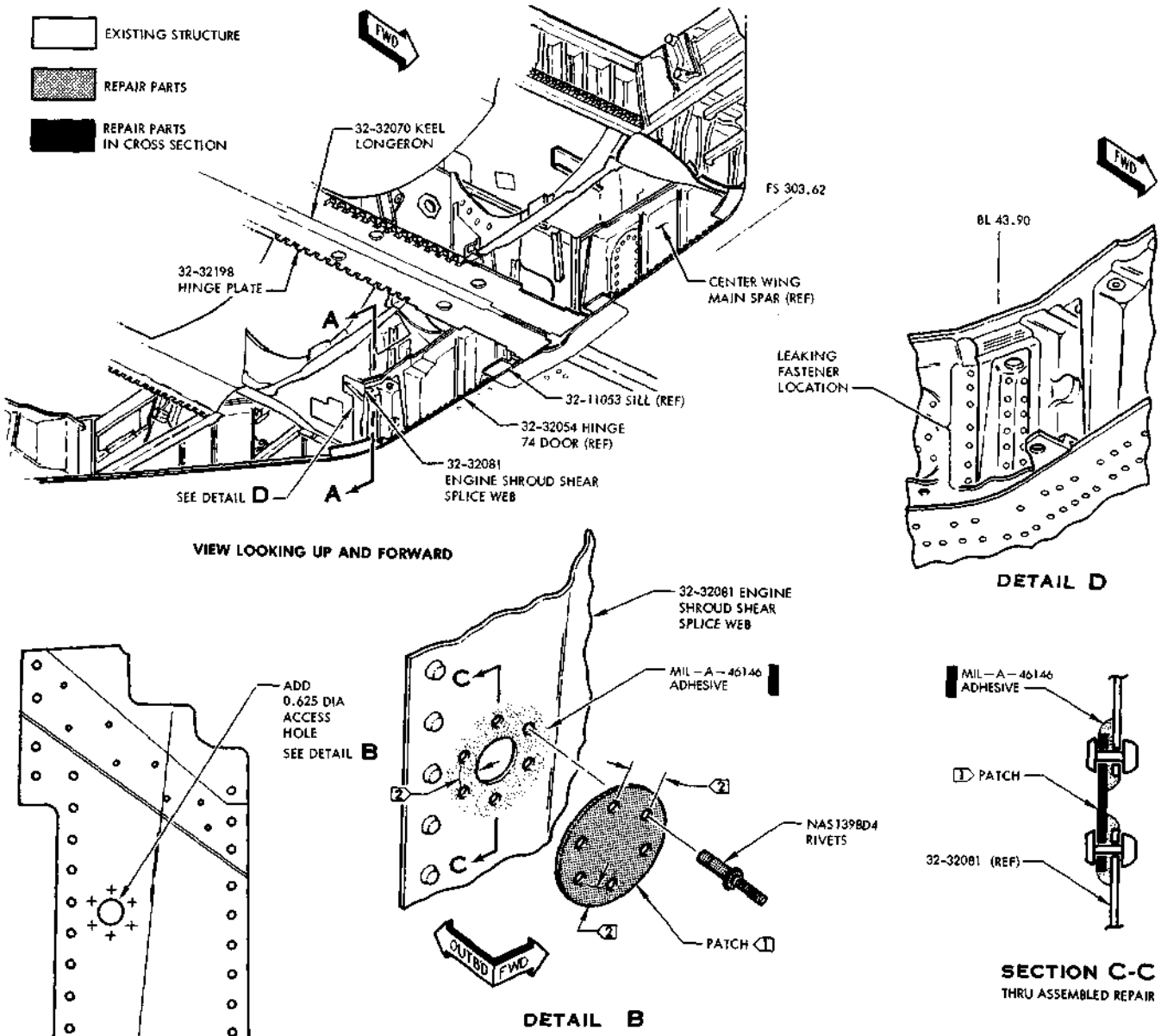


Note

1. FILL ENTIRE AREA UNDER DOUBLER WITH MIL-S-8802 SEALING COMPOUND BEFORE INSTALLING DOUBLER. REFERENCE TO 1F-4C-3-1-6.

4C-3-1-2-(377)

Figure 2-40A. Doubler, 7653483, Fume Seal Repair



REPAIR PROCEDURE

a. DEFUEL AND INERT INTERNAL WING TANKS. REFERENCE TO 1F-4( )-2-10.
b. CUT 0.625 DIA ACCESS HOLE IN ENGINE SHROUD SHEAR WEB AS INDICATED IN VIEW A-A.
c. UTILIZING THE ACCESS HOLE, REMOVE FASTENERS FROM AREA INDICATED USING TWO 10 INCH EXTENSION, A UNIVERSAL, AND A RATCHET WRENCH.
d. INSTALL NEW FASTENERS IN ACCORDANCE WITH TO 1F-4C-3-1-1.
e. LOCATE REPAIR PATCH OVER HOLE AND DRILL 0.129 $^{.003}_{.000}$ DIA FASTENER HOLES INDICATED BY +. FOR METHOD OF LOCATING HOLES REFERENCE TO 1F-4C-3-1-1.
f. CLEAN AREA OF ALL CHIPS AND DEBRIS AND REFINISH HOLES IN ACCORDANCE WITH CORROSION CONTROL PROCEDURES IN TO 1F-4C-3-1-6.
g. INSTALL REPAIR PATCH AS INDICATED IN DETAIL B.

Notes

1. FABRICATE REPAIR PATCH USING 0.040, 7075-T6 ALUMINUM ALLOY, QQ-A-250/12(T6).
2. RIVET SPACING TO BE 0.500. MAINTAIN MINIMUM EDGE DISTANCE OF 0.250.
3. CLEAN SURFACES THOROUGHLY BEFORE APPLYING ADHESIVE.
4. APPLY ADHESIVE TO ELIMINATE ALL VOIDS.
5. INSTALL PATCH WITH NAS1398D4 BLIND FASTENERS.

4C-3-1-2-(378)96

Figure 2-40B. Access to Main Spar Vertical Fasteners at BL 43.90

2-55. STRUCTURE. See figure 2-41. The structure of the torque box consists of spars, ribs, beams, posts, and fittings. Front and main spars form the forward and aft sides of the torque box fuel cavity. The wing fold ribs form the ends. The front spar provides support for the leading edge flaps on F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566 and for slat structure closure on F-4E 66-287 AND 66-296 THRU 71-1042 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G. The centerline closure rib is the splice between left and right sections of the torque box. This splice, a manufacturing type splice, cannot be accomplished at organizational/field maintenance. In case of overpressurization of wing fuel cell, refer to TO 1F-4C-3-1-1 for inspection procedure.

2-56. Spars, Beams, and Posts. The front and main spars are 7079 or 7075 machined aluminum alloy forgings. A beam assembly consisting of several stiffeners and a 7075 alclad or 7075 aluminum alloy web extends diagonally from the intersection of the front spar and centerline rib to intersection of the main spar and the torque rib. A beam assembly extends through the spanwise center of the torque box from torque rib to wing fold rib and consists of three webs of 7075 aluminum alloy. The posts are machined 7075 aluminum alloy bar stock and attach to the integral stiffeners in the upper and lower torque box skins.

2-57. Negligible Damage and Corrosion Removal Limits. Cracks are not negligible and are to be repaired. However, paragraph 2-58 gives permissible crack criteria for main spar upper cap with unrestricted flight limitations. Dents up to 0.060 in depth are negligible provided the radius of the depression is not less than 2 inches. The allowable depth of nicks, corrosion, scratches, or gouges depends on whether damage is above or below the chord line.

a. Negligible damage above the chord line is as follows:

(1) Unblended damage may be a maximum of 0.010 in depth and unlimited in length. Corrosion must be blended.

(2) Blended damage between front spar and 35.60 percent line may be a maximum of 0.040 in depth and unlimited in length.

(3) Blended damage between 35.60 percent line and main spar may be a maximum of 0.040 in depth and 6 inches in length.

b. Negligible damage below the chord line is as follows:

(1) In the vicinity of fasteners, for a distance up to twice the fastener diameter, a maximum of 0.005 in depth and unlimited in length if unblended; 0.010 in depth if blended.

(2) Between the forward spar and 22.75 percent line 0.040 in depth and unlimited in length if blended.

(3) Between 22.75 percent line and 35.60 percent line 0.040 in depth and 6 inches in length if blended.

(4) Between 35.60 percent line and the main spar 0.040 in depth and 3 inches in length if blended.

For rework procedure, refer to TO 1F-4C-3-1-5. Refinish blended area in accordance with the corrosion control procedure in TO 1F-4C-3-1-6. Exception to the limitations is in the area of the torque box skin and main spar cap flange adjacent to landing gear side brace actuator where contact is made during hard landing. As required, the spar should be polished with crocus cloth to a smooth finish. This negligible damage rework must be confined to the area where the edge of the spar makes contact with actuator side brace.

2-58. Main Spar Upper Cap Crack Limits for Unrestricted Flight. Cracks of various magnitude may occur in the upper spar cap in the area of the wheelwell. These cracks generally originate at a fastener hole and propagate toward adjacent fasteners. Because of the critical location of these cracks, limits are established which permit temporary, continued unrestricted flight, until crack is repaired. See figure 2-43 for crack limits.

2-59. Repairs. Repairs to front and main spars are not permissible at organizational/field maintenance without approval of depot engineering. Repairs to corrugated beam intermediate spar are to be in accordance with TO 1F-4C-3-1-5. Repairs to posts are impractical.

2-59A. Fitting, 32-11512, Replacement. For replacement, see figure 2-41A.

2-59B. Fitting, 32-11511, Replacement. For replacement, see figure 2-41B.

2-60. Access Cutout and Doubler, 68C29677, Installation. For cutout in 32-11010 or 53-111010 spar and installation of doubler, see figure 2-42.

2-60A. Bracket, 32-11312, Replacement. For replacement, see figure 2-42A.

2-60B. Main Spar, Door 32-11181 Fastener Hole, Repair. For repair, see figure 2-42B.

2-60C. Access Cover for 1123 Rib, 32G971100-15 Fastener Hole Modification.

NOTE

For F-4 aircraft with access cover installed on the aft side of the main spar. Fastener location (one only) that interferes with the B-nut on line no. 32-69349-780, -7532 may be countersunk for an NAS584 fastener (length as required). This procedure will be necessary only if the following conditions exist:

1. If the access cover is installed improperly.
2. If clearence is such that chafing of the B-nut is evident.
3. If removal of B-nut, without damage, is impossible.

2-61. Fastener Replacement and Beam, 32-11167, Rework. For fastener replacement and beam rework, see figure 2-44.

2-61A. Main Landing Gear Door Sill, 32G11429, Drain Holes. For addition of drain holes to fitting, see figure 2-44A.

2-62. Main Landing Gear Forward Trunnion Bearing Lubrication Groove to Hole Mismatch Repair. See figure 2-45. When a mismatch is noted between the groove in the bearing and the hole in the spar, repair by countersinking hole in the spar as shown.

2-63. Replacement. Replacement of structure is not practical at organizational/field maintenance.

2-64. Ribs. Five ribs are in the torque box: centerline closure rib, torque rib, main landing gear actuator forward rib, main landing gear forward rib, and wing fold rib. The centerline closure rib is a 7075 aluminum alloy forging with 7075 alclad webs. The torque rib at the fuselage sidewall, is a machined 7079 aluminum alloy forging. The main landing gear actuator forward rib consists of a 7075 aluminum alloy web with 7075 alclad cap angles. The main landing gear forward rib is a 7075 aluminum alloy pressing. The wing fold rib is a machined 7079 or 7075 aluminum alloy forging with hinge tangs machined into the upper and lower surface. The upper tangs form a continuous piano hinge between front and main spar. The lower surface machined tangs are a series of locking lugs.

2-65. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 in depth are negligible, provided radius of depression is not less than two inches. The allowable depth of damage and corrosion depends on whether damage is above or below the chord line.

a. Negligible damage above the chord line is as follows:

(1) Unblended damage may be a maximum of 0.010 in depth and unlimited in length.

(2) Blended damage between front spar and 35.60 percent line may be a maximum of 0.040 in depth and unlimited in length.

(3) Blended damage between 35.60 percent line and main spar may be a maximum of 0.040 in depth and six inches in length.

b. Negligible damage below the chord line is as follows:

(1) Unblended damage may be a maximum of 0.005 in depth and unlimited in length.

(2) Blended damage may be a maximum of 0.010 in depth and unlimited in length.

After blending, clean, treat and refinish the blended area in accordance with corrosion control procedure in T.O. 1F-4C-3-1-6.

2-66. Repairs. Repairs to the ribs are impractical at organizational/field maintenance, except for fourteenth lock lug on the wing fold rib. Refer to paragraph 2-67.

2-67. Wing Fold Rib, 32-11040 or 32G11040, Aft Lock Lug Crack Rework. See figure 2-46. This rework applies to cracks that occur on forward side of the aft tang of aft lock lug. If limits outlined in figure 2-46 must be exceeded for complete removal of crack, Programed Depot Maintenance engineering must be consulted. Fluorescent-penetrant inspect reworked area at each subsequent phase inspection. Rework crack as outlined in paragraph 2-68.

2-68. Tools and Equipment.

File, rotary, high speed steel or carbide

Grinder, stone or sanding head, rubber base

2-69. Procedure.

NOTE

Before removing bushing, mark bushing and lug so as to be able to reinstall in same position.

a. Remove 32-11128 bushing and 32-11000-61 stop.

b. Remove crack by using a high speed steel or carbide rotary file. The rotary file shall be of the ball end or full radius type. Diameter of rotary file shall not be smaller than 3/8-inch. Material removal should be only enough to remove the crack.

c. Smooth and blend surface using a mounted stone grinder or a rubber base sanding head with a full radius or tapered radius end. Do not use a stone coarser than 40 grit. Hand sand to finish.

d. Swab reworked area with etching solution per T.O. 1F-4C-36.

e. Fluorescent-penetrant inspect to ensure complete removal of crack. Refer to T.O. 1F-4C-36.

NOTE

If any indication of crack remains repeat steps b. thru e.

f. Remove an additional 0.030 material after fluorescent-penetrant inspection has verified complete removal of crack.

g. Chemical conversion coat reworked area with Specification MIL-C-5541 per T.O. 1F-4C-3-1-6.

h. Refinish reworked area with two coats of enamel per T.O. 1F-4C-3-1-6.

i. Install 32-11128 bushing and 32-11000-61 stop.

j. After rework is complete, make entry in aircraft log book.

2-70. Replacement. Because of inaccessibility and equipment required, it is impractical to replace ribs at organizational/field maintenance.

2-71. Fittings. The inboard pylon forward support fitting, 32-11560 or 32G11560, is mounted to the front spar at BL 8150. The outboard pylon forward support fitting, 32-11352 or 32-11127, BL 132.50, is just outboard and forward of the main landing gear intermediate rib. The wing fold actuator fitting, 32-14011, is mounted to the wing fold rib on F-4C, F-4D, and RF-4C. The wing fold mechanism support fitting, 53-140056 or 53G140056, is mounted to the wing fold rib on F-4E and F-4G. The outboard center wing leading edge flap mechanism support fitting, 32-11511, is mounted to the front spar at BL 122.00 on F-4C, F-4D, F-4E 66-284 through 66-286 and 66-288 through 66-295, and RF-4C; also F-4E 66-287 and 66-296 through 71-236 before T.O. 1F-4E-566. The slat support ribs, 53G970807, 53G970808, and 53G970809, are mounted to front spar at BL 105.50, 125.00 and 150.00 and the leading edge slat closure fittings, 53G970814, 53G970815, 53G970816, and 53G970817, are mounted on forward leading edge of the slat closure.

2-72. Inboard Pylon Forward Support Fitting. The inboard pylon forward support fitting, 32-11560 or 32G11560, is a machined 2014 aluminum alloy forging.

2-73. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 in depth, provided radius of depression is two inches or greater, are negligible. Allowable depth of damage and corrosion differ above and below chord line.

a. Negligible damage above the chord line is as follows:

(1) Unblended damage may be a maximum of 0.010 in depth and unlimited in length. Corrosion must be blended.

(2) Blended damage between front spar and 35.60 percent line may be a maximum of 0.040 in depth and unlimited in length.

(3) Blended damage between 35.60 percent line and main spar may be a maximum of 0.040 in depth, and six inches in length.

b. Negligible damage below the chord line is as follows:

(1) Unblended damage may be a maximum of 0.005 in depth within two times the fastener diameter of any fastener and 0.010 in depth outside of fastener area and unlimited in length. Corrosion must be blended.

(2) Blended damage within two times the fastener diameter of any fastener may be a maximum of 0.010 in depth and unlimited in length.

(3) Blended damage between front spar and 22.75 percent line may be a maximum of 0.040 in depth and unlimited in length.

(4) Blended damage between 22.75 percent line and 35.60 percent line may be a maximum of 0.040 in depth and six inches in length.

(5) Blended damage between 35.60 percent line and main spar may be a maximum of 0.040 in depth and three inches in length.

After blending; clean, treat, and refinish the blended area in accordance with corrosion control procedure in T.O. 1F-4C-3-1-6.

2-74. Repairs. Repairs to fittings are impractical at organizational/field maintenance.

2-75. Replacement. For replacement see figure 2-47.

2-76. Outboard Pylon Forward Support Fitting. The outboard pylon forward support fitting, 32-11352 or 32-11127, is a machined aluminum alloy forging.

2-77. Damage and Corrosion Removal. Damage to the outboard wing pylon support fitting such as nicks and gouges must be blended to 125 microinch finish and eddy-current inspected for cracks per T.O. 1F-4C-36. If the fitting is cracked, or has been noted to be leaking fuel, contact OO-ALC/LACE engineering.

2-78. Repairs. Repairs to fittings are impractical at organizational/field maintenance.

2-79. Wing Pylon Ejection Insert, 32-11123. Inserts that are rotated greater than ±15 degrees from BL 132.50 or have a mismatch with skin surface greater than 0.050 inch must be replaced. Refer to figure 2-48 for replacement procedures.

2-80. Deleted

2-81. Deleted

2-82. Outboard Pylon Forward Support Fitting Washer Replacement. The support fitting washer, 32-11176, is between the support fitting and the upper torque box skin at BL 132.50 to replace washer, see figure 2-51.

2-83. Replacement. Replacement of the outboard pylon forward support fitting is not practical at organizational/field maintenance.

2-84. Wing Fold Actuator and Mechanism Support Fittings. The wing fold actuator fitting, 32-14011, and wing fold mechanism support fitting, 53-140056 or 53G140056, are mounted to the wing fold rib and are 7075 aluminum alloy pressing.

2-85. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 in depth, provided radius of depression is two inches or greater, are negligible. Allowable depth of damage and corrosion differ above and below chord line.

a. Negligible damage above the chord line is as follows:

(1) Unblended damage may be a maximum of 0.010 in depth and unlimited in length. Corrosion must be blended.

(2) Blended damage between front spar and 35.60 percent line may be a maximum of 0.040 in depth and unlimited in length.

(3) Blended damage between 35.60 percent line and main spar may be a maximum of 0.040 in depth, and six inches in length.

b. Negligible damage below the chord line is as follows:

(1) Unblended damage may be a maximum of 0.005 in depth within two times fastener diameter of any fastener and 0.010 in depth outside of fastener area and unlimited in length. Corrosion must be blended.

(2) Blended damage within two times the fastener diameter of any fastener may be a maximum of 0.010 in depth and unlimited in length.

(3) Blended damage between front spar and 22.75 percent line may be a maximum of 0.040 in depth and unlimited in length.

(4) Blended damage between 22.75 percent line and 35.60 percent line may be a maximum of 0.040 in depth and six inches in length.

(5) Blended damage between 35.60 percent line and main spar may be a maximum of 0.040 in depth and three inches in length.

After blending; clean, treat, and refinish blended area in accordance with the corrosion control procedure in T.O. 1F-4C-3-1-6.

2-86. Repairs. Repairs to fittings are impractical at organizational/field maintenance.

2-87. Replacement. For replacement of wing fold actuator fitting, see figure 2-52. For replacement of wing fold mechanism support fitting, see figure 2-53.

2-88. Outboard Center Wing Leading Edge Flap Mechanism Support Fitting. The outboard center wing leading edge flap mechanism support fitting, 32-11511, is a machined 2014 aluminum alloy forging.

2-89. Negligible Damage and Corrosion Removal Limits. The outboard center wing leading edge flap mechanism support fitting is a drive hinge and is covered in paragraph 2-196.

2-90. Repairs. Repairs to fittings are impractical at organizational/field maintenance.

2-91. Replacement. For replacement of outboard center wing leading edge flap mechanism support fitting, see figure 2-41B.

2-92. Leading Edge Slat Closure Fittings. The fittings, 53G970814, 53G970815, 53G970816, and 53G970817 are machined from 7075 aluminum alloy.

2-93. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 in depth are negligible, provided radius of depression is not less than two inches. Allowable depth of negligible damage and corrosion is as follows:

a. Unblended damage to 0.005 in depth and unlimited in length. Corrosion must be blended regardless of depth.

b. Blended damage to 0.010 in depth and unlimited in length.

Refer to T.O. 1F-4C-3-1-5 for rework procedure.

2-94. Repairs. Repairs to fittings are impractical at organizational/field maintenance.

2-95. Replacement. Replacement is not practical at organizational/field maintenance because of construction.

2-96. Hydraulic Support Brackets. Hydraulic support brackets, 32-11557, are located on 32-11011 or 53-111011 spar.

2-97. Negligible Damage and Corrosion Removal Limits. Any damage is cause for replacement.

2-98. Repairs. For repair of hydraulic support bracket, 32-11557, see figure 2-54A.

2-99. Replacement. For replacement of hydraulic support brackets see figure 2-54. When replacing brackets, install in accordance with the following:

a. Disconnect utility pump hoses from pump at quick-disconnect couplings. Drain hydraulic fluid from utility system through reservoir bleed valve, which is accessible through door 23. Refer to T.O. 1F-4( )-2-6. Disconnect hydraulic lines at bulkhead fittings through the bracket. Cap lines and fittings to prevent foreign matter from entering and contaminating the hydraulic system.

b. Replace bracket.

c. Reconnect hydraulic lines removed in step a. and connect external hydraulic power source and external electrical power source. Cycle utility system subsystems until evidence of air is removed from system. Visually inspect for hydraulic leaks. Disconnect hydraulic and

electrical power external sources. Service utility system reservoir in accordance with TO 1F-4( )-2-2.

2-99A. **Support Bracket, 32-11146-35/36.** For repair of support bracket, 32-11146-35/36, see figure 2-55A.

2-100. **Hinges.** Hinges are on the front spar lower cap from the fuselage sidewall to wing fold rib to accept leading edge flaps on F-4C, F-4D, AND RF-4, and to accept leading edge flap and door 141 on F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566. Hinges are on the front spar lower cap from the fuselage sidewall to BL 95.00 to accept door 141 on F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G. Hinges on main spar lower cap mate with doors 74, 75, and 76. The hinges are machined from 7075 aluminum alloy extrusions and 4340 steel alloy extrusions. The wing fold rib hinge is discussed in paragraph 2-64.

2-101. Negligible Damage and Wear Tolerances. For negligible damage and wear tolerance limits, refer to paragraphs 2-199 and 2-198 except 53G970867 hinges, see figure 2-55.

2-102. **Repairs.** See figure 2-56 for inspection and rework of 32-11514 hinge.

a. For inspection and rework of 32-11514 hinge, see figure 2-56.

b. For repair of 53-110140 and 32-11566 hinges, see figure 2-56A.

2-103. Replacement. Hinges damaged beyond practical repair limits should be replaced by removing existing fasteners and installing the replacement hinge with the same type of fasteners. See figure 2-57 for front spar leading edge hinge fastener index and figure 2-58 for fastener index on hinge mating to door 74. For fastener index on hinge mating doors 75 and 76, see figure 2-59.

2-103A. Rib **Assembly, 32-11581, Replacement.** For replacement of rib assembly, 32-11581, see figure 2-58A.

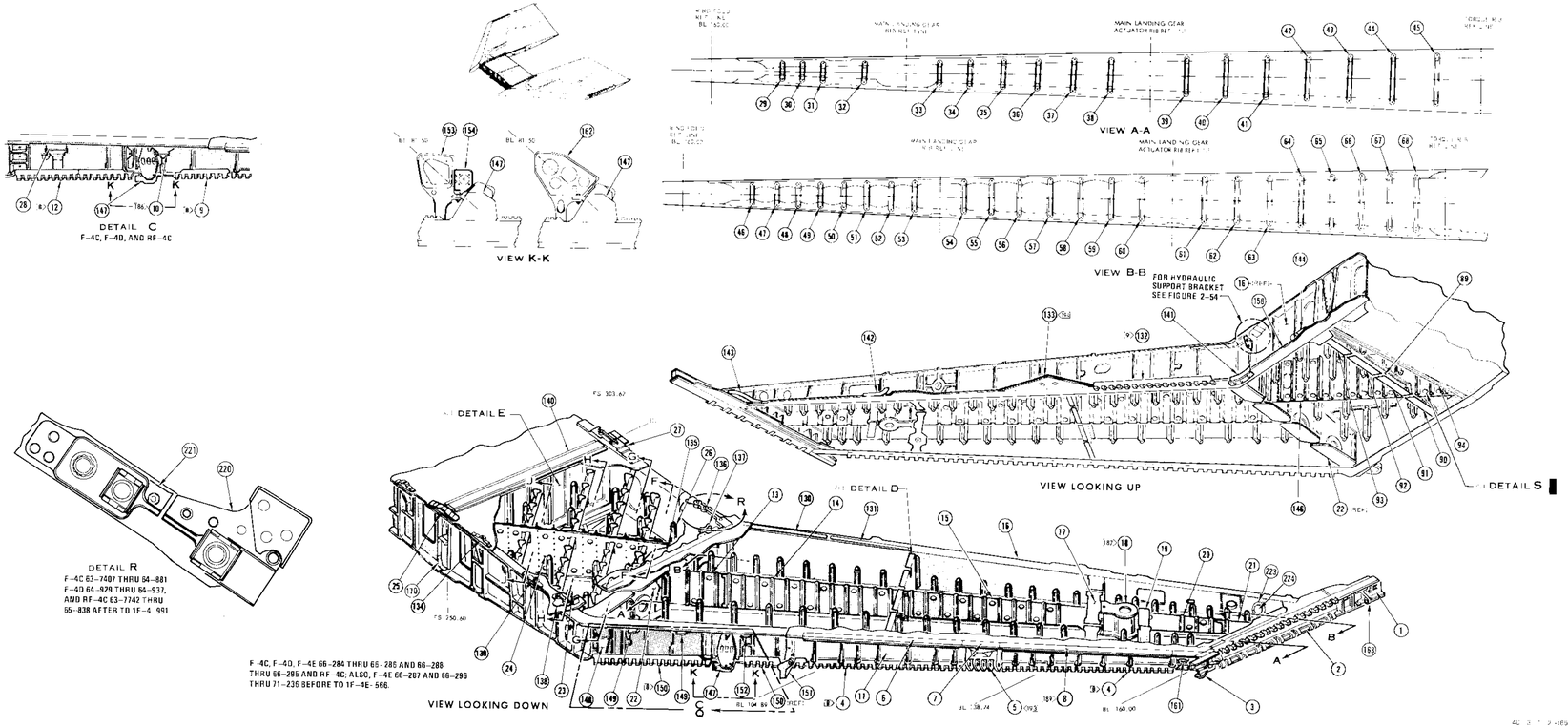


Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 1 of 10)

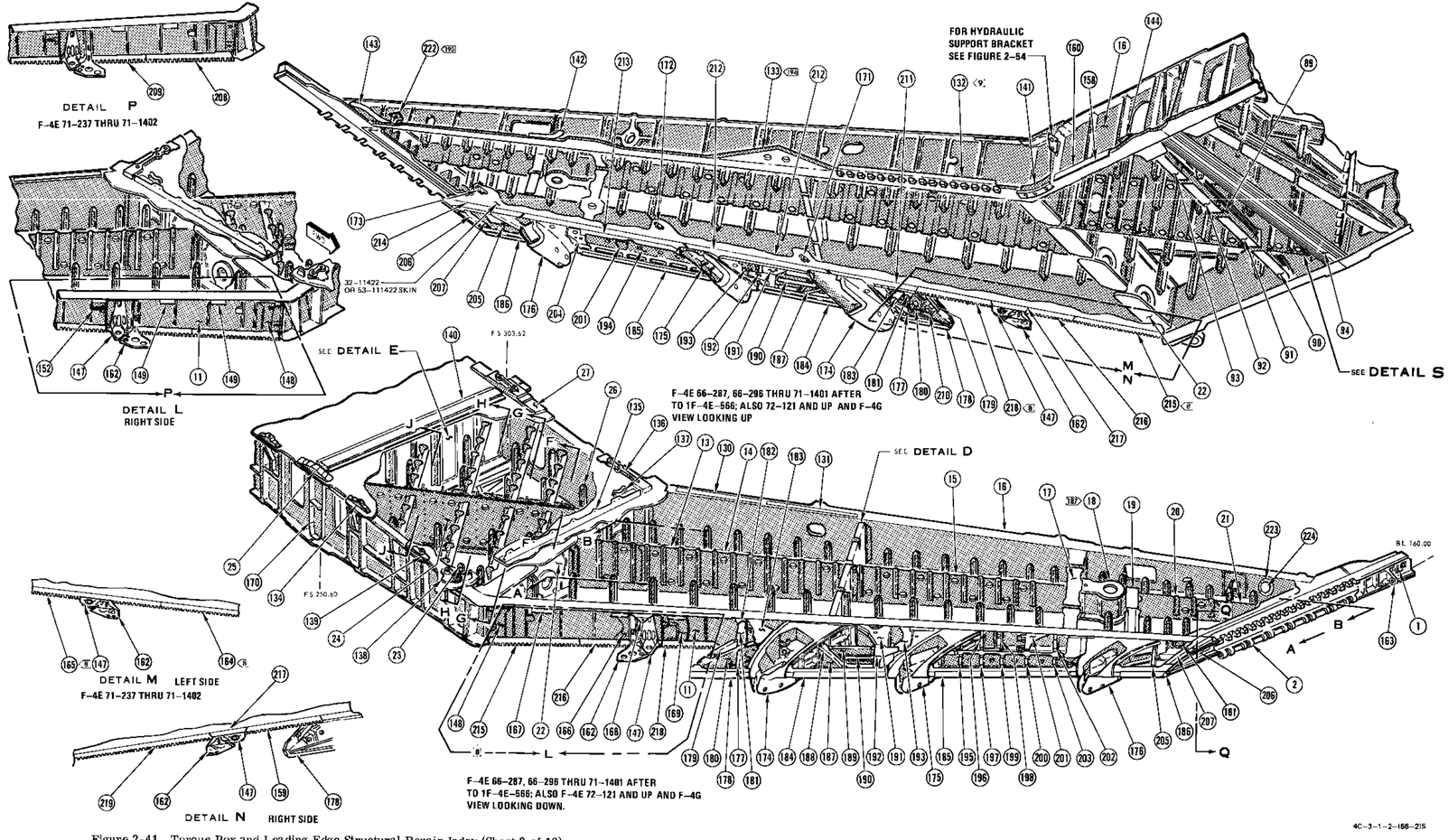


Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 2 of 10)

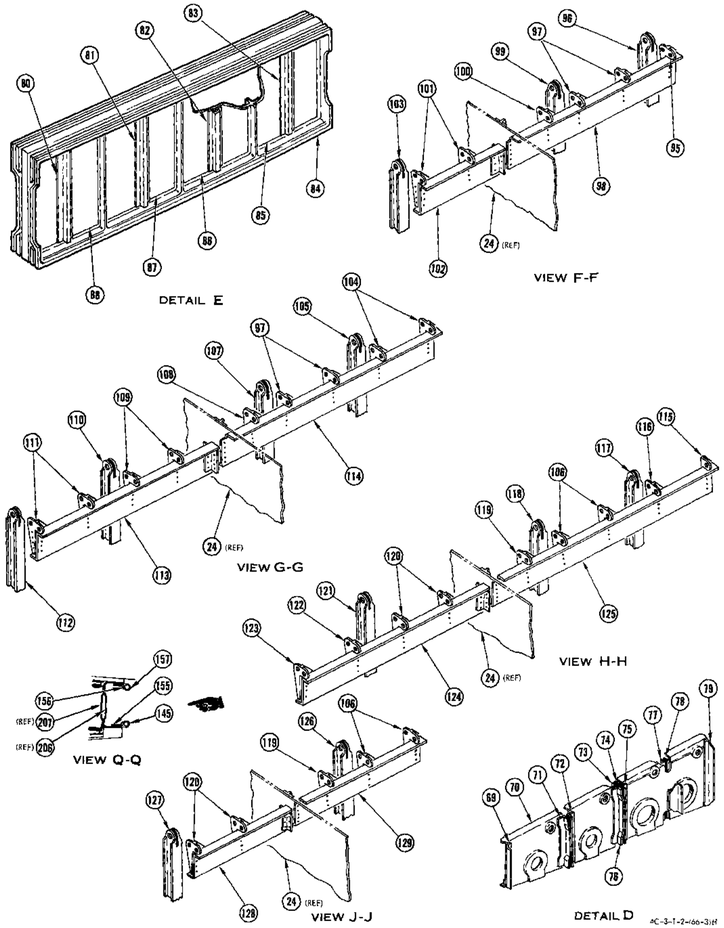
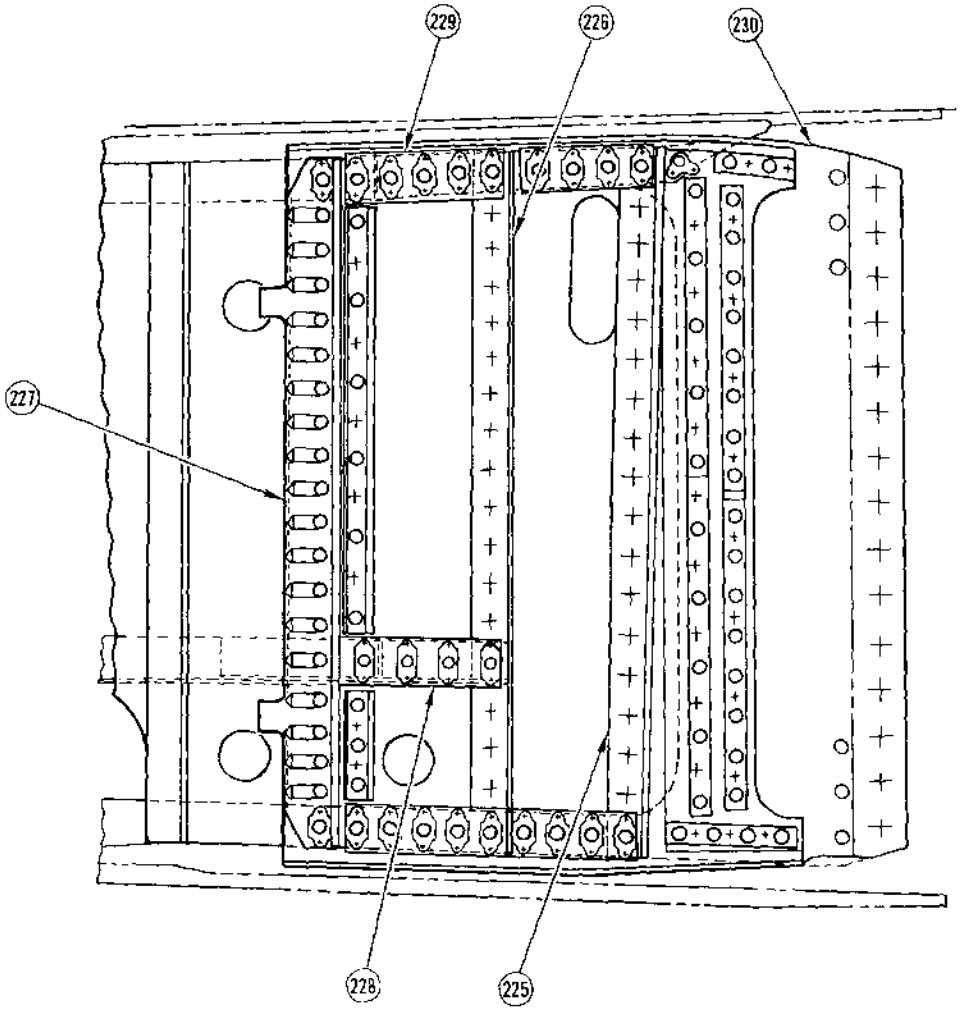


Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 3 of 10)



4C-3 1-2-(66-3.1)U

Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 3A of 10)

REF NO.		PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1	146	32-11219-3,-4	SPLICE	0.080	4130 STEEL ALLOY	MIL-S-18792 (6)
	191	32G11219-3,-4	SPLICE	0.080	4130 STEEL ALLOY	MIL-S-18792 (6)
2	127	32-11040-17,-18	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	128	32-11040-19,-20	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	2	32-11040-21,-22	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	24	32-11040-23,-24	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	26	32-11040-903,-904	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	34	32-11040-31,-32	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	28	32-11040-27,-28	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	182	32-11040-39,-40	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	186	32-11040-35,-36	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	37	32-11040-25,-26	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	78	32-11040-905,-906	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	86	32-11040-33,-34	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	94	32-11040-29,-30	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	105	32-11040-41,-42	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	167	32-11040-37,-38	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	149	32G11040-3,-4	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	150	32G11040-5,-6	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	151	32G11040-7,-8	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	152	32G11040-11,-12	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	153	32G11040-9,-10	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	126	32-11040-47,-48	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	195	32G971007-5, -6	RIB	FORGING	7075-T73 AL ALY	QQ-A-367(T73)
3	38	32-11581-7,-8	RIB	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
	39	32-11581-9,-10	RIB	1M7661	7075-T6 AL ALY	QQ-A-200/11 (T6)
4	22	32-11514-9,-10	HINGE	1M9681	7075-T6 AL ALY	QQ-A-200/11 (T6)
	23	32-11514-11,-12	HINGE	1M9681	7075-T6 AL ALY	QQ-A-200/11 (T6)
	5	32-11514-13,-14	HINGE	1M9681	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
	20	32-11514-21,-22	HINGE	1M9681	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
	25	32-11514-25,-26	HINGE	1M9681	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
	121	32-11514-29,-30	HINGE	1M9681	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
	122	32-11514-27,-28	HINGE	1M9681	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
5	21	32-11511-9,-10 (192)	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
	32	32-11511-11,-12 (193)	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
	35	32-11511-13,-14 (193)	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
	125	32-11511-15,-16 (193)	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
6	17	32-11538-13,-14	INTERLOCK	1M7579	2014-T4 AL ALY	QQ-A-200/2 (T4)
	41	32-11538-17,-18	INTERLOCK	1M7579	2014-T4 AL ALY	QQ-A-200/2 (T4)
	126	32-11538-21,-22	INTERLOCK	CASTING	2014-T651 AL ALY	QQ-A-200/2 (T651)
7	133	32-11538-11,-12	INTERLOCK	0.090	2024-T3 ALCLAD	QQ-A-250/5 (T3)
8	15	32-11538-15,-16	INTERLOCK	1M7579	2014-T4 AL ALY	QQ-A-200/2 (T4)
	16	32-11538-19,-20 (194)	INTERLOCK	1M7579	2014-T4 AL ALY	QQ-A-200/2 (T4)
9	59	32-11566-7,-8	HINGE	1M9678	7075-T651 AL ALY	QQ-A-200/11 (T651)
	13	32-11566-11,-12	HINGE	1M9678	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
	10	32-11566-15,-16	HINGE	1M9678	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
10	30	32-11512-9,-10	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
	31	32-11512-11,-12 (189)	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
11	69	32-11010-23,-24	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	24	32-11010-25,-26	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	60	32-11010-31,-32	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	188	32-11010-61, -62	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	88	32-11010-33,-34	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	98	32-11010-49,-50	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	56	32-11010-57,-58	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	154	32G11010-9,-10	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	155	32G11010-11,-12	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	156	32G11010-13,-14	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	142	53-111010-5,-6	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
12	18	32-11506-5,-6	HINGE	1M9902	4340 STEEL ALLOY	MIL-S-5000 (3)
	19	32-11506-7,-8	HINGE	1M9902	4340 STEEL ALLOY	MIL-S-5000 (3)
13		32-11015-55,-56	WEB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
14		32-11015-37,-38	WEB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
15	143	32-11015-39,-40	WEB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	142	32-11015-75,-76	WEB	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
16	106	32G11011-27,-28	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	57	32-11011-31,-32	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	108	32G11011-29,-30	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	73	32-11011-61,-62	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	54	32-11011-53,-54	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	79	32-11011-947,-948	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	82	32-11011-63,-64	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	132	32-11011-71,-72	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	157	32G11011-69,-70	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	158	32G11011-71,-72	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	159	32G11011-73,-74	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	160	32G11011-75	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	161	32G11011-76	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	162	32G11011-77	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	163	32G11011-78	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	164	32G11011-97,-98	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	142	53-111011-3,-4	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	101	32-11011-69,-70	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
17	12	32-11041-9,-10	RIB	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	7	32-11041-11,-12	RIB	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	33	32-11041-13,-14	RIB	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
	127	32-11041-15,-16	RIB	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
18	29	32-11127-5,-6	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	27	32-11127-13,-14	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	45	32-11127-7,-8	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	47	32-11127-9,-10	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	48	32-11127-11,-12	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	49	32-11352-3,-4 (187)	FITTING	FORGING	7075-T73 AL ALY	MIL-A-22771 (T73)
	51	32-11352-5,-6 (187)	FITTING	FORGING	7075-T73 AL ALY	MIL-A-22771 (T73)

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Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 4 of 10)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
19 (83)	32-11134-7,-8	INTERCOSTAL	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(84)	32-11134-901,-902	INTERCOSTAL	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(85)	32-11134-9,-10	INTERCOSTAL	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
20	32-11015-41,-42	WEB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
21 (10)	32-11015-11,-12	WEB	0.090	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(11)	32-11015-73,-74	WEB	0.090	7075-T6 ALCLAD	QQ-A-250/13 (T6)
22 (10)	32-11046-9,-10	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(11)	32-11046-15,-16	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(12)	32-11046-11,-12	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(13)	32-11046-13,-14	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(6)	32-11046-903,-904	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(20)	32-11046-19,-20	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(165)	32G11046-3,-4	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(166)	32G11046-5,-6	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(142)	32-11046-21,-22	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
23	32-11014-43	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
24 (85)	32-11428-57	WEB	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(14)	32-11428-63	WEB	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(5)	32-11428-83,-84	WEB	0.160	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(131)	32G11428-3,-4	WEB	0.160	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(142)	32-11428-119,-120	WEB	0.160	7075-T6 ALCLAD	QQ-A-250/13 (T6)
25	32-11112-7	PLATE	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
26	32-11017-23	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
27 (83)	32-11108-5	PLATE	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(15)	32-11108-7	PLATE	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(142)	32-11108-13	PLATE	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
28	32-11563-5,-6	FITTING	PRESSING	2014-T6 AL ALY	QQ-A-367 (T6)
29	32-11014-3	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
30	32-11014-5	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
31	32-11014-7	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
32	32-11014-9	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
33	32-11014-11	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
34	32-11014-13	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
35	32-11014-15	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
36	32-11014-17	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
37	32-11014-45	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
38	32-11014-47	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
39	32-11014-49	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
40	32-11014-51	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
41	32-11014-53	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
42	32-11014-55	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
43 (16)	32-11014-57	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(62)	32-11014-63	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
44 (61)	32-11014-59	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(63)	32-11014-65	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
45	32-11014-61	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
46	32-11016-3	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
47	32-11016-5	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
48	32-11016-49	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
49	32-11016-51	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
50	32-11016-53	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
51	32-11016-55	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
52	32-11016-57	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
53	32-11016-59	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
54	32-11016-61	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
55	32-11016-63	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
56	32-11016-65	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
57	32-11016-67	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
58	32-11016-69	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
59	32-11016-71	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
60	32-11016-73	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
61	32-11016-75	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
62	32-11016-77	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
63	32-11016-79	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
64	32-11016-81	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
65	32-11016-83	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
66	32-11016-85	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
67	32-11016-87	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
68	32-11016-89	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
69	32-11044-21,-22	ANGLE	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
70	32-11044-51,-52	WEB	0.188	7075-T6 AL ALY	QQ-A-250/12 (T6)
71	32-11044-49,-50	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
72	32-11044-47,-48	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
73	32-11044-41,-42	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
74	32-11044-39,-40	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
75	32-11044-43,-44	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
76	32-11044-45,-46	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
77	32-11044-37,-38	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
78	32-11044-35,-36	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
79	32-11044-53,-54	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)

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Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 5 of 10)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
80	32-11024-11	STIFFENER	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
134	32-11024-33	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
131	32G11024-3	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
142	32-11024-43	STIFFENER	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
81	32-11024-15	STIFFENER	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
134	32-11024-31	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
131	32G11024-5	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
142	32-11024-41	STIFFENER	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
82	32-11024-13	STIFFENER	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
134	32-11024-29	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
131	32G11024-7	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
142	32-11024-39	STIFFENER	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
83	32-11024-17	STIFFENER	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
122	32-11024-27	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
131	32G11024-9	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
142	32-11024-37	STIFFENER	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
84	32-11047-3 ⟨4⟩	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
83	32-11047-7 ⟨4⟩	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
117	32-11047-9 ⟨4⟩	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
99	32-11047-13 ⟨4⟩	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
165	32G11047-3	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
167	32G11047-5	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
156	32G11047-7 ⟨140⟩	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
142	32-11047-15	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
85	32-11024-3	WEB	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
122	32-11024-19	WEB	0.060	7075-T6 AL ALY	QQ-A-250/12 (T6)
142	32-11024-47	WEB	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
86	32-11024-5	WEB	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
122	32-11024-21	WEB	0.050	7075-T6 AL ALY	QQ-A-250/12 (T6)
142	32-11024-49	WEB	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
87	32-11024-7	WEB	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
122	32-11024-23	WEB	0.040	7075-T6 AL ALY	QQ-A-250/12 (T6)
142	32-11024-45	WEB	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
88	32-11024-9	WEB	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
122	32-11024-25	WEB	0.050	7075-T6 AL ALY	QQ-A-250/12 (T6)
89	32-11167-47,-48	WEB	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
1	32-11167-67,-68	WEB	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
90	32-11167-11,-12	TEE	1M5662	7075-T6 AL ALY	QQ-A-200/11 (T6)
91	32-11167-51,-52	TEE	1M5662	7075-T6 AL ALY	QQ-A-200/11 (T6)
92	32-11167-57,-58	TEE	1M5661	7075-T6 AL ALY	QQ-A-200/11 (T6)
93 147	32-11167-55,-56	TEE	1M5660	7075-T6 AL ALY	QQ-A-200/11 (T6)
148	32-11167-61,-62	TEE	1M5660	7075-T651 AL ALY	QQ-A-200/11 (T651)
94 168	32-11109-9	PLATE	1M9560	7075-T6 AL ALY	QQ-A-200/11 (T6)
131	32G11109-3	PLATE	1M9560	7075-T6 AL ALY	QQ-A-200/11 (T6)
142	53-111109-3	PLATE	0.500	6AL-4V ANNEALED	MIL-T-9046 TYPE III COMP C ⟨184⟩
95	32-11216-23,-24	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
96	32-11013-9	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
97	32-11216-3,-4	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
98	32-11216-77,-78	ZEE	1M451	7075-T6 AL ALY	QQ-A-200/11 (T6)
99	32-11017-25	POST	1M5662	7075-T6 AL ALY	QQ-A-367 (T6)
100	32-11216-7,-8	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
101	32-11216-15,-16	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
102	32-11216-69,-70	ZEE	1M451	7075-T6 AL ALY	QQ-A-200/11 (T6)
103	32-11029-11	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
104	32-11216-11,-12	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
105	32-11013-11	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
106	32-11216-5,-6	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
107	32-11017-17	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
108	32-11216-7,-8	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
109	32-11216-15,-16	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
110	32-11029-13	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
111	32-11216-19,-20	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
112	32-11014-41	POST	PRESSING	7075-T6 AL ALY	QQ-A-200/11 (T6)
113	32-11216-71,-72	ZEE	1M451	7075-T6 AL ALY	QQ-A-200/11 (T6)
114	32-11216-79,-80	ZEE	1M451	7075-T6 AL ALY	QQ-A-200/11 (T6)
115	32-11216-41,-42	CLIP	0.063	7075-T6 AL ALY	QQ-A-250/13 (T6)
116	32-11216-13,-14	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
117	32-11013-13	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
118	32-11017-19	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
119	32-11216-9,-10	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
120	32-11216-17,-18	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
121	32-11029-15	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
122	32-11216-21,-22	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
123	32-11216-43,-44	CLIP	1M5659	7075-T6 AL ALY	QQ-A-200/11 (T6)
124	32-11216-73,-74	ZEE	1M450	7075-T6 AL ALY	QQ-A-200/11 (T6)
125	32-11216-81,-82	ZEE	1M450	7075-T6 AL ALY	QQ-A-200/11 (T6)
126	32-11017-21	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
127	32-11029-17	POST	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
128	32-11216-75,-76	ZEE	1M450	7075-T6 AL ALY	QQ-A-200/11 (T6)
129	32-11216-83,-84	ZEE	1M450	7075-T6 AL ALY	QQ-A-200/11 (T6)
130	53-11060-3,-4	SPACER	CASTING	A356-T6 AL ALY	MIL-A-21180B (T6)

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Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 6 of 10)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
131 (36)	53-11060-5,-6	SPACER	CASTING	A356-T6 AL ALY	MIL-A-21180B (T6)
(37)	53-11060-7,-8	SPACER	CASTING	A356-T6 AL ALY	MIL-A-21180B (T6)
132 (79)	32-11180-7,-8	HINGE	1M96162	7075-T6 AL ALY	QQ-A-200/11 (T6)
(80)	32-11180-9,-10	HINGE	1M96162	7075-T6 AL ALY	QQ-A-200/11 (T6)
(169)	32G11180-3,-4	HINGE	1M96162	7075-T6 AL ALY	QQ-A-200/11 (T6)
(170)	32G11180-5,-6	HINGE	1M96162	7075-T6 AL ALY	QQ-A-200/11 (T6)
(142)	32-11180-11,-12	HINGE	1M96162	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
133 (49)	32-11429-11,-12	SILL	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(12)	32-11429-15,-16	SILL	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(13)	32-11429-19,-20	SILL	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(14)	32-11429-25,-26	SILL	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(157)	32G11429-19,-20	SILL	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(171)	32G11429-21,-22	SILL	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
134	32-11209-3,-4 (5)	PAD	FORGING	7075-T6 AL ALY	AMS4139 (14)
135 (144)	32-11038-5,-6 (5)	ANGLE	1M96162	2024-T4 AL ALY	QQ-A-200/3 (T4)
(145)	32-11038-7 (5)	ANGLE	1M2292	2024-T4 AL ALY	QQ-A-200/13 (T4)
136 (52)	32-11208-3,-4	PAD	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(53)	32-11208-7,-8 (5)	PAD	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	DELETED				
(142)	32-11208-9,-10 (5)	PAD	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
137	32-11104-3,-4	SUPPORT	1M7363	2024-T4 AL ALY	QQ-A-200/3 (T4)
138	32-11211-3,-4 (5)	PAD	FORGING	7075-T6 AL ALY	AMS4139 (14)
139	32-11210-3,-4 (5)	PAD	FORGING	7075-T6 AL ALY	AMS4139 (14)
140	32-11107-3	SPLICE PLATE	1M2326	7075-T6 AL ALY	QQ-A-200/3 (T6)
141 (55)	32-11414-5,-6	SILL	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(56)	32-11414-9,-10	SILL	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(131)	32G11414-3,-4	SILL	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(142)	32-11414-15,-16	SILL	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
142 (89)	32-11413-3,-4	SILL	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(90)	32-11413-5,-6	SILL	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(132)	32-11413-7,-8	SILL	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
143	32-11401-175,-176	PLATE	0.190	7075-T6 ALCLAD	QQ-A-250/13 (T6)
144 (168)	32-11053-3,-4	SILL	1M9582	7075-T6 AL ALY	QQ-A-200/11 (T6)
(131)	32G11053-3,-4	SILL	1M9582	7075-T6 AL ALY	QQ-A-200/11 (T6)
(142)	32-11053-5,-6	SILL	1M9582	7075-T73511	QQ-A-200/11 (T73511)
145 (10)	53G970819-23,-24	SEAL	11M948-1	RUBBER CLASS III GR50	ZZ-R-765
(11)	53G970819-45,-46	SEAL	11M948-1	RUBBER CLASS III GR50	ZZ-R-765
146 (33)	32S829401-3	DOUBLER	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
147 (50)	32-11560-7,-8	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(123)	32-11560-17,-18	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(117)	32-11560-9,-10	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(124)	32-11560-15,-16	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(172)	32G11560-3,-4	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(173)	32G11560-5,-6	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(142)	32-11560-19,-20	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
148 (136)	32-11364-3,-4	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(137)	32-11364-7,-8	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(174)	32G11364-3,-4	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(175)	32G11364-5	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(176)	32G11364-9,-6	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(142)	32-11364-9,-8	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
149 (118)	32-11365-7	PLATE	0.500	7075-T651 AL ALY	QQ-A-250/12 (T651)
(119)	32-11365-301,-9	PLATE	FORGING	7075-T73 A L ALY	QQ-A-367 (T73)
150 (120)	32-11566-13,-14	HINGE	1M9678	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
(91)	32-11566-17,-18	HINGE	1M9678	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
151 (133)	32-11368-3,-4	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
152 (118)	32-11365-5	PLATE	0.500	7075-T651 AL ALY	QQ-A-250/12 (T651)
(119)	32-11365-9	PLATE	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
153 (95)	32-11562-5,-6	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(96)	32-11562-7,-8	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(97)	32G11562-3,-4	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
154 (99)	53-11080-3,-4	FITTING	PRESSING	2014-T6 AL ALY	QQ-A-367 (T6)
155 (10)	53G970819-39,-40	RETAINER	0.040	7075-T73 AL ALY	QQ-A-250/12 (T73)
(11)	53G970819-47-48	RETAINER	0.040	7075-T73 AL ALY	QQ-A-250/12 (T73)
156	53G970819-21,-22	SEAL	11M948-1	RUBBER CLASS III GR50	ZZ-R-765
157	53G970819-37,-38	RETAINER	0.040	7075-T73 AL ALY	QQ-A-250/12 (T73)
158 (168)	32-32054-131-132	HINGE	1M96165	7075-T6 AL ALY	QQ-A-200/11 (T6)
(130)	53-07925-11,-12	HINGE	1MA10178D03	7075-T6 AL ALY	QQ-A-200/11 (T6)
(142)	53-320028-3-4	HINGE	1MA10178D03	7075-T6 AL ALY	QQ-A-200/11 (T6)
159	32-11566-24	HINGE	1M9678	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
160	53-111423-3	SUPPORT	1M2221	7075-T6511 AL ALY	QQ-A-200/11 (T6511)
161	68C29677-01 (2)	DOUBLER	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32G971092-5	DOUBLER	0.125	7075-T73 AL ALY	QQ-A-250/12(T73)
162 (78)	32G11562-7,-8	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(131)	32G11562-19,-18	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(142)	32G11562-19-8	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
(58)	32G11562-21, -22	FITTING	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
163 (92)	32-14011-3,-4	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(93)	32-14011-5,-6	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
(126)	53-140056-3,-4	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(131)	53G140056-3,-4	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
164	53-110140-3	HINGE	1M9678	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
165	53-110120-3	HINGE	2.00	4340 STEEL ALLOY	MIL-S-5000
166 (180)	53G970756-3	FITTING	FORGING	7075-T411 AL ALY	QQ-A-367 (T411)
(181)	53G970756-5	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
167 (177)	53-110067-3	PLATE	0.50	7075-T7351 AL ALY	MMS159 (T7351)
(178)	53-110067-5	PLATE	0.50	7075-T7351 AL ALY	MMS159 (T7351)
(179)	53-110067-7	PLATE	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
168	53-110070-3	PLATE	0.190	7075-T6 AL ALY	QQ-A-250/12 (T6)
169 (182)	53G970757-3	FITTING	FORGING	7075-T411 AL ALY	QQ-A-367 (T411)
(183)	53G970757-5	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)

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Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 7 of 10)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
170 128	32-11155-25	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
129	32-11155-27	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
131	32G11155-7	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
171	53G970850-7,-8	FITTING	1.00	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
172	53G970850-9,-10	FITTING	1.00	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
173	53G970850-11,-12	FITTING	1.00	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
174 131	53G970807-11,-12	RIB ASSEMBLY	FORGING	7075-T411 AL ALY	QQ-A-367 (T411)
142	53G970807-27,-28	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
175 131	53G970808-11,-12	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
142	53G970808-15,-16	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
191	53G970808-25,-26	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
192	53G970808-29, -30	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
176 NP	53G970809-11,-12	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
60	53G970809-21,-22	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	53G970809-27, -28	RIB ASSEMBLY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
177	53G970821-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
178 131	53G970817-3,-4	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
142	53G970817-5,-6	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
179	53G970820-5,-6	ANGLE	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
180	53G970820-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
181	53G970821-5,-6	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
182 10	53G970826-3,-4	FITTING	2.00	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
185	53G970826-7, -8	FITTING	2.00	7075-T73 AL ALY	QQ-A-367 (T73)
183 42	53G970812-3, -4	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
113	53G970812-901	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
184 131	53G970816-3,-4	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
142	53G970816-5,-6	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
185 131	53G970815-3,-4	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
142	53G970815-5,-6	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
186 131	53G970814-3,-4	FITTING	2.50	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
142	53G970814-5,-6	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
187	53G970823-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
188	53G970823-5,-6	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
189	53G970825-23,-24	SUPPORT	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
190	53G970825-7,-8	SUPPORT	0.063	7075-T73 AL ALY	QQ-A-250/12 (T73)
191	53G970805-7,-8	SUPPORT	FORGING	7075-T411 AL ALY	QQ-A-367 (T411)
192	53G970854-3,-4	STOP	FORGING	7075-T411 AL ALY	QQ-A-367 (T411)
193	53G970811-5,-6	FITTING	FORGING	7075-T411 AL ALY	QQ-A-367 (T411)
194	53G970825-11,-12	BEAM	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
195	53G970843-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
196	53G970834-5	CHANNEL	0.063	7075-T73 AL ALY	QQ-A-250/12 (T73)
197	53G970834-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
198 130	53G970824-3,-4	FITTING	FORGING	7075-T411 AL ALY	MMS1303 (T411)
116	53G970824-5,-6	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
199	53G970844-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
200	53G970835-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
201	53G970806-13,-14	FITTING	FORGING	6AL-4V TITANIUM	MIL-T-9047 COMPOSITION G CONDITION A 184
202	53G970836-7,-8	CHANNEL	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
203	53G970836-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
204 131	53G970810-3,-4	SUPPORT	FORGING	7075-T73 AL ALY	QQ-A-250/12 (T73)
142	53G970810-11,-12	SUPPORT	FORGING	7075-T73 AL ALY	QQ-A-250/12 (T73)
205	53G970846-3	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
706	53G970819-5,-6	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
207	53G970819-3,-4	RIB	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
208	53G970867-6	HINGE	1M9678	7075-T7351 AL ALY	QQ-A-200/11 (T73511)
709	53G970867-4	HINGE	1M9678	7075-T7351 AL ALY	QQ-A-200/11 (T73511)
210	53G970820-13,-14	SUPPORT	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
211 131	53G970818-9,-10	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
142	53G970818-17,-18	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
212 131	53G970818-13,-14	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
142	53G970818-21,-22	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
213 131	53G970818-11,-12	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
114	53G970818-19,-20	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
134	53G970818-33-34	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9(T7351)
214 131	53G970818-3,-4	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
142	53G970818-15,-16	SILL	0.625	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
215	53-110140-5	HINGE	1M9678	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
216	53-110120-7	HINGE	2.00	4340 STEEL ALLOY	MIL-S-5000 3
217	32-11566-21,-22	HINGE	1M9678	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
218	53-110120-9	HINGE	2.00	4340 STEEL ALLOY	MIL-S-5000 3
219	32-11566-26	HINGE	1M9678	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
220	32G11208-19, -20	PAD	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
221	32G970403-3, -4	PAD	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
222	32-11312-7,-8	BRACKET	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
223 195	32G971100-13	PLATE	0.040	2024-T3 ALCLAD	QQ-A-250/5(T3)
224 195	32G971100-15	COVER	0.250	7075-T6 AL ALY	QQ-A-250/12(T6)
225 199	32G11428-18	ANGLE	1M2191	7075-T6511 ALCLAD	QQ-250/12 (T6511)
200	32G11428-17, -18	ANGLE	1M2191	7075-T6511 ALCLAD	QQ-250/12 (T6511)
226 199	32G11428-20	ANGLE	1M2191	7075-T6511ALCLAD	QQ-250/12 (T6511)
200	32G11428-19, -20	ANGLE	1M2191	7075-T6511 ALCLAD	QQ-250/12 (T6511)
227 199	32G11428-22	ANGLE	1M2147	7075-T6511 ALCLAD	QQ-250/12 (T6511)
200	32G11428-21, -22	ANGLE	1M2147	7075-T6511ALCLAD	QQ-250/12 (T6511)
228 199	32G11428-53	ANGLE	0.080	302 CRES	QQ-S-763 CLASS 302
200	32G11428-53	ANGLE	0.080	302 CRES	QQ-S-763 CLASS 302
229 199	32G11428-56	PLATE	0.090	7075-T6511 ALCLAD	QQ-250/12 (T6511)
200	32G11428-55, -56	PLATE	0.090	7075-T6511 ALCLAD	QQ-250/12 (T6511)
230 199	32G11428-58	CLIP	0.125	7075-T6 AL ALY	QQ-250/12 (T6)
200	32G11428-57, -58	CLIP	0.125	7075-T6 AL ALY	QQ-250/12 (T6)

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Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 8 of 10)

Notes

1. DRAWING NUMBERS FOR THE STRUCTURAL ASSEMBLY OF THE CENTER WING SECTION ARE 32-11401, 53-11002, 53-111002, AND 53-111401.
2. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.

3. FORGED AND MACHINED IN THE C CONDITION, THEN HEAT TREATED TO 180 TO 200 KSI.
4. WHEN THIS PART IS REQUIRED USE 0248-1 KIT.
5. PART OF 0248-3 KIT.
6. FORGED AND MACHINED IN THE N CONDITION, THEN HEAT TREATED TO 150 TO 180 KSI.
7. FOR INSTALLATION OF DOUBLER, SEE FIGURE 2-42.
8. FOR REPLACEMENT, SEE FIGURE 2-57.
9. FOR REPLACEMENT, SEE FIGURE 2-59.
10. F-4E 66-287 AND 71-237 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 THRU 72-138.
11. F-4E 66-296 THRU 71-236 AFTER TO 1F-4E-566; ALSO F-4E 72-139 AND UP AND F-4G.
12. F-4C 63-7663 THRU 64-928, F-4D 64-929 THRU 65-759, AND RF-4 63-7763 THRU 65-940.
13. F-4D 65-760 THRU 66-8686, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 65-941 THRU 66-450; ALSO F-4E 66-287 BEFORE TO 1F-4E-566.
14. F-4D 66-8687 THRU 66-8825, F-4E 66-296 THRU 71-236 BEFORE TO 1F-4E-566 AND 72-121 AND UP AND RF-4 66-451 THRU 72-156.
15. F-4D 65-780 THRU 66-8825, F-4E 66-284 THRU 71-1402, F-4G, AND RF-4 66-388 THRU 72-156.
16. F-4D 65-780 THRU 66-8825 AND RF-4 66-388 THRU 72-156. FUTURE PROCUREMENT FOR PRECEDING PART AND FOR FUTURE PROCUREMENT USE FOLLOWING PART.
17. F-4C 63-7407 THRU 63-7442.
18. F-4C 63-7443 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, F-4G, AND RF-4.
19. F-4C 63-7407 THRU 63-7526 AND RF-4 63-7742 THRU 63-7749.
20. F-4C 63-7527 THRU 63-7597 AND RF-4 63-7750 THRU 63-7763.
21. F-4C 63-7598 THRU 64-928, F-4D 64-929 THRU 65-759, AND RF-4 64-997 THRU 65-940 BEFORE TO 1F-4-1123.
22. F-4C 63-7407 THRU 63-7468 AND RF-4 63-7742. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
23. F-4C 63-7598 THRU 63-7613 AND RF-4 64-997 THRU 64-1019.
24. F-4C 63-7527 THRU 64-928, F-4D 64-929 THRU 65-759, AND RF-4 63-7750 THRU 65-940.
25. F-4C 63-7674 THRU 64-817 AND RF-4 64-1020 THRU 64-1027.
26. F-4C 63-7407 THRU 64-7662 AND RF-4 63-7742 THRU 64-1017. FOR FUTURE PROCUREMENT USE 32-11514-27, -28 HINGE.
27. F-4C 63-7663 THRU 64-928, F-4D 64-929 THRU 65-760, AND RF-4 64-1018 THRU 65-940 LEFT SIDE, F-4C 63-7663 THRU 64-928, F-4D 64-929 THRU 65-782, AND RF-4 64-1018 THRU 66-386 RIGHT SIDE. FOR FUTURE PROCUREMENT USE 32-11514-27, -28 HINGE.
28. F-4C 63-7469 THRU 63-7678 AND RF-4 63-7743 THRU 64-1020 LEFT SIDE. F-4C 63-7469 THRU 63-7652 AND RF-4 63-7743 THRU 64-1012 RIGHT SIDE. FUTURE PROCUREMENT FOR PRECEDING PART.
29. F-4C 63-7679 THRU 64-928, F-4D, F-4E 66-284 THRU 66-376, AND RF-4 64-1021 THRU 67-437 LEFT SIDE. F-4C 63-7653 THRU 64-928, F-4D, F-4E 66-284 THRU 66-376, AND RF-4 64-1013 THRU 67-437 RIGHT SIDE.
30. F-4C 63-7407 THRU 64-706 AND RF-4 63-7742 THRU 64-1049.
31. F-4C 64-707 THRU 64-737 AND RF-4 64-1050 THRU 64-1061.
32. F-4C 64-738 THRU 64-817 AND RF-4 64-1062 THRU 64-1077.
33. F-4C 63-7407 THRU 63-7420.
34. F-4C 63-7421 THRU 64-672 AND RF-4 63-7742 THRU 64-1037.
35. F-4C 64-673 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 64-1038 THRU 72-156; ALSO, F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
36. F-4C 63-7407 THRU 63-7685 AND RF-4 63-7742 THRU 64-1017.
37. F-4C 63-7686 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 64-1018 THRU 72-156.
38. F-4C 63-7407 THRU 64-714 AND RF-4 63-7742 THRU 64-1052.
39. F-4C 64-715 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, F-4G, AND RF-4 64-1053 THRU 72-156.
40. F-4C 63-7407 THRU 64-915 AND RF-4 63-7742 THRU 65-856.
41. F-4C 64-916 THRU 64-928, F-4D, AND RF-4 65-857 THRU 72-156.
42. F-4C 63-7407 THRU 64-817; RF-4C 63-7742 THRU 64-1077.
43. F-4C 64-818 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 64-1078 THRU 72-156.
44. F-4C 63-7443 THRU 64-928, F-4D, AND RF-4.
45. F-4C 64-818 THRU 64-904, F-4D 64-929 THRU 64-948, AND RF-4 64-1078 THRU 65-849.
46. F-4C 64-905 THRU 64-928, F-4D 64-949 THRU 66-8825, F-4E 66-284 THRU 68-354, AND RF-4 65-850 THRU 68-537.
47. F-4C, F-4D 64-929 THRU 65-779, AND RF-4 63-7742 THRU 66-387.
48. F-4C, F-4D 64-929 THRU 65-770, AND RF-4 63-7742 THRU 66-387.
49. F-4C 63-7407 THRU 63-7662 AND RF-4 63-7742 THRU 64-1017.
50. F-4C, F-4D, AND RF-4 63-7743 THRU 69-384. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
51. F-4D 65-761 THRU 66-8825 AND RF-4 65-941 THRU 68-562 LEFT SIDE, F-4D 65-783 THRU 66-8825 AND RF-4 66-383 THRU 68-562 RIGHT SIDE. F-4E 66-284 THRU 68-365. FOR FUTURE PROCUREMENT ON F-4D AND RF-4 USE 32-11514-27, -28 HINGE, FOR F-4E USE 32-11514-29, -30 HINGE.
52. F-4C 63-7407 THRU 64-881, F-4D, AND RF-4 63-7742 THRU 65-833 BEFORE TO 1F-4-991.
53. F-4C 64-882 THRU 64-928, F-4D, F-4E 66-284 THRU 71-1402, F-4G, AND RF-4 65-839 THRU 72-156.
54. F-4D 65-760 THRU 66-8825, AND RF-4 65-941 THRU 67-459 BEFORE TO 1F-4-1123.
55. F-4C 63-7407 THRU 63-7737 AND RF-4 63-7742 THRU 64-1071.
56. F-4C 64-738 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 64-1062 THRU 72-156; ALSO, F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
57. F-4E 66-287 BEFORE TO 1F-4E-566.
58. F-4E 71-237 THRU 71-1402 AFTER TO 1F-4E-566.
59. F-4C, F-4D 64-929 THRU 65-779, AND RF-4 63-7740 THRU 66-387. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
60. F-4D 65-760 THRU 66-8825 AND RF-4 65-941 THRU 71-259.
61. F-4C, F-4D 64-929 THRU 65-716, AND RF-4 63-7742 THRU 65-928.
62. F-4D 65-717 THRU 66-8825, F-4E, F-4G, AND RF-4 65-930 THRU 72-156.
63. F-4C, F-4D 64-929 THRU 65-770, AND RF-4 63-7742 THRU 66-386 AND 66-388.
64. F-4D 65-771 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 66-287 AND 66-389 THRU 67-453; ALSO, F-4E 66-287 AND 66-296 THRU 67-219 BEFORE TO 1F-4E-566.
65. F-4C, F-4D, F-4E 66-284 THRU 67-282, AND RF-4 63-7742 THRU 67-453.
66. F-4E 67-283 THRU 67-349 AND RF-4 67-454 THRU 67-464.
67. F-4E 67-350 AND UP, RF-4 67-465 THRU 72-156 AND F-4G.
68. F-4C 64-818 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 64-1078 THRU 67-453; ALSO, F-4E 66-287 AND 66-296 THRU 67-219 BEFORE TO 1F-4E-566.
69. F-4E 67-220 THRU 67-363 BEFORE TO 1F-4E-566, AND RF-4 67-454 THRU 67-461.
70. F-4E 67-364 THRU 71-236 BEFORE TO 1F-4E-566.
71. F-4C 64-818 THRU 64-928, F-4D, F-4E 66-284 THRU 67-219, AND RF-4 64-1078 THRU 67-453. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
72. F-4E 67-220 THRU 69-7273 AND RF-4 67-454 THRU 69-372. FUTURE PROCUREMENT FOR PRECEDING PART.
73. F-4D 66-8687 THRU 66-8825, F-4E 66-296 THRU 67-207 BEFORE TO 1F-4E-566, AND RF-4 66-451 THRU 66-478.
74. F-4E 67-208 THRU 67-335 BEFORE TO 1F-4E-566 AND RF-4 67-428 THRU 67-459.
75. F-4E 67-336 THRU 67-398 BEFORE TO 1F-4E-566 AND RF-4 67-460 THRU 67-469.
76. RF-4 67-460 THRU 67-469 BEFORE TO 1F-4-1123.
77. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, 66-287 AND 66-296 THRU 67-335 BEFORE TO 1F-4E-566 AND TO 1F-4-1123.
78. F-4E 67-336 THRU 67-398 BEFORE TO 1F-4E-566 AND TO 1F-4-1123.
79. F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 63-7742 THRU 66-478; ALSO F-4E 66-287 AND 66-296 THRU 67-207 BEFORE TO 1F-4E-566.
80. F-4E 67-208 THRU 71-236 BEFORE TO 1F-4E-566, AND RF-4 67-428 THRU 71-252.
81. F-4E 68-355 AND UP, RF-4 68-558 THRU 72-156 AND F-4G.
82. RF-4 68-563 AND UP. FOR FUTURE PROCUREMENT USE 32-11514-27, -28 HINGE.
83. F-4E 68-366 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
84. RF-4 68-548 THRU 68-561 BEFORE TO 1F-4-1123.
85. RF-4 68-562 THRU 69-357 BEFORE TO 1F-4-1123.
86. F-4E 68-303 THRU 68-409 BEFORE TO 1F-4E-566 AND TO 1F-4-1123.
87. F-4E 68-303 THRU 68-440, 68-442, 68-443, 68-447, 68-450, 68-453 THRU 68-460, 68-462 THRU 68-464, 68-496 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 68-458 THRU 68-589, 68-591 THRU 68-596 AND 68-610 THRU 71-252.
88. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, 66-287 AND 66-296 THRU 68-365 BEFORE TO 1F-4E-566.
89. F-4C, F-4D, F-4E 66-284 THRU 68-365, AND RF-4 63-7742 THRU 68-561. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
90. F-4E 68-366 THRU 71-1402, F-4G, AND RF-4 68-562 THRU 71-252. FUTURE PROCUREMENT FOR PRECEDING PART. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
91. F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
92. F-4C, F-4D 64-929 THRU 65-635 AND RF-4 63-7742 THRU 65-904.
93. F-4D 65-636 THRU 66-8825 AND RF-4 65-905 THRU 72-156.
94. F-4E 68-410 THRU 68-538 BEFORE TO 1F-4E-566 AND TO 1F-4-1123.
95. F-4C BEFORE TO 1F-4C-598, RF-4 63-7742 THRU 63-7749, ALSO RF-4 63-7750 THRU 67-641 BEFORE TO 1F-4(R)C-626.
96. RF-4 67-462 THRU 69-383 BEFORE TO 1F-4(R)C-626 AND RF-4 69-384 THRU 72-156.
97. F-4C BEFORE TO 1F-4C-598 AND RF-4 63-7750 THRU 69-383 AFTER TO 1F-4(R)C-626.
98. F-4C AFTER TO 1F-4C-598, F-4D; F-4E 66-284 THRU 71-236 AND F-4G.
99. F-4C BEFORE TO 1F-4C-598 AND RF-4.
100. F-4E 66-287 AND 66-296 THRU 71-236 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP, F-4G 69-236 THRU 69-7253 AND 69-7255 THRU 69-7588.
101. F-4E 68-441, 68-444 THRU 68-446, 68-448, 68-449, 68-451, 68-452, 68-461, AND 68-465 THRU 68-495 BEFORE TO 1F-4E-566, AND RF-4 68-590 AND 68-597 THRU 68-609.
102. F-4C, F-4D 64-929 THRU 65-755, 65-771 AND 67-790, RF-4 63-7742 THRU 65-939 AND 65-943 LEFT SIDE AND F-4C, F-4D 64-929 THRU 65-747 AND 65-773, RF-4 63-7742 THRU 65-937 RIGHT SIDE.

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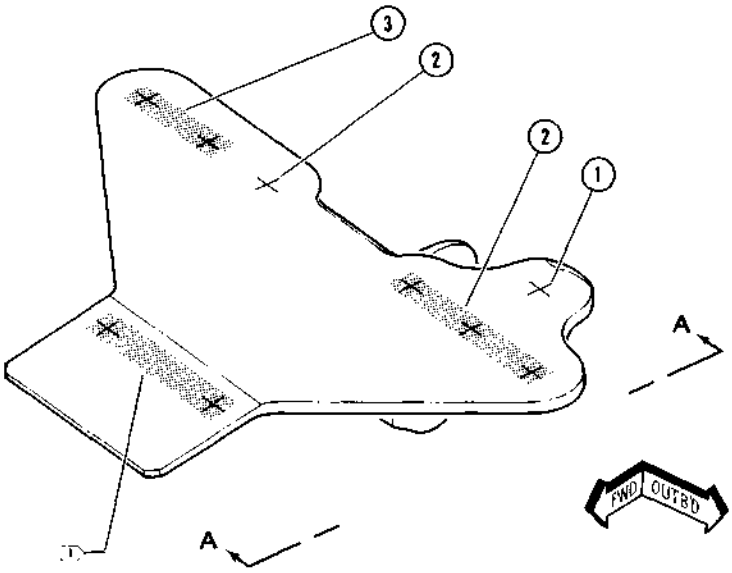
Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 9 of 10)

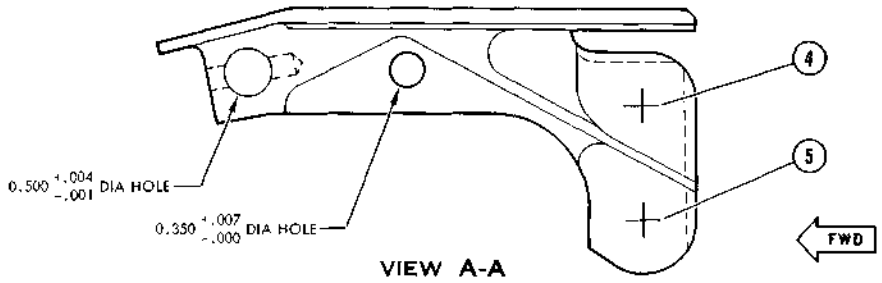
Notes

(103) F-4D 67-756 THRU 65-770, 65-772 THRU 65-789, 65-791 THRU 66-8686, F-4E 66-285, 66-286, 66-288 THRU 66-295, RF-4 65-940 THRU 65-942, 65-944 THRU 66-450 LEFT SIDE, AND F-4D 65-748 THRU 65-722, 65-774 THRU 66-8686, RF-4 65-938 THRU 66-450 RIGHT SIDE.
(104) RF-4 69-358 THRU 69-375 BEFORE TO 1F-4-1123.
(105) F-4E 69-236 THRU 69-7260 BEFORE TO 1F-4E-566 AND TO 1F-4-1123.
(106) RF-4 69-376 THRU 72-156 BEFORE TO 1F-4-1123.
(107) F-4E 69-7261 THRU 71-236 BEFORE TO 1F-4E-566 AND TO 1F-4-1123.
(108) F-4E 66-366 THRU 69-7578 BEFORE TO 1F-4E-566.
(109) F-4E 69-7579 THRU 71-236 BEFORE TO 1F-4E-566.
(110) F-4C, F-4D, F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7260, AND RF-4 63-7742 THRU 69-375.
(111) F-4E/G 69-7261 THRU 69-7538, F-4E 69-7589 AND UP, AND RF-4 69-376 THRU 72-156.
(112) F-4E 67-220 THRU 69-7578 BEFORE TO 1F-4E-566 AND RF-4 67-454 THRU 72-156
(113) F-4F 72-1489 THRU 72-1496 RIGHT SIDE.
(114) F-4E 72-121 THRU 72-1499.
(115) SUPERSEDED PART. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(116) SUPERSEDING PART. FUTURE PROCUREMENT FOR PRECEDING PART.
(117) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-296 FOR FUTURE PROCUREMENT USE FOLLOWING PART; ALSO F-4E 66-287 AND 66-296 THRU 69-7589 BEFORE TO 1F-4E-566.
(118) F-4E 66-284 THRU 67-387. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(119) F-4E 67-388 AND UP, AND F-4G. FUTURE PROCUREMENT FOR PRECEDING PART.
(120) F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7578.
(121) F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 71-236. FUTURE PROCUREMENT FOR PRECEDING PART.
(122) F-4E 66-284 THRU 71-1402 AND F-4G. FUTURE PROCUREMENT FOR F-4C, F-4D AND RF-4.
(123) RF-4 71-248 THRU 72-156. FUTURE PROCUREMENT FOR PRECEDING PART.
(124) F-4E 71-224 THRU 71-236. FUTURE PROCUREMENT FOR PRECEDING PART.
(125) F-4E 66-377 THRU 71-236, F-4G, AND RF-4 67-438 THRU 72-156.
(126) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND 72-121 AND UP. ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
(127) F-4E 69-7224 AND UP AND RF-4 69-376 THRU 72-156. FUTURE PROCUREMENT FOR PRECEDING PART.
(128) F-4C, F-4D 64-979 THRU 65-591, and RF-4 63-7742 THRU 65-884. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(129) F-4D 64-972 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND 72-121 AND UP AND RF-4 65-885 THRU 72-156. FUTURE PROCUREMENT FOR PRECEDING PART. ALSO, F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
(130) F-4E 71-237 THRU 71-1402 AND SUPERSEDED BY FOLLOWING PART. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(131) F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
(132) F-4E 72-121 AND UP AND RF-4 71-253 THRU 72-156. FUTURE PROCUREMENT FOR PRECEDING PART.
(133) F-4C, F-4D, F-4E 66-284 THRU 71-236, F-4G, AND RF-4.
(134) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 FUTURE PROCUREMENT FOR F-4C, F-4D AND RF-4; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
(135) F-4E 73-01 57 AND UP.
(136) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 FOR FUTURE PROCUREMENT USE FOLLOWING PART, ALSO F-4E 66-287 AND 66-296 THRU 67-207 BEFORE TO 1F-4E-566.
(137) F-4E 67-208 THRU 71-236 BEFORE TO 1F-4E-566. FUTURE PROCUREMENT FOR PRECEDING PART.
(138) F-4E 66-287 AND 66-296 THRU 71-1092, 71-1401 AND 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(139) F-4E 71-1093 THRU 71-1400.
(140) MADE FROM PART IN 0243-1 KIT.
(141) F-4G 69-7294.
(142) F-4E 72-121 AND UP.
(143) F-4C, F-4D, F-4E 66-284 THRU 71-1402, F-4G, AND RF-4.
(144) F-4C, F-4D, F-4E 66-284 THRU 71-236 LEFT SIDE, F-4E, RF-4C, AND F-4G RIGHT SIDE.
(145) F-4E 72-121 AND UP LEFT SIDE.
(146) F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND 72-121 AND UP, RF-4; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
(147) F-4C, F-4D, F-4E 66-284 THRU 68-409, AND RF-4 63-7742 THRU 68-376. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(148) F-4E 68-410 AND UP, RF-4 68-577 THRU 72-156, AND F-4G. FUTURE PROCUREMENT FOR PRECEDING PART.
(149) F-4E 66-287 AND 66-296 THRU 67-335 AFTER TO 1F-4E-566 AND BEFORE TO 1F-4-1123.
(150) F-4E 68-410 THRU 68-538 AFTER TO 1F-4E-566 AND BEFORE TO 1F-4-1123.
(151) F-4E 67-336 THRU 68-409 AFTER TO 1F-4E-566 AND BEFORE TO 1F-4-1123.
(152) F-4E 69-236 THRU 69-7260 AFTER TO 1F-4E-566 AND BEFORE TO 1F-4-1123. F-4G 69-236 THRU 69-7260 BEFORE TO 1F-4-1123.
(153) F-4E 69-7261 THRU 71-1402 AFTER TO 1F-4E-566 AND BEFORE TO 1F-4-1123. F-4G 69-7261 THRU 69-7588 BEFORE TO 1F-4-1123.
(154) F-4E 66-287 AND 66-296 THRU 68-365 AFTER TO 1F-4E-566.
(155) F-4E 68-366 THRU 69-7578 AFTER TO 1F-4E-566 AND F-4E/G 69-236 THRU 69-7578.
(156) F-4E 69-7579 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4E/G 69-7579 THRU 69-7588
(157) F-4E 66-287 AFTER TO 1F-4E-566.
(158) F-4E 67-208 THRU 67-335 AFTER TO 1F-4E-566.
(159) F-4E 66-296 THRU 66-382 AFTER TO F-4E-566
(160) F-4E 67-336 THRU 68-451, 68-453 THRU 68-464, 68-481, 68-496 THRU 71-236, 71-1089 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(161) F-4E 67-336 THRU 68-440 68-442, 68-443, 68-447, 68-450, 68-452 THRU 68-460, 68-481, 68-492 THRU 68-494, 68-496 THRU 71-236, 71-1089 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(162) F-4E 68-452, 68-465 THRU 68-480, 68-482 THRU 68-495 AFTER TO 1F-4E-566.
(163) F-4E 68-441, 68-444 THRU 68-446, 68-448, 68-449, 68-451, 68-461 THRU 68-480, 68-482 THRU 68-491 AND 68-495 AFTER TO 1F-4E-566.
(164) F-4E 71-237 THRU 71-1088.
(165) F-4E 66-287 AND 66-296 THRU 67-219 AFTER TO 1F-4E-566.
(166) F-4E 67-220 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(167) F-4E 67-220 THRU 69-7578 AFTER TO 1F-4E-566 AND F-4E/G 69-236 THRU 69-7578.
(168) F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4; ALSO, F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
(169) F-4E 66-287 AND 66-296 THRU 67-207 AFTER TO 1F-4E-566.
(170) F-4E 67-208 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(171) F-4E 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(172) F-4E 66-287 AND 66-296 THRU 69-7589 AFTER TO 1F-4E-566 AND F-4G.
(173) F-4E 71-224 THRU 71-1402.
(174) F-4E 66-287 AND 66-296 THRU 66-382 AFTER TO 1F-4E-566.
(175) F-4E 67-208 THRU 71-236 AFTER TO 1F-4E-566 AND F-4G.
(176) F-4E 71-237 THRU 71-1402 LEFT SIDE, 67-208 THRU 71-1402 RIGHT SIDE AFTER TO 1F-4E-566 AND F-4G RIGHT SIDE.
(177) F-4E 71-237 THRU 71-1402.
(178) F-4E 72-121 THRU 72-1477.
(179) F-4E 72-1478 AND UP.
(180) F-4E 71-237 THRU 72-1491.
(181) F-4E 72-1492 AND UP.
(182) F-4F 71-237 THRU 72-1489.
(183) F-4E 72-1490 AND UP.
(184) FOR INTERCHANGEABLE SPECIFICATION, REFERENCE TO 1F-4C-3-1-1.
(185) F-4E 72-164 AND UP.
(186) FOR REPLACEMENT, SEE FIGURE 2-41A.
(187) FOR REPAIR, SEE FIGURE 2-32A.
(188) RF-4 72-145 THRU 72-156.
(189) FOR REPLACEMENT, SEE FIGURE 2-25.
(190) FOR REPLACEMENT, SEE FIGURE 2-42A.
(191) F-4E 72-121 THRU 74-01049.
(192) F-4F 74-01050 AND UP.
(193) FOR REPLACEMENT, SEE FIGURE 2-41B.
(194) FOR DRAIN HOLE ADDITION, SEE FIGURE 2-44A.
(195) F-4E 66-284 THRU 74-01653, F-4C, F-4D, F-4G, AND RF-4C AFTER TO 1F-4-1123.
(196) F-4E 72-121 AND UP BEFORE TO 1F-4-1123.
(197) F-4C 63-7407 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749 BEFORE TO 1F-4-1123.
(198) F-4C 63-7527 THRU 63-7597 AND RF-4C 63-7750 THRU 63-7763 BEFORE TO 1F-4-1123.
(199) RF - 4C 67 – 451, 67 – 453, 68 – 549, 68 – 577, 68 – 587, 68 – 593, 69 – 360, 69 – 361, 69 – 364 THRU 69 – 368, 69 – 371 THRU 69 - 375, AFTER TO 1F – 4(R)C – 671.
(200) F 4D 66 8734, F 4E 67 218, 67 320 AND RF 4C 66 397, 68 587.

4C-3-1-2-(66-10)U

Figure 2-41. Torque Box and Leading Edge Structural Repair Index (Sheet 10 of 10)





VIEW A-A

REF NO.	FASTENER	SHIM OR SPACER	NUT OR COLLAR	HOLE SIZE
1	NAS1418-14	32-11401-85	NAS1080C8	0.2495 +.0017 -.0000
2	NAS1418-12		NAS1080C8	0.2495 +.0017 -.0000
3	NAS1418-14	32-11401-83	NAS1080C8	0.2495 +.0017 -.0000
4	NAS464P4A10		MS21042-4	0.250 +.007 -.000
5	NAS464P4A11		MS21042-4	0.250 -.007 -.000

INSTALLATION PROCEDURE FOR NEW PART

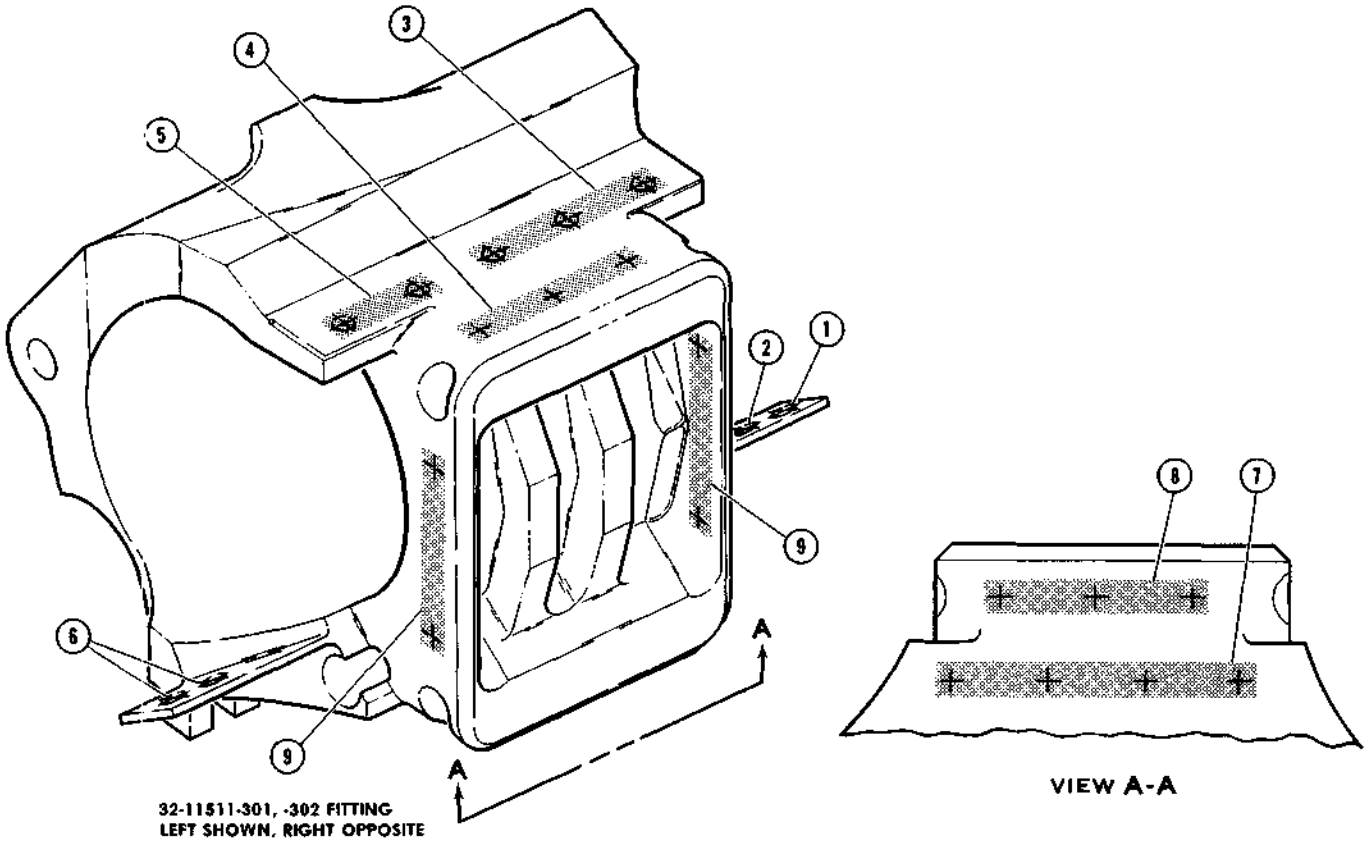
A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN FASTENER CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1.
B. REFINISH HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

[1] FOR THESE FASTENERS, SEE DOOR 141 INSTALLATION, REFERENCE TO 1F-4C-3-1-3.

4C-3-1-2-(335)

Figure 2-41A. Fitting, 32-11512, Replacement Index



REF NO.	FASTENER	NUT	WASHER	SHIM	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1670-3L6			32-11401-13,-79		$0.199^{+.003}_{-.000}$
2	NAS1669-3L6			32-11401-13,-79		$0.199^{+.003}_{-.000}$
3	NAS584-15T	MS21042-4	AN960D416 ⟨2⟩	32-11401-31,-97	60-70	$0.2495^{+.0017}_{-.0000}$
4	NAS584-15T	RMLH2577-048	294081 ⟨1⟩	32-11401-31,-97	80-100	$0.2495^{+.0017}_{-.0000}$
5	NAS584-16T	MS21042-4	AN960D416 ⟨2⟩	32-11401-31,-97	60-70	$0.2495^{+.0017}_{-.0000}$
6	NAS1669-3L6			32-11401-11,-77		$0.199^{+.003}_{-.000}$
7	NAS584-12T	RMLH2577-048	294081 ⟨1⟩	32-11401-29,-95	60-70	$0.2495^{+.0017}_{-.0000}$
8	NAS584-15T	RMLH2577-048	294081 ⟨1⟩	32-11401-29,-95	80-100	$0.2495^{+.0017}_{-.0000}$
9	NAS1304-9	MS21061L4	AN960D416L ⟨3⟩	NAS75-4-010 ⟨4⟩	60-70	$0.250^{+.001}$

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES REFERENCE TO 1F-4C-3-1-1. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. COUNTER SINK HOLES TO RECEIVE FASTENERS, AS REQUIRED.

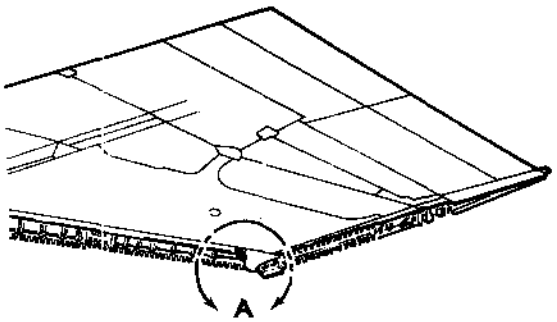
B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

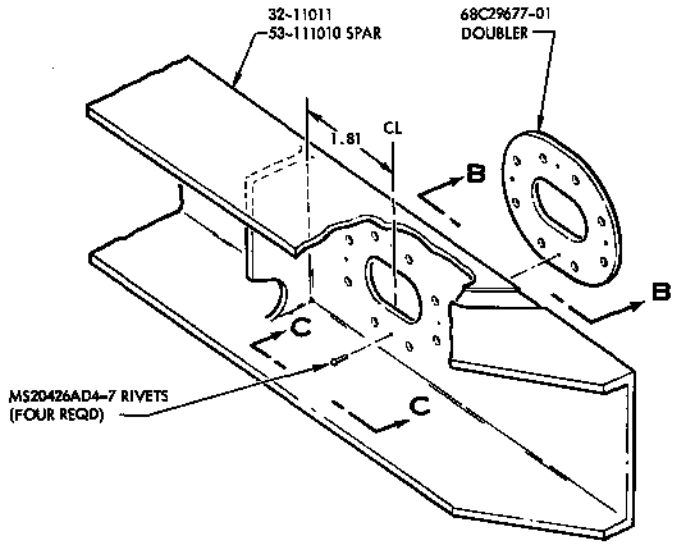
Notes

⟨1⟩ NUT RETAINER.
⟨2⟩ UNDER NUT.
⟨3⟩ UNDER HEAD.
⟨4⟩ BUSHING.

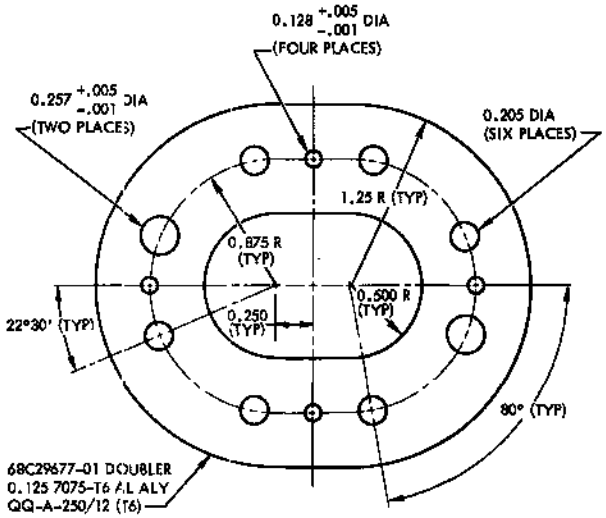
4C-3-1-2-(359)

Figure 2-41B. Fitting, 32-11511, Replacement Index

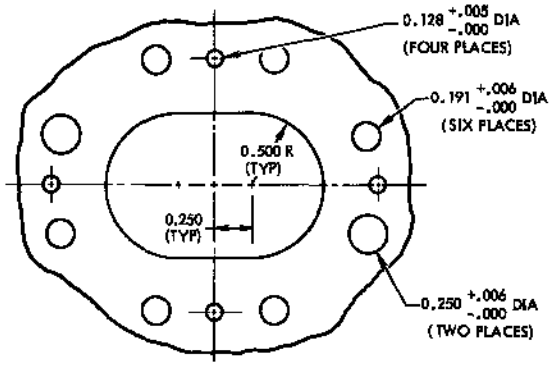




DETAIL A



VIEW B-B



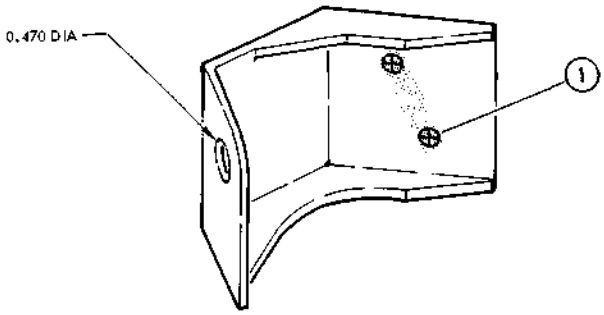
VIEW C-C

INSTALLATION PROCEDURE FOR NEW PART

A. CUT ACCESS HOLE IN 32-11011 OR 53-111010 SPAR, SEE VIEW C-C.
B. FABRICATE DOUBLER, 68C29677-01, SEE VIEW B-B.
C. LOCATE 68C29677-01 DOUBLER AND MATE DRILL HOLE IN 32-11011 OR 53-111011 SPAR, SEE VIEW B-B AND C-C. USE HOLE SIZE CALLOUTS ON VIEWS B-B AND C-C.
D. REMOVE DOUBLER. DEBUR HOLES IN SPAR AND DOUBLER.
E. REFINISH EDGES OF CUTOUT, HOLES AND REPAIR PART PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
F. INSTALL 68C29677-01 DOUBLER WITH MS20426AD4-7 RIVETS, SEE DETAIL A. SEAL DOUBLER, REFER TO T.O. 1F-4C-3-1-6.

4C-3-1-2-(310)

Figure 2-42. Doubler, 68C29677-01, Installation Index



REF NO.	FASTENER	WASHER UNDERNUT	NUT OR COLLAR	HOLE SIZE
1	TL100-4-18	TLN1020L-8W	TLN1020L8N	◁1

INSTALLATION PROCEDURE FOR NEW PART

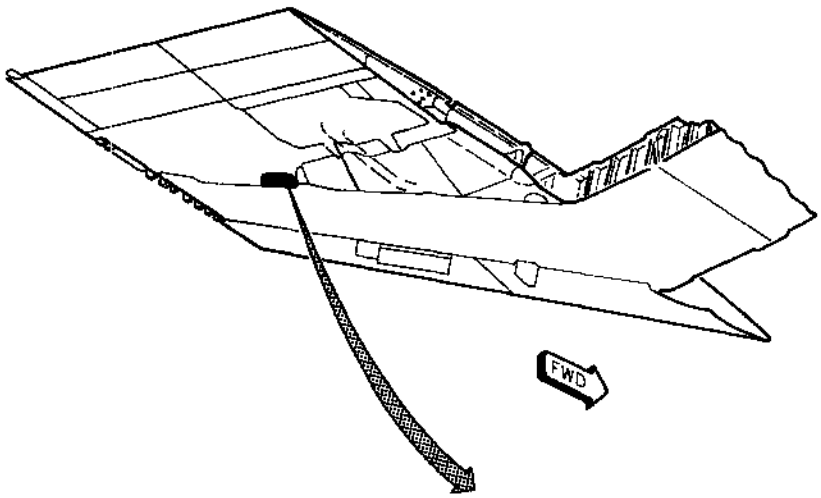
A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (⊕) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES.
B. REFINISH EDGES OF HOLES IN ACCORDANCE WITH CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

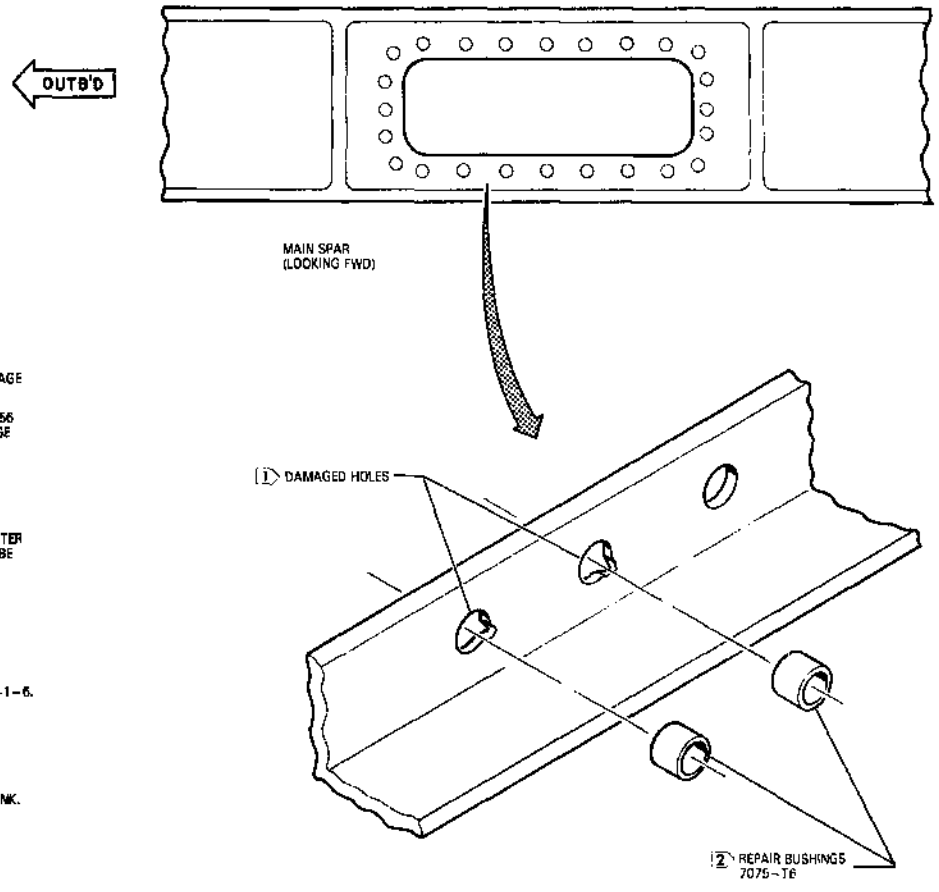
Note

◁1 TAPER-LOK FASTENERS HAVE SPECIAL TAPERED SHANK AND MUST BE REMOVED AND INSTALLED BY QUALIFIED PERSONNEL IN ACCORDANCE WITH TO 1F-4C-3-1-1.

4C-3-1-2-(35

Figure 2-42A. Bracket, 32-11312, Replacement





Notes

1. DAMAGE MUST BE REMOVED
2. BUSHING TO BE 0.0001 TO 0.0008 LARGER THAN HOLE.

REPAIR PROCEDURE

A. REAM DAMAGED HOLE TO REMOVE ALL DAMAGE

B. IF DAMAGE IS REMOVED AT LESS THAN 0.0156 OVERSIZE INSTALL NAS2904 BOLT. IF DAMAGE IS REMOVED AT LARGER THAN 0.0156 BUT LESS THAN 0.0312 OVERSIZE INSTALL NAS3004 BOLT.

C. IF DAMAGED HOLE REQUIRES REAMING LARGER THAN 0.0312 HOLE MUST BE REAMED TO 0.310 DIAMETER. IF HOLE DIAMETER EXCEEDS 0.500 DIAMETER APPROVAL MUST BE OBTAINED FROM LOCAL ENGINEERING.

D. IF HOLE WAS ENLARGED 0.310 TO 0.500 FABRICATE REPAIR BUSHING. SEE DETAIL A.

E. INSTALL BUSHING.

F. FINISH REWORKED AREA PER TO 1F-4C-3-1-6.

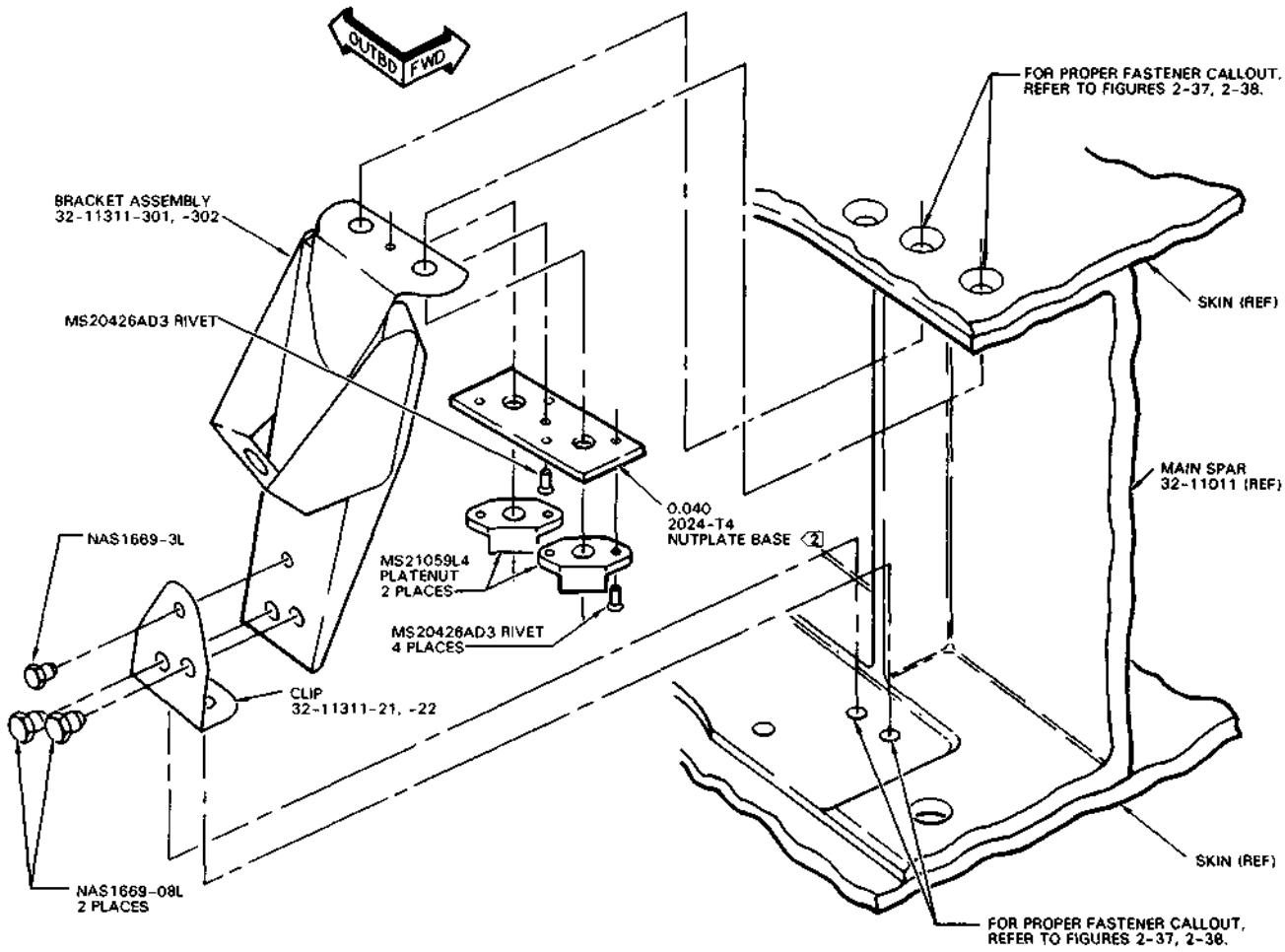
NOTE

WHEN A NEW DOOR IS INSTALLED THE LATEST CONFIGURATION IS TO BE USED. THIS DOOR IS NOT COUNTERSUNK.

G. INSTALL NEW DOOR. FOR FASTENER IDENTIFICATION SEE TO 1F-4C-3-1-3.

4C-3-1-2-(424)

Figure 2-42B. Main Spar, Door 32-11181 Fastener Hole, Repair



Note

1. ACCESS FOR BRACKET INSTALLATION IS THROUGH DOOR 101.

INSTALLATION PROCEDURES

1. REMOVE LOWER CLIP, 32-11311-21, -22 FROM 32-11311-301, -302 BRACKET ASSEMBLY. INSTALL CLIP IN MAIN SPAR WITH APPROPRIATE FASTENERS.
2. FABRICATE A NUTPLATE BASE, AS SHOWN. SECURE NUTPLATE BASE TO 32-11311-301, -302 ASSEMBLY WITH A SINGLE MS20426AD3 RIVET, LENGTH AS REQUIRED.
3. INSTALL UPPER END OF 32-11311-301, -302 BRACKET ASSEMBLY TO MAIN SPAR WITH APPROPRIATE FASTENERS. ATTACH LOWER END OF BRACKET TO CLIP, 32-11311-21, -22 WITH JO-BOLTS LENGTH AS REQUIRED.

4C-3-1-2-(459)

Figure 2-42C. Hydraulic Bracket Assembly, 32-11311-301, -302 Installation Procedures

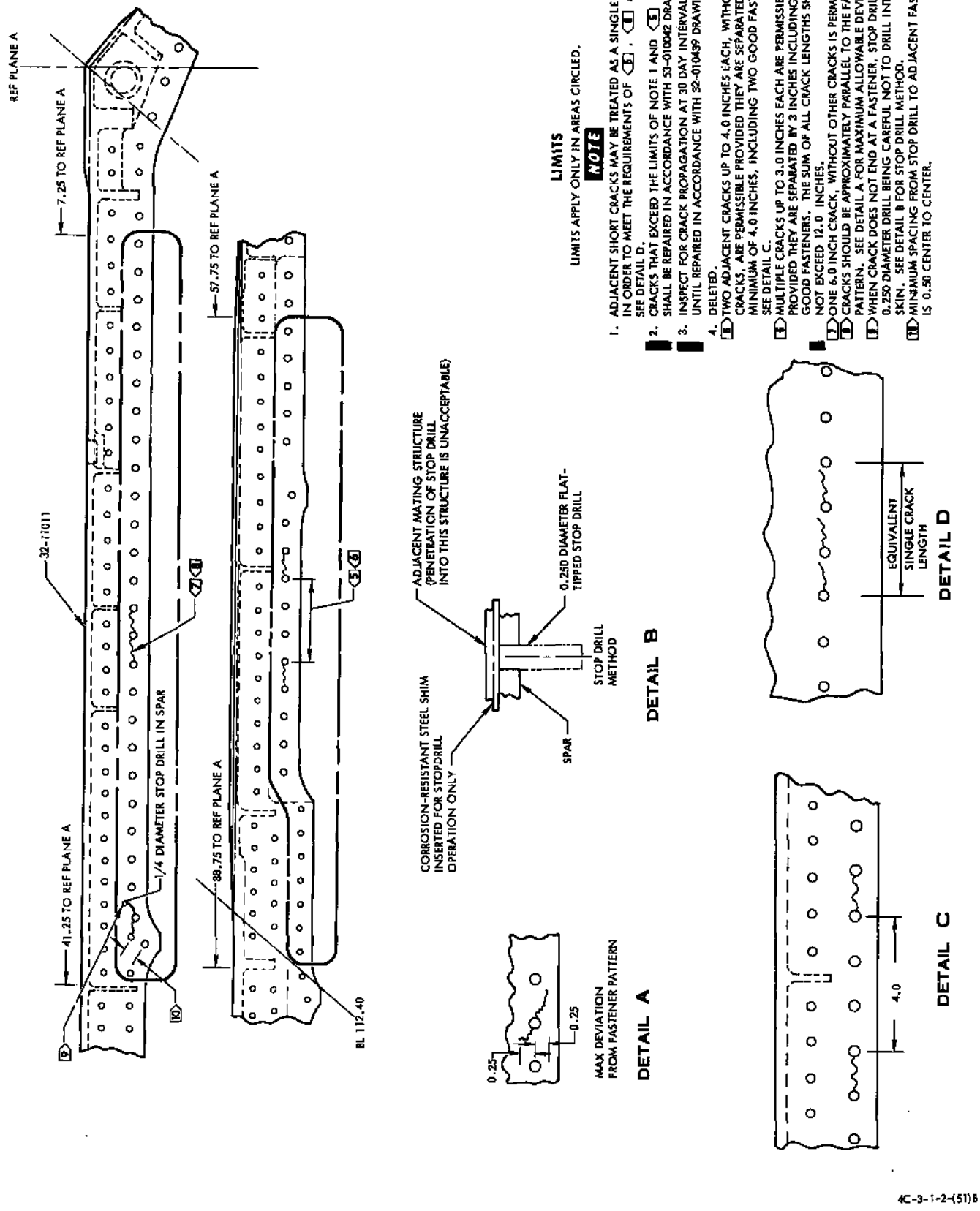
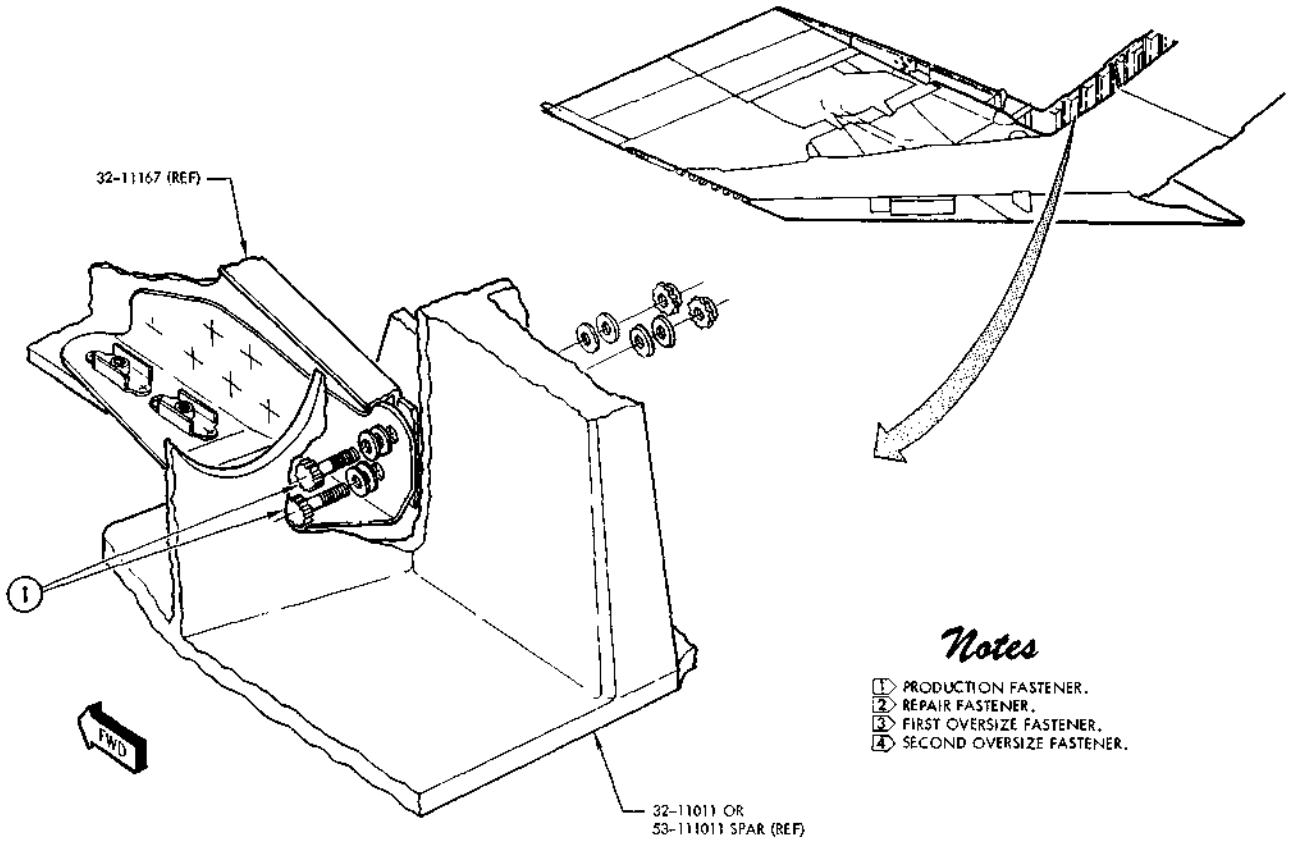


Figure 2-43. Main Spar, 32-11011 , Upper Cap Crack Limits for Unrestricted Flight



Notes

1. PRODUCTION FASTENER.
2. REPAIR FASTENER.
3. FIRST OVERSIZE FASTENER.
4. SECOND OVERSIZE FASTENER.

INSPECTION PROCEDURE

A. DEFUEL AND PURGE WING, REFER TO T.O. 1F-4( )-2-10.
B. REMOVE DOOR 73 AND OPEN DOOR 74, REFER TO T.O. 1F-4C-3-1-3.
C. REMOVE MAIN SPAR INBOARD DOOR, 32-11095. REFER TO T.O. 1F-4C-3-1-3.
D. REMOVE TWO NAS1303-3-7 BOLTS ATTACHING 32-11167 BEAM ASSEMBLY TO 32-11011 OR 53-111011 MAIN SPAR.
E. PERFORM MAGNETIC PARTICLE INSPECTION ON BOLTS IN STEP D, REFER TO T.O. 1F-4C-36.
F. IF BOTH FASTENERS ARE UNDAMAGED THEY MAY BE REINSTALLED. IF EITHER FASTENER IS DAMAGED, BOTH SHALL BE REPLACED. SEE REPAIR PROCEDURE.

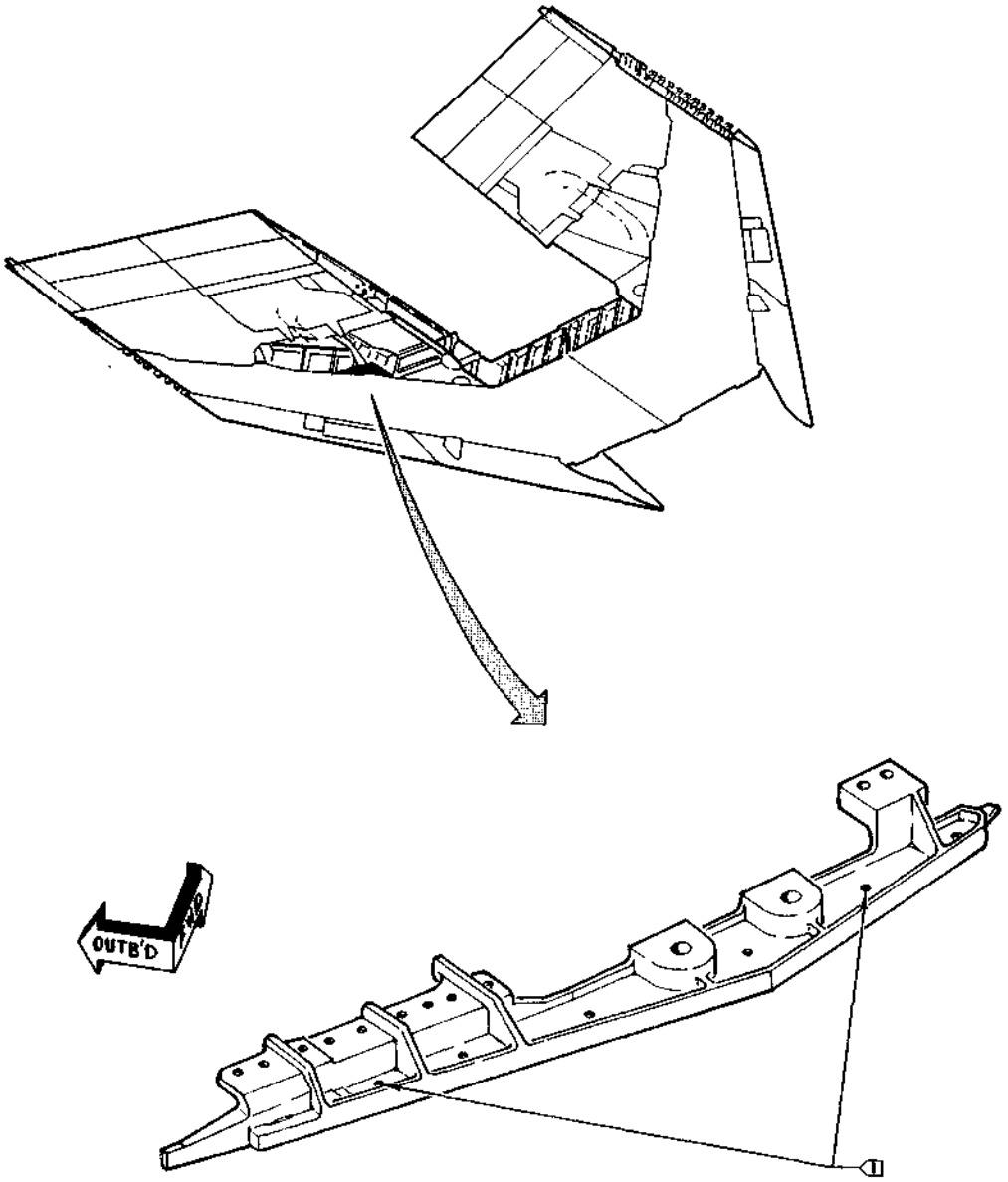
REPAIR PROCEDURE

A. INSPECT FASTENER TO HOLES FOR OVERSIZE OR ELONGATION CONDITION. SEE FASTENER CHART FOR HOLE SIZE.
B. IF HOLES ARE WITHIN TOLERANCE INSTALL REPAIR FASTENER. SEE FASTENER CHART.
C. IF HOLES ARE OVERSIZE INSTALL FASTENERS, SEE NOTES 〈3〉, OR 〈4〉.
D. THOROUGHLY CLEAN FUEL CELL AREA OF FOREIGN OBJECTS.
E. REINSTALL 32-11095 MAIN SPAR INBOARD DOOR, REFER TO T.O. 1F-4C-3-1-3.
F. REINSTALL DOOR 73 AND CLOSE DOOR 74, REFER TO T.O. 1F-4C-3-1-3.

REF NO.	FASTENER	NUT OR COLLAR	WASHER		TORQUE (INCH-LB)	HOLE SIZE
			UNDER HEAD	UNDER NUT		
1	NAS1303-7 〈1〉	MS21042-3	AN960D10L	AN960D10	20-25	0.191 $^{+.006}_{-.000}$
	MB61-3-7 〈2〉	MS21042-3	AN960D10L	AN960D10	20-25	0.191 $^{+.006}_{-.000}$
	MB88-3-7 〈3〉	MS21042-3	AN960D416L	AN90D416	20-25	0.205 $^{+.005}_{-.000}$
	MB89-3-7 〈4〉	MS21042L3	AN960D416L	AN960D416	20-25	0.220 $^{+.005}_{-.000}$

4C-3-1-2-(308)

Figure 2-44. Fastener Replacement and 32-11167 Beam Rework



REPAIR PROCEDURE

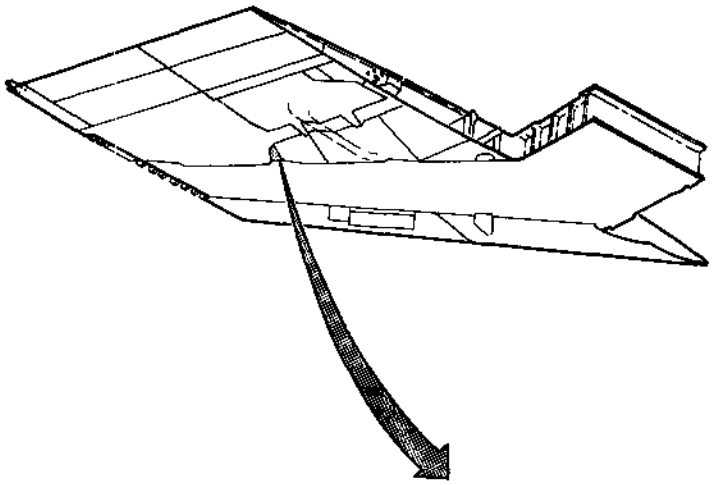
A. LOCATE HOLES APPROXIMATE CENTER OF EACH CAVITY IN SILL LOWER SURFACE. MARKS MUST BE MINIMUM 0.025 FORWARD OF STEPPED LIP WHERE LANDING GEAR DOOR SEATS.
B. DRILL 0.250 HOLES THRU MARKS.
C. BURR HOLES AND REFINISH PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

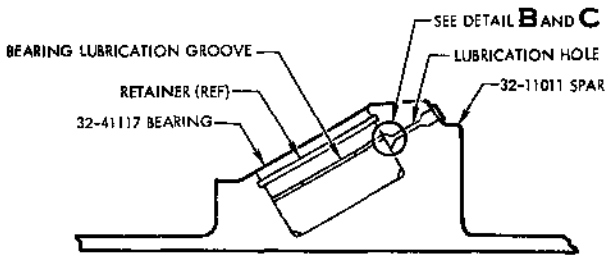
Note

1 0.250 DIA HOLE (TYP SIX PLACES).

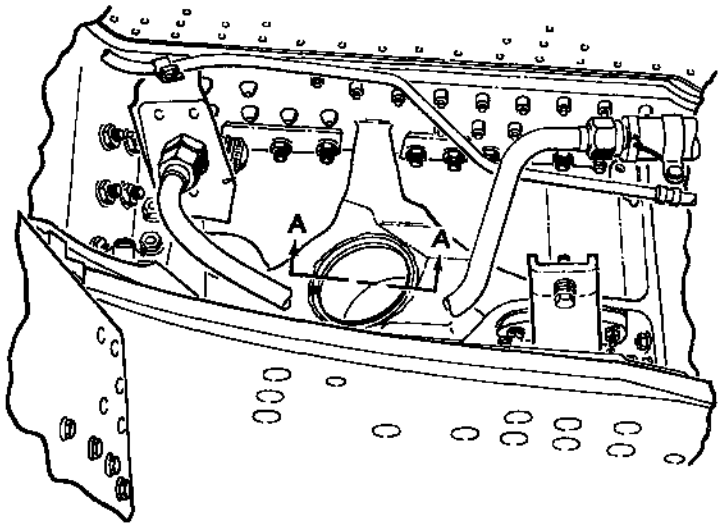
4C-3-1-2-(376)

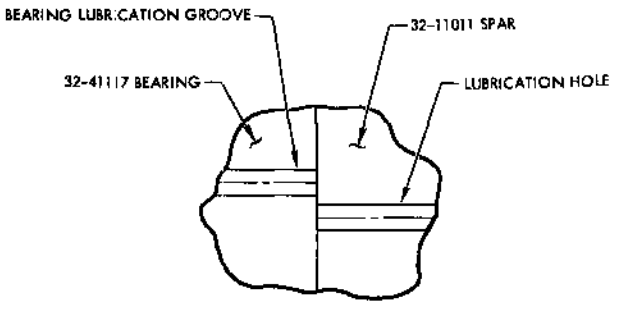
Figure 2-44A. Main Landing Gear Door Sill, 32G11429, Drain Holes



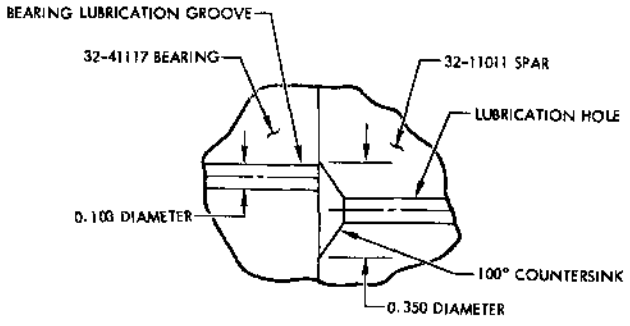


SECTION A-A





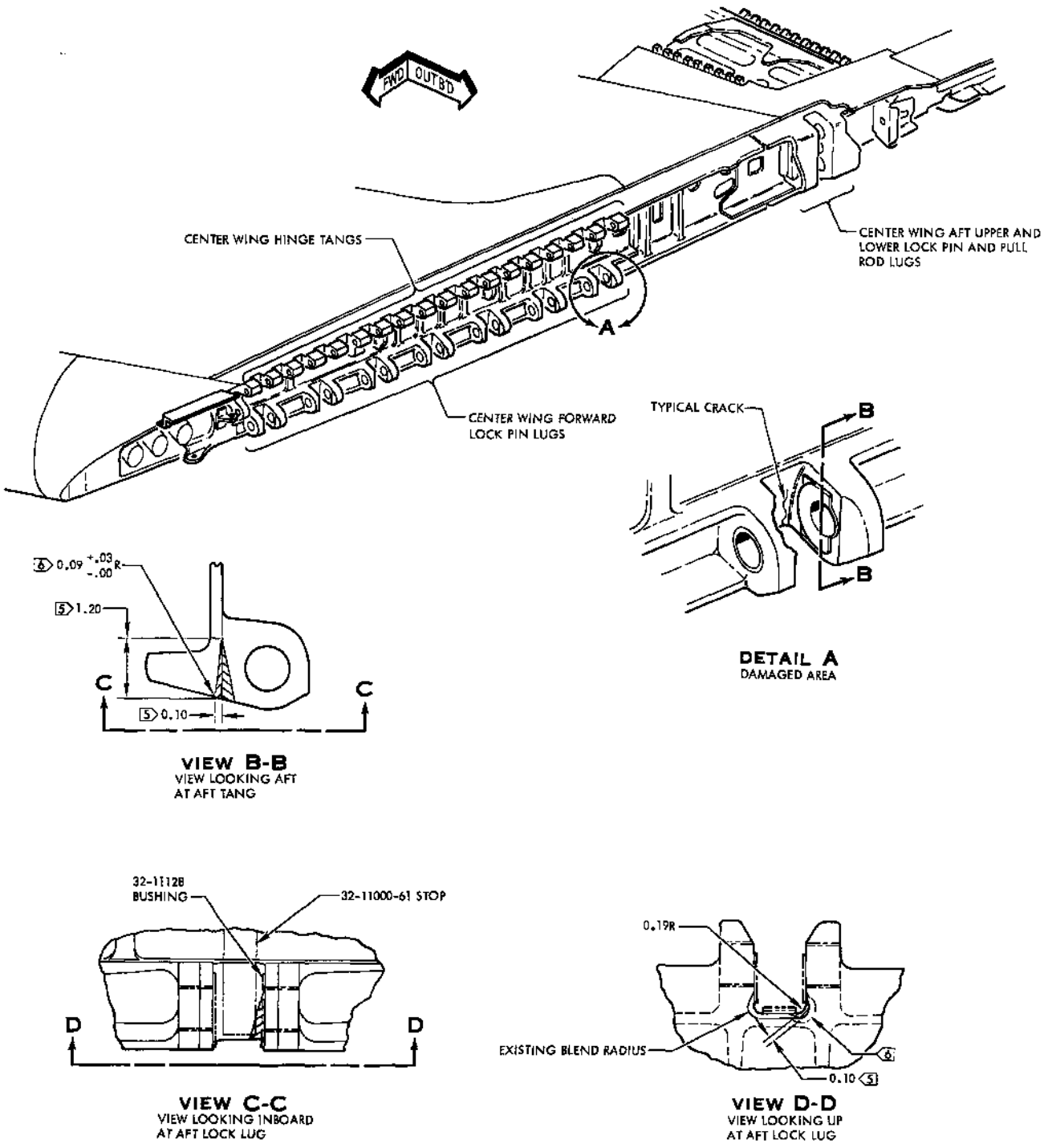
DETAIL B
EXISTING MISALIGNMENT OF LUBRICATION HOLES



DETAIL C
MODIFIED TO PERMIT PROPER LUBRICATION

4C-3-1-2-(34)A

Figure 2-45. Main Landing Gear Forward Trunnion Bearing Lubrication Hole Mismatch Repair



Notes

1. FOR DETAIL PROCEDURE REFER TO TEXT.
2. REWORK DATA APPLICABLE TO FORWARD SIDE OF AFT TANG OF AFT LUG ONLY.
3. SHADING INDICATES REWORK AREA.
4. FINISH REWORK AREA 63 MICROINCH OR BETTER.
5. MATERIAL REMOVAL SHALL NOT EXCEED 0.10, BLENDED TO 0.00 OVER 1.20 MAXIMUM LENGTH.
6. BLEND ALL EXTERNAL CORNERS OF REWORKED AREA WITH 0.09 TO 0.12 RADIUS TO FAIR WITH EXISTING RADIUS.

4C-3-1-2-(293)A

Figure 2-46. Wing Fold Rib, 32-11040 or 32G11040, Aft Lock Lug Crack Rework

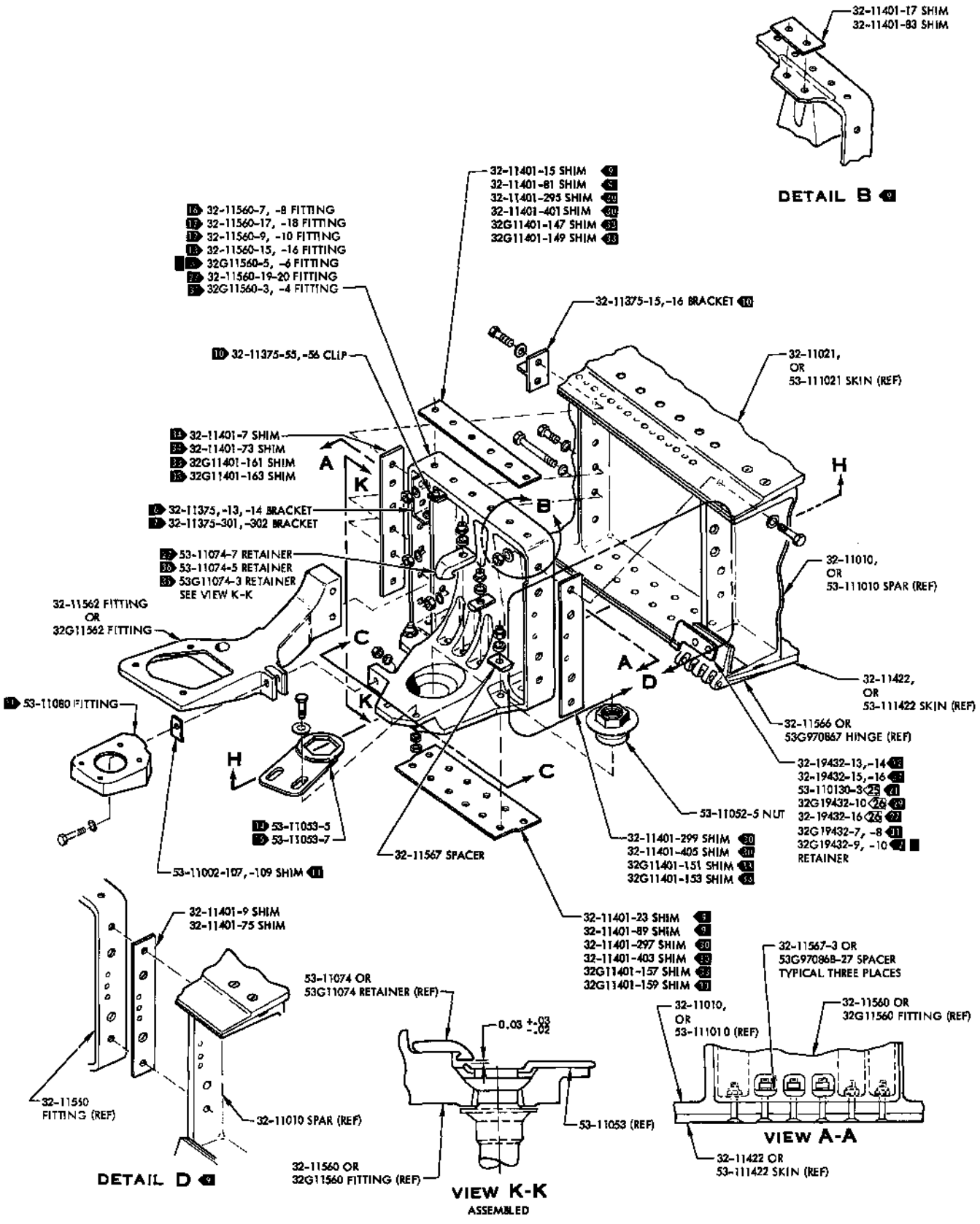


Figure 2-47. Inboard Pylon Forward Support Fitting, 32-11560, and 32G11560, Replacement (Sheet 1 of 6)

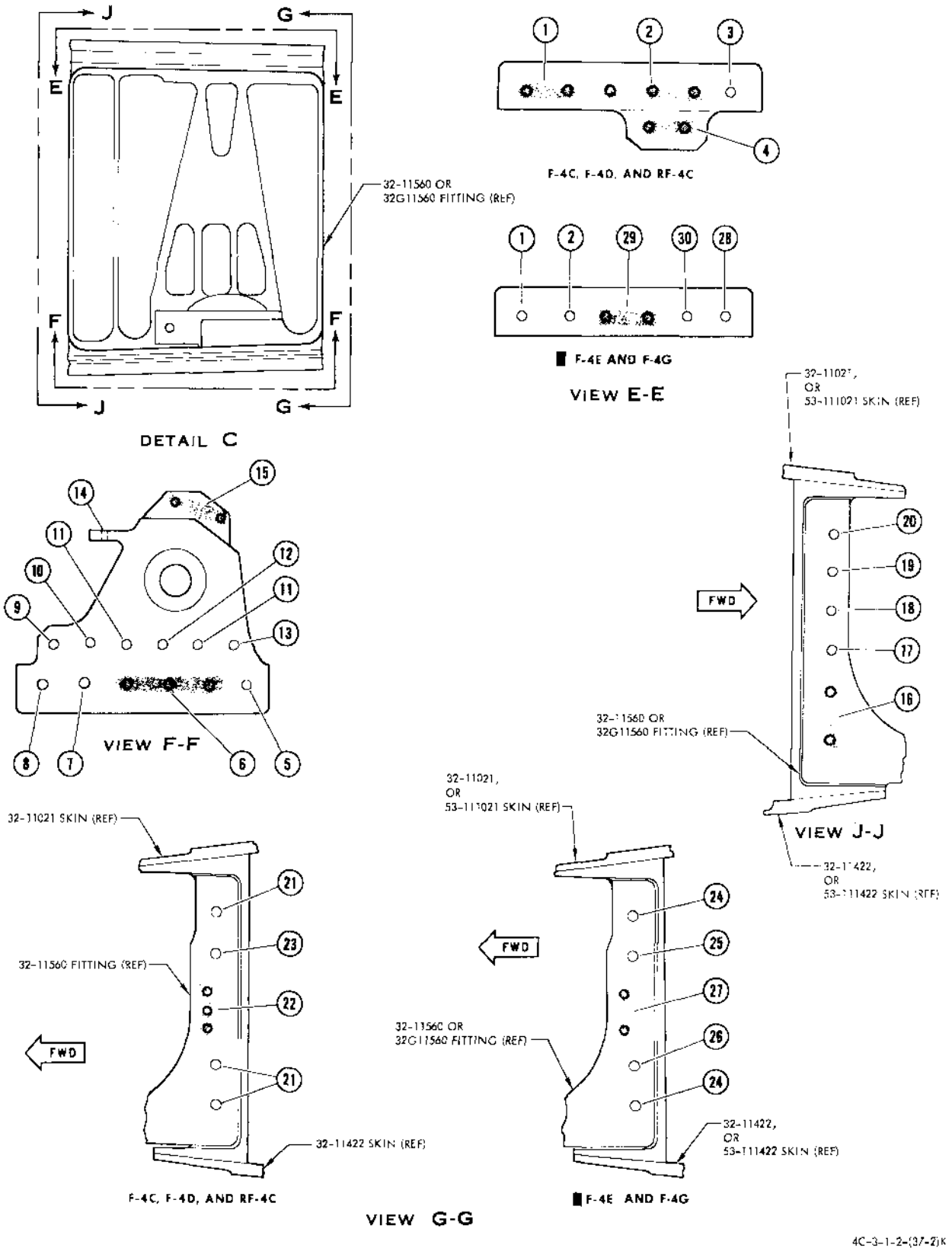
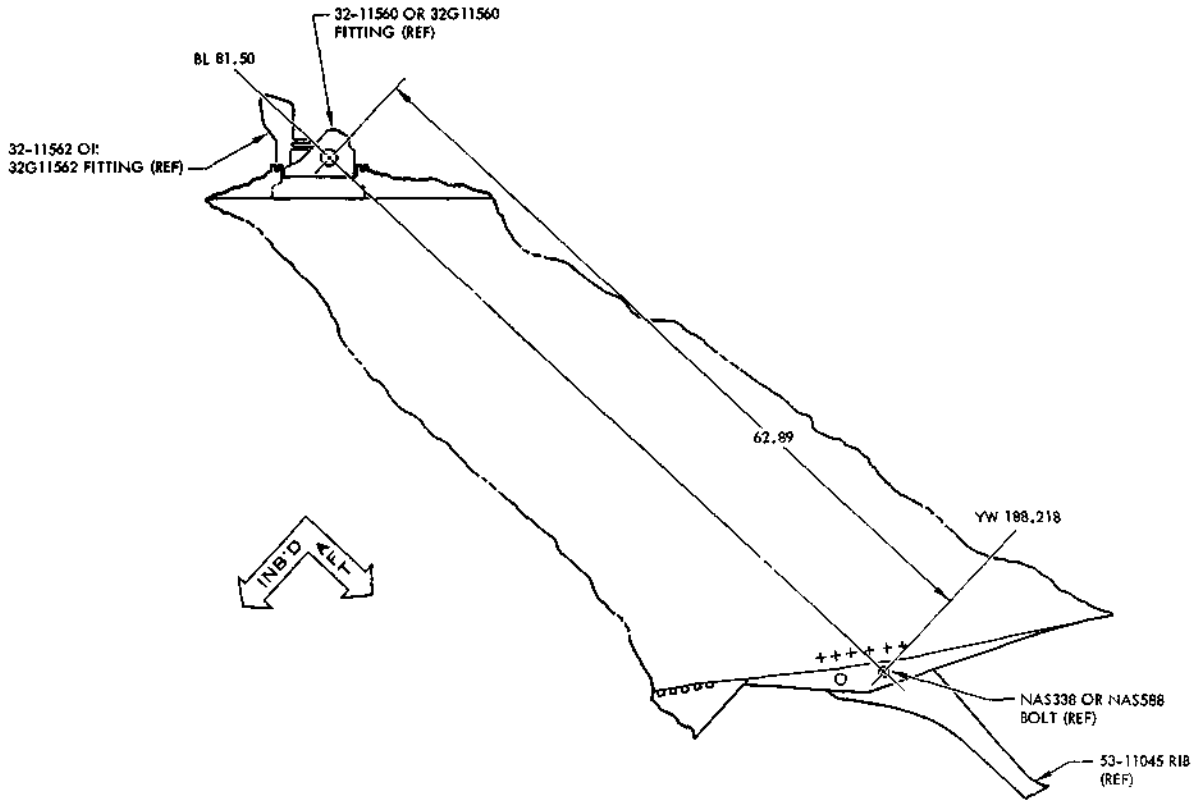


Figure 2-47. Inboard Pylon Forward Support Fitting, 32-11560, and 32G11560, Replacement (Sheet 2 of 6)



VIEW H-H
LOOKING UP

4C-3-1-2-(37-3)G

Figure 2-47. Inboard Pylon Forward Support Fitting, 32-11560, and 32G11560, Replacement (Sheet 3 of 6)

REF NO.	FASTENER	WASHER	SPACER OR BUSHING	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
1 17	NAS584-14T			RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
33	NAS584-15T			RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
32	NAS1704-15T			RM52LH2935-048 2935-04 (1)	50-70	0.2651 +.0017 -.0000
27	NAS584-18T (25)	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
27	NAS584-15T (26)	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
2 9	NAS584-14T			RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
30	NAS584-15T			RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
32	NAS1704-15T			RM52LH2935-048 2935-04 (1)	50-70	0.2651 +.0017 -.0000
27	NAS584-22T (25)	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
27	NAS584-15T (26)	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
3 9	NAS584-17T	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
4 5	NAS1418-14			NAS1080C8	50-70	0.2495 +.0017 -.0000
5 34	NAS584-16T			RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
32	TL130-4-16			TLN1035L 4		(23)
27	TL936-5-17-39			TLN1000L5		(23)
6	NAS584-15T		32-11567-3	MS21086L4	50-70	0.2495 +.0017 -.0000
32	TL987-4-28					(23)
27	TL985-4-28					(23)
7	NAS584-14T	AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
32	TL936-5-15-30	TLN1020L5W (1)		TLN1020L 5N		(23)
27	TL100-5-15			TLN1000L5		(23)
8 9	NAS1504-14T	AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
30	NAS584-14T	AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
32	TL330-4-14	TLN1020L5W (1)		TLN1020L 5N		(23)
27	TL100-5-15	AN960D416		TLN1000L5		(23)
9 5	NAS1504-12T	AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
30	NAS584-14T	AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
32	TL130-4-12	TLN1030L5W (1)		TLN1020L 5N	50-70	(23)
27	TL100-4-15	TLN1020L4W (1) AN960D416 (28)		TLN1020L 4N		(23)
10 34	NAS584-14T		32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
32	TL130-4-18		32G11567-3	TLN1035L 4		(23)
27	TL100-4-15	TLN1020L4W (1) AN960D416 (28)	32-11567-5	TLN1020L 4N		(23)
11 34	NAS584-37T		32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
32	TL130-4-37	TLN1020L4W (1)	53G970868-27	TLN1030L 4N		(23)
27	TL100-4-37	TLN1020L4W (1)	53G970686-27	TLN1020L 4N		(23)
12 4	NAS584-37T		53-11074-3 (24)	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
5	NAS584-37T		53-11074-5 (24)	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
32	TL130-4-37	TLN1020L4W (1)	53G11074-3 (24)	TLN1020L 4W		(23)
27	TL100-4-37	TLN1020L4W (1)		TLN1020L 4N		(23)
13 34	NAS584-15T		32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
32	TL130-4-18			TLN1035L 4		(23)
27	TL100-4-15	TLN1020L4W (1)	32-11567-5	TLN1020L 4N		(23)
14 6	NAS1303-10HW	AN960D10 AN960D10L		MS21042-3	20-25	0.191 +.006 -.000
11	NAS1303-16H	AN960D10		MS21042-3	20-25	0.191 +.006 -.000
15	NAS464P3A8	4M36-01046 AN960D10		MS21042-3	20-25	0.191 +.006 -.000
16 34	NAS464P4A28	AN960D416L AN960D416		MS21042-4	50-70	0.250 +.006 -.000
32	NAS2904-28	AN960D416 AN960D416L		MS21042-4	50-70	0.2651 +.0017 -.0000
27	NAS464P4A28	AN960C416L		MS21042-4	50-70	0.250 +.006 -.000
17 9	NAS464P4A6	AN960D416		MS21042-4	50-70	0.250 +.006 -.000
30	NAS464P4A6	AN960D416L		MS21042-4	50-70	0.250 +.006 -.000
32	NAS2904-9	AN960D416		MS21042-4	50-70	0.2651 +.0017 -.0000
27	NAS464P4A9	AN960C416L		MS21042-4	50-70	0.250 +.006 -.000
18 9	NAS464P4A7	AN960D416		MS21042-4	50-70	0.250 +.006 -.000
30	NAS464P4A6	AN960D416L		MS21042-4	50-70	0.250 +.006 -.000
32	NAS2904-9	AN960D416		MS21042-4	50-70	0.2651 +.0017 -.0000
27	NAS464P4A9	AN960C416L		MS21042-4	50-70	0.250 +.006 -.000

4C-3-1-2-(37-4)H

Figure 2-47. Inboard Pylon Forward Support Fitting, 32-11560, and 32G11560, Replacement (Sheet 4 of 6)

REF NO.	FASTENER	WASHER	SPACER OR BUSHING	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
19 (16)	NAS464P4A7	AN960D416		MS21042-4	50-70	0.250 +.006 -.000
(30)	NAS464P4A8	AN960D416L		MS21042-4	50-70	0.250 +.006 -.000
(32)	NAS2904-8	AN960D416		MS21042-4	50-70	0.2651 +.0017 -.0000
(37)	NAS464P4A9	AN960C416L		MS21042-4	50-70	0.250 +.006 -.000
20 (16)	NAS464P4A6	AN960D416		MS21042-4	50-70	0.250 +.006 -.000
(30)	NAS464P4A8	AN960D416L		MS21042-4	50-70	0.250 +.006 -.000
(32)	NAS2904-8	AN960D416		MS21042-4	50-70	0.2651 +.0017 -.0000
(37)	NAS464P4A9	AN960C416L		MS21042-4	50-70	0.250 +.006 -.000
21	NAS464P4A10	AN960D416		MS21042-4	50-70	0.250 +.006 -.000
22	NAS1054-5-6			NAS528A5		0.155 +.003 -.000
23	NAS464P4A11	AN960D416		MS21042-4	50-70	0.250 +.006 -.000
24 (15)	NAS464P4A9	AN960D416		MS21042-4	50-70	0.250 +.006 -.000
(35)	NAS2904-11	AN960D416		MS21042-4	50-70	0.2651 +.0017 -.0000
(37)	NAS464P4A9	AN960D416L		MS21042-4	50-70	0.250 +.006 -.000
25 (18)	NAS625-64	MS20002C5 AN960D516	NAS72-5E213	H23-5	125-135	0.313 +.007 -.000
(19)	NAS625-64	MS20002C5 AN960D516	NAS73-5E213	H23-5	125-135	0.313 +.007 -.000
(33)	NAS2905-9	AN960D516L		MS21042-5	125-135	0.3276 +.0017 -.0000
(37)	NAS464P4A9	AN960D416L		MS21042-4	50-70	0.250 +.006 -.000
26 (18)	NAS625-66	MS20002C5 AN960D516	NAS72-5E300	H23-5	125-135	0.313 +.007 -.000
(19)	NAS625-66	MS20002C5 AN960D516	NAS73-5E300	H23-5	125-135	0.313 +.007 -.000
(20)	NAS2905-9	AN960D516L		MS21042-5	125-135	0.3276 +.0017 -.0000
(37)	NAS464P4A9	AN960D416L		MS21042-4	50-70	0.250 +.006 -.000
27 (13)	NAS333CFA7	AN960D10		MS21042-3	20-25	0.189 +.003 -.000
(34)	NAS1703-9T	AN960D10L		MS21042-3	20-25	0.2026 +.0017 -.0000
(36)	NAS333CFA7	AN960D10		MS21042-3	20-25	0.189 +.003 -.000
28 (17)	NAS584-17T	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(31)	NAS584-18T	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(33)	NAS1704-17T			RM52LH2935-048 2935-04 (1)	50-70	0.2651 +.0017 -.0000
(37)	NAS584-15T (25)			RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(37)	NAS584-18T (26)	AN960D416		RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
29 (17)	NAS584-21T	AN960D416	32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(31)	NAS584-22T	AN960D416	32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(33)	NAS1704-21T		32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2651 +.0017 -.0000
(37)	NAS584-22T	AN960D416	32-11567-3	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
30 (17)	NAS584-21T	AN960D416	32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(31)	NAS584-22T	AN960D416	32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(33)	NAS1704-21T		32-11567-5	RM52LH2935-048 2935-04 (1)	50-70	0.2651 +.0017 -.0000
(37)	NAS584-15T (25)		32-11567-3	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000
(37)	NAS584-22T (26)	AN960D416	32-11567-3	RM52LH2935-048 2935-04 (1)	50-70	0.2495 +.0017 -.0000

INSTALLATION PROCEDURE FOR TL985 AND TL987 TAPER LOK FASTENERS

A. WITH PYLON FITTING 32-11560 OR 32G11560, CLAMPED TO SPAR AND SKIN HINGE SHALL BE REMOVED FOR THIS OPERATION, MEASURE AND RECORD ACTUAL HEAD PROTRUSION OF THE FASTENER. PRESS IN PLACE WITH FIRM THUMB PRESSURE PRIOR TO TAKING MEASUREMENT. TAKE MEASUREMENT (a) FROM SKIN TO TOP OF FASTENER.

B. REMOVE PYLON FITTING 32-11560 OR 32G11560, FROM SPAR AND INSERT SAME FASTENER IN FITTING. PRESS IN PLACE WITH FIRM THUMB PRESSURE. MEASURE AND RECORD HEAD PROTRUSION (b) FROM SURFACE OF FITTING TO TOP OF FASTENER.

C. SUBTRACT HEAD PROTRUSION (a) FROM (b). THIS VALUE (c) IS THE MAXIMUM HEAD PROTRUSION ALLOWABLE AFTER HOLE HAS BEEN HAND REAMED TO ENLARGE HOLE. SUBTRACT 0.09 FROM (c) VALUE TO OBTAIN MINIMUM PROTRUSION VALUE.

(b) - (a) = (c) = MAXIMUM HEAD PROTRUSION FROM SURFACE OF PYLON FITTING TO TOP OF FASTENER.

(c) -0.09 INCH = MINIMUM HEAD PROTRUSION FROM SURFACE OF PYLON FITTING TO TOP OF FASTENER.

D. WITH PYLON FITTING 32-11560 OR 32G11560, REMOVED FROM SPAR AND USING "T" HANDLE, PSMT1363-1 NUMBER 0 SQUARE DRIVE, ON HAND REAMER, SPT24-53-07804, TAPER HAND REAM HOLE WITHIN ACCEPTABLE PROTRUSION LIMITS OF STEP C.

4C-3-1-2-(37-5)H

Figure 2-47. Inboard Pylon Forward Support Fitting, 32-11560, and 32G11560, Replacement (Sheet 5 of 6)

REPLACEMENT PROCEDURE

A. ON F-4C, F-4D, AND RF-4C REMOVE INBOARD LEADING EDGE FLAP IN ACCORDANCE WITH T O 1F-4( )-2-4. ON F-4E REMOVE DOOR 141 IN ACCORDANCE WITH T O 1F-4C-3-1-3.
B. ON F-4C, F-4D, AND RF-4C REMOVE FASTENERS SECURING SEAL ON INBOARD LEADING EDGE AND REMOVE 32-11513 SEAL.

WARNING

BLEED OFF HYDRAULIC AND PNEUMATIC PRESSURE.

C. ON F-4C, F-4D, F-4E AND RF-4C REMOVE APPLICABLE BOUNDARY LAYER CONTROL DUCT TO GAIN ACCESS IN ACCORDANCE WITH T O 1F-4( )-2-7.

CAUTION

CAP OPEN LINES, PORTS, AND ELECTRICAL CONNECTORS.

D. REMOVE NECESSARY HYDRAULIC, PNEUMATIC, AND ELECTRICAL COMPONENTS TO GAIN ACCESS. IDENTIFY EACH PART TO ENSURE CORRECT INSTALLATION.

NOTE

DO NOT BREAK ELECTRICAL CONNECTORS APART. LEAVE INTACT IN SUPPORTS AND TIE BACK OUT OF WAY.

E. REMOVE FASTENERS ON LARGE AND SMALL ELECTRICAL FITTINGS AND REMOVE 53-11080 AND 32-11562 OR 32G11562 SUPPORT FITTINGS.
F. ON F-4C, F-4D, AND RF-4C, REMOVE FASTENERS ON 32-11512 HARDPOINT FITTING AND REMOVE FITTING.
G. REMOVE FASTENERS ON 53-11053 SPHERICAL NUT RETAINER AND REMOVE RETAINER FROM DAMAGED FITTING.
H. REMOVE 53-11052 SPHERICAL NUT FROM DAMAGED 32-11560 OR 32G11560 FITTING.

NOTE

IDENTIFY SHIMS FOR REINSTALLATION.

I. REMOVE FASTENERS ON UPPER AND LOWER SPAR CAPS, SIDE STIFFENERS, AND OTHER FASTENERS WHICH MAY INTERFERE WITH REMOVAL OF FITTING. REMOVE DAMAGED 32-11560 OR 32G11560 FITTING AND SHIMS.
J. MAKE FLUORESCENT PENETRANT INSPECTION OF SPAR IN AREA OF FITTING PER T O 33B-1-1. IF SPAR IS DAMAGED CONSULT A DEPOT STRUCTURAL ENGINEER FOR DISPOSITION OF DAMAGE.
K. CHECK HOLES IN SPAR STIFFENERS, UPPER SKIN, AND UPPER SPAR CAP; LOWER SKIN AND LOWER SPAR CAP, FOR ELONGATION AND OVERSIZE. IF HOLES ARE ELONGATED OR OVERSIZE BEYOND LIMITS CALLED OUT, CONSULT A DEPOT STRUCTURAL ENGINEER FOR DISPOSITION.
L. LOCATE AND ADD ATTACH HOLES TO NEW FITTING BY THE FOLLOWING PROCEDURE.

NOTE

WHEN REINSTALLING NEW FITTING, UTILIZE PREVIOUSLY REMOVED SHIMS IN SAME LOCATIONS.

1. PLACE NEW FITTING IN POSITION WITH SHIMS BETWEEN SPAR STIFFENERS. ENSURE THAT NEW FITTING IS TIGHTLY BUTTED AGAINST SPAR STIFFENERS. CLAMP NEW FITTING IN PLACE MAINTAINING DIMENSION SHOW IN VIEW H-H.

CAUTION

UTILIZE DRILL BUSHINGS WITH EXTREME CARE TO PREVENT CHIPS GETTING INTO CHANNEL, RUINING THE SEAL.

2. PLACE DRILL BUSHINGS IN UPPER AND LOWER SPAR CAP HOLES AND DRILL.

NOTE

REFER TO FASTENER CHART FOR HOLE SIZES.

3. REMOVE FITTING AND JIG BORE OR EQUIVALENT AND REAM TO SIZE AS NOTED. SPOT-FACE AS INDICATED ON ILLUSTRATION.

CAUTION

PREVENT DRILLING THRU INSIDE STIFFENER WHEN DRILLING INBOARD STIFFENER.

4. REINSTALL FITTING AND INSTALL SPAR CAP FASTENERS. PLACE DRILL BUSHINGS IN SPAR STIFFENERS AND DRILL.
5. REMOVE FITTING AND DRILL TO SIZE AS NOTED.

M. ATTACH MS21086L4 PLATENUTS TO 32-11567 SPACERS WITH MS20426AD3 RIVETS. INSTALL 32-11567 AND/OR 53G970868 SPACERS IN NEW 32-11560 OR 32G11560 FITTING.
N. REINSTALL FITTING AND SHIMS, CLAMP IN PLACE.
O. PUT ELECTRICAL SUPPORT FITTINGS IN PLACE AND INSTALL DRILL BUSHINGS IN TWO LOWER INBOARD SPAR STIFFENER HOLES AND DRILL. REMOVE BUSHINGS AND DRILL TO SIZE AS NOTED.
P. SPOT-FACE HOLES PER ILLUSTRATION.
Q. REMOVE CHIPS AND SHAVINGS.
R. REMOVE CLAMPS, INSTALL FASTENERS AND TORQUE TO SPECIFICATION, AND RECHECK DIMENSION GIVEN IN VIEW H-H.
S. USING SHEET METAL TEMPLATE, TRANSFER HOLES FOR SPHERICAL NUT RETAINER FROM DAMAGED 32-11560 OR 32G11560 FITTING TO NEW FITTING AND DRILL TO SIZE AS NOTED.
T. APPLY BRUSH CONVERSION COATING MIL-C-5541 TO HOLES. ■
U. REINSTALL ITEMS REMOVED IN STEPS E THRU G.
V. PAINT FITTING IN ACCORDANCE WITH T O 1F-4C-3-1-6.
W. REINSTALL ITEMS REMOVED IN STEPS A THRU D.
X. BORESIGHT PER T O 1F-4( )-2-18.

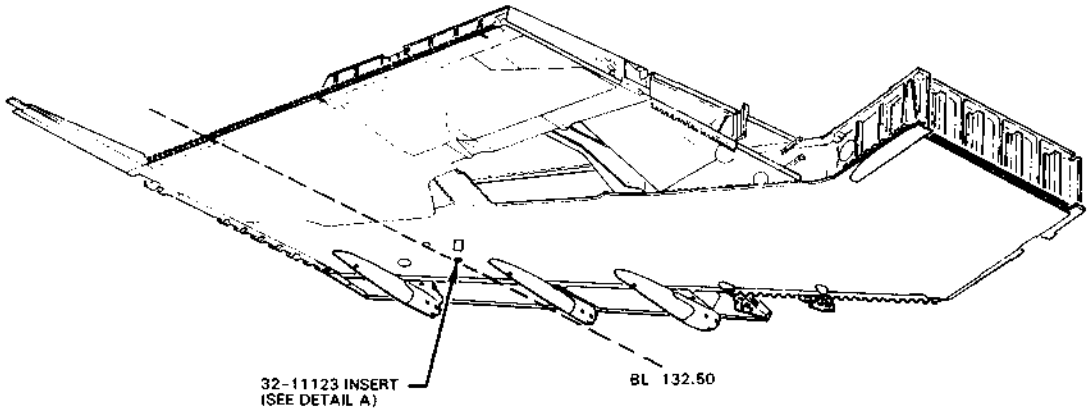
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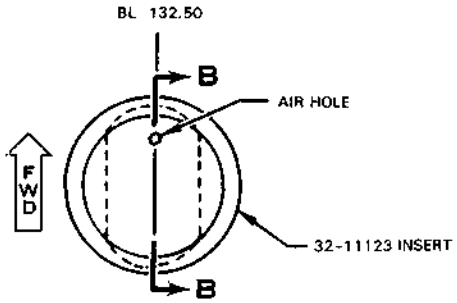
1. NUT OR COLLAR BASE
2. F-4E 71-224 THRU 71-236 (LEFT SIDE) AND 71-224 THRU 71-1402 (RIGHT SIDE) AFTER TO 1F-4E-566.
3. F-4E 71-224 THRU 71-1402 AFTER TO 1F-4E-566.
4. F-4C, F-4D 64-929 THRU 66-7593, AND RF-4C 63-7742 THRU 66-419.
5. F-4D 66-7594 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, RF-4C 66-420 AND UP; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
6. F-4E 66-284 THRU 66-295.
7. F-4E 66-296 THRU 71-236 AND F-4G.
8. F-4D, F-4E, F-4G; ALSO F-4C AFTER TCTO 1F-4C-598.
9. F-4C, F-4D, AND RF-4C.
10. F-4E 66-284 THRU 71-236 AND F-4G.
11. F-4C BEFORE TO 1F-4C-598; RF-4C 63-7742 THRU 69-383 AFTER TO 1F-4(R)C-626; ALSO RF-4C 71-248 THRU 72-156.
12. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295. FOR FUTURE PROCUREMENT USE FOLLOWING PART; ALSO F-4E 66-287 AND 66-296 THRU 69-7589 BEFORE TO 1F-4E-566.
13. F-4E 71-224 THRU 71-236 BEFORE TO 1F-4E-566. FUTURE PROCUREMENT FOR PRECEDING PART; ALSO F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295.
14. F-4C, F-4D, F-4E 66-284 THRU 71-1042, F-4G, AND RF-4C. FOR FUTURE USE FOLLOWING PART.
15. F-4E 72-121 AND UP. FUTURE PROCUREMENT FOR PRECEDING PART.
16. F-4C, F-4D, AND RF-4C 63-7742 THRU 69-384. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
17. RF-4C 71-248 AND UP. FUTURE PROCUREMENT FOR PRECEDING PART.
18. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 68-437 BEFORE T O 1F-4E-566.
19. F-4E 68-438 THRU 71-236 BEFORE T O 1F-4E-566.
20. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
21. F-4E 71-237 AND UP.
22. F-4C, F-4D, F-4E 66-284 THRU 71-236 AND F-4G.
23. FOR TAPER-LOK FASTENER INSTALLATION, REFER TO T O 1F-4C-3-1-1.
24. RETAINER.
25. LEFT SIDE.
26. RIGHT SIDE.
27. F-4E 72-121 AND UP.
28. WASHER UNDER NUT BASE.
29. F-4E 71-237 THRU 71-1402.
30. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
31. F-4E 66-287 AND 66-296 THRU 69-7589 AFTER TO 1F-4E-566 AND F-4G.
32. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
33. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G.
34. F-4C, F-4D, AND F-4E 66-284 THRU 66-286 AND 66-289 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
35. F-4E 66-287, 69-7254, AND 71-237 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4E/G 69-7254.
36. F-4C, F-4D, F-4E 66-284 THRU 66-286, 66-288 THRU 68-538, 69-7589 THRU 71-236; F-4E/G 69-236 THRU 69-7253 AND 69-7255 THRU 69-7588; ALSO F-4E 66-287 AND 69-7254 BEFORE TO 1F-4E-566.
37. F-4E 71-224 THRU 71-236 (LEFT SIDE) AND 71-224 THRU 71-1402 (RIGHT SIDE) BEFORE TO 1F-4E-566; ALSO F-4E 71-237 THRU 71-1402 (LEFT SIDE). FUTURE PROCUREMENT FOR PRECEDING PART.

4C-3-1-2-137-6196

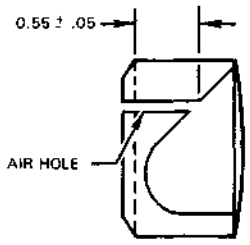
Figure 2-47. Inboard Pylon Forward Support Fitting, 32-11560, and 32G11560, Replacement (Sheet 6 of 6)

All data on pages 2-133 and 2-134, including figures 2-49 and 2-50 deleted.





DETAIL A



DETAIL B-B

NOTE

ALLOWABLE LIMIT OF ROTATION FOR EXISTING INSERT IS ±15° FROM BL 132.50. INSERTS THAT ARE ROTATED BEYOND THIS LIMIT, OR HAVE MISMATCH WITH SKIN SURFACE GREATER THAN 0.050 MUST BE REPLACED.

INSTALLATION PROCEDURE FOR NEW INSERT

CAUTION

DO NOT DRILL INTO FORWARD MAIN LANDING GEAR RIB.

A. FOR MISALIGNED INSERT, DRILL AND TAP AIR HOLE TO A MAXIMUM DEPTH OF 0.55 ±.05 FOR A STANDARD SLIDE HAMMER. (SEE DETAIL B-B)

B. REMOVE INSERT WITH SLIDE HAMMER.

C. SOLVENT CLEAN MATING SURFACES OF NEW INSERT AND FITTING HOLE.

D. COAT INSERT O.D. WITH MIL-S-22473D PRIMER N ACTIVATOR. (LOCTITE CORP, NEWINGTON, CONN.) ALLOW TO DRY.

E. APPLY MIL-R-46082B, TYPE I RETAINING COMPOUND (LOCTITE GRADE 75 OR EQUIVALENT) TO FITTING HOLE AND OUTER DIAMETER OF INSERT.

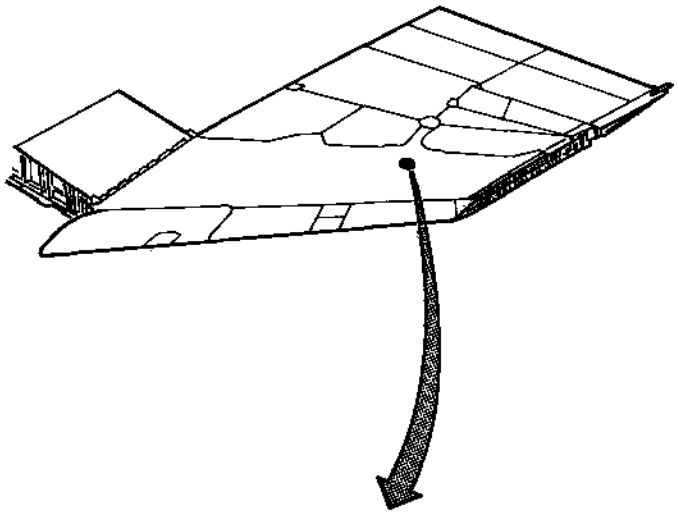
F. INSTALL INSERT SO THAT AIR HOLE IS ON FORWARD SIDE. (SEE DETAIL A) MACHINED CUTOUT TO BE PARALLEL TO WITHIN ±3 OF BL 132.50. BOTTOM OUT INSERT UPON INSTALLATION, WITH MAXIMUM MISMATCH WITH SKIN TO BE 0.050.

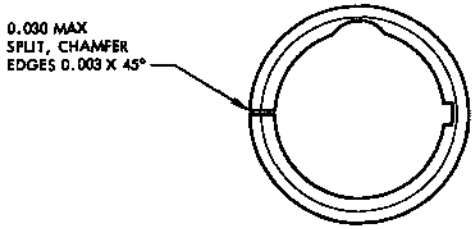
G. RETAINING COMPOUND MUST CURE FOR 12 HOURS TO DEVELOP FULL STRENGTH.

H. FILL AIR HOLE WITH MIL-S-8802.

4C-3-1-2-(460)86

Figure 2-48. Wing Pylon Ejection Insert, 32-11123, Replacement Procedure

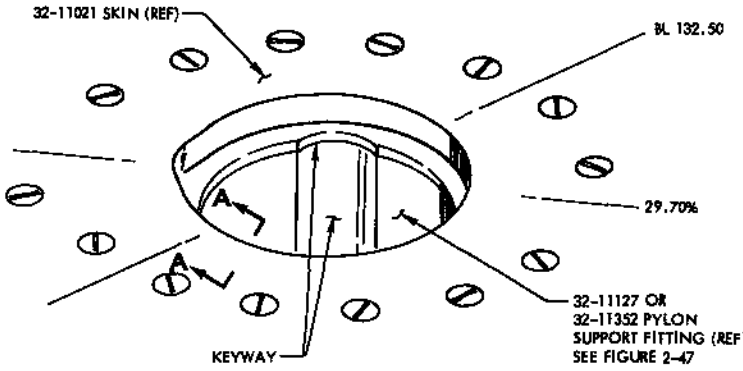


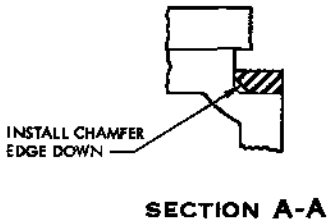


32-11176-11 WASHER

CAUTION

IF PYLON FITTING IS NOT DESIGNED FOR CRESCENT SHAPED KEY, CONSULT DEPOT ENGINEERING FOR DEPOSITION. WHEN REPLACING 32-11176-9 WASHER, USE 32-11176-11 WASHER. SEE FIGURE 2-49 FOR MODIFYING 32-11176-9 WASHER TO -11 WASHER. IT IS REQUIRED TO USE A 32-73042-5 KEY WITH THE 32-11176-11 WASHER.





SECTION A-A

REPLACEMENT PROCEDURE

A. REMOVE PYLON SUPPORT MECHANISM, REFER TO T.O. 1F-4( )-2-10.

CAUTION

DO NOT DAMAGE SUPPORT FITTING OR TORQUE BOX SKIN WHEN CUTTING WASHER.

B. INSTALL A 0.006 INCH THICK STAINLESS STEEL SCUFF PLATE AND CUT WASHER WITH A SUITABLE CUTTING TOOL AND REMOVE.
C. CUT THE 32-11176-11 REPLACEMENT WASHER AND CHAMFER ENDS AS SHOWN.

CAUTION

ENSURE WASHER IS PROPERLY INSTALLED, SEE SECTION A-A.

D. INSTALL WASHER BY INSERTING A FREE END IN FITTING CUTOUT AND THREADING WASHER IN PLACE.
E. REINSTALL PYLON SUPPORT MECHANISM, REFER TO T.O. 1F-4( )-2-10.

4C-3 1 2-132195

Figure 2-51. Outboard Pylon Forward Support Fitting Washer, 32-11176, Replacement

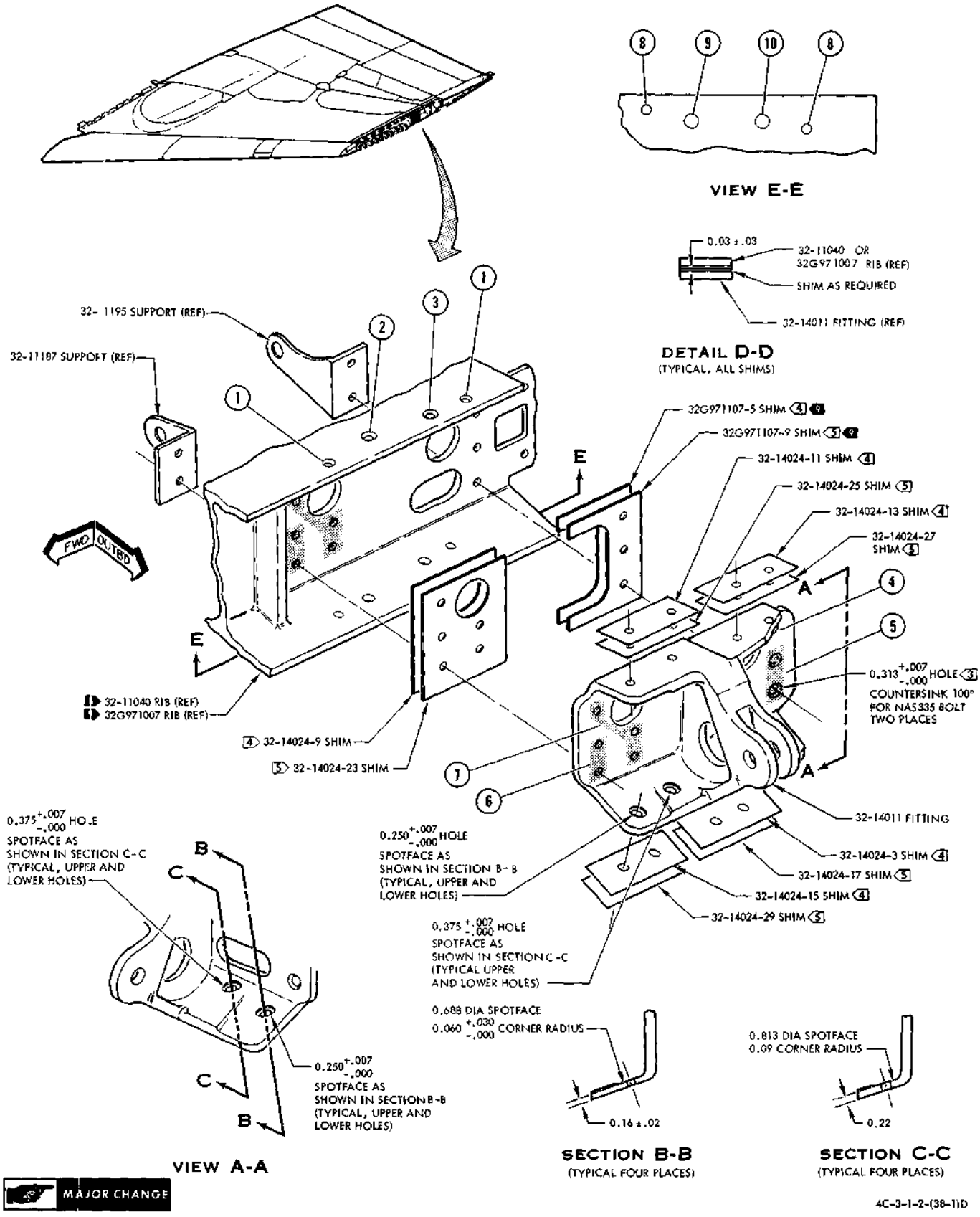


Figure 2-52. Wing Fold Actuator Fitting, 32-14011, Replacement (Sheet 1 of 2)

REF NO		FASTENER	NUT OR COLLAR	WASHER	TORQUE (IN - LB)	HOLE SIZE
1		NAS334CFA10	MS21042-4	AN960D416	60-70	$0.250^{+.007}_{-.000}$
2	8	NAS336CFA11	28FT624	AN960D616	95-110	$0.375^{+.007}_{-.000}$
	9	NAS336CFAT1	MS21042-6	AN960D616	160-200	$0.375^{+.007}_{-.000}$
3	8	NAS336CFA12	28FT624	AN960D616 AN960D616L	95-110	$0.375^{+.007}_{-.000}$
	9	NAS336CFA12	MS21042-6	AN960D616 AN960D616L	160-200	$0.375^{+.007}_{-.000}$
4	8	NAS464P5A10	MS21042-5	AN960D516 (7) AN960D516L (6)	60-85	$0.313^{+.007}_{-.000}$
	9	NAS464P5LA10	MS21042-5	AN960D516 (2) (7) AN960D516L (6)	125-135	$0.313^{+.007}_{-.000}$
5		NAS335CFA11	MS21042-5	AN960D516	125-135	$0.313^{+.007}_{-.000}$
6	8	NAS464P14A8	MS21042-4	AN960D416 (7) AN960D416L (6)	30-40	$0.250^{+.007}_{-.000}$
	9	NAS464P4A10	MS21042-4	AN960D416 (7) AN960D416 (2) (6)	60-70	$0.250^{+.007}_{-.000}$
7	8	NAS464P4A6	MS21042-4	AN960D416 (7) AN960D416L (6)	30-40	$0.250^{+.007}_{-.000}$
	9	NAS464P4A8	MS21042-4	AN960D416 (7) AN960D416L (6)	60-70	$0.250^{+.007}_{-.000}$
8	8	NAS334CFA10	MS21042-4	AN960D416	30-40	$0.250^{+.007}_{-.000}$
	9	NAS334CFA13	MS21042-4	AN960D416	60-70	$0.250^{+.007}_{-.000}$
9	8	NAS1506-11T	28FT624	AN960D616	95-110	$0.375^{+.007}_{-.000}$
	9	NAS1506-14T	MS21042-6	AN960D616	160-200	$0.375^{+.007}_{-.000}$
10	8	NAS1506-10T	MS21042-6	AN960D616L	95-110	$0.375^{+.007}_{-.000}$
	9	NAS1506-13T	MS21042-6	AN960D616	160-200	$0.375^{+.007}_{-.000}$

REPLACEMENT PROCEDURE

A. REMOVE OUTER WING AND WING FOLD MECHANISM COMPONENTS AS REQUIRED IN ACCORDANCE WITH T.O. 1F-4( )-2-4.
B. REMOVE ACCESS DOOR 101.
C. REMOVE DAMAGED FITTING.

CAUTION

USE EXTREME CARE WHEN DRILLING AND REAMING NOT TO ENLARGE OR ELONGATE EXISTING HOLES.

D. PLACE NEW FITTING IN POSITION AND SHIM AS REQUIRED WITH 32-14024-9, -23 AND 32G971107-5, -9 SHIMS. CENTER THE EIGHT PILOT HOLES IN THE FITTING WITH HOLES IN THE 32-11040 OR 32G971007 RIB. SECURE FITTING AND DRILL AND REAM THE EIGHT PILOT HOLES TO FULL SIZE. COUNTERSINK THE REQUIRED HOLES.
E. DRILL AND REAM THE EIGHT UPPER AND LOWER HOLES AND SPOT-FACE AS SHOWN.
F. REMOVE FITTING AND CLEAN OUT METAL CHIPS. TREAT HOLES AND COUNTERSINKS FOR CORROSION PER T.O. 1F-4C-3-1-6.
G. INSTALL FITTING WITH REQUIRED AMOUNTS OF SHIMS AND ATTACHING HARDWARE. REFER TO T.O. 1F-4C-3-1-6 FOR FINISH OF FITTING.
H. REINSTALL WING FOLD MECHANISM COMPONENTS AND OUTER WING AND CHECK OPERATION IN ACCORDANCE WITH T.O. 1F-4( )-2-4.
I. REINSTALL ACCESS DOOR 101.

Notes

1. MATE HOLE WITH EXISTING HOLES IN STRUCTURE.
(2) TWO REQUIRED.
(3) THESE HOLES ARE PILOT DRILLED TO 0.1935 INCH DIAMETER.
(4) 0.032, 7075-T6 AL ALY, QQ-A-250/12 (T6).
(5) 0.032, 5052-H39 AL ALY LAMINATED SHIM STOCK, MIL-S-22499 CLASS 2, TYPE I.
(6) UNDER BOLT HEAD.
(7) UNDER NUT.
8 F-4C, F-4D AND RF-4C BEFORE TO 1F-4-1123.
9 F-4C, F-4D AND RF-4C AFTER TO 1F-4-1123.

4C-3-1-2-(38-2)D

Figure 2-52. Wing Fold Actuator Fitting, 32-14011, Replacement (Sheet 2 of 2)

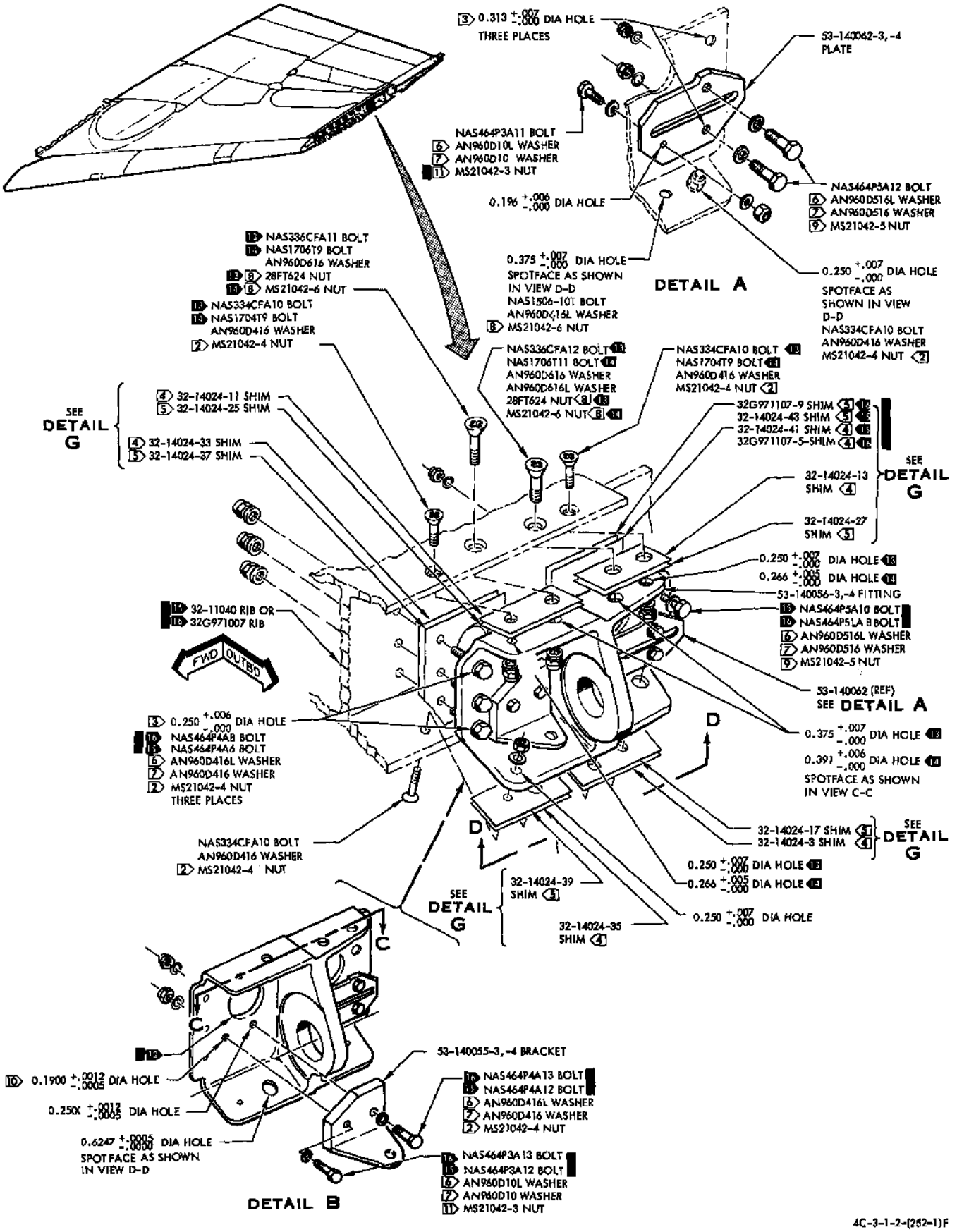
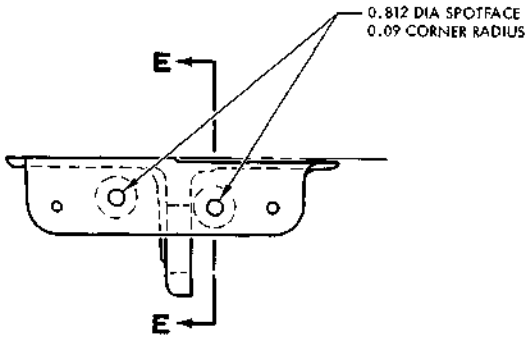
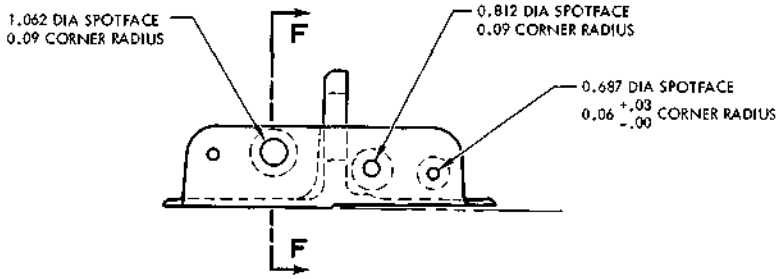


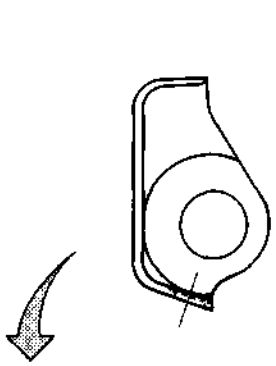
Figure 2-53. Mechanism Support Fitting, 53-140056, Replacement (Sheet 1 of 3)



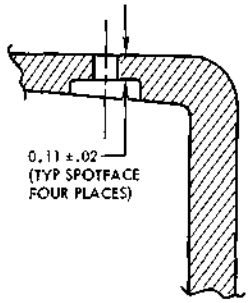
VIEW C-C

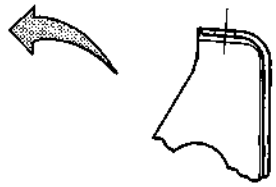


VIEW D-D

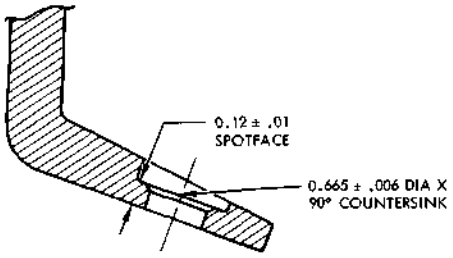


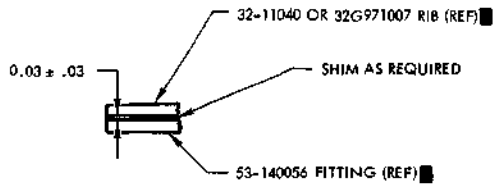
SECTION F-F





SECTION E-E





DETAIL G
(TYPICAL, ALL SHIMS)

4C-3-1-2-(252-2)F

Figure 2-53. Mechanism Support Fitting, 53-140056, Replacement (Sheet 2 of 3)

PROCEDURE

A. REMOVE OUTER WING AND WING FOLD MECHANISM COMPONENTS AS REQUIRED IN ACCORDANCE WITH TO 1F-4( )-2-4.
B. REMOVE ACCESS DOOR 101.
C. REMOVE DAMAGED FITTING.

CAUTION

USE EXTREME CARE WHEN DRILLING AND REAMING NOT TO ENLARGE OR ELONGATE EXISTING HOLES.

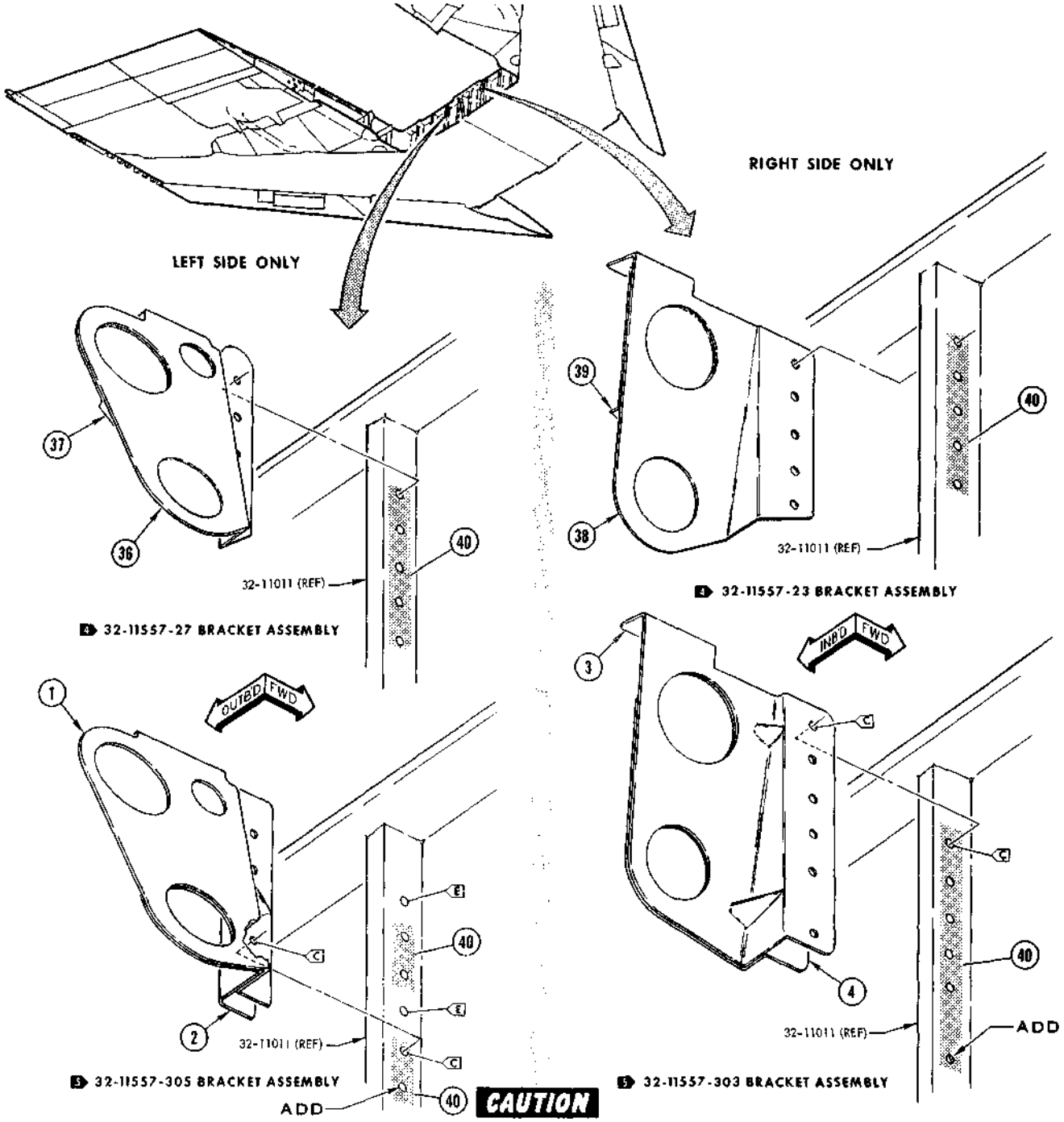
D. PLACE NEW FITTING IN POSITION AND SHIM AS REQUIRED WITH 32-14024-33, -37, -41, -43 OR 32G971107-5, -9 SHIMS. ALIGN 0.2500 DIAMETER HOLE AND CENTER SEVEN PILOT HOLES IN FITTING WITH HOLES IN 32-11040 OR 32G971007 RIB. SECURE FITTING, DRILL AND REAM SEVEN PILOT HOLES TO FULL SIZE.
E. DRILL AND REAM FOUR UPPER AND FOUR LOWER HOLES AND SPOTFACE AND COUNTERSINK AS SHOWN.
F. REMOVE FITTING, DEBURR AND CLEAN AREA. REFINISH HOLES, COUNTERSINKS, AND SPOTFACE FOR CORROSION IN ACCORDANCE WITH PROCEDURE IN TO 1F-4C-3-1-6.
G. INSTALL FITTING WITH REQUIRED AMOUNT OF SHIMS AND ATTACHING HARDWARE.
H. REINSTALL WING FOLD MECHANISM COMPONENTS AND OUTER WING AND CHECK OPERATION IN ACCORDANCE WITH TO 1F-4( )-2-4.
I. REINSTALL ACCESS DOOR 101.

Notes

1. MATE HOLE WITH EXISTING HOLES IN STRUCTURE.
2. TORQUE 60-70 INCH POUNDS.
3. THESE HOLES ARE PILOT DRILLED TO 0.1935 DIAMETER.
4. 0.032, 7075-T6 ALUMINUM ALLOY, QQ-A-250/12 (T6).
5. 0.032, 5052-H39 ALLUMINUM ALLOY LAMINATED SHIM STOCK, MIL-S-22499 CLASS 2, TYPE 1.
6. UNDER BOLT HEAD.
7. UNDER NUT.
8. TORQUE 160-200 INCH POUNDS.
9. TORQUE 125-135 INCH POUNDS.
10. HOLE PILOT DRILLED TO 0.129 DIAMETER.
11. TORQUE 20-25 INCH POUNDS.
12. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
13. F-4E 66-284 THRU 71-236 AND 72-121 AND UP AND F-4G.
14. F-4E 71-237 THRU 71-1402 AFTER TO 1F-4E-566.
15. F-4E AND F-4G BEFORE TO 1F-4-1123.
16. F-4E 66-284 THRU 74-01653 AND F-4G AFTER TO 1F-4-1123.

4C-3-1-2-(252-3)F

Figure 2-53. Mechanism Support Fitting, 53-140056, Replacement (Sheet 3 of 3)



CAUTION

EXTREME CARE SHOULD BE TAKEN WHEN REMOVING BRACKET ASSEMBLIES NOT TO ELONGATE HOLES IN SPAR RISER.

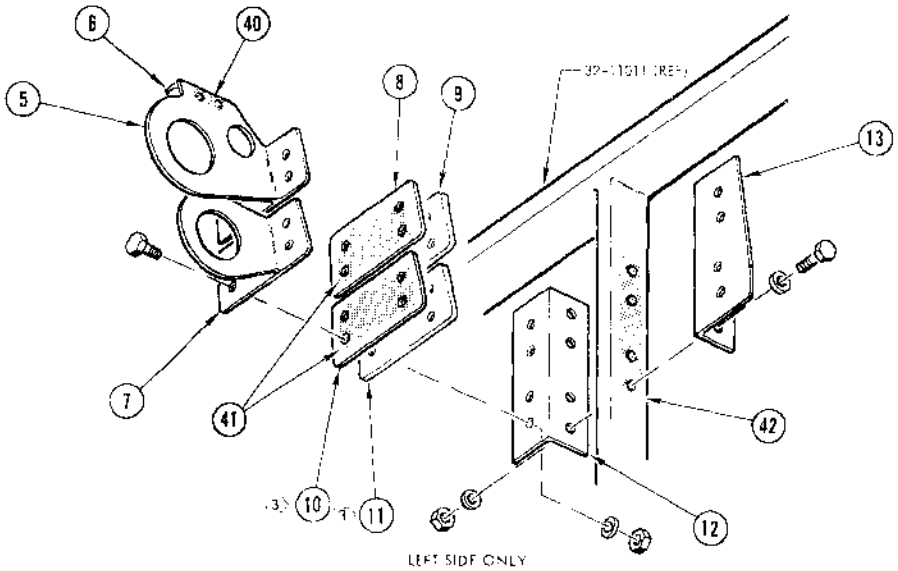
INSTALLATION PROCEDURE FOR NEW PART

32-11557-27, -23 AND-305, -303 ASSEMBLIES.

A. REMOVE DAMAGED BRACKET ASSEMBLY.
B. REFINISH SPAR RISER IN ACCORDANCE WITH THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
C. LOCATING HOLES FOR NEW PART.
D. ENLARGE LOCATING HOLE C IN -303, -305 ASSEMBLIES TO $0.159^{+.003}_{-.000}$ DIAMETER AND INSTALL WITH TEMPORARY FASTENER. ALIGN EXISTING TWO PILOT HOLES IN -305 BRACKET ASSEMBLY WITH HOLES IN SPAR AND ENLARGE TWO HOLES AND ONE ADDITIONAL PILOT HOLE TO $0.159^{+.013}_{-.000}$ DIAMETER. ALIGN EXISTING FOUR PILOT HOLES IN -303 BRACKET ASSEMBLY WITH HOLES IN SPAR AND ENLARGE FOUR PILOT HOLES AND ONE ADDITIONAL PILOT HOLE TO $0.159^{+.013}_{-.000}$ DIAMETER. REMOVE TEMPORARY FASTENER AND INSTALL NEW ASSEMBLY AND REFINISH IN ACCORDANCE WITH STEP B.
E. EXISTING HOLES MAY BE LEFT OPEN.

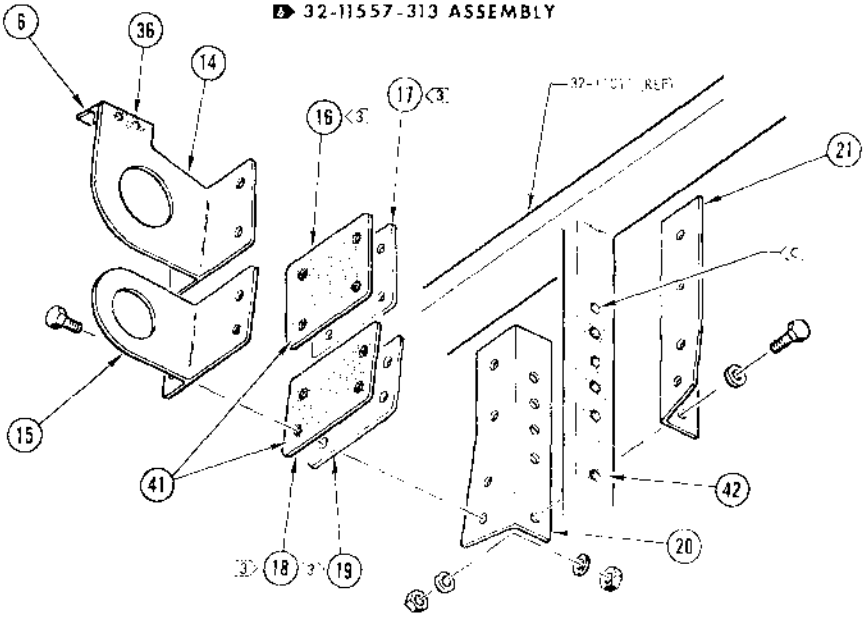
4C-3-1-2-(67-1)B

Figure 2-54. Hydraulic Line Support Bracket, 32-11557, Replacement (Sheet 1 of 4)



LEFT SIDE ONLY

6 32-11557-313 ASSEMBLY



RIGHT SIDE ONLY

6 32-11557-311 ASSEMBLY

INSTALLATION PROCEDURE FOR NEW PART

32-11557-313, -311 ASSEMBLIES

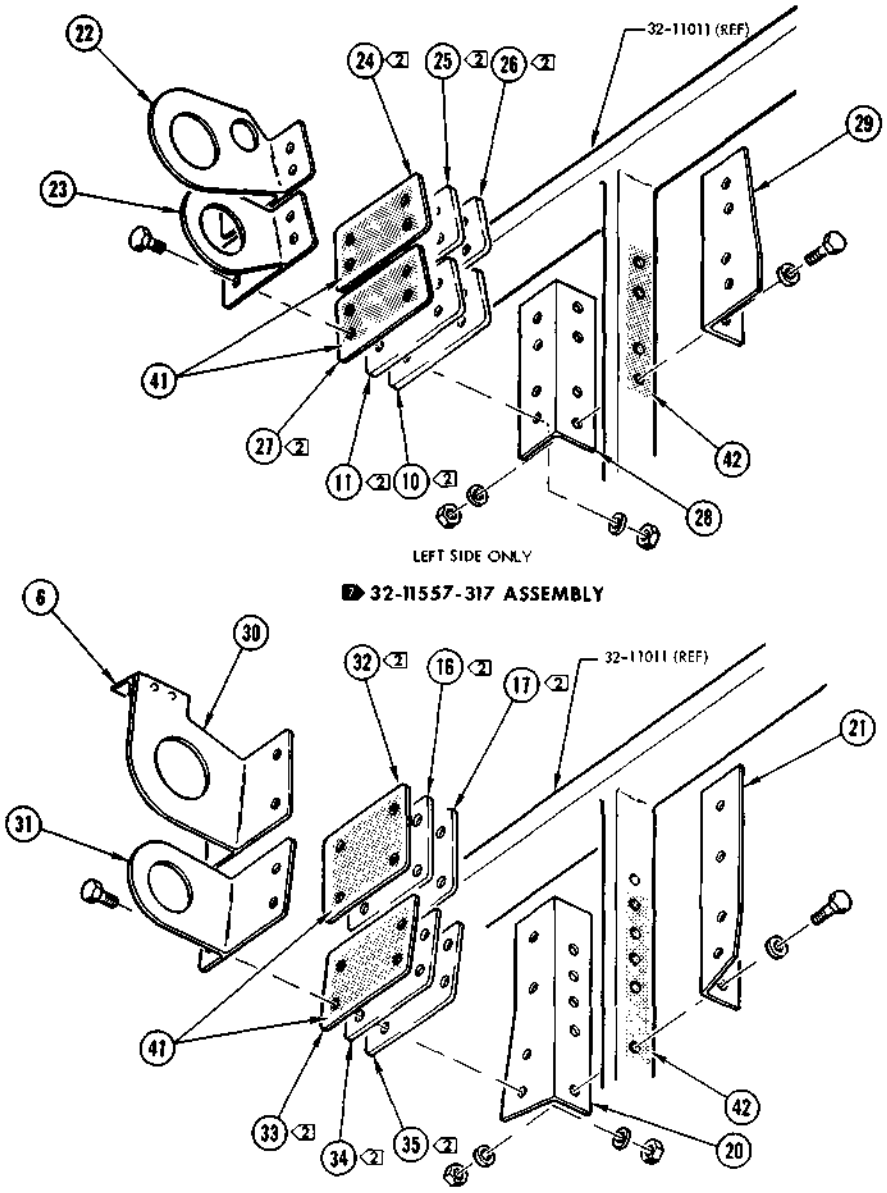
A. WHEN REPLACING 32-11557-305, -307 ASSEMBLIES WITH 32-11557-313, -311 BRACKET ASSEMBLIES, HOLES IN 32-11511 SPAR MUST BE ENLARGED FROM 0.159 $^{+.013}_{-.000}$ DIAMETER TO 0.191 $^{+.008}_{-.000}$ DIAMETER.

B. WHEN REPLACING 32-11557-313, -311 BRACKET ASSEMBLIES WITH SAME ASSEMBLIES OR 32-11557-317, -315 BRACKET ASSEMBLIES, NO DRILLING OR TRIMMING REQUIRED.

C EXISTING HOLE MAY BE LEFT OPEN.

4C-3-1-2-167-2/3

Figure 2-54. Hydraulic Line Support Bracket, 32-11557, Replacement (Sheet 2 of 4)



INSTALLATION PROCEDURE FOR NEW PART

32-11557-315 , -317 ASSEMBLIES

NO DRILLING OR TRIMMING REQUIRED.

4C-3-1-2-(67-3)B

Figure 2-54. Hydraulic Line Support Bracket, 32-11557, Replacement (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-11557-53	BRACKET	0.090	2024-T4 ALCLAD	QQ-A-250/5 (T4)
2	32-11557-55	DOUBLER	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
3	32-11557-57	BRACKET	0.090	2024-T4 ALCLAD	QQ-A-250/5 (T4)
4	32-11557-59	DOUBLER	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
5	32-11557-77	TEE	1M5749	7075-T73 AL ALY	QQ-A-200/11 (T73)
6	32-11557-69	ANGLE	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
7	32-11557-103	TEE	MACHINED	7075-T651 AL ALY	QQ-A-225/9 (T651)
8	32-11557-79	SHIM	0.062	5052-H39 AL ALY	QQ-A-250/8 (H39)
9	32-11557-95	SHIM	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
10	32-11557-111	SHIM	0.062	5052-H39 AL ALY	QQ-A-250/8 (H39)
11	32-11557-107	SHIM	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
12	32-11557-83	ANGLE	1M2149	7075-T73 AL ALY	QQ-A-200/11 (T73)
13	32-11557-81	ANGLE	1M2149	7075-T73 AL ALY	QQ-A-200/11 (T73)
14	32-11557-101	TEE	1M57145	7075-T73 AL ALY	QQ-A-200/11 (T73)
15	32-11557-71	TEE	1M57145	7075-T73 AL ALY	QQ-A-200/11 (T73)
16	32-11557-109	SHIM	0.062	5052-H39 AL ALY	QQ-A-250/8 (H39)
17	32-11557-105	SHIM	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
18	32-11557-93	SHIM	0.062	5052-H39 AL ALY	QQ-A-250/8 (H39)
19	32-11557-91	SHIM	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
20	32-11557-99	ANGLE	1M2149	7075-T73 AL ALY	QQ-A-200/11 (T73)
21	32-11557-97	ANGLE	1M2149	7075-T73 AL ALY	QQ-A-200/11 (T73)
22	32-11557-115	TEE	MACHINED	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
23	32-11557-123	TEE	MACHINED	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
24	32-11557-139	SHIM	0.125	2024-T3 ALCLAD	QQ-A-250/5 (T3)
25	32-11557-131	SHIM	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
26	32-11557-125	SHIM	0.062	5052-H39 AL ALY	QQ-A-250/8 (H39)
27	32-11557-135	SHIM	0.125	2024-T3 ALCLAD	QQ-A-250/5 (T3)
28	32-11557-119	ANGLE	1M2149	7075-T73 AL ALY	QQ-A-200/11 (T73)
29	32-11557-117	ANGLE	1M2149	7075-T73 AL ALY	QQ-A-200/11 (T73)
30	32-11557-121	TEE	1M57145	7075-T73 AL ALY	QQ-A-200/11 (T73)
31	32-11557-113	TEE	MACHINED	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
32	32-11557-133	SHIM	0.125	2024-T3 ALCLAD	QQ-A-250/5 (T3)
33	32-11557-137	SHIM	0.125	2024-T3 ALCLAD	QQ-A-250/5 (T3)
34	32-11557-127	SHIM	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
35	32-11557-129	SHIM	0.062	5052-H39 AL ALY	QQ-A-250/8 (H39)
36	32-11557-29	BRACKET	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
37	32-11557-33	CLIP	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
38	32-11557-25	BRACKET	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
39	32-11557-35	CLIP	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)

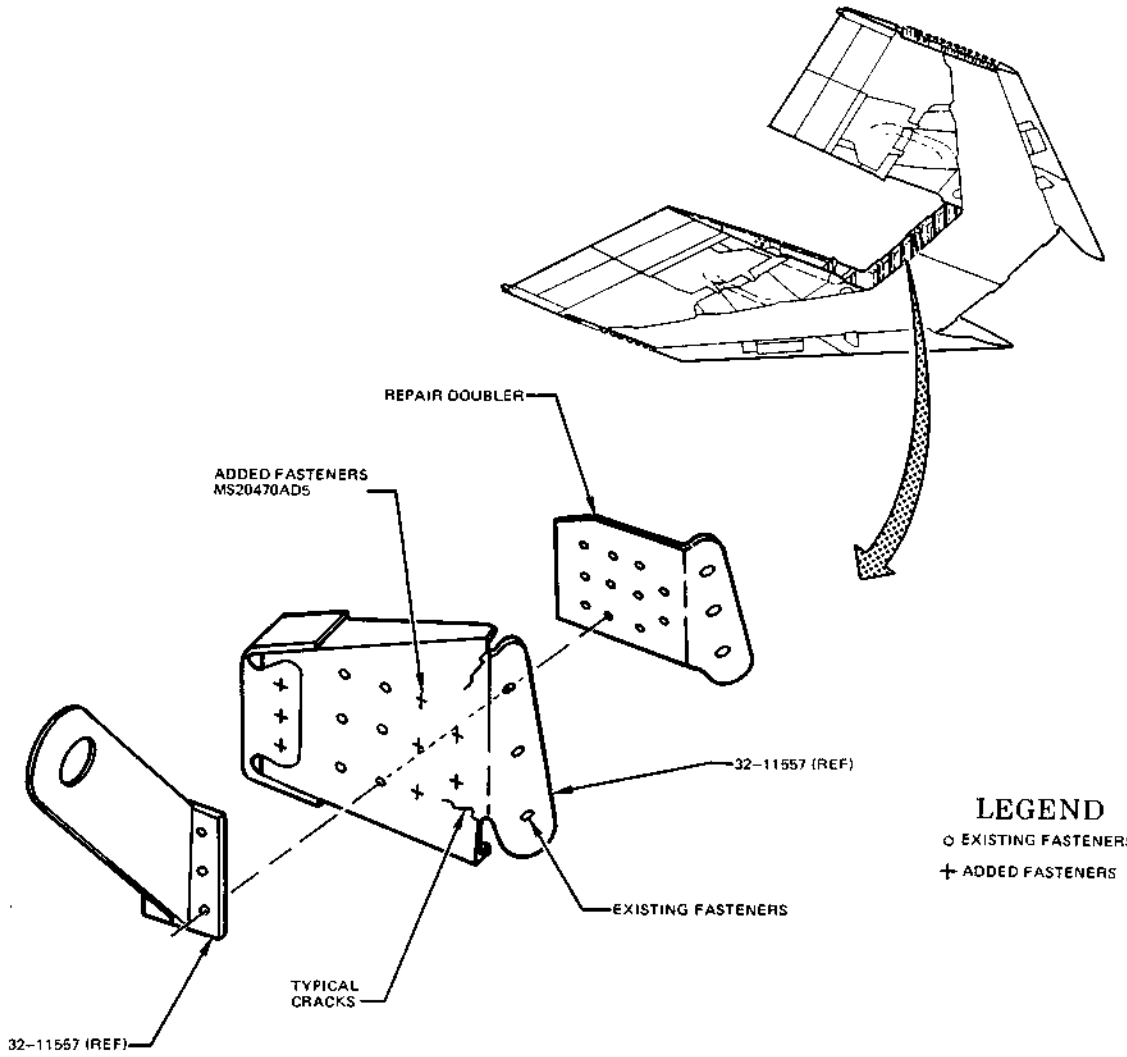
REF NO.	FASTENER	NUT	WASHER		HOLE SIZE
			UNDER NUT	UNDER HEAD	
40	MS20470AD5				0.159 $^{+.013}_{-.000}$
41	NAS1303-3	MS21042-3	AN960D10		0.191 $^{+.006}_{-.000}$
42	NAS1303-10	MS21042-3	AN960D10	AN960D10	0.191 $^{+.006}_{-.000}$

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. SHIM AS REQUIRED ON INSTALLATION. MAXIMUM LAMINATED SHIM THICKNESS IS 0.062 AND MAXIMUM PERMISSIBLE TOTAL SHIM THICKNESS IS 0.19.
3. SHIM AS REQUIRED ON INSTALLATION. MAXIMUM SHIM THICKNESS IS 0.13.
- F-4C 63-7407 THRU 64-817 AND RF-4C 63-7742 THRU 64-1077. WHEN REPLACING BRACKET ASSEMBLIES, USE 32-11557-305, -303 BRACKET ASSEMBLIES.
- F-4C 64-818 THRU 64-928, F-4D, F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7578, AND RF-4C 64-1078 THRU 69-384. FOR FUTURE PROCUREMENT USE 32-11557-313, -311 BRACKET ASSEMBLIES.
- F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589, FUTURE PROCUREMENT FOR 32-11557-305, -303 BRACKET ASSEMBLIES.
- F-4E 71-224 AND UP AND RF-4C 71-248 THRU 72-156. FUTURE PROCUREMENT FOR -313, -311 BRACKET ASSEMBLIES.

4C-3-1-2-(67-4)D

Figure 2-54. Hydraulic Line Support Bracket, 32-11557, Replacement (Sheet 4 of 4)



REPAIR PROCEDURE

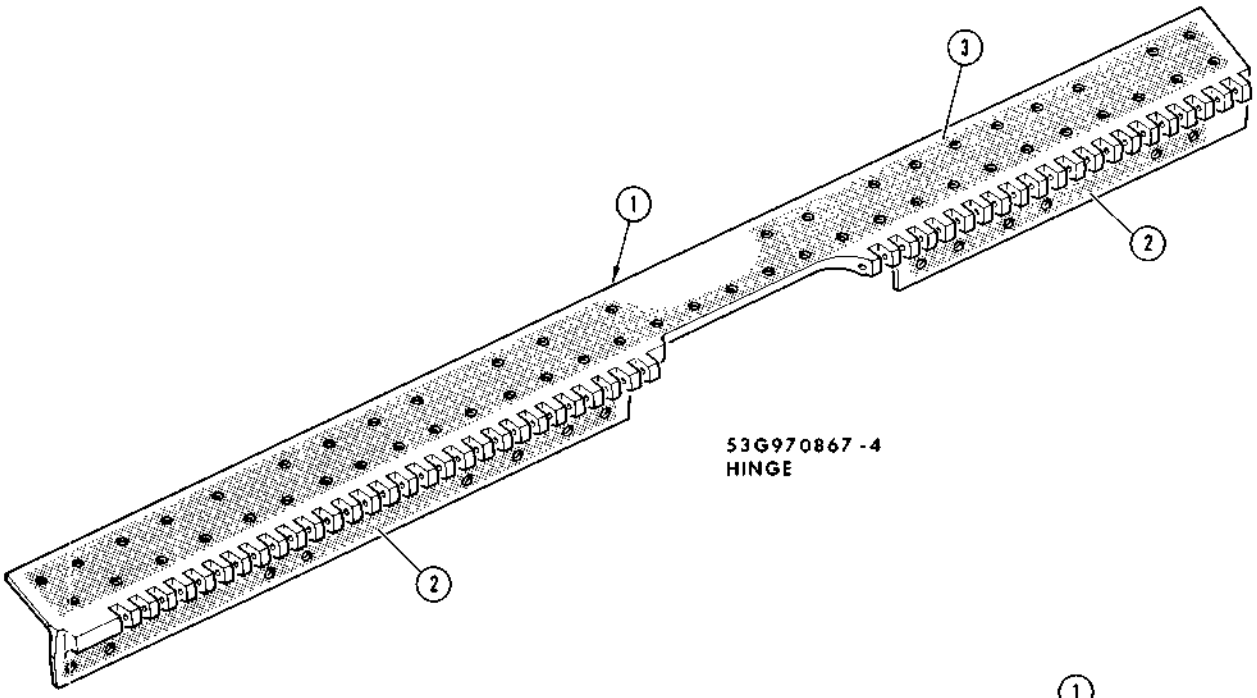
A. FABRICATE REPAIR DOUBLER USING 0.050 2024-0 AL ALY. [1]
B. LOCATE AND DRILL MATING FASTENER IN REPAIR DOUBLER. DEBURR HOLES.
C. STOP DRILL CRACKS.
D. PREPARE SURFACE OF REPAIR DOUBLER AND BRACKET SUPPORT PER TO 1F-4C-3-1-6.
E. INSTALL REPAIR DOUBLER WITH SAME TYPE FASTENERS AS REMOVED.
F. ADDED FASTENERS ARE MS20470AD5.

Note

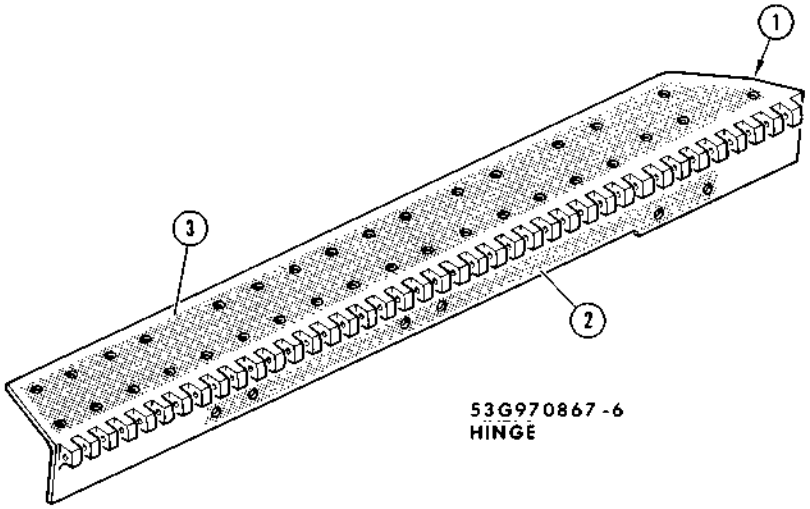
[1] HEAT TREAT TO T3 AFTER FORMING.

4C-3-1-2-(412)

Figure 2-54A. Support Bracket, 32-11557, Crack Repair



53G970867-4
HINGE



53G970867-6
HINGE

LEGEND

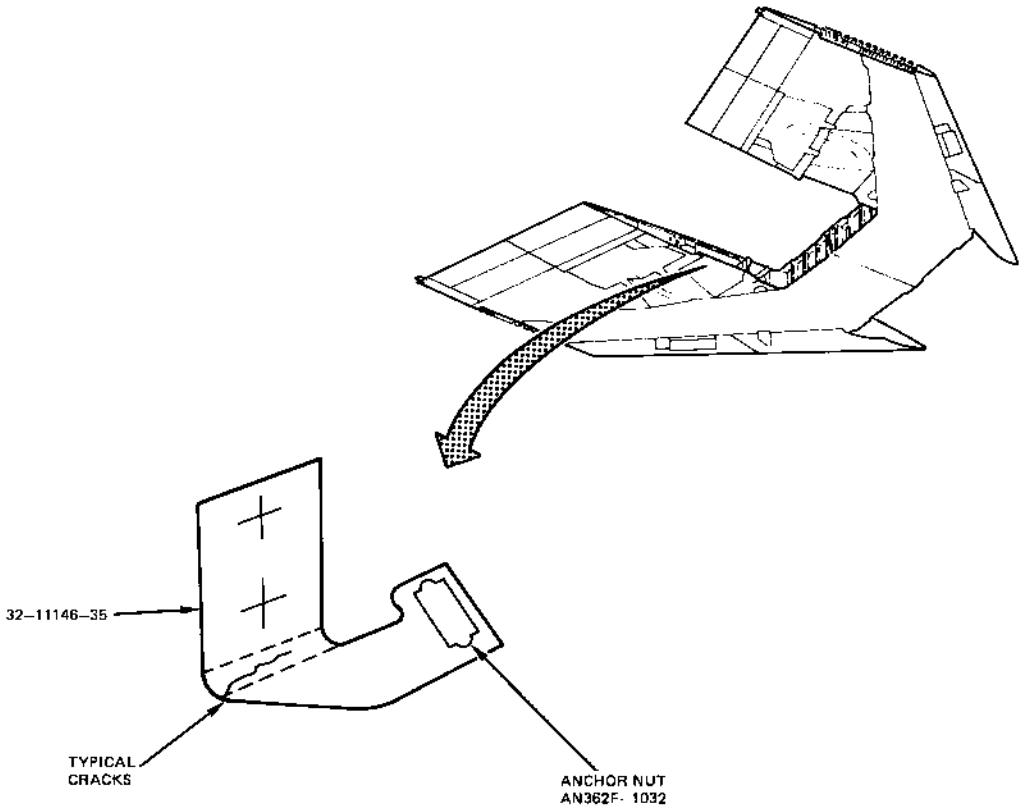
1. UNBLENDED 0.005 IN DEPTH AND UNLIMITED IN LENGTH. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. BLENDED 0.010 IN DEPTH AND UNLIMITED IN LENGTH.
2. 0.015 IN DEPTH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.
3. 0.013 IN DEPTH AT 70 PERCENT OF FASTENERS IN A SINGLE ROW.

Note

1. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTION.
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
      (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   C. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

4C-3-1-2-(274)A

Figure 2-55. Inboard Leading Edge Hinge, 53G970867, Negligible Damage and Corrosion Removal Limits

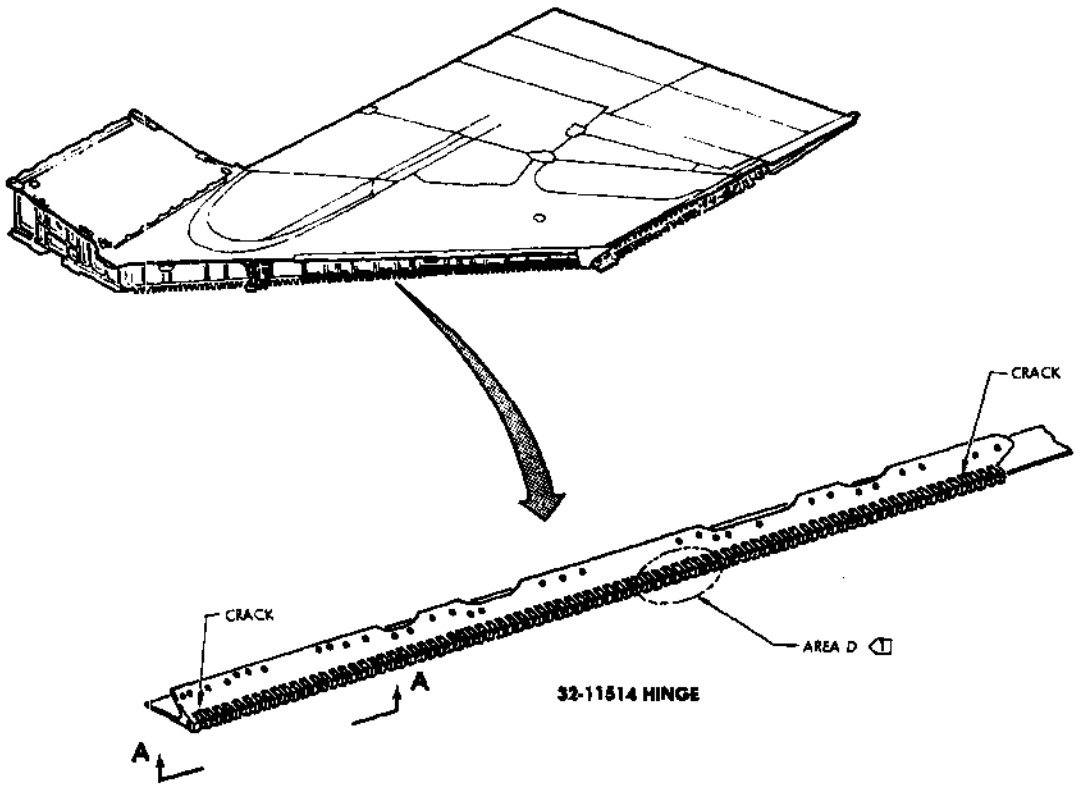


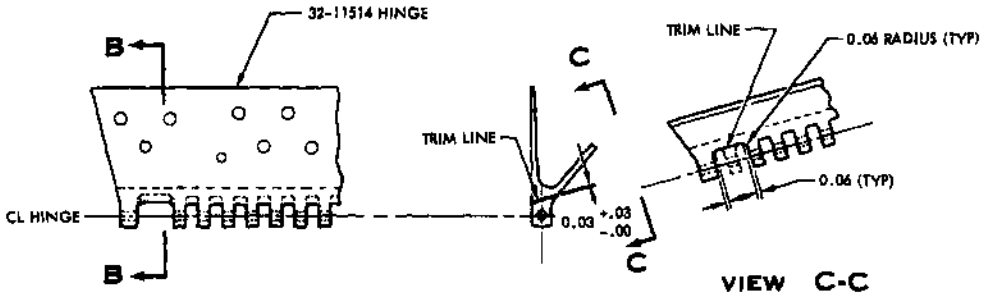
REPAIR PROCEDURE

A. REMOVE EXISTING BRACKET. FABRICATE NEW BRACKET WITH 0.040 321 CRES.
B. USE 0.25 BEND RADIUS.
C. MATCH DRILL (2) MOUNTING HOLES.
D. INSTALL AN362F–1032 ANCHOR NUT.

4C–3–1–2–(441)

Figure 2-55A. Support Bracket, 32-11146-35/36





Note

D FOR REPAIR TO FILLET TANG AREA, SEE FIGURE 2-109.

INSPECTION PROCEDURE

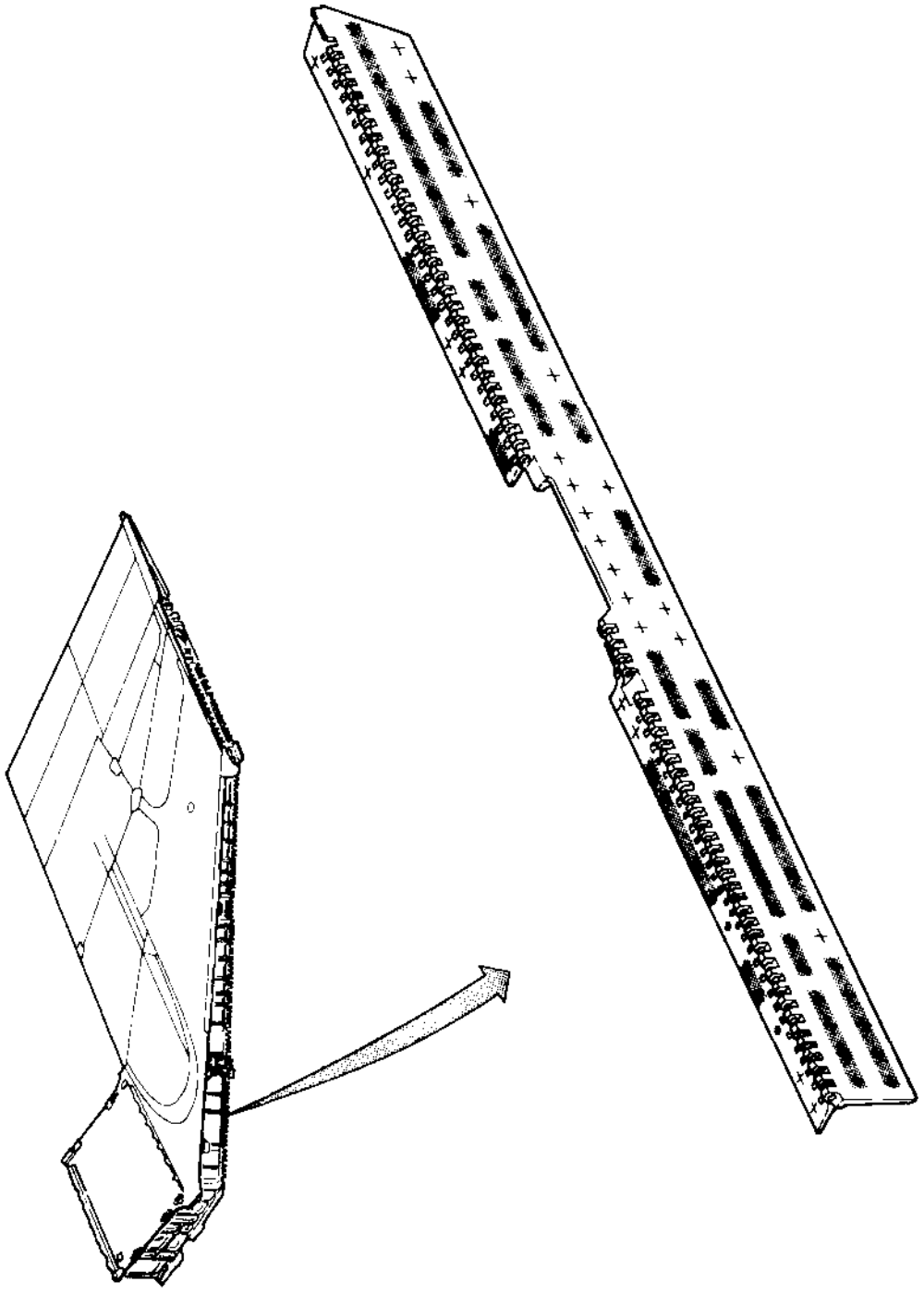
A. VISUALLY INSPECT 32-11514 HINGE FOR CRACKED TANGS.
B. IF CRACKS ARE FOUND, REMOVE DAMAGED HINGE AND REPLACE WITH NEW HINGE EXCEPT FOR LIMITS AS SHOWN.
   (1) ACCEPTABLE LIMITS FOR REWORK OF TANGS UNTIL PRACTICABLE HINGE REPLACEMENT ARE AS FOLLOWS:
      (a) LESS THAN 16 CRACKED TANGS OUTSIDE OF AREA D SUITABLE FOR REWORK.
      (b) IF TWO ADJACENT TANGS ARE CRACKED, BUT SUITABLE FOR REWORK, THE NEXT TWO TANGS MUST BE STRUCTURALLY SOUND.
      (c) IF AN END TANG IS CRACKED, BUT SUITABLE FOR REWORK THE SECOND AND THIRD TANG MUST BE STRUCTURALLY SOUND.
C. FOR TANGS SUITABLE FOR REWORK, SEE REWORK PROCEDURE.

REWORK PROCEDURE

A. REMOVE CENTER LEADING EDGE FLAP, REFER TO T.O. 1F-4( )-2-4.
B. REMOVE AREA OF CRACKED TANGS, SEE VIEW A-A AND SECTION B-B AND VIEW C-C FOR DIMENSION.
C. MACHINED SURFACES TO BE 125 MICROINCH FINISH OR BETTER.
D. PERFORM FLUORESCENT PENETRANT INSPECTION OF REWORKED AREA TO ENSURE COMPLETE CRACK REMOVAL, REFER TO T.O. 1F-4C-36.
E. REFINISH AREA IN ACCORDANCE WITH CORROSION PROCEDURE IN T.O. 1F-4C-3-1-6.
F. REINSTALL CENTER LEADING EDGE FLAR, REFER TO T.O. 1F-4( )-2-4.

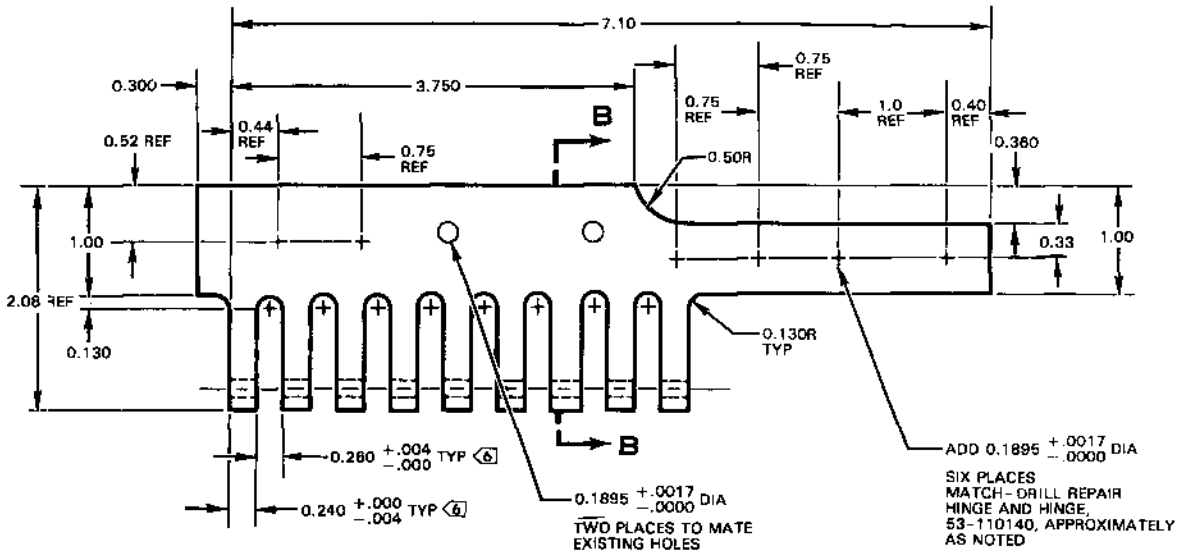
G9104087

Figure 2-56. Leading Edge Hinge, 32-11514, Inspection and Rework



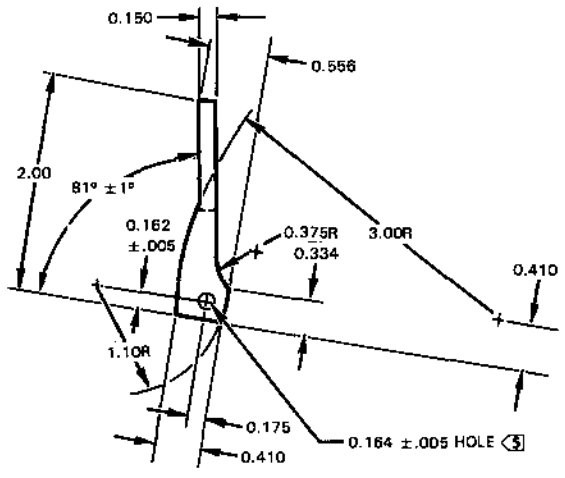
G9104088

Figure 2-56A. Torque Box Leading Edge Hinge Repair (Sheet 1 of 2)



DETAIL A

7 8 REPAIR HINGE 4130 STEEL



SECTION B-B

REPAIR PROCEDURE

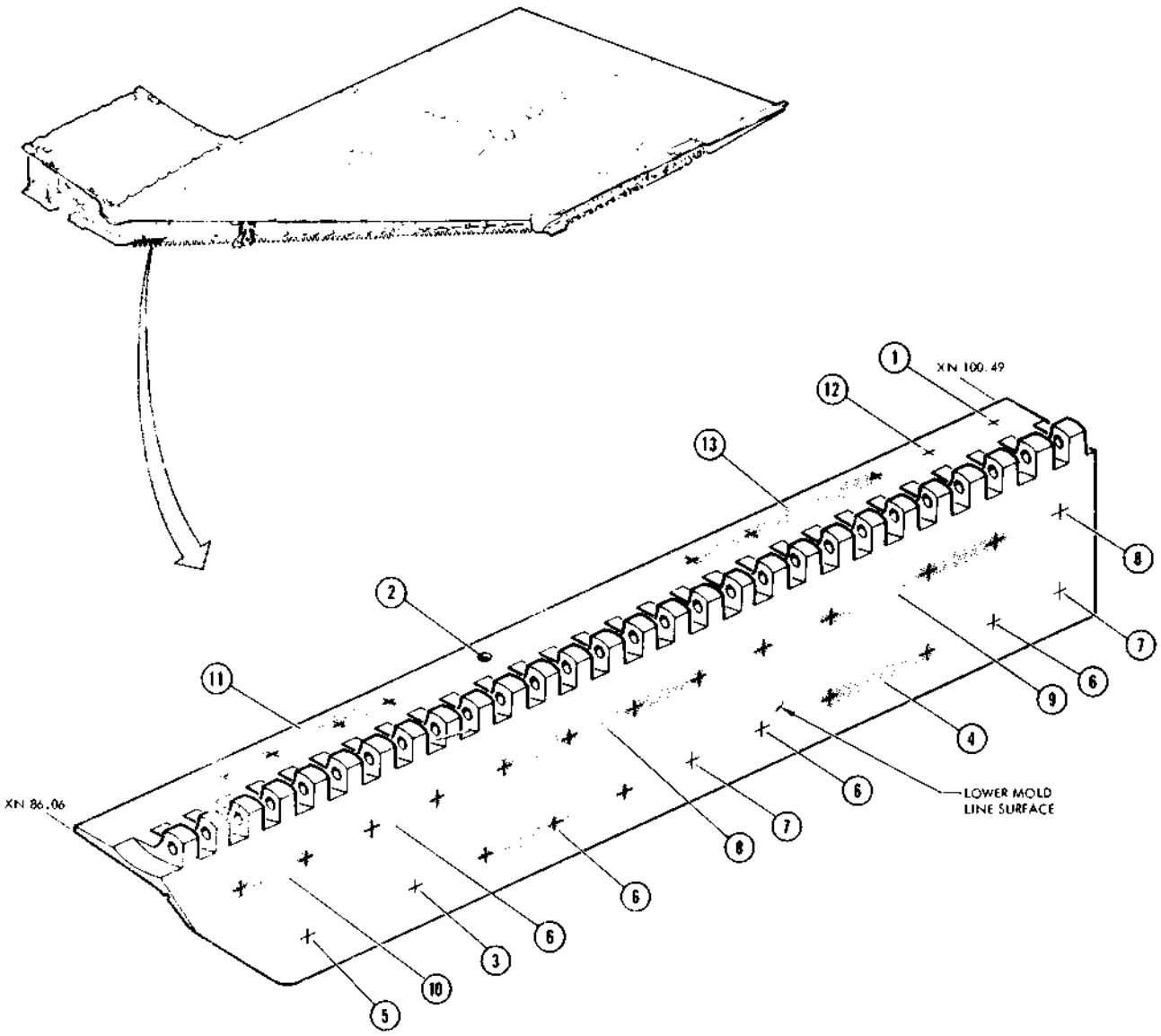
A. MACHINE REPAIR HINGE AS SHOWN. SEE DETAIL A. INSTALL THE 141 DOOR AND POSITION REPAIR HINGE FOR PROPER FIT. SEE TO 1F-4C-3-1-3.
C. MATE DRILL 0.1895 +.0017 -.0000 HOLE IN REPAIR HINGE TO EXISTING TWO HOLES IN DAMAGED HINGE, 53-110140 OR 32-11566. SEE DETAIL A.
D. DRILL SIX 0.1895 +.0017 -.0000 IN REPAIR HINGE AND HINGE. 53-110140 OR 32-11566. SEE DETAIL A.
E. FINISH REPAIR PART AND REWORKED AREA PER TO 1F-4C-3-1-6.
F. APPLY MIL-S-8802 OR MIL-S-81733 TO MATING PARTS PER TO 1F-4C-3-1-6.
G. INSTALL NAS1303 BOLTS, AN960D10 WASHERS, AND NAS679A3W NUTS.

Notes

1. THIS REPAIR MAY BE USED BY FIELD LEVEL ACTIVITIES AS AN ALTERNATE TO REPLACEMENT OF HINGE 53-110140 OR 32-11566. ANNOTATE IN AIRCRAFT RECORDS SO NEW HINGE WILL BE INSTALLED AT THE NEXT PDM. THIS REPAIR SHALL NOT BE INSTALLED AT DEPOT LEVEL FACILITIES.
2. THIS REPAIR IS TO BE USED WHEN TWO OR MORE OF THE INBOARD END HINGE TANGS ARE BROKEN.
3. DIMENSION TOLERANCES ARE ±.005 UNLESS NOTED.
4. SURFACE FINISH 125 MICROINCH OR BETTER.
5. SURFACE FINISH INSIDE TANG HOLES 63 MICROINCH OR BETTER.
6. ALL HINGE TANGS ARE TO BE SAME THICKNESS WITHIN ±.0005. ALL OPEN SPACES BETWEEN TANGS ARE TO BE SAME WIDTH WITHIN ±.0005.
7. HEAT TREAT 140 TO 160 KSI.
8. CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2.
9. IF THIS REPAIR IS INSTALLED ON AN AIRCRAFT, A NEW HINGE MUST BE INSTALLED AT THE NEXT PDM.

4C-3-1-2-(434-2)86

Figure 2-56A. Torque Box Leading Edge Hinge Repair (Sheet 2 of 2)



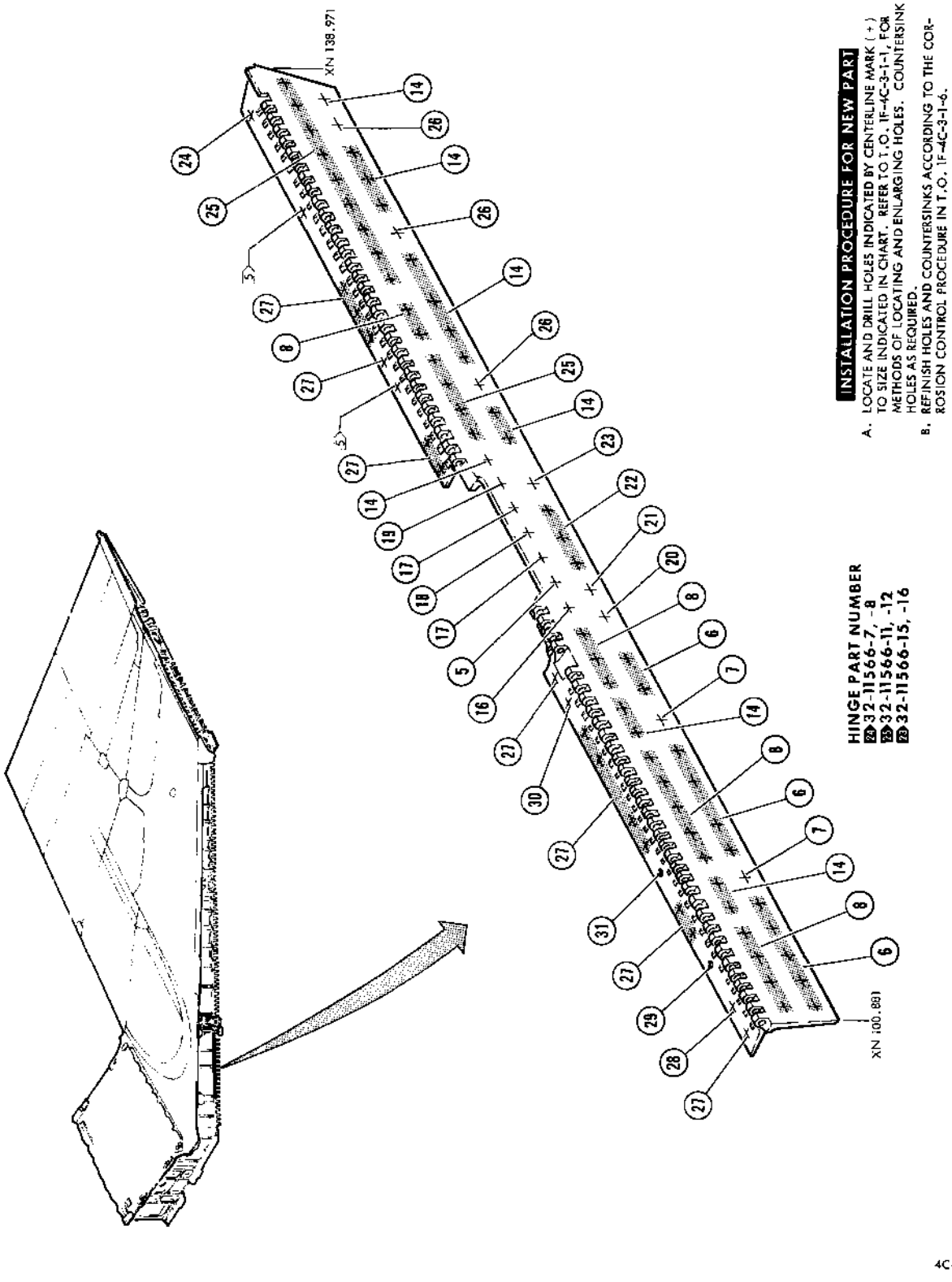
HINGE PART NUMBER
(12) 32-11506-5, -6
(13) 32-11506-7, -8

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES TO RECEIVE FASTENER.
B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

4C-3-1-2-(68-1)D

Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 1 of 13)



4C-3-1-2-(68-2)D

Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 2 of 13)

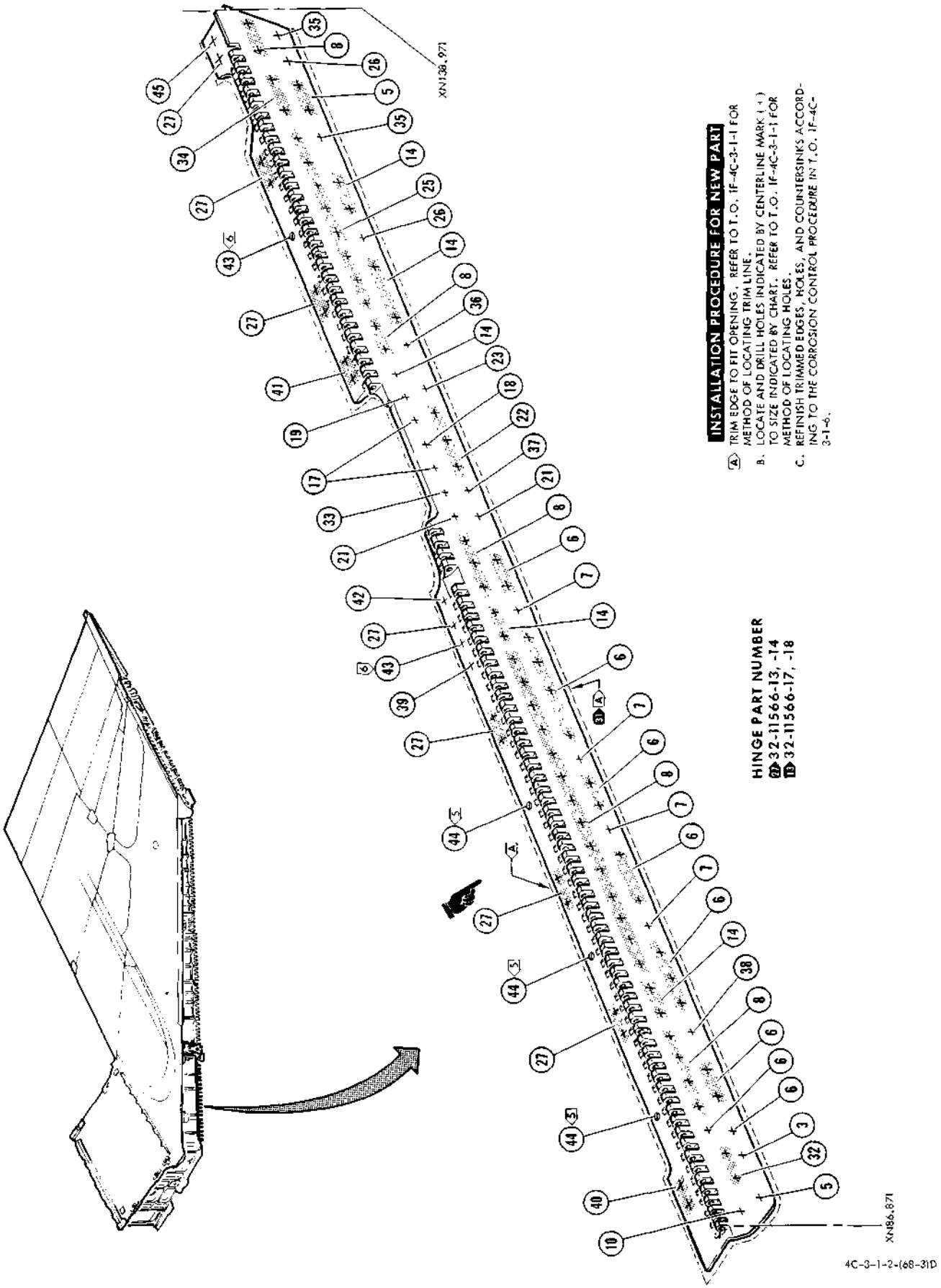


Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 3 of 13)

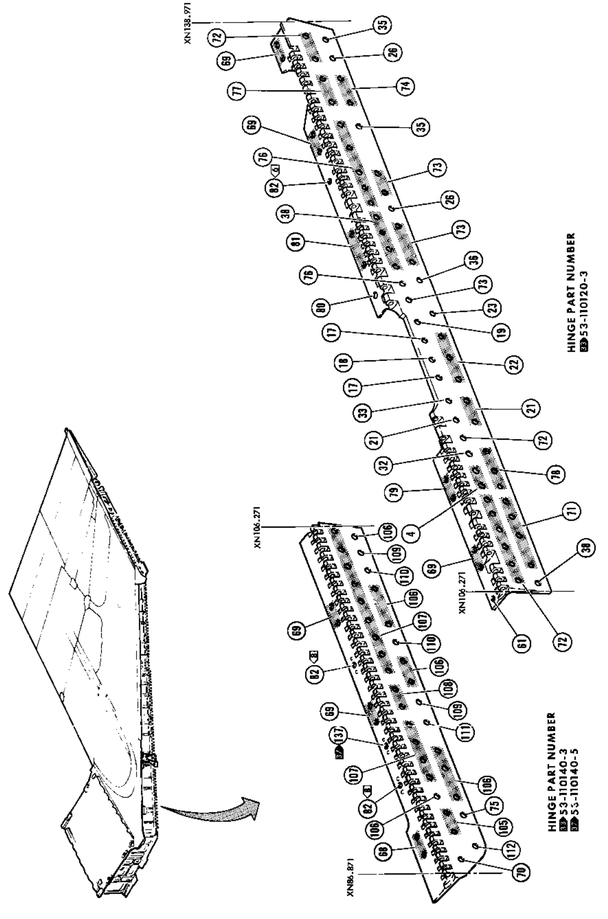
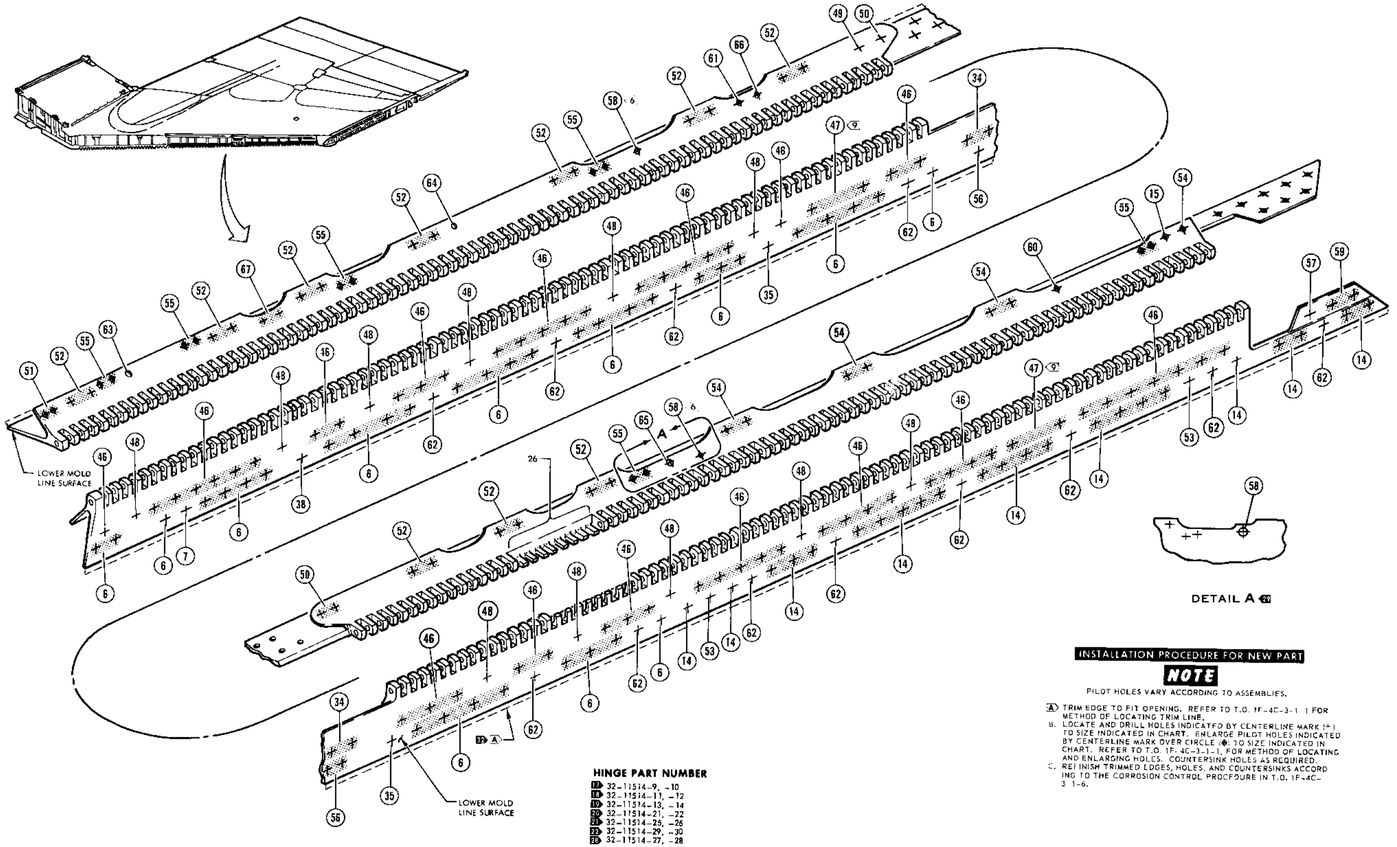


Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 4 of 13)



INSTALLATION PROCEDURE FOR NEW PART

NOTE

PILOT HOLES VARY ACCORDING TO ASSEMBLIES.

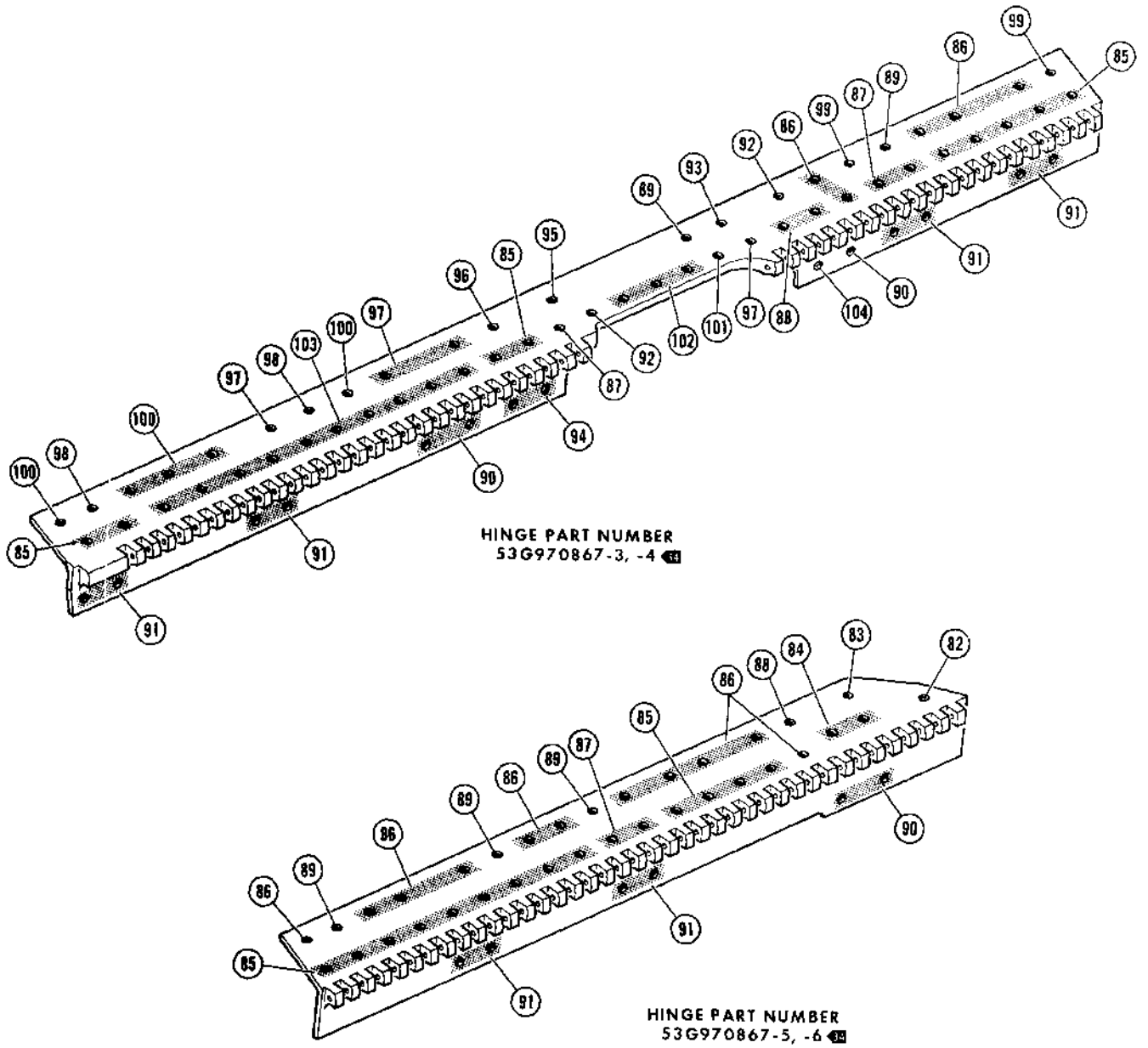
A. TRIM EDGE TO FIT OPENING. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIM LINE.

B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1, FOR METHOD OF LOCATING AND ENLARGING HOLES. COUNTERSINK HOLES AS REQUIRED.

C. REFINISH TRIMMED EDGES, HOLES, AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

4C-3-1-2-168-510

Figure 2-57. Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 5 of 13)



4C-3-1-2-(68-6)D

Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 6 of 13)

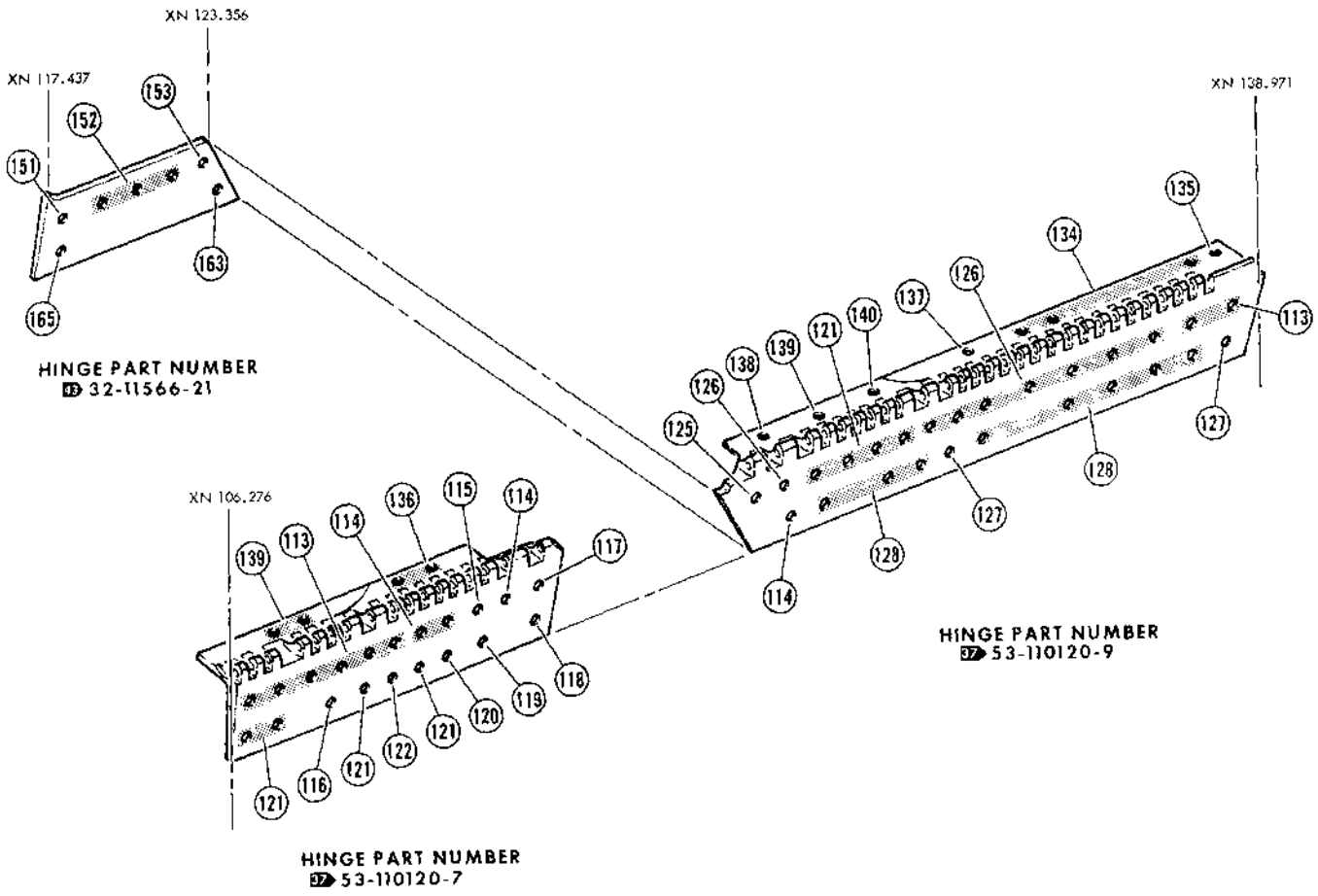
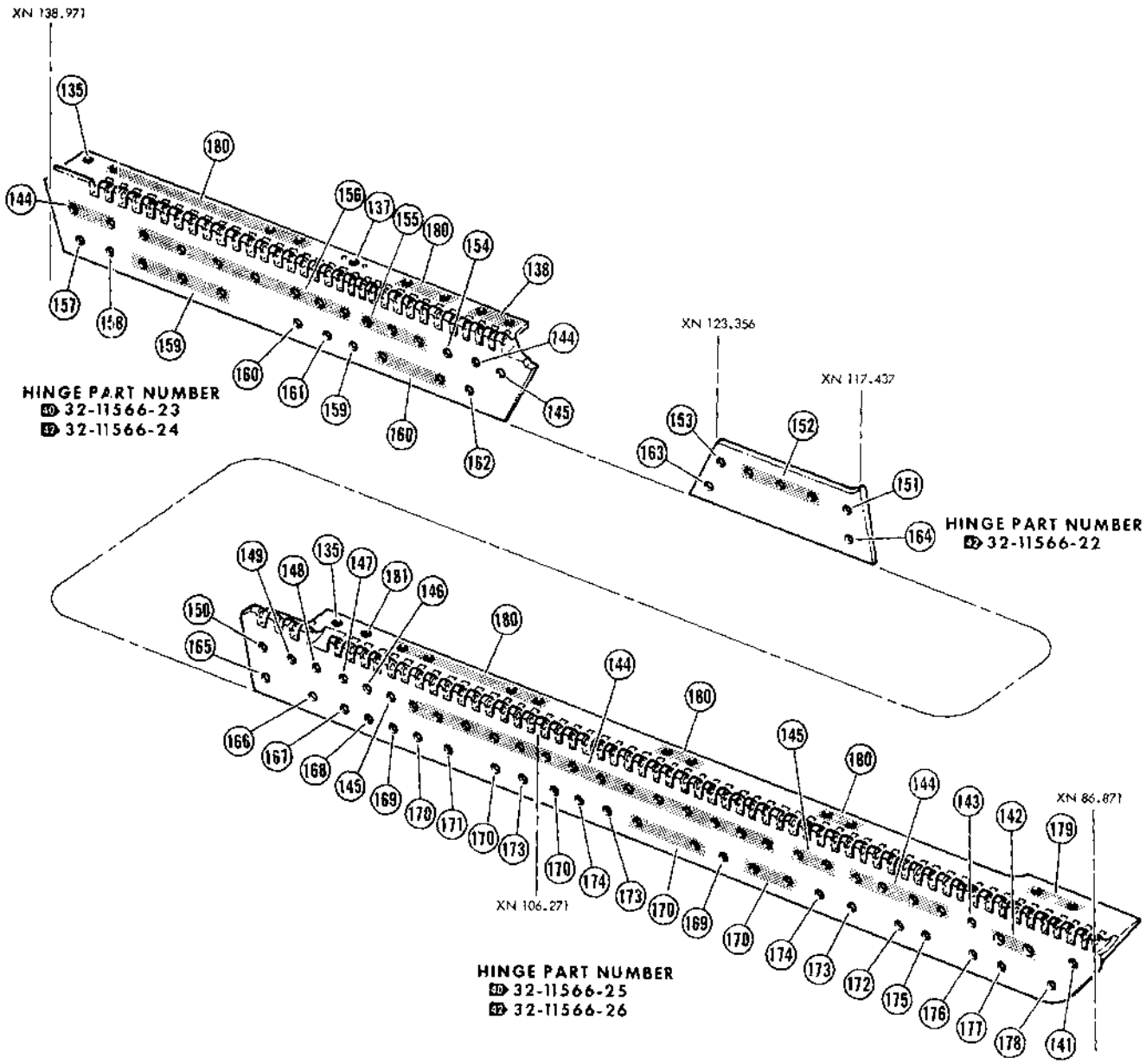


Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 7 of 13)



4C-3-1-2-(68-8)D

Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 8 of 13)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	NUT BASE	SHIM	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1426-4	NAS1080C6					0.1895 +.0017 -.0000
2	[8]	MS21048-3				20-25	0.196 +.006 -.000
3	NAS1418-13	NAS1080C8					0.2495 +.0017 -.0000
4	NAS584-15T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0005
5	NAS584-14T	RM52LH2935-048		2935-04		50-70	0.2495 +.0012 -.0005
6	NAS1418-11	NAS1080C8					0.2495 +.0017 -.0000
7	NAS584-11T	F1967-4				50-70	0.2495 +.0017 -.0000
8	NAS1418-9	NAS1080C8					0.2495 +.0017 -.0000
9	NAS584-13T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
10	NAS1418-12	NAS1080C8					0.2495 +.0017 -.0000
11	H562-6-5	NAS528A6			32-11401-421, -423		0.1895 +.0017 -.0000
12	AN3	F1934-3-2				20-25	0.1900 +.0012 -.0005
13	NAS1426-5	NAS1080C6					0.1895 +.0017 -.0000
14	NAS1418-10	NAS1080C8					0.2495 +.0017 -.0000
15 [1a]	NAS1669-3L4						0.199 +.003 -.000
16	NAS1504-12T	MS21042-4	AN960D416			50-70	0.2495 +.0017 -.0000
17	NAS584-37T	RM52LH2935-048		2935-04	32-11567-5	50-70	0.2495 +.0017 -.0000
18	NAS584-37T	RM52LH2935-048		2935-04	53-11074-3 [4]	50-70	0.2495 +.0017 -.0000
19	NAS584-15T	RM52LH2935-048		2935-04	32-11567-5	50-70	0.2495 +.0017 -.0000
20	NAS1504-14T	MS21042-4	AN960D416			50-70	0.2495 +.0017 -.0000
21	NAS584-14T	MS21042-4	AN960D416			50-70	0.2495 +.0017 -.0000
22	NAS584-15T	MS21084L4			32-11567-3	50-70	0.2495 +.0017 -.0000
23	NAS584-16T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
24	AN3-6A	RM52LH2935-02	AN960D10	2935-0		20-25	0.1900 +.0017 -.0000
25	NAS1418-8	NAS1080C8					0.2495 +.0017 -.0000
26	NAS584-10T	F1967-4				50-70	0.2495 +.0012 -.0000
27	NAS1446-4	NAS1080C6					0.1895 +.0017 -.0000
28	NAS464P3-8	MS21043-3				20-25	0.1900 +.0012 -.0005
29	AN3-5A	MS21048-3	AN960D10			20-25	0.196 +.006 -.000
30	NAS1054-6-4	NAS528A6					0.1895 +.0017 -.0000
31	NAS1303-5	MS21084L3	AN960D10L			20-25	0.196 +.006 -.000
32	NAS584-18T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
33	NAS584-14T	RM52LH2935-048		2935-04	32-11567-5	50-70	0.2495 +.0017 -.0000
34	NAS584-12T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
35	NAS584-10T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
36	NAS584-12T	F1967-4				50-70	0.2495 +.0017 -.0000
37	NAS584-14T	MS21042-4	AN960D416			50-70	0.2495 +.0017 -.0000
38	NAS584-11T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
39	NAS1303-5	RM52LH2935-02	AN960D10L	2935-0		20-25	0.1900 +.0012 -.0005
40	NAS1416-5	NAS1080C6					0.1895 +.0017 -.0000
41	NAS1303-7	MS21074L3	AN960D10			20-25	0.1900 +.0012 -.0005
42	NAS1303-7	MS21061L3				20-25	0.1900 +.0012 -.0005
43	NAS1303-5	RM52LH2935-02	AN960D10L	2935-0		20-25	0.1900 +.0012 -.0005
44	[5]	F1967-3				20-25	0.191 +.006 -.000
45	AN3-7A	RM52LH2935-02	AN960D10L	2935-0		20-25	0.1900 +.0012 -.0005
46	NAS584-8T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
47	NAS584-8T	F1967-4				50-70	0.2495 +.0017 -.0000
48	NAS583-8T	RM52LH2935-02		2935-0		20-25	0.1900 +.0017 -.0005
49	NAS1670-3L6						0.199 +.003 -.000
50	NAS1669-3L6						0.199 +.003 -.000
51	NAS1054-4-4	NAS528A4					0.125 +.003 -.000
52	NAS1669-3L4						0.199 +.003 -.000
53	NAS584-9T	RM52LH2935-04F	AN960D416	2935-04		50-70	0.2495 +.0017 -.0000
54	NAS1303-4	MS21042-3	AN960D10 [3] AN960D10L [6]			20-25	0.191 +.006 -.000

4C-3-1-2-(68-9)E

Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 9 of 13)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	NUT BASE	SHIM	TORQUE (INCH-LB)	HOLE SIZE
55	MS20470AD4						0.128 +.014 -.000
56	NAS584-15T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
57	NAS584-9T	F1967-4				50-70	0.2495 +.0017 -.0000
58	(6)	MS21059L3	AN960D10 AN960D10L				0.205 +.007 -.000
59	NAS584-12T	MS21059L4				50-70	0.2495 +.0017 -.0000
60	(7)	MS21048-3					0.191 +.006 -.000
61	(8)	MS21047L3					0.191 +.006 -.000
62	NAS1303-4	MS21042-3	AN960D10 (30)			20-25	0.191 +.006 -.000
62A	NAS1669-3L4		AN960D10L (31)				0.197 +.003 -.000
63	(7)	MS21059L3					0.191 +.006 -.000
64	(8)	MS21059L3					0.196 +.006 -.000
65	(6)	MS21059L3	AN960D10				0.205 +.007 -.000
65A	(6)						0.191 +.006 -.000
66	(6)	MS21059L3	AN960D10				0.205 +.007 -.000
67	MS20426AD3						0.096 +.009 -.000
68	NAS1416-5	NAS1080C6					0.1895 +.0017 -.0000
68A	NAS1446-5	NAS1080C6					0.1895 +.0017 -.0000
68B	NAS1428-5	NAS1080C6					0.1895 +.0017 -.0000
69	NAS1446-4	NAS1080E6					0.1895 +.0017 -.0000
69A	NAS1446-4	NAS1080C6					0.1895 +.0017 -.0000
70	NAS1418-12	NAS1080E8					0.2495 +.0017 -.0000
70A	TL100-4-15	TLN1020L4N	AN960D416	TLN1020L4W (34)			(35)
71	NAS1418-11	NAS1080E8					0.2495 +.0017 -.0000
72	NAS1418-9	NAS1080E8					0.2495 +.0017 -.0000
73	NAS1418-10	NAS1080E8					0.2495 +.0017 -.0000
74	NAS583-14T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
75	NAS1418-13	NAS1080E8					0.2495 +.0017 -.0000
75A	TL100-4-13	TLN1020L4N		TLN1020L4W (34)			(35)
76	NAS1418-8	NAS1080E8					0.2495 +.0017 -.0000
77	NAS584-12T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
78	NAS584-17T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
79	NAS464P3A5	F1934-3-2	AN960C10L			20-25	0.1895 +.0017 -.0000
80	NAS464P3A4	F29339-3	AN960C10L			20-25	0.1895 +.0017 -.0000
81	NAS464P3A6	F1934-3-2	AN960C10L			20-25	0.1895 +.0017 -.0000
82	(8)						0.191 +.006 -.000
	NAS1704T14	RM52LH2935-048		2935-04		50-70	0.2651 +.0017 -.0000
83	NAS1704T14	RM52LH2935-048		2935-04		50-70	0.2651 +.0017 -.0000
84	NAS1704T18	RM52LH2935-048		2935-04		50-70	0.2651 +.0017 -.0000
85	TL130-4-9	TLN1035L4					(29)
86	TL130-4-11	TLN1035L4					
87	TL130-4-10	TLN1035L4					
88	TL130-4-13	TLN1035L4					
89	TL936-5-11-30	TLN1020L5N		TLN1020L5W (34)			
90	HL556-6-5	HL683-6A HL83-6W (38)					0.2060 +.0020 -.0000

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Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 10 of 13)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	NUT BASE	SHIM	TORQUE (INCH-LB)	HOLE SIZE
91	HL556-6-4	HL683-6A HL83-6W (34)					0.2060 +.0020 -.0000
92	TL130-4-15	TLN1035L4					(35)
93	TL330-4-14	TLN1020-4N		TLN1020L4W			(35)
94	NAS2903-8	MS21073L3	AN960D10			20-2	0.2026 +.0017 -.0000
95	TL330-4-16	TLN1020L4N		TLN1020L4W			
96	TL936-5-15-30	TLN1020L5N		TLN1020L4W			
97	TL130-4-12	TLN1035L4					
98	TL936-5-12-30	TLN1020L5N		TLN1020L5W (36)			
99	TL330-4-11	TLN1035L4					(35)
100	TL330-4-12	TLN1035L4					
101	TL130-4-14	TLN1035L4					
102	TL130-4-35	TLN1020L4N		TLN1020L4W			
103	TL130-4-8	TLN1035L4					
104	NAS2903-8	MS21061L3	AN960D10			20-25	0.2026 +.0017 -.0000
105 (33)	NAS584-18T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
(37)	TL100-4-19	TLN1020L4N	AN960D416	TLN1020L4W			
106 (33)	NAS1418-11	NAS1080E8					0.2495 +.0017 -.0000
(37)	TL100-4-11	TLN1020L4N		TLN1020L4W			
107 (33)	NAS1418-9	NAS1080E8					0.2495 +.0017 -.0000
(37)	TL100-4-9	TLN1020L4N		TLN1020L4W (36)			
108 (33)	NAS1418-10	NAS1080E8					0.2495 +.0017 -.0000
(37)	TL100-4-11	TLN1020L4N	AN960D416	TLN1020L4W			
109 (33)	NAS1418-11	NAS1080E8					0.2495 +.0017 -.0000
(37)	TL936-5-12-30	TLN1020L5N		TLN1020L5W			
110 (33)	NAS584-11T	F1957-4L				50-70	0.2495 +.0017 -.0000
(37)	TL100-4-11	TLN1020L4N		TLN1020L3W			
111 (33)	NAS584-11T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
(37)	TL100-4-11	TLN1020L4N		TLN1020L4W (34)			
112 (33)	NAS584-14T	RM52LH2935-048		2935-04		50-70	0.2495 +.0017 -.0000
(37)	TL100-4-13	TLN1020L4N		TLN1020L4W			
113	TL100-4-9	TLN1020L4N		TLN1020L4W			
114	TL100-4-13	TLN1020L4N		TLN1020L4W			
115	TL100-4-17	TLN1020L4N	AN960D416	TLN1020L4W			
116	TL936-5-12-40			TLN1020L5W			
117	TL100-4-15	TLN1020L4N	AN960D416	TLN1020L4W			
118	TL100-5-15	TLN1000L5	AN960D416				
119	TL100-4-15	TLN1020L4N		TLN1020L4W			
120	TL936-5-16-39	TLN1020L5N		TLN1020L5W			
121	TL100-4-11	TLN1020L4N		TLN1020L4W (34)			
122	TL100-5-11	TLN1020L5N		TLN1020L5W			(35)
123	TL100-4-37	TLN1020L4N		TLN1020L4W			
124	TL936-5-17-39	TLN1000L5					
125	TL100-4-11	TLN1020L4N	AN960D416	TLN1020L4W			
126	TL100-4-9	TLN1020L4N	AN960D416	TLN1020L4W			
127	TL936-5-13-31	TLN1020L5N		TLN1020L5W			
128	TL100-4-13	TLN1020L4N	AN960D416	TLN1020L4W			
129	TL100-4-13	TLN1020L5N		TLN1020L5W			
130	TL100-4-15	TLN1000L5					
131	TL100-4-19	TLN1020L4N	AN960D416	TLN1020L4W			
132	TL936-4-12-30	TLN1020L5N		TLN1020L5W			
133	NAS1416-5	NAS1080C6					0.1895 +.0017 -.0000
134	NAS1446-4	NAS1080C6					0.1895 +.0017 -.0000
135	NAS464P3A7	MS21042-3	NAS960D10				0.1900 +.0012 -.0000
136	NAS464P3A5	MS21042-3	AN960C10L				0.1895 +.0017 -.0000
137	(6)	F1967-3					0.191 +.006 -.000
138	NAS464P3A7	MS21073L3	AN960D10				0.1895 +.0017 -.0000
139	NAS464P3A6	MS21042-3	AN960C10L				0.1895 +.0017 -.0000
140	NAS464P3A5	MS21042-3	AN960C10L				0.1895 +.0017 -.0000
141 (38)	TL100-4-15	TLN1020L4N	AN960D416	TLN1020L4W (36)			
(39)	NAS1704T14	RM52LH2935-048		2935-04			
142 (38)	TL100-4-19	TLN1020L4N	AN960D416	TLN1020L4W (36)			
(39)	NAS1704T18	RM52LH2935-048		2935-04			
143 (38)	TL100-4-9	TLN1020L4N		TLN1020L4W (36)			
(39)	TL130-4-11	TLN1035L4					
144 (38)	TL100-4-9	TLN1020L4N		TLN1020L4W			(35)
(39)	TL130-4-9	TLN1035L4					
145 (38)	TL100-4-11	TLN1020L4N	AN960D416	TLN1020L4W (36)			
(39)	TL130-4-10	TLN1035L4					
146 (38)	TL100-4-11	TLN1020L4N	AN960D416	TLN1020L4W			
(40)	TL130-4-15	TLN1035L4					
(41)	TL130-4-10	TLN1035L4					

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Figure 2-57.[1] Torque Box Leading Edge Hinge Replacement (Sheet 11 of 13)

REF NO.		FASTENER	NUT OR COLLAR	WASHER	NUT BASE	SHIM	TORQUE (INCH-LB)	HOLE SIZE
147	28	TL100-4-9	TLN1020L4N		TLN1020L4W			
	30	TL130-4-15	TLN1035L4					
	31	TL130-4-9	TLN1035L4					
148	28	TL100-4-17	TLN1020L4N	AN960D416	TLN1020L4W			
	30	TL130-4-18	TLN1035L4					
	31	TL130-4-9	TLN1035L4					
149	28	TL100-4-13	TLN1020L4N		TLN1020L4W			
	29	TL130-4-9	TLN1035L4					
150	28	TL100-4-15	TLN1020L4N	AN960D416	TLN1020L4W			
	30	TL130-4-12	TLN1000L4	AN960D416				
151	28	TL100-4-15	TLN1020L4N	AN960D416	TLN1020L4W			
	30	TL130-4-18	TLN1035L4			32G11565-3		
152	28	TL100-4-37	TLN1020L4N		TLN1020L4W			
	29	TL130-4-37	TLN1020L4N		TLN1020L4W	53G970868-27		
153	28	TL100-4-15	TLN1020L4N		TLN1020L4W			
	30	TL130-4-11	TLN1035L4					
	31	TL130-4-9	TLN1035L4					
154	28	TL100-4-9	TLN1020L4N		TLN1020L4W			
	30	TL130-4-11	TLN1035L4					
	31	TL130-4-9	TLN1035L4					
155	28	TL100-4-9	TLN1020L4N	AN960D416	TLN1020L4W			
	30	TL130-4-11	TLN1035L4					
	41	TL130-4-8	TLN1035L4					
156	28	TL100-4-9	TLN1020L4N	AN960D416	TLN1020L4W			
	30	TL130-4-8	TLN1035L4					
157	28	TL936-5-13-31	TLN1020L5N		TLN1020L5W			
	29	TL330-4-12	TLN1035L4					
158	28	TL100-4-13	TLN1020L4N	AN960D416	TLN1020L4W			
	30	TL936-5-12-30	TLN1020L5N		TLN1020L5W			
159	28	TL100-4-13	TLN1020L4N	AN960D416	TLN1020L4W			
	29	TL330-4-12	TLN1035L4					
160	28	TL100-4-13	TLN1020L4N	AN960D416	TLN1020L4W			
	29	TL130-4-12	TLN1035L4					
161	28	TL936-5-13-31	TLN1020L5N		TLN1020L5W			
	30	TL936-5-12-30	TLN1020L5N		TLN1020L5W			
162	28	TL100-4-13	TLN1020L5N		TLN1020L5W			
	29	TL936-5-12-30	TLN1020L5N		TLN1020L5W	53G970868-3		
163	28	TL936-5-17-39	TLN1000L5					35
	29	TL130-4-16	TLN1030L4	AN960D416				
164	28	TL100-4-15	TLN1000L5		34			
	29	TL100-5-19	TLN1000L5	AN960D516				
165	28	TL100-5-15	TLN1000L5	AN960D516				
	29	TL100-5-19	TLN1000L5	AN960D516				
166	28	TL100-4-15	TLN1020L4N		TLN1020L4W			
	30	TL130-4-17	TLN1035L4					
	41	TL130-4-11	TLN1035L4					
167	28	TL936-5-12-40	TLN1020L5N		TLN1020L5W			
	40	TL130-4-17	TLN1035L4					
	41	TL130-4-11	TLN1035L4					
168	28	TL100-4-11	TLN1020L4N		TLN1020L4W			
	30	TL130-4-17	TLN1035L4					
	41	TL330-4-11	TLN1035L4					
169	28	TL100-4-11	TLN1020L4N		TLN1020L4W			
	29	TL936-5-11-30	TLN1020L5N		TLN1020L5W			
170	28	TL100-4-11	TLN1020L4N		TLN1020L4W			
	29	TL130-4-11	TLN1035L4					
171	28	TL936-5-12-40	TLN1020L5N		TLN1020L5W			
	29	TL130-4-11	TLN1035L4					
172	28	TL100-4-11	TLN1020L4N		TLN1020L4W			
	29	TL130-4-14	TLN1035L4			53G970868-65		
173	28	TL100-4-11	TLN1020L4N		TLN1020L4W			
	29	TL330-4-11	TLN1035L4					
174	28	TL936-4-12-30	TLN1020L4N		TLN1020L4W			
	29	TL936-5-11-30	TLN1020L5N		TLN1020L5W			
175	28	TL100-4-11	TLN1020L4N		TLN1020L4W			
	29	TL130-4-13	TLN1035L4			53G970868-63		
176	28	TL100-4-11	TLN1020L4N		TLN1020L4W			
	29	TL130-4-15	TLN1035L4			53G970868-63		
177	28	TL100-4-13	TLN1020L4N		TLN1020L4W			
	29	TL130-4-15	TLN1035L4			53G970868-63		
178	28	TL100-4-13	TLN1020L4N		TLN1020L4W			
	35	NAS1704T14	RM52LH2935-048		2935-04			
179	11	NAS1416-5	NAS1080C6					0.1895 +.0017 -.0000
	39	HL556-6-5	HL683-6A		HL83-6W			0.2026 +.0020 -.0000
	11	NAS1428-5	NAS1080C6					0.1895 +.0017 -.0000
180	28	NAS1446-4	NAS1080C6					0.1895 +.0017 -.0000
	39	HL556-6-4	HL683-6A		HL83-6W			0.2026 +.0020 -.0000
181	28	NAS1446-4	NAS1080C6					0.1895 +.0017 -.0000
	39	HL556-6-5	HL683-6A		HL83-6W			0.2026 +.0020 -.0000

4C-3-1-2-(68-12)B

Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 12 of 13)

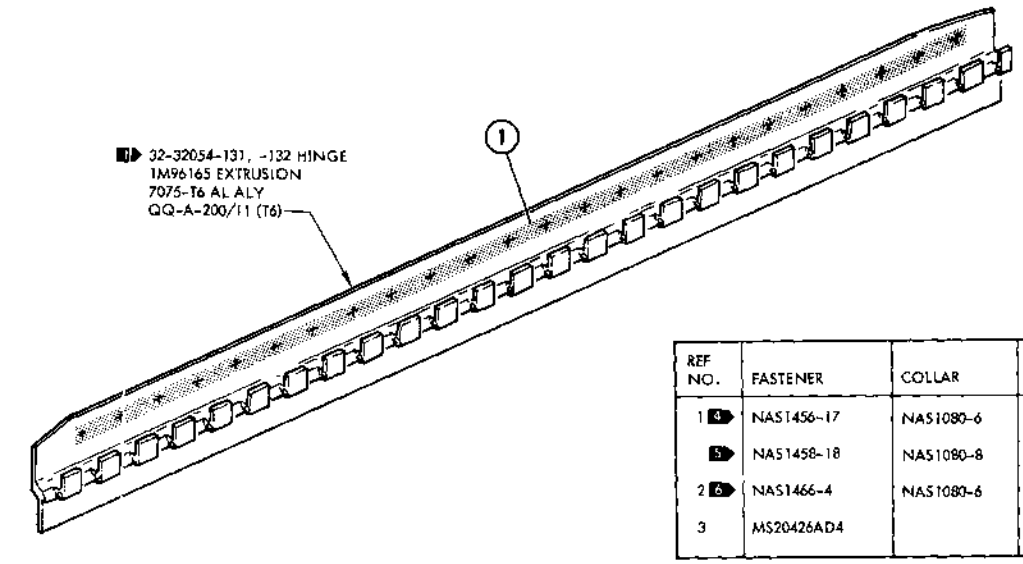
Notes

1. FASTENER LENGTHS NOT CALLED OUT IN THE CHART WILL BE DETERMINED AT INSTALLATION OF PART.
2. NEGLIGIBLE DAMAGE LIMITS ARE EXPLAINED IN TEXT.

(3) PLACE WASHER UNDER HEAD.
(4) RETAINER.
(5) THIS FASTENER VARIES WITH HYDRAULIC INSTALLATIONS.
(6) FOR BONDING JUMPER INSTALLATIONS.
(7) TO PROVIDE SUPPORT FOR ELECTRICAL WIRE BUNDLES.
(8) TO PROVIDE SUPPORT FOR HYDRAULIC LINES.
(9) WING INTERNAL TANK HOIST FITTING ATTACH POINTS.
(10) PLACE WASHER UNDER NUT.
(11) F-4E 72-121 THRU 72-1493.
(12) F-4C, F-4D, AND RF-4C 63-7742 THRU 69-384. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(13) F-4E 71-229 THRU 71-236.
(14) F-4E 72-1494 AND UP.
(15) F-4C 63-7407 THRU 63-7417.
(16) F-4C 63-7418 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C.
(17) F-4C 63-7407 THRU 63-7662 AND RF-4C 63-7742 THRU 64-1017. FOR FUTURE PROCUREMENT USE 32-11514-27, -28.
(18) F-4C 63-7663 THRU 64-928, F-4D 64-929 THRU 65-760, AND RF-4C 64-1018 THRU 65-940 LEFT SIDE. F-4C 63-7663 THRU 64-928, F-4D 64-929 THRU 65-782, AND RF-4C 64-1018 THRU 66-382 RIGHT SIDE. FOR FUTURE PROCUREMENT USE 32-11514-27, -28.
(19) F-4D 65-761 THRU 66-8825 AND RF-4C 65-941 THRU 68-562 LEFT SIDE F-4D 65-783 THRU 66-8825 AND RF-4C 66-383 THRU 68-562 RIGHT SIDE. F-4E 66-284 THRU 68-365 BEFORE T.O. 1F-4E-566. FUTURE PROCUREMENT FOR F-4C, F-4D, AND RF-4C USE 32-11514-27, -28 AND F-4E USE 32-11514-29, -30.
(20) RF-4C 68-563 THRU 69-384, FOR FUTURE PROCUREMENT USE 32-11514-27, -28.
(21) F-4E 68-366 THRU 71-228 BEFORE TO 1F-4E-566. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(22) F-4E 71-229 THRU 71-236 BEFORE TO 1F-4E-566 FUTURE PROCUREMENT FOR PRECEDING PART.
(23) RF-4C 71-248 AND FUTURE PROCUREMENT FOR PRECEDING PART.
(24) F-4C, F-4D 64-929 THRU 65-779, AND RF-4C 63-7742 THRU 66-387.
(25) F-4D 65-780 THRU 66-8825 AND RF-4C 66-388 THRU 69-384. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
(26) REFER TO TEXT FOR CRITERIA ON FILLET TANGS.
(27) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO 66-287 AND 66-296 THRU 69-7589 BEFORE T.O. 1F-4E-566.
(28) RF-4C 71-248 THRU 72-156. FUTURE PROCUREMENT FOR F-4C, F-4D, AND RF-4C 63-7742 THRU 69-384.
(29) F-4E 68-366 AND UP, RF-4C 68-563 THRU 72-156, AND F-4G.
(30) F-4C, F-4D, F-4E 66-284 THRU 68-365, AND RF-4C 64-1018 THRU 68-562.
(31) EXCESS TRIM ON 32-11566-17 AND -18 HINGE ONLY.
(32) EXCESS TRIM ON 32-11514-21, -22, -25, AND -26 HINGE ONLY.
(33) F-4E 66-287 AND 71-237 THRU 71-1402 AFTER T.O. 1F-4E-566 LEFT SIDE.
(34) F-4E 66-287 AND 71-237 THRU 71-1402 AFTER T.O. 1F-4E-566 RIGHT SIDE.
(35) FOR INSTALLATION OF TAPER-LOK FASTENERS. REFER TO TF-4C-3-1-1.
(36) COLLAR BASE.
(37) F-4E 72-121 AND UP LEFT SIDE.
(38) F-4E 72-121 AND UP RIGHT SIDE.
(39) F-4E 66-296 THRU 71-236 AFTER TO 1F-4E-566 AND F-4G.
(40) F-4E 66-296 THRU 71-236 LEFT SIDE AFTER TO 1F-4E-566 AND F-4G.
(41) F-4E 66-296 THRU 71-236 RIGHT SIDE AFTER TO 1F-4E-566 AND F-4G.
(42) F-4E 66-296 THRU 71-236 AFTER T.O. 1F-4E-566 AND F-4E 72-121 AND UP RIGHT SIDE AND F-4G.
(43) F-4E 66-296 THRU 71-236 AFTER T.O. 1F-4E-566 AND F-4E 72-121 AND UP LEFT SIDE AND F-4G.

4C-3-1-2-(68-13)F

Figure 2-57. Torque Box Leading Edge Hinge Replacement (Sheet 13 of 13)

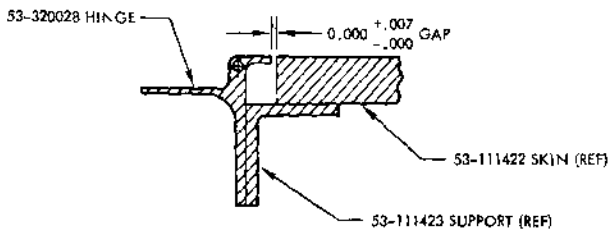


REF NO.	FASTENER	COLLAR	HOLE SIZE
1 4	NAS1456-17	NAS1080-6	0.1895 +.0017 -.0000
5	NAS1458-18	NAS1080-8	0.2495 +.0022 -.0000
2 6	NAS1466-4	NAS1080-6	0.189 -.006 -.000
3	MS20426AD4		0.128 +.014 -.000

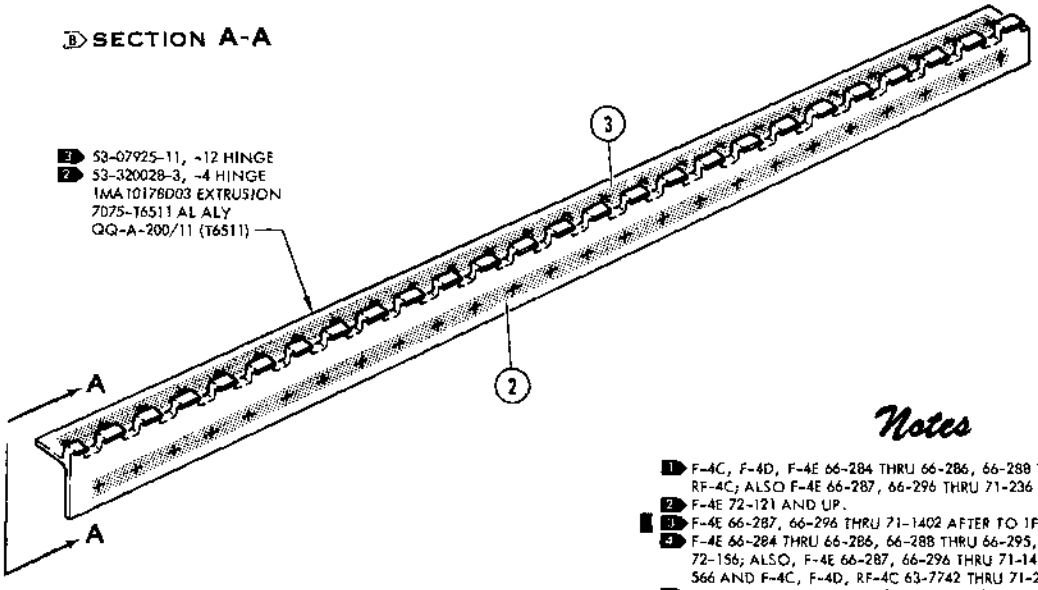
INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO1F-4C-3-1-1, FOR METHOD OF LOCATING HOLES.

B LOCATE HINGE CENTER LINE AT FS 306.07 AND TRIM EDGE OF 53-320028 HINGE TO MAINTAIN A BUTT FIT OF 0.000 +.007 -.000 WITH 53-111422 WING SKIN.



B SECTION A-A



Notes

1 F-4C, F-4D, F-4E 66-284 THRU 66-286, 66-288 THRU 66-295 AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566.

2 F-4E 72-121 AND UP.

1 F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.

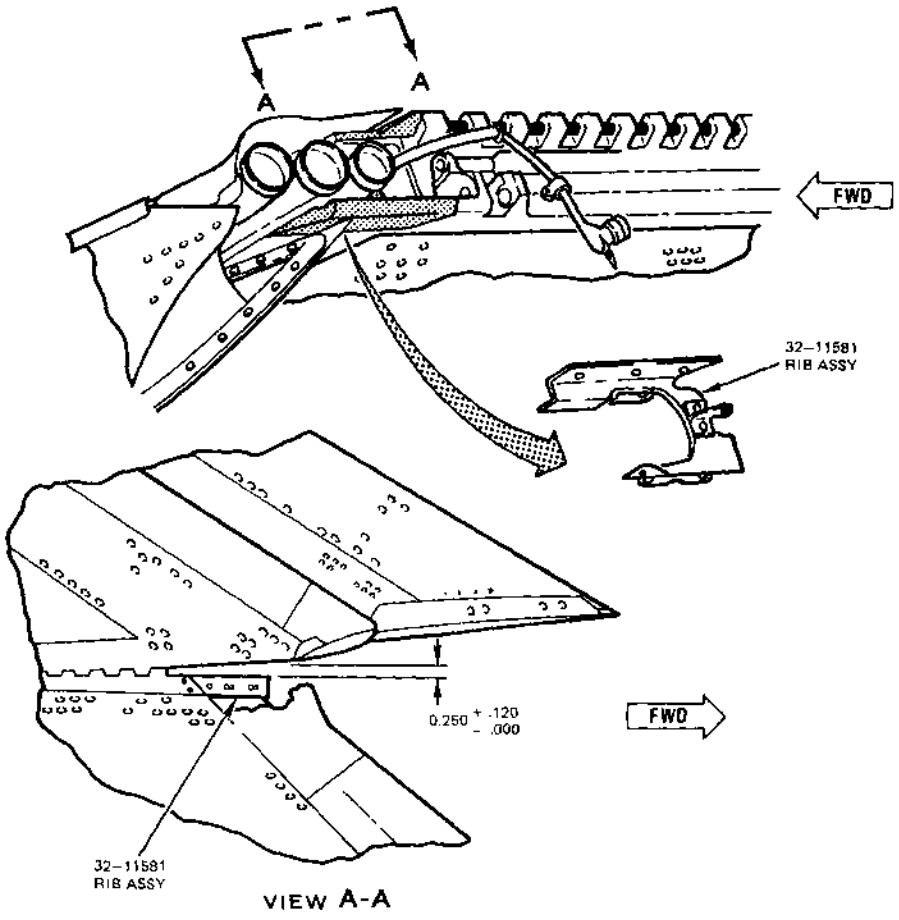
3 F-4E 66-284 THRU 66-286, 66-288 THRU 66-295, RF-4C 71-253 THRU 72-156; ALSO, F-4E 66-287, 66-296 THRU 71-1402 BEFORE TO 1F-4E-566 AND F-4C, F-4D, RF-4C 63-7742 THRU 71-252 BEFORE TO 1F-4-991.

5 F-4C, F-4D, RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991.

6 F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566; F-4E 72-121 AND UP AND F-4G.

4C-3-1-2-(140)C

Figure 2-58. Torque Box Hinge Half (Mating Door 74) Replacement

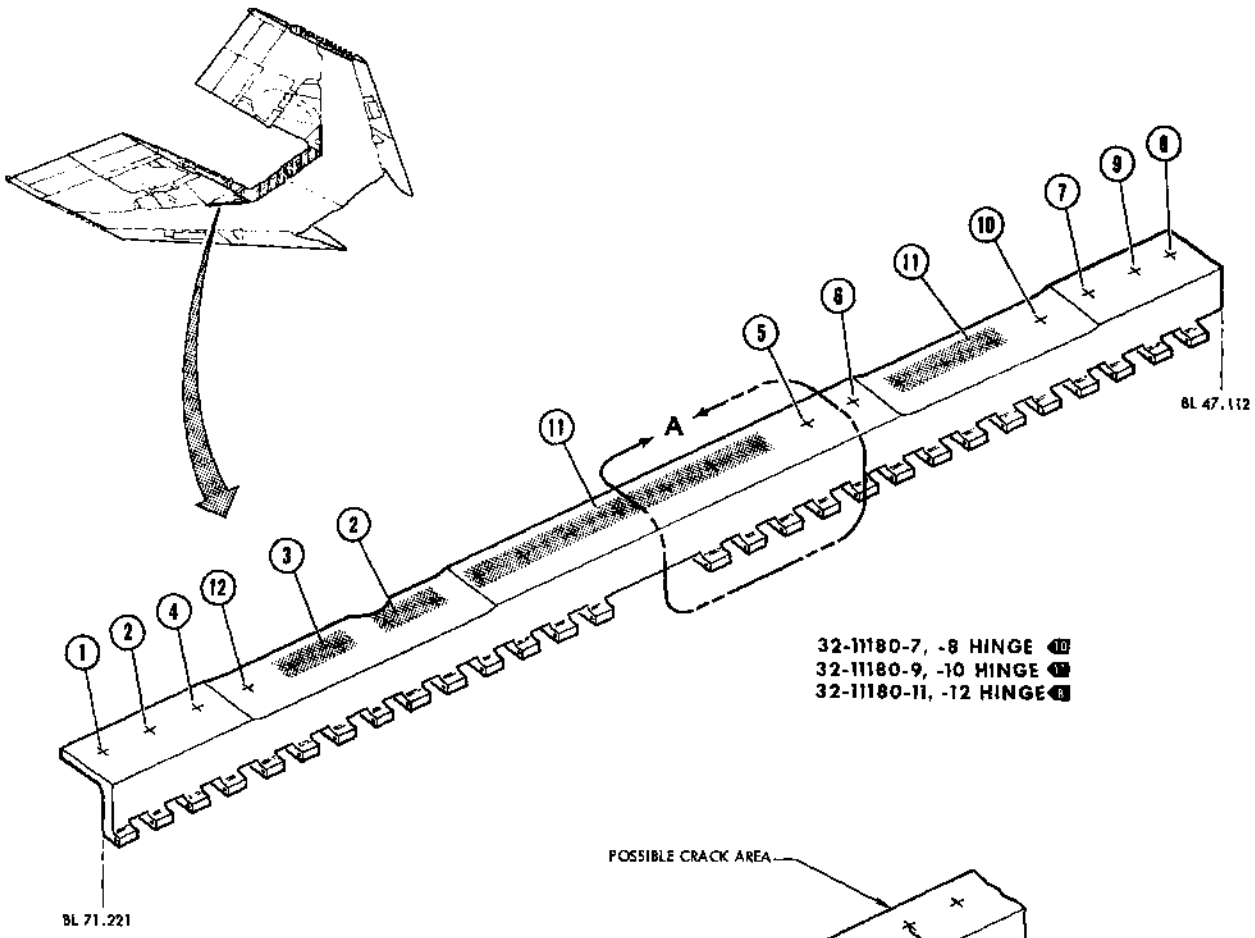


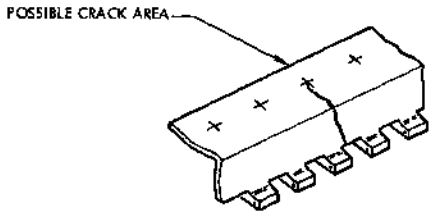
Note

WHEN REPLACING RIB ASSY, 32–11581, TRIM NEW PART TO PROVIDE GAP AS SHOWN BETWEEN RIB ASSY AND OUTER WING.

4C–3–1–2–(442)

Figure 2-58A. Rib Assembly, 32-11581, Replacement





DETAIL A
32-11180-9, -10, -11, -12

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLE. COUNTERSINK HOLE TO RECEIVE FASTENER.
B. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

INSPECTION PROCEDURE

A. LOWER DOOR 75 TO PERMIT INSPECTION ACCESS.
B. PERFORM VISUAL AND FLUORESCENT PENETRANT INSPECTION ON THE HORIZONTAL AND VERTICAL LEG OF HINGE, SEE DETAIL A. FLUORESCENT PENETRANT INSPECTION PROCEDURE PER T.O. 1F-4C-36.
C. IF CRACKS EXIST, REPLACE HINGE.

Notes

1. NEGLIGIBLE DAMAGE LIMITS ARE EXPLAINED IN TEXT.
2. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.

3 F-4C 63-7407 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4C 63-7742 THRU 67-427; ALSO, F-4E 66-287 AND 66-296 THRU 67-207 BEFORE T.O. 1F-4E-566.

1 F-4E 67-208 THRU 71-236 BEFORE T.O. 1F-4E-566 AND RF-4C 67-428 AND UP.

3 F-4E 66-287 AND 66-296 THRU 71-1402 AFTER T.O. 1F-4E-566, AND F-4G.

7 F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, RF-4C; ALSO, F-4E 66-287 AND 66-296 THRU 71-236 BEFORE T.O. 1F-4E-566.

7 COLLAR BASE OR NUT BASE.

8 F-4E 72-121 AND UP.

9 FOR TAPER LOK INSTALLATION REFER TO T.O. 1F-4C-3-1-1.

10 F-4C 63-7407 THRU 64-928, F-4D, F-4E 66-284 THRU 67-207, AND RF-4C 63-7742 THRU 67-427.

11 F-4E 67-208 THRU 71-236, RF-4C 67-428 THRU 72-156, AND F-4G.

4C-3-1-2-(70-1)C

Figure 2-59. Torque Box Hinge Half (Mating Door 75 and 76) Replacement (Sheet 1 of 2)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1440-22	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-26	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-27	TLN1020L5N	AN960D516 TLN1020L5W (7)	125-135	(9)
2	NAS1440-23	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-27	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-27	TLN1020L5N	AN960D516 TLN1020L5W (7)	125-135	(9)
3	NAS1440-24	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-28	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-26	TLN1020L5N	TLN1020L5W (7)	125-135	(9)
4	NAS1440-23	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-29	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-27	TLN1020L5N	AN960D516 TLN1020L5W (7)	125-135	(9)
5	NAS1440-25	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-29	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-29	TLN1020L5N	AN960D516 TLN1020L5W (7)	125-135	(9)
6	NAS335CFA21	MS21042-5	AN960D516	125-135	0.312 +.007 -.000
	NAS335CFA21	MS21042-5	AN960D516	125-135	0.3120 +.0017 -.0000
	HL219-10-29	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-29	TLN1020L5N	AN960D516 TLN1020L5W (7)	125-135	(9)
7	NAS1440-26	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-30	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-27	TLN1020L5N	TLN1020L5W (7)	125-135	(9)
8	NAS1440-27	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-31	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-31	TLN1020L5N	AN960D516 TLN1020L5W (7)	125-135	(9)
9	NAS1440-27	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-31	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-29	TLN1020L5N	TLN1020L5W (7)		(9)
10	NAS1440-25	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-29	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-27	TLN1020L5N	TLN1020L5W (7)	125-135	(9)
11	NAS1440-24	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-28	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-27	TLN1020L5N	TLN1020L5W (7)	125-135	(9)
12	NAS1440-22	NAS1080C10			0.3120 +.0017 -.0000
	HL219-10-26	HL382-10A	HL382-10 (7)		0.3432 +.0017 -.0000
	TL100-5-25	TLN1020L5N	TLN1020L5W (7)	125-135	(9)

4C-3-1-2-(70-2)C

Figure 2-59. Torque Box Hinge Half (Mating Door 75 and 76) Replacement (Sheet 2 of 2)

2-104. **WHEEL WELL.** See figures 2-60, 2-82, and 2-83.

2-105. The wheel well extends from the main spar to the rear spar and from the center fuselage sidewall to the main landing gear intermediate rib. The upper surface of the wheel well consists of two honeycomb panels and the lower surface consists entirely of the main landing gear doors. The internal structure provides support for the main landing gear, its actuator, and main landing gear doors. Refer to TO 1F-4C-3-1-3 for information concerning landing gear doors.

2-106. **SKINS AND FAIRINGS.** See figure 2-60. The two honeycomb panels on the upper mold line have skins of 7075 alclad and 1/8-inch cores of 5052 aluminum foil, see figures 2-62 and 2-64. The support fairing between honeycomb panels is an aluminum alloy casting, see figure 2-63. Allowable gap and mismatch limits of the honeycomb panels are contained in TO 1F-4C-3-1-1.

2-107. **Negligible Damage and Corrosion Removal Limits.** For negligible damage limits of honeycomb skin panels refer to TO 1F-4C-3-1-5. The following limits apply to fairings:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length.

b. Blended damage may be a maximum of 0.010 in depth and unlimited in length.

For rework procedure refer to TO 1F-4C-3-1-5. Refinish reworked area, refer to TO 1F-4C-3-1-6.

2-108. **Repairs.** For repairs of honeycomb skin panels refer to TO 1F-4C-3-1-5. Repair to casting is not practical at organizational/field maintenance.

2-108A. Main Landing Gear Wheelwell Skins, 53-11026 and 32-11027, Delamination and Fastener Pull-Through Repair. See figure 2-64A for delaminated areas along the panel edges that exceed the repair limitations of TO 1F-4C-3-1-5 and cases where a fastener head has pulled through the upper skin panel or unauthorized fasteners have resulted in deep countersinks.

2-108B. Skin Assembly, 53-11026, Full Area Patch Repair. Delamination which cannot be repaired per TO 1F-4C-3-1-5, may be repaired in lieu of replacement by installation of a full area patch. See figure 2-62A. This repair good until next scheduled PDM.

2-108C. Seal all fastener heads and edges of fiberglass skins with a light coat of sealant, MIL-S-81733.

2-109. **Replacement.**

CAUTION

Extreme care should be taken when drilling out existing fasteners so fastener holes in the structure are not enlarged. Care also should be taken not to damage hydraulic lines or wire bundles.

Panels damaged beyond practical repair limits should be replaced by drilling out existing fasteners and reinstalling replacement panel with same type fastener. The fasteners are shown in figures 2-62 and 2-64.

WARNING

Welding and flame spray operations must be performed in an approved exhaust ventilated booth. The provisions of AFOSH Standards 161-1, 161-2, and 127-31 will be strictly adhered to regarding the adequacy of respiratory protection, ventilation, and personal protective clothing and equipment.

2-109A. Support fairing, 53-11050, repair procedure. When wear on individual holes exceed 0.050 those holes may be repaired by welding. Use 4043 filler material, GTA method. Care should be taken in application of heat to prevent warping of fairing. While fairing is removed for welding, holes with wear less than 0.050 may be repaired by building up surface with flame spray aluminum-bronze or SF aluminum per MIL-STD-869. Refinish welded and flame sprayed areas to original fairing contour. Reinstall using Teflon washers under spacers, 32-11503.

2-110. **STRUCTURE.** See figures 2-82 and 2-83. The basic structure of the wheel well area consists of ribs, intercostal, missile well structure, and hinges. The main and rear spars form the forward and aft structure and are discussed in paragraphs 2-56 and 2-139 respectively.

2-111. **Ribs.** The main landing gear actuator aft rib and main landing gear intermediate rib are in the wheel well.

One of the hinge halves for the outboard gear door and main landing gear drag beam pads are attached to the main landing gear intermediate rib. The hinge is discussed in paragraph 2-125. The drag beam pads are beryllium copper. The intermediate rib is a 7079 aluminum alloy forging on F-4C, F-4D 64-929 THRU 66-772, AND RF-4C 63-7742 THRU 66-389, and a 7075 aluminum alloy forging on F-4D 66-773 THRU 66-8825, F-4E, F-4G, AND RF-4C 66-390 THRU 72-156. On rib forgings that are 7079 aluminum alloy, rather than 7075 aluminum alloy, inspect per paragraph 2-113 and refer to paragraph 2-114 for permissible crack limits in addition to the negligible damage paragraph. The actuator aft rib is 7079 aluminum alloy forging on F-4C, F-4D 64-929 THRU 65-778, AND RF-4C 66-7742 THRU 66-386 AND 66-388. On F-4D 65-779 THRU 66-8825, F-4E, F-4G, AND RF-4C 66-387 AND 66-389 THRU 72-156 the forging is 7075 aluminum alloy.

2-112. Main Landing Gear Door Sill Interference Correction. To correct damage to main landing gear door sill caused by interference with landing gear actuator, see figure 2-89.

2-113. Main Landing Gear Intermediate Rib, 32-11416, Inspection. This paragraph pertains to inspection of 7079-T6 and 7075-T6 aluminum alloy ribs. Inspect as required per the following procedures:

a. Inboard side.

(1) Visually inspect rib of MLG well, giving attention to forward portion of upper rib flange. Remove dirt, as necessary, to obtain a clear view of rib surface. If no evidence of cracks exists, proceed to step b.

(2) If evidence of cracks does exist, remove MLG in accordance with T.O. 1F-4C-2-5.

(3) Mask as required to avoid getting fluids into fastener holes.

CAUTION

Avoid excessive scrubbing which can obscure cracks.

(4) Determine finish and strip per T.O. 1-1-8.

(5) Inspect stripped area per T.O. 1F-4C-36.

(6) If cracks are found, rework area in accordance with paragraph 2-114.

CAUTION

Avoid getting chemical conversion coating into crevices where it cannot be removed.

(7) Corrosion treat and finish with insignia white enamel, Federal Specification TT-E-489, per T.O. 1F-4C-3-1-6.

(8) through (11) Deleted.

b. Outboard side.

(1) Remove door 101.

(2) Visually inspect rib, giving attention to forward portion of upper rib flange. Remove dirt to obtain a clear view of rib surface. If no evidence of cracks exists, proceed to step c.

CAUTION

Bleed pressure off hydraulic system and cap removed lines to avoid contamination.

(3) If evidence of cracks exists, remove obstructing hydraulic or fuel vent lines.

(4) Mask as required to avoid getting fluids into fastener holes.

CAUTION

Avoid excessive scrubbing which can obscure cracks.

(5) Determine finish and strip per T.O. 1-1-8.

(6) Inspect stripped area per T.O. 1F-4C-36.

(7) If cracks are found, rework area in accordance with paragraph 2-114.

CAUTION

Avoid getting conversion coating solution into crevices where it cannot be removed.

(8) Corrosion treat and finish with insignia white enamel, Federal Specification TT-E-489, per T.O. 1F-4C-3-1-6.

(9) and (10) Deleted.

NOTE

The finish deviates from the detail specifications; however, it meets requirements of general finish specification, MIL-F-7179.

c. Fastener torque.

(1) Loosen 3/8-inch diameter fasteners attaching upper rib cap, inboard and outboard of rib web, to main spar cap, 32-11011, or 53-111011.

(2) Retorque fasteners so that run-on torque of nut is exceeded by approximately 10 inch-pounds. This should result in a fastener that is snug but does not clamp up structure.

d. Final work.

(1) Inboard side - reinstall MLG in accordance with TO 1F-4( )-2-5.

(2) Outboard side - reinstall hydraulic and/or fuel vent lines and door 101.

(3) Air bleed hydraulic system per TO 1F-4( )-2-6.

(4) Remove aircraft from jacks.

2-114. Main Landing Gear Intermediate Rib, 32-11416 Crack Limits. This paragraph pertains to cracks and flight restriction of 7079-T6 and 7075-T6 aluminum alloy ribs. Cracks that are permissible per figure 2-93 may be cleared for continued normal flight operations, subject to following conditions:

a. Cracked areas shall be reworked as shown in figure 2-93, and stripped areas refinished as described in paragraph 2-113.

b. Cracks shall be monitored for further propagation in service per paragraph 2-113 and in accordance with the applicable inspection publications.

c. If aircraft experiences a hard or abnormal landing, such as large roll angles, inspection shall be performed as described in paragraph 2-113 and in accordance with the applicable inspection publications. If inspection per paragraph 2-113 reveals cracking in excess of the permissible limits in figure 2-93, the rib must be repaired or replaced before continued normal flight operations. However, a one-time ferry flight to depot facilities for rib repair or replacement may be permitted, subject to the following conditions being placarded in the cockpit.

(1) Speed: 400 KEAS, or 0.8 Mach whichever is less.

(2) Load Factor: N_Z = 3.0 to 0.0, symmetrical flight.

(3) Landing shall be consistent with normal nonarrested field type landing.

2-115. Negligible Damage and Corrosion Removal Limits. Dents up to 0.060 in depth are negligible, provided radius of depression is not less than 2 inches.

a. The allowable depths of damage and corrosion are as follows:

(1) Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

(2) Blended damage may be a maximum of 0.010 in depth and unlimited in length. If a crack is found that cannot be blended out within negligible damage limits, the damage shall be referred to local engineering for disposition.

For rework procedure, refer to TO 1F-4C-3-1-5. Refinish the blended area in accordance with the corrosion control procedure in TO 1F-4C-3-1-6.

b. Cracks occurring in the forward portion of upper inboard flange of intermediate landing gear rib, 32-11416 shall be classified as follows:

(1) Condition 1 cracks are longitudinal, approximately parallel to the web line, or, if not longitudinal, terminate in one of the forward two bolt holes, are at least 1/4-inch from the web, and do not extend aft of second flange bolt hole.

NOTE

Aircraft with Condition 1 cracks may be flown without limitations. However, it is mandatory that postflight inspections be made to ensure that crack growth has not exceeded Condition 1 limits.

(2) Condition 2 cracks exceed Condition 1 limits.

CAUTION

Refer Condition 2 cracks to local engineering for disposition.

2-116. Repairs. Since ribs are forgings, repairs other than blending of damage shall not be made, except rib, 53-11045, see paragraph 2-117. The pads are too small for practical repair.

2-117. Side Brace Actuator Striking Rib Assembly, 53-11045. See figure 2-84.

a. If projection is found on the actuator rib, 53-11045, it shall be removed by grinding.

CAUTION

Do not grind below surface lines of two adjoining surfaces.

2-118. Replacement. Replacement of ribs is not practical at organizational/field maintenance. See figure 2-90 for preplacement of drag beam pads and figure 2-91 for replacement of intermediate MLG rib shrink link bushings.

2-119. Intercostal and Missile Well. The wheel well intercostal extends diagonally between the fuselage side wall and main spar. It consists of several 7178 alclad sheet webs with 7178 alclad stiffeners and cap angles. The missile well structure is along the center fuselage sidewall between the intercostal and rear spar. It consists of vertical formers of 7075 alclad sheet fastened to 7075 alclad angle at the top and a 7075 aluminum alloy extruded hinge at the bottom. Refer to paragraph 2-125 for hinge information.

2-120. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 are negligible, provided the radius of the depression is not less than 2 inches. The allowable depth of damage and corrosion is as follows:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage may be a maximum of 0.010 in depth and unlimited in length.

For rework procedure, refer to TO 1F-4C-3-1-5. Refinish the reworked area in accordance with the corrosion control procedure in TO 1F-4C-3-1-6.

2-121. Patch Repairs. The intercostal web is the only structure practical to repair by patching. Refer to TO 1F-4C-3-1-5 for typical web repairs. The other structural parts are too small for practical repair, except for 53-11064-7, -15 intercostal, 32-11146 channel, and 53-11028 clip. Refer to paragraph 2-122.

2-122. Repair. If 53-11064-7, -15 intercostal is cracked repair per figure 2-85. If 32-11146 channel is cracked, repair or replace per figure 2-86. If 53-11028 clip is cracked, repair or replace per figure 2-87.

2-123. Insertion Repairs. Repairs are not practical because of size of the parts.

2-124. Replacement. Easily formed angles, clips, and brackets shall be replaced when negligible damage limits are exceeded. Refer to TO 1F-4C-3-1-1 for typical fabrication methods.

2-125. Hinges. The hinges are on the missile well structure for the inboard landing gear door and on main landing gear intermediate rib for the outboard landing gear door. The hinges are machined from 7075 aluminum alloy extrusions.

2-126. Negligible Damage and Wear Tolerances. For negligible damage and wear tolerance limits, refer to paragraphs 2-199 and 2-198.

2-127. Repairs. Repairs to hinges are not practical; replacement is recommended.

2-128. Replacement. Hinges damaged beyond negligible damage and wear limits should be replaced by removing existing fasteners and installing the replacement hinge with the same type of fasteners. See figure 2-94 or 2-94A for fastener index for inboard hinge and figure 2-95 for outboard hinge.

2-129. **INBOARD TRAILING EDGE.** See figures 2-60, 2-82, and 2-83.

2-130. The inboard trailing edge extends from the rear spar to the trailing edge flap hinge line and from the center fuselage sidewall to main landing gear aft rib. The upper and lower skins are flush riveted, with most of the lower surface recessed for the speed brake. The trailing edge flap is supported by a piano type hinge along the lower edge of the flap closure beam.

2-131. SKINS. The upper surface consists of one large chemically milled, 7178 aluminum alloy skin, see figure 2-69, and two small cover plates. One cover plate covers the wing to fuselage attach bolt at FS 359, while the other covers the boundary layer control center plenum on the trailing edge on F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566 and provide cover for trailing edge flap actuator on F-4E 66-287, AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G. The lower surface consists of several 7178 aluminum alloy skins, some of which are chemically milled. Seals are located on upper and lower inboard surfaces and on aft closure beam. Seals are extruded channel rubber and impregnated Dacron cloth, molded (LS53) core wrapped in cloth (Dacron) and bonded to an aluminum strip and a 301 corrosion-resistant steel strip. Allowable gap and mismatch of skins and cover plates are discussed in TO 1F-4C-3-1-1.

2-132. Negligible Damage and Corrosion Removal Limits for Upper Closure Skin. Dents to 0.060 are negligible provided radius of dent is 2 inches or greater. Limits for other negligible damage and corrosion are given in figure 2-66.

2-133. Negligible Damage, Corrosion Removal, and Repair Limits for Trailing Edge Skins, Except Upper Closure Skin. Dents up to 0.060 in depth are negligible provided radius of depression is not less than 2 inches. The allowable depth of damage and corrosion is as follows:

WARNING

Flame spray operations must be performed in an approved exhaust ventilated booth. The provisions of AFOSH Standards 161-1, 161-2, and 127-31 will be strictly adhered to regarding the adequacy of respiratory protection, ventilation, and personal protective clothing and equipment.

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage and corrosion may be a maximum of 0.010 in depth and unlimited in length.

c. Flame spray worn flange on skin, 53-11020, when wear on flange is between one-fourth and three-fourth of original dimension of 0.090. Flame spray with aluminum-bronze per MIL-STD-869 and dress to original configuration. Final dressing may be required during installation of skin. Replace skin if wear exceeds three-fourth of original thickness.

d. Flame spray worn flange on skin, 53-11022, when wear on flange is between 0.040 and 0.090 of original dimension of 0.110. Flame spray with aluminum-bronze per MIL-STD-869 and dress to original configuration. Final dressing may be required during installation of skin. Replace skin if wear exceeds 0.090 and thickness is less than 0.020.

2-134. Patch Repairs. With the exception of the large upper closure skin, skins and cover plates are too small or

located in areas that make repairs impractical. Figure 2-67 gives a repair for the upper closure skin directly above the speed brake actuator fitting. Repair can be adapted to other areas but requires depot engineering approval.

2-135. Insertion Repairs. Repairs require depot engineering design and approval.

2-136. Crack Repair. For crack repair to 53-11023 skin, see figures 2-71A thru 2-71C.

2-137. Replacement. The small constant gage skins and cover plates can be locally fabricated and replaced. See figure 2-60 for material specification. Figure 2-70 gives installation procedures and fasteners for installing the cover plates. For replacement of 53—11023 skin, see figure 2—69. For replacement of 53—11022 skin, see figure 2—72A. For replacement of seal assembly, 53—11069, see figure 2—61 and for fastener replacement of 53G970418 seal assembly, see figure 2—92.

2-138. STRUCTURE. The basic structure consists of rear spar, flap closure beam, ribs, intercostals, and hinges.

2-139. Rear Spar and Flap Closure Beam. The rear spar forms the forward closure for inboard trailing edge section and is a machined forging. The material for the rear spar is 7079 or 7075 aluminum alloy. The flap closure beam consists of an extruded hinge that forms the closure web and part of the lower mold line surface and two caps running along the upper edge of the web section. The material for the two caps is 7178 aluminum alloy.

2-140. Negligible Damage and Corrosion Removal Limits. Cracks are not negligible and are to be repaired. However, paragraph 2—141 gives permissible crack criteria for inboard rear spar, 53—11038, upper cap with unrestricted flight limitations. Dents to 0.060 in depth are negligible, provided radius of depression is not less than 2 inches. The allowable depth of damage and corrosion is as follows:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage and corrosion may be a maximum of 0.010 in depth and unlimited in length.

For rework procedure, refer to TO 1F-4C-3-1-5. Refinish the blended area in accordance with corrosion control procedure in TO 1F-4C-3-1-6.

2-141. Rear Spar Inboard, 53-11038, Upper Cap Crack Limits for Unrestricted Flight. Cracks of various magnitude occur in the upper spar cap. These cracks generally originate at a fastener hole and propagate toward adjacent fasteners. Because of critical location of these cracks, limits are established which permit temporary continued unrestricted flight until crack can be repaired. For crack limits, see figure 2-96.

2-142. Patch Repair. Repairs to beam assembly may be made according to the applicable repair illustration in TO 1F-4C-3-1-5. For incorporation of repair fitting, 7530895, see figure 2-85A.

2-143. Insertion Repair. Repairs are not practical at organizational/field maintenance.

2-144. Crack Repair. For crack repair of 53-11029 channel, see figure 2-88.

2-145. Replacement. Replacement of parts other than small, easily fabricated parts, is not practical at organizational/field maintenance.

2-145A. Inboard Rear Spar, 53-11038, Damaged Holes. For repair of damaged fastener hole in the inboard rear spar, 53-11038, see figure 2-85B.

2—145B. Negligible Damage Limits and Replacement Requirements. The angle attached to the inboard rear spar has negligible damage limits established. For negligible damge limits, and replacement requirements, see figure 2—85C.

2-146. Ribs and Intercostals. Eight ribs and several intercostal assemblies are in the inboard trailing edge section. The main landing gear aft rib is 7075 machined aluminum alloy forging. The canted rib at BL 82.40 is a 7075 machined aluminum alloy forging. The inboard rib is 7075 aluminum alloy sheet and the remaining ribs are 7178 alclad sheet. The intercostals are 7075 alclad or 7178 aluminum alloy sheet. The hinge is 7075 aluminum alloy.

2-147. Negligible Damage and Corrosion Removal Limits. Dents up to 0.060 in depth are negligible, provided radius of depression is not less than 2 inches. The allowable depth of damage and corrosion is as follows:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage and corrosion may be a maximum of 0.010 in depth and unlimited in length.

For rework procedure, refer to TO 1F-4C-3-1-5. Refinish blended area in accordance with corrosion control procedure in TO 1F-4C-3-1-6.

2-148. Patch Repairs. Figure 2-97 gives a repair for cracks in web, 53-11041, using external patch installed with blind fasteners. This web is between the hinge points in the speed brake well. Refer to TO 1F-4C-3-1-5 for typical repairs to other sheet metal webs and flanges. Repairs of main landing gear aft rib are not practical.

2-149. Insertion Repairs. Repairs are not practical at organizational/field maintenance.

2-150. Crack Repair, 32-11212. For repair of 32-11212 support, see figure 2-103.

2-151. Crack Repair, 32-11215. For repair of 32-11215 angles, see figure 2-104.

2—152. Replacement. Replacement of parts at organizational/field maintenance is limited to small easily fabricated angles and brackets, 53—11041 web, 32—11212 support, 32—11215 angles, 32—11019 clips and cap, and 32—11589 fitting which are replaceable.

2—152A. Replacement of Speed Brake Fitting, 53—11034. Fitting shall be replaced whenever cracks are detected in region surrounding bearing. For replacement of fitting, see figure 2—104A.

2—153. Replacement of Web, 53—11041—35, —36. For replacement of web, see figure 2—105.

2-154. Replacement of Support, 32-11212. For replacement of support, see figure 2-106.

2-155. Replacement of Angles, 32-11215. For replacement of angles, see figure 2-107.

2-155A. Replacement of Clips and Cap, 32-11019. For replacement of clips and cap, see figure 2-92A.

2-155B. Replacement of Fitting, 32-11589. For replacement of fitting, see figure 2-92B.

2-155C. Trailing Edge Flap Actuator Area Cap, 53-11058, Repair. For repair, see figure 2-92C.

2-156. Hinges. The only hinge that is part of inboard trailing edge structure is the trailing edge closure beam lower cap. The hinge extends the full length of structure and forms lower mold line skin.

2-157. Negligible Damage and Wear Tolerances. Negligible damage and wear limits are discussed in paragraph 2-196.

2-158. Repairs. Repair to hinge is not practical at organizational/field maintenance.

2-159. Replacement. Replacement of hinge is not practical at organizational/field maintenance.

2-160. OUTBOARD TRAILING EDGE. See Figures 2-60, 2-71A, 2-83 and 2-84.

2-161. The outboard trailing edge extends from the main spar to the aileron closure beam and from the main landing gear aft rib to the wing fold rib BL 160.00. The upper surface consists of two access doors, one skin panel and a recessed area which is partially covered by a pan assembly. The lower surface is covered by one large flush riveted skin panel and one small fairing. The fuel dump mast has its own skin and a small fairing. The internal structure consists of spars, closure beam, ribs and intercostals. The access doors and pan assembly are discussed in TO 1F-4C-3-1-3.

2-162. SKINS. The skin panel on the upper surface is chemically machined from 7075 aluminum alloy sheet, see figure 2-71. The large lower skin panel is chemically machined from 7178 aluminum alloy plate. The small fairing is AZ63 magnesium. The upper and lower fuel dump mast skins are constant gage 7178 alclad sheet and the small fairing is 356 aluminum alloy. Allowable gap and mismatch limits are contained in TO 1F-4C-3-1-1, unless otherwise noted on figure 2-60.

2-162A. Outboard Trailing Edge Lower Closure Skin Notching. Skins, 32-11023 and 53-111023, may be notched to gain access to lower aft spar cap fasteners. See figure 2-71D. Notching may be performed on all F-4 aircraft.

2-163. Negligible Damage and Corrosion Removal Limits for Lower Closure Skins. Dents up to 0.060 in depth are negligible provided radius of dent is 2 inches or greater. Limits for other negligible damage and corrosion are given in figure 2-72. For rework procedure, refer to TO 1F-4C-3-1-5. Refinish the blended area in accordance with corrosion control procedure in TO 1F-4C-3-1-6.

2-164. Negligible Damage and Corrosion Removal Limits for Outboard Trailing Skins, Except Lower Closure Skin. Dents up to 0.060 in depth are negligible, provided radius of depression is not less than 2 inches. The allowable depth of damage and corrosion is as follows:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage and corrosion may be a maximum of 0.010 in depth and unlimited in length.

2-165. Repairs. With the exception of the large lower closure skin and fuel dump mast skins, skins and fairings are too small or in areas impractical for repairs. Repairs to the lower closure skin panel requires depot engineering design and approval, except where technical order repairs are applicable. For fuel dump mast skins repair refer to paragraph 2-171.

2-166. Skin, 53-11020, Inspection, Rework, and Replacement. For inspection and replacement of skin, see figure 2-73.

2-167. Skin, 53-11043, Inspection and Replacement. For inspection and replacement of skin, see figure 2-74.

2-168. Skin, 32-11205, Inspection and Replacement. For inspection and replacement of skin, see figure 2-75.

2-169. Lower Surface Strap, 32G970395, Fastener Index. For fastener replacement, see figure 2-76.

2-170. Lower Surface Strap, 53G110064, Fastener Index. For fastener replacement, see figure 2-77.

2-170A. Skin, 32-11193, Repair. For repair of skin 32-11193, see figure 2-77A.

2-171. Fuel Dump Mast Skin Repair. At the first sign of impending failure, noted by loose, elongated or working rivets, or attach bolts, repair per figure 2-78. If skin is cracked, repair per figure 2-80A. If not preveiously accomplished, repair of aft wing fold rib per paragraph 2-189 should be incorporated since access will be readily available.

2-172. Replacement. The upper fixed skin may be replaced by locally fabricating the skin, using the same material and fasteners as removed. For replacement of 32-11255 and 32-11256 wing fold fairings, see figure 2-81. For fuel dump mast replacement, see figure 2-80. When fuel dump mast is replaced, repairs per figures 2-78, 2-79, and 2-101 should be incorporated. See figure 2-79 for repair of fuel dump mast assembly. The fuel dump mast repair includes modifying the forward intercostal and installing a replacement fuel dump tube modified in accordance with AF drawing 69D27006 to incorporate a rubber wedge configuration molded to the tube in the area corresponding to the aft intercostal. For replacement of 32-11023 and 53-111023 skin, see figure 2-73A.

2-172A. Loose Attachment Fasteners, 32-11023 or 53-111023, Lower Aileron Closure Skin to 32-11527 Aileron Actuator Fitting. When fasteners are found to be loose, the following procedure applies.

NOTE

Fasteners used in this joint are NAS334 or NAS584, secured with self-aligning nuts and bases.

a. Remove fasteners.

b. Examine holes for cracks in fitting, spar, and skin.

c. If holes are elongated or damaged:

(1) Ream to 0.3120 (+0.0017/-0.0000).

(2) Inspect holes for cracks in fitting, spar, and skin. If no cracks remain, treat holes for corrosion control per T.O. 1F-4C-3-1-6.

(3) Install bolts, NAS585 of proper length, self-aligning nuts, 67992N524, and nut bases, 67992W524 or equivalent. Torque nuts 100 to 140 inch-pounds.

d. If holes are not damaged, install proper length bolts, NAS584, new nut bases, 67992W428, and self-aligning nuts, 67992N428. Torque nuts 50 to 70 inch-pounds.

e. One NAS1670-4L9 is affected in this area. If this fastener is loose, remove and replace with NAS1670-5L9.

f. If holes are cracked or damaged beyond 0.3120, contact OO-ALC/LACE, Hill AFB, Utah 84056, for assistance.

2-173. **BEARING PLATES.** See figures 2-36 and 2-60. A bearing plate, 32-11353-15, should be installed on left and right side outboard trailing edge lower closure skins, 32-11023, 53-111023, as shown in figure 2-60, to prevent chafing wear and corrosion of the skin by the pylon structure. Refer to paragraph 2-179 for installation procedure.

2-174. Negligible Damage. Damage is cause for replacement.

2-175. Repairs. Repairs are impractical.

2-176. Replacement. Bearing plates that have been lost or damaged are to be replaced per paragraph 2-179.

2-177. Tools and Equipment.

Brush, paint

2-178. Materials.

Sheet stock, 0.010, 301 corrosion-resistant steel, Specification MIL-S-5059, condition 1/2 hard

Sealant, see T.O. 1F-4C-3-1-6

Cheesecloth, Federal Specification CCC-C-440

Mat, Abrasive, Specification MIL-A-9962

2-179. Procedure.

a. Select bearing plate part number from figure 2-60 and fabricate from 0.010 301 corrosion-resistant steel, Specification MIL-S-5059 condition 1/2 hard, sheet stock per figure 2-36. Perforations of plates shall be made using a 0.125 drill if perforated stock is not obtainable.

b. Scuff bond surface of bearing plate with abrasive mat and water.

c. Clean bond areas of wing and bearing plate with solvent.

WARNING

Provide adequate ventilation when using sealant, Specification MIL-S-81733. Avoid skin and eye contact. Do not use near flame, spark or other source of ignition.

CAUTION

Do not bond when temperature of sealant or structure is below 50°.

d. Bond with sealant. Apply sufficient sealant to either surface to fill all perforations to flushness and provide continuous sealant squeeze-out around periphery of the bearing plate.

e. Locate bearing plate and press down to squeeze excess sealant from bond line. The sealant has sufficient body or substance to support the bearing plate during cure. Use clamps to hold plates until sealant is tack-free when there is danger of movement. Do not use silicone based grease on suction cups.

f. Sealant must be cured to a tack-free, firm, rubbery condition, prior to trimming and clean-up.

g. On leading edge bearing plates, chamfer the forward edge as necessary if mismatch limits are exceeded per T.O. 1F-4C-3-1-1, contour smoothness requirement diagram.

2-180. **STRUCTURE.** Basic structure consists of ribs, intercostals, spars, fittings, and hinges. The structure is divided into two classifications: formed sheet and forgings, with exception of hinges which are extruded and discussed separately.

2-181. Ribs, Webs, and Intercostals (Formed Sheet). Ribs between the main and rear spars and closure rib aft of the aft wing fold fitting are formed 7075 alclad sheet, with the exception of outer rib between the spars which is 7075 aluminum alloy

sheet. Webs are part of the trailing edge closure beam and are housed between the extruded hinge legs; these members are formed 7075 alclad sheet. Intercostals are part of the fuel dump mast structure and are formed 2024 alclad sheet.

2-182. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 in depth are negligible, provided radius of depression is not less than two inches. The allowable depth of damage and corrosion is as follows:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage and corrosion may be a maximum of 0.010 in depth and unlimited in length.

2-183. Patch Repairs. Repairs of spars and beam are impractical at organizational/field maintenance. However, figure 2-98 gives a repair for inboard spoiler hardpoint.

2-183A. Repair for Outboard Trailing Edge Pylon Restraint Seat. If the outboard trailing edge pylon aft restraint seat is found loose, the following action is to be taken.

a. Remove outboard pylon per T.O. 1F-4( )-2-10.

b. Remove, aft pylon restraint seat, 32-11191.

c. Penetrant inspect rib, 32-11183, for cracks around restraint seat hole.

d. If the cracks are found, install temporary repair as shown in figure 2-99A and contact OO-ALC/LACE.

e. If no cracks are found, finish reworked area in accordance with T.O. 1F-4C-3-1-6.

f. Reinstall restraint seat, 32-11191.

g. Add 0.125 (+0.004/-0.000) diameter hole and pin, MS16562-39, as shown in figure 2-99.

2-183B. Aft Pylon Restraint Seat, 32-11191, Replacement. When an aft pylon restraint seat, 32-11191, is installed, add a pin, MS16562-39, as shown in figure 2-99.

2-184. Insertion Repairs. Repairs are not practical at organizational/field maintenance.

2-185. Replacement. Replacement of most parts at organizational/field maintenance is not practical. For replacement of the inboard spoiler hardpoint see figure 2-100.

2-186. Ribs-Spars and Aft Wing Fold Fitting (Forgings). The ribs in the outboard section are of various types and construction. The four ribs between the main and rear spars are formed 7075 alclad sheet. The three ribs between the rear spar and aileron closure beam are 7075 machined aluminum alloy forgings. The two ribs of the fuel dump mast are formed 7178 alclad sheet. The aft wing fold fitting is a machined 4340 steel forging.

2-187. Negligible Damage and Corrosion Removal Limits. Dents to 0.060 in depth are negligible, provided radius of depression is not less than two inches. The allowable depth of damage and corrosion is as follows:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage and corrosion may be a maximum of 0.010 in depth, unlimited in length. For rework procedure, refer to T.O. 1F-4C-3-1-5. Refinish blended area in accordance with corrosion control procedure in T.O. 1F-4C-3-1-6.

2-188. Repairs. Refer to T.O. 1F-4C-3-1-5 for typical repairs to sheet metal ribs. For repair to aft wing fold rib, refer to paragraph 2-189. For clearance rework between outer wing aft locking lug and center wing hinge bushings, refer to paragraph 2-190. For repair to rib, 32-11057, see figure 2-107A and for repair to rib, 32-11059, see figure 2-107 B.

2-189. Wing Fold Rib, 32-11010 and 32G11040, Repair. If rib is cracked, attach holes elongated or fuel dump mast is replaced or removed for repair per paragraph 2-171, repair wing fold rib per figure 2-101.

2-190. Center Wing Hinge Bushing and Outer Wing Aft Locking Lug Clearance Rework. To obtain required clearance between center wing hinge bushings and outer wing aft locking lug the center wing hinge bushing flanges may be filed, ground or machined. The clearance is 0.000 to 0.030 at the upper and lower forward face, 0.030 to 0.060 at the lower aft face. Surface roughness is to be 0.125 or more.

2-191. Replacement. Replacement of ribs and aft wing fold fitting is not practical at organizational/field maintenance.

2-192. Hinges. There are two hinged areas of the outboard trailing edge structure. The trailing edge beam hinge, that mates with aileron assembly and the spoiler support hinge mating to both inboard and outboard spoilers. The trailing edge beam consists of a two piece extruded hinge, with inboard segment being 4340 steel alloy and outboard being 7075 aluminum alloy. The spoiler support hinge is a machined 7075 aluminum alloy extrusion.

2-193. Negligible Damage and Wear Tolerances. For negligible damage and wear limits, refer to paragraph 2-196.

2-194. Repairs. For splice joint crack repair, see figure 2-83A.

2-195. Replacement. The trailing edge closure beam hinges that are damaged beyond practical repair limits should be replaced by removing existing fasteners and installing spared hinge using the same type fasteners. See figure 2-102 for replacement procedure.

2-195A. Spoiler Spring Attach Bracket Repair. Spoiler spring attach brackets, 32-11223-719/720, worn to where the metal at the edge adjacent to the hole is 0.100 minimum width shall be repaired, for repair see figure 2-83B.

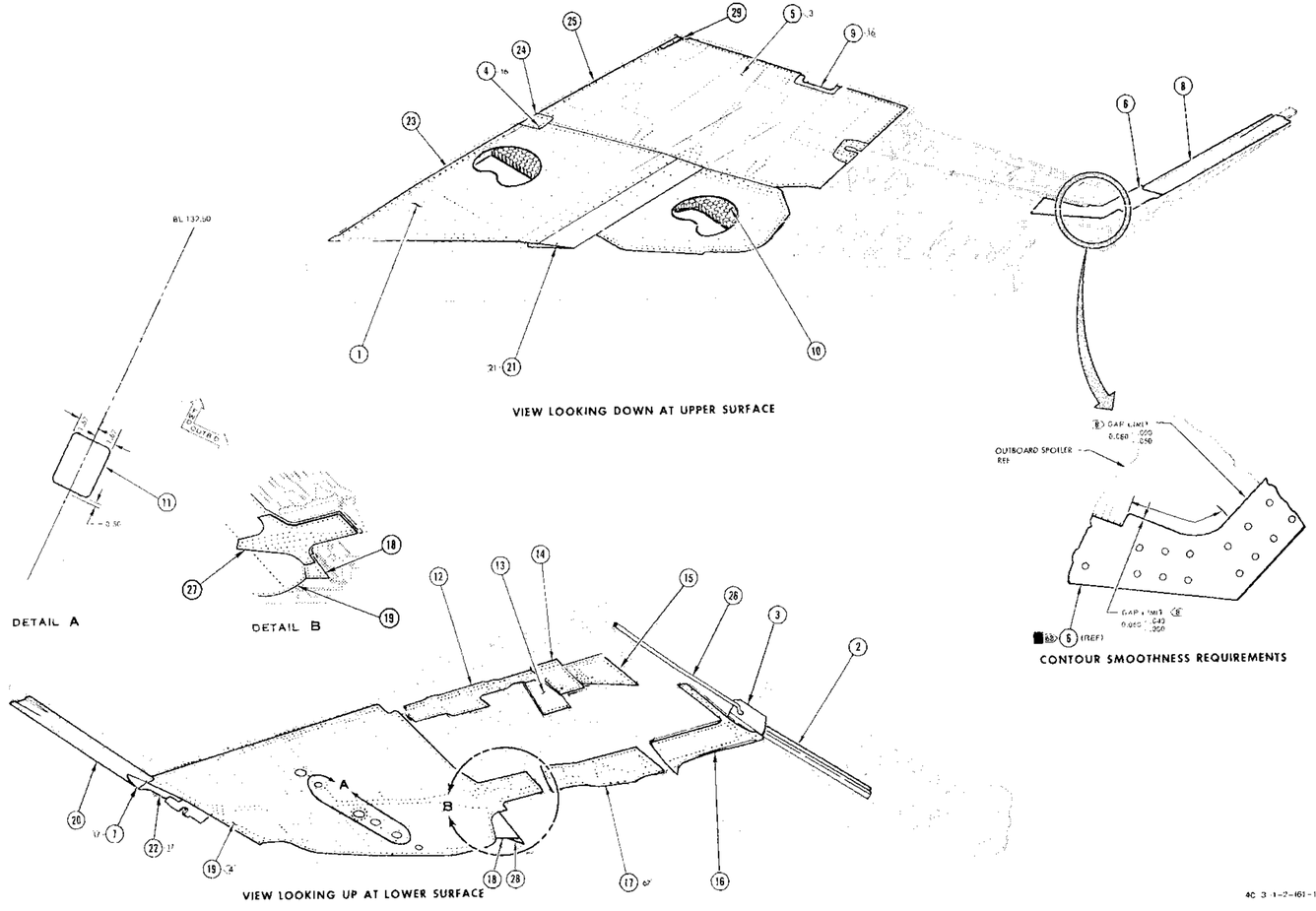


Figure 2-60. Wheel Well and Trailing Edge Skin Repair Index (Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	53-11026-1,-2 (3)	HONEYCOMB ASSY	(12)	(15)	(15)
2	53-11051-1,-2	SEAL	(10)	(12)	(14)
3	53-11029-29,-35	FAIRING	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	53-11029-35,-36	FAIRING	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
4	53-11029-3,-4	COVER PLATE	0.032	7075-T6 AL ALY	QQ-A-250/12 (T6)
5	53-11023-3,-4	SKIN	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-11023-7,-8	SKIN	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-11023-11,-12	SKIN	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53G11023-3-4	SKIN	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53G11023-5,-6	SKIN	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
6	32-11193-3,-4 (48)	SKIN	0.190	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-11193-9,-10	SKIN	0.190	7075-T6 AL ALY	QQ-A-250/12 (T6)
7	32-11236-3,-4	FAIRING	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
8	32-11006-29,-30	UPPER SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-11006-39,-40	UPPER SKIN	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
9	53-11004-19,-20	COVER	0.025	301 CRES	MIL-S-5059 (1/2 H)
	53G11004-97,-98	COVER	0.025	301 CRES	MIL-S-5059 (1/2 H)
10	32-11027-301,-302 (6)	HONEYCOMB ASSY	(15)	(15)	(15)
11	32-11353-15 (20)	BEARING PLATE	0.010	301 CRES	MIL-S-5059 (1/2 H)
12	53-11004-15,-16	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-11004-27,-28	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	53-11004-17,-18	WEB	0.100	7075-T6 ALCLAD	QQ-A-250/13 (T6)
14	32-11905-11,-12 (44)	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
15	53-11043-3,-4 (45)	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-11043-5,-6 (46)	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
16	53-11090-3,-4 (47)	SKIN	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
17	53-11022-3,-4	SKIN	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-11022-7,-8 67	SKIN	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
18	32-11419-3,-4	FILLER	0.250	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-11419-5,-6	FILLER	0.250	2024-T4 AL ALY	QQ-A-250/4 (T4)
	53-111419-3,-4	FILLER	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
19	32-11023-15,-16	SKIN	(4)	7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-11023-45	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-11023-51	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-11022-55,-56	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32G11023-7	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-11023-17,-18	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-11023-49	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32G11023-44	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32G11023-9	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-11023-53	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-11022-47	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32G11023-15,-16	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32G11023-17	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32G11023-19,-21	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32G11023-43	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
	53-111023-5,-6	SKIN		7178-T651 AL ALY	QQ-A-250/14 (T651)
20	32-11006-5,-6	LOWER SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-11006-37,-38	LOWER SKIN	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
21	53-11050-3,-4	FAIRING	CASTING	A356-T6 AL ALY	MIL-A-21180 (T6)
22	32-11255-5 (18)	FAIRING	CASTING	AZ63 MAGNESIUM	QQ-M-56 (HT)
	32-11255-6 (18)	FAIRING	CASTING	AZ63 MAGNESIUM	QQ-M-56 (HT)
	32-11255-7 (18)	FAIRING	CASTING	AZ63A MAGNESIUM	QQ-M-56 (T4)
	32-11255-8 (19)	FAIRING	CASTING	AZ63A MAGNESIUM	QQ-M-56 (T4)
23	32-11052-169,-170	SEAL	(9)	(9)	AMS3345
24	53-11029-9,-10	SEAL	(11)	(13)	(13)
25	53-11029-11,-12	SEAL	(11)	(13)	(13)
26	53-11069-1,-2 (35)	SEAL	(10)	(12)	(14)
27	53-11004-3,-4 (55)	STRAP	0.250	7178-T76 AL ALY	QQ-A-250/21 (T76)
	32G970095-5,-6	STRAP	0.250	7178-T76 AL ALY	QQ-A-250/21 (T76)
28	53-111081-5	FILLER	0.190	2024-T3 AL ALY	QQ-A-250/4 (T3)
29	53-11029-59,-60	STRIP	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)

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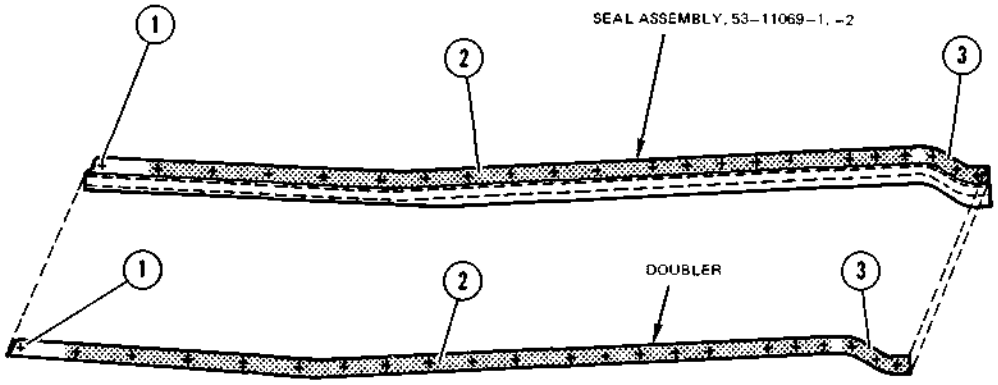
Figure 2-60. Wheel Well and Trailing Edge Skin Repair Index (Sheet 2 of 3)

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. ACCESS OPENINGS PER TO 1F-4C-3-1-3.
3. FOR SKIN THICKNESS, SEE FIGURE 2-65.
4. FOR SKIN THICKNESS, SEE FIGURE 2-71.
5. SEE FIGURE 2-24 FOR REPLACEMENT WHEN REPLACING HONEYCOMB SKIN PANEL. USE 0955-1 KIT FOR INSTALLATION FASTENERS.
6. SEE FIGURE 2-64 FOR REPLACEMENT WHEN REPLACING HONEYCOMB SKIN PANEL. USE 0958-1 KIT.
7. FOR FASTENER REPLACEMENT, SEE FIGURE 2-77.
8. TO OBTAIN INCREASED CLEARANCE REMOVE MATERIAL FROM THE FIXED SKIN. FLUSHNESS AND MISMATCH ALLOWANCES PER TO 1F-4C-3-1-1.
9. 11M723 EXTRUDED CHANNEL.
10. RUBBER-SILICONE, POLYESTER AND DACRON CLOTH.
11. 11M631 EXTRUDED CHANNEL.
12. RUBBER AND IMPREGNATED DACRON CLOTH.
13. MIL-R-6855 GR60 CLASS II.
14. THE SEAL ASSEMBLY CONSISTS OF A MOLDED (LS53) CORE WRAPPED IN CLOTH (DACRON) AND BONDED TO AN ALUMINUM STRIP.
15. HONEYCOMB ASSEMBLY IS 0.003 FOIL X 1/8 INCH CELL PERFORATED, 5052-H39 ALUMINUM ALLOY, MIL-C-7438G. SKINS ARE 0.025 UPPER AND 0.016 LOWER 7075-T6 ALCLAD, QQ-A-250/13(T6).
16. FOR FASTENER REPLACEMENT, SEE FIGURE 2-70.
17. FOR FASTENER REPLACEMENT, SEE FIGURE 2-81.
18. LEFT SIDE.
19. RIGHT SIDE.
20. FOR FABRICATION AND INSTALLATION OF BEARING PLATE, REFER TO TEXT.
21. FOR FASTENER INDEX, SEE FIGURE 2-63.
22. F-4C, F-4D 64-929 THRU 65-770 AND RF-4C 63-7742 THRU 66-386 AND 66-388.
23. F-4D 65-771 THRU 66-8825, RF-4C 66-387 AND 66-389 THRU 72-156, F-4E, AND F-4G.
24. RF-4C 63-7742 THRU 68-561 LEFT SIDE; F-4C AND RF-4C 63-7742 THRU 68-561 RIGHT SIDE; FOR FUTURE PROCUREMENT ON F-4C, USE 32-11023-47 LEFT SIDE AND 32-11023-45 RIGHT SIDE.
25. F-4D AND F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 RIGHT SIDE; ALSO F-4E 66-287, 66-296 THRU 68-365 RIGHT SIDE BEFORE TO 1F-4E-566.
26. F-4C 63-7598 THRU 64-928, F-4E 66-284 THRU 71-1402, F-4G, F-4D, AND RF-4C 64-997 THRU 72-156.
27. F-4C 63-7407 THRU 63-7507 AND RF-4C 63-7742 THRU 63-7745.
28. F-4C, F-4D 64-929 THRU 65-719 AND RF-4C 63-7742 THRU 65-930.
29. F-4D 65-720 THRU 66-8825, RF-4C 65-931 THRU 72-156, F-4E, AND F-4G.
30. F-4C, F-4D 64-929 THRU 65-762 AND RF-4C 63-7742 THRU 65-940.
31. F-4D 65-763 THRU 66-8825, RF-4C 65-941 THRU 72-156, F-4E, AND F-4G.
32. F-4C, F-4D 64-929 THRU 64-963 AND RF-4C 63-7742 THRU 65-864.
33. F-4D 64-964 THRU 66-8825, RF-4C 65-865 THRU 72-156, F-4E, AND F-4G.
34. F-4E 67-220 THRU 67-365 LEFT SIDE.
35. F-4C LEFT SIDE.
36. F-4E 66-287, 66-296 THRU 67-219 BEFORE TO 1F-4E-566.
37. F-4C, F-4D, F-4E 66-284 THRU 66-286,AND 66-288 THRU 66-295 AND RF-4C 63-7742 THRU 68-561; ALSO F-4E 66-287, 66-296 THRU 68-365 BEFORE TO 1F-4E-566.
38. F-4E 68-366 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4C 68-562 THRU 72-156.
39. RF-4C 68-562 THRU 71-252 RIGHT SIDE. FUTURE PROCUREMENT FOR F-4C.
40. F-4E 68-366 THRU 71-236 RIGHT SIDE BEFORE TO 1F-4E-566.
41. F-4E 68-366 THRU 71-236 LEFT SIDE BEFORE TO 1F-4E-566. FUTURE PROCUREMENT FOR RF-4C.
42. F-4C 63-7508 THRU 64-928, AND RF-4C 63-7746 THRU 72-156, F-4D, F-4E, AND F-4G.
43. RF-4C 68-562 THRU 71-252 LEFT SIDE.
44. F-4C 63-7407 THRU 63-7597 AND RF-4C 63-7742 THRU 63-7763.
45. FOR REPLACEMENT SEE FIGURE 2-61.
46. F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4C; ALSO, F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
47. F-4E 71-237 THRU 71-1402.
48. F-4E 66-284 THRU 71-236, AND RF-4C 63-7742 THRU 71-252, F-4C, F-4D, AND F-4G.
49. F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
50. RF-4C 71-253 THRU 72-156.
51. F-4E 72-121 AND UP.
52. F-4E 66-284 THRU 71-1093, AND RF-4C 63-7742 THRU 71-259, F-4C, F-4D, AND F-4G.
53. F-4E 71-1391 AND UP AND RF-4C 72-145 THRU 72-156.
54. F-4E 71-237 THRU 71-1402 AND RF-4C 71-253 THRU 72-156.
55. FOR FASTENER REPLACEMENT, SEE FIGURE 2-77.
56. F-4E 66-287, 66-296 THRU 66-365 AFTER TO 1F-4E-566.
57. F-4E 68-366 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
58. F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
59. F-4E 66-287, 66-296 THRU 67-219 LEFT SIDE, 66-287, 66-296 THRU 68-365 RIGHT SIDE, AFTER TO 1F-4E-566.
60. F-4E 67-220 THRU 68-365 LEFT SIDE AFTER TO 1F-4E-566.
61. F-4E 68-366 THRU 71-236 AFTER TO 1F-4E-566 AND F-4G.
62. F-4E 72-1482 AND UP. FUTURE PROCUREMENT FOR RF-4C.
63. FOR REPLACEMENT, SEE FIGURE 2-73.
64. FOR REPLACEMENT, SEE FIGURE 2-75.
65. FOR REPLACEMENT, SEE FIGURE 2-74.
66. F-4E 66-287 THRU 68-538, F-4E/G 69-236 THRU 69-7585, RF-4C 67-7742 THRU 71-252, F-4C, AND F-4D.
67. FOR REPLACEMENT, SEE FIGURE 2-72A.
68. FOR REPAIR OF SKIN 32-11193, SEE FIGURE 2-77A.

4C-3-1-2-(61-3)M

Figure 2-60. Wheel Well and Trailing Edge Skin Repair Index (Sheet 3 of 3)



L/H VIEW LOOKING OUTBOARD

REPAIR PROCEDURE FOR EDGE DELAMINATION

A. FABRICATE DOUBLER FROM 0.050 2024-T3 ALLUMINUM ALLOY TO MATCH CONTOUR OF SEAL FLANGE.
B. MATCH DRILL SEAL AND DOUBLER TO EXISTING FASTENER HOLES ON WING STRUCTURE.
C. INSTALL MS21059L-3 PLATENUTS ON INBOARD SIDE OF DOUBLER USING MS20426DD-3 RIVETS, FLUSH ON OUTBOARD SIDE OF DOUBLER.
D. ATTACH DOUBLER TO INBOARD SIDE OF SEAL FLANGE USING A MS20426DD-4 RIVET AT LOCATION 1 AND AT LOCATIONS CENTERED BETWEEN EVERY SECOND PLATENUT, ALL FLUSH WITH OUTBOARD SIDE OF FLANGE
E. LOCATE PARTS ON AIRCRAFT AND INSTALL USING NAS1669-08L JO-BOLTS AND NAS464-3 BOLTS AND AN960-10 WASHERS.
F. FINISH REWORK AREA PER CORROSION CONTROL PROCEDURES IN TO 1F-4C-3-1-6.

REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	M520246DD4-3			0.128 +.004 -.000
2	NAS464-3	MS21059L-3	AN960-10	0.190 +.005 -.000
	M520246DD4-3 ⟨2⟩			
3	NAS1669-08L			0.165 +.005 -.000
A/R	MS20426DD-4			0.128 +.005 -.000

Notes

1. ALL FASTENERS TO BE OF PROPER GRIP LENGTH.
⟨2⟩ TWO (2) REQUIRED PER PLATENUT.

4C-3-1-2-(246)91

Figure 2-61. Seal Assembly, 53-11069-1,-2 Replacement

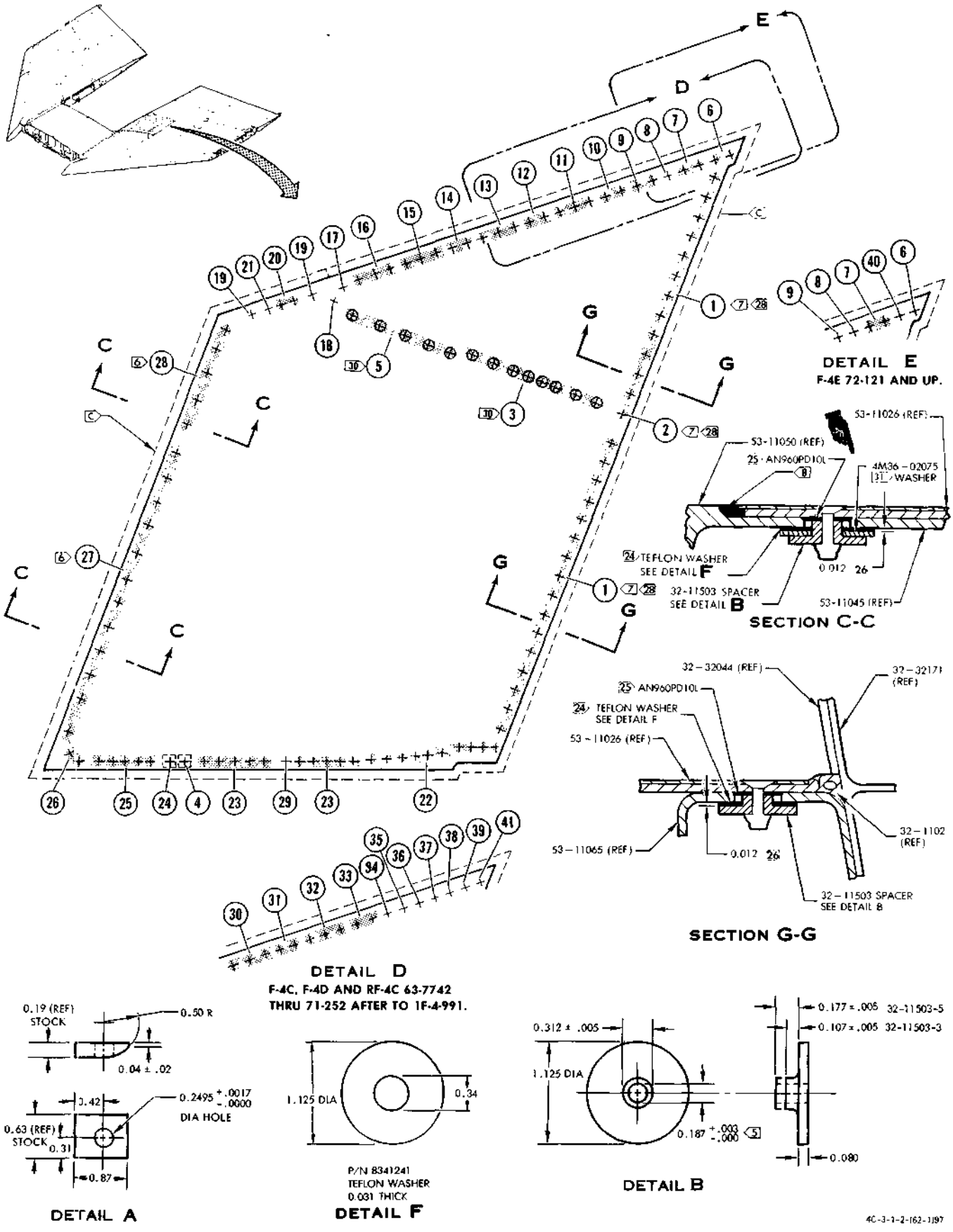


Figure 2-62. Main Landing Gear Wheel Well Skin, 53-11026, Fastener Index (Sheet 1 of 3)

REF NO.	FASTENER	NUT	COLLAR	WASHER	SPACER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1436-8 [27]		NAS1080C6	AN960D10L	32-11503-3 [4]		0.187 +.003 -.000
2	NAS1670-3L9 [27]			AN960D10L	32-11503-3 [4]		0.199 +.003 -.000
3	NAS333CFA7	MS21042-3		AN960D10		20-25	0.1900 +.0017 -.0000
4 16	NAS1438-9		NAS1080C8		32-11002-167 [3]		0.245 +.003 -.000 [9]
17	NAS1438-6		NAS1080C8				0.245 +.003 -.000 [9]
5	NAS333CFA6	MS21042-3		AN960D10		20-25	0.1900 +.0017 -.0000
6 14	NAS1440-21		NAS1080C10				0.3120 +.0017 -.0000
15	NAS1440-21		NAS1080-10				0.3120 +.0007 -.0000
21	TL100-5-26 [20]	TLN1020L5N		TLN1020L5W			[19]
7 14	NAS1440-22		NAS1080C10		53-11060-3,-4		0.3120 +.0007 -.0000
15	NAS1440-22		NAS1080-10		53-11060-3,-4		0.3120 +.0007 -.0000
21	TL100-5-27 [20]	TLN1020L5N		TLN1020L5W			[19]
8 14	NAS1440-23		NAS1080C10		53-11060-3,-4		0.3120 +.0007 -.0000
	NAS1440-23		NAS1080-10		53-11060-3,-4		0.3120 +.0007 -.0000
21	TL100-5-27 [20]	TLN1020L5N		TLN1020L5W			[19]
9 14	NAS1440-24		NAS1080C10				0.3120 +.0007 -.0000
15	NAS1440-24		NAS1080-10				0.3120 +.0007 -.0000
21	TL100-5-27 [20]	TL1020L5N		TLN1020L5W			[19]
10 14	NAS1440-25		NAS1080C10		53-11060-3,-4		0.3120 +.0017 -.0000
15	NAS1460-25		NAS1080-10		53-11060-3,-4		
11	NAS1440-26		NAS1080C10		53-11060-3,-4		
12	NAS1440-27		NAS1080C10		53-11060-3,-4		
13	NAS1440-28		NAS1080C10		53-11060-3,-4		
14 15	NAS1440-29		NAS1080C10		53-11060-5,-6		
15	NAS1440-29		NAS1080C10		53-11060-7,-8		
15 16	NAS1440-30		NAS1080C10		53-11060-5,-6		
15	NAS1440-30		NAS1080C10		53-11060-7,-8		
16 16	NAS1440-31		NAS1080C10		53-11060-5,-6		
15	NAS1440-31		NAS1080C10		53-11060-7,-8		
17 16	NAS1440-32		NAS1080C10		53-11060-5,-6		
15	NAS1440-32		NAS1080C10		53-11060-7,-8		
18	NAS1440-13		NAS1080C10				0.3120 +.0017 -.0000
19 15	NAS1438-33		NAS1080C8		53-11060-5,-6		0.2495 +.0017 -.0000
15	NAS1438-33		NAS1080C8		53-11060-7,-8		
20 15	NAS1438-34		NAS1080C8		53-11060-5,-6		
15	NAS1438-34		NAS1080C8		53-11060-7,-8		
21 15	NAS1438-35		NAS1080C8		53-11060-5,-6		
15	NAS1438-35		NAS1080C8		53-11060-7,-8		
22	NAS584-6T	RM52LH2935-048 2935-04 [2]		AN960D416L		50-70	0.2495 +.0017 -.0000
23	NAS1438-6		NAS1080C8				0.245 +.003 -.000 [9]
24 10	NAS1438-6		NAS1080C8		32-11002-167 [3]		0.245 +.003 -.000 [9]
11	NAS334CFA7	RM52LH2935-048 2935-04 [2]				50-70	0.2495 +.0017 -.0000
25	NAS1438-7		NAS1080C8				0.245 +.003 -.000 [9]
26	NAS334CFA7-5	RM52LH2935-048 2935-04 [2]				50-70	0.2495 +.0017 -.0000
27	NAS1436-7 [27]		NAS1080C6	AN960D10L	32-11503-5 [4]		0.187 +.003 -.000
28	NAS1670-3L7			AN960D10L	32-11503-5 [4]		0.199 +.003 -.000
29 10	NAS1438-6		NAS1080C8				0.245 +.003 -.000 [9]
11	NAS334CFA7	RM52LH2935-048 2935-04 [2]				50-70	0.2495 +.0017 -.0000
30	HL551-10-29		HL579-10				0.3120 +.0022 -.0000
31	HL551-10-28		HL579-10				0.3120 +.0022 -.0000
32	HL551-10-27		HL579-10				0.3120 +.0022 -.0000
33 15	HL551-10-26		HL579-10				0.3120 +.0022 -.0000
15	HL553-10-26		HL587-10				0.3120 +.0022 -.0000

4C 3-1 2-162-2,84

Figure 2-62. Main Landing Gear Wheel Well Skin, 53-11026, Fastener Index (Sheet 2 of 3)

REF NO.	FASTENER	NUT	COLLAR	WASHER	SPACER	TORQUE (INCH-LB)	HOLE SIZE
34 (16)	HL551-10-25		HL579-10				0.3120 +.0022 -.0000
(17)	HL553-10-25		HL587-10				0.3120 +.0022 -.0000
35	TL100-6-26	TLN1020L6N		TLN1020L6W (2)	53-07778-25		(19)
	TL806-6P26	TLN1020L6N		TLN1020L6W	53-07778-25		
36	TL100-6-26	TLN1020L6N		TLN1020L6W	53-07778-25		
	TL806-6M26	TLN1020L6N		TLN1020L6W	53-07778-25		
37	TL100-6-25 (20)	TLN1020L6N		TLN1020L6W	53-07778-25		
	TL806-6L25 (18)	TLN1020L6N		TLN1020L6W	53-07778-25		
38	TL100-6-26	TLN1020L6N		TLN1020L6W	53-07778-25		
	TL806-6K26	TLN1020L6N		TLN1020L6W	53-07778-25		
39	TL100-6-25	TLN1020L6N		TLN1020L6W	53-07778-27		
	TL806-6G25	TLN1020L6N		TLN1020L6W	53-07778-27		
40 (15)	NAS1440-21		NAS1080C10				0.3120 +.0007 -.0000
(29)	NAS1440-21		NAS1080-10				0.3120 +.0007 -.0000
(21)	TL100-5-27 (20)	TL1020L5N		TLN1020L5W			
(22)	TL100-5-27 (20)	TL1020L5N		TLN1020L5W	53-111012-53 (28)		(19)
41	TL100-6-24 (20)	TL1020L6N		TLN102016W	53-07778-27		

Notes

1. REFER TO TEXT FOR ADDITIONAL INFORMATION ON REPLACING THE HONEYCOMB.
(2) NUT BASE.
(3) SEE DETAIL A.
(4) SEE DETAIL B.
(5) WHEN THIS SPACER IS USED WITH NAS1670-4L JO-BOLTS, DRILL HOLES TO 0.199 +.003 -.000 DIAMETER.
(6) SEE SECTION C-C FOR TYPICAL INSTALLATION OF THESE FASTENERS.
(7) DIMPLE HOLES FOR THESE FASTENERS PER TO 1F-4C-3-1-1.
(8) FILL WITH MIL-S-81733 SEALER PER TO 1F-4C-3-1-6.
(9) 0.2495 +.0017 -.0000 DIAMETER HOLE.
(10) F-4C 63-7407 THRU 63-7568, RF-4 63-7742 AND 66-451 THRU 72-156.
(11) F-4C 63-7469 THRU 64-928, RF-4C 63-7743 THRU 66-450, F-4D, F-4E, AND F-4G.
(12) F-4C 63-7407 THRU 63-7685 AND RF-4 63-7742 THRU 64-1022.
(13) F-4C 63-7686 THRU 64-928, RF-4C 64-1023 THRU 72-156, F-4D, F-4E, AND F-4G.
(14) F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-268, RF-4C 63-7742 THRU 69-359, F-4C, AND F-4D.
(15) F-4E/G 69-269 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 69-360 THRU 72-156.
(16) F-4C, F-4D, AND RF-4 63-7742 THRU 69-359 AFTER TO 1F-4-991.
(17) RF-4 69-360 THRU 71-252.
(18) INSTALL STANDARD TAPER-LOK FASTENERS IN 32-11011 SPAR MATERIAL IS 7075-T7352 ALUMINUM ALLOY OR STEPPED TAPER-LOK FASTENERS IF MATERIAL IS 7079-T651 ALUMINUM ALLOY.
(19) THESE FASTENERS ARE SPECIAL TAPERED FASTENERS AND MUST BE REMOVED AND INSTALLED ONLY BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH TO 1F-4C-3-1-1.
(20) OVERSIZE REPAIR FASTNERS FOR TAPER-LOK FASTENERS.
A. TL100-6, FIRST OVERSIZE TL110-6, SECOND OVERSIZE TL130-6.
B. TL806-6, FIRST OVERSIZE TL816-6, SECOND OVERSIZE TL836-6.
C. TL100-5, FIRST OVERSIZE TL110-5, SECOND OVERSIZED TL130-5.
(21) F-4E 72-121 AND UP.
(22) F-4E 74-00643 AND UP.
(23) F-4E 74-00463 AND UP. FAY SEAL WITH MIL-S-8802 TYPE 1.
(24) MANUFACTURE WASHER FROM 0.031 TEFLON SHEET MIL-P-22241B TYPE 1 GRADE C. WASHERS TO BE INSTALLED UPON REASSEMBLY OF (53-11050) FAIRING FASTENERS OR (53-11065) ANGLE FASTENERS. WASHER PART NUMBER 8341241.
(25) USE AN960PD8L WASHER BETWEEN 32-11503-5, -3 SPACER AND HONEYCOMB SKIN.
(26) INSTALL FASTENER TO HAVE A GAP OF 0.012 ±.005 BETWEEN TEFLON WASHER AND FAIRING, OUTBOARD, OR BETWEEN TEFLON WASHER AND ANGLE, INBOARD.
(27) IF EXISTING FASTENERS ARE REMOVED, REINSTALL THE DESIGN FASTENER WHEN BACKSIDE CLEARANCE IS SUFFICIENT FOR INSTALLATION TOOLING. WHEN INSUFFICIENT ACCESS EXISTS, HL551 HI-LOCKS OR NAS 1581 SCREWS ARE THE PREFERRED SUBSTITUTE FASTENERS. SEE FIGURE 2-64A FOR REPAIR OF DEEP COUNTERSINKS.
(28) SEE SECTION G-G FOR TYPICAL INSTALLATION OF THESE FASTENERS.
29. SUBSTITUTION OF HL19 SERIES FASTENERS FOR NAS1436 THRU 1442 SERIES FASTENERS IS AUTHORIZED FOR THIS APPLICATION.
(30) PANEL CONTAINS SOLID FILLERS IN THIS FASTENER ROW. FASTENERS MUST PASS THROUGH THESE FILLERS.
(31) THIS WASHER MAY ONLY BE USED IF WEAR OF THE 53-11050 FAIRING DOES NOT EXCEED 0.050 (OR 0.016 FOR THE 53-11065 ANGLE).

INSTALLATION PROCEDURE FOR NEW PART

NOTE

BEFORE INSTALLING HONEYCOMB PANEL, INSPECT UNDERSIDE OF ANGLES (53-11065) AND FAIRING (53-11050) FOR WEAR. THE SPACERS (32-11503) RUB ON THESE SURFACES AND CAUSE CONSIDERABLE DAMAGE. MEASURE DEPTH OF WEAR WITH STRAIGHT EDGE AND FEELER GAUGE. REPLACE PART IF WEAR EXCEEDS 0.050 FOR FAIRING OR 0.016 FOR ANGLES. AS AN ALTERNATIVE TO REPLACEMENT, FAIRING (53-11050) MAY BE REPAIRED PER PARAGRAPH 2-109A.

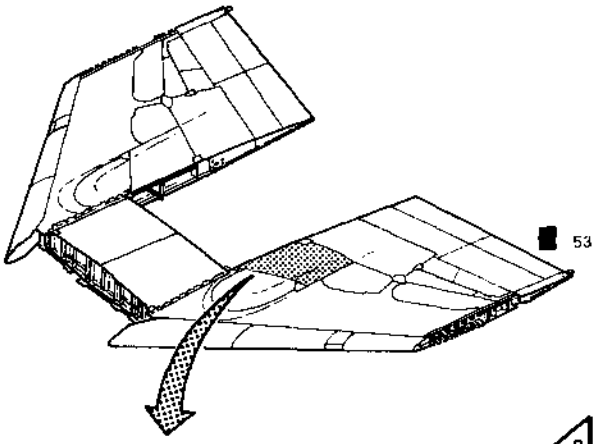
A. LOCATE AND MARK SOLID FILLERS IN PANEL (IT MAY BE NECESSARY TO X-RAY PANEL TO LOCATE FILLERS.)
B. LOCATE PANEL BY CENTERING SOLID FILLERS OVER APPROPRIATE FASTENER ROWS.
(C) MARK AND TRIM PANEL EDGES.
D. MATCH DRILL FASTENER HOLES THROUGH FILLERS.
E. LOCATE AND DRILL REMAINING HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFER TO TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLE. COUNTERSINK HOLE TO RECEIVE FASTENER.
F. REFINISH TRIMMED EDGE, FASTENER COUNTERSINKS, AND HOLES ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6. FAY SEAL LEADING AND TRAILING EDGE ONLY.

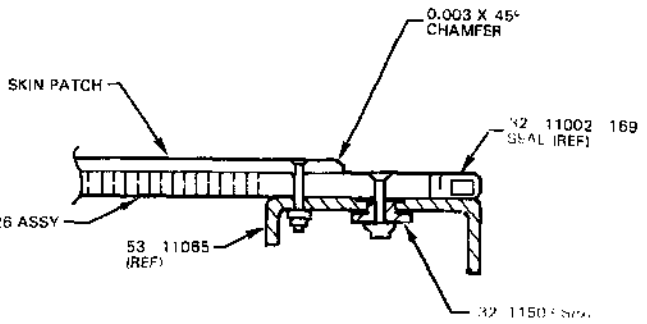
NOTE

WHENEVER FASTENERS LOCATED THRU 53-11026 PANEL AND 53-11050 FAIRING OR 53-11065 ANGLE ARE REMOVED, REINSTALL WITH TEFLON WASHER ARRANGEMENT PER SECTION C-C OR SECTION G-G AS APPLICABLE.

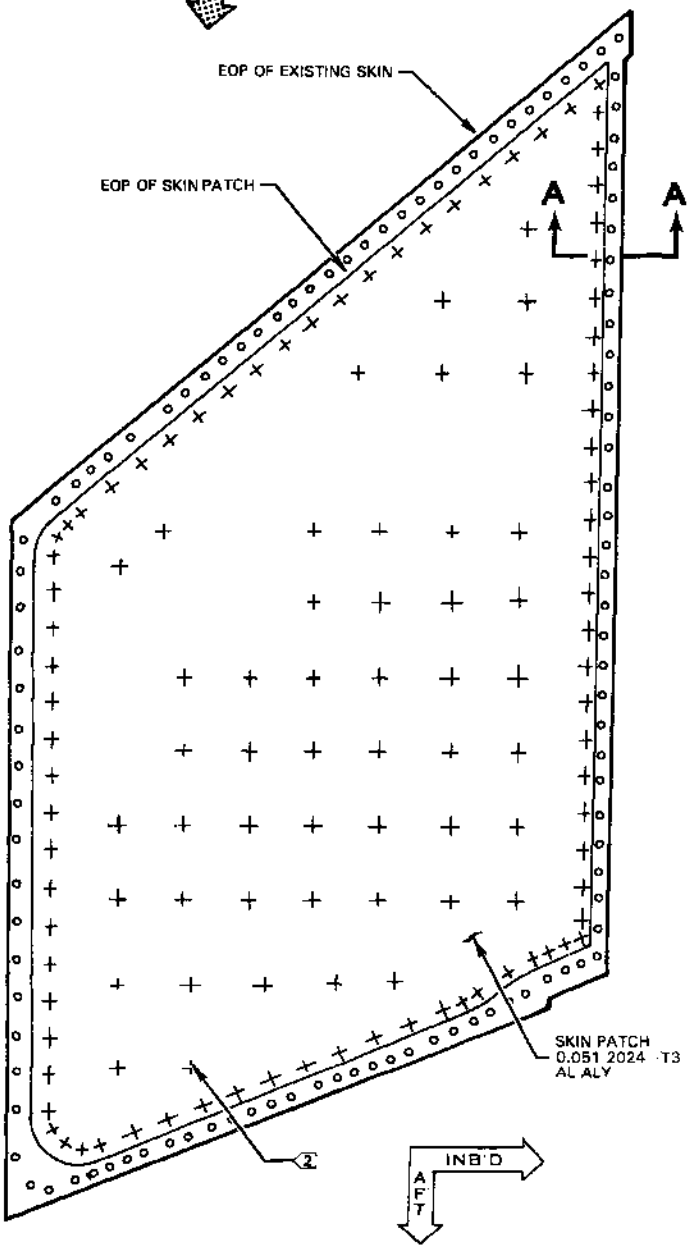
4C-3-1-2-(62-3)97

Figure 2-62. Main Landing Gear Wheel Well Skin, 53-11026, Fastener Index (Sheet 3 of 3)





SECTION A-A



REPAIR PROCEDURE

A. CLEAN TOP SURFACE OF SKIN PER TO 1F-4C-3-1-6.

B. MAKE PATCH FROM 0.051 2024-T3 ALUMINUM ALLOY. TRIM SKIN PATCH TO FIT BETWEEN FIRST AND SECOND ROW OF PERIPHERY FASTENERS, EXCEPT ON INBOARD EDGE. INBOARD EDGE TO PICK UP EXISTING FASTENERS. ALLOW ADEQUATE EDGE DISTANCE AROUND EDGE OF PATCH.

C. DRILL OUT SECOND ROW OF PERIPHERY FASTENERS, MS20426AD4. THEN, WORKING FROM WHEELWELL DRILL OUT PLUGGED VENT HOLES. (49 PLACES) INSTALLATION OF PATCH ALSO REQUIRES REMOVAL OF INBOARD ROW OF NAS1436 FASTENERS.

D. MATCH DRILL SKIN PATCH TO MATE WITH REMOVED OR DRILLED OUT FASTENERS AND VENT HOLES. INCREASE ALL HOLES (EXCEPT INBD ROW) TO 0.196 +.006 -.000. COUNTERSINK HOLES IN PANEL. SURFACE AND DIMPLE PATCH PER TO 1F-4C-3-1-1.

E. COVER TOP SURFACE OF 53-11026 SKIN WITH SEALING COMPOUND AND POSITION SKIN PATCH IN PLACE.

F. FASTEN SKIN PATCH TO SKIN ASSEMBLY WITH NAS333CFAL-4 SCREWS, AN970-3 WASHER (OR EQUIV.) AND MS21042-3 NUTS. FASTENER LENGTH TO BE DETERMINED AT INSTALLATION AND MUST SATISFY MINIMUM PROTRUSION REQUIREMENTS OF TO 1F-4C-3-1-1. INBOARD ROW TO UTILIZE EXISTING SIZE AND TYPE, WITH LENGTH AS REQUIRED. TIGHTEN FASTENERS SUFFICIENTLY TO SNUG WASHER. OVERTORQUE MAY CAUSE HONEYCOMB DAMAGE.

G. SEAL PERIPHERY OF PATCH WITH SEALING COMPOUND PER TO 1F-4C-3-1-6.

CAUTION

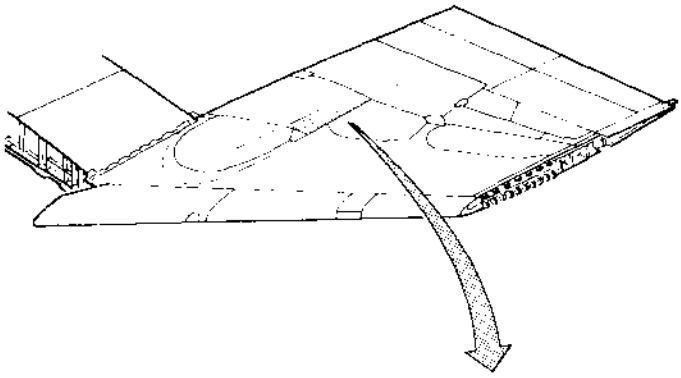
AFTER PATCH INSTALLATION, CHECK TO MAKE SURE THAT FASTENERS DO NOT INTERFERE WITH MLG OR TIRE IN RETRACTION POSITION.

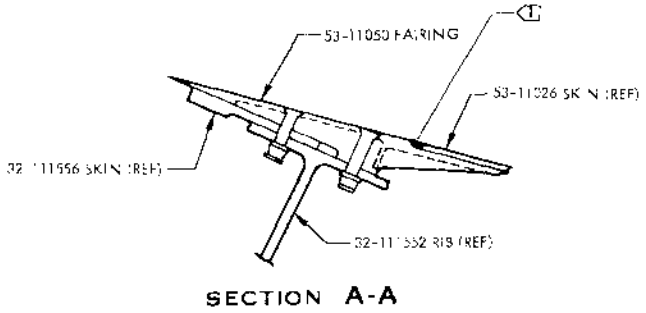
Note

(1) VENT HOLE LOCATION (49 PLACES). REFER TO REPAIR PROCEDURE IN STEP C.

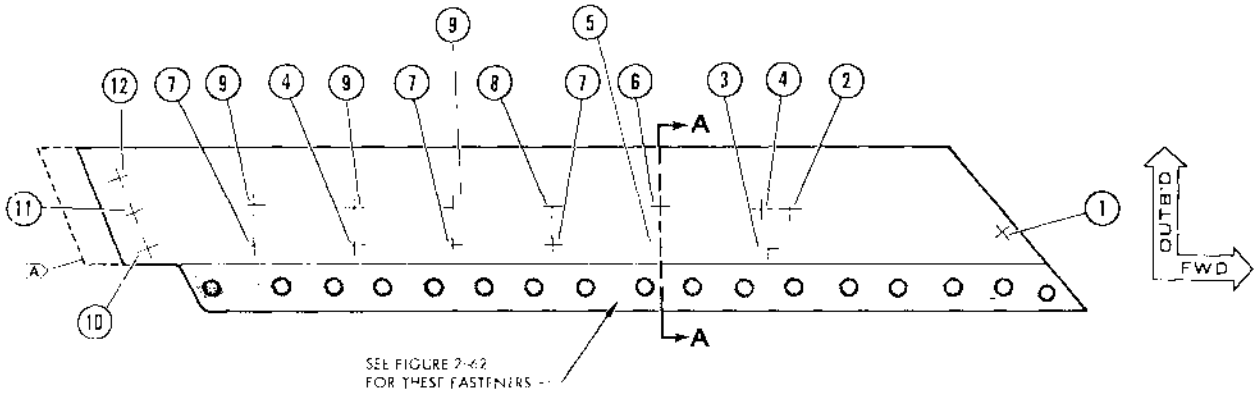
4C-3-1-2 (423:92

Figure 2-62A. Main Landing Gear Wheel Well Skin, 53-11026, Full Area Patch Repair





SECTION A-A



REF NO.	FASTENER	NUT OR COLLAR	WASHER	SHIM OR SPACER	TORQUE (INCH-LB)	HOLE SIZE
1	SPH22-6-24	LH9376-6	AN960D616 (2)		160-190	0.3745 +.0017 -.0000
2	HT6A17	MS21042-6	AN960D616		160-190	0.3745 +.0017 -.0000
3	NAS1670-4L22					0.265 +.003 -.000
4	NAS1670-4L17					0.265 +.003 -.000
5	NAS1670-4L20					0.265 +.003 -.000
6	NAS1670-4L15					0.265 +.003 -.000
7	NAS1670-4L16					0.265 +.003 -.000
8	NAS1670-4L13					0.265 +.003 -.000
9	NAS1670-4L14					0.265 +.003 -.000
10	HT6A20	MS21042-6	AN960D616	32-11002-83	160-190	0.3745 +.0017 -.0000
11	HT6A16	MS21042-6	AN960D616	32-11002-81	160-190	0.3745 +.0017 -.0000
12	HT6A13	MS21042-6	AN960D616	32-11002-81	160-190	0.3745 +.0017 -.0000

Notes

(1) FILL WITH SEALANT MIL-S-81733, PER TO 1F-4C-3-1-6
(2) TWO REQUIRED

INSTALLATION PROCEDURE FOR NEW DOOR

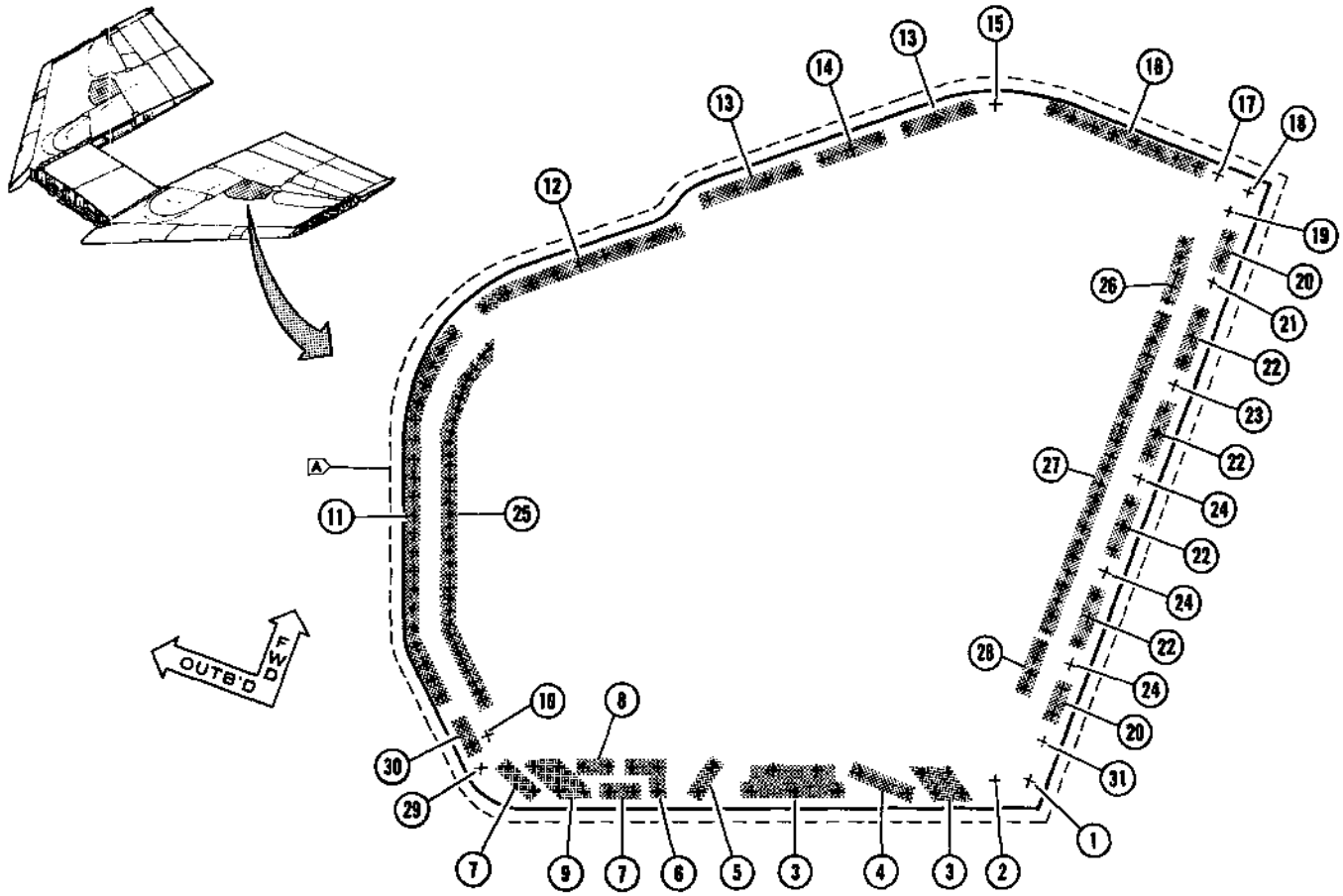
(A) TRIM EDGE TO FIT OPENING. REFER TO T.O. 1F-4C-3-1-1, FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS.

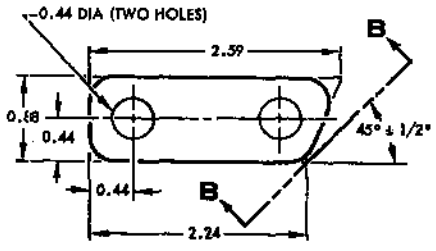
B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (A) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLE. COUNTERSINK HOLE TO RECEIVE FASTENER.

C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

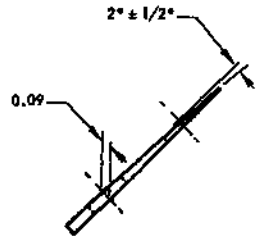
4C 3-1-2 (60)87

Figure 2-63. Main Landing Gear Wheel Well Skin Support Fairing, 53-11050, Fastener Index





DETAIL A



VIEW B-B

4C-3-1-2-(88-1)B

Figure 2-64. Main Landing Gear Strut Well Skin, 32-11027, Fastener Index (Sheet 1 of 2)

REF NO.		FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1		HT6A16 ⟨10⟩	MS21042-6	AN960D616 32-11002-81⟨4⟩	0.3945 +.0017 -.0000
2		HT6A13 ⟨10⟩	MS21042-6	AN960D616 32-11002-81⟨4⟩	0.3945 +.0017 -.0000
3		NAS1438-7	NAS1080C8		0.250 +.003 -.000
4		NAS1438-6	NAS1080C8		0.250 +.003 -.000
5		NAS1438-8	NAS1080C8		0.250 +.003 -.000
6		NAS525-8-11	NAS528A8		0.2495 +.0017 -.0000
7		NAS525-8-10	NAS528A8		0.2495 +.0017 -.0000
8	6	NAS525-8-11	NAS528A8	32-11320-3 ⟨3⟩	0.2495 +.0017 -.0000
	7	NAS525-8-11	NAS528A8	32-11320-5 ⟨5⟩	0.2495 +.0017 -.0000
9		NAS525-8-9	NAS528A8		0.2495 +.0017 -.0000
10		NAS1436-8	NAS1080C6		0.185 +.003 -.000
11		NAS1670-3L6			0.203 +.003 -.000
12		NAS1438-10	NAS1080C8		0.2495 +.0017 -.0000
13		NAS1440-9	NAS1080C10		0.3120 +.0017 -.0000
14		NAS1440-10	NAS1080C10		0.3120 +.0017 -.0000
15		NAS1440-11	NAS1080C10		0.3120 +.0017 -.0000
16		NAS1670-3L5			0.203 +.003 -.000
17		NAS1670-3L9			0.203 +.003 -.000
18		NAS1670-4L17			0.265 +.003 -.000
19	6	NAS1670-4L9			0.265 +.003 -.000
	7	NAS1669-4L9			
20	8	NAS1670-4L7			0.265 +.003 -.000
	9	NAS1669-4L7			
21		NAS1670-4L15			0.265 +.003 -.000
22	8	NAS1670-4L6			0.265 +.003 -.000
	9	NAS1669-4L6			
23		NAS1670-4L13			0.265 +.003 -.000
24		NAS1670-4L14			0.265 +.003 -.000
25		MS20426AD4			0.128 +.014 -.000
26		R3014T5-8	NAS1080-5		0.165 +.003 -.000
27		R3014T5-6	NAS1080-5		0.165 +.003 -.000
28		NAS1670-08L6			0.164 +.003 -.000
29		NAS1438-7	NAS1080C8		0.245 +.003 -.000
30		NAS1438-8	NAS1080C8		0.245 +.003 -.000
31	8	NAS1670-4L15			0.265 +.003 -.000
	9	NAS1669-4L15			

INSTALLATION PROCEDURE FOR NEW DOOR

Ⓐ TRIM EDGE TO FIT OPENING. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS.

B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (-+-) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLE. COUNTERSINK HOLE TO RECEIVE FASTENER.

C. REFINISH TRIMMED EDGE, FASTENER COUNTERSINKS, AND HOLES ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

1. FOR ADDITIONAL INFORMATION ON REPLACEMENT OF HONEYCOMB ASSEMBLY, REFER TO TEXT.
2. FASTENER LENGTHS NOT CALLED OUT IN CHART MUST BE DETERMINED AT TIME OF INSTALLATION.

⟨3⟩ BRACKET.
⟨4⟩ SEE DETAIL A.
⟨5⟩ CLIP.

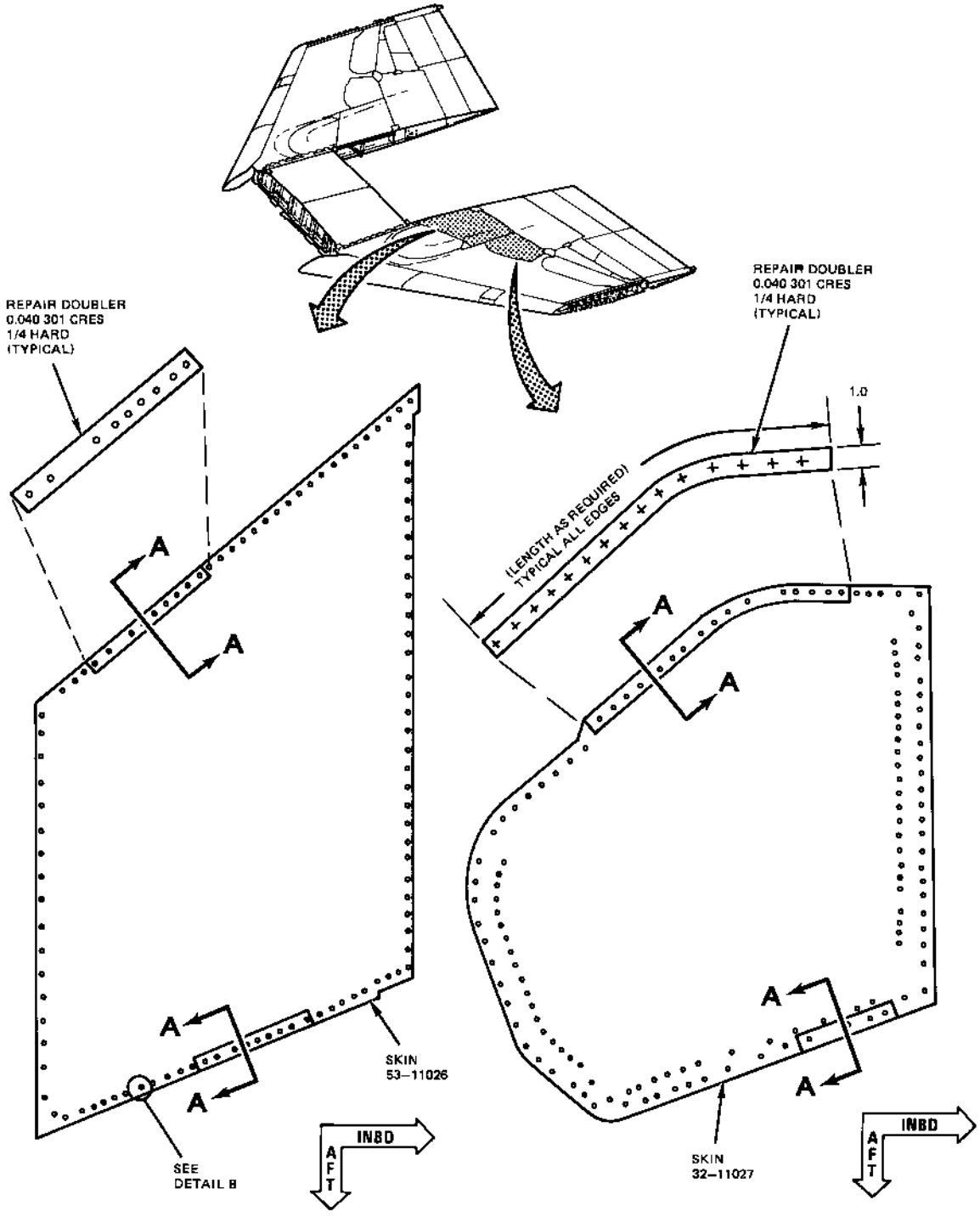
6 F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-249, F-4C, F-4D, AND RF-4C.
7 F-4E/G 69-250 THRU 69-7588, F-4E 69-7589 AND UP.
8 F-4C 63-7407 THRU 64-928, F-4D 64-929 THRU 66-8818, RF-4C 63-7742 THRU 67-435, AND F-4E 66-284 THRU 66-360.
9 F-4C FUTURE PROCUREMENT, F-4D 66-8819 THRU 66-8825, RF-4C 67-436 THRU 72-165 AND F-4E 66-361 THRU 68-538 AND 69-7589 AND UP; ALSO F-4E/G 69-236 THRU 69-7588.

⟨10⟩ TORQUE FASTENER 160 TO 190 INCH POUNDS.

11. SEAL ALL EDGES AND FASTENER HEADS OF FIBERGLASS SKINS WITH A LIGHT COAT OF SEALANT, MIL-S-81733.
12. SUBSTITUTION OF HL19 SERIES FASTENERS FOR NAS1436 THRU 1442 SERIES FASTENERS IS AUTHORIZED FOR THIS APPLICATION.

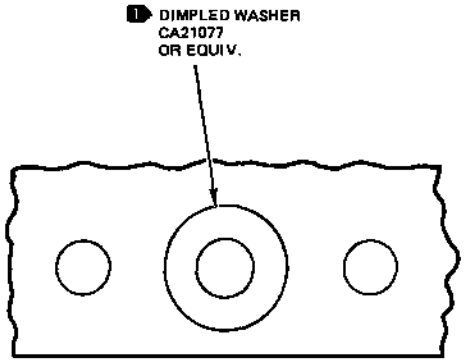
4C-3-1-2-(88-2)87

Figure 2-64. Main Landing Gear Strut Well Skin, 32-11027, Fastener Index (Sheet 2 of 2)

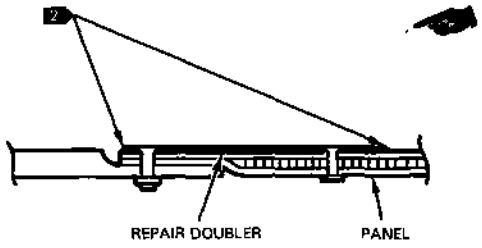


4C-3-1-2-(439-1)

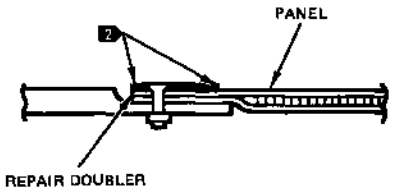
Figure 2-64A. Main Landing Gear Wheel Well Skin 32-11027 and 53-11026 Repair, Delamination, Fastener Pull-Through and Unauthorized Fasteners (Sheet 1 of 2)



DETAIL B
(TYPICAL)



SECTION A-A
(EXTENDED)



SECTION A-A
(TYPICAL)

Notes

1. DIMPLED WASHERS MAY BE USED ON ANY NUMBER OF NON ADJACENT FASTENERS PROVIDED THESE FASTENERS ARE SEPARATED BY GOOD FASTENERS.
2. FILLET SEAL WITH MIL-S-81733.

REPAIR PROCEDURE FOR EDGE DELAMINATION

A. THIS PROCEDURE IS APPLICABLE TO ALL UPPER AND LOWER EDGES OF BOTH 32-11027 AND 53-11026 PANELS.

(1) REMOVE FASTENERS FROM DELAMINATED EDGE.
(2) FABRICATE REPAIR DOUBLER AS SHOWN TO MATCH CONTOUR OF EDGE. MATCH-DRILL TO EXISTING FASTENER HOLES.
(3) COUNTERSINK OR DIMPLE (DEPENDING ON FASTENER HEAD SIZE) DOUBLER AS REQUIRED.
(4) WORK MIL-S-81733 UNDER DELAMINATED SKIN WHERE POSSIBLE.
(5) FINISH REWORKED PANEL AND REPAIR DOUBLER PER 1F-4C-3-1-6.
(6) APPLY MIL-S-81733 SEALANT TO BACK SIDE OF DOUBLER AND INSTALL IT WHILE SEALANT IS WET.
(7) INSTALL DOUBLER WITH ORIGINAL TYPE AND SIZE FASTENER WITH LENGTH AS REQUIRED.
(8) SEAL ALL EDGES AND FASTENER HEADS OF FIBERGLASS SKINS WITH A LIGHT COAT OF SEALANT, MIL-S-81733.

B. FASTENER PULL-THROUGH (HEAD THROUGH SKIN)

(1) REMOVE ORIGINAL FASTENER.
(2) INSTALL DIMPLED WASHER (DETAIL B) WITH MIL-S-81733 SEALANT ON UNDER SIDE. FASTENER TO BE SAME SIZE AND TYPE AS ORIGINAL WITH LENGTH AS REQUIRED.
(3) FINISH PER 1F-4C-3-1-6.
(4) SEAL ALL EDGES AND FASTENER HEADS OF FIBERGLASS SKINS WITH A LIGHT COAT OF SEALANT, MIL-S-81733.

C. UNAUTHORIZED FASTENERS.

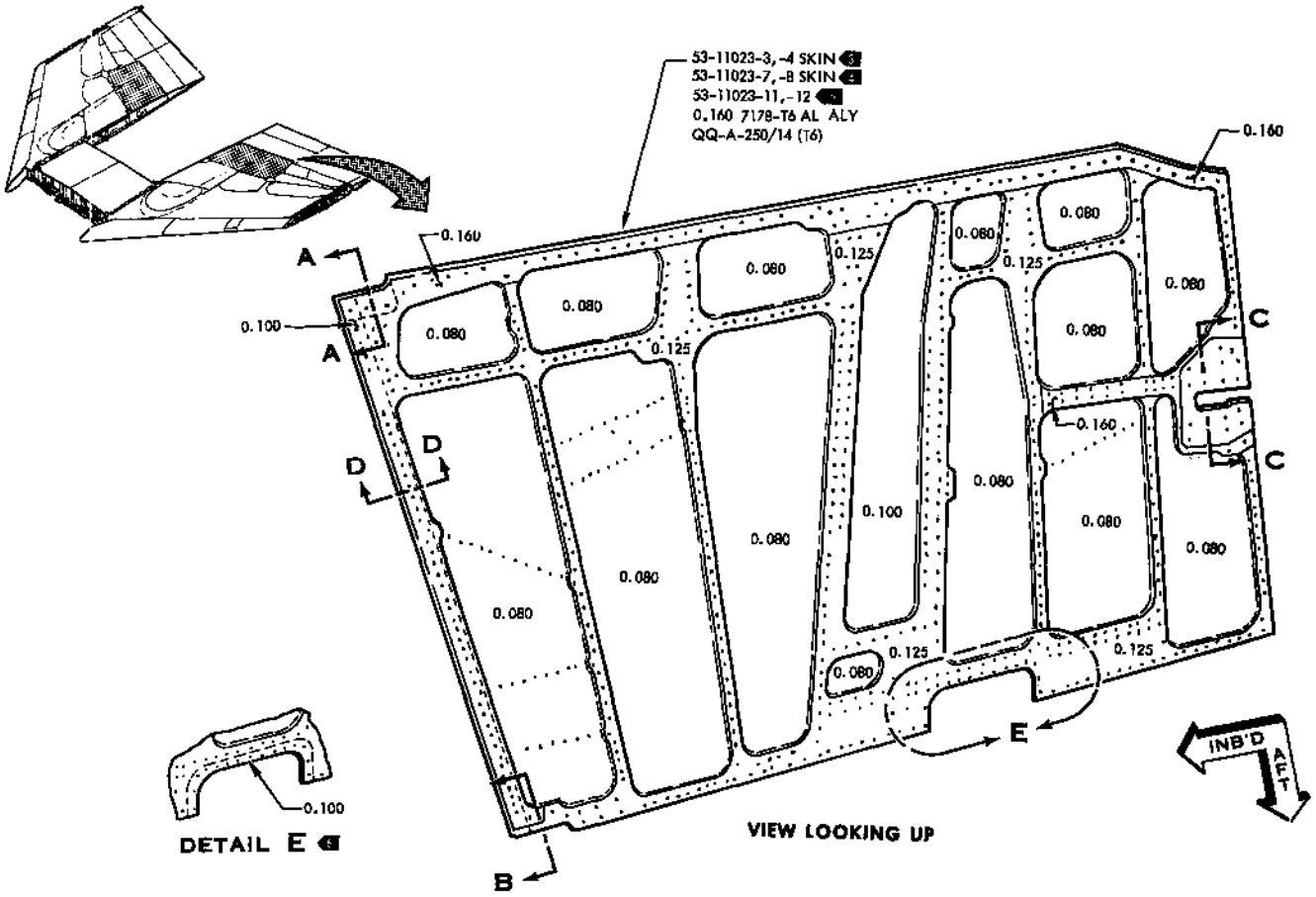
(1) THIS REPAIR IS APPLICABLE WHEN REPLACING THREADED OR OTHER LARGE HEADED FASTENERS WHICH RESULT IN DEEP COUNTERSINKS ALONG THE INBOARD AND OUTBOARD EDGES OF THE 53-11026 SKIN.
(2) DEEP COUNTERSINKS CAN BE REPAIRED BY EITHER DIMPLED WASHERS PER PROCEDURE B OR REPAIR DOUBLER PER PROCEDURE A AS REQUIRED.

D. EXTENDED SECTION A-A REPAIRS.

(1) THIS REPAIR IS APPLICABLE WHEN DAMAGE HAS OCCURRED AT THE ROW OF MS20426AD RIVETS RUNNING PARALLEL TO THE EDGE OF THE PANEL.
(2) CATAGORIZE THE TYPE AND EXTENT OF THE DMAGE AROUND THE RIVETS ACCORDING TO THE GUIDELINES OUTLINED IN TO 1F-4C-3-1-5, SECTION IV.
(3) REPAIR DAMAGED AREA ACCORDING TO THE PROCEDURES AS OUTLINED IN TO 1F-4C-3-1-5, SECTION IV, LEAVING PROPER EDGE DISTANCE FOR THE REINSTALLATION OF NEW MS20426AD RIVETS.
(4) REINSTALL MS20426AD RIVETS THROUGH PATCH REPAIRS FOR CLASS II, IV, V, VI, VII & VIII REPAIRS.

4C-3-1-2-(439-2)93

Figure 2-64A. Main Landing Gear Wheel Well Skin 32-11027 and 53-11026 Repair, Delamination, Fastener Pull-Through and Unauthorized Fasteners (Sheet 2 of 2)



Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. FOR REPAIR, SEE FIGURE 2-68. FOR REPLACEMENT, SEE FIGURE 2-69.

■ ▶ F-4C, F-4D, F-4E 66-284 THRU 68-365, AND RF-4C 63-7742 THRU 68-561 FOR FUTURE PROCUREMENT USE FOLLOWING PART.

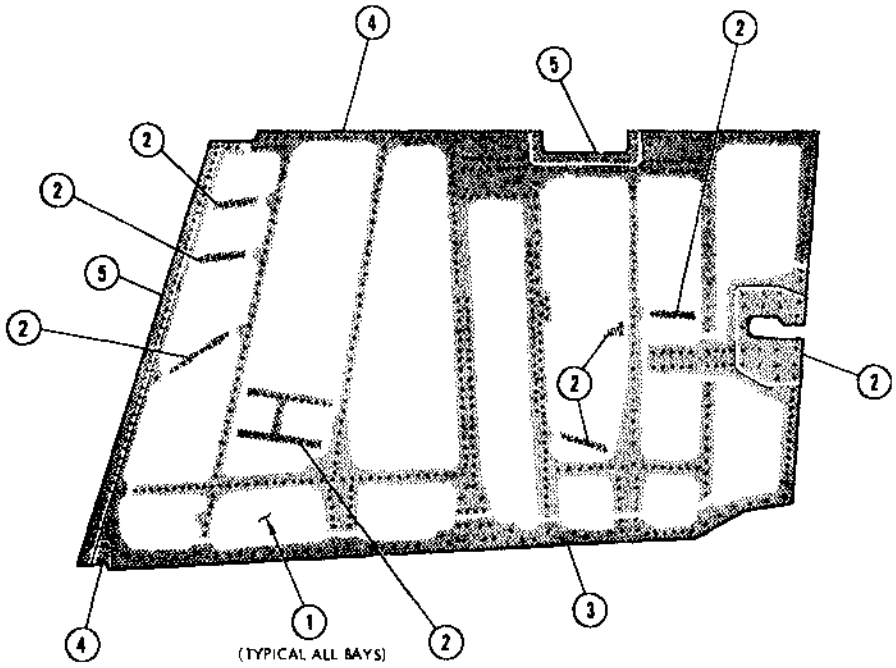
■ ▶ F-4E 68-366 THRU 71-236, RF-4C 68-562 THRU 72-156, AND F-4G. FUTURE PROCUREMENT FOR PRECEDING PART.

■ ▶ F-4E 72-121 AND UP.

■ ▶ F-4E 66-284 THRU 71-1402, F-4C, F-4D, F-4G, AND RF-4C.

4C-3-1-2-(49)E

Figure 2-65. Inboard Trailing Edge Upper Closure Skin, 53-11023 , Diagram



LEGEND

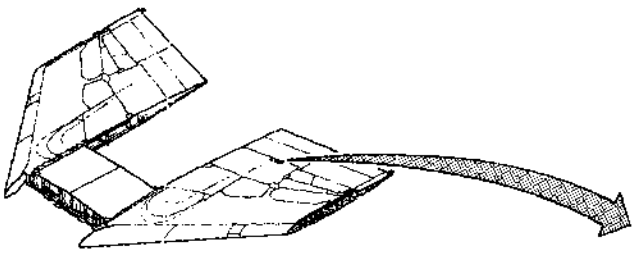
1. UNBLENDED 0.005, AND UNLIMITED IN LENGTH, CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. BLENDED 0.010 AND UNLIMITED IN LENGTH.
2. 0.016 AT 40 PERCENT OF FASTENERS PLUS 0.026 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.026 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
3. 0.032 AT 40 PERCENT OF FASTENERS PLUS 0.053 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.053 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
4. 0.025 AT 40 PERCENT OF FASTENERS PLUS 0.041 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.041 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
5. 0.020 AT 40 PERCENT OF FASTENERS PLUS 0.033 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.033 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.

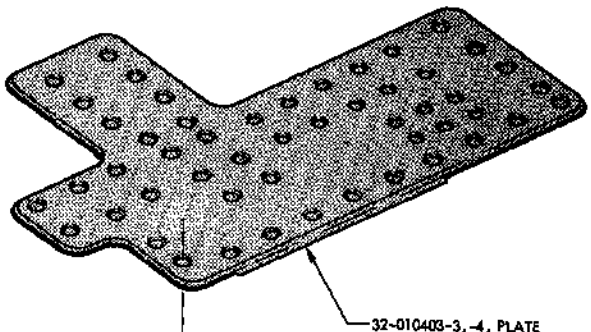
Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS MUST COMPLY WITH THE FOLLOWING RESTRICTIONS:
   - A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
     - (1) THREE TIMES FASTENER DIAMETER IN A DIRECTION PARALLEL TO THE ROW OF FASTENERS.
     - (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN A DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   - B. REMOVAL LIMITS APPLICABLE TO LAND AREAS MUST NOT BE EXTENDED INTO BAY AREAS.
   - C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   - D. METAL REMOVAL MUST BE FOLLOWED BY PROTECTIVE TREATMENT IN ACCORDANCE WITH PROCEDURE IN T.O. 1F-4C-3-1-6.
   - E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

4C-3-1-2-(47)A

Figure 2-66. Inboard Trailing Edge Upper Closure Skin Negligible Damage and Corrosion Removal Limits





EXISTING STRUCTURE

REPAIR PARTS

REPAIR PARTS IN CROSS SECTION

Notes

1. DAMAGE BEYOND THE LIMITS OF THIS REPAIR, MUST BE REFERRED TO ENGINEERING FOR A DISPOSITION.
2. HEAT TREAT OR MARTEMPER TO 150 TO 180 KSI PER MIL-H-6875 OR MIL-S-10699 RESPECTIVELY.
3. VACUUM CADMIUM PLATE 0.0003 TO 0.0005 THICK, TYPE II, CLASS 2, PER MIL-C-9837 (ASG).
4. 100 PERCENT MAGNETIC PARTICLE INSPECTION PER MIL-I-6868.
5. INSTALLED ONLY WHEN -13, -14 FILLER AND -15, -16 PLATE ARE USED.
6. USE AN960D10 WASHERS UNDER NUTS.

REPAIR PROCEDURE

A. CUT OUT DAMAGED AREA PER SHEET 2.

NOTE

A CORROSION-RESISTANT STEEL SHEET, 0.006, MUST BE INSERTED BETWEEN SKIN AND STRUCTURE WHEN ROUTING.

B. FABRICATE REPAIR PARTS. THE -13, -14 FILLER AND -15, -16 PLATE MAY BE SUBSTITUTED FOR THE -3, -4 PLATE FOR EASE OF FABRICATION. THE REPAIR PLATE MUST MATE WING CONTOUR WITHIN 0.005 PER INCH.

C. REMOVE FASTENERS THAT WILL SECURE REPAIR PARTS TO WING.

D. FABRICATE COUNTERSINK PLUGS FOR THE 53-11023 SKIN PER THE PLUG CHART AND PLUG COLUMN IN THE FASTENER CHART. INSTALL PLUGS PER THE FOLLOWING STEPS:
   1. CEMENT PLUGS IN COUNTERSINKS WITH EC2216 A/B.
   2. SHAVE HEAD OF PLUGS FLUSH WITH WING SURFACE.

E. DRILL MATING FASTENER HOLES IN REPAIR PARTS, WING SKIN, AND STRUCTURE PER THE HOLE SIZES IN FASTENER CHART.

F. PREPARE REPAIR PLATE AND MATING SURFACES OF WING STRUCTURE AS FOLLOWS:

WARNING

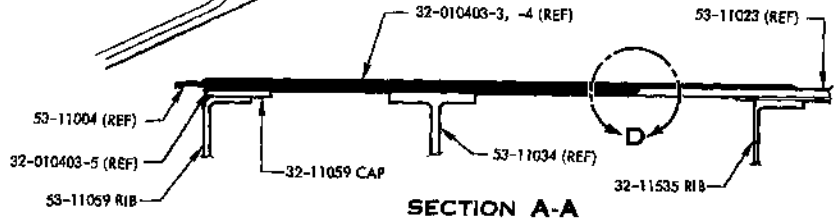
PROVIDE ADEQUATE VENTILATION DURING APPLICATION OF CHEMICAL CONVERSION COATINGS AND EPOXY PRIMER. AVOID PROLONGED OR REPEATED SKIN CONTACT. DO NOT USE/APPLY PRIMER OR COATINGS IN CONFINED SPACE WITHOUT APPROVED RESPIRATORY PROTECTION.

1. CHEMICAL CONVERSION COAT EDGES OF CUTOUT ON WING SKIN.
2. COAT SURFACES OF PLATE AND MATING WING STRUCTURE WITH ONE COAT OF EPOXY PRIMER, MIL-P-23377.
3. APPLY MIL-S-8802 CLASS B2 SEALER TO MATING SURFACES OF REPAIR PARTS AND WING STRUCTURE PARTS SUFFICIENTLY TO FILL VOIDS AND TO PREVENT DISSIMILAR METAL CONTACT.

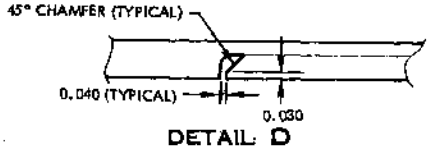
NOTE

COMPLETELY INSTALL FASTENERS WITHIN 24 HOURS AFTER MIXING THE SEALER.

G. PERMANENTLY INSTALL REPAIR PARTS AND FASTENERS.



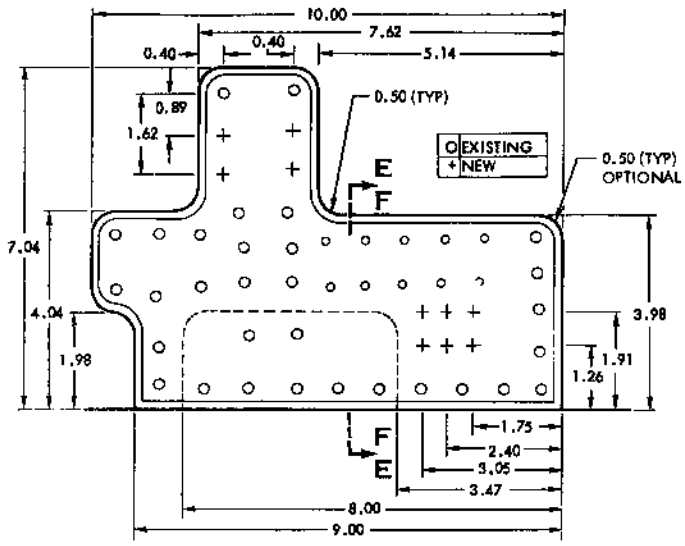
SECTION A-A
THRU ASSEMBLED REPAIR



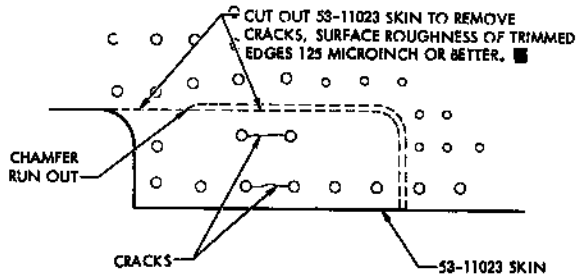
DETAIL D

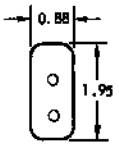
4C-3-1-2-(46-1)C

Figure 2-67. Inboard Trailing Edge Closure Skin, 53-11023, Repair - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 1 of 2)

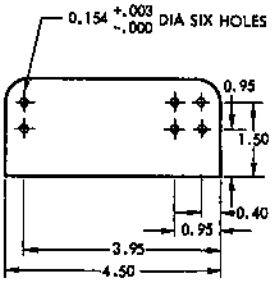


DETAIL B

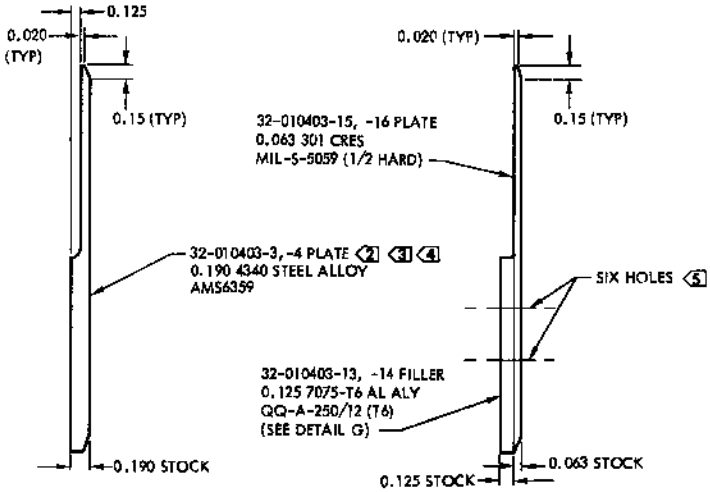




DETAIL C
32-010403-5 FILLER
0.100 7075-T6 AL ALY
QQ-A-250/12 (T6)

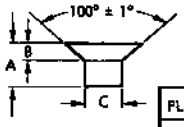


DETAIL G
32-010403-13, -14 FILLER

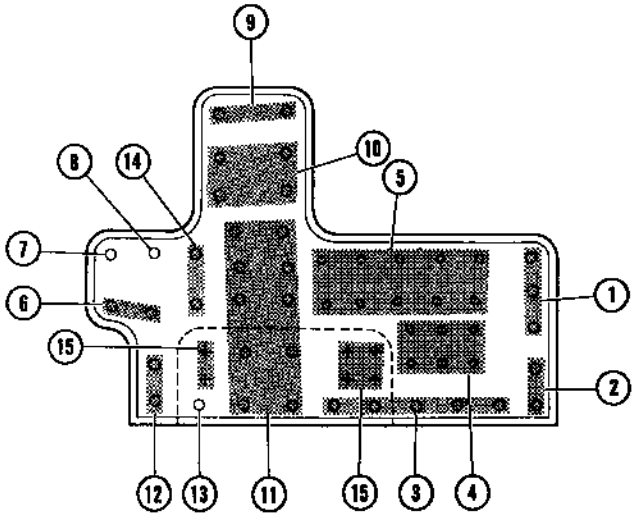


SECTION E-E

SECTION F-F



PLUG NO.	A	B	C
32-101403-7	0.140	0.090	0.188 ± .0015
32-010403-9	0.140	0.055	0.154 ± .002
32-010403-11	0.140	0.090	0.197 ± .002
MS20426DD6-5	0.312	0.070	0.187 +.003 -.001



REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE	COUNTERSINK PLUG IN 53-11023 SKIN
1	NAS1416-6	NAS1080C6	0.188 +.003 -.000	MS20426DD6-5
2	NAS1416-7	NAS1080C6	0.188 +.003 -.000	MS20426DD6-5
3	NAS1416-5	NAS1080C6	0.188 +.003 -.000	MS20426DD6-5
4	HS23-5-4	HS24-5	0.154 +.003 -.000	
5	HS23-5-5	HS24-5	0.154 +.003 -.000	32-010403-9
6	NAS1670-3L6		0.199 +.003 -.000	32-010403-11
7	NAS1670-3L5		0.199 +.003 -.000	MS20426DD6-5
8	NAS1670-3L4		0.199 +.003 -.000	MS20426DD6-5
9	NAS525-6-7	NAS528A6	0.188 +.003 -.000	MS20426DD6-5
10	NAS525-6-6	NAS528A6	0.188 +.003 -.000	
11	NAS333CFA6-5	MS21042-3 6	0.1900 +.0012 -.0005	32-010403-7
12	NAS1670-3L6		0.199 +.003 -.000	
13	NAS525-6-5	NAS528A6	0.188 +.003 -.000	
14	NAS525-6-5	NAS528A6	0.188 +.003 -.000	MS20426DD6-5
15	HS23-5-4 5	HS24-5	0.154 +.003 -.000	

4C-3-1-2-(46-2)B

Figure 2-67. Inboard Trailing Edge Closure Skin, 53-11023, Repair - F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566 (Sheet 2 of 2)

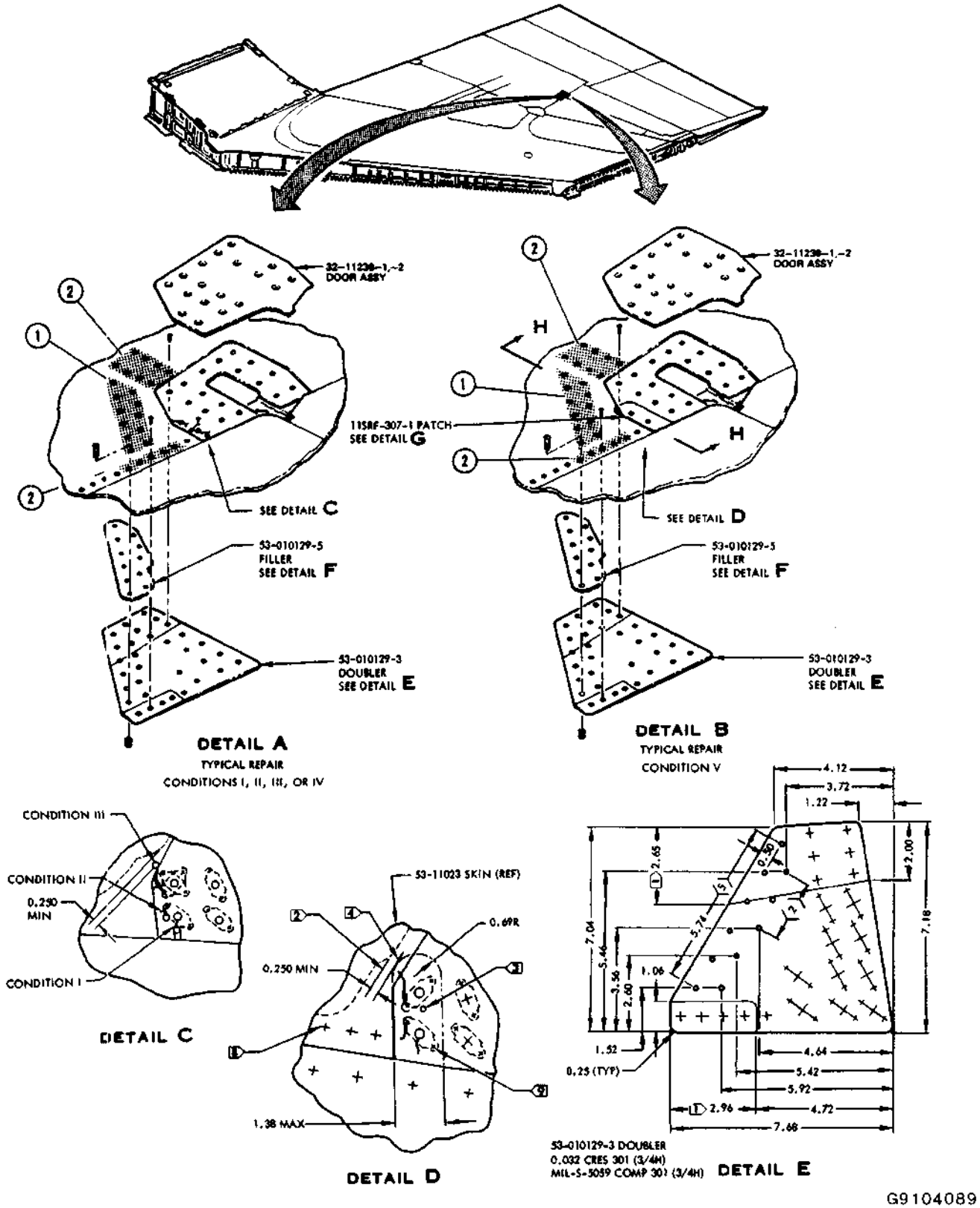
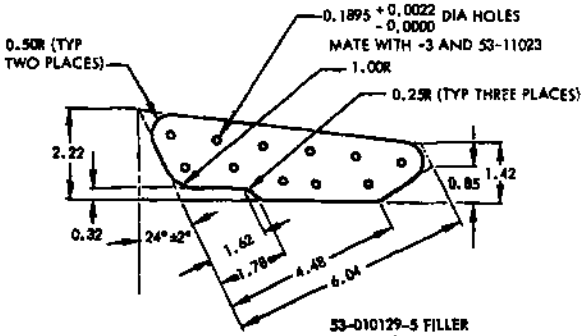
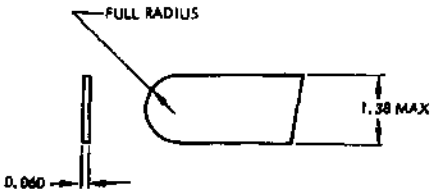


Figure 2-68. Skin, 53-11023, Crack Repair (Sheet 1 of 2)



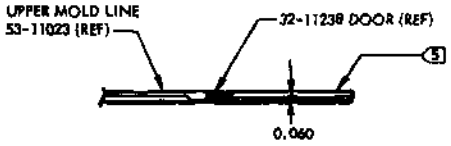
DETAIL F

53-010129-5 FILLER
0.080 2024-T3 AL ALY
QQ-A-250/4 (T3)



DETAIL G

11SRF-307-1 PATCH
0.060 2024-T3 AL ALY
QQ-A-250/4 (T3) 7



DETAIL H

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	HL551-6-4	HL579-6	0.1895 +0.0022 -0.0000
2	HL551-6 6	HL579-6	0.1895 +0.0022 -0.0000

INSPECTION PROCEDURE

A. REMOVE 32-11238 DOOR FOR ACCESS TO 53-11023 SKIN.
B. VISUALLY INSPECT AND PERFORM EDDY-CURRENT INSPECTION, SEE DETAIL A. REFER TO T.O.1F-4C-36 FOR INSPECTION PROCEDURE.
C. IF CRACKS EXIST, CLASSIFY AS FOLLOWS:

CONDITION I: CRACK EMINATING FROM DOOR FASTENER HOLE TOWARD EDGE OF SKIN. SEE DETAIL C.
CONDITION II: CRACK EMINATING FROM PLATE-NUT ATTACH HOLE TOWARD EDGE OF SKIN. SEE DETAIL C.
CONDITION III: CRACK EMINATING FROM PLATE-NUT ATTACH HOLE TOWARD CENTER OF SKIN, SEE DETAIL C.
CONDITION IV: COMBINATION OF CONDITIONS II AND III, SEE DETAIL C.
CONDITION V: CRACK FROM DOOR ATTACH HOLE SHOWN IN DETAIL C IN COMBINATION WITH CRACK FROM ANY PLATE-NUT ATTACH HOLE.
CONDITION VI: FOR CONDITION VI, SEE DETAIL J.

Notes

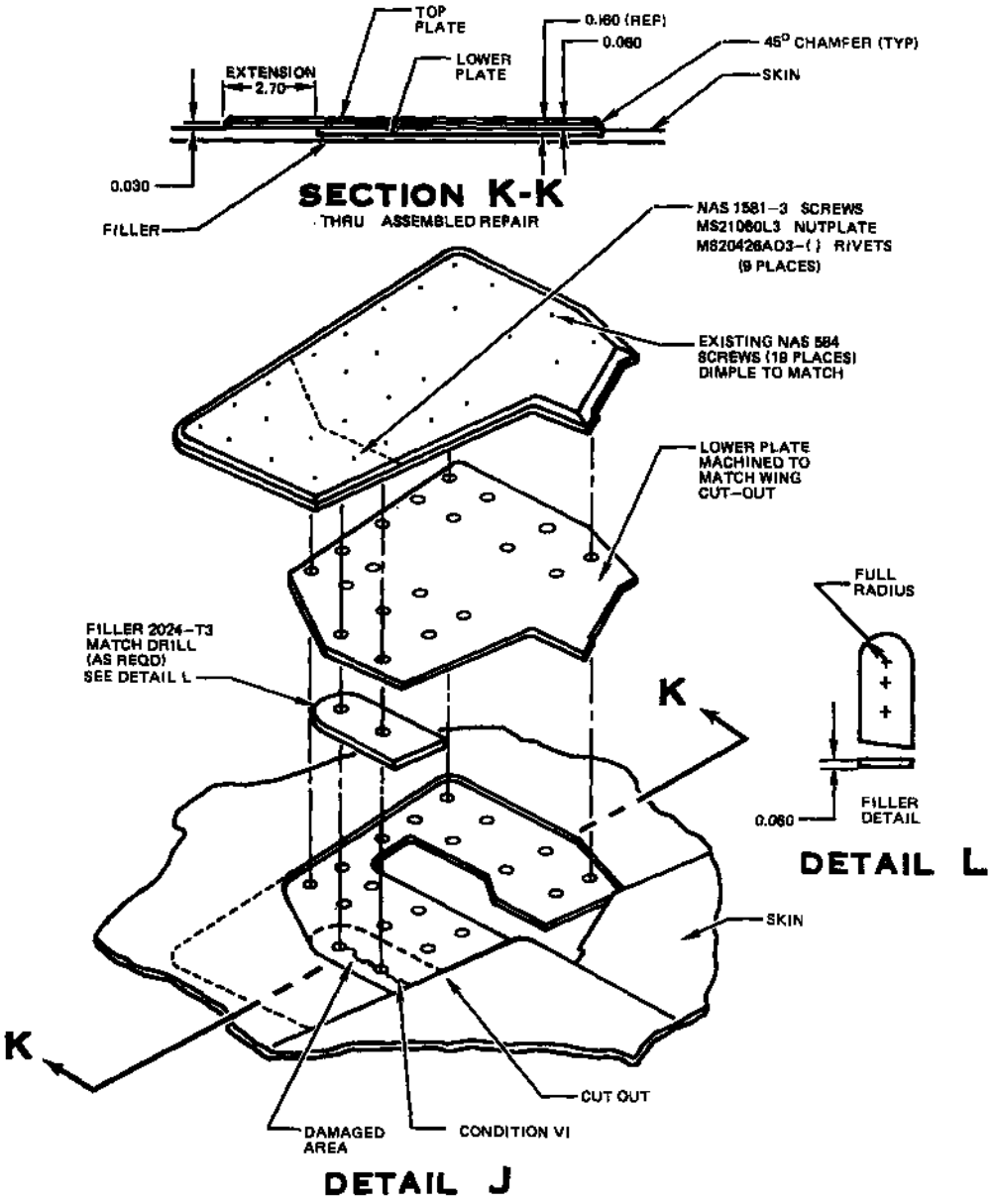
1. TAPER DOUBLER FROM 0.032 STOCK TO 0.010 AT EDGE OF PART.
2. CHEMICALLY MACHINED LINE ON 53-11023 SKIN.
3. MS20426AD3-2 TACK RIVET LOCATION OPTIONAL.
4. DO NOT ROUT FOR CRACKS BEYOND INDICATED LOCATION
5. FILL WITH SEALANT REFER TO T.O. 1F-4C-3-1-6.
6. FASTENER LENGTH TO BE DETERMINED ON INSTALLATION.
7. LENGTH OF REPAIR PATCH TO BE DETERMINED BY MATERIAL REMOVAL OF CRACKS. WIDTH OF SLOT SHALL BE ADJUSTED TO MAINTAIN 0.19 MINIMUM EDGE DISTANCE ON PLATENUT ATTACH RIVETS.
8. REPLACE RIVETS REMOVED FOR ACCESS WITH HL551-6-4 HI LOK FASTENERS AND HL579-6 COLLAR.
9. PLATENUT ATTACH RIVETS MAY BE USED AS TACK RIVETS FOR PATCH IN REPAIR AREA.

REPAIR PROCEDURE

A. LOWER SPEEDBRAKE TO FULLY EXTENDED POSITION, REFER TO T.O.1F-4( )-2-4.
B. REMOVE 32-11035 DOOR FOR ACCESS TO FASTENERS ATTACHING 53-11023 SKIN.
C. REMOVE NECESSARY HARDWARE REQUIRED TO PERMIT STOP DRILLING OR ROUTING AND INSTALLATION OF REPAIR PARTS.
D. FOR CONDITION I REPAIR, STOP DRILL CRACK WITH 0.250 DRILL. EDGE OF STOP DRILL HOLE TO EXTEND 0.10 BEYOND END OF CRACK. EDGE OF STOP DRILL HOLE TO BE 0.250 MINIMUM FROM EDGE OF SKIN IF NOT SLOT HOLE, SEE DETAIL C.
E. FOR CONDITION II REPAIR; STOP DRILL CRACK WITH 0.250 DRILL. EDGE OF STOP DRILL HOLE TO EXTEND 0.10 BEYOND END OF CRACK AND 2.50 MINIMUM FROM EDGE OF SKIN, SEE DETAILS A AND C.
F. FOR CONDITION III REPAIR: STOP DRILL CRACK WITH 0.250 DRILL. EDGE OF STOP DRILL HOLE TO BE 0.10 BEYOND END OF CRACK AND 0.250 MINIMUM FROM EDGE OF LAND, SEE DETAILS A AND C.
G. FOR CONDITION IV REPAIR; REPAIR TO BE SAME AS CONDITION II AND III COMBINED.
H. FOR CONDITION V REPAIR; ROUT OUT CRACKED AREA OF SKIN, SEE DETAIL D.
I. REINSPECT AREA TO ENSURE THAT CRACKS ARE STOPPED OR REMOVED.
J. FABRICATE REPAIR PARTS, SEE DETAILS E, F, AND G.
K. LOCATE REPAIR PARTS AND DRILL FASTENER HOLE TO SIZE INDICATED IN CHART, SEE DETAIL A FOR CONDITION I THRU IV AND DETAIL B FOR CONDITION V. REFER TO T.O.1F-4C-3-1 for METHOD OF LOCATING FASTENER HOLES.
L. REMOVE REPAIR PARTS AND DEBURR FASTENER HOLES.
M. REFINISH REWORKED AREA, COUNTERSINKS, EDGE OF HOLE, AND REPAIR PARTS, REFER TO T.O.1F-4C-3-1-6.
N. APPLY SEALER TO FAYING SURFACE OF REPAIR PART AND STRUCTURE, REFER TO T.O.1F-4C-3-1-6.
O. INSTALL REPAIR PART WITH FASTENERS, SEE DETAIL A OR B.
P. RAISE SPEED BRAKE, REFER TO T.O.1F-4( )-2-4.
Q. CONSULT PDM ENGINEERING FOR DISPOSITION OF CRACKS BEYOND THE SCOPE OF THIS REPAIR.

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Figure 2-68. Skin, 53-11023, Crack Repair (Sheet 2 of 2)



REPAIR PROCEDURE FOR CONDITION VI.

A. CUT OUT DAMAGED AREA AND MANUFACTURE FILLER AS SHOWN.

B. MANUFACTURE PLATES AS SHOWN FROM 301 CRES 1/2 HARD. USE SAME LAYOUT AS OLD 32-11238 DOOR FOR AFT END AND EXTEND FORWARD END OF TOP PLATE AS SHOWN.

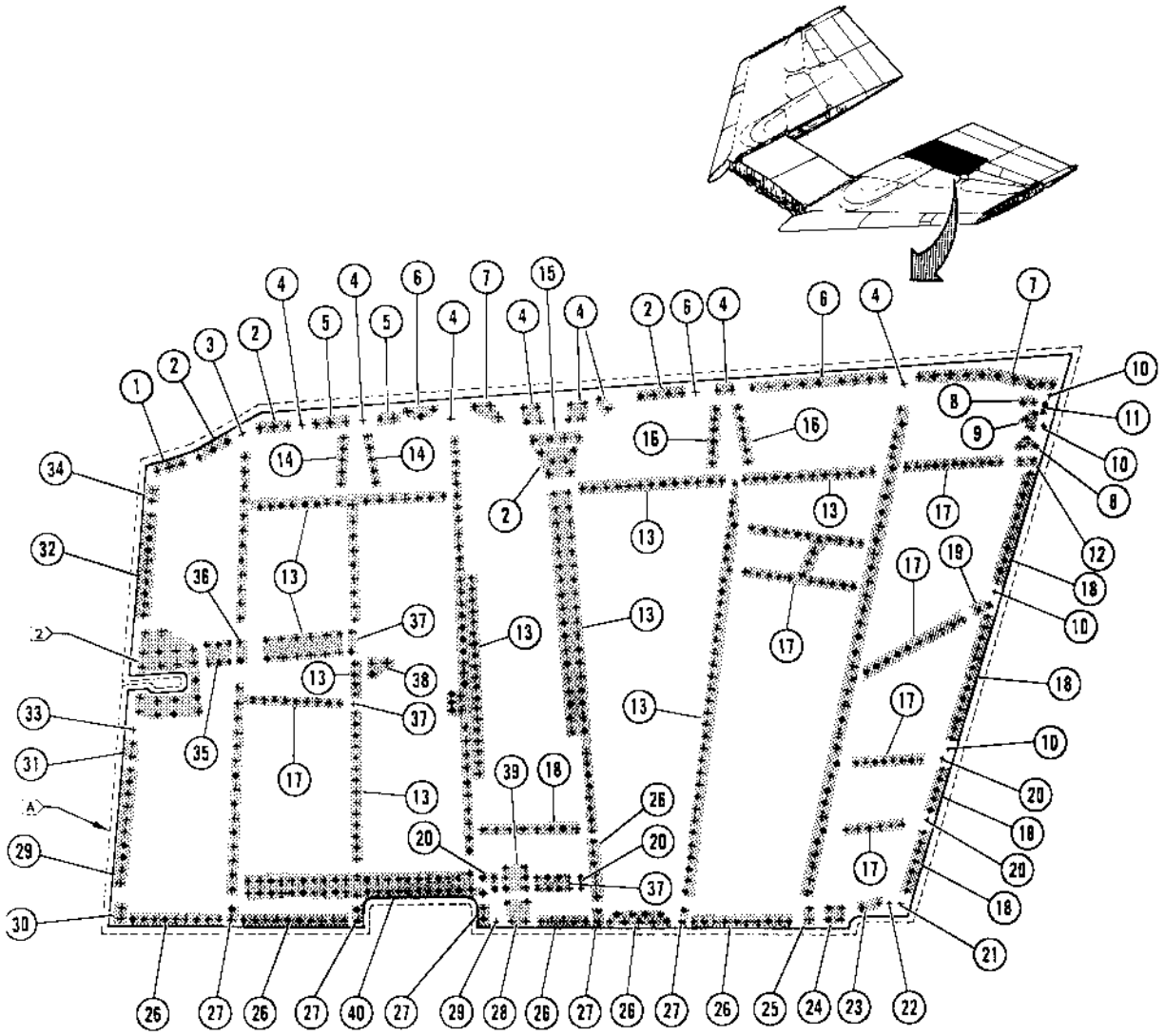
C. MATCH DRILL HOLES THRU PLATES AND UPPER SKIN.

D. MOUNT NUTPLATES ON UNDERSIDE OF SKIN.

E. INSTALL PLATES AND FILLER WITH SEALANT BETWEEN SKIN AND REPAIR PARTS PER TO 1F-4C-3-1-6.

4C-3-1-2-(307-3)B

Figure 2-68. Skin, 53-11023, Crack Repair (Sheet 2A of 2)



REF NO.	FASTENER	NUT OR COLLAR	WASHER	SHIM	TORQUE (INCH-LB)	HOLE SIZE
1	HT4A-13	67992N428 2935-04 (1)			50-70	0.2495 +.0017 -.0000
2	NAS584-6T	67992N428 2935-04 (1)			50-70	0.2495 +.0017 -.0000
3	NAS584-7T	MS21042-4	AN960D4'6		50-70	0.2495 +.0017 -.0000
4	NAS584-8T	67992N428 2935-04 (1)			50-70	0.2495 +.0017 -.0000
5	NAS584-9T	67992N428 2935-04 (1)			50-70	0.2495 +.0017 -.0000
6	NAS584-5T	67992N428 2935-04 (1)			50-70	0.2495 +.0017 -.0000
7	NAS584-7T	67992N428 2935-04 (1)			50-70	0.2495 +.0017 -.0000

4C-3-1-2-(314-1)A

Figure 2-69. Skin, 53-11023, Replacement Index (Sheet 1 of 2)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	SHIM	TORQUE (INCH-LB)	HOLE SIZE
8	NAS583-4T	F29339-3			20-25	0.190 +.003 -.000
9	NAS583-4T	F1967-3			20-25	0.190 +.003 -.000
10	NAS1670-3L3					0.199 +.003 -.000
11	MS20426B5					0.156 +.013 -.000
12	NAS1670-3L5					0.199 +.003 -.000
13	MS20426DD6					0.190 +.011 -.000
14	NAS1672-3L3					0.199 +.003 -.000
15	NAS333CFA13-5	67992N428			20-25	0.190 +.003 -.000
		2935-04 <1>				
16	NAS1670-3L6					0.199 +.003 -.000
17	MS20426AD5					0.156 +.013 -.000
18	NAS525-6-3	NAS528A6				0.188 +.003 -.000
19	NAS1670-3L4					0.199 +.003 -.000
20	NAS525-6-4	NAS528A6				0.188 +.003 -.000
21	NAS583-7T	MS21042-3	AN960D10		20-25	0.190 +.003 -.000
22	NAS583-8T	MS21042-3	AN960D10		20-25	0.190 +.003 -.000
23	NAS583-8T	MS21042-3	AN960D10	53-11019-27	20-25	0.1900 +.0012 -.0000
				53-11019-29		
24	NAS583-8T	MS21042-3	AN960D10	53-11019-23	20-25	0.190 +.003 -.000
				53-11019-25		
25	NAS583-8T	MS21042-3	AN960D10	53-11019-19	20-25	0.190 +.003 -.000
				53-11019-21		
26	NAS1416-4	NAS1080C6				0.190 +.003 -.000
27	NAS1416-5	NAS1080C6				0.190 +.003 -.000
28	NAS333CFA6	MS21042-3	AN960D10		20-25	0.1900 +.0012 -.0000
29	NAS333CFA5	MS21042-3	AN960D10		20-25	0.1900 +.0012 -.0000
30	NAS1416-6	NAS1080C6				0.190 +.003 -.000
31	NAS333CFA7	MS21042-3	AN960D10 <3>		20-25	0.1900 +.0012 -.0000
32	NAS333CFA7-5	MS21042-3	AN960D10		20-25	0.1900 +.0012 -.0000
33	NAS1416-10	NAS1080C6				0.190 +.003 -.000
34	NAS1416-11	NAS1080C6				0.190 +.003 -.000
35	NAS525-6-6	NAS528A6				0.188 +.003 -.000
36	NAS525-6-7	NAS528A6				0.191 +.006 -.000
37	NAS525-6-5	NAS528A6				0.188 +.003 -.000
38	MS20426AD4					0.128 +.014 -.000
39	NAS333CFA6	MS21042-3			20-25	0.1900 +.0012 -.0000
40	HS23-5-4	HS24-5				0.188 +.003 -.000

INSTALLATION PROCEDURE FOR NEW PART

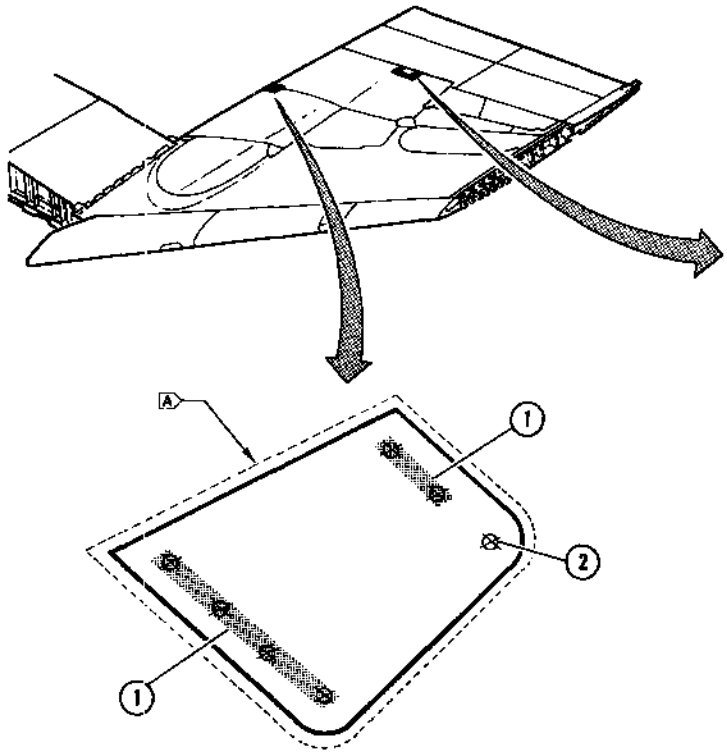
<A> TRIM EDGES TO FIT OPENING. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIM LINE.
B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES AS REQUIRED.
C. REFINISH TRIMMED EDGES, HOLES, AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

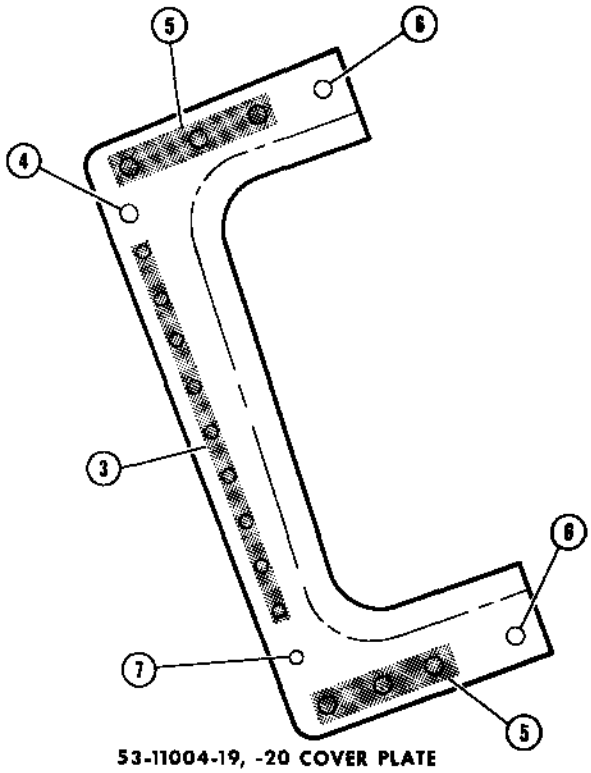
<1> NUT BASE.
<2> FOR FASTENER, REFERENCE TO 1F-4C-3-1-3.
<3> TWO REQUIRED UNDER NUT.

4C-3-1-2-(314-2)A

Figure 2-69. Skin, 53-11023, Replacement Index (Sheet 2 of 2)



53-11029-3, -4 COVER PLATE



53-11004-19, -20 COVER PLATE

REF NO.		FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1		NAS584-6T	RM52LH2935-048 2935-04 <5>	AN960D416L	50-70	0.2495 +.0017 -.0000
2		NAS584-7T	RM52LH2935-048 2935-04 <5>		50-70	0.2495 +.0017 -.0000
3	8	HS23-5-4	HS24-5			0.156 +.003 -.000
	9	HL551-5-5	HL579-5			0.163 +.002 -.000
4	8	NAS525-6-4	NAS528A6			0.188 +.003 -.000
	9	HL551-6-5	HL579-6			0.189 +.002 -.000
5		NAS1670-3L5				0.199 +.003 -.000
6		MS20426AD4				0.128 +.014 -.000
7	8	HS23-5-4	HS24-5			0.156 +.003 -.000
	9	MS20426AD5	<7>			0.159 +.013 -.000

Notes

1. FASTENER LENGTHS NOT CALLED OUT IN CHART MUST BE DETERMINED ON INSTALLATION.
2. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
3. FOR SKIN THICKNESS, SEE FIGURE 2-60.
4. DIMPLE HOLES 100°.

<5> NUT BASE.
<6> DELETE
<7> DOUBLE FLUSH RIVET.

8 F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C; ALSO F-4E 66-287, 66-296 THRU 71-236 BEFORE TO 1F-4E-566.

9 F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.

INSTALLATION PROCEDURE FOR NEW PART

53-11029-3, -4 COVER PLATE

<A> TRIM EDGE TO FIT OPENING. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS.

B. DIMPLE FASTENER HOLES, REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF DIMPLING.

C. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF ENLARGING PILOT HOLE TO MATCH HOLE IN SUBSTRUCTURE.

D. REFINISH TRIMMED EDGE, FASTENER DIMPLES, AND HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

WARNING

PROVIDE ADEQUATE VENTILATION DURING APPLICATION OF SEALANT. AVOID PROLONGED OR REPEATED SKIN CONTACT.

E. APPLY SEALANT TO MATING SURFACES SUFFICIENT TO PRECLUDE DISSIMILAR METAL CONTACT.

INSTALLATION PROCEDURE FOR NEW PART

53-11004-19, -20 COVER PLATE

A. FABRICATE NEW PART USING OLD PART AS FLAT PATTERN. TRIM EDGE TO FIT OPENING. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIMLINE. REFERENCE TO 1F-4C-3-1-1 FOR CONTOUR SMOOTHNESS REQUIREMENTS.

B. LOCATE AND DRILL HOLES AS INDICATED IN CHART. DIMPLE HOLES TO RECEIVE FASTENERS. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES AND DIMPLING.

C. REFINISH TRIMMED EDGES, FASTENER DIMPLES, AND HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

WARNING

PROVIDE ADEQUATE VENTILATION DURING APPLICATION OF SEALANT. AVOID PROLONGED OR REPEATED SKIN CONTACT.

D. APPLY SEALANT TO MATING SURFACES SUFFICIENT TO PRECLUDE DISSIMILAR METAL CONTACT.

4C-3-1-2-(106)H

Figure 2-70. Rear Spar Attachment and Trailing Edge Cover Plate Replacement Index

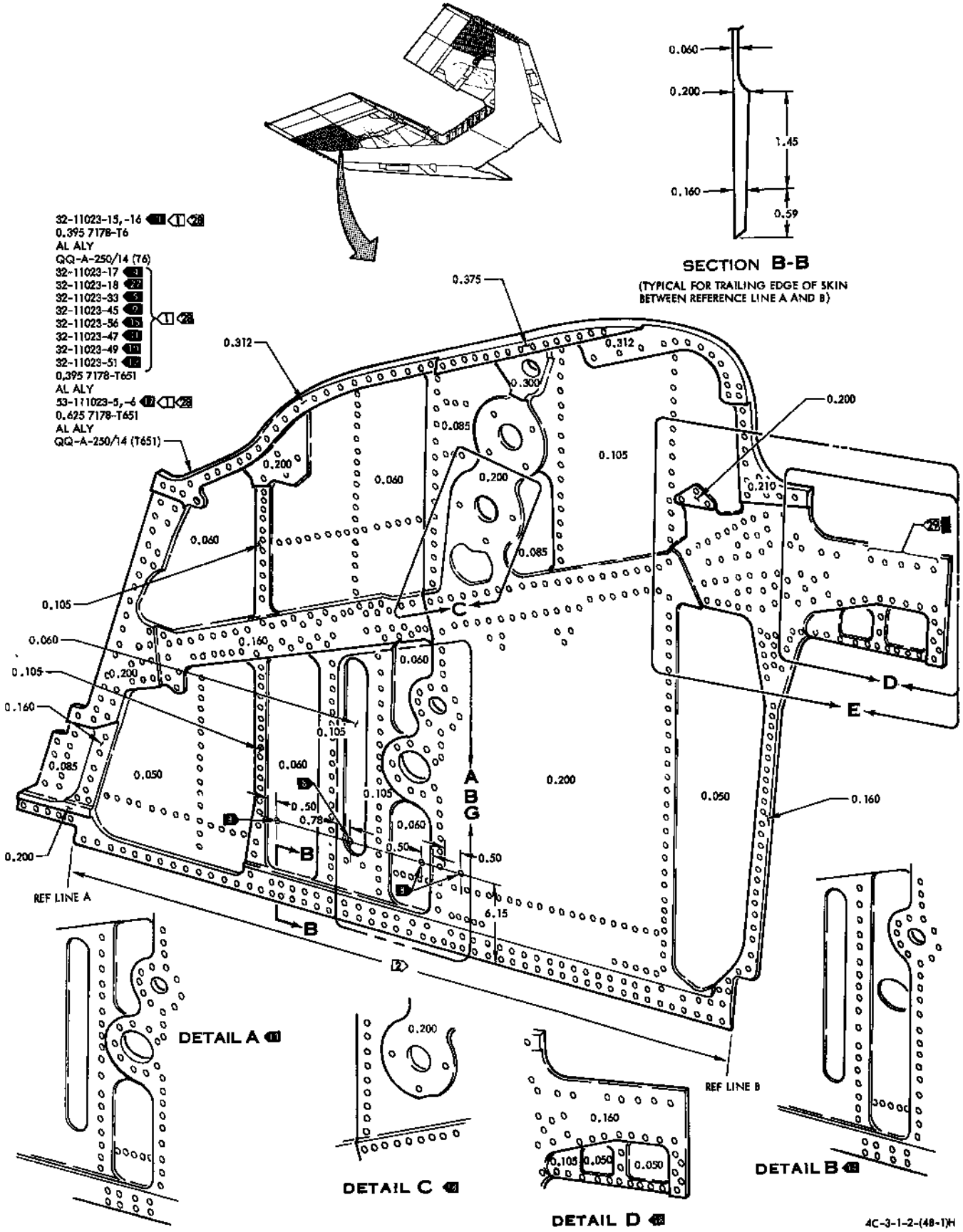
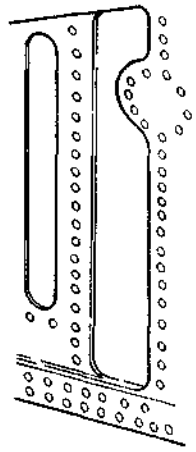
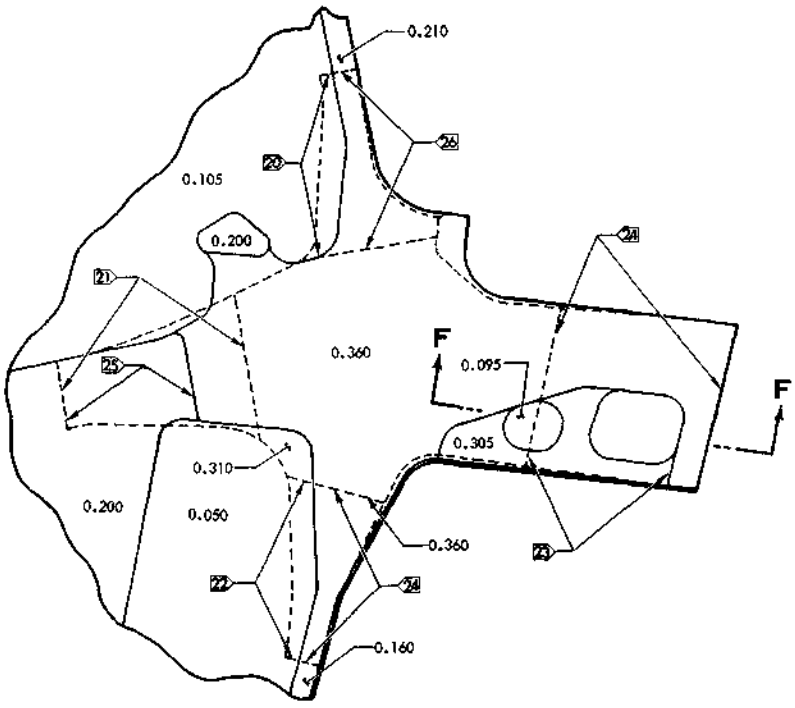


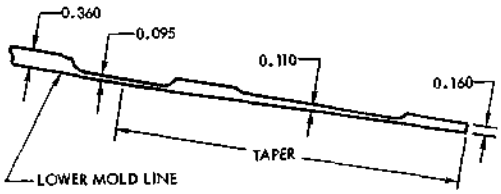
Figure 2-71. Outboard Trailing Edge Lower Closure Skin, 32-11023, and 53-111023, Diagram (Sheet 1 of 2)



DETAIL G 19



DETAIL E 17



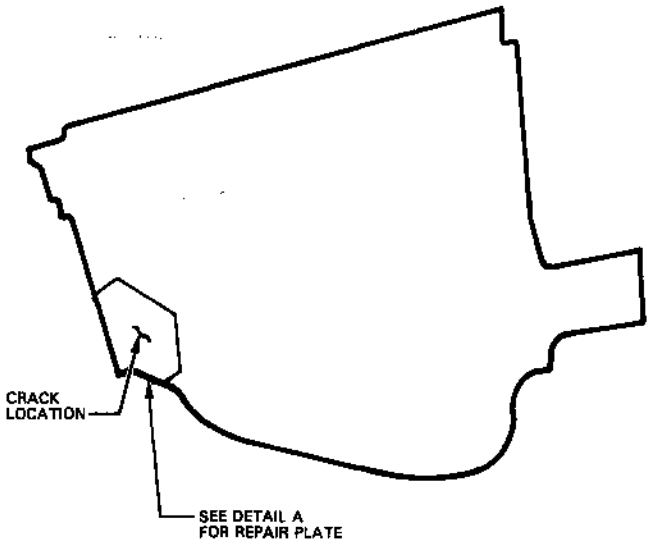
SECTION F-F

Notes

1. FOR REPLACEMENT, SEE FIGURE 2-73A.
2. THE TRAILING EDGE IS TAPERED AS SHOWN IN SECTION B-B.
3. F-4C AND RF-4C 63-7742 THRU 68-561. FOR FUTURE PROCUREMENT ON F-4C USE 32-11023-47 LEFT SIDE AND 32-11023-45 RIGHT SIDE.
4. F-4D LEFT SIDE AND F-4E 66-284 THRU 67-219 LEFT SIDE.
5. F-4E 67-220 LEFT SIDE.
6. DELETED.
7. DELETED.
8. 0.250 $^{+.007}_{-.000}$ DIAMETER DRAIN HOLE ON F-4E 68-303 AND RF-4C 68-548 THRU 72-156, FOR ADDITIONAL CORROSION PROTECTION. HOWEVER, HOLES SHOULD BE ADDED TO SKINS REGARDLESS OF EFFECTIVITY.
9. RF-4C 68-562 THRU 71-252 RIGHT SIDE. FUTURE PROCUREMENT FOR F-4C.
10. F-4E 68-366 THRU 71-236 RIGHT SIDE AND F-4G.
11. F-4E 68-366 THRU 71-236 LEFT SIDE AND F-4G. FUTURE PROCUREMENT FOR F-4C.
12. RF-4C 68-562 THRU 71-252 LEFT SIDE AND F-4G.
13. F-4E 67-220 THRU 71-236 LEFT SIDE AND F-4G.
14. F-4C AND F-4D.
15. RF-4C 71-253 THRU 72-156.
16. DELETED.
17. F-4E 72-121 AND UP.
18. F-4E 66-284 THRU 71-1402, F-4G, F-4C, F-4D AND RF-4C.
19. F-4E 71-237 THRU 71-1402 AND RF-4C 71-253 THRU 72-156.
20. TAPERS FROM 0.225 TO 0.105.
21. TAPERS FROM 0.360 TO 0.200.
22. TAPERS FROM 0.310 TO 0.050.
23. TAPERS FROM 0.305 TO 0.110.
24. TAPERS FROM 0.360 TO 0.160.
    TAPERS FROM 0.313 TO 0.200.
25. TAPERS FROM 0.360 TO 0.210.
26. F-4D RIGHT SIDE AND F-4E 66-284 THRU 68-365 RIGHT SIDE.
27. FOR REPAIR, SEE FIGURE 2-71A.
28. FOR FASTENER CLEARANCE IN THIS AREA, SEE FIGURE 2-71D.

4C-3-1-2-(48-2)H

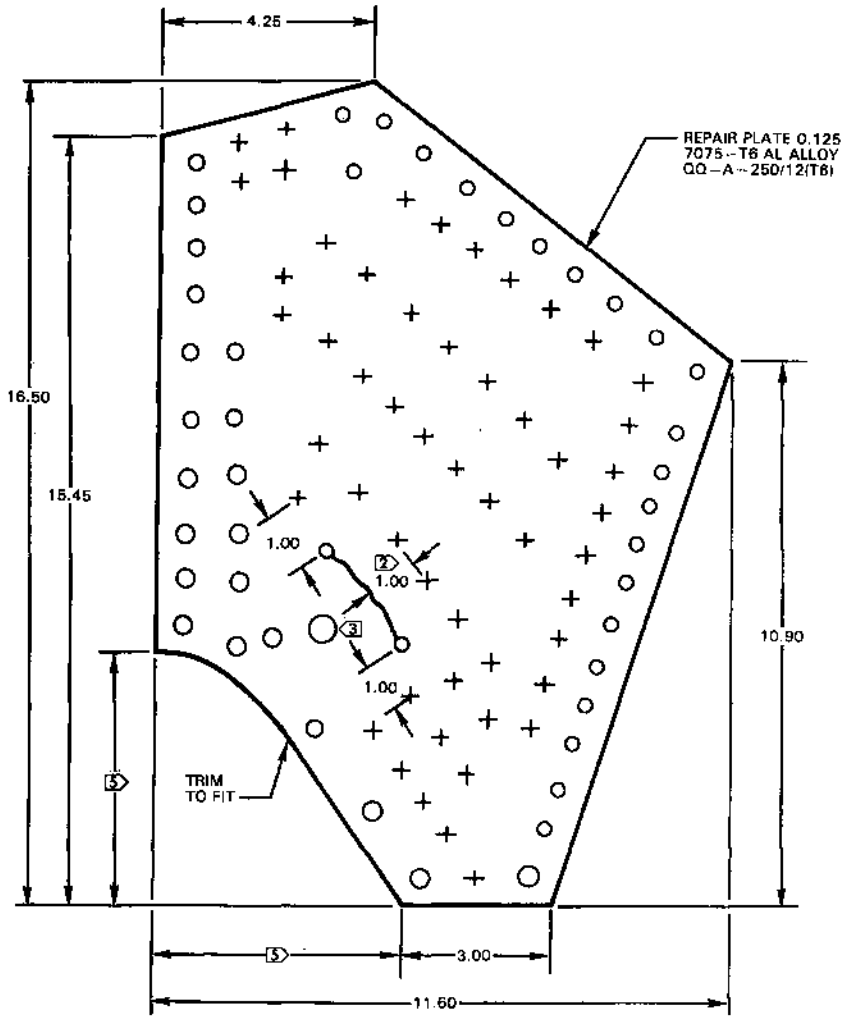
Figure 2-71. Outboard Trailing Edge Lower Closure Skin, 32-11023 AND 53-111023, Diagram (Sheet 2 of 2)



A. STOP DRILL CRACK PER TO 1F-4C-3-1-1.
B. MAKE PLATE FROM 7075-T6 MATERIAL AS SHOWN IN DETAIL A.
C. DELETED.
D. ROUND ALL EDGES OF PLATE.
E. MATE DRILL FASTENER HOLES WITH EXISTING HOLES IN SKIN.
F. PLUG COUNTERSINKS IN SKIN WITH FILLERS AND REDRILL HOLES.
G. ADD NEW FASTENER HOLES APPROXIMATELY AS SHOWN, MAINTAIN 0.80 DISTANCE BETWEEN HOLES AND 0.50 FROM EDGE OF PLATE.
H. TREAT BARE METAL AND FASTENER HOLES FOR CORROSION PREVENTION PER TO 1F-4C-3-1-6.
I. INSTALL PLATE WITH ORIGINAL TYPE FASTENERS, OF APPROPRIATE LENGTH, IN EXISTING HOLES AND NAS1056-6 HI-SHEAR FASTENERS IN ADDED HOLES.
J. FINISH REPAIR AREA PER TO 1F-4C-3-1-6.

Notes

1. + INDICATES NEW FASTENERS TO BE ADDED, AND ⊖ INDICATES EXISTING FASTENERS IN OUTER SKIN.
2. ADD FIRST ROW OF NEW FASTENERS ONE INCH FROM SIDES AND ENDS OF CRACK.
3. ADD 0.500 +.007, −.000 DIAMETER HOLE IN PLATE TO MATE WITH DRAIN HOLE IN OUTER SKIN.
4. LEFT HAND SHOWN, RIGHT HAND OPPOSITE.
5. DIMENSION DETERMINED ON INSTALLATION.

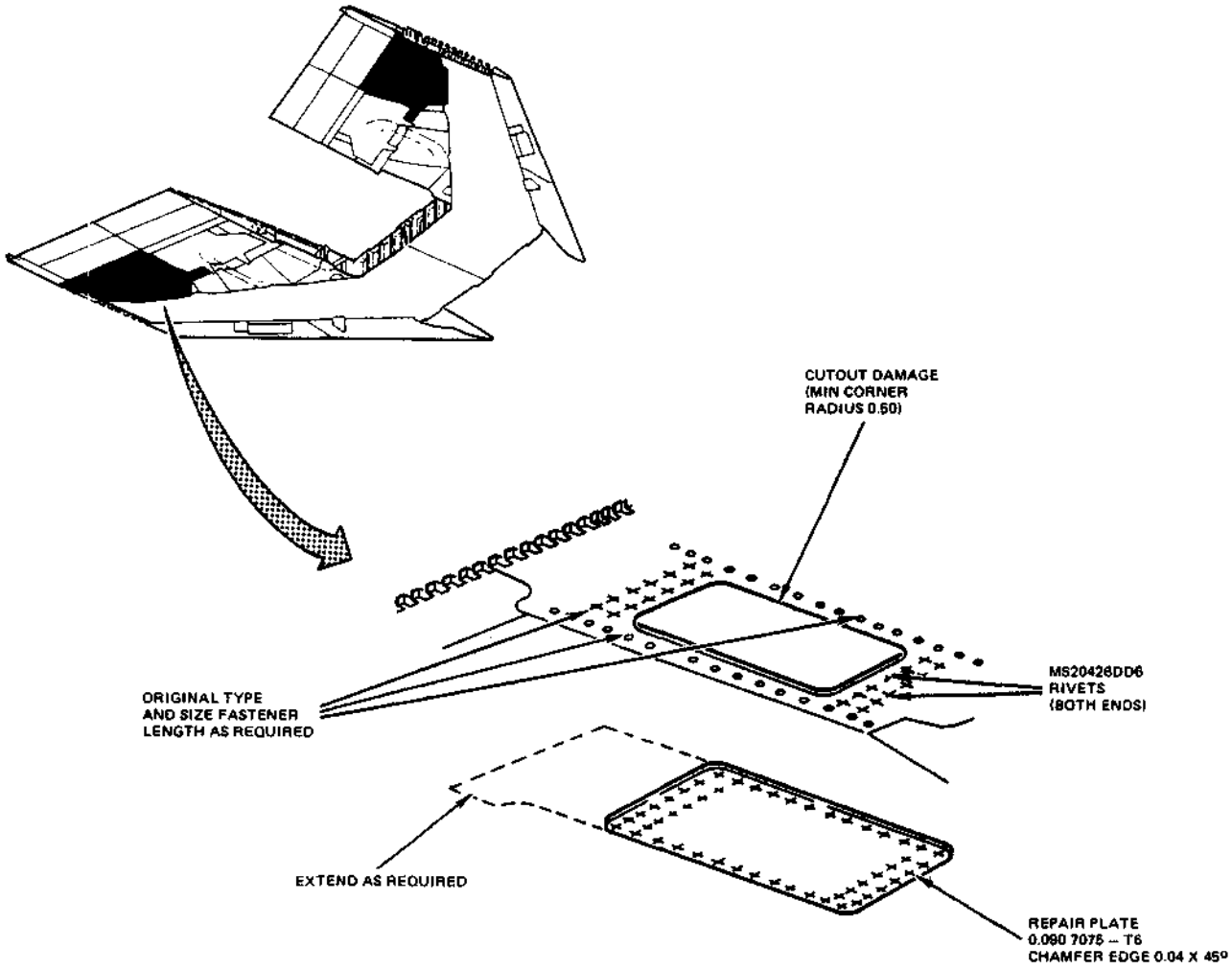


MAJOR CHANGE

DETAIL A

4C-3-1-2-(405)C

Figure 2-71A. Outboard Trailing Edge Lower Closure Skin, 32-11023 AND 53-11023, Repair



REPAIR PROCEDURE

A. CUT OUT DAMAGED SKIN. LEAVE SKIN WHERE FASTENERS NOW ATTACH TO RIB (THIS WILL SERVE AS A SPACER). NDI CUT OUT TO ASSURE NO DEFECTS ARE PRESENT.

B. FABRICATE REPAIR PLATE AS REQUIRED TO COVER CUTOUT AREA. PLATE MAY EXTEND TO AFT EDGE OF SKIN, IF REQUIRED (DRILL DRAIN HOLE).

C. MATCH – DIRLL REPAIR PLATE TO EXISTING HOLES. DRILL TWO ROWS FORWARD AND AFT 0.1875 DIAMETER FOR MS20426DD6 RIVETS.

D. FINISH REPAIR AREA AND REPAIR PLATE PER TO 1F–4C–3–1–6.

E. COAT MATING SURFACE OF SKIN WITH MIL–S–81733 SEALANT AND INSTALL PLATE WHILE SEALANT IS WET. SEE TO 1F–4C–3–1–6.

F. IF REPAIR PLATE WAS EXTENDED TO AFT EDGE OF SKIN, INSTALL AILERON–FLAP EDGE SPLICE JOINT CRACK REPAIR DOUBLER PER FIG. 2–83A.

G. REMOVE SPRING MOUNT FROM DAMAGED SKIN AND REMOUNT ON REPAIR PLATE.

Note

INSTALL COUNTERSINK FILLERS IN OLD HOLES BEFORE INSTALLING REPAIR PLATE.

MAJOR CHANGE

4C-3-1-2-(409)B

Figure 2-71B. Outboard Trailing Edge Lower Closure Skin, 32-11023, Repair

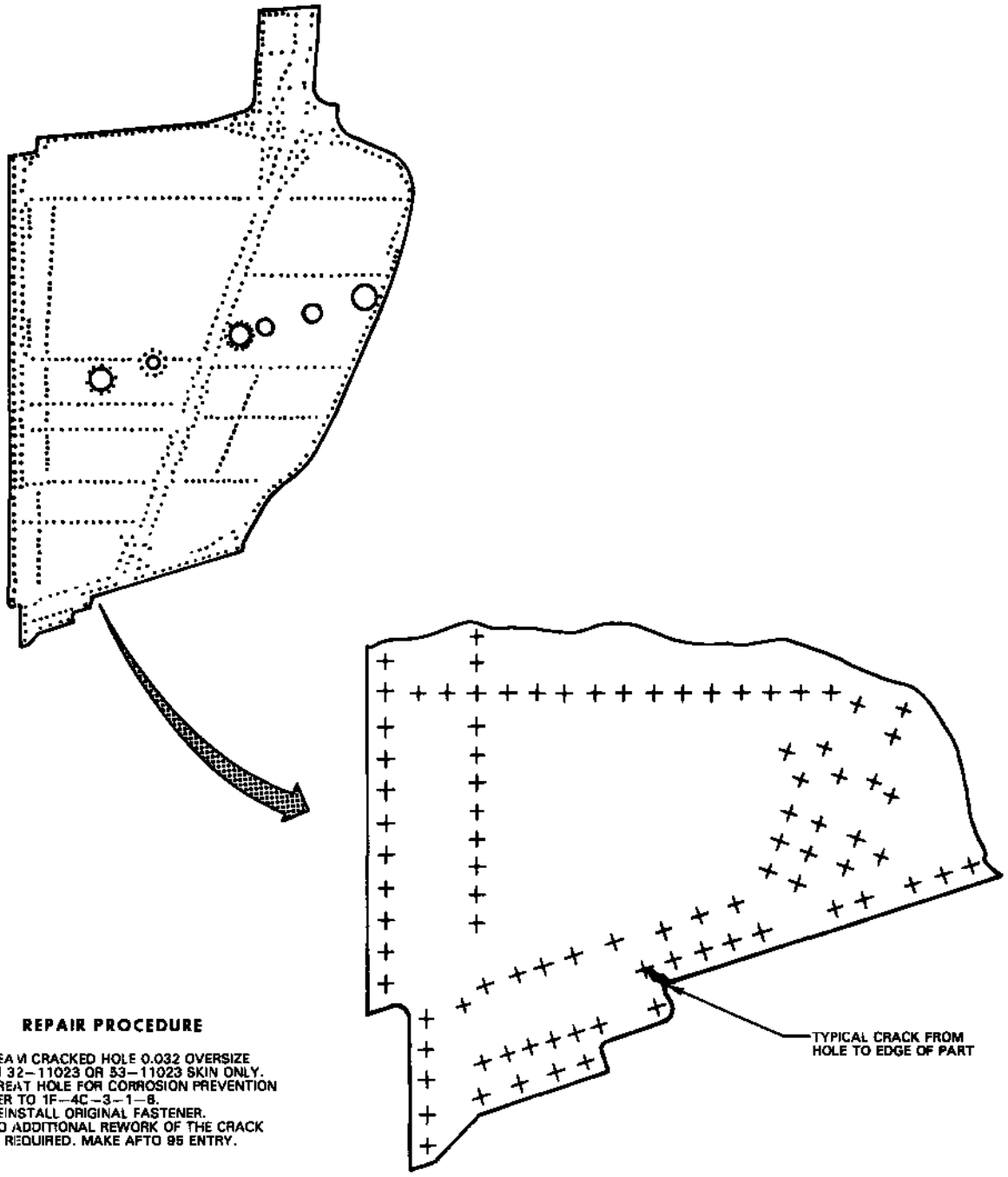
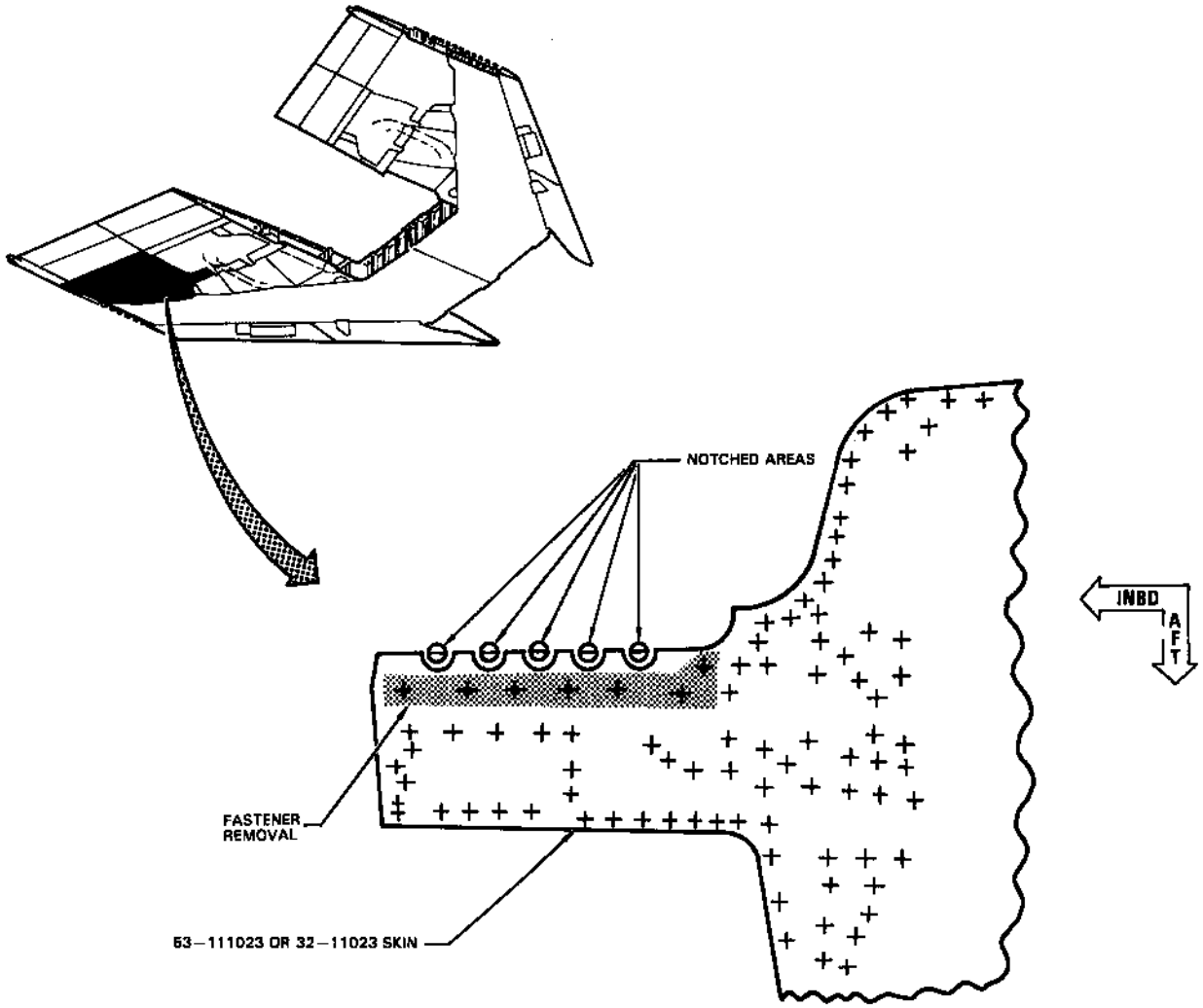


Figure 2-71C. Outboard Trailing Edge Lower Closure Skin, 32-11023 and 53-11023, Repair



INSTALLATION PROCEDURE

A. REMOVE FASTENERS FROM LOWER CLOSURE SKIN AS DEPICTED IN SHADED REGION OF DIAGRAM. ADDITIONAL FASTENERS MAY BE REMOVED IF REQUIRED.
B. PLACE A SHIM BETWEEN SKIN AND SPAR TO PREVENT SPAR DAMAGE DURING ROUTING.
C. ROUT OUT CLOSURE SKIN TO ALLOW ACCESS TO LOWER AFT SPAR CAP FASTENER HEADS. NOTCHED AREAS SHOULD ONLY BE LARGE ENOUGH TO GAIN ACCESS TO THE FASTENERS.
D. REMOVE SHIM AND REINSTALL EXISTING FASTENERS THROUGH CLOSURE SKIN ONCE SPAR WORK AHS BEEN COMPLETED.
E. CLEAN UP NOTCHED AREAS OF ANY ROUGH EDGES.

NOTE

THIS PROCEDURE APPLIES TO ALL F-4 AIRCRAFT. ON AIRCRAFT WITH LOWER SURFACE STRAP, 53-110064, INSTALLED, FOLLOW INSTALLATION PROCEDURE AND ROUT NOTCHED AREA THROUGH THE STRUT.

Note

⊖ TYPICAL LOWER AFT SPAR CAP FASTENER

4C-3-1-2-(437)

Figure 2-71D. Outboard Trailing Edge Lower Closure Skin, 32-11023 and 53-111023, Notching for Lower Aft Spar Cap Fastener Access

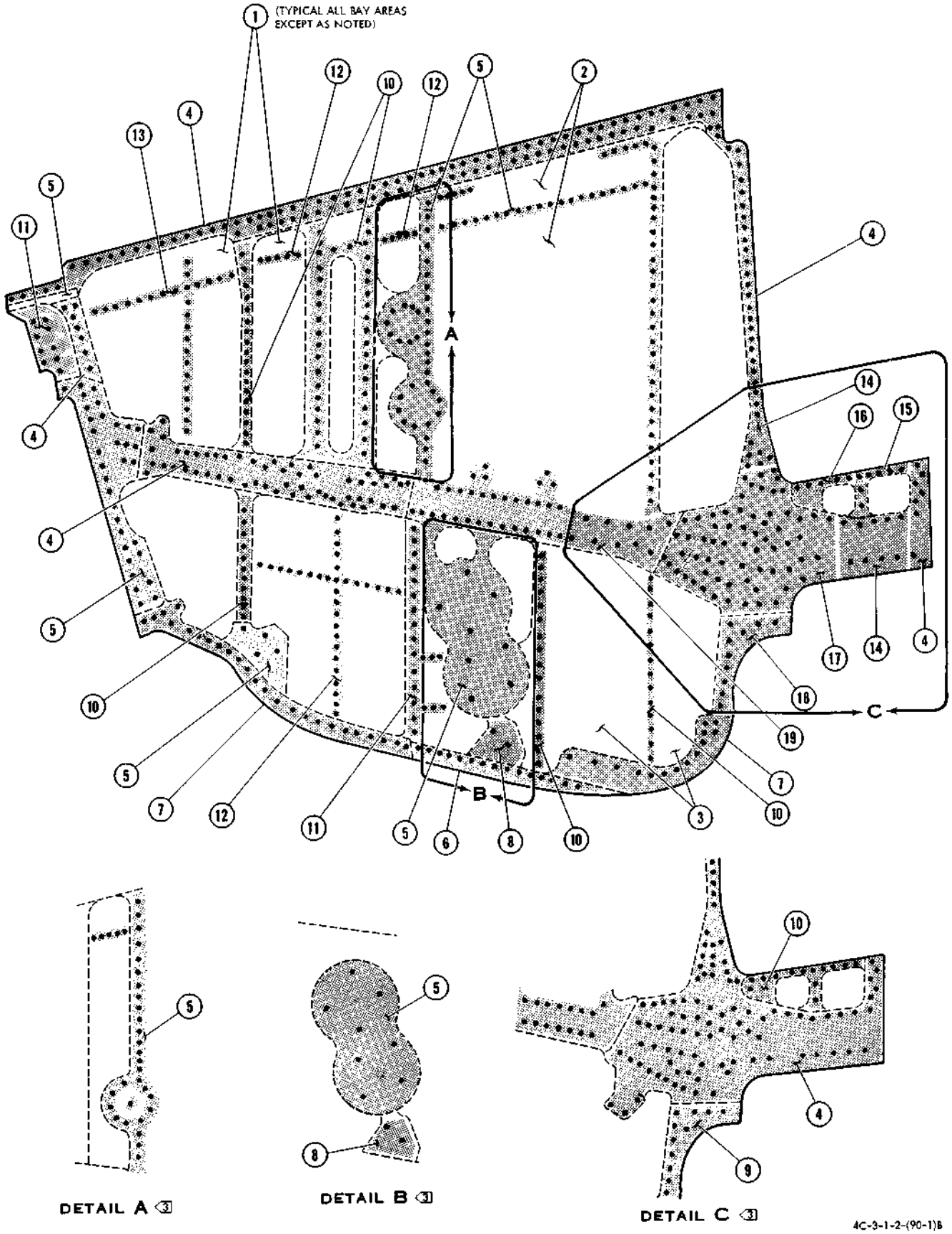


Figure 2-72. Outboard Trailing Edge Lower Closure Skin Negligible Damage and Corrosion Removal Limits (Sheet 1 of 2)

LEGEND

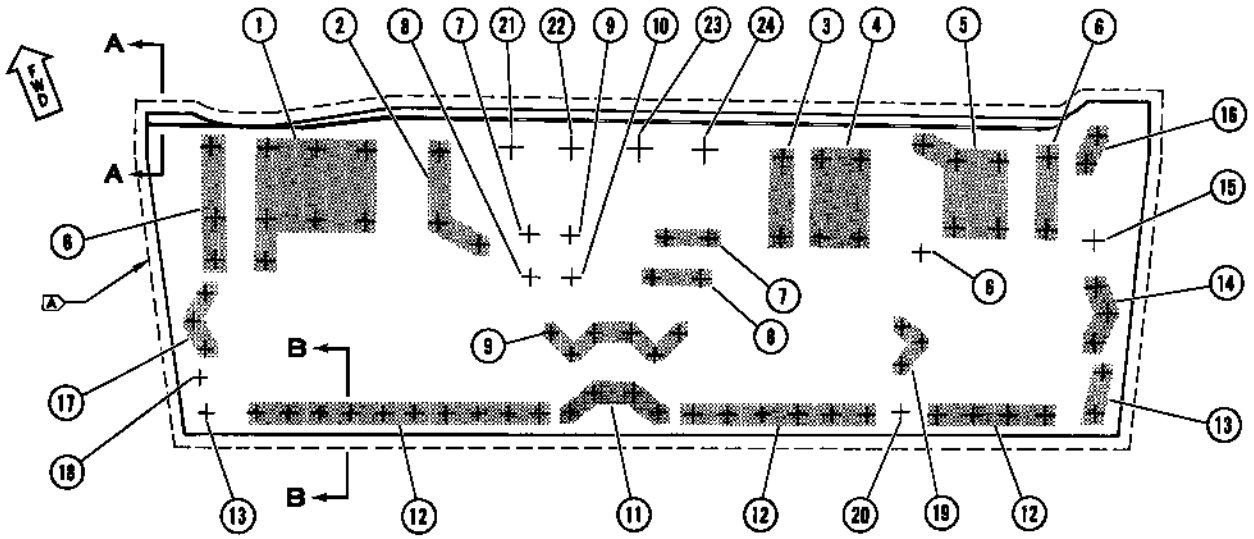
1 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS UNBLENDED. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH.
0.010 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS BLENDED.
2 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS UNBLENDED. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH.
0.020 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS BLENDED.
3 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS UNBLENDED. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH.
0.011 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS BLENDED.
4 0.032 AT 40 PERCENT OF FASTENERS PLUS 0.053 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.053 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
5 0.040 AT 40 PERCENT OF FASTENERS PLUS 0.066 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.066 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
6 0.075 AT 40 PERCENT OF FASTENERS PLUS 0.124 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.124 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
7 0.062 AT 40 PERCENT OF FASTENERS PLUS 0.103 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.103 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
8 0.060 AT 40 PERCENT OF FASTENERS PLUS 0.099 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.099 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
9 0.042 AT 40 PERCENT OF FASTENERS PLUS 0.069 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.069 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
10 0.021 AT 40 PERCENT OF FASTENERS PLUS 0.035 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.035 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
11 0.017 AT 40 PERCRNT OF FASTENENERS PLUS 0.028 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.028 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
12 0.012 AT 40 PERCENT OF FASTENERS PLUS 0.020 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.020 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
13 0.010 AT 40 PERCENT OF FASTENERS PLUS 0.017 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.017 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
14 0.052 AT 40 PERCENT OF FASTENERS PLUS 0.085 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.085 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
15 0.026 AT 40 PERCENT OF FASTENERS PLUS 0.043 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.043 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
16 0.061 AT 40 PERCENT OF FASTENERS PLUS 0.010 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.010 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
17 0.072 AT 40 PERCENT OF FASTENERS PLUS 0.119 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.119 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
18 0.057 AT 40 PERCENT OF FASTENERS PLUS 0.094 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.094 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
19 0.056 AT 40 PERCENT OF FASTENERS PLUS 0.092 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
ALTERNATE: 0.092 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.

Notes

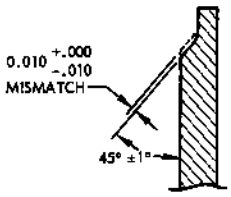
1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. NEGLIGIBLE DAMAGE AND CORROSION METAL REMOVAL LIMITS MUST COMPLY WITH FOLLOWING RESTRICTIONS:
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
      (1) THREE TIMES FASTENER DIAMETER IN DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE HALF TIMES FASTENER DIAMETER IN DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. REMOVAL LIMITS APPLICABLE TO LAND AREAS MUST NOT BE EXTENDED INTO BAY AREAS.
   C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   D. METAL REMOVAL MUST BE FOLLOWED BY PROTECTIVE TREATMENT IN ACCORDANCE WITH T.O. 1F-4C-3-1-6.
   E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.
[2] ON 32-11023-15,-16; -17,-18; -33,-45,-47, -49, -51, -56 SKINS.

4C-3-1-2-(90-2)B

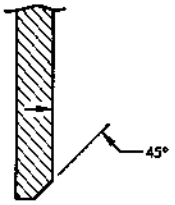
Figure 2-72. Outboard Trailing Edge Lower Closure Skin Negligible Damage and Corrosion Removal Limits (Sheet 2 of 2)



REF NO.	FASTENER	NUT OR COLLAR	SHIM OR SPACER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS334CFA7-5	RM52LH2935-048 2935-04 [1]		50-70	0.2495 +.0017 -.0000
2	NAS1438-7	NAS1080CB			0.2495 +.0017 -.0000
3	NAS334CFA10-5	RM52LH2935-048 2935-04 [1]	53-11004-21	50-70	0.2495 +.0017 -.0000
4	NAS1438-8	NAS1080CB			0.2495 +.0017 -.0000
5	NAS334CFA6-5	RM52LH2935-048 2935-04 [1]		50-70	0.2495 +.0017 -.0000
6	NAS334CFA7	RM52LH2935-048 2935-04 [1]		50-70	0.2495 +.0017 -.0000
7	NAS334CFA12	RM52LH2935-048 2935-04 [1]		50-70	0.2495 +.0017 -.0000
8	NAS334CFA11	RM52LH2935-048 2935-04 [1]		50-70	0.2495 +.0017 -.0000
9	NAS333CFA11-5	RM52LH2935-02 2935-0 [1]		20-25	0.1900 +.0012 -.0005
10	NAS334CFA12-5	RM52LH2935-048 2935-04 [1]		50-70	0.2495 +.0017 -.0000
11	NAS333CFA6	RM52LH2935-02 2935-0 [1]	32-11212-117,-119 [3]	20-25	0.1900 +.0012 -.0005
12	NAS1416-4	NAS1080C6			0.187 +.003 -.000
13	NAS1416-6	NAS1080C6			0.187 +.003 -.000
14	HS51P-6-5				0.188 +.003 -.000
15	NAS334CFA10	RM52LH2935-048 2935-04 [1]		50-70	0.2495 +.0017 -.0000
16	NAS583-10T	RM52LH2935-02 2935-0 [1]		20-25	0.1900 +.0012 -.0000
17	NAS525-6-5	NAS526A6			0.188 +.003 -.000
18	NAS1416-5	NAS1080C6			0.187 +.003 -.000
19	NAS1670-3L3		53-11059-29, -33		0.199 +.003 -.000
20	NAS1670-3L4		53-11059-31, -35		0.199 +.003 -.000
21	HT6A17	12NE2935-064 2935-06 [1]	53-11002-29 [2] 32-11002-29, -61 [3]	160-190	0.3745 +.0017 -.0000
22	HT6A15	12NE2935-064 2935-06 [1]	32-11002-29, -61 [3]	160-190	0.3745 +.0017 -.0000
23	HT6A17	12NE2935-064 2935-06 [1]	AN960D616 32-11002-29, -61 [3]	160-190	0.3745 +.0017 -.0000
24	HT6A18	12NE2935-064 2935-06 [1]	53-11002-23 [2] 32-11002-29, -61 [3]	160-190	0.3745 +.0017 -.0000



SECTION A-A



SECTION B-B

INSTALLATION PROCEDURE FOR NEW PART

A. TRIM TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENT, REFERENCE TO 1F-4C-3-1-1.

B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED, REFERENCE TO 1F-4C-3-1-1.

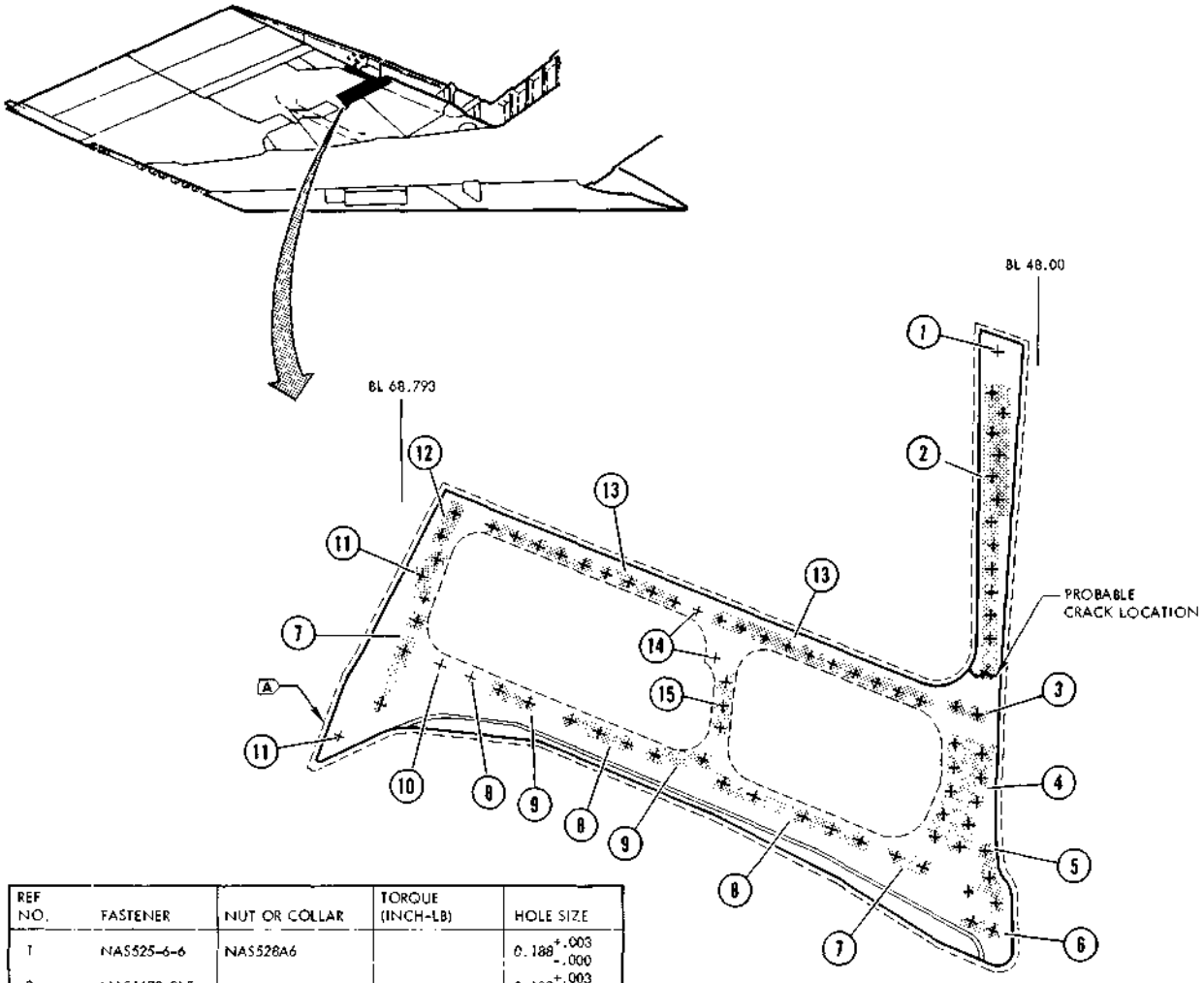
C. REFINISH TRIMMED EDGE, HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

1. NUT BASE.
2. UNDER NUT BASE.
3. MAXIMUM LAMINATED SHIM PERMITTED IS 0.031 MAXIMUM. LAMINATED SHIM NOT PERMITTED IN LIEU OF 0.032 SOLID SHIM; MAXIMUM UNSHIMED GAP 0.008; SHIM GAP TO BE 0.030 +.030, -.030.
4. FOR FASTENERS IN BLIND AREAS USE MS21075L PLATE NUTS. ATTACH PLATENUTS TO 0.040 7075—T6 ALUMINUM BACKING PLATES, BACKING PLATES TO BE SIZE AND SHAPE AS REQUIRED TO FIT BLIND AREAS. WIDTH OF PLATES TO MAINTAIN AT LEAST TWO DIAMETER EDGE DISTANCE FOR FASTENERS. ATTACH BACKING PLATES TO STRUCTURE WITH SEALANT. MS21059L PLATENUTS MAY BE SUBSTITUTED FOR MS21075L.

4C-3-1-2-(349)C

Figure 2-72A. Flap Closure Skin, 53-11022, Replacement Index



REF NO.	FASTENER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
1	NAS525-6-6	NAS528A6		$0.188^{+.003}_{-.000}$
2	NAS1670-3L5			$0.199^{+.003}_{-.000}$
3	NAS525-6-7	NAS528A6		$0.188^{+.003}_{-.000}$
4 ▶2◀	NAS525-6-6	NAS528A6		$0.188^{+.003}_{-.000}$
▶3◀	NAS525-6-6	NAS528A6		$0.191^{+.003}_{-.000}$
5	MS20426AD5			$0.156^{+.013}_{-.000}$
6	NAS1670-3L6			$0.199^{+.003}_{-.000}$
7	NAS334CFA7	6799N428	40-60	$0.2495^{+.0017}_{-.0000}$
		2935-04 ⟨1⟩		
8	NAS334CFA6-5	6799N428	40-60	$0.2495^{+.0017}_{-.0000}$
		2935-04 ⟨1⟩		
9	NAS334CFA10	6799N428	40-60	$0.2495^{+.0017}_{-.0000}$
		2935-04 ⟨1⟩		
10	NAS334CFA7-5	6799N428	40-60	$0.2495^{+.0017}_{-.0000}$
		2935-04 ⟨1⟩		
11	NAS525-6-5	NAS528A6		$0.188^{+.003}_{-.000}$
12	NAS1416-6	NAS1080C6		$0.187^{+.003}_{-.000}$
13	NAS525-6-3	NAS528A6		$0.187^{+.003}_{-.000}$
14	NAS525-6-4	NAS528A6		$0.187^{+.003}_{-.000}$
15	MS20426DD6			$0.191^{+.007}_{-.000}$

INSPECTION PROCEDURE

A. VISUALLY INSPECT ENTIRE SKIN AND PERFORM FLUORESCENT PENETRANT INSPECTION ON PROBABLE CRACK LOCATION. REFERENCE TO 1F-4C-36 FOR INSPECTION PROCEDURE.
B. IF CRACK EXISTS IN PROBABLE CRACK LOCATION INSTALL REPAIR DOUBLER. SEE DETAIL A. IF OTHER CRACKS EXIST REPLACE SKIN.

INSTALLATION PROCEDURE FOR NEW PART

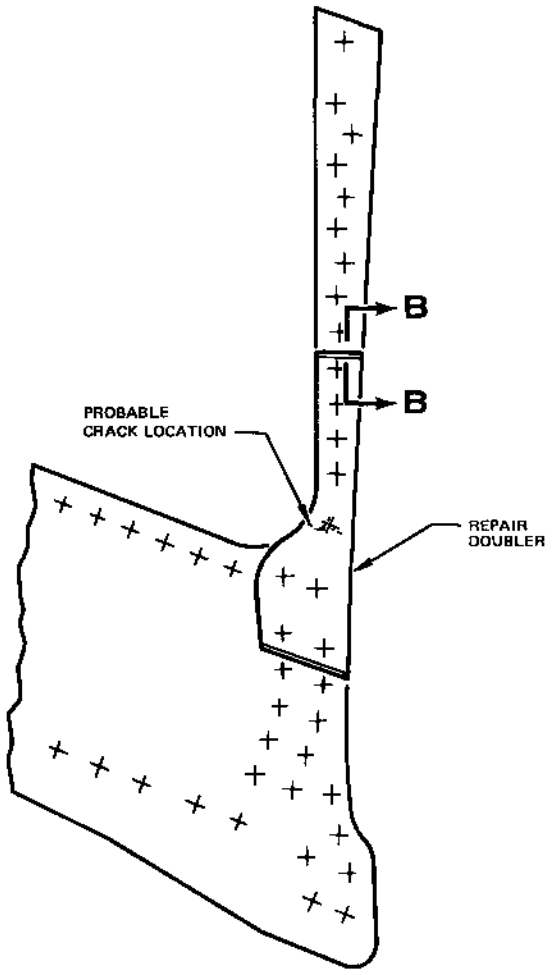
▶A◀ TRIM EDGES TO FIT OPENING. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIM LINE.
B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES AS REQUIRED.
C. REFINISH TRIMMED EDGES, HOLES, AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
D. NAS334CFA6 FASTENERS AND 6799N428 WITH 2935-04 NUT BASE OR EQUIVALENT ARE ACCEPTABLE REPLACEMENTS FOR ALL NAS525 FASTENERS.

Notes

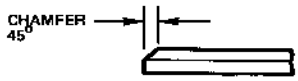
⟨1⟩ NUT BASE.
▶2◀ F-4C, F-4D 64-929 THRU 64-963, AND RF-4C 63-7742 THRU 65-864.
▶3◀ F-4D 64-694 THRU 66-8825, RF-4C 65-865 THRU 72-156, F-4E, AND F-4G.

4C-3-1-2-(299-1)89

Figure 2-73. Skin, 53-11020, Inspection, Rework, and Replacement Index (Sheet 1 of 2)



DETAIL A



SECTION B-B

INSTALLATION PROCEDURE FOR REPAIR DOUBLER

A. FABRICATE REPAIR DOUBLER PER DETAIL A.
B. REFINISH REWORK AREA AND REPAIR PART PER TO 1F-4C-3-1-6.
C. INSTALL REPAIR DOUBLER WITH ORIGINAL TYPE FASTENER TWO SIZES LONGER.

4C-3-1-2-(299-2)B

Figure 2-73. Skin, 53-11020, Inspection, Rework, and Replacement Index (Sheet 2 of 2)

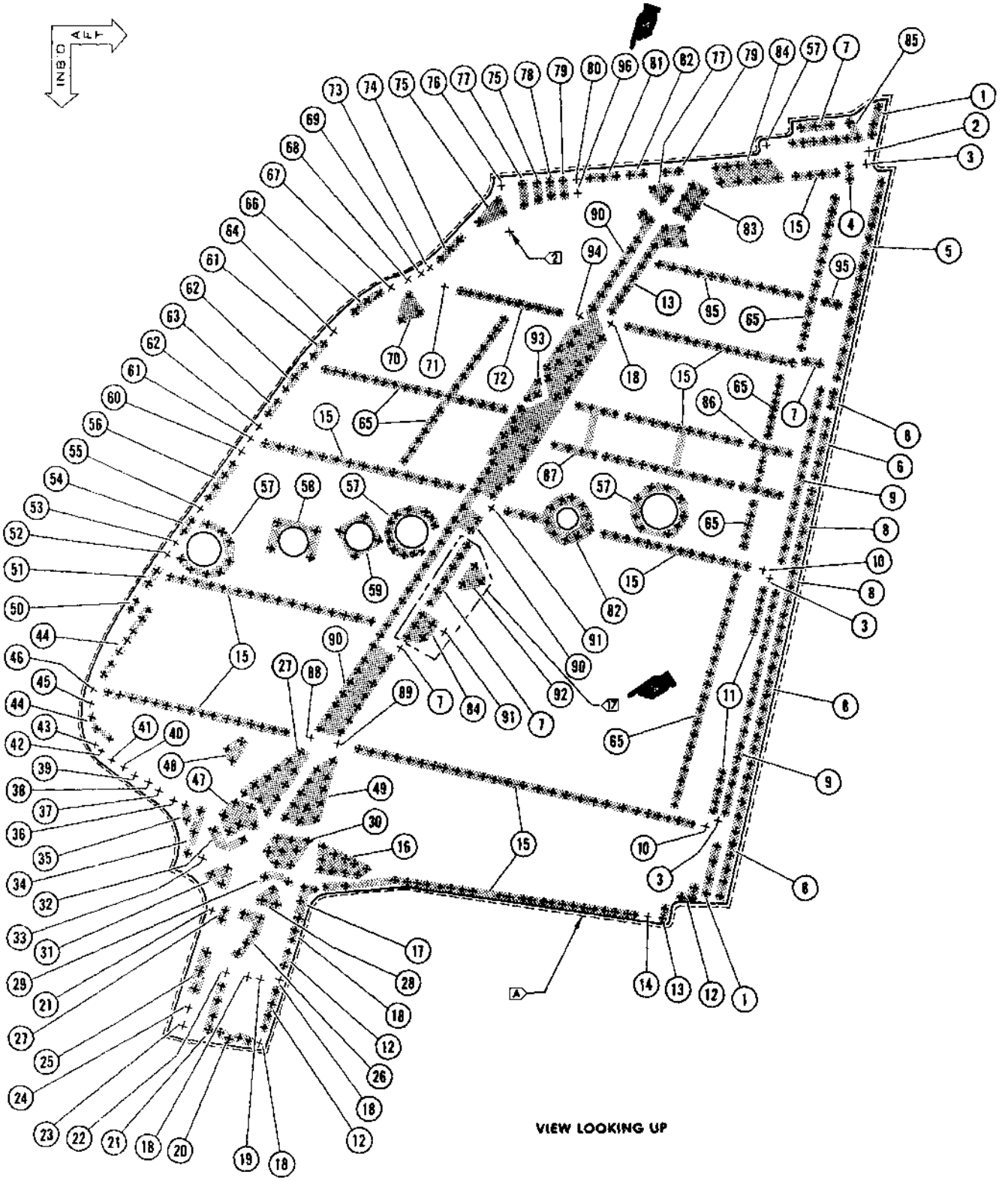


Figure 2-73A. Skin, 32-11023 and 53-111023, Replacement Index (Sheet 1 of 5)

REF NO.	FASTENER	NUT BASE	WASHER		SHIM OR SPACER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
			UNDER HEAD	UNDER NUT				
1	NAS333CFA6			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
2	NAS333CFA7					F1934-3-4	20-25	0.1895 +0.0017 -0.0000
3	NAS334CFA7	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
4	NAS333CFA6-5	67992W1032				67992N1032	20-25	0.1895 +0.0017 -0.0000
5	MS20426DD8 ◁							0.257 +0.005 -0.000
6	NAS1438-17					NAS1080C8		0.2495 +0.0017 -0.0000
7	NAS334CFA7-5	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
8	NAS1438-13					NAS1080C8		0.2495 +0.0017 -0.0000
9	NAS334CFA6			AN960D416		MS21042-4	50-70	0.2495 +0.0017 -0.0000
10	NAS333CFA7	67992W1032				67992N1032	20-25	0.1895 +0.0017 -0.0000
11	NAS333CFA5-5			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
12	NAS333CFA5			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
13	NAS333CFA7			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
14	NAS333CFA6-5			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
15	MS20426DD6 ◁							0.191 +0.007 -0.000
16 ◀	MS20426DD6 ◁							0.191 +0.007 -0.000
▶	NAS583-8T	67992W1032				679992N1032	20-25	0.1895 +0.0017 -0.0000
17 ◀	NAS333CFA10			AN960D10		MS21042-3	20-25	0.1855 +0.0012 -0.0000
▶	NAS333CFA12			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
18	NAS333CFA10			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
19	NAS333CFA6			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
20 ◀	NAS333CFA5			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
▶	NAS333CFA7			AN960D10		MS21042-3	20-25	0.1895 +0.0017 -0.0000
21 ◀	NAS333CFA7	67992W1032				67992N1032	20-25	0.1895 +0.0017 -0.0000
▶	NAS584-11T	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
22 ◀	NAS334CFA10	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
▶	NAS584-13T	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
23 ◀	NAS334CFA7	68992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
▶	66117H-4-14	67992W428		AN960D416		67992N428	50-70	0.2495 +0.0017 -0.0000
▶	66117H-4-16	67992W428		AN960D416		67992N428	50-70	0.2495 +0.0017 -0.0000
24 ◀	NAS334CFA7	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
▶	66117H-4-14	67992W428		AN960D416		67992N428	50-70	0.2495 +0.0017 -0.0000
▶	66117H-4-15	67992W428		AN960D416		67992N428	50-70	0.2495 +0.0017 -0.0000
25 ◀	NAS334CFA7	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
▶	66117H-4-14	67992W428		AN960D416		67992N428	50-70	0.2495 +0.0017 -0.0000
26 ◀	NAS334CFA7	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
▶	NAS584-13T	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
27 ◀	NAS525-4-7					NAS528A6		0.1895 +0.0017 -0.0000
▶	NAS583-11T	67992W1032				67992N1023	20-25	0.1895 +0.0017 -0.0000
28 ◀	NAS334CFA12-5	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
▶	NAS584-17T	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000

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Figure 2-73A. Skin, 32-11023 and 53-111023, Replacement Index (Sheet 2 of 5)

REF NO.	FASTENER	NUT BASE	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
29 4	NAS334CFA12	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
5	NAS584-17T	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
30 4	NAS1504-10T			AN960D416L		MS21042-4	50-70	0.2495 +0.0017 -0.0000
5	NAS1504-14T			AN960D416L		MS21042-4	50-70	0.2495 +0.0017 -0.0000
31 4	NAS585-12T	67992W524			53-11002-207 53-11002-217	67992N524	100-140	0.3120 +0.0017 -0.0000
5	NAS585-15T	67992W524			53-11002-207 53-11002-217	67992N524	100-140	0.3120 +0.0017 -0.0000
32 4	NAS585-12T	67992W524			53-11002-209 53-11002-215	67992N524	100-140	0.3120 +0.0017 -0.0000
5	NAS585-15T	67992W524			53-11002-209 53-11002-215	67992N524	100-140	0.3120 +0.0017 -0.0000
33 4	NAS584-12T	67992W428			53-11002-207 53-11002-217	67992N428	50-70	0.2495 +0.0017 -0.0000
5	NAS584-15T	67992W428			53-11002-207 53-11002-217	67992N428	50-70	0.2495 +0.0017 -0.0000
34 4	NAS1418-9					NAS1080C8		0.2495 +0.0017 -0.0000
5	NAS1418-16					NAS1080C8		0.2495 +0.0017 -0.0000
35 4	NAS1418-9					NAS1080C8		0.2495 +0.0017 -0.0000
5	NAS1418-12					NAS1080C8		0.2495 +0.0017 -0.0000
36	NAS1418-10					NAS1080C8		0.2495 +0.0017 -0.0000
37	NAS1418-11					NAS1080C8		0.2495 +0.0017 -0.0000
38	NAS1418-12					NAS1080C8		0.2495 +0.0017 -0.0000
39	NAS1418-13					NAS1080C8		0.2495 +0.0017 -0.0000
40	NAS1418-14					NAS1080C8		0.2495 +0.0017 -0.0000
41	NAS1418-15					NAS1080C8		0.2495 +0.0017 -0.0000
42	HS61-8-14				32-11002-227 32-11002-229	NAS528A8		0.2495 +0.0017 -0.0000
43	HS61-5-14				32-11002-227 32-11002-229	NAS528A5		0.156 +0.003 -0.000
44	HS61-8-10					NAS528A8		0.2495 +0.0017 -0.0000
45	NAS1504-7T					MS21042-4	50-70	0.2495 +0.0017 -0.0000
46	NAS584-15T	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
47 4	NAS584-12T	67992W428			32-11002-209 32-11002-215	67992N428	50-70	0.2495 +0.0017 -0.0000
5	NAS584-15T	67992W428			32-11002-209 32-11002-215	67992N428	50-70	0.2495 +0.0017 -0.0000
48	NAS584-6T	67992W428				67992N428	50-70	0.2495 +0.0017 -0.0000
49 4	NAS525-6-6					NAS528A6		0.1895 +0.0017 -0.0000
5	NAS583-10T	67992W1032				67992N1032	20-25	0.1895 +0.0017 -0.0000
50 4	NAS1436-8					NAS1080C6		0.1895 +0.0017 -0.0000
5	TL100-3-19	TLN1020L3W				TLN1020L3N		◁1
■ 51 4	NAS1305-13	67992W428				RM12LHA3022B054	50-70	0.2495 +0.0017 -0.0000
5	TL200-4-17	TLN1020L4W				TLN1020L4N		◁1
52 4	NAS1438-11					NAS1080C8		0.2495 +0.0017 -0.0000
5	TL100-4-14	TLN1020L4W				TLN1020L4N		◁1
■ 53 4	NAS1305-13	67992W428				RM12LHA3022B054		0.2495 +0.0017 -0.0000
5	TL200-4-16	TLN1020L4W				TLN1020L4N		◁1
54 4	NAS1438-12					NAS1080C8		0.2495 +0.0017 -0.0000
5	TL100-4-14	TLN1020L4W				TLN1020L4N		◁1

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Figure 2-73A. Skin, 32-11023 and 53-111023, Replacement Index (Sheet 3 of 5)

REF NO.	FASTENER	NUT BASE	WASHER		SHIM OR SPACER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
			UNDER HEAD	UNDER NUT				
55	NAS1438-11					NAS1080C8		0.2495 +.0017 -.0000
	TL100-4-13	TLN1020L4W				TLN1020L4N		③
56	NAS1483-11					NAS1080C8		0.2495 +.0017 -.0000
	7L100-4-12	TLN1020L4W				TLN1020L4N		③
57	MS20426AD4 ①							0.128 +.006 -.000
58	NAS334CFA10					MS21042-4	50-70	0.2495 +.0017 -.0000
59	NAS334CFA17			AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
60	NAS1438-8					NAS1080C8		0.2495 +.0017 -.0000
	TL100-4-12	TLN1020L4W				TLN1020L4N		③
61	NAS1438-8					NAS1080C8		0.2495 +.0017 -.0000
	TL100-4-11	TLN1020L4W				TLN1020L4N		③
62	NAS1438-8					NAS1080C8		0.2495 +.0017 -.0000
	TL100-4-10	TLN1020L4W				TLN1020L4N		③
63	NAS1438-8					NAS1080C8		0.2495 +.0017 -.0000
	TL100-4-9	TLN1020L4W				TLN1020L4N		③
64	NAS1438-13					NAS1080C8		0.2495 +.0017 -.0000
	TL100-4-16	TLN1020L4W				TLN1020L4N		③
65	MS20426AD5							0.159 +.007 -.000
66	NAS584-15T			AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
67	NAS584-9T			AN960D416		MS21042-4	50-70	0.2495 +.0017 -.0000
68	HS61-8-10					NAS528A8		0.248 +.003 -.000
69	NAS334CFA10					MS21042-4	50-70	0.2495 +.0017 -.0000
70	NAS1055-8-6					NAS528A8		0.2495 +.0017 -.0000
71	NAS1055-8-5					NAS528A8		0.248 +.003 -.000
72	NAS1055-6-3					NAS528A6		0.188 +.003 -.000
73	HS61-8-9					NAS528A8		0.2495 +.0017 -.0000
74	NAS1418-8					NAS1080C8		0.2495 +.0017 -.0000
75	NAS584-9T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS1704T9	67992W428				67992N428		0.2651 +.0022 -.0000
76	NAS584-11T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS1704T9	67992W428				67992N428		0.2651 +.0022 -.0000
77	NAS584-10T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS1704T10	67992W428				67992N428		0.2651 +.0022 -.0000
78	NAS584-7T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS1704T7	67992W428				67992N428		0.2651 +.0022 -.0000
79	NAS584-8T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS1704T9	67992W428				67992N428		0.2651 +.0022 -.0000
	NAS1704T7	67992W428				67992N428		0.2651 +.0022 -.0000
80	NAS584-8T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS584-9T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS1704T7	67992W428				67992N428		0.2651 +.0022 -.0000
81	NAS584-7T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
	NAS584-9T	67992W428				67992N428	50-70	0.2495 +.0017 -.0000

4C-3-1-2-(349-4) B

Figure 2-73A. Skin, 32-11023 and 53-111023, Replacement Index (Sheet 4 of 5)

REF NO.	FASTENER	NUT BASE	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
82	NAS584-8T	67992W428			32-11002-267 32-11002-271	67992N428	50-70	0.2495 +.0017 -.0000
83	NAS333CFA14-5	67992W1032				67992N1032	15-25	0.1900 +.0017 -.0000
84	NAS334CFA10-5	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
85	NAS334CFA6	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
86	NAS1670-3L3							0.1990 +.0030 -.0000
87	NAS525-6-3					NAS528A6		0.1895 +.0017 -.0000
88 [1]	NAS1416-7					NAS1080C6		0.1895 +.0017 -.0000
[3]	NAS583-11T	67992W1032				67992N1032	20-25	0.1895 +.0017 -.0000
89 [1]	NAS1416-6					NAS1080C6		0.1895 +.0017 -.0000
[2]	NAS583-13T	67992W1032				67992N1032	20-25	0.1895 +.0017 -.0000
90	NAS1416-6					NAS1080C6		0.1895 +.0017 -.0000
91	NAS1670-4L9							0.2600 +.0017 -.0000
92	NAS334CFA10	67992W428				67992N428	50-70	0.2495 +.0017 -.0000
93	NAS1416-7					NAS1080C6		0.1895 +.0017 -.0000
94	NAS1436-6					NAS1080C6		0.1895 +.0017 -.0000
95 [7]	MS20426AD4 [1]							0.128 +.006 -.000
[8]	NAS1097AD5 [1]							0.159 +.007 -.000
96 [6]	NAS584-8T	67992W428				67992N428		0.2651 +.0022 -.0000
[11]	NAS1704T9	67992W428				67992N428		0.2651 +.0022 -.0000
[12]	NAS1704T7	67992W428				67992N428		0.2651 +.0022 -.0000

INSTALLATION PROCEDURE FOR NEW PART

[A] TRIM EDGES TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS, REFERENCE TO 1F-4C-3-1-1.

B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES TO RECEIVE FASTENERS AS REQUIRED.

C. REFINISH TRIMMED EDGES, FASTENER HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

[1] FASTENER LENGTH TO BE DETERMINED ON INSTALLATION.

[2] 0.500 +.007 -.000 DIAMETER HOLE.

[3] TAPER LOK FASTENER ARE SPECIAL TAPERED FASTENERS AND MUST BE REMOVED AND INSTALLED BY QUALIFIED PERSONNEL AND IN ACCORDANCE WITH TO 1F-4C-3-1-1.

[4] F-4E 66-284 THRU 72-136, F-4G, F-4C, F-4D, AND RF-4C 63-7742 THRU 71-252.

[5] F-4E 72-137 AND UP AND RF-4C 71-253 THRU 72-156.

[6] F-4E 72-137 AND UP.

[7] F-4E 66-284 THRU 73-01202, F-4G , F-4C, F-4D, AND RF-4C.

[8] F-4E 73-01203 AND UP.

[9] RF-4C 71-253 THRU 72-156.

[10] F-4C, F-4D, F-4E, F-4G, AND RF-4C BEFORE TO 1F-4-1123.

[11] F-4C, F-4D, AND RF-4C AFTER TO 1F-4-1123.

[12] F-4E 66-284 THRU 74-01653 AND F-4G AFTER TO 1F-4-1123.

[13] F-4E 66-284 THRU 72-136, RF-4C 63-7742 THRU 71-252, F-4C, F-4D, AND F-4G BEFORE TO 1F-4-1123.

[14] F-4E 72-137 AND UP BEFORE TO 1F-4-1123; ALSO RF-4C 71-253 THRU 72-156, F-4C, AND F-4D AFTER TO 1F-4-1123.

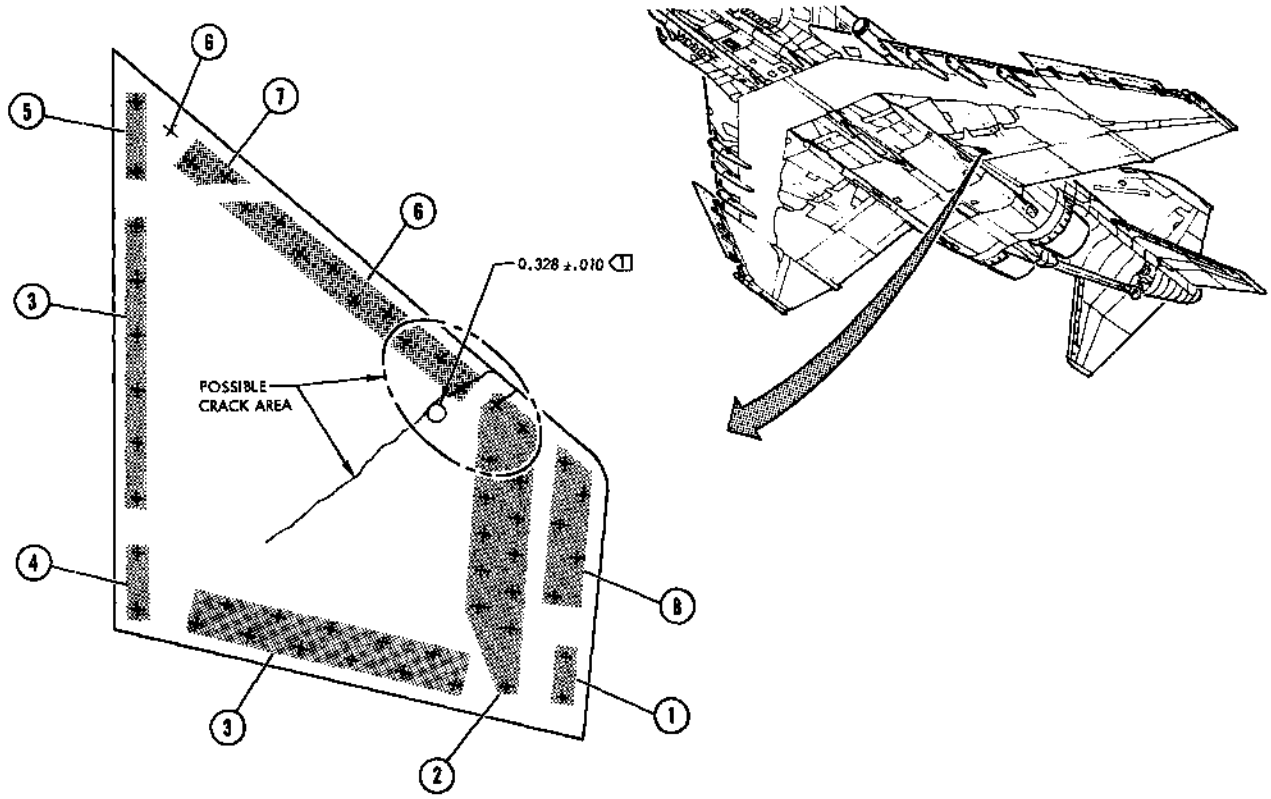
[15] F-4E 66-284 THRU 74-01653, F-4C, F-4D, F-4G, AND RF-4C AFTER TO 1F-4-1123.

[16] F-4E 72-137 THRU 74-01653 AND RF-4C 71-253 THRU 72-156 AFTER TO 1F-4-1123; ALSO F-4E 66-284 THRU 72-136, F-4C, F-4D, AND F-4G.

[17] FOR REPLACEMENT OF LOOSE FASTENERS IN THIS AREA, REFER TO TEXT

4C-3-1-2-(349-5)B

Figure 2-73A. Skin, 32-11023 and 53-111023, Replacement Index (Sheet 5 of 5)



REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	MS20426DD6		0.191 +.011 -.000
2	NAS1670-3L5		0.199 +.003 -.000
3	NAS525-6-4 3	NAS528A6	0.188 +.003 -.000
4	NAS525-6-6	NAS528A6	0.188 +.003 -.000
5	NAS525-6-5	NAS528A6	0.188 +.003 -.000
6	NAS525-6-3	NAS528A6	0.188 +.003 -.000
7	NAS525-6-3 2	NAS528A6	0.188 +.003 -.000
	NAS529-6-5 1	NAS28A6	0.188 +.003 -.000
8	NAS1670-3-L4		0.199 +.003 -.000

INSPECTION PROCEDURE

A. LOWER SPEEDBRAKE TO FULLY EXTENDED POSITION, REFER TO T.O. 1F-4-( )-2-4.
B. REMOVE 32-11032 DOOR, REFER TO T.O. 1F-4C-3-1-3.
C. VISUALLY INSPECT ENTIRE 53-11043 SKIN FOR EVIDENCE OF CRACKS.
D. PERFORM FLUORESCENT PENETRANT INSPECTION IN ENCIRCLED AREA. REFER TO T.O. 1F-4C-36 FOR INSPECTION PROCEDURE.
E. IF CRACKS ARE FOUND, REMOVE AND REPLACE SKIN.

INSTALLATION PROCEDURE FOR NEW PART

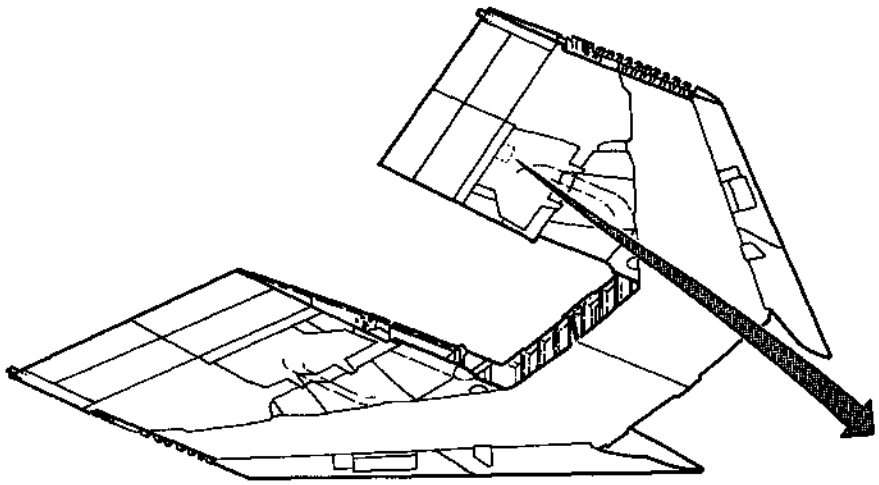
A. REMOVE ATTACHING HARDWARE.
B. LOCATE NEW 53-11043 SKIN AND DRILL FASTENER HOLES TO SIZE CALLED OUT IN FASTENER CHART. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES.
C. REMOVE SKIN AND DEBURR HOLES IN SKIN AND STRUCTURE.
D. APPLY SEALER TO MATING SURFACES OF SKIN AND STRUCTURE PER TO 1F-4C-3-1-6.
E. INSTALL SKIN AND FASTENERS.

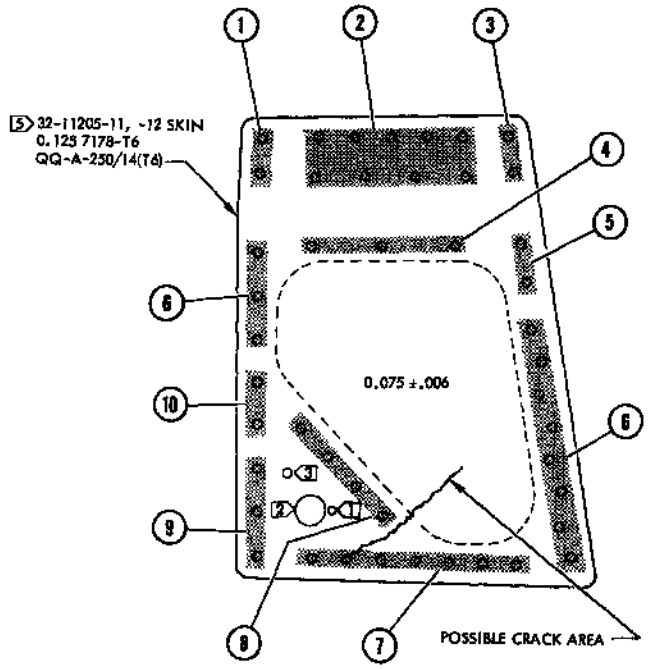
Notes

1 RIGHT SIDE.
2 LEFT SIDE.
3 PERMISSIBLE TO SUBSTITUTE NAS1581A3H4T BOLT, MS21042-3 NUT WITH AN960D10L WASHER UNDER NUT OR HL551-6-4 HI-LOK AND HL579-6 COLLAR IN LIEU OF NAS525-6-4 HI-SHEAR RIVET NAS 528A6 COLLAR.

4C-3-1-2-(312) A

Figure 2-74. Skin, 53-11043, Inspection and Replacement Index





REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	NAS525-6-6	NAS528A6	0.188 +.003 -.000
2	NAS1416-9	NAS1080C6	0.190 +.003 -.000
3	NAS1416-5	NAS1080C6	0.190 +.003 -.000
4	MS20470AD5	4	0.159 +.013 -.000
5	MS20426DD6	4	0.191 +.011 -.000
6	NAS529-6-6	NAS528A6	0.188 +.003 -.000
7	NAS529-6-4	NAS528A6	0.188 +.003 -.000
8	MS20470DD6	4	0.191 +.011 -.000
9	NAS529-6-8	NAS528A6	0.188 +.003 -.000
10	NAS529-6-7	NAS528A6	0.188 +.003 -.000

INSPECTION PROCEDURE

A. EXTEND SPEEDBRAKE TO FULL DOWN POSITION. REFER TO T.O. 1F-4( )-2-4.
B. VISUALLY INSPECT AND PERFORM FLUORESCENT PENETRANT INSPECTION ON 32-11205-11, -12 SKIN. REFER TO T.O. 1F-4C-36 FOR FLUORESCENT PENETRANT INSPECTION PROCEDURE.
C. IF CRACK EXISTS, REPLACE SKIN.

INSTALLATION PROCEDURE FOR NEW PART

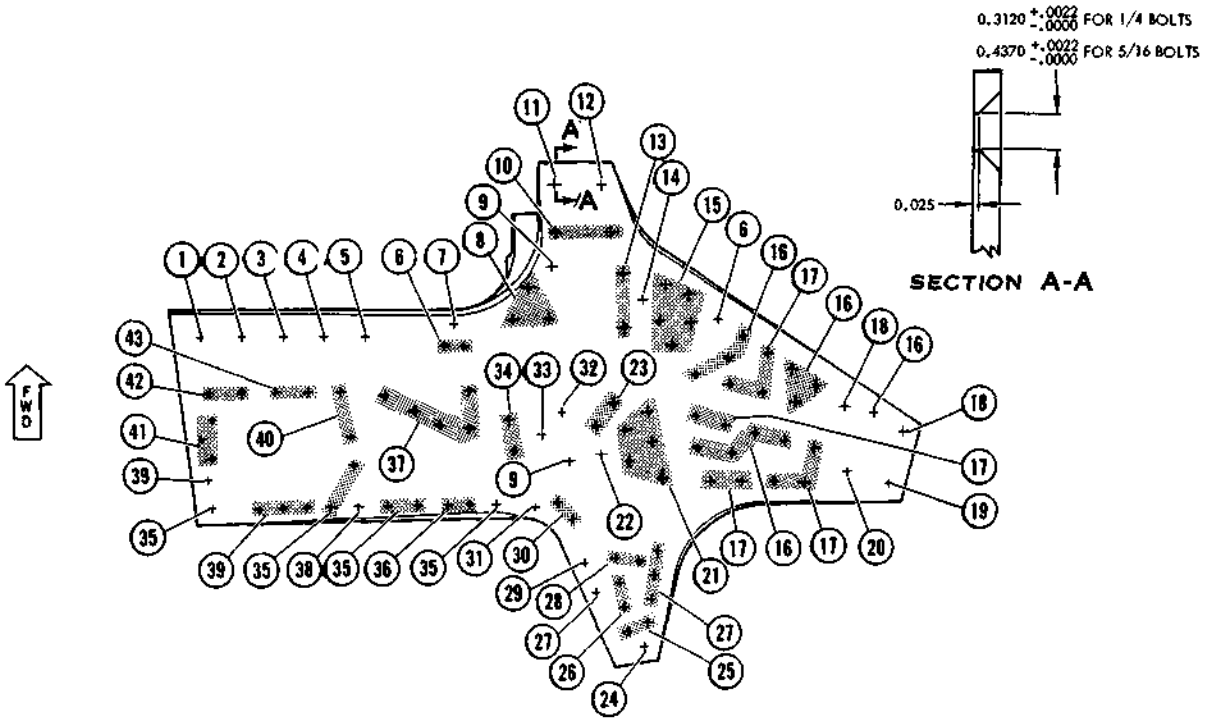
A. LOCATE NEW SKIN AND DRILL FASTENER HOLES TO SIZE CALLED OUT IN CHART, REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING FASTENER HOLES.
B. REMOVE SKIN AND DEBURR FASTENER HOLES IN SKIN AND STRUCTURE.
C. REFINISH FASTENER HOLES IN SKIN AND STRUCTURE, REFER TO T.O. 1F-4C-3-1-6.
D. FAY SEAL SKIN AND MATING STRUCTURE, REFER TO T.O. 1F-4C-3-1-6.
E. INSTALL SKIN AND FASTENER CALLED OUT IN CHART.

Notes

1 ELECTRICAL HOLE 0.14 +.03 -.00 DIAMETER.
2 ELECTRICAL HOLE 0.63 +.03 -.00 DIAMETER.
3 ELECTRICAL HOLE 0.157 +.010 -.000 DIAMETER.
4 FASTENER LENGTH TO BE DETERMINED ON INSTALLATION.
5 PART CHEMICALLY MACHINED FROM STOCK THICKNESS.

4C-3-1-2-(322)

Figure 2-75. Skin 32-11205-11, -12 Inspection and Replacement Index



REF NO.	FASTENER	WASHER	SPACER OR FILLER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
1	HT42A15A (3)	AN960D416 (4)	32G970405-9 (2)	66052N4 66052W4 (1)	50-70	0.2812 +.0012 -.0000
2	HT42A15H (3)	AN960D416 (5) AN960D416L	32G970405-9 (2)	66052N4 66052W4 (1)	50-70	0.2812 +.0012 -.10000
3	HT42A15H (3)	AN960D416 (5)	32G970405-9 (2)	66052N4 66052W4 (1)	50-70	0.2812 +.0012 -.0000
4	HT42A16H (3)	AN960D416 (4)	32G970405-9 (2)	66052N4 66052W4 (1)	50-70	0.2812 +.0012 -.0000
5	NAS1603T11 (3)		32G970405-9 (2)	RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000
6	NAS1603T11			RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000
7	NAS1603T11		32G970405-9 (2)	RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000
8	NAS1605T17	AN960D516 (4)	32G970405-9 (2)	RM52LH2935-054 2935-05 (1)	100-140	0.3437 +.0012 -.0000
9	NAS1604T17	AN960D416	32G970405-9 (2)	RM52LH2935-048 2935-04 (1)	50-70	0.2812 +.0012 -.0000
10	NAS1604T19 (3)		32G970405-5 (2)	RM52LH2935-048 2935-04 (1)	50-70	0.2812 +.0012 -.0000
11 (7)	NAS1604T10 (3)		32G970405-9 (2)	RM52LH2935-048 2935-04 (1)	50-70	0.2812 +.0012 -.0000
(8)	NAS1605T10		32G970405-7 (2)	RM52LH2935-054 2935-05 (1)	100-140	0.3437 +.0012 -.0000
12	NAS583-13T (3)		32G970405-3 (2)	RM52LH2935-02 2935-0 (1)	20-25	0.1895 +.0017 -.0000
13	NAS1605T18 (3)	AN960D516 (5)	32G970405-7 (2)	RM52LH2935-054 2935-05 (1)	100-140	0.3432 +.0017 -.0000
14	NAS1604T18 (3)	AN960D416	32G970405-9 (2)	RM52LH2935-048 2935-04 (1)	50-70	0.2812 +.0012 -.0000
15	NAS1604T17 (3)		32G970405-9 (2)	RM52LH2935-048 2935-04 (1)	50-70	0.2812 +.0012 -.0000
16	NAS1603T10 (3)			RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000
17	NAS1603T10 (3)	AN960D10L		RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000
18	NAS1603T9 (3)	AN960D10		RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000
19	NAS1603T12 (3)	AN960D10		RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000
20	NAS1603T9 (3)			RM52LH2935-02 2935-0 (1)	20-25	0.2187 +.0012 -.0000

4C-3-1-2-(324-1)A

Figure 2-76. Lower Surface Strap, 32G970395, Fastener Replacement (Sheet 1 of 2)

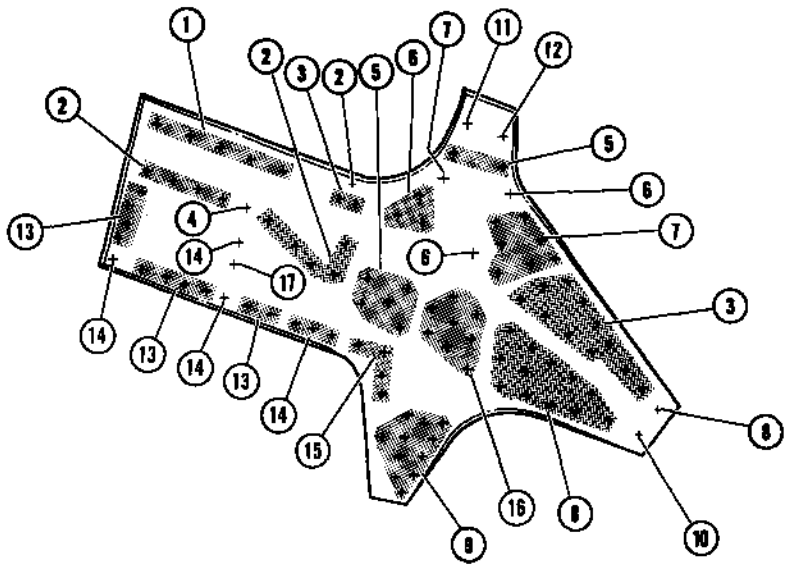
REF NO.	FASTENER	WASHER	SPACER OR FILLER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
21	NAS1604T15 ⟨3⟩	AN960D416	32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
22	NAS1604T15 ⟨3⟩		32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
23	NAS1604T16 ⟨3⟩		32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
24	NAS1603T10 ⟨3⟩		32G970405-13 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
25	NAS1603T10 ⟨3⟩	AN960D10	32G970405-13 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
26	NAS1603T11 ⟨3⟩	AN960D10	32G970405-13 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
27	NAS1603T11 ⟨3⟩	AN960D10L ⟨6⟩		RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0010}$
28	NAS1603T12 ⟨3⟩	AN960D10L ⟨5⟩	32G970405-13 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
29	NAS1603T12 ⟨3⟩	AN960D10	32G970405-13 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
30	NAS1603T17 ⟨3⟩	AN960D10L ⟨5⟩	32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
31	NAS1603T17		32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0010}$
32	NAS1604T17	AN960416L	32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
33	NAS1604T19	AN960D416	32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
34	NAS1604T19	AN960D416L ⟨5⟩	32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
35	NAS1603T8		32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
36	NAS1603T9		32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
37	NAS1604T11 ⟨3⟩		32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
38	NAS1603T11 ⟨3⟩	AN960D10	32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
39	NAS1603T7 ⟨3⟩		32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
40	NAS1603T13 ⟨3⟩		32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0012}_{-.0000}$
41	NAS1603T7 ⟨3⟩	AN960D10L ⟨4⟩	32G970405-11 ⟨2⟩	RM52LH2935-02 2935-0 ⟨1⟩	20-25	0.2187 $^{+.0017}_{-.0000}$
42	NAS1604T10 ⟨3⟩		32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$
43	NAS1604T11 ⟨3⟩		32G970405-9 ⟨2⟩	RM52LH2935-048 2935-04 ⟨1⟩	50-70	0.2812 $^{+.0012}_{-.0000}$

Notes

⟨1⟩ NUT OR COLLAR BASE.
⟨2⟩ INSTALL COUNTERSINK FILLER, REFERENCE TO 1F-4C-3-1-5.
⟨3⟩ FILL COUNTERSINK ON TOP OF BOLT HEAD WITH EPOXY FILLER, TYPE II, REFERENCE TO 1F-4C-3-1-5.
⟨4⟩ THREE REQUIRED.
⟨5⟩ TWO REQUIRED.
⟨6⟩ FOUR REQUIRED.
⟨7⟩ F-4C 63-7407 THRU 64-746 AND RF-4C 63-7742 THRU 64-1062.
⟨8⟩ F-4C 64-747 THRU 64-928, F-4D, AND RF-4C 64-1063 THRU 72-152.

4C-3-1-2-(324-2)A

Figure 2-76. Lower Surface Strap, 32G970395, Fastener Replacement (Sheet 2 of 2)



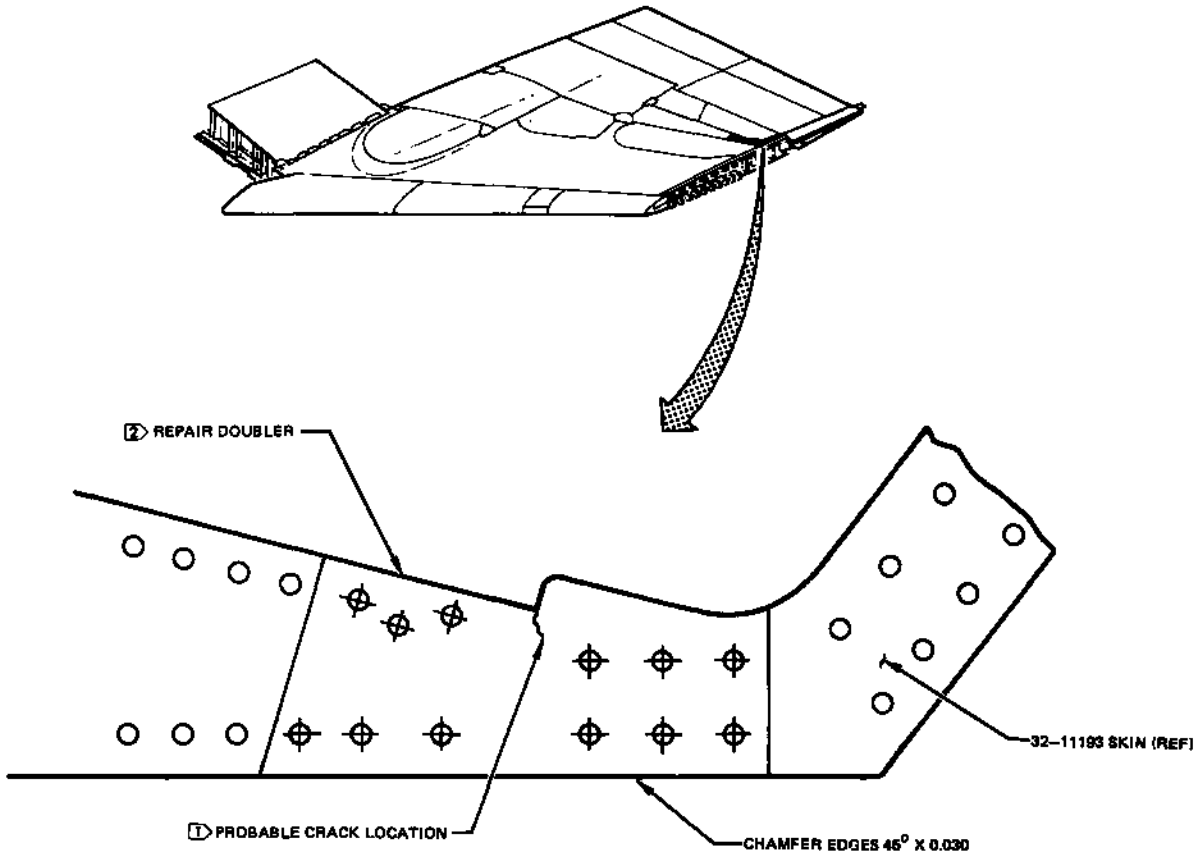
REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	66117H4-14	RM52LH2935-048 2935-04 (1)	AN960D416	50-70	0.2495 +.0017 -.0000
2	NAS584-11T	RM52LH2935-048 2935-04 (1)		50-70	0.2495 +.0017 -.0000
3	NAS583-11T	RM52LH2935-02 2935-0 (1)		20-25	0.1895 +.0017 -.0000
4	NAS584-13T	RM52LH2935-048 2935-04 (1)		50-70	0.2495 +.0017 -.0000
5	NAS584-17T	RM52LH2935-048 2935-04 (1)		50-70	0.2495 +.0017 -.0000
6	NAS585-16T	RM52LH2935-054 2935-05 (1)		100-140	0.3120 +.0017 -.0000
7	NAS584-16T	RM52LH2935-048 2935-04 (1)		50-70	0.2495 +.0017 -.0000
8	NAS583-10T	RM52LH2935-02 2935-0 (1)		20-25	0.1895 +.0017 -.0000
9	NAS583-8T	RM52LH2935-02 2935-0 (1)		20-25	0.1895 +.0017 -.0000
10	NAS583-13T	RM52LH2935-02 2935-0 (1)		20-25	0.1895 +.0017 -.0000
11	NAS585-11T	RM52LH2935-054 2935-05 (1)	AN960D516	100-140	0.3120 +.0017 -.0000
12	NAS583-15T	RM52LH2935-02 2935-0 (1)	AN960D10	20-25	0.1895 +.0017 -.0000
13	NAS333CFA7	MS21042-3	AN960D10	20-25	0.1900 +.0012 -.0000
14	NAS333CFA10	MS21042-3	AN960D10	20-25	0.1900 +.0012 -.0000
15	NAS333CFA12	RM52LH2935-02 2935-0 (1)		20-25	0.1900 +.0012 -.0000
16	NAS1504-4T	MS21042-4		50-70	0.2495 +.0017 -.0000
17	NAS333CFA6	MS21042-3	AN960D10	20-25	0.1900 +.0012 -.0000

Note

(1) NUT BASE.

4C-3-1-2-(294)B

Figure 2-77. Lower Surface Strap, 53-110064, Fastener Replacement



REPAIR PROCEDURE

A. REMOVE EXISTING FASTENERS WHERE DOUBLER WILL GO AND INSTALL COUNTERSINK FILLERS PER TO 1F-4C-3-1-5, PARAGRAPH 2-9.

B. FABRICATE AND INSTALL DOUBLER. MATE DRILL DOUBLER TO EXISTING SKIN AND INSTALL NAS1581 FASTENERS IN AREA OF REPAIR ONLY. GRIP LENGTH TO BE DETERMINED ON INSTALLATION.

Notes

1 FOR CRACKS LESS THAN 0.125 ROUT OUT TO CRACK. FOR CRACKS BETWEEN 0.125 AND 1.500 STOP DRILL CRACK AND INSTALL DOUBLER. REPLACE SKIN IF CRACK EXCEEDS 1.500.

2 MAKE REPAIR DOUBLER FROM 0.100 4130, 4330 OR 4340 STEEL. HEAT TREAT TO 160-180 KSI AND CADIUM PLATE PER QQ-P-416, TYPE II, CLASS 3.

4C-3-1-2-(406)D

Figure 2-77A. Skin, 32-11193, Crack Repair

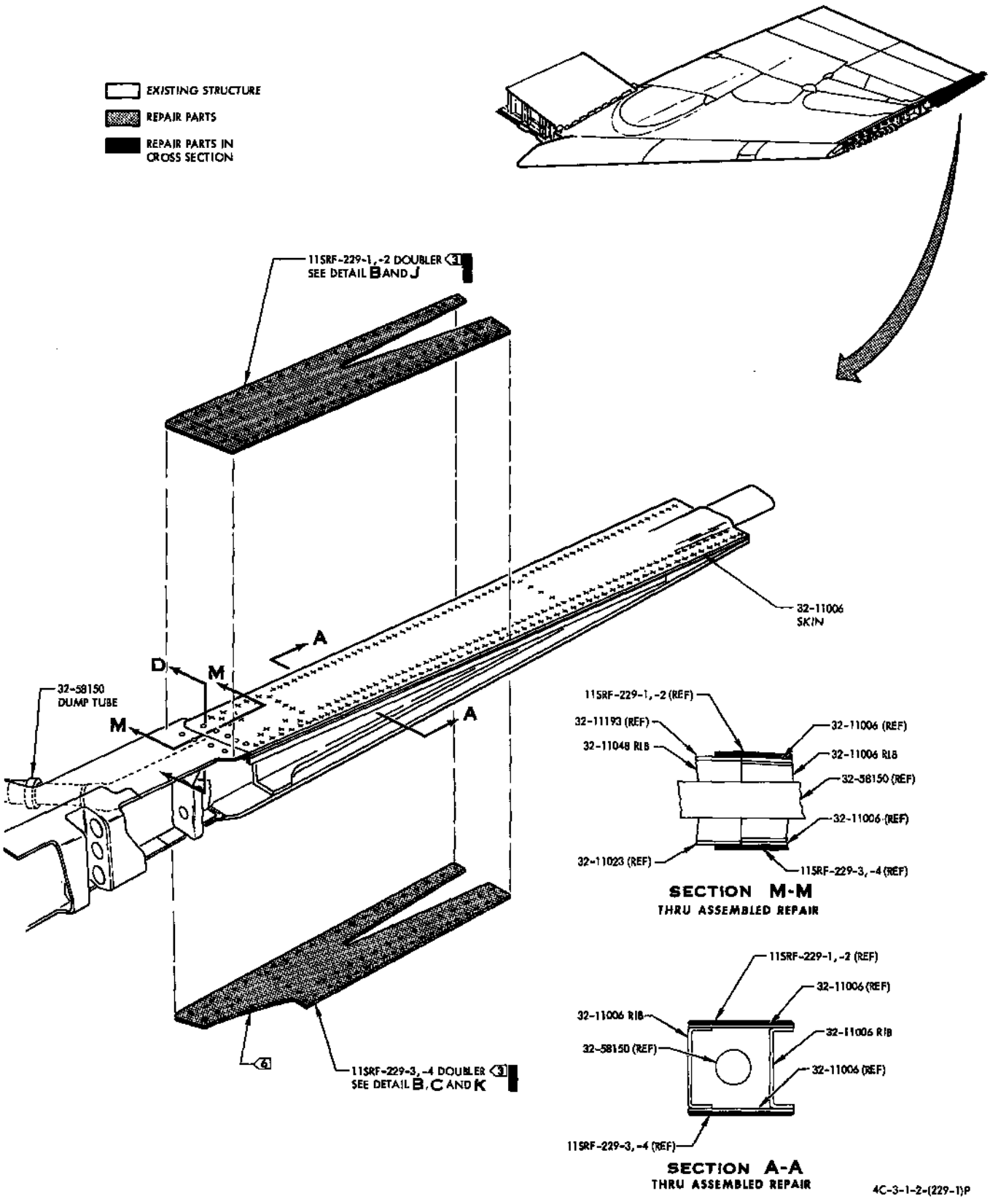


Figure 2-78. Fuel Dump Mast Skin Repair (Sheet 1 of 3)

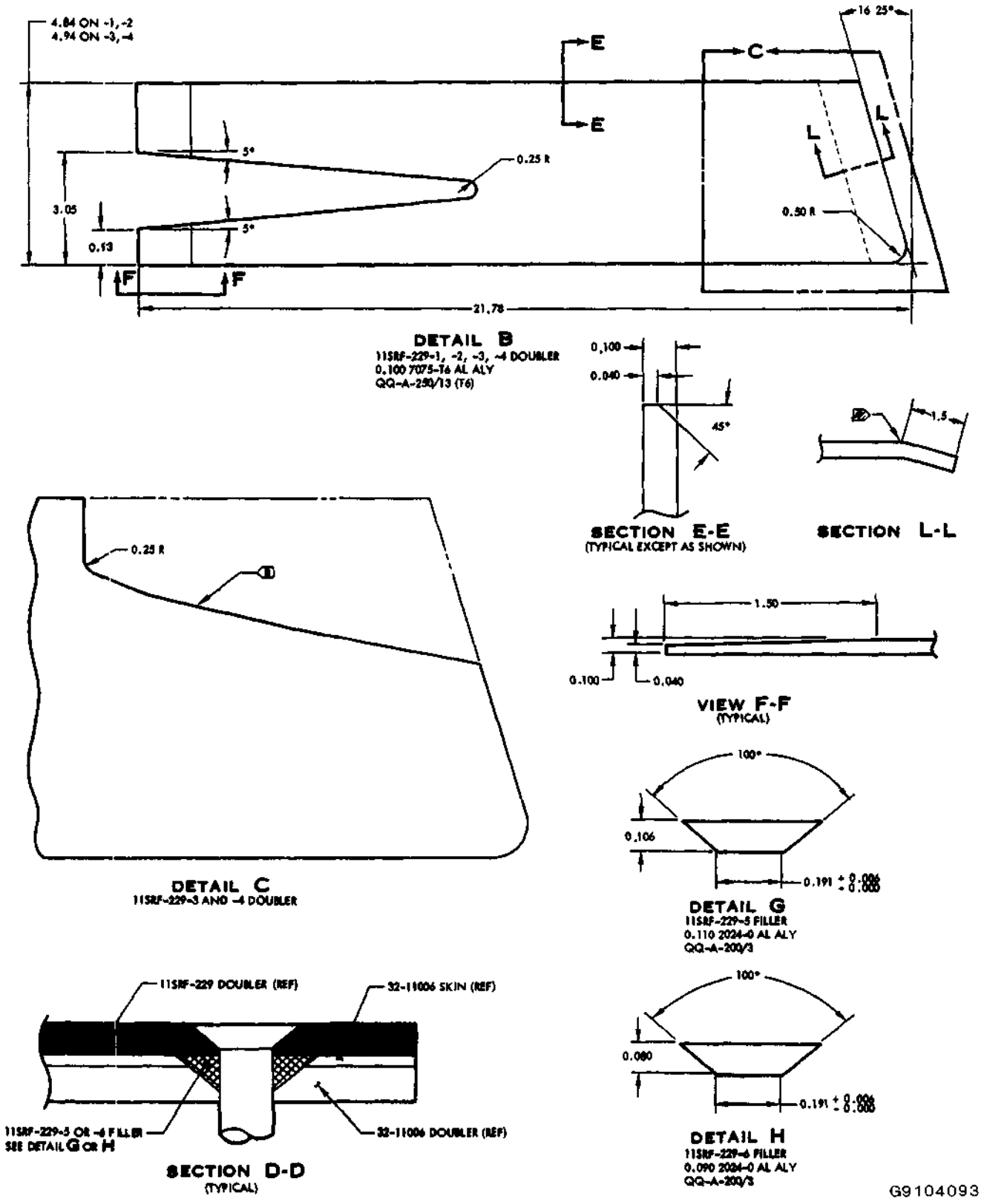
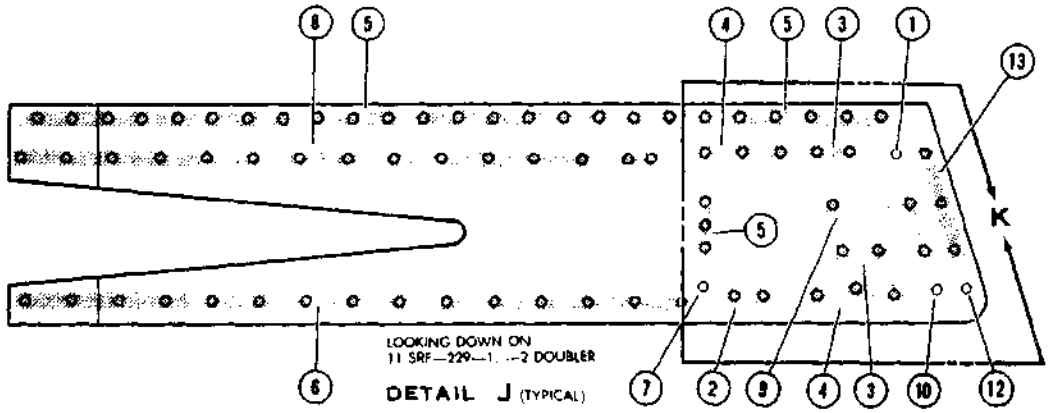
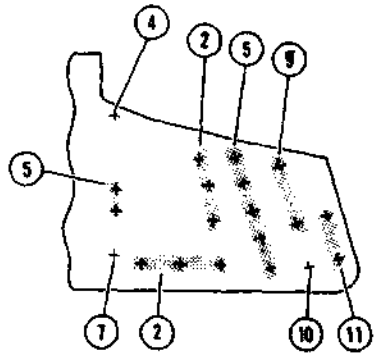


Figure 2-78. Fuel Dump Mast Skin Repair (Sheet 2 of 3)



REF NO.	FASTENER [1]	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE	COUNTERSINK FILLER IN 32-11006 SKIN
1	NAS583-8T [7] [4]			0.1900 +0.0012 -0.0005	11SRF-229-6 11SRF-229-5
2	MS90353-05			0.163 +0.006 -0.000	
3	MS90353-06			0.195 +0.006 -0.000	
4	MS90353-05			0.163 +0.006 -0.000	
5	MS20426AD5-4			0.159 +0.013 -0.000	
6	MS90353-05 [5]			0.163 -0.004 -0.000	
7	MS90353-05			0.163 -0.006 -0.000	
8	MS20426AD5-4 [5]			0.159 -0.013 -0.000	
9	NAS583-8T [7] [4]	F1934-3-4		0.1900 +0.0012 -0.0005	
10	NAS583-8T [7] [4]	F1934-3-2		0.1900 +0.0012 -0.0005	
11	NAS333CPA10	F1934-3-4	20-25	0.1900 +0.0012 -0.0000	
12	NAS333CFA6	RM52LH2935-02 2935-0 [10]	20-25	0.1900 +0.0012 -0.0000	
13	NAS333CPA10	F1934-3-4	20-25	0.1900 +0.0012 -0.0000	



DETAIL K
11SRF-229-3 AND -4 DOUBLER
ONLY LOOKING UP

REPAIR PROCEDURE

A. FABRICATE REPAIR PARTS.
B. REMOVE FASTENERS THAT WILL SECURE REPAIR PARTS TO FUEL DUMP MAST.

NOTE

CHECK HOLE AND COUNTERSINK SIZES PER FLAG NOTE [4] AND [7]

C. FABRICATE COUNTERSINK FILLER FOR 32-11006 SKINS. INSTALL FILLER PER FOLLOWING STEPS.
   (1) CEMENT FILLER IN COUNTERSINKS WITH SPECIFICATION MIL-S-8802, ADHESIVE PER T.O. 1F-4C-3-1-5.
   (2) AFTER PROPER DRYING TIME SHAVE FILLER FLUSH WITH MAXIMUM 0.003 PROTRUSION.
D. PILOT DRILL COUNTERSINK FILLER WITH NUMBER 40 DRILL.
E. LOCATE AND DRILL MATING FASTENER HOLES IN REPAIR DOUBLER, COUNTERSINK FILLER, DUMP MAST SKINS AND STRUCTURE PER HOLE SIZES IN FASTENER CHART, DETAIL J AND FLAG NOTE [7].
F. PREPARE REPAIR PARTS AND MATING SURFACE OF DUMP MAST SKINS AS FOLLOWS:
   (1) COAT SURFACES OF DOUBLER AND MATING STRUCTURE WITH ONE COAT OF EPOXY PRIMER REFERENCE T.O. 1F-4C-3-1-6.
   (2) APPLY SEALER TO MATING SURFACES OF REPAIR PARTS AND STRUCTURE PER T.O. 1F-4C-3-1-6.

NOTE

COMPLETELY INSTALL FASTENER WITHIN 24 HOURS AFTER MIXING SEALER

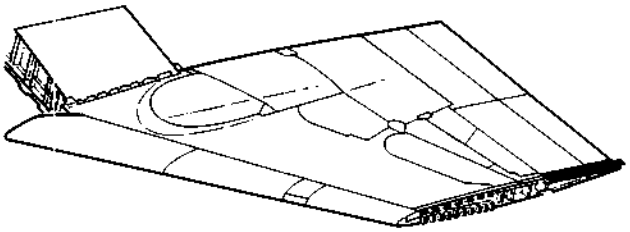
G. PERMANENTLY INSTALL REPAIR PARTS AND FASTENERS.

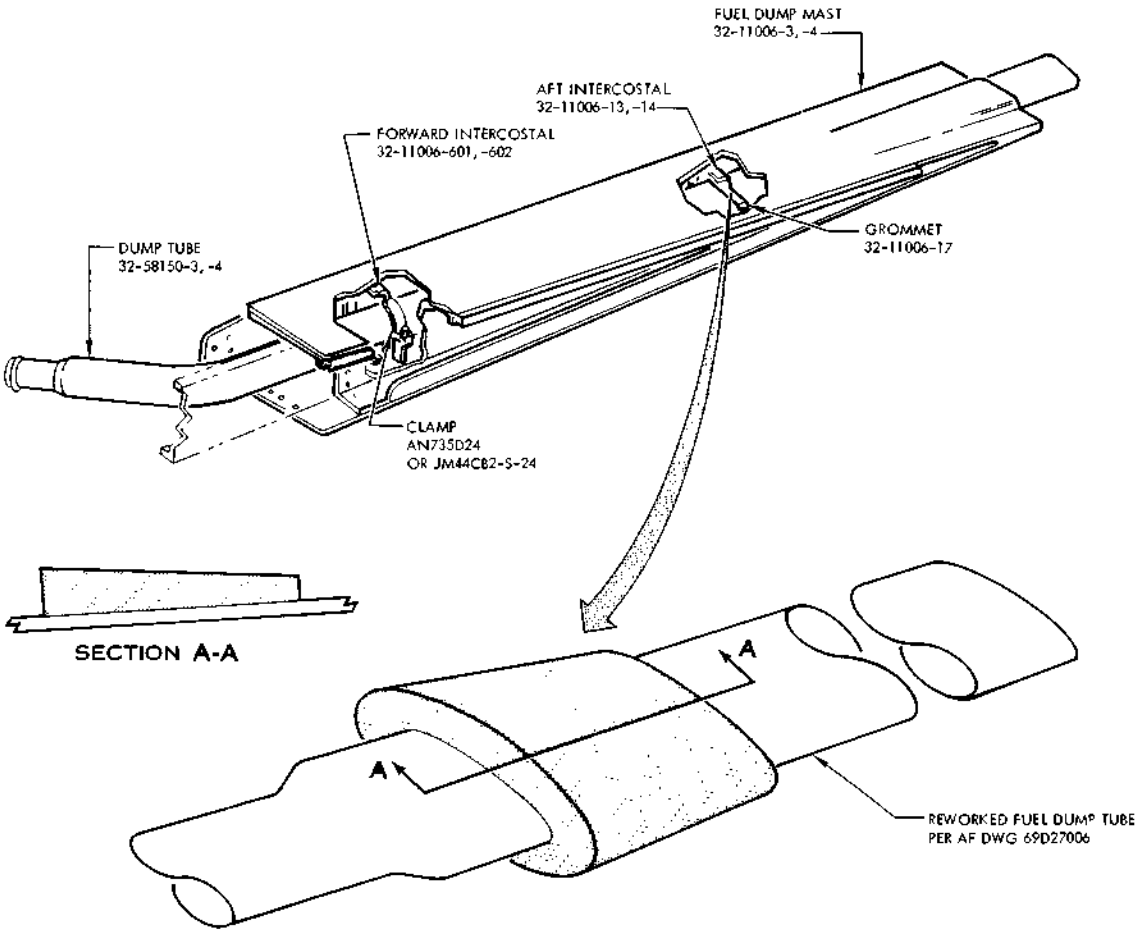
Notes

1. REFER TO TEXT FOR ADDITIONAL INFORMATION.
2. DELETED.
3. INSTALLATION OF UPPER AND LOWER DOUBLER IS MANDATORY.
4. INSTALL 11SRF-229-6 FILLER IF COUNTERSINK IS WITHIN TOLERANCE. IF COUNTERSINK IS OVERSIZE, COUNTERSINK TO 0.497 +0.010 -0.000 AND INSTALL 11SRF-229-5 FILLER. DO NOT REAM HOLE OVERSIZE.
5. THE NUMBER OF FASTENERS MAY VARY DEPENDING ON THE FASTENER PATTERN IN 32-11006-- ( ) DUMP MAST. STARTING WITH THE FIRST FASTENER IN AFT END OF DOUBLER, PICK UP EVERY OTHER FASTENER IN FUEL DUMP MAST SKINS EXCEPT FOR THE FIRST AND SECOND FASTENERS AFT OF 32-11006-79 SUPPORT IN SECOND ROW FROM OUTBOARD END. INSTALL BOTH OF THESE FASTENERS.
6. INSTALL AERODYNAMIC FILLER PER T.O. 1F-4C-3-1-1.
7. INSTALL IF HOLES ARE WITHIN TOLERANCE. IF BOLT HOLES ARE BEYOND TOLERANCES, REAM TO 0.2036 +0.0007 -0.0005 DIAMETER AND INSTALL NAS1703T8 BOLT OR 0.2192 +0.0007 -0.0005 DIAMETER AND INSTALL NAS1603T8 BOLT AS APPLICABLE. LOCAL ENGINEERING APPROVAL IS REQUIRED TO INSTALL NEXT SIZE DIAMETER BOLT.
8. TRIM TO 32-11256 FAIRING.
9. BEND DOWN AS REQUIRED, 11SRF-229-1, -2 ONLY. BEND RADIUS 0.75.
10. NUT BASE.
11. FASTENER LENGTH MAY BE ADJUSTED TO ACCOMODATE TOLERANCE BUILD UPS.

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Figure 2-78. Fuel Dump Mast Skin Repair (Sheet 3 of 3)





PROCEDURE

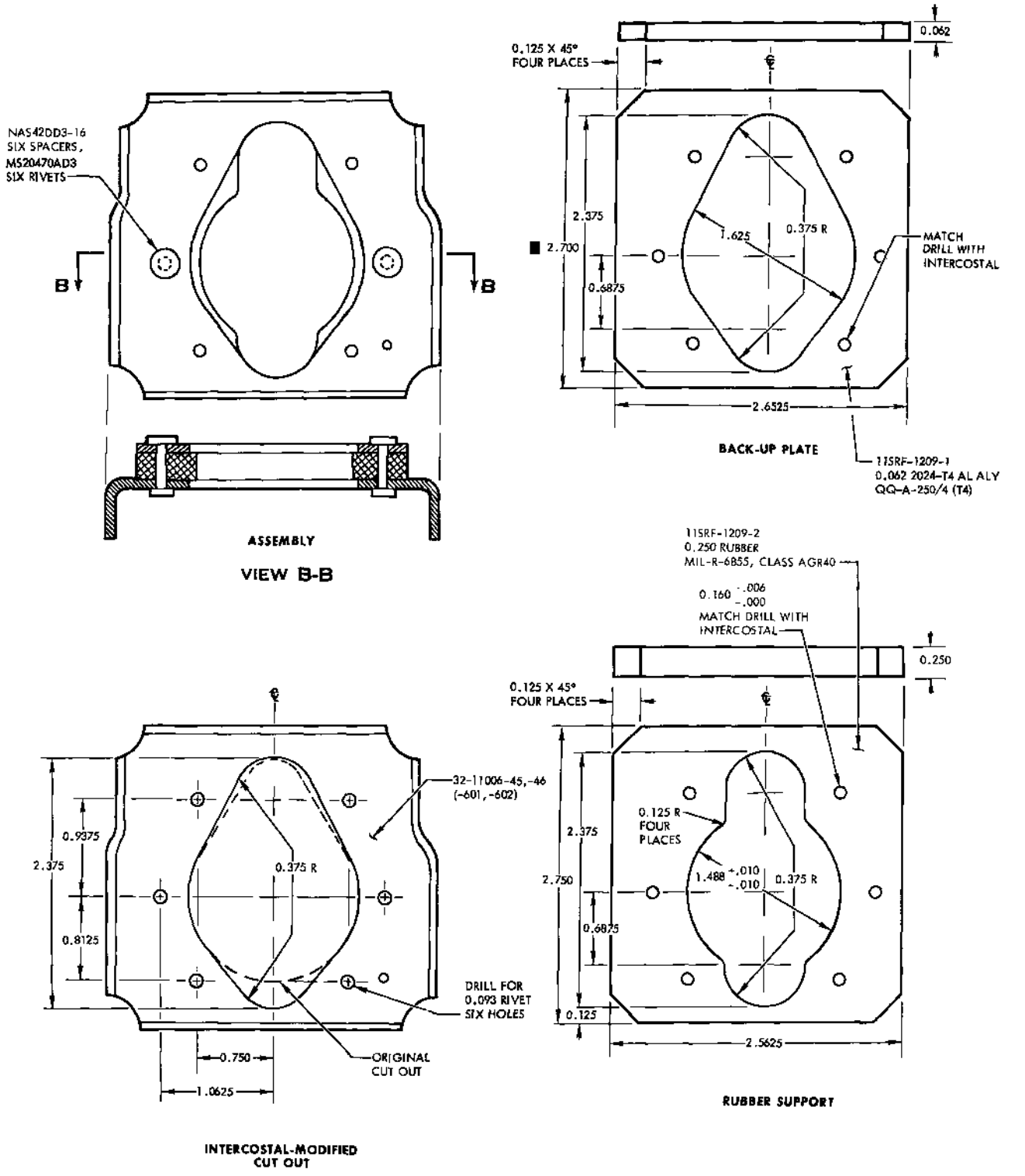
A. REMOVE FUEL DUMP TUBE, 32-58150-3, -4, FROM FUEL DUMP MAST.
B. REMOVE 32-11006-17 GROMMET FROM 32-11006-13, -14 AFT INTERCOSTAL BY USING FUEL DUMP TUBE TO APPLY PRESSURE AGAINST GROMMET TO ROLL IT OUT OF PLACE WITH FORE AND AFT MOVEMENT OF DUMP TUBE OR USING A SUITABLE WIRE HOOK. ENSURE ALL PIECES OF GROMMET ARE REMOVED.
C. REMOVE 32-11006-601, -602 FWD INTERCOSTAL FROM DUMP MAST.
D. REMOVE 32-11006-21 CLIPS FROM FWD INTERCOSTAL CUTOUT TO SIZE AND SHAPE SHOWN.
E. FABRICATE 11SRF-1209-1 BACK-UP PLATE AND 11SRF-1209-2 RUBBER SUPPORT AS SHOWN AND ASSEMBLE WITH REWORKED FWD INTERCOSTAL.
F. INSTALL INTERCOSTAL ASSEMBLY IN DUMP MAST WITH SAME TYPE FASTENERS AS REMOVED.
G. INSTALL 69D27006-10, -20 FUEL DUMP TUBE INTO DUMP MAST AND INSTALL ASSEMBLY ON AIRCRAFT PER FIGURE 2-80.

NOTE

32-58150-3, -4 FUEL DUMP TUBES ARE MODIFIED BY AF DRAWING 69D27006 AT DEPOT AND REIDENTIFIED TO 69D27006-10, -20.

4C-3-1-2-(103-1)A

Figure 2-79. Fuel Dump Mast Repair (Sheet 1 of 2)

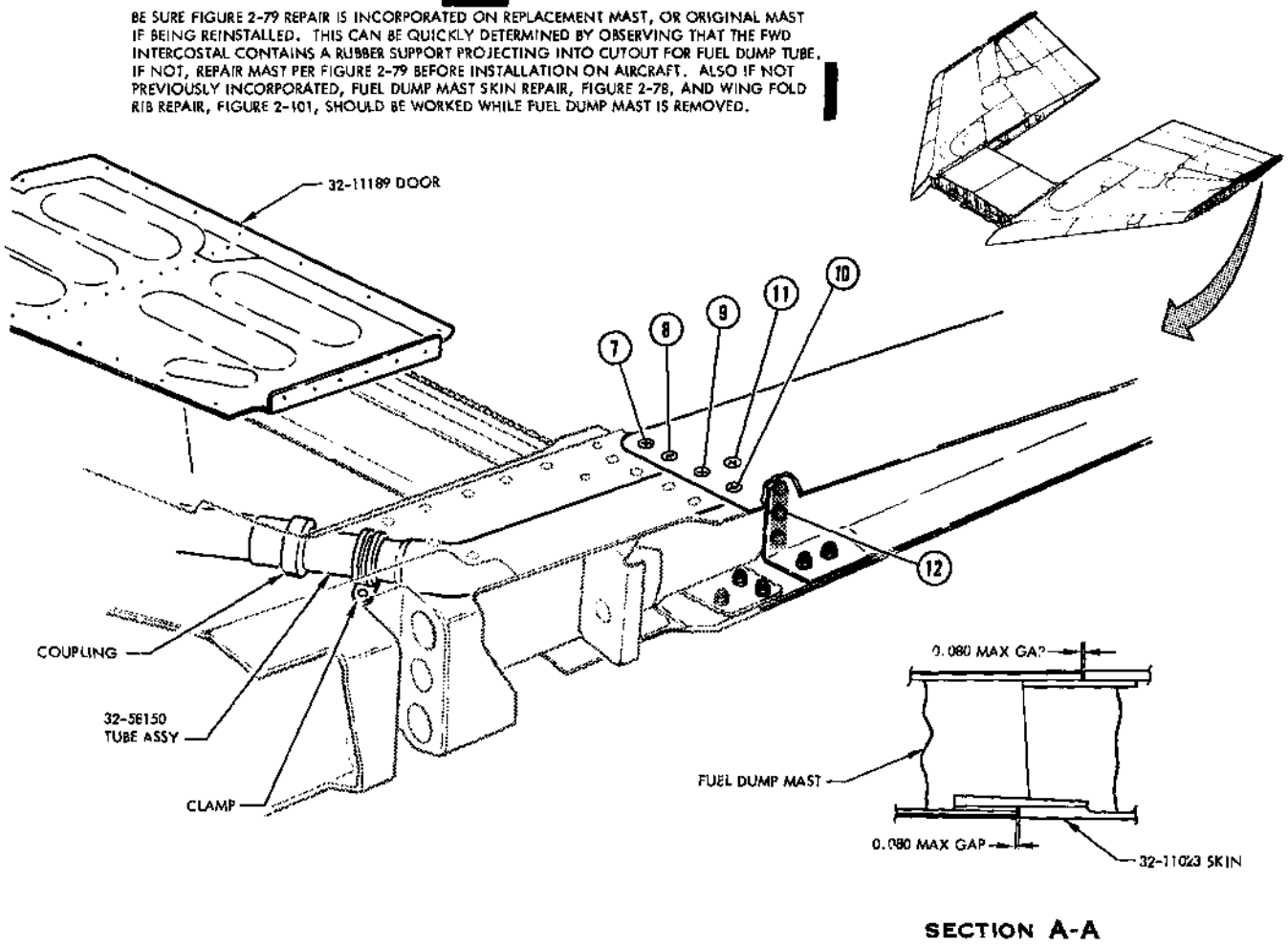


4C-3-1-2-(103-2)89

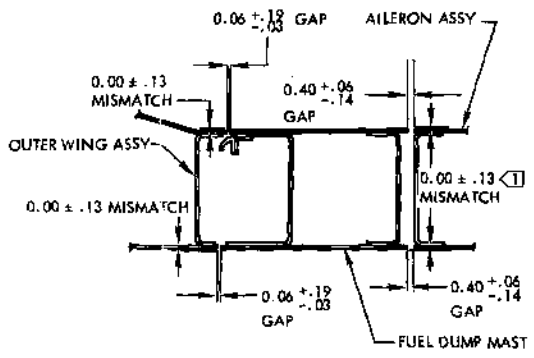
Figure 2-79. Fuel Dump Mast Repair (Sheet 2 of 2)

NOTE

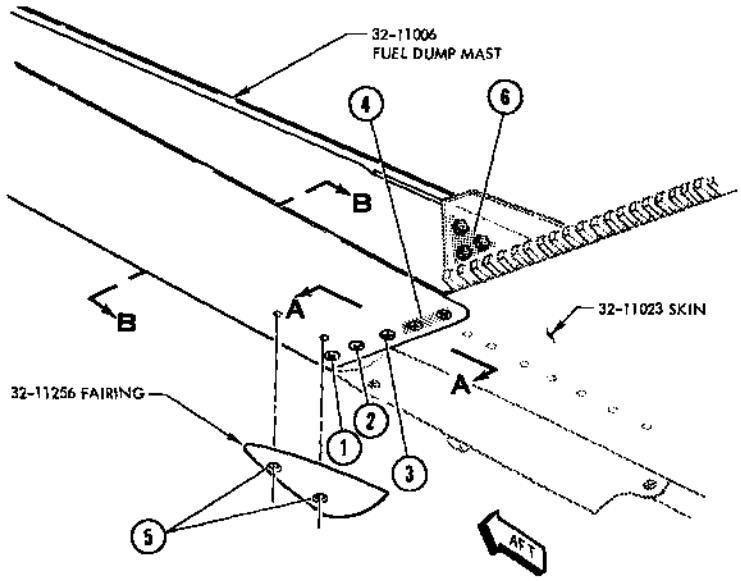
BE SURE FIGURE 2-79 REPAIR IS INCORPORATED ON REPLACEMENT MAST, OR ORIGINAL MAST IF BEING REINSTALLED. THIS CAN BE QUICKLY DETERMINED BY OBSERVING THAT THE FWD INTERCOSTAL CONTAINS A RUBBER SUPPORT PROJECTING INTO CUTOUT FOR FUEL DUMP TUBE. IF NOT, REPAIR MAST PER FIGURE 2-79 BEFORE INSTALLATION ON AIRCRAFT. ALSO IF NOT PREVIOUSLY INCORPORATED, FUEL DUMP MAST SKIN REPAIR, FIGURE 2-78, AND WING FOLD RIB REPAIR, FIGURE 2-101, SHOULD BE WORKED WHILE FUEL DUMP MAST IS REMOVED.



SECTION A-A



SECTION B-B (2)



4C-3-1-2-(91-1)F

Figure 2-80. Fuel Dump Mast Replacement (Sheet 1 of 2)

REMOVAL PROCEDURE

A. PLACE SPOILERS IN OPEN POSITION, AILERON IN DOWN POSITION AND OUTER WING IN FOLDED POSITION PER TO 1F-4( )-2-4.
B. REMOVE 32-11189 DOOR ASSEMBLY AND DISCONNECT COUPLING AND CLAMP FROM 32-58150 TUBE ASSEMBLY.
C. REMOVE 32-11256 FAIRING AND FUEL DUMP MAST FROM WING BY REMOVING (18) ATTACH SCREWS.

INSTALLATION PROCEDURE

A. IDENTIFY INSTALLATION HOLES BY EITHER MARKING PROJECTION LINES ON TOP AND BOTTOM CENTER WING SKIN PANELS AND OUTBOARD RIB, OR BY MAKING A TEMPLATE OF INSTALLATION HOLES FOR LATER DRILLING OF MOUNTING HOLES IN DUMP MAST. HOLES ON INBOARD RIB CAN BE LOCATED AFTER DUMP MAST IS TEMPORARILY SECURED.
B. POSITION DUMP MAST ASSEMBLY ON WING ENSURING 32-58150 TUBE CAN BE CONNECTED.
C. NEUTRALIZE AILERON PER TO 1F-4( )-2-4, AND PLACE OUTER WING IN DOWN AND LOCKED POSITION.
D. MOVE DUMP MAST IN VERTICAL DIRECTION, ESTABLISHING PROPER MISMATCH DIMENSIONS AS SHOWN IN SECTION B-B. IF MISMATCH TOLERANCE CANNOT BE MAINTAINED CONSULT DPM ENGINEERING.
E. ESTABLISH AMOUNT OF MATERIAL TO BE TRIMMED TO MAINTAIN PROPER GAP DIMENSIONS SHOWN IN SECTION A-A AND B-B.

NOTE

AFTER ESTABLISHING TRIM FUEL DUMP MAST MUST BE HELD FIRM UNTIL STEP G IS COMPLETED.

F. DRILL MOUNTING HOLES IN UPPER AND LOWER SKINS OF DUMP MAST USING PROJECTION LINES OR TEMPLATE STATED IN STEP A. TEMPORARILY INSTALL FASTENERS IN TOP AND BOTTOM SKIN PANELS.
G. RAISE OUTER WING, LOWER AILERON, AND LOCATE AND DRILL THREE ATTACH HOLES ON INBOARD AND OUTBOARD SIDE OF DUMP MAST.
H. REMOVE DUMP MAST FROM WING, PERFORM NECESSARY TRIMMING OPERATION AND COUNTERSINK FASTENER HOLES AS REQUIRED.
I. REFINISH FASTENER COUNTERSINKS AND TRIMMED EDGES ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
J. REPOSITION DUMP MAST, CONNECT COUPLING, AND CLAMP TO 32-51850 TUBE, AND INSTALL ATTACHING HARDWARE TO DUMP MAST.
K. NEUTRALIZE AILERON PER AND PLACE OUTER WING IN DOWN AND LOCK POSITION, AND PERFORM FINAL CHECK FOR GAP AND MISMATCH LIMITS PER SECTION B-B.
L. PRESSURE CHECK FUEL DUMP LINE FOR LEAKS PER TO 1F-4( )-2-10 AND INSTALL 32-11256 FAIRING AND 32-11189 DOOR.

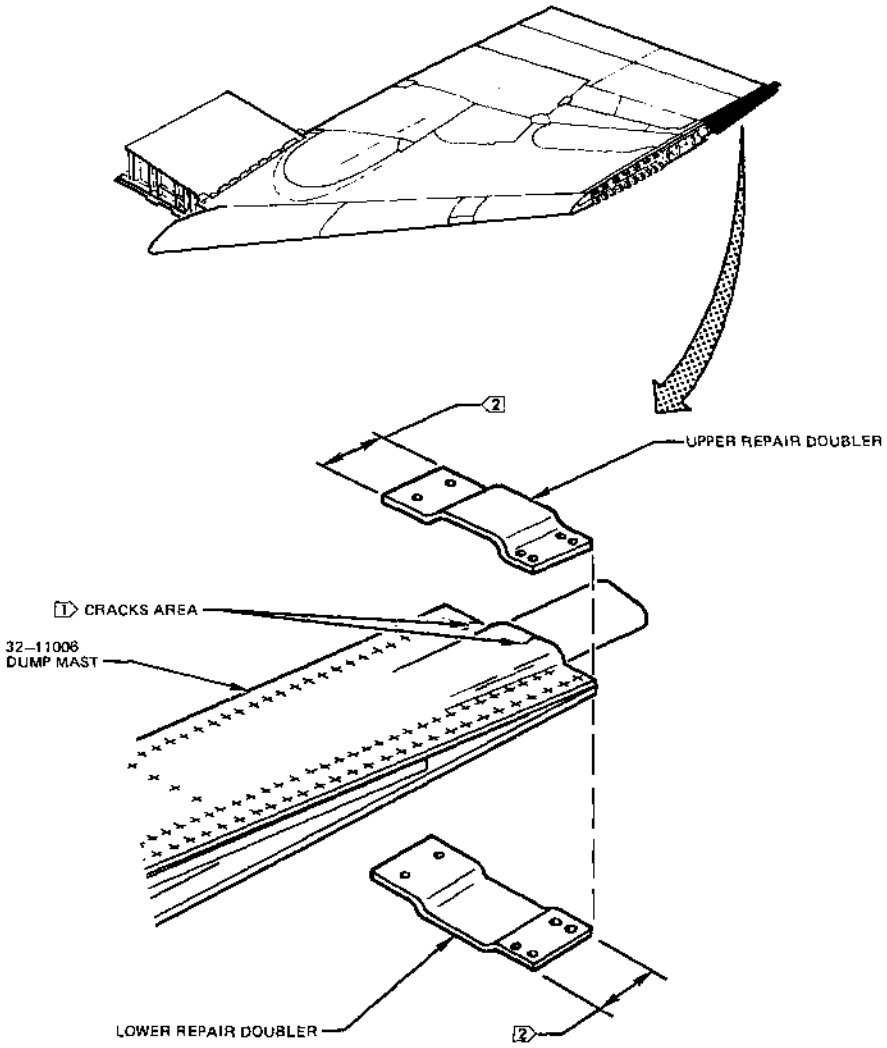
Notes

(1) AILERON RIGGED AND IN NEUTRAL POSITION.
(2) DIMENSIONS SHOWN ARE TYPICAL FOR ENTIRE LENGTH OF FUEL DUMP MAST.
(3) NUT RETAINER.
(4) F-4E 66-284 THRU 71-1093, F-4G, F-4C, F-4D, AND RF-4C 62-7742 THRU 71-259.
(5) F-4E 71-1391 AND UP AND RF-4 72-145 THRU 72-156.
(6) NAS1303-4H MAY BE USED AS A ALTERNATE.
(7) NAS1303-3H MAY BE USED AS A ALTERNATE.

REF NO.	FASTENER	NUT	WASHER	SHIM	TORQUE (INCH-LB)	HOLE SIZE
1 (4)	NAS333CFA6-5	MS21042-3	AN960D10		20-25	0.1900 +.0012 -.0005
(5)	66117H3-6	70938-3	AN960D10		20-25	0.1900 +.0012 -.0005
2 (4)	NAS333CFA7	F1934-3-4			20-25	0.1900 +.0012 -.0005
(5)	66117H3-8	MS21042-3	AN960D10		20-25	0.1900 +.0012 -.0005
3 (4)	NAS333CFA6-5	F1934-3-2			20-25	0.1900 +.0012 -.0005
(5)	66117H3-7	70938-3 NS102818-02 (3)		NAS463X-C10H	20-25	0.1900 +.0012 -.0005
4 (4)	NAS333CFA6-5	F1934-3-4			20-25	0.1900 +.0012 -.0005
(5)	66117H3-6	70938-3 NS102818-02 (3)		NAS463X-C10M	20-25	0.1900 +.0012 -.0005
5	NAS333CFA6-5	MS21042-3	AN960D10		20-25	0.1900 +.0012 -.0000
6	NAS464P3A4 (6)	F1934-3-2				0.1900 +.0012 -.0000
7 (4)	NAS333CFA6-5	F1934-3-2			20-25	0.1900 +.0012 -.0005
(5)	66117H3-8	70938-3 NS102818-02 (3)		NAS463X-C10H	20-25	0.1900 +.0012 -.0005
8 (4)	NAS333CFA6-5	F1934-3-4			20-25	0.1900 +.0012 -.0005
(5)	66117H3-5	70938-3 NS102818-02 (3)		NAS463X-C10M	20-25	0.1900 +.0012 -.0005
9 (4)	NAS333CFA6-5	F1934-3-4			20-25	0.1900 +.0012 -.0005
(5)	66117H3-6	70938-3 NS102818-02 (3)		NAS463X-C10M	20-25	0.1900 +.0012 -.0005
10 (4)	NAS333CFA6-5	MS21042-3	AN960D10		20-25	0.1900 +.0012 -.0005
(5)	66117H3-5	70938-3	AN960D10		20-25	0.1900 +.0012 -.0005
11 (4)	NAS333CFA6-5	F1934-3-4			20-25	0.1900 +.0012 -.0005
(5)	66117H3-4	70938-3 NS102818-02 (3)		NAS463X-C10M	20-25	0.1900 +.0012 -.0005
12	NAS464P3A3 (7)	F1934-3-2				0.1900 +.0012 -.0000

4C-3-1-2-(91-2)H

Figure 2-80. Fuel Dump Mast Replacement (Sheet 2 of 2)



REPAIR PROCEDURE

A. STOP DRILL CRACK WITH 0.156 DIAMETER DRILL IN SKIN ONLY.
B. FABRICATE REPAIR DOUBLER FROM 0.032, 301 CORROSION RESISTANT STEEL, ANNEALED.
C. LOCATE REPAIR DOUBLER AND MATE DRILL FASTENER HOLES.
D. DIMPLE HOLES TO MATCH EXISTING COUNTERSINK.
E. INSTALL DOUBLER WITH ORIGINAL TYPE FASTENER OF PROPER LENGTH.
F. FINISH REWORKED AREA PER TO 1F–4C–3–1–8.

Notes

1 TYPICAL CRACK AREA FOR UPPER AND LOWER SKIN.
2 REPAIR DOUBLER TO EXTEND TWO FASTENER HOLES FORWARD OF END OF CRACK.

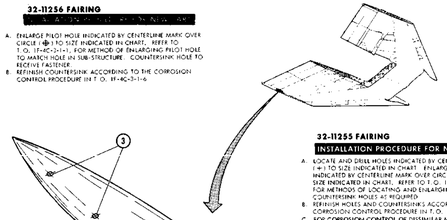
4C–3–1–2–(410)

Figure 2-80A. Fuel Dump Mast Skin Crack Repair

32-11256 FAIRING

[redacted]

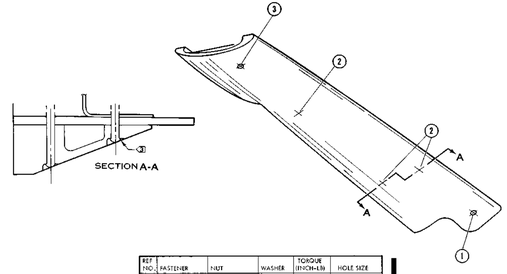
A. ENLARGE PILOT HOLE INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1, FOR METHOD OF ENLARGING PILOT HOLE TO MATCH HOLE IN SUB-STRUCTURE. COUNTERSINK HOLE TO RECEIVE FASTENER.
B. REFINISH COUNTERSINK ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.



32-11255 FAIRING

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (⊕) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1, FOR METHODS OF LOCATING AND EVALUATING HOLES. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
C. FOR CORROSION CONTROL OF DISSIMILAR METALS, REFER TO T.O. 1F-4C-3-1-6.
D. FOR FILLING OF FASTENER COUNTERBORES WITH AERODYNAMIC FAIRING COMPOUND TYPE III, REFER TO T.O. 1F-4C-3-1-1.



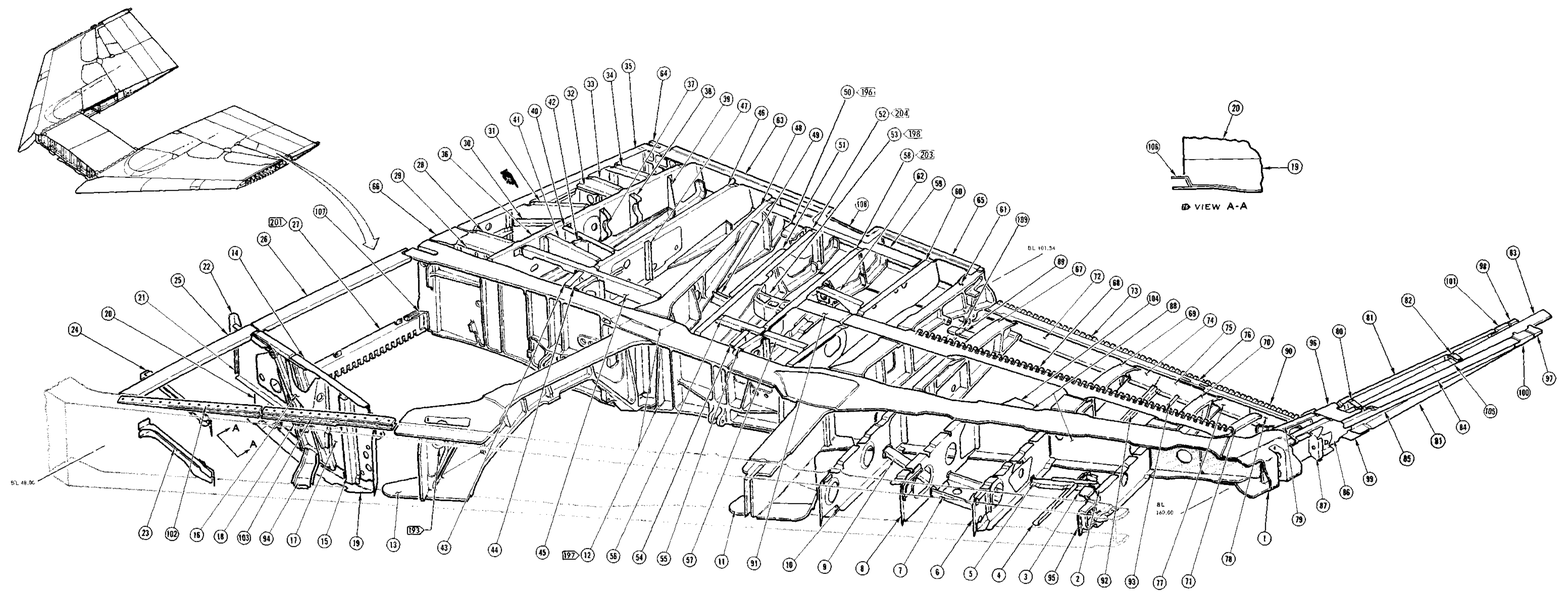
REF NO.	FASTENER	NUT	WASHER	TORQUE (IN-CM-LB)	HOLE SIZE
1	NAS333DCFA14-5	NAS2LM2925-02	2925-02 (2)	15-25	0.1900 +.0012 -.0005
2	MS20470B5				0.159 +.013 -.000
3	NAS333DCF30-5	MS21042-3	AN960D10	15-25	0.1900 +.0012 -.0005

Notes

1. FASTENER LENGTHS NOT CALLED OUT IN CHART MUST BE DETERMINED AT INSTALLATION OF PART.
2. NUT BASE.
3. AFTER DRIVING RIVETS, SMOOTH TO CONTOUR WITH FAIRING COMPOUND PER STEP C, TYPICAL THREE PLACES.

4C-3-1-2-1BPA

Figure 2-81. Wing Fold Fairing Assemblies, 32-11256 and 32-11255, Replacement Index



4C-3-1-2-172-115

Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 1 of 8)

Figure 2-82

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-11117-5,-6	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000 ⟨Z⟩
2	23 32-11067-33,-34	WEB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	83 32-11067-37,-38	WEB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	8 32-11067-47,-48	WEB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
3	108 32-11113-7,-8	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	109 32-11113-9,-10	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
4	112 32-11315-5,-6	STIFFENER	PRESSING	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	113 32-11315-17,-18	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
5	112 32-11315-3,-4	CHANNEL	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	113 32-11315-15,-16	CHANNEL	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
6	29 32-11068-27,-28	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
	55 32-11068-35,-36	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
	56 32-11068-37,-38	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
	84 32-11068-45	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
7	85 32-11313-29,-30	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	86 32-11313-33,-34	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	153 32-11313-47	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	154 32-11313-47,-48	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
8	87 32-11139-41,-42	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	40 32-11139-49,-50	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	84 32-11139-55	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
9	155 32-11138-9,-10	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	154 32-11138-9,-11	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
10	53 32-11049-29,-30	RIB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	54 32-11049-35,-36	RIB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	139 32G11049-11,-12	RIB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	154 32-11049-49,-50	RIB	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
11	25 32-11416-3,-4	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	41 32-11416-5,-6	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	44 32-11416-7,-8	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	45 32-11416-9,-10	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	52 32-11416-23,-24	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	47 32-11416-25,-26	RIB	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	22 32-11416-27,-28	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	102 32-11416-39,-40	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	161 32G11416-9,-10	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	162 32G11416-11,-12	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	154 32-11416-43,-44	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
12	25 53-11038-3,-4	SPAR	FORGING	7079-T652 AL ALY	QQ-A-367 (T652)
	41 53-11038-5,-6	SPAR	FORGING	7079-T652 AL ALY	QQ-A-367 (T652)
	42 53-11038-7,-8	SPAR	FORGING	7079-T652 AL ALY	QQ-A-367 (T652)
	69 53-11038-9,-10	SPAR	FORGING	7079-T652 AL ALY	QQ-A-367 (T652)
	70 53-11038-21,-22 ⟨197⟩	SPAR	FORGING	7079-T652 AL ALY	QQ-A-367 (T652)
	71 53-11038-19,-20	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	72 53-11038-29,-30	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	163 53G11038-7,-8	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	164 53G11038-9,-10	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	194 53-11038-35,-36	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	195 53-11038-37,-38	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
13	79 53-11045-5,-6	RIB	FORGING	7079-T652 AL ALY	QQ-A-367 (T652)
	43 53-11045-5,-6	RIB	FORGING	7079-T652 AL ALY	QQ-A-367 (T652)
	61 53-11045-7,-8	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	144 53-11045-9,-10	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	165 53G11045-5,-6	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	166 53G11045-7,-8	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
14	53-11028-49,-50	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	25 53-11028-9,-10	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	110 53-11028-59,-60	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	111 53-11028-89,-90	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	53-11029-23,-24	SUPPORT	0.040	7075-T6 AL ALY	QQ-A-250/13 (T6)
17	25 53-11028-45,-46	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	26 53-11028-57,-58	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-11033-5,-6	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
19	130 53-11028-15,-16	ANGLE	1M2113	7075-T6 AL ALY	QQ-A-200/11 (T6)
	131 53-11028-93,-94	ANGLE	1M2113	7075-T6 AL ALY	QQ-A-200/11 (T6)
20	53-11028-3,-4	WEB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
21	53-11028-17,-18	WEB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
22	32-11097-127,-128	ANGLE	0.071	2024-T4 ALCLAD	QQ-A-250/5 (T4)
23	159 32-11146-61,-62	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	160 32-11146-91,-92	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
24	9 32-11146-19,-20	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	10 32-11146-79,-80	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
25	53-11065-3,-4	ANGLE	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
26	53-11065-5,-6	ANGLE	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
27	156 53-11039-7,-8 ⟨208⟩	HINGE	1M97120	7075-T6 AL ALY	QQ-A-200/11 (T6)
	191 53-11039-9-10	HINGE	1M97120	7075-T6 AL ALY	QQ-A-250/11 (T6)
28	53-11041-11,-12	WEB	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
29	53-11041-5,-6	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
30	140 32-11213-47,-49	ANGLE	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	141 32G11213-3	ANGLE	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	154 32-11213-59,-60	ANGLE	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
31	142 53-11040-3,-17	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	143 53-11040-3,-21	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)

4C-3-1-2-173-2) P

Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 2 of 8)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
32 (21)	32-11265-167	CHANNEL	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
(20)	53-11063-23	CHANNEL	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
33	53-11063-5,-6	ZEE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
34	53-11029-21,-22	ANGLE	AND10133-0701	7075-T6 AL ALY	QQ-A-200/11 (T6)
35 (145)	53-11029-19,-20	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
(146)	53-11029-41,-42	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
(147)	53-11029-49,-50	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
(148)	53-11029-51,-52	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
(167)	53G11029-25,-26	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
(168)	53G11029-27,-28	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
(169)	53G11029-29,-30	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
(154)	53-11029-57,-58	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
36 (62)	53-11055-19,-20	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(152)	53-11055-25,-26	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(149)	53-11055-49,-50	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(170)	53G11055-3,-4	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(171)	53G11055-5,-6	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(154)	53-11055-63,-64	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
37	32-11055-29	CHANNEL	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
38	32-11055-31	CHANNEL	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
39	32-11055-37,-38	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
40	53-11064-5,-13	CHANNEL	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
41	53-11064-3,-11	CHANNEL	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
42	53-11064-7,-15	INTERCOSTAL	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
43	53-11068-3,-4	INTERCOSTAL	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
44 (134)	53-11068-5,-6	INTERCOSTAL	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
(135)	53-11068-37,-38	INTERCOSTAL	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
45	53-11068-21,-22	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46 (76)	53-11056-3,-4	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(77)	53-11056-13,-15	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(11)	53-11056-17,-18	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(30)	53-11056-27,-28	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
(172)	53G11056-3,-4	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(173)	53G11056-5,-6	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(154)	53-11056-31,-32	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
47	53-11056-9,-10	STIFFENER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48 (30)	53-11037-3,-4	RIB	FORGING	7075-T652 AL ALY	QQ-A-367 (T652)
(31)	53-11037-13,-14	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(86)	53-11037-17,-18	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(88)	53-11037-19,-20	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(148)	53-11037-25,-26	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(174)	53G11037-3,-4	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(175)	53G11037-5,-6	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(154)	53-11037-27,-28	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
49 (27)	32-11004-405,-406	SUPPORT	1M5177	7178-T6 AL ALY	QQ-A-200/13 (T6)
50 (28)	53-11034-1,-2	FITTING (196)	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(202)	53-11034-301,-302	FITTING (196)	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	53-11034-303,-304	FITTING (196)	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
51	32-11059-9,-10	ANGLE	1M2128	7178-T6 AL ALY	QQ-A-200/11 (T6)
52 (12)	53-11059-3,-4	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(13)	53-11059-27,-28	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(150)	53-11059-57,-58	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(176)	53G11059-3,-4 (204)	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(177)	53G11059-5,-6	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(178)	53G11059-7,-8	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(154)	53-11059-67,-68	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53 (81)	32-11589-3,-4	FITTING (198)	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
(82)	32-11589-5,-6	FITTING (198)	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
54 (29)	32-11215-29,-30	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(59)	32-11215-63,-64	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(30)	32-11215-65,-66	ANGLE	0.080	301 CRES	MIL-S-5059 (1/2H)
(115)	32-11215-83,-84	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(116)	32-11215-87,-88	WEB	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
(117)	32-11215-103,-104	WEB	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
(118)	32-11215-93,-94	WEB	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
55 (29)	32-11215-35,-36	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(30)	32-11215-57,-58	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(30)	32-11215-59,-60	ANGLE	0.080	301 CRES	MIL-S-5059 (1/2H)
(114)	32-11215-77,-78	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(115)	32-11215-85,-86	WEB	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
(116)	32-11215-91,-92	WEB	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
56 (79)	32-11215-37,-38	ANGLE	1M2256	7075-T6 AL ALY	QQ-A-200/11 (T6)
(80)	32-11215-73,-74	ANGLE	1M140	7178-T6 AL ALY	QQ-A-200/13 (T6)
57 (79)	32-11215-49,-50	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(80)	32-11215-73,-74	ANGLE	1M140	7178-T6 AL ALY	QQ-A-200/13 (T6)
58 (151)	32-11057-71,-72	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(179)	32G11057-5,-6 (203)	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(154)	53-11057-87,-88	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59 (180)	53-11058-5,-6	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
(46)	53-11058-7,-8	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
(181)	53G11058-3,-4	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
(182)	53G11058-5,-6	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
(154)	53-11058-9,-10	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
60 (66)	32-11060-63,-64	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(67)	32-11060-71,-72	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(184)	32G11060-5,-6	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(183)	32G11060-3,-4	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(154)	32-11060-81,-82	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

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Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 3 of 8)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
61 (84)	32-11537-11,-12	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(128)	32G11537-7,-8	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(85)	32-11537-17,-18	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(185)	32G11537-19,-20	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(129)	32G11537-9,-10	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(148)	32-11537-31,-32	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(139)	32G11537-27,-28	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(154)	32-11537-33,-30	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
62	32-11060-43,-44	BRACKET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63 (151)	32-11019-261,-262	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
(179)	32G11019-3,-4	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
(154)	53-11019-67,-68	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
64	32-11593-1,-2	FITTING ASSY	4.00	2014-T6 AL ALY	QQ-A-367 (T6)
65 (151)	32-11019-283,-284	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
(179)	32G11019-5,-6	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
(154)	53-11019-69,-70	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	53-11029-5,-6	FAIRING	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
67 (13)	32-11182-5,-6	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(15)	32-11182-7,-8	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(154)	32-11187-17,-18	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
68 (18)	32-11102-5,-6	HINGE	1M9669	7075-T6 AL ALY	QQ-A-200/11 (T6)
(19)	32-11102-7,-8	HINGE	1M9669	7075-T73 AL ALY	QQ-A-200/11 (T73)
69 (82)	32-11183-5,-6	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(98)	32G11183-3	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(20)	32-11183-9,-10	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(99)	32G11183-5	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(158)	32-11183-11	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(199)	32-11183-13,-14	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
(200)	32-11183-15,-16	RIB	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
70 (12)	32-11184-3,-4	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(16)	32-11184-5,-6	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
71 (29)	32-11189-27,-28	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(30)	32-11189-37,-38	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
72 (23)	32-11018-33,-34	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(25)	32-11018-51,-52	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
73	32-11077-15,-16	HINGE	FORGING	4340 STEEL ALLOY	MIL-S-5000 (7)
74	32-11018-305,-606	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
75 (22)	32-11018-607,-608	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(24)	32-11018-49,-50	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
76 (17)	32-11329-3,-4	PLATE	0.190	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(26)	32-11329-5,-6	PLATE	0.190	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77 (22)	32-11018-615,-616	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(24)	32-11018-45,-46	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
78	32-11018-43,-44	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
79 (57)	32-11185-5,-6	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(126)	32G11185-5,-6	RIB	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
(59)	32-11185-7,-8	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(179)	32G11185-9,-10	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(127)	32G11185-7,-8	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
(154)	32-11185-11,-12	RIB	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
80 (27)	32-11006-601,-602	INTERCOSTAL	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
(52)	32-11006-71,-72	INTERCOSTAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(132)	32-11006-83,-84	INTERCOSTAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(154)	32-11006-77,-78	INTERCOSTAL	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
81 (28)	32-11006-7,-8	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(53)	32-11006-53,-54	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(154)	32-11006-57,-58	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
82	32-11006-13,-14	INTERCOSTAL	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
83 (133)	32-58150-3,-4	TUBE	0.028	5052-0 AL ALY	WW-T-700/4 (0)
(132)	32-58150-5,-6	TUBE	0.035	5052-0 AL ALY	WW-T-700/4 (0)
84 (155)	32-11006-9,-10	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(154)	32-11006-41,-42	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
85 (33)	32-11006-15,-16	ANGLE	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
(34)	32-11006-31,-32	ANGLE	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
86	DELETED				
(120)	32G11048-7,-8	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(121)	32-11048-33,-34	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(122)	32G11048-9,-10	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(93)	32-11048-45,-46	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(186)	32G11048-21,-22	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(187)	32G11048-25,-26	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(154)	32-11048-53,-54	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
87 (110)	32-11048-29,-30	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(123)	32-11048-31,-32	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(124)	32-11048-43,-44	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(125)	32G11048-5,-6	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(154)	32-11048-55,-56	SUPPORT	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
88	DELETED				
(100)	32G11149-3	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(97)	32-11149-15,-16	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(101)	32-11149-903	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(102)	32G11149-5	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)

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Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 4 of 8)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
	102	32G11149-11	SPAR	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	74	32-11149-19, -20	SPAR	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	104	32G11149-7	SPAR	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	75	32-11149-19, -20	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	105	32G11149-7	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	94	32-11149-57 <6>	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	16	32-11149-27, -28	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	188	32G11149-25, -26	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	139	32G11149-30	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	106	32G11149-9	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	95	32-11149-59 <6>	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	189	32G11149-27 <6>	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	139	32G11149-29	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	148	32-11149-77, -78	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	199	32-11149-79, -80	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	200	32-11149-85,-86	SPAR	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
89		32-11223-417, -418	CHANNEL	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
90	59	32-11072-3, -4	HINGE	1M9478	7075-T6 AL ALY	QQ-A-200/11 (T6)
	60	32-11072-5, -6	HINGE	1M9478	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
91		32-11004-143, -144	SPLICE TEE	1M5154	7075-T6 AL ALY	QQ-A-200/11 (T6)
92	96	32-11004-73, -74	ZEE	1M455	7075-T6 AL ALY	QQ-A-200/11 (T6)
	84	53-11004-55	ZEE	1M455	7075-T651 AL ALY	QQ-A-200/11 (T651)
93		32-11004-75, -76	ZEE	1M455	7075-T6 AL ALY	QQ-A-200/11 (T6)
94	151	53-11070-3, -4	BRACKET	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	179	53G11070-3, -4	BRACKET	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	154	53-11070-5, -6	BRACKET	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
95	17	32-11266-5, -6	DOUBLER	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	18	32-11266-7, -8	DOUBLER	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	154	32-11266-9, -10	DOUBLER	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
96	156	32-11006-25	DOUBLER	0.125	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	154	32-11006-49	DOUBLER	0.125	7075-T6 ALCLAD	QQ-A-250/13 (T6)
97		32-11302-11	FILLER	1M9177	2014-T6 AL ALY	QQ-A-200/2 (T6)
98		32-11302-13	FILLER	1M9177	2014-T6 AL ALY	QQ-A-200/2 (T6)
99	155	32-11006-23	DOUBLER	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	154	32-11006-51	DOUBLER	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
100		32-11302-7	FILLER	0.75	FABRIC BASE PHENOLIC	MIL-P-15035A (FBG)
101		32-11302-9	FILLER	0.75	FABRIC BASE PHENOLIC	MIL-P-15035A (FBG)
102		53-11060-3, -4	SPACER	CASTING	A356-T6 AL ALY	MIL-A-211808 (T6)
103	35	53-11060-5, -6	SPACER	CASTING	A356-T6 AL ALY	MIL-A-211808 (T6)
	36	53-11060-7, -8	SPACER	CASTING	A356-T6 AL ALY	MIL-A-211808 (T6)
104	136	32-11527-5, -6	FITTING	FORGING	7079-F AL ALY	QQ-A-367 (F)
	137	32-11527-7, -8	FITTING	FORGING	7079-F AL ALY	QQ-A-367 (F)
	138	32-11527-9, -10	FITTING	FORGING	7079-F AL ALY	QQ-A-367 (F)
105	132	32-58150	COLLAR	0.093	CHOROPRENE	MIL-S-6855 CLASS 2, GRADE 60
106	78	32-111589-3, -4	CLIP	0.025	17-7PH CRES	MIL-S-25043 (A)
107	192	53-11031-3, -4	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	191	53-11031-7, -8	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
108	139	53-07784-5, -6	SILL	0.071	7075-T73 AL ALY	QQ-A-250/12 (T73)
	154	53-11004-19, -20	COVER	0.025	301 CRES	MIL-S-5059 (1/2H)
109		32-11223-215 <190>	CLIP	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)

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Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 5 of 8)

Notes

1. DRAWING NUMBERS FOR WHEEL WELL AND TRAILING EDGE STRUCTURE ARE 53-11002 AND 53-11004.
2. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
3. DELETED.
4. DELETED.
5. DELETED.
6. LEFT SIDE ONLY.
7. FORGED AND MACHINED IN THE C CONDITION, THEN HEAT TREATED TO 180-200 KSI.
8. F-4D 66-7742 THRU 66-8825, F-4E 66-288 AND UP, RF-4 66-445 THRU 72-156, AND F-4G.
9. F-4C 63-7407 THRU 64-862 AND RF-4 63-7742 THRU 65-826.
10. F-4C 64-863 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 65-827 THRU 72-156.
11. F-4D 66-7651 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 66-429 THRU 72-156; ALSO F-4E 66-287 AND 66-296 THRU 69-7578 BEFORE TO 1F-4E-566.
12. F-4C, F-4D 64-929 THRU 64-963 AND F-4E 67-283 THRU 68-365 BEFORE TO 1F-4E-566; ALSO RF-4 63-7742 THRU 65-864 AND 67-454 THRU 68-561.
13. F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295. AND RF-4 65-965 THRU 67-453; ALSO F-4E 66-287 AND 66-296 THRU 67-282 BEFORE TO 1F-4E-566.
14. F-4C, F-4D 64-929 THRU 65-781, AND RF-4 63-7742 THRU 66-388.
15. F-4D 65-782 THRU 66-8825, F-4E 66-284 THRU 71-1402. RF-4 66-389 THRU 72-156, AND F-4G.
16. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566 RIGHT SIDE.
17. F-4E 68-303 THRU 71-236 BEFORE TO 1F-4E-566. ALSO RF-4 68-548 THRU 72-156.
18. F-4D 66-7517 THRU 66-8825, RF-4 66-409 THRU 72-156, F-4E, AND F-4G.
19. F-4C, F-4D 64-929 THRU 66-7516, AND RF-4 63-7742 THRU 66-408.
20. F-4D 65-771 THRU 66-8825, RF-4 66-407 THRU 72-156, F-4E, AND F-4G.
21. F-4C, F-4D 64-929 THRU 64-770, AND RF-4 63-7742 THRU 66-406.
22. F-4D 65-783 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295. AND RF-4 66-390 THRU 67-466; ALSO F-4E 66-287 AND 66-296 THRU 67-395 BEFORE TO 1F-4E-566.
23. F-4C 63-7407 THRU 63-7597 AND RF-4 63-7742 THRU 63-7763.
24. F-4C 63-7598 THRU 64-928, F-4D AND RF-4 64-997 THRU 72-156.
25. F-4C 63-7407 THRU 63-7526 AND RF-4 63-7742 THRU 63-7749.
26. F-4C 63-7527 THRU 64-928, RF-4 63-7750 THRU 72-156, F-4D, F-4C, AND F-4G.
27. F-4C 63-7074 THRU 63-7752 AND RF-4 63-7742 THRU 63-7754. FOR FUTURE PROCUREMENT USE 53-11034-303, -304.
28. F-4C 63-7553 THRU 64-928, RF-4 63-7755 THRU 72-156, F-4D, F-4E, AND F-4G. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
29. F-4C 63-7407 THRU 63-7468 AND RF-4 63-7742.
30. F-4C 63-7469 THRU 64-928, F-4D 64-929 THRU 65-665, AND RF-4 63-7743 THRU 65-932.
31. DELETED.
32. F-4E 69-7579 THRU 71-236 BEFORE TO 1F-4E-566.
33. F-4C 63-7407 THRU 64-672 AND RF-4 63-7742 THRU 64-1037.
34. F-4C 64-673 THRU 64-928, F-4D, F-4E 66-284 THRU 67-219, AND RF-4 64-1038 THRU 72-156.
35. F-4C 63-7407 THRU 63-7685 AND RF-4 63-7742 THRU 64-1022.
36. F-4C 63-7686 THRU 64-928, RF-4 64-1023 THRU 72-156, F-4D F-4E, AND F-4G.
37. F-4C 63-7407 THRU 63-7662 AND RF-4 63-7742 THRU 64-1017.
38. F-4C 63-7663 THRU 64-928, RF-4 64-1018 THRU 72-156, F-4D, F-4E, AND F-4G.
39. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7742 THRU 65-838.
40. F-4C 64-882 THRU 64-928, F-4D, F-4E 66-284 THRU 67-219, AND RF-4 65-839 THRU 67-561 LEFT SIDE; F-4C 64-882 THRU 64-928. RF-4C 65-839 THRU 72-156, F-4D, F-4E, AND F-4G RIGHT SIDE.
41. F-4C 63-7527 THRU 64-672 AND RF-4 63-7750 THRU 64-1037.
42. F-4C 64-673 THRU 64-737 AND RF-4 64-1038 THRU 64-1061.
43. F-4C, F-4D, F-4E 66-284 THRU 67-282, AND RF-4 63-7742 THRU 67-453.
44. F-4C 66-673 THRU 64-746 AND RF-4 64-1038 THRU 64-1062.
45. F-4C 64-747 THRU 64-866 AND RF-4 64-1063 THRU 65-819.
46. F-4E 67-283 THRU 71-236 BEFORE TO 1F-4E-566; ALSO RF-4 67-454 THRU 72-156.
47. F-4D 65-620 THRU 65-782 AND RF-4 65-908 THRU 66-389.
48. F-4C, F-4D 64-929 THRU 65-746, AND RF-4 63-7742 THRU 66-386 AND 66-388.
49. F-4D 65-747 THRU 66-8825, RF-4 66-387, 66-389 THRU 72-156 F-4E, AND F-4G.
50. F-4C, F-4D 64-929 THRU 65-678, AND RF-4 63-7742 THRU 65-918.
51. F-4D 65-679 THRU 66-7560 AND RF-4 65-919 THRU 66-415.
52. F-4C 64-867 THRU 64-928, F-4D 64-929 THRU 65-619, AND RF-4 65-820 THRU 65-907.
53. F-4C, F-4D 64-929 THRU 66-7504, AND RF-4 63-7742 THRU 65-406.
54. F-4D 66-7505 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 66-407 THRU 72-156; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
55. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 65-600, AND RF-4 65-839 THRU 67-461.

4C-3-1-2-(73-6)Q

Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 6 of 8)

56 F-4D 65-601 AND F-4E 66-284 THRU 67-219 LEFT SIDE, F-4D 65-601 THRU 66-8825, F-4E AND F-4G RIGHT SIDE.
57 F-4D 64-929 THRU 65-781.
58 F-4D 65-785 THRU 66-8825 AND F-4E 66-284 THRU 66-285 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
59 F-4C, F-4D 64-929 THRU 65-778, AND RF-4 63-7742 THRU 66-386 AND 66-388.
60 F-4D 65-779 THRU 66-8825, RF-4C 66-387 AND 66-389 THRU 72-156, F-4E, AND F-4G.
61 F-4D 65-790 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 66-387 THRU 67-438; ALSO F-4E 66-287 AND 66-296 THRU 67-280 BEFORE TO 1F-4E-566.
62 F-4C, F-4D 64-929 THRU 64-963, AND RF-4 63-7742 THRU 64-854.
63 F-4D 64-964 THRU 66-8825, RF-4C 65-866 THRU 72-156, F-4E, AND F-4G.
64 F-4D 64-929 THRU 65-779.
65 F-4D 65-780 THRU 66-8825, AND F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
66 F-4C 63-7407 THRU 63-7577 AND RF-4 63-7742 THRU 63-7763.
67 F-4C 63-7578 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 64-997 THRU 72-156; ALSO, F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
68 F-4D 66-7561 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 66-416 THRU 67-441; ALSO F-4E 66-287 AND 66-296 THRU 67-219 BEFORE TO 1F-4E-566.
69 F-4C 64-738 THRU 64-928, F-4D 64-929 THRU 65-770, AND RF-4 64-1060 THRU 66-386 AND 66-388.
70 F-4D 65-771 THRU 65-792 AND RF-4 66-387, 66-389 THRU 66-391.
71 F-4D 65-793 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 66-392 THRU 67-469; ALSO F-4E 66-287 AND 66-296 THRU 67-398 BEFORE TO 1F-4E-566.
72 F-4C, F-4D 64-929 THRU 65-757, AND RF-4 63-7742 THRU 65-939.
73 F-4D 65-758 THRU 66-8825, RF-4C 65-940 THRU 72-156, F-4E, AND F-4G.
74 F-4D 66-231 THRU 66-7595, RF-4 66-387, 66-389 THRU 66-420, LEFT SIDE, F-4D 66-231 THRU 66-7595 AND RF-4 66-387, 66-389 THRU 66-420, RIGHT SIDE.
75 F-4D 66-7596 THRU 66-8825, RF-4 66-421 THRU 67-461, LEFT SIDE; F-4D 66-7596 THRU 66-8825 AND RF-4 66-421 THRU 71-252, RIGHT SIDE.
76 F-4C, F-4D 64-929 THRU 65-611 AND RF-4 63-7742 THRU 65-901.
77 F-4D 65-612 THRU 66-7650 AND RF-4 65-902 THRU 66-428.
78 F-4E 68-410 AND UP, RF-4C 68-577 THRU 72-156, AND F-4G.
79 F-4C 63-7407 THRU 64-737 AND RF-4 63-7742 THRU 64-1061.
80 F-4C 64-738 THRU 64-928, RF-4C 64-1062 THRU 72-156, F-4D, F-4E, AND F-4G.
81 F-4C, F-4D 64-929 THRU 65-779 AND RF-4 63-7742 THRU 66-386 AND 66-388.
82 F-4D 65-780 THRU 66-8825, RF-4C 66-387 AND 66-389 THRU 72-156, F-4E, AND F-4G.
83 F-4C 63-7598 THRU 64-928, F-4D 64-929 THRU 66-7741, F-4E 66-284 THRU 66-287 AND RF-4 64-997 THRU 66-444.
84 F-4E 67-220 AND UP, RF-4C 67-462 THRU 72-156, AND F-4G LEFT SIDE.
85 F-4C AND RF-4 63-7742 THRU 67-461 LEFT SIDE; F-4C AND RF-4 RIGHT SIDE.
86 F-4E 66-284 THRU 67-219 LEFT SIDE, F-4E 66-284 THRU 71-1402 AND F-4G RIGHT SIDE; ALSO ON F-4D.
87 F-4E 67-281 AND UP, F-4G, AND RF-4 67-454 THRU 72-156.
88 F-4E 67-218 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 67-443 THRU 71-252.
89 RF-4 63-7742 THRU 67-436 LEFT SIDE; F-4C, F-4D 64-929 THRU 66-8799, F-4E 66-284 THRU 66-339 AND RF-4 63-7742 THRU 67-429 RIGHT SIDE.
90 RF-4C 67-437 THRU 67-461 LEFT SIDE, F-4E 66-340 THRU 71-1402, RF-4C 67-439 THRU 72-156, AND F-4G RIGHT SIDE.
91 F-4C, F-4D 64-929 THRU 66-8786, F-4E 66-284 THRU 66-336 AND RF-4 63-7742 THRU 66-472.
92 F-4D 66-8787 THRU 66-8825, F-4E 66-339 THRU 68-538, F-4E G 69-236 THRU 69-7260, AND RF-4C 66-473 THRU 69-375.
93 F-4E 67-220 THRU 71-236 BEFORE TO 1F-4E-566.
94 RF-4 67-462 THRU 71-252 LEFT SIDE.
95 F-4E 67-220 THRU 71-236 AND F-4G LEFT SIDE.
96 F-4E 66-284 THRU 67-219, RF-4C 63-7742 THRU 67-461, F-4C, F-4D LEFT SIDE, F-4C, F-4D, F-4E, F-4G, AND RF-4C RIGHT SIDE.
97 RF-4 63-7742 THRU 65-945 LEFT SIDE, F-4C 63-7443 THRU 66-8825, F-4D 64-929 THRU 66-230, AND RF-4 63-7742 THRU 66-386 AND 66-388 RIGHT SIDE.
98 F-4C, F-4D 64-929 THRU 66-8823 AND F-4E 66-284 THRU 66-366 LEFT SIDE.
99 F-4D 66-8824 AND 66-8825 AND F-4E 66-367 THRU 67-219 LEFT SIDE.
100 F-4C 63-7407 THRU 63-7742 LEFT SIDE.
101 RF-4 66-383, 66-384, 66-385, 66-386 AND 66-388 LEFT SIDE.
102 F-4C 63-7443 THRU 64-928, F-4D 64-929 THRU 65-782, 65-787 AND 65-788 LEFT SIDE.
103 F-4D 65-783 THRU 65-786 AND 65-789 THRU 66-230 LEFT SIDE.
104 F-4D 66-231 THRU 66-7595 LEFT SIDE.
105 F-4D 66-7596 THRU 66-8825 LEFT SIDE.
106 F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-296; ALSO 66-287 AND 66-296 THRU 67-219 BEFORE TO 1F-4E-566 LEFT SIDE.
107 F-4E 67-396 THRU 71-236 BEFORE TO 1F-4E-566, AND RF-4 67-496 THRU 72-156.
108 F-4C, F-4D, F-4E 66-284 THRU 66-365, AND RF-4 63-7742 THRU 68-561.
109 F-4E 68-366 AND UP, RF-4C 68-562 THRU 72-156, AND F-4G.
110 F-4C 63-7521 THRU 64-928, F-4D, F-4E 66-284 THRU 68-367, AND RF-4 63-7750 THRU 68-560.
111 F-4E 68-368 AND UP, RF-4C 68-561 THRU 72-156, AND F-4G.
112 F-4C, F-4D, F-4E 66-284 THRU 68-352 AND RF-4.
113 F-4E 68-353 AND UP AND F-4G.
114 F-4D 65-666 THRU 66-8825, F-4E 66-284 THRU 67-262, AND RF-4 933 THRU67-543
115 F-4E 67-263 THRU 67-398 AND RF-4 67-545 THRU 68-576.
116 F-4E 68-303 AND UP AND F-4G.
117 RF-4 68-377 THRU 72-156.
118 F-4E 68-303 AND UP, RF-4C 68-577 THRU 72-156, AND F-4G.
119 DELETED.
120 RF-4 63-7742 THRU 64-1037.
121 F-4D AND F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-296; ALSO F-4E 66-287 AND 66-296 THRU 67-219 BEFORE TO 1F-4E-566.
122 RF-4 64-1035 THRU 69-366.
123 F-4D 64-929 THRU 64-963.
124 F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 71-1402, AND F-4G.
125 RF-4 63-7742 THRU 69-366.
126 RF-4 63-7742 THRU 66-385.
127 RF-4 66-388 THRU 69-366.
128 RF-4 63-7742 THRU 65-944.
129 RF-4 65-945 THRU 69-366.
130 F-4E 66-284 THRU 68-538, F-4E G 69-236 THRU 69-7578, RF-4C 63-7442 THRU 69-375, F-4C, AND F-4D. FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
131 F-4E G 69-7579 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 69-376 THRU 72-156. FUTURE PROCRUEMENT FOR PRECEDING PART.
132 F-4E G 69-7561 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 69-376 THRU 72-156.
133 F-4E 66-284 THRU 68-538, F-4E G 69-236 THRU 69-7260, RF-4C 63-7742 THRU 69-375, F-4C, AND F-4D.
134 F-4C, F-4D, F-4E 66-284 THRU 68-451, AND RF-4 63-7742 THRU 68-593. FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
135 F-4E 68-452 AND UP, RF-4C 68-594 THRU 72-156, AND F-4G. FUTURE PROCUREMENT FOR PRECEDING PART.
136 F-4C, F-4D, F-4E 66-284 THRU 67-250 AND RF-4 63-7742 THRU 67-449. FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
137 F-4E 67-251 THRU 68-536, F-4E G 69-236 THRU 69-252, AND RF-4C 67-450 THRU 69-357. FUTURE PROCUREMENT FOR PRECEDING PART. FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
138 F-4E 69-253 AND UP, RF-4C 69-358 THRU 72-156, AND F-4G. FUTURE PROCUREMENT FOR PRECEDING PART.
139 F-4E 71-237 THRU 71-1402.
140 F-4C, F-4D, F-4E 66-284 THRU 66-286, AND 66-288 THRU 66-295 LEFT SIDE, F-4E 66-284 THRU 71-1402 RIGHT SIDE AND RF-4; ALSO F-4E 66-287 AND 66-296 THRU 71-236 LEFT SIDE BEFORE TO 1F-4E-566.
141 F-4E 66-287 AND 66-296 THRU 71-1402 LEFT SIDE AFTER TO 1F-4E-566; ALSO F-4G LEFT SIDE.
142 F-4E 66-284 THRU 71-236, RF-4C 63-7742 THRU 71-252, AND F-4G.
143 F-4E 71-237 AND UP AND RF-4 71-253 THRU 72-156.
144 F-4E 67-281 THRU 71-236 BEFORE TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND RF-4 67-454 THRU 72-156.
145 F-4C, F-4D 64-929 THRU 64-963, F-4E 67-208 THRU 68-409 BEFORE TO 1F-4E-566, AND RF-4 63-7742 THRU 65-864 AND 67-428 THRU 68-576.
146 F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 65-865 THRU 67-427; ALSO F-4E 66-287 AND 66-296 THRU 67-207 BEFORE TO 1F-4E-566.
147 F-4E 68-410 THRU 71-236 BEFORE TO 1F-4E-566; ALSO RF-4 68-577 THRU 71-252.
148 RF-4 71-253 THRU 72-156.
149 F-4E 67-342 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 67-462 THRU 72-156.
150 F-4E 68-366 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 68-562 THRU 72-156.
151 F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
152 F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 65-865 THRU 67-461; ALSO F-4E 66-287 AND 66-296 THRU 67-341 BEFORE TO 1F-4E-566.
153 F-4E 67-220 THRU 71-1402, RF-4C 67-462 THRU 72-156, AND F-4G LEFT SIDE.
154 F-4E 72-121 AND UP.
155 F-4E 66-284 THRU 71-1402, F-4C, F-4D, F-4G, AND RF-4C.
156 F-4D 66-8787 AND, F-4E 66-339 THRU 72-1497, RF-4C 66-473 AND UP, AND F-4G.
157 DELETED
158 F-4E 67-220 THRU 71-1402, RF-4C 67-462 THRU 72-156, AND F-4G LEFT SIDE.
159 F-4C, F-4D, F-4E 66-284 THRU 66-362 AND RF-4 63-7742 THRU 66-478. F-4E 67-209 AND UP, RF-4C 67-428 THRU 72-156, AND F-4G

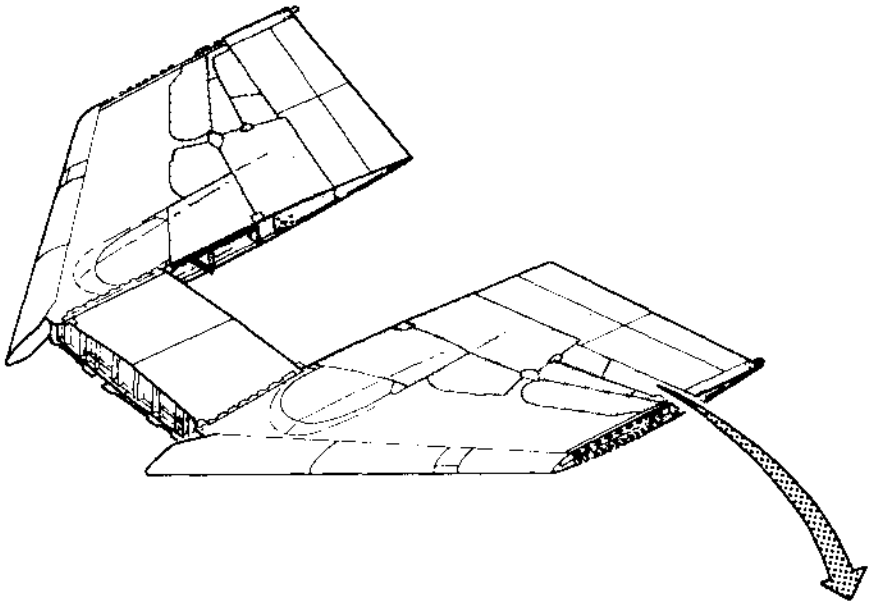
4C-3-1-2-(73-7)N

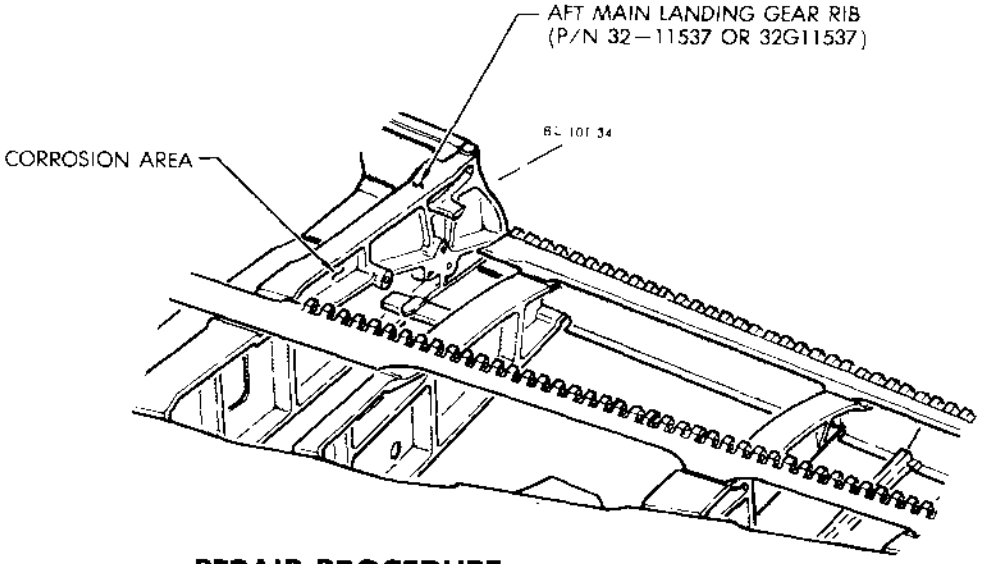
Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 7 of 8)

161 F-4E 66-287 AND 66-296 THRU 67-395 AFTER TO 1F-4E-566.
162 F-4E 67-396 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
163 F-4E 66-287 AND 66-296 THRU 67-398 AFTER TO 1F-4E-566.
164 F-4E 68-303 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
165 F-4E 66-287 AND 66-296 THRU 67-290 AFTER TO 1F-4E-566.
166 F-4E 67-291 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
167 F-4E 66-287 AND 66-296 THRU 66-382 AFTER TO 1F-4E-566.
168 F-4E 67-208 THRU 68-409 AFTER TO 1F-4E-566.
169 F-4E 68-410 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
170 F-4E 66-287 AND 66-296 THRU 67-341 AFTER TO 1F-4E-566.
171 F-4E 67-342 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
172 F-4E 66-287 AND 66-296 THRU 69-7578 AFTER TO 1F-4E-566 AND F-4E/G 69-236 THRU 69-7578.
173 F-4E 69-7579 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4E/G 69-7579 THRU 69-7588.
174 F-4E 66-287 AND 66-296 THRU 67-217 AFTER TO 1F-4E-566.
175 F-4E 67-218 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
176 F-4E 66-287 AND 66-296 THRU 67-282 AFTER TO 1F-4E-566.
177 F-4E 67-283 THRU 68-365 AFTER TO 1F-4E-566.
178 F-4E 68-366 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
179 F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
180 F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, RF-4C 63-7742 THRU 67-453; ALSO, F-4E 66-287 AND 66-296 THRU 67-282 BEFORE TO 1F-4E-566.
181 F-4E 66-287 AND 66-296 THRU 67-282 AFTER TO 1F-4E-566.
182 F-4E 67-283 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
183 F-4E 66-287 AND 66-296 THRU 67-293, AND 68-376 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
184 F-4E 67-294 THRU 68-375 AFTER TO 1F-4E-566.
185 F-4E 66-287 AND 66-296 THRU 71-236 AFTER TO 1F-4E-566 AND F-4G.
186 F-4E 66-287 AND 66-296 THRU 67-219 AFTER TO 1F-4E-566.
187 F-4E 67-220 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
188 F-4E 66-287 AND 66-296 THRU 67-219 LEFT SIDE AND 66-287, 66-296 THRU 71-236 RIGHT SIDE AFTER TO 1F-4E-566 AND F-4G.
189 F-4E 67-220 THRU 71-236 LEFT SIDE AFTER TO 1F-4E-566 AND F-4G.
190 THIS BRACKET MUST BE REPLACED WHEN THE METAL, AT THE EDGE ADJACENT TO THE HOLE, IS WORN TO 0.100 MINIMUM WIDTH.
191 F-4E 72-1498 AND UP.
192 F-4E 66-284 THRU 72-1497, F-4C, F-4D, F-4G, AND RF-4C.
193 FOR REPAIR, SEE FIGURE 2-84.
194 F-4E 72-121 THRU 73-01184.
195 F-4E 73-01185 AND UP.
196 FOR REPLACEMENT, SEE FIGURE 2-104A.
197 FOR REPAIR, SEE FIGURE 2-85A.
198 FOR REPLACEMENT, SEE FIGURE 2-92B.
199 F-4E 72-121 THRU 74-01627.
200 F-4E 74-01628 AND UP.
201 FOR REPLACEMENT, SEE FIGURES 2-94 AND 2-94A.
202 FUTURE PROCUREMENT FOR PRECEDING PART.
203 FOR REPAIR SEE FIGURE 2-107A.
204 FOR REPAIR SEE FIGURE 2-107B.

4C-3-1-2-(73-8)T

Figure 2-82. Wheel Well and Trailing Edge Upper Structural Repair Index (Sheet 8 of 8)





REPAIR PROCEDURE

A. BLEND OUT CORROSION. TAKE CARE NOT TO GET INTO THE RADIUS AREA OF THE STIFFENER.

B. EDDY CURRENT INSPECT TO VERIFY THAT NO CRACKS EXIST.

C. BLEND OUT SURFACE CRACKS.

D. ROUT OUT CRACKS EXTENDING THROUGH WEB.

E. FINISH REWORKED AREAS PER TO 1F-4C-3-1-6.

Note

■ FOR CRACKS OR CORROSION EXTENDING INTO THE STIFFENER, CONTACT 00—ALC/LACE.

4C 3 1 2 (461)96

Figure 2-82A. Aft Main Landing Gear Rib Corrosion Repair

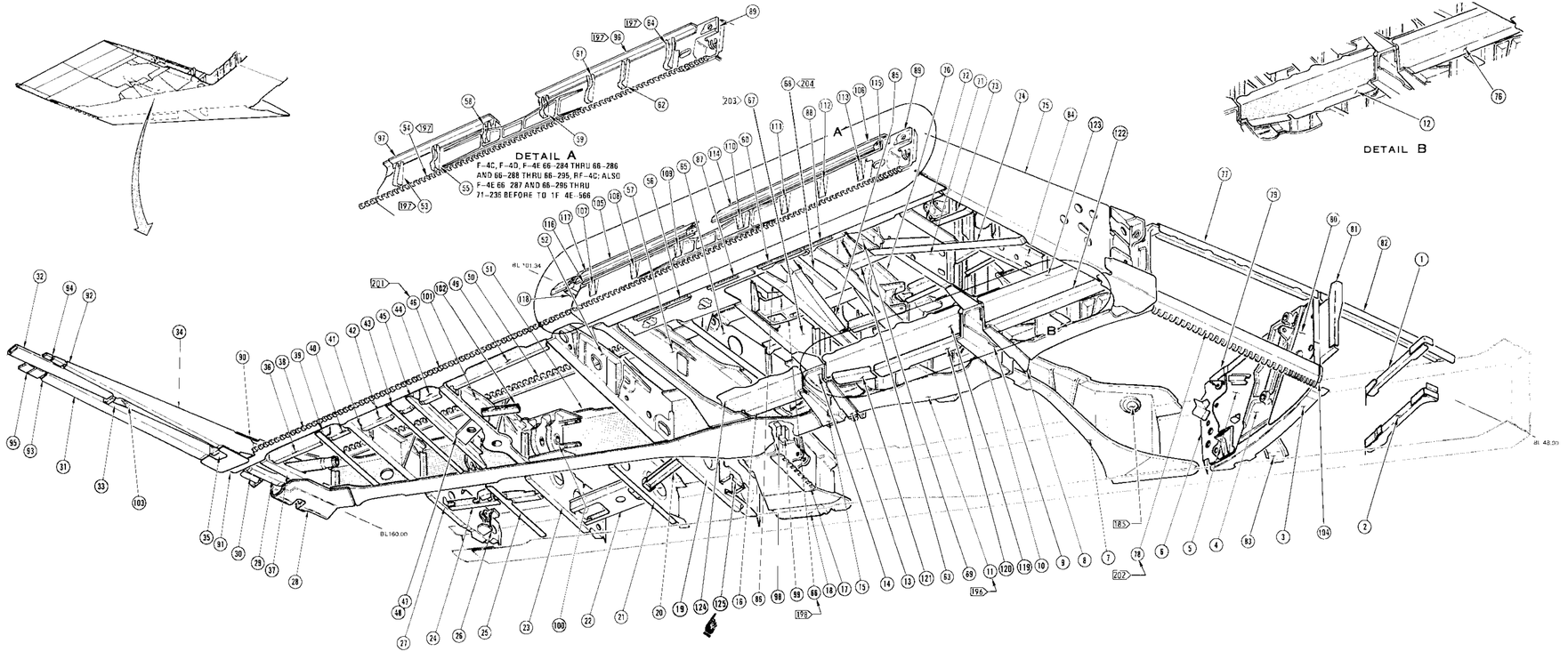


Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 1 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-11146-19,-20	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11146-79,-80	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
2	32-11146-61,-62	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11146-91,-92	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
3	53-11028-15,-16	ANGLE	1M2113	7075-T6 AL ALY	QQ-A-200/11 (T6)
	53-11028-93,-94	ANGLE	1M2113	7075-T6 AL ALY	QQ-A-200/11 (T6)
4	53-11033-5,-6	FITTING	(3)	7075-T6 AL ALY	QQ-A-367 (T6)
5	53-11028-45,-46	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-11028-57,-58	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	53-11028-47,-48 (89)	CLIP	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-11028-55,-56 (88)	CLIP	0.063	301 CRES	MIL-S-5059 (1/2 H)
7	53-11045-3,-4	RIB		7079-T6 AL ALY	QQ-A-367 (T6)
	53-11045-5,-6	RIB		7079-T6 AL ALY	QQ-A-367 (T6)
	53-11045-7,-8	RIB	(3)	7075-T73 AL ALY	QQ-A-367 (T73)
	53-11045-9,-10	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	53G11045-5,-6	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	53G11045-7,-8	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
8	53-11068-7,-8	ANGLE	1M2521	2024-T4 AL ALY	QQ-A-200/3 (T4)
9	32-11295-3,-4	CHANNEL	(4)	7075-T6 AL ALY	QQ-A-367 (T6)
10	53-11068-9,-10	ANGLE	1M2521	2024-T4 AL ALY	QQ-A-200/3 (T4)
	53-11068-33,-34	ANGLE	1M2521	2024-T4 AL ALY	QQ-A-200/3 (T4)
11	53-11038-3,-4	SPAR		7079-T652 AL ALY	QQ-A-367 (T652)
	53-11038-5,-6	SPAR		7079-T652 AL ALY	QQ-A-367 (T652)
	53-11038-7,-8	SPAR		7079-T652 AL ALY	QQ-A-367 (T652)
	53-11038-9,-10	SPAR		7079-T652 AL ALY	QQ-A-367 (T652)
	53-11038-21,-22 (178)	SPAR	(3)	7079-T652 AL ALY	QQ-A-367 (T652)
	53-11038-19,-20	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
	53-11038-29,-30	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
	53G11038-7,-8	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
	53G11038-9,-10	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
	53-11038-35,-36	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
	53-11038-37,-38	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
12	53-11041-7,-8 (13)	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-11215-17,-18 (14)	ANGLE	1M2447	2024-T4 AL ALY	QQ-A-200/3 (T4)
14	32-11247-3,-4	CHANNEL	(4)	7075-T6 AL ALY	QQ-A-367 (T6)
15	32-11215-15,-16 (13)	ANGLE	1M2447	2024-T4 AL ALY	QQ-A-200/3 (T4)
16	32-11212-73,-74	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-11212-81,-82	WEB	0.063	8Mn TITANIUM ALLOY	(7)
17	32-11417-3,-4	HINGE	1M96164	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-11417-5,-6	HINGE	1M96164	7075-T6 AL ALY	QQ-A-200/11 (T6)
18	32-11416-3,-4	RIB		7079-T6 AL ALY	QQ-A-367 (T6)
	32-11416-5,-6	RIB		7079-T6 AL ALY	QQ-A-367 (T6)
	32-11416-7,-8	RIB		7079-T6 AL ALY	QQ-A-367 (T6)
	32-11416-9,-10	RIB		7079-T6 AL ALY	QQ-A-367 (T6)
	32-11416-23,-24	RIB	(3)	7079-T6 AL ALY	QQ-A-367 (T6)
	32-11416-25,-26	RIB		7079-T6 AL ALY	QQ-A-367 (T6)
	32-11416-27,-28	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32-11416-39,-40	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32G11416-9,-10	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32G11416-11,-12	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32-11416-43,-44	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
19	32-11049-29,-30	RIB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11049-35,-36	RIB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32G11049-11,-12	RIB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11049-49,-50	RIB	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
20	32-11138-9,-10	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11138-9,-11	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
21	32-11139-41,-42	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11139-49,-50	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11139-53	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
22	32-11313-29,-30	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11313-33,-34	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11313-47	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11313-47,-48	BRACKET	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
23	32-11068-27,-28	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-11068-35,-36	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-11068-37,-38	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-11068-45	RIB	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
24	32-11315-3,-4	CHANNEL	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11315-15,-16	CHANNEL	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
25	32-11315-5,-6	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11315-17,-18	STIFFENER	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
26	32-11113-7,-8	FITTING	(4)	7075-T6 AL ALY	QQ-A-367 (T6)
	32-11113-9,-10	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
27	32-11067-33,-34	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-11067-37,-38	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-11067-47,-48	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
28	32-11117-5,-6	FITTING	(3)	4340 STEEL ALLOY	MIL-S-5000 (5)
29	DELETED				
	32G11048-7,-8	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11048-33,-34	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)

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Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 2 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
113	32G11048-9,-10	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
59	32-11048-45,-46	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
160	32G11048-21,-22	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
161	32G11048-25,-26	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
150	32-11048-53,-54	RIB	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
30	DELETED				
113	32-11048-31,-32	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
113	32-11048-43,-44	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
113	32G11048-5,-6	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
150	32-11048-55,-56	SUPPORT	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
31 154	32-11006-9,-10	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
150	32-11006-41,-42	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32 124	32-58150-3,-4	TUBE	0.028	5052-0 AL ALY	WW-T-700/4 (0)
125	32-58150-5,-6	TUBE	0.035	5052-0 AL ALY	WW-T-700/4 (0)
33	32-11006-13,-14	INTERCOSTAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
34 87	32-11006-7,-8	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
88	32-11006-53,-54	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
150	32-11006-57,-58	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35 90	32-11006-601,-602	INTERCOSTAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
91	32-11006-71,-72	INTERCOSTAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
125	32-11006-83,-84	INTERCOSTAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
150	32-11006-77,-78	INTERCOSTAL	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
36	32-11018-43,-44	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
37 60	32-11185-5,-6	RIB		7075-T6 AL ALY	QQ-A-367 (T6)
107	32G11185-5,-6	RIB		7075-T6 AL ALY	QQ-A-367 (T6)
81	32-11185-7,-8	RIB	3	7075-T7352 AL ALY	QQ-A-367 (T7352)
139	32G11185-9,-10	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
116	32G11185-7,-8	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
150	32-11185,-11,-12	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
38 62	32-11072-3,-4	HINGE	1M9478	7075-T6 AL ALY	QQ-A-200/11 (T6)
63	32-11072-5,-6	HINGE	1M9478	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
39	32-11004-77,-78	ANGLE	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
40 28	32-11018-615,-616	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
28	32-11018-45,-46	WEB	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
41 55	32-11184-3,-4	RIB	3	7075-T6 AL ALY	QQ-A-367 (T6)
52	32-11184-5,-6	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
42 27	32-11018-607,-608	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
26	32-11018-49,-50	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
43	32-11004-75,-76	ZEE	1M455	7075-T6 AL ALY	QQ-A-200/11 (T6)
44	32-11018-605,-606	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
45 86	32-11004-73,-74	ZEE	1M455	7075-T6 AL ALY	QQ-A-200/11 (T6)
85	53-11004-55	ZEE	1M455	7075-T651 AL ALY	QQ-A-200/11 (T651)
127	53G11004-15	ZEE	1M456	7075-T651 AL ALY	QQ-A-200/11 (T651)
46	32-11077-15,-16 HINGE 701		4	4340 STEEL ALLOY	MIL-S-5000 6
47 127	53G970007-9	DOUBLER	1M2623	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
48 127	53G970007-3	BRACKET	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
128	32-11345-25	BRACKET	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
49 29	32-11018-33,-34	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
29	32-11018-51,-52	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
50 58	32-11102-5,-6	HINGE	1M9669	7075-T6 AL ALY	QQ-A-200/11 (T6)
58	32-11102-7,-8	HINGE	1M9669	7075-T73 AL ALY	QQ-A-200/11 (T73)
51 97	32G11149-3	SPAR		7079-T6 AL ALY	QQ-A-367 (T6)
98	32-11149-15,-16	SPAR		7079-T6 AL ALY	QQ-A-367 (T6)
99	32-11149-903	SPAR		7079-T6 AL ALY	QQ-A-367 (T6)
96	32G11149-5	SPAR		7079-T6 AL ALY	QQ-A-367 (T6)
100	32G11149-11	SPAR		7079-T6 AL ALY	QQ-A-367 (T6)
20	32-11149-19,-20	SPAR		7075-T73 AL ALY	QQ-A-367 (T73)
101	32G11149-7	SPAR		7075-T73 AL ALY	QQ-A-367 (T73)
35	32-11149-19,-20	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
102	32G11149-7	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
33	32-11149-57	SPAR	3	7075-T7352 AL ALY	QQ-A-367 (T7352)
66	32-11149-27,-28	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
162	32G11149-25	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
163	32G11149-27	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
164	32G11149-26	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
165	32G11149-30	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
23	32G11149-9	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
21	32-11149-59	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
166	32G11149-29	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
137	32-11149-77,-78	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
199	32-11149-79,-80	SPAR		7075-T7352 AL ALY	QQ-A-367 (T7352)
200	32-11149-85,-86	SPAR		7075-T 7352 AL ALY	QQ-A-367 (T7352)
52 18	32-11182-5,-6	RIB		7075-T6 AL ALY	QQ-A-367 (T6)
18	32-11182-7,-8	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
53	32-11019-271,-272 CLIP 192		0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
54 64	53-11027-3,-4	HINGE	1M96169	7075-T6 AL ALY	QQ-A-200/11 (T6)
65	53-11027-7,-8	HINGE	1M96169	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
55	32-11019-299,-400 CLIP 192		0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
56	53-11071-9,-10 8	SILL	1M2524	2024-T4 AL ALY	QQ-A-200/3 (T4)
57 95	32-11537-11,-12	RIB		7075-T6 AL ALY	QQ-A-367 (T6)
115	32G11537-7,-8	RIB	3	7075-T6 AL ALY	QQ-A-367 (T6)
10	32-11537-17,-18	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
130	32G11537-9,-10	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)

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Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 3 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
137	32-11537-31,-32	RIB	3	7075-T7352 AL ALY	QQ-A-367 (T7352)
159	32G11537-27,-28	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
150	32-11537-33,-30	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
58	32-11019-297,-298	CLIP	0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
59	32-11019-401,-402	CLIP	0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
60	53-11071-5,-6 (8)	SILL	1M2524	2024-T4 AL ALY	QQ-A-200/3 (T4)
61	32-11019-403,-404	CLIP	0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
62	32-11019-213,-214	CLIP	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
63	32-11004-603,-604	STIFFENER	1M5707	7075-T6 AL ALY	QQ-A-200/11 (T6)
64	32-11019-405,-406	CLIP (197)	0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
65 36	32-11060-63,-64	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	32-11060-71,-72	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
165	32G11060-5,-6	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
166	32G11060-3,-4	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
150	32-11060-81,-82	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
66 51	32-11589-3,-4 (198)	FITTING	4	7075-T6 AL ALY	QQ-A-367 (T6)
21	32-11589-5,-6	FITTING		7075-T73 AL ALY	QQ-A-367 (T73)
67 144	32-11057-71,-72	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
159	32G11057-5,-6 (203)	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
150	53-11057-87,-88	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
68 145	53-11059-3,-4	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
146	53-11059-27,-28	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
138	53-11059-57,-58	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
167	53G11059-3,-4 (204)	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
168	53G11059-5,-6	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
169	53G11059-7,-8	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
150	53-11059-67,-68	RIB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
69 47	53-11035-3,-4	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
48	53-11035-5,-6	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
139	53-11035-9,-10	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
140	53-11035-11,-12	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
70 71	53-11037-3,-4	RIB		7075-T652 AL ALY	QQ-A-367 (T652)
30	53-11037-13,-14	RIB	3	7075-T7352 AL ALY	QQ-A-367 (T7352)
22	53-11037-17,-18	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
38	53-11037-19,-20	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
137	53-11037-25,-26	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
170	53G11037-3,-4	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
171	53G11037-5,-6	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
150	53-11037-27,-28	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
71 18	53-11056-3,-4	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
17	53-11056-3,-15	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
16	53-11056-17,-18	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
31	53-11056-27,-28	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
172	53G11056-3,-4	RIB	3	7075-T7352 AL ALY	QQ-A-367 (T7352)
136	53G11056-5,-6	RIB		7075-T7352 AL ALY	QQ-A-367 (T7352)
150	53-11056-31,-32	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
72 77	53-11036-3,-4	FITTING	3	7075-T6 AL ALY	QQ-A-367 (T6)
15	53-11036-5,-6	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
15	53-11036-7,-8	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
140	53-11036-9,-10	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
73	53-11029-21,-22	ANGLE	AND10133-0701	7075-T6 AL ALY	QQ-A-200/11 (T6)
74 25	53-11040-7,-8	ZEE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	53-11040-19,-20	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	53-11040-21,-22	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
75 141	53-11029-19,-20	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
142	53-11029-41,-42	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
143	53-11029-49,-50	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
137	53-11029-51,-52	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
173	53G11029-25,-26	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
174	53G11029-27,-28	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
175	53G11029-29,-30 (191)	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
150	53-11029-57,-58	RIB	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
76 25	53-11041-3,-4	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77	53-11065-5,-6	ANGLE	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
78 28	53-11039-3,-4	HINGE	1M97120	7075-T6 AL ALY	QQ-A-200/11 (T6)
54	53-11039-7,-8 (202)	HINGE	1M97120	7075-T6 AL ALY	QQ-A-200/11 (T6)
177	53-11039-9,-10	HINGE	1M97120	7075-T6 AL ALY	QQ-A-200/11 (T6)
79	53-11028-49,-50	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
80	53-11028-3,-4	WEB	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
81	32-11097-127,-128	ANGLE	0.071	2024-T4 ALCLAD	QQ-A-250/15 (T4)
82	53-11065-3,-4	ANGLE	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
83 144	53-11070-3,-4	BRACKET	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
159	53G11070-3,-4	BRACKET	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
150	53-11070-5,-6	BRACKET	0.080	2024-T4 ALCLAD	QQ-A-250/5 (T4)
84 67	53-11055-19,-20	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
147	53-11055-25,-26	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
148	53-11055-49,-50	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
172	53G11055-3,-4	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
136	53G11055-5,-6	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
150	53-11055-63,-64	RIB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
85	32-11059-9,-10	ANGLE	1M2128	7178-T6 AL ALY	QQ-A-200/11 (T6)
86	32-11530-7,-8	FITTING	3	7075-T6 AL ALY	QQ-A-367 (T6)
87	53-11071-7,-8 (8)	SILL	1M2524	2024-T4 AL ALY	QQ-A-200/3 (T4)
88	53-11071-3,-4	SILL	1M2524	2024-T4 AL ALY	QQ-A-200/3 (T4)
89	32-11593-1,-2	FITTING ASSY	4.00	2014-T6 AL ALY	QQ-A-367 (T6)
90 152	32-11006-25	DOUBLER	0.125	7075-T6 ALCLAD	QQ-A-250/13 (T6)
150	32-11006-49	DOUBLER	0.125	7075-T6 ALCLAD	QQ-A-250/13 (T6)

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Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 4 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
91	32-11006-23	DOUBLER	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-11006-51	DOUBLER	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
92	32-11302-9	FILLER	0.75	FABRIC BASE PHENOLIC	MIL-P-15035A (FBG)
93	32-11302-7	FILLER	0.75	FABRIC BASE PHENOLIC	MIL-P-15035A (FBG)
94	32-11302-13	FILLER	1M9177	2014-T6 AL ALY	QQ-A-200/2 (T6)
95	32-11302-11	FILLER	1M9177	2014-T6 AL ALY	QQ-A-200/2 (T6)
96	32-11019-261, -262	CAP 147	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
97	32-11019-283, -284	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
98	32-11250-12, -11	PAD		BERYLLIUM COPPER	AMS4650 (A)
	32-11250-16, -15	PAD 51		BERYLLIUM COPPER	AMS4650 (A)
99	32-11250-11, -12	PAD		BERYLLIUM COPPER	AMS4650 (A)
	32-11250-13, -14	PAD	1.50	BERYLLIUM COPPER	QQ-C-530 (A)
100	32-11527-5, -6	FITTING		7079-F AL ALY	QQ-A-367 (F)
	32-11527-7, -8	FITTING		7079-F AL ALY	QQ-A-367 (F)
	32-11527-9, -10	FITTING		7079-F AL ALY	QQ-A-367 (F)
101	32-11183-5, -6	RIB		7075-T6 AL ALY	QQ-A-367 (T6)
	32G11183-3	RIB		7075-T6 AL ALY	QQ-A-367 (T6)
	32-11183-9, -10	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32G11183-5	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32-11183-11	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32-11183-13, -14	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
	32-11183-15, -16	RIB		7075-T73 AL ALY	QQ-A-367 (T73)
102	32-11004-151, -152	CHAFE BLOCK	0.85	PHENOLIC CLOTH BASE	MIL-P-15037A (GMG)
	32-11004-719	CHAFE BLOCK	0.50	PHENOLIC CLOTH BASE	MIL-P-15037A (GMG)
103	32-58180	COLLAR	0.093	CHOROPRENE	MIL-S-6855 CLASS 2, GRADE 60
104	53-11030-3, -4	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
	53-11030-7, -8	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
105	32Q11019-5, -6	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-11019-69, -70	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
106	32Q11019-3, -4	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-11019-67, -68	CAP	1M57209	7178-T6 AL ALY	QQ-A-200/13 (T6)
107	53Q970782-31, -32	HAT	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
108	53Q970782-33, -34	HAT	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
109	53Q970782-7, -8	HAT	0.063	7075-T73 AL ALY	QQ-A-250/12 (T73)
110	53Q970782-9, -10	HAT	0.063	7075-T73 AL ALY	QQ-A-250/12 (T73)
111	53Q970782-35, -36	HAT	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
112	53Q970782-37, -38	HAT	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
113	53Q970782-39, -40	HAT	0.050	7075-T73 AL ALY	QQ-A-250/12 (T73)
114	53Q970418-3, -4	SEAL ASSY 149			
115	53Q970782-21, -22	ZEE	0.040	7075-T73 AL ALY	QQ-A-250/12 (T73)
116	53Q970782-19, -20	ZEE	0.040	7075-T73 AL ALY	QQ-A-250/12 (T73)
117	53Q970418-5, -6	SEAL ASSY 149			
118	53Q970782-23, -24	BRACKET	0.063	7075-T73 AL ALY	QQ-A-250/12 (T73)
119	53-11041-17, -18	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-11041-35, -36	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-11041-41-42	WEB	0.063	6AL-4V TITANIUM ALLOY	MIL-T-9046, TYPE III, COMP C, ANNEALED
120	53-11041-19, -20	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-11041-41, -44	ANGLE	0.080	6AL-4V TITANIUM ALLOY	MIL-T-9046, TYPE III, COMP C, ANNEALED
121	53-11041-21, -22	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-11041-37, -38	ANGLE	0.080	6AL-4V TITANIUM ALLOY	MIL-T-9046, TYPE III, COMP C, ANNEALED
122	53-11041-15, -16	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
123	53-11041-13, -14	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-11041-33, -34	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
124	32-11212-75, 76	148 147 SUPPORT	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-11212-97, -98	148 147 SUPPORT	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
125	32-11049-37	BRACKET	0.050	7075-T6 AL ALY	QQ-A-250/12(T6)

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Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 5 of 7)

Notes

1. DRAWING NUMBERS FOR THE WHEEL WELL AND TRAILING EDGE STRUCTURE ARE 53-11002 AND 53-11004.
2. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.

(3) FORGING.
(4) PRESSING.
(5) SEE FIGURE 2-90 FOR REPLACEMENT.
(6) FORGED AND MACHINED IN THE C CONDITION, THEN HEAT TREATED TO 180-200 KSI.
(7) MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED.
(8) FOR WEAR LIMITS REFER TO TEXT UNDER SPEED BRAKE IN TO 1F-4C-3-1-4.

1. F-4C 63-7598 THRU 64-928, F-4D 64-929 THRU 66-7741, F-4E 66-284 THRU 66-287, AND RF-4 64-997 THRU 66-444.
2. F-4D 66-7742 THRU 66-8825, RF-4 66-445 THRU 72-156, F-4E, AND F-4G.
3. F-4E 69-7579 THRU 71-236 BEFORE TO 1F-4E-566.
4. F-4C, F-4D 64-929 THRU 65-781, AND RF-4 63-7742 THRU 66-388.
5. F-4D 64-782 THRU 66-8825, RF-4 66-389 THRU 72-156, F-4E, AND F-4G.
6. F-4E 67-283 THRU 68-538 AND RF-4 67-454 THRU 68-611.
7. F-4E/G 69-236 THRU 71-236 AND RF-4 69-349 THRU 71-252.
8. F-4D 66-7651 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 66-429 THRU 72-156; ALSO F-4E 66-287 AND 66-296 THRU 69-7578 BEFORE TO 1F-4E-566.
9. F-4D 65-612 THRU 66-7650 AND RF-4 65-902 THRU 66-428.
10. F-4C, F-4D 64-929 THRU 65-611, AND RF-4 63-7742 THRU 65-901.
11. RF-4 66-241 THRU 67-451 LEFT SIDE, F-4D 66-7596 THRU 66-8825 AND RF-4 66-421 THRU 72-156 RIGHT SIDE.
12. RF-4 66-387, 66-389 THRU 66-420; F-4D 66-231 THRU 66-7595 RIGHT SIDE.
13. F-4D 65-780 THRU 66-8825, RF-4 66-387, 66-389 THRU 72-156, F-4E, AND F-4G.
14. RF-4 63-7742 THRU 65-945 LEFT SIDE, F-4C 63-7443 THRU 64-928, F-4D 64-929 THRU 66-230, AND RF-4 63-7742 THRU 66-286 AND 66-288, RIGHT SIDE.
15. F-4C 63-7407 THRU 63-7526, RF-4 63-7742 THRU 63-7749.
16. F-4C 63-7527 THRU 64-928, RF-4 63-7750 THRU 72-156, F-4D, F-4E, AND F-4G.
17. F-4C 63-7407 THRU 63-7468 AND RF-4 63-7742.
18. F-4C 63-7465 THRU 64-928, RF-4 63-7743, F-4D, F-4E, AND F-4G.
19. F-4C 63-7407 THRU 63-7597 AND RF-4 63-7742 THRU 63-7763.
20. F-4C 63-7598 THRU 64-928, RF-4 64-997 THRU 72-156, F-4D, F-4E, AND F-4G.
21. DELETED
22. F-4C 63-7527 THRU 64-672 AND RF-4 63-7750 THRU 64-1037.
23. F-4C 64-673 THRU 64-737 AND RF-4 64-1038 THRU 64-1061.
24. F-4C 63-7407 THRU 64-746 AND RF-4 63-7742 THRU 64-1062.
25. F-4C 64-747 THRU 64-928, RF-4 64-1063 THRU 72-156, F-4D, F-4E, AND F-4G.
26. F-4C 64-747 THRU 64-866 AND RF-4 64-1063 THRU 65-819.
27. F-4C 64-673 THRU 64-746 AND RF-4 64-1038 THRU 64-1062.
28. F-4C 63-7407 THRU 63-7577 AND RF-4 63-7742 THRU 63-7763.
29. F-4C 63-7578 THRU 64-926, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 64-997 THRU 72-156. ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
30. F-4C 63-7407 THRU 64-737 AND RF-4 63-7742 THRU 64-1061.
31. F-4C 64-728 THRU 64-928, F-4D 64-929 THRU 65-789, AND RF-4 64-1062 THRU 66-386.
32. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7742 THRU 65-838.
33. F-4C 64-882 THRU 64-928, F-4D, F-4E 66-284 THRU 67-219, AND RF-4 65-839 THRU 67-461 LEFT SIDE, F-4C 64-882 THRU 64-928, RF-4 65-839 THRU 72-156 F-4D, F-4E, AND F-4G, RIGHT SIDE.
34. F-4C, F-4D, F-4E 66-284 THRU 66-382, AND RF-4 63-7742 THRU 66-478.
35. F-4E 67-208 AND UP, RF-4 67-428 THRU 72-156, AND F-4G.
36. F-4D 65-620 THRU 65-782 AND RF-4 65-908 THRU 66-389.
37. F-4D 64-929 THRU 65-779.
38. F-4D 65-747 THRU 66-8825, RF-4 66-387, 66-389 THRU 72-156, AND F-4G.
39. F-4C, F-4D, F-4E 66-284 THRU 67-313, AND RF-4 63-7742 THRU 67-457.
40. F-4E 67-314 THRU 68-538, F-4E/G 69-236 THRU 69-7578, AND RF-4 67-458 THRU 69-384.
41. F-4C, F-4D 64-929 THRU 65-746, AND RF-4 63-7742 THRU 66-386 AND 66-388.
42. F-4D 65-679 THRU 66-7650 AND RF-4 65-919 THRU 66-415.
43. F-4C, F-4D 64-929 THRU 65-779, AND RF-4 63-7742 THRU 66-386 AND 66-388.
44. F-4D 65-758 THRU 66-8825, RF-4 65-940 THRU 72-156, F-4E, AND F-4G.
45. F-4C, F-4D 64-929 THRU 65-757, AND RF-4 63-7742 THRU 65-939.
46. F-4C, F-4D 64-929 THRU 65-770, AND RF-4 63-7742 THRU 66-386 AND 66-388.
47. F-4D 65-771 THRU 66-8825, RF-4 66-387, 66-389 THRU 72-156, F-4E, AND F-4G.
48. F-4C, F-4D 64-929 THRU 66-7504, AND RF-4 63-7742 THRU 66-406.
49. F-4D 66-7505 THRU 66-8825, F-4E 66-284 THRU 71-236, RF-4 66-407 THRU 72-156, AND F-4G.
50. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 65-600, AND RF-4 65-839 THRU 67-461 LEFT SIDE 65-839 THRU 72-156 RIGHT SIDE.
51. F-4D 65-601 AND F-4E 66-284 THRU 67-219 LEFT SIDE, F-4D 65-601 THRU 66-8825, F-4E AND F-4G RIGHT SIDE.
52. F-4D 64-929 THRU 65-781.
53. F-4D 65-782 THRU 66-8825 AND F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
54. F-4C, F-4D 64-929 THRU 65-778, AND RF-4 63-7742 THRU 66-386 AND 66-388.
55. F-4D 65-779 THRU 66-8825, RF-4 66-387, 66-389 THRU 72-156, F-4E, AND F-4G.
56. F-4D 65-790, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 66-387 THRU 67-453; ALSO F-4E 66-287 AND 66-296 THRU 67-280 BEFORE TO 1F-4E-566.
57. F-4C 64-867 THRU 64-928, F-4D 64-929 THRU 65-619 AND RF-4 65-820 THRU 65-907.
58. F-4D 65-783 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 66-390 THRU 67-468; ALSO F-4E 66-287 AND 66-296 THRU 67-395 BEFORE TO 1F-4E-566.
59. F-4C, F-4D 64-929 THRU 64-963, AND RF-4 63-7742 THRU 65-864.
60. F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 71-1402, RF-4 65-865 THRU 72-156, AND F-4G.
61. F-4D 65-764 THRU 66-8825, RF-4 65-942 THRU 72-156, F-4E AND F-4G.
62. F-4D 65-780 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
63. F-4C, F-4D 64-929 THRU 65-678, AND RF-4 63-7742 THRU 65-918.
64. F-4D 66-7651, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 66-416 THRU 67-441; ALSO F-4E 66-287 AND 66-296 THRU 67-217 BEFORE TO 1F-4E-566.
65. F-4C 64-738 THRU 64-928, F-4D 64-929 THRU 65-770, AND RF-4 64-1062 THRU 66-386 AND 66-388.
66. F-4D 65-771 THRU 65-792 AND RF-4 66-387, 66-389 THRU 66-391.
67. F-4D 65-793 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 66-392 THRU 67-469; ALSO F-4E 66-287 AND 66-296 THRU 67-398 BEFORE TO 1F-4E-566.
68. F-4C, F-4D 64-929 THRU 65-763, AND RF-4 63-7742 THRU 65-941.
69. F-4C, F-4D, F-4E 66-284 THRU 67-282, AND RF-4 63-7742 THRU 67-453.
70. F-4E 67-218 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 67-442 THRU 71-252.
71. F-4E 67-220 THRU 71-236 BEFORE TO 1F-4E-566.
72. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 RIGHT SIDE; ALSO F-4E 66-287 AND 66-296 THRU 71-236 RIGHT SIDE BEFORE TO 1F-4E-566. F-4E 67-220 THRU 71-236 LEFT SIDE BEFORE TO 1F-4E-566.
73. F-4E 67-220 THRU 71-236 LEFT SIDE BEFORE TO 1F-4E-566.
74. RF-4 67-462 THRU 72-156 LEFT SIDE.
75. RF-4 63-7742 THRU 67-436 LEFT SIDE, F-4C, F-4D 64-929 THRU 66-8799, F-4E 66-284 THRU 66-339, AND RF-4 63-7742 THRU 67-429 RIGHT SIDE.
76. RF-4 67-437 THRU 67-461 LEFT SIDE, F-4D 66-8800 THRU 66-8825, F-4E 66-340 THRU 71-1402, RF-4 67-430 THRU 72-156 AND F-4G RIGHT SIDE.
77. F-4E 67-220 THRU 71-1402, RF-4 67-462 THRU 72-156 LEFT SIDE, AND F-4G.
78. F-4C, F-4D 64-929, F-4E 66-284 THRU 67-219, AND RF-4 63-7742 THRU 67-461 LEFT SIDE, F-4C, F-4D, F-4E, F-4G, AND RF-4 RIGHT SIDE.
79. F-4E 72-121 AND UP AND RF-4 67-454 THRU 72-156; ALSO F-4E 67-281 THRU 71-236 BEFORE TO 1F-4E-566.
80. F-4C AND RF-4 63-7742 THRU 67-461 LEFT SIDE, F-4C AND RF-4 RIGHT SIDE.
81. F-4D AND F-4E 66-284 THRU 67-219 LEFT SIDE, F-4D, F-4E, AND F-4G, RIGHT SIDE
82. F-4C, F-4D 64-929 THRU 66-8786, F-4E 66-284 THRU 66-338, AND RF-4 63-7742 THRU 66-472.
83. F-4D 66-8787 THRU 66-8825, F-4E 66-339 THRU 68-538, F-4E/G 69-236 THRU 69-7260, AND RF-4 66-473 THRU 69-375.
84. F-4C 63-7407 THRU 64-881 AND RF-4 63-7742 THRU 65-838.
85. F-4C, F-4D 64-929 THRU 66-8786, F-4E 66-284 THRU 66-338, AND RF-4 63-7742 THRU 66-472.
86. F-4D 66-8787 THRU 66-8825, F-4E 66-339 THRU 72-1497, RF-4 66-473 THRU 72-156, AND F-4G.
87. F-4C, F-4D 64-929 THRU 66-8823, AND F-4E 66-284 THRU 66-366 LEFT SIDE.
88. F-4D 66-8824 AND 66-8825 AND F-4E 66-367 THRU 67-219 LEFT SIDE.
89. F-4C 63-7407 THRU 63-7442 LEFT SIDE.
90. RF-4 66-383 THRU 66-386 AND 66-388 LEFT SIDE.
91. F-4C 63-7443 THRU 64-928, F-4D 64-929 THRU 65-782, 65-787 AND 67-788 LEFT SIDE.
92. F-4D 65-783 THRU 65-786 AND 65-789 THRU 66-230 LEFT SIDE.
93. F-4D 66-231 THRU 66-7595 LEFT SIDE.
94. F-4D 66-7596 LEFT SIDE.
95. F-4E 66-287 AND 66-296 THRU 67-219 LEFT SIDE BEFORE TO 1F-4E-566.
96. RF-4 67-469 THRU 72-156. ALSO F-4E 67-396 THRU 71-236 BEFORE TO 1F-4E-566.
97. F-4C, F-4D, F-4E 66-284 THRU 68-365, AND RF-4 63-7742 THRU 68-561.
98. F-4E 68-366 AND UP, RF-4 68-562 THRU 72-156, A ND F-4G.
99. F-4C 63-7407 THRU 64-862 AND RF-4 63-7742 THRU 65-826.
100. F-4C, F-4D, F-4E 66-284 THRU 68-352, AND RF-4.
101. F-4E 68-353 AND UP, AND F-4G.
102. DELETED

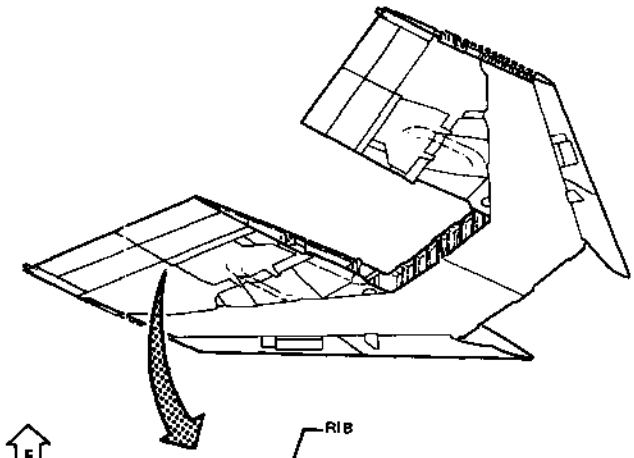
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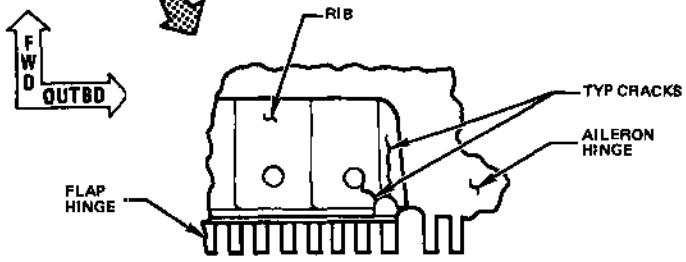
Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 6 of 7)

111 RF-4 63-7742 THRU 64-1037.
112 F-4D AND F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, F-4E 66-287 AND 66-296 THRU 67-219 BEFORE TO 1F-4E-566.
113 RF-4 64-1038 THRU 69-366.
114 F-4D 64-929 THRU 64-963.
115 F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 71-1402, AND F-4G.
116 RF-4 63-7742 THRU 69-366.
117 RF-4 63-7742 THRU 66-385.
118 RF-4 66-388 THRU 69-366.
119 RF-4 63-7742 THRU 65-944.
120 RF-4 65-945 THRU 69-366.
121 F-4C 64-863 THRU 64-928, RF-4 65-827 THRU 72-156, F-4D, F-4E, AND F-4G.
122 F-4C, F-4D, F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7578, AND RF-4 63-7742 THRU 69-375. FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
123 F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4 69-376 THRU 72-156. FUTURE PROCUREMENT FOR PRECEDING PART.
124 F-4C, F-4D, F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7260, AND RF-4 63-7742 THRU 69-375.
125 F-4E/G 69-7261 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4 69-376 THRU 72-156.
126 F-4C, F-4D 64-929 THRU 64-957, AND RF-4 63-7742 THRU 65-866.
127 F-4C, F-4D 64-929, AND F-4E 66-284 THRU 67-219, LEFT SIDE.
128 F-4E 67-220 AND UP, RF-4 67-462 THRU 72-156, LEFT SIDE, AND F-4G.
129 F-4D 65-959 THRU 66-8825, RF-4 65-867 THRU 72-156, F-4E AND F-4G.
130 F-4C, F-4D, F-4E 66-284 THRU 67-250, AND RF-4 63-7742 THRU 67-449. FOR FUTURE PROCUREMENT USE PRECEDING PART.
131 F-4E 67-251 THRU 68-538, F-4E/G 69-236 THRU 69-252, AND RF-4 67-450 THRU 69-357. FUTURE PROCUREMENT FOR PRECEDING PART. FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
132 F-4E/G 69-253 THRU 69-7588, F-4E 69-7589 AND UP, RF-4 69-358 THRU 72-156, AND F-4G, FUTURE PROCUREMENT FOR PRECEDING PART.
133 RF-4 68-568 THRU 72-156; ALSO F-4E 68-303 THRU 71-236 BEFORE TO 1F-4E-566.
134 F-4C, F-4D, F-4E 66-284 THRU 67-219, AND RF-4 63-7742 THRU 67-442.
135 F-4E 67-220 AND UP, RF-4 67-443 THRU 72-156, AND F-4G.
136 F-4E 71-237 THRU 71-1402.
137 RF-4 71-253 THRU 72-156.
138 F-4E 68-366 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 68-562 THRU 72-156.
139 F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 THRU 71-236, AND RF-4C 71-248 THRU 71-252.
140 F-4E 71-237 AND UP, AND RF-4 71-253 THRU 72-156.
141 F-4C, F-4D 64-929 THRU 64-963, F-4E 67-208 THRU 68-409 BEFORE TO 1F-4E-566 AND RF-4 63-7742 THRU 65-864 AND 67-428 THRU 68-576.
142 F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 65-865 THRU 67-427; ALSO F-4E 66-287 AND 66-296 THRU 67-207 BEFORE TO 1F-4E-566.
143 F-4E 68-410 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 68-577 THRU 71-252.
144 F-4C, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
145 F-4C, F-4D 64-929 THRU 64-963, F-4E 67-342 THRU 68-365 BEFORE TO 1F-4E-566 AND RF-4 63-7742 THRU 65-864 AND 67-454 THRU 68-561.
146 F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND RF-4 65-965 THRU 67-453; ALSO F-4E 66-287 AND 66-296 THRU 67-341 BEFORE TO 1F-4E-566.
147 F-4D 64-964 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4 65-865 THRU 67-461; ALSO F-4E 66-287 AND 66-296 THRU 67-341 BEFORE TO 1F-4E-566.
148 F-4E 67-342 THRU 71-236 BEFORE TO 1F-4E-566 AND RF-4 67-462 THRU 72-156.
149 FOR SEAL INDEX AND FASTENER REPLACEMENT, SEE FIGURE 2-92.
150 F-4E 72-121 AND UP.
151 F-4C 63-7469 THRU 64-928, F-4E 66-284 THRU 71-1402, F-4D, AND F-4G.
152 F-4C, F-4D, AND F-4E 66-284 THRU 71-1402, F-4G, AND RF-4.
153 F-4E 66-287 AND 66-296 THRU 67-398 AFTER TO 1F-4E-566.
154 F-4E 68-303 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
155 F-4E 66-287 AND 66-296 THRU 67-290 AFTER TO 1F-4E-566.
156 F-4E 66-291 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
157 F-4E 66-287 AND 66-296 THRU 67-395 AFTER TO 1F-4E-566.
158 F-4E 67-396 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
159 F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
160 F-4E 66-287 AND 66-296 THRU 67-219 AFTER TO 1F-4E-566.
161 F-4E 67-220 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
162 F-4E 66-287 AND 66-296 THRU 67-219 LEFT SIDE AFTER TO 1F-4E-566.
163 F-4E 67-220 THRU 71-236 LEFT SIDE AFTER TO 1F-4E-566, AND F-4G.
164 F-4E 66-287 AND 66-296 THRU 71-236 RIGHT SIDE AFTER TO 1F-4E-566, AND F-4G
165 F-4E 67-294 THRU 68-375 AFTER TO 1F-4E-566.
166 F-4E 66-287 AND 66-296 THRU 67-293 AND 68-376 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
167 F-4E 66-287 AND 66-296 THRU 67-282 AFTER TO 1F-4E-566.
168 F-4E 67-283 THRU 68-365 AFTER TO 1F-4E-566.
169 F-4E 68-366 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
170 F-4E 66-287 AND 66-296 THRU 67-217 AFTER TO 1F-4E-566.
171 F-4E 67-218 THRU 71-236 AFTER TO 1F-4E-566, AND F-4G.
172 F-4E 66-287 AND 66-296 THRU 71-236 AFTER TO 1F-4E-566, AND F-4G.
173 F-4E 66-287 AND 66-296 THRU 66-382 AFTER TO 1F-4E-566.
174 F-4E 67-208 THRU 68-409 AFTER TO 1F-4E-566.
175 F-4E 68-410 THRU 71-1402 AFTER TO 1F-4E-566, AND F-4G.
176 F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; 72-121 AND UP, AND F-4G.
177 F-4E 72-1498 AND UP.
178 F-4C 63-7669 THRU 64-928, F-4E 66-284 THRU 71-236, F-4D, F-4G, AND RF-4 63-7743 THRU 71-252.
179 F-4E 71-237 THRU 72-1499 AND RF-4 71-253 THRU 72-156. FOR FUTURE PROCUREMENT FOR RF-4 USE FOLLOWING PART.
180 F-4E 73-01157 AND UP. FUTURE PROCUREMENT FOR PRECEDING PART ON RF-4.
181 F-4C 63-7469 THRU 64-928, F-4E 66-284 THRU 72-1499, F-4D, F-4G, AND RF-4 63-7743 THRU 72-156. FOR FUTURE PROCUREMENT FOR RF-4 USE FOLLOWING PART.
182 F-4C 63-7469 THRU 64-928, RF-4 63-7743 THRU 72-156, F-4D, F-4E AND F-4G.
183 F-4C 63-7407 THRU 64-928, F-4D, F-4E 66-284 THRU 71-236, F-4G, AND RF-4 63-7743 THRU 71-252.
184 F-4E 71-237 AND UP AND RF-4 71-253 THRU 72-156.
185 FOR REPAIR, SEE FIGURE 2-84.
186 FOR REPAIR, SEE FIGURE 2-103.
187 FOR REPLACEMENT, SEE FIGURE 2-106.
188 FOR REPAIR, SEE FIGURE 2-87.
189 FOR REPAIR, SEE FIGURE 2-104.
190 FOR REPLACEMENT, SEE FIGURE 2-107.
191 FOR REPAIR, SEE FIGURE 2-88.
192 F-4C 63-7407 THRU 63-7597 AND RF-4 63-7742 THRU 63-7763.
193 F-4C 63-7598 THRU 64-928, RF-4 64-997 THRU 72-156, F-4D, F-4E, AND F-4G.
194 F-4E 72-121 THRU 73-01184.
195 F-4E 73-01185 AND UP.
196 FOR REPAIR, SEE FIGURE 2-85A.
197 FOR REPAIR, SEE FIGURE 2-92A.
198 FOR REPLACEMENT, SEE FIGURE 2-92B.
199 F-4E 72-121 THRU 74-01627.
200 F-4E 74-01628 AND UP.
201 FOR REPAIR, SEE FIGURE 2-83A.
202 FOR REPLACEMENT, SEE FIGURES 2-94 AND 2-94A.
203 FOR REPAIR, SEE FIGURE 2-107A.
204 FOR REPAIR, SEE FIGURE 2-107B.

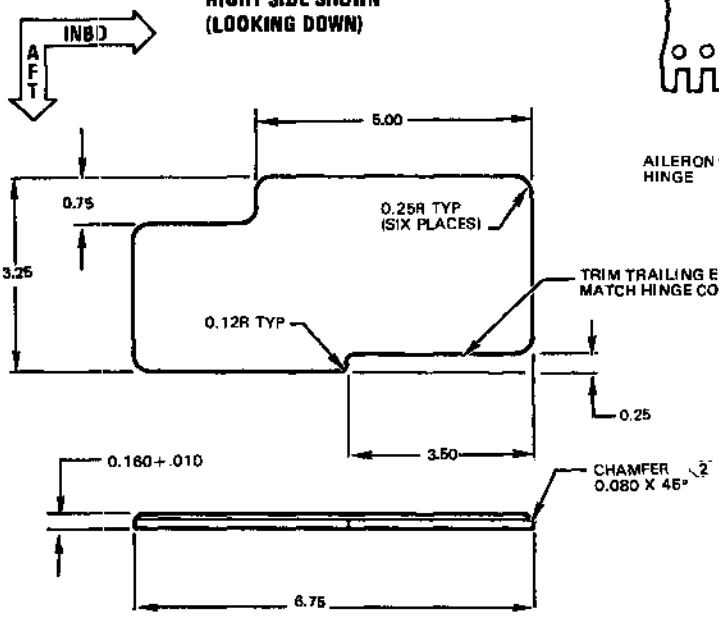
4C-3-1-2-(74-7)S

Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 7 of 7)



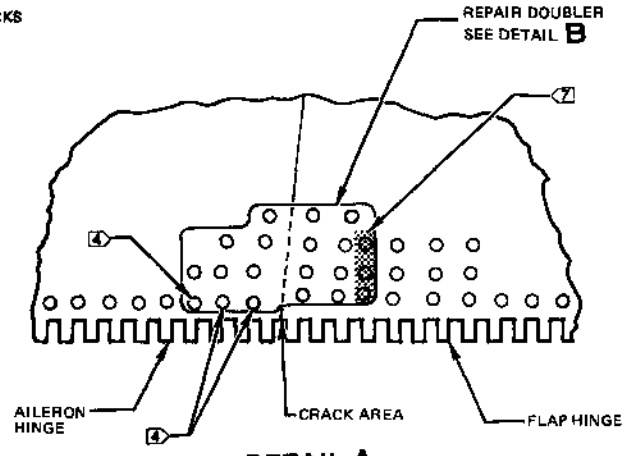


DAMAGED AREA
RIGHT SIDE SHOWN
(LOOKING DOWN)

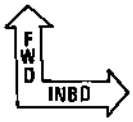


DETAIL B

3 7926385 REPAIR DOUBLER 4130, 4330, OR 4340 STEEL



DETAIL A
RIGHT SIDE REPAIR SHOWN
(LOOKING UP)



Notes

1. PART USED FOR RIGHT AND LEFT SIDE REPAIRS.
2. CHAMFER OPPOSITE EDGE FOR LEFT SIDE.
3. DIMENSION MAY BE CHANGED FOR BETTER LOCATION OF FASTENERS.
4. EDGE DISTANCE LESS THAN ONE DIAMETER IS PERMISSIBLE FOR THESE HOLES.
5. FOR EASE OF INSTALLATION THE EXISTING NUTS AND WASHERS MAY BE REPLACED WITH MS21058 OR MS21059 PLATE NUTS INSTALLED INTO 0.032 ALUMINUM PLATE. REPLACE SCREWS WITH PROPER LENGTH AS REQUIRED.
6. INSTALL DOUBLER ON LOWER SURFACE OF WING EVEN THOUGH THE CRACK LOCATION MAY BE ELSEWHERE.
7. FASTENER NUTS WHICH CAN NOT BE ACCESSED THROUGH UPPER AILERON, CAN BE SUBSTITUTED WITH AN EQUIVALENT DIAMETER MS90353-( ) ALLOY STEEL, FASTENER. FASTENER LENGTH IS TO BE DETERMINED AT INSTALLATION.

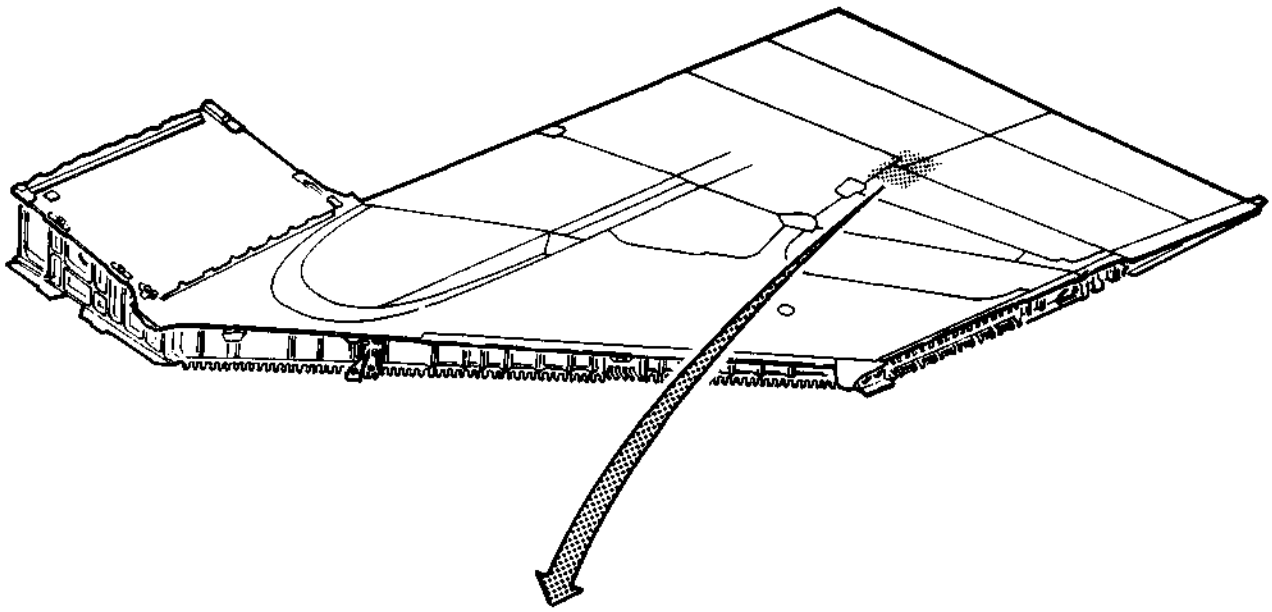
REPAIR PROCEDURE

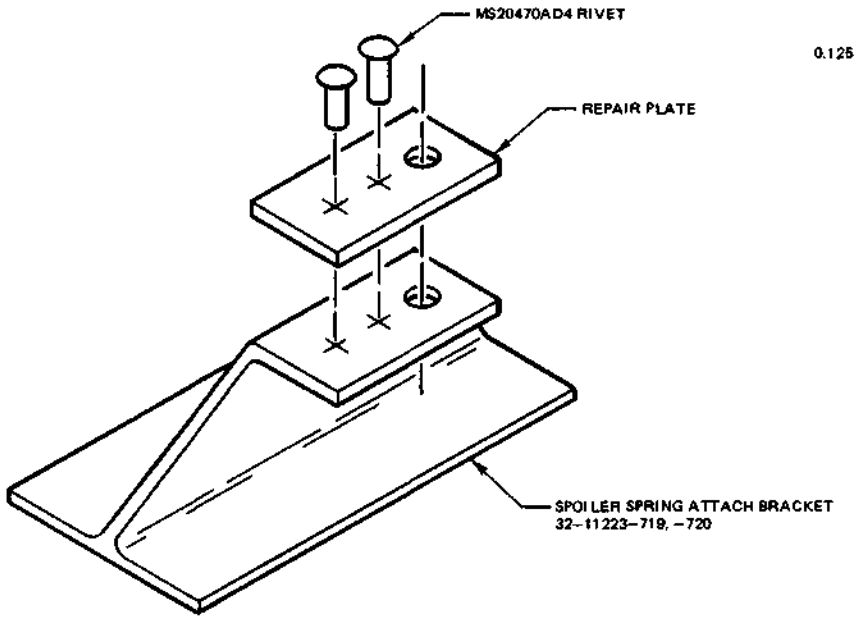
FASTENER LOCATION DIFFER FROM ONE AIRCRAFT TO ANOTHER. THE LOCATION OF FASTENERS SHOWN IN DETAIL A ARE ONLY A REPRESENTATION. POSITION REPAIR DOUBLER FOR BEST HOLE LOCATION AND EDGE DISTANCE OF TWO DIAMETERS.

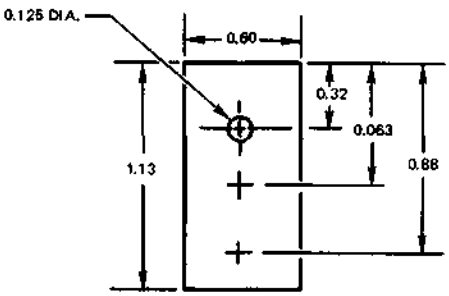
A. REMOVE AFFECTED FASTENERS IN BOTH HINGES.
B. MANUFACTURE REPAIR DOUBLER 7926385 PER DETAIL B.
C. LOCATE FASTENER HOLES AS SHOWN IN DETAIL A PER TO 1F-4C-3-1-1. (17 FASTENERS)
D. HEAT TREAT REPAIR DOUBLER 160 TO 180 KSI. REFERENCE TO 1F-4C-3-1-1.
E. CADMIUM PLATE PER QQ-P-416, TYPE II CLASS 3.
F. CLEAN HINGE COUNTERSINKS AND ALODINE REWORKED AREA.
G. INSTALL COUNTERSINK FILLERS WITH MIL-S-81733.
H. FAY SEAL THE DOUBLER WITH MIL-S-81733.
I. INSTALL DOUBLER WITH SAME TYPE FASTENERS AS REMOVED WITH PROPER GRIP LENGTH.
J. FINISH REWORK AREA PER TO 1F-4C-3-1-6.

4C-3-1-2-(381)G

Figure 2-83A. Flap and Aileron Hinge Splice Joint Crack Repair





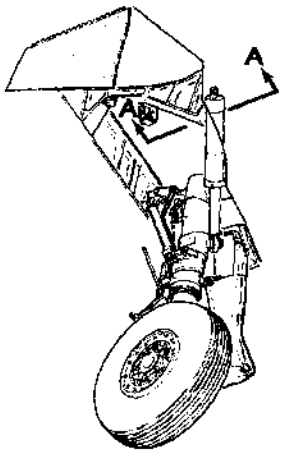


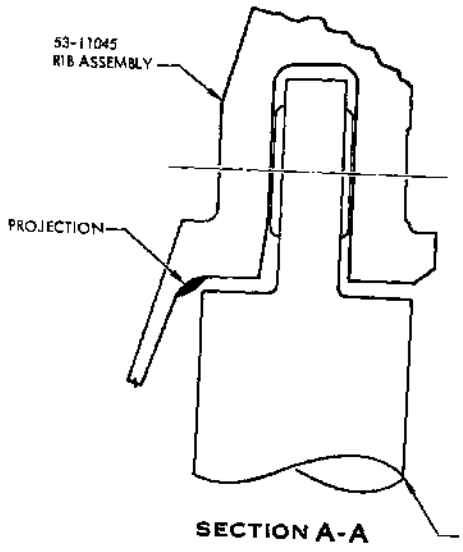
REPAIR PROCEDURE

A. FABRICATE REPAIR PLATE AS SHOWN FROM 0.063 7075-T6 OR 7178-T6 ALUMINUM ALLOY.
B. INSTALL REPAIR PLATE WITH TWO MS20470AD4 RIVETS, LENGTH TO BE DETERMINED AT TIME OF INSTALLATION.
C. REFINISH REPAIR AREA PER TO 1F-4C-3-1-6.

4C-3-1-2-(422)

Figure 2-83B. Spoiler Spring Attach Bracket Repair





REWORK PROCEDURE

A. GRIND OFF PROJECTION. DO NOT GRIND BELOW SURFACE LINE. SEE SECTION A-A.
B. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

Note

(1) REWORK ACTUATOR ASSEMBLY PER INSTRUCTIONS IN T.O. 9H2-2-74-3.

4C-3-1-2-(311)

Figure 2-84. Actuator Rib, 53-11045, Repair

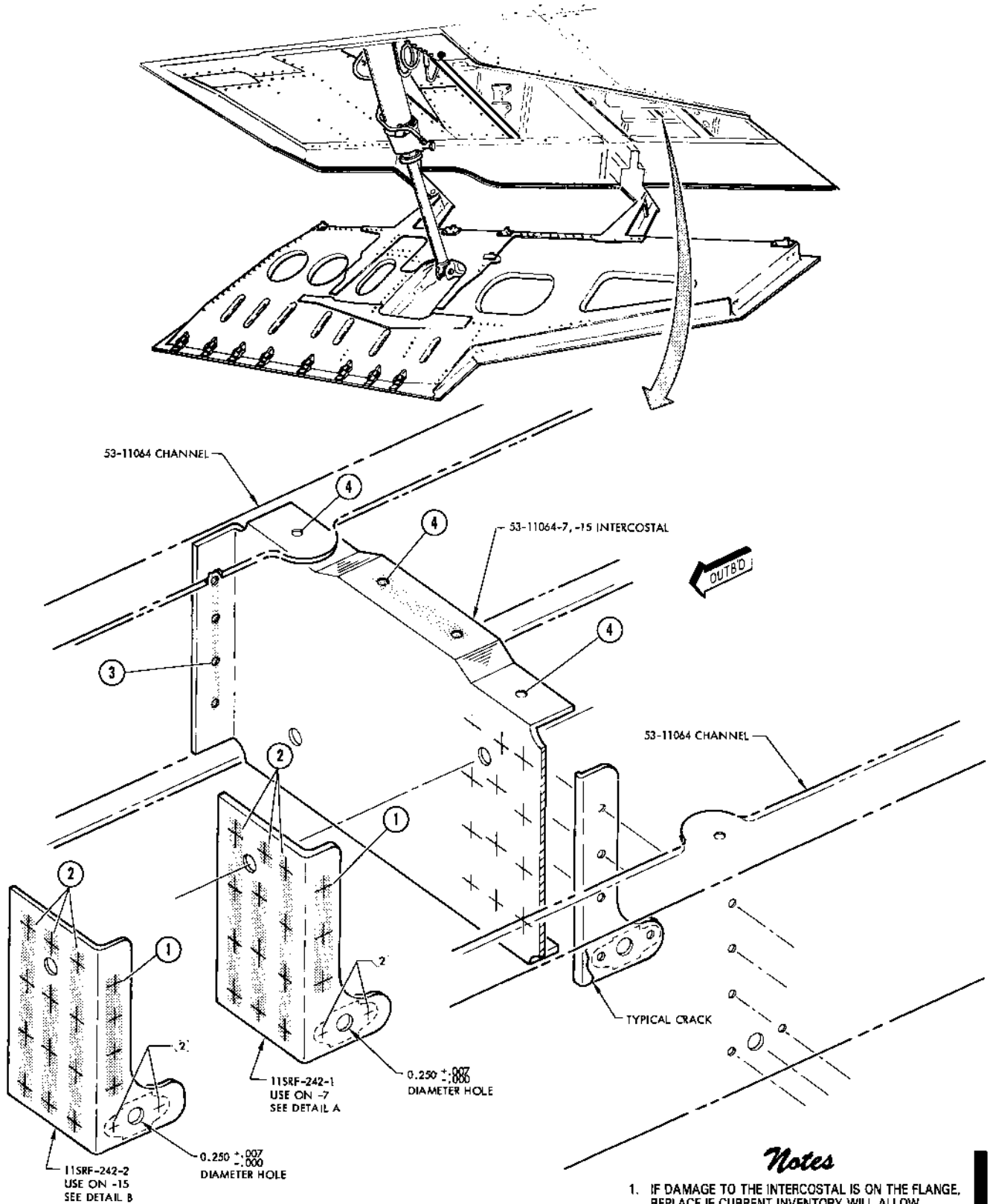
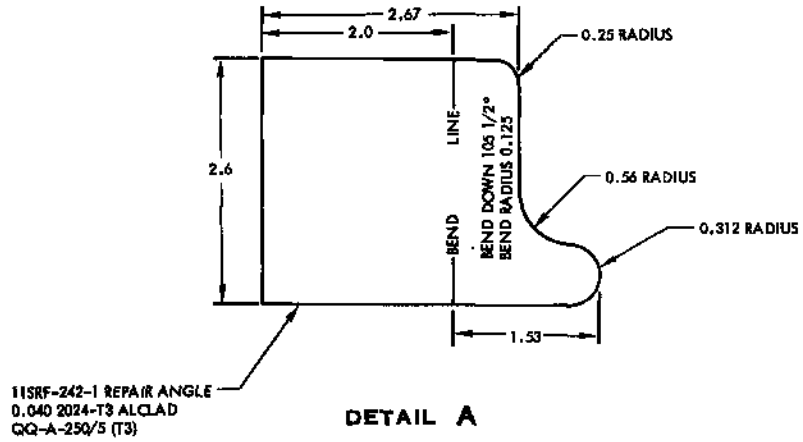
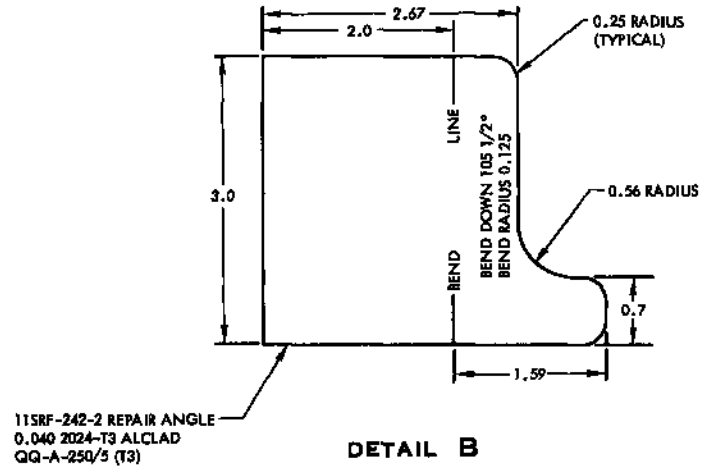


Figure 2-85. Intercostal, 53-11064, Repair (Sheet 1 of 3)



DETAIL A



DETAIL B

REPAIR PROCEDURE

A. REMOVE DOOR 86 L/R AND DAMAGED INTERCOSTAL.
B. REMOVE CRACKED FLANGE FROM INTERCOSTAL.
C. FABRICATE 11SRF-242-1 OR -2 REPAIR ANGLE. SEE DETAILS A AND B.

Note

IF CRACK IS NOT ON FLANGE, STOP DRILL AND REPAIR PER DETAILS C AND D.

D. PLACE INTERCOSTAL AND REPAIR ANGLE INTO POSITION AND CLAMP TOGETHER TO MAINTAIN PROPER LOCATION.
E. DRILL FASTENER HOLES IN REPAIR ANGLE AND INTERCOSTAL PER HOLE SIZES IN FASTENER CHART. MAINTAIN FOUR DIAMETER MINIMUM SPACING AND TWO DIAMETER MINIMUM EDGE DISTANCE ON ADDED FASTENERS. DRILL FASTENER HOLE IN REPAIR ANGLE TO EXISTING HOLES IN 53-11064 CHANNEL PER HOLE SIZES IN FASTENER CHART.
F. FINISH REWORKED AREA, REPAIR ANGLE AND FASTENER HOLES PER T.O. 1F-4C-3-1-6.
G. INSTALL REPAIR ANGLE ON INTERCOSTAL.
H. REINSTALL INTERCOSTAL AND DOOR 86 L/R.

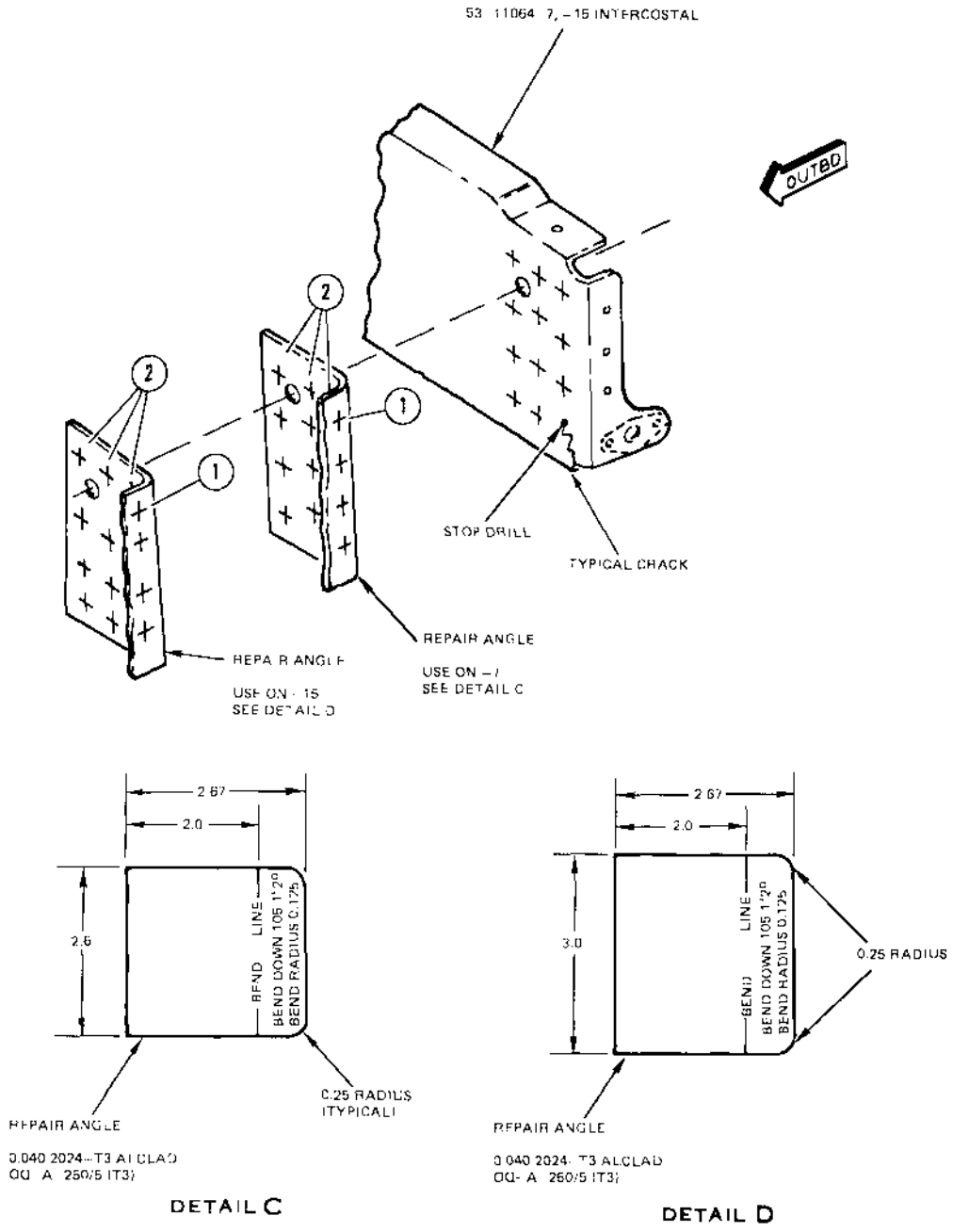
REF NO.	FASTENER	HOLE SIZE
1	MS20470AD4	0.128 $^{+.014}_{-.000}$
2	MS20470AD5-5	0.159 $^{+.013}_{-.000}$
3	MS20426AD4	0.128 $^{+.014}_{-.000}$
4	MS20426AD5	0.159 $^{+.013}_{-.000}$

Notes

1. FASTENER LENGTHS NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.
2. INSTALL SAME TYPE FASTENERS AS REMOVED TO SECURE MS21059L4 PLATE NUT.

4C-3-1-2-(242-2)B

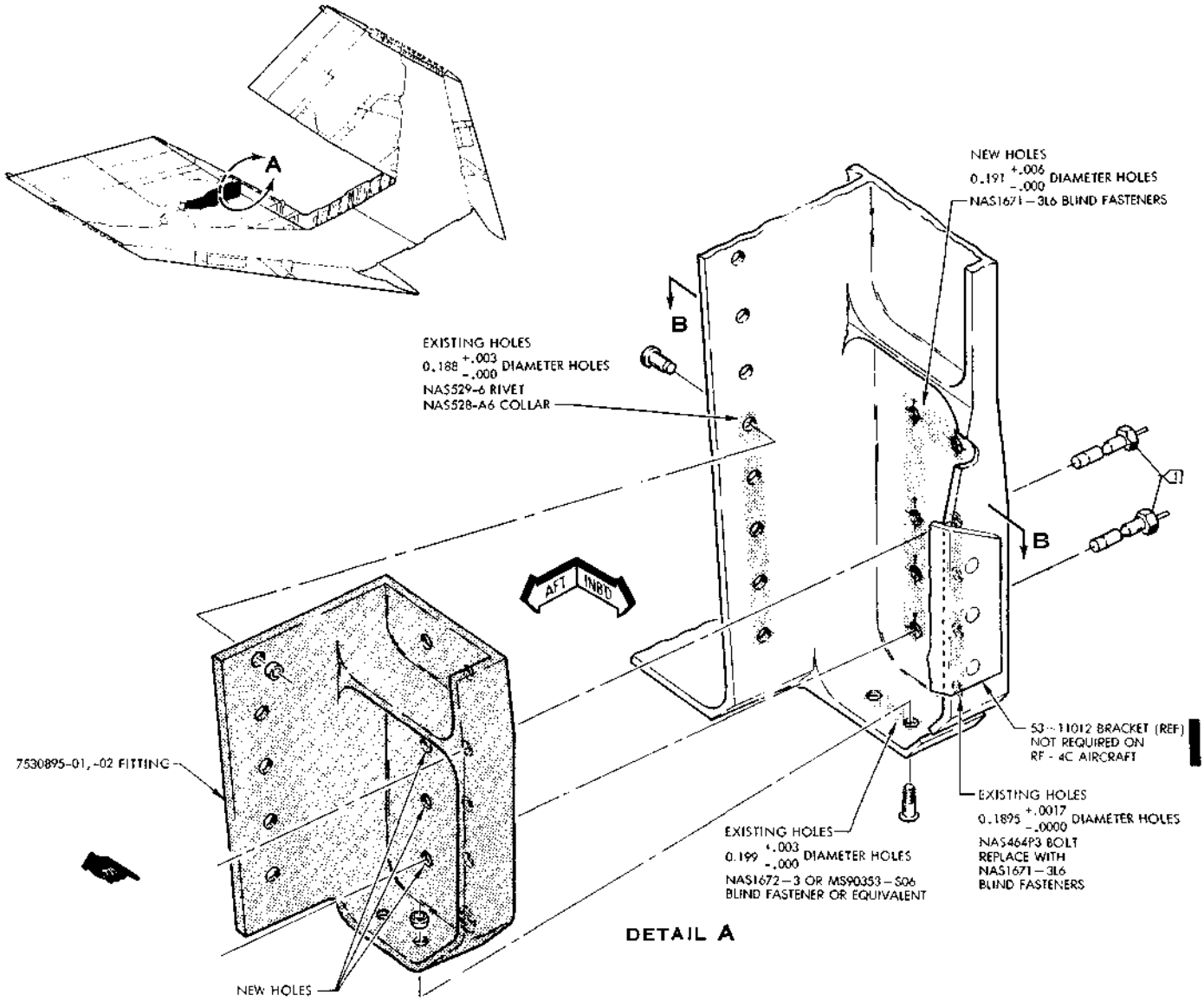
Figure 2-85. Intercostal, 53-11064, Repair (Sheet 2 of 3)



MAJOR CHANGE

4C-3 1 2-(242 -31B

Figure 2-85. Intercostal, 53-11064, Repair (Sheet 3 of 3)



REPAIR PROCEDURE

A. REPAIR OF CRACKS IN SPAR RISER FLANGES.

NOTE

IF CRACKS EXIST IN LOWER CORNER ONLY AS SHOWN IN VIEW C-C MILL SPAR RISER FLANGE PER DETAIL D.

B. ROUT CRACKED AREA FROM SPAR AS SHOWN IN DETAIL D.
C. REMOVE FASTENERS IN SPAR THAT WILL SECURE REPAIR PART.
D. OBTAIN REPAIR FITTING, 7530895, OR MAKE FROM DRAWING.
E. POSITION REPAIR FITTING AND MATE DRILL FASTENER HOLES IN FITTING TO EXISTING HOLES IN SPAR. LOCATE AND DRILL FIVE FASTENER HOLES IN REPAIR FITTING AND SPAR. HOLD 4 DIAMETER MINIMUM SPACING AND 2 DIAMETER MINIMUM EDGE DISTANCE ON ADDED FASTENERS.
F. FINISH REPAIR FITTING AND REFINISH REWORKED AREA AND FASTENER HOLES IN ACCORDANCE WITH TO 1F-4C-3-1-6.
G. INSTALL, 7530895, REPAIR FITTING.

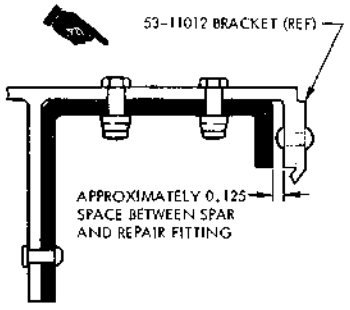
Notes

1. HEADS FACING FORWARD

EXISTING STRUCTURE

REPAIR PARTS

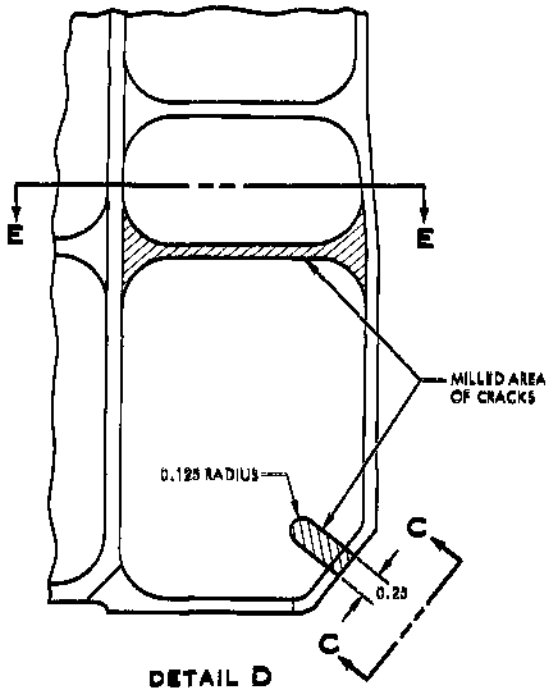
REPAIR PARTS IN CROSS SECTION



SECTION B-B
THRU ASSEMBLED REPAIR

4C 3-1 2 1331 1195

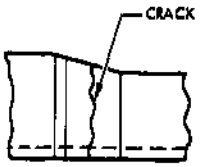
Figure 2-85A. Inboard Rear Spar, 53-11038, Crack Repair (Sheet 1 of 2)



DETAIL D



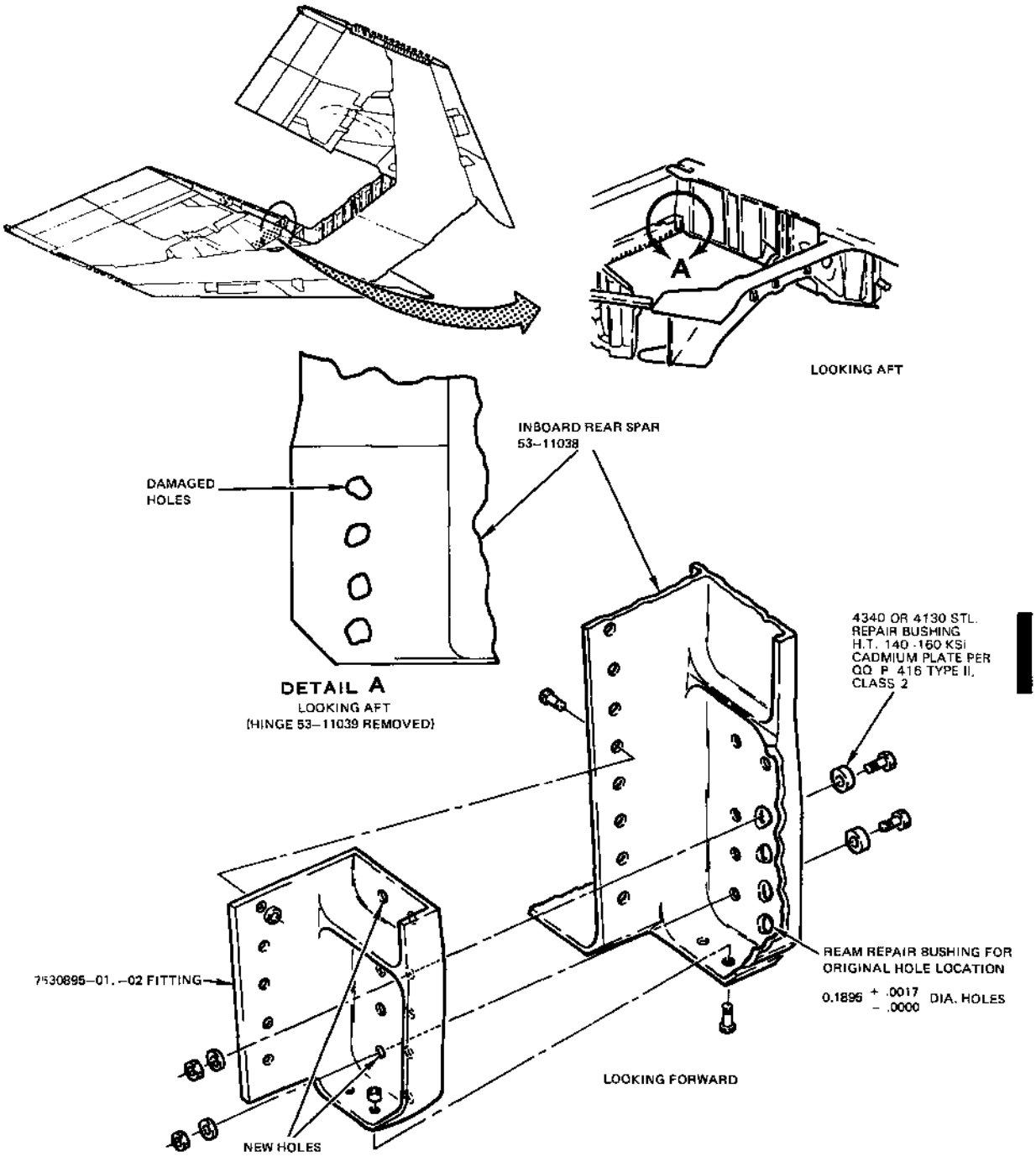
SECTION E-E



VIEW C-C

4C-3-1-2-(331-2)

Figure 2-85A. Inboard Rear Spar, 53-11038, Crack Repair (Sheet 2 of 2)



REPAIR PROCEDURE

A. REAM DAMAGED HOLE IN SPAR TO 0.260 $^{+.003}_{-.000}$ DIA.

B. IF HOLE IS NOW FREE OF DAMAGE, INSTALL NAS1669-4L JO-BOLT.

C. IF HOLE IS STILL DAMAGED, OR LARGER THAN 0.260 DIA, REAM HOLE TO 0.328.
   (1) FABRICATE REPAIR BUSHING FOR PRESS-FIT (0.0005 - 0.0011 DIA LARGER THAN HOLE) FROM 4340 OR 4130 STEEL. THICKNESS TO MATCH SPAR. HEAT TREAT TO 140 - 160 KSI. CADMIUM PLATE PER QQ-P-416 TYPE II, CLASS 2.
   (2) INSTALL FITTING 7530859 PER 1F-4C-3-1-2 FIGURE 2-85A.
   (3) IMMERSE BUSHING IN LIQUID NITROGEN AND INSTALL FLUSH IN SPAR.
   (4) REAM REPAIR BUSHING TO 0.1895 $^{+.0017}_{-.0000}$ DIA.
   (5) FINISH PER 1F-4C-3-1-6.

D. IF HOLE IS DAMAGED BEYOND 0.328 DIA, CONTACT RESPONSIBLE STRUCTURAL ENGINEER.

4C-3-1-2-(443)A

Figure 2-85B. Inboard Rear Spar, 53-11038, Damaged Holes

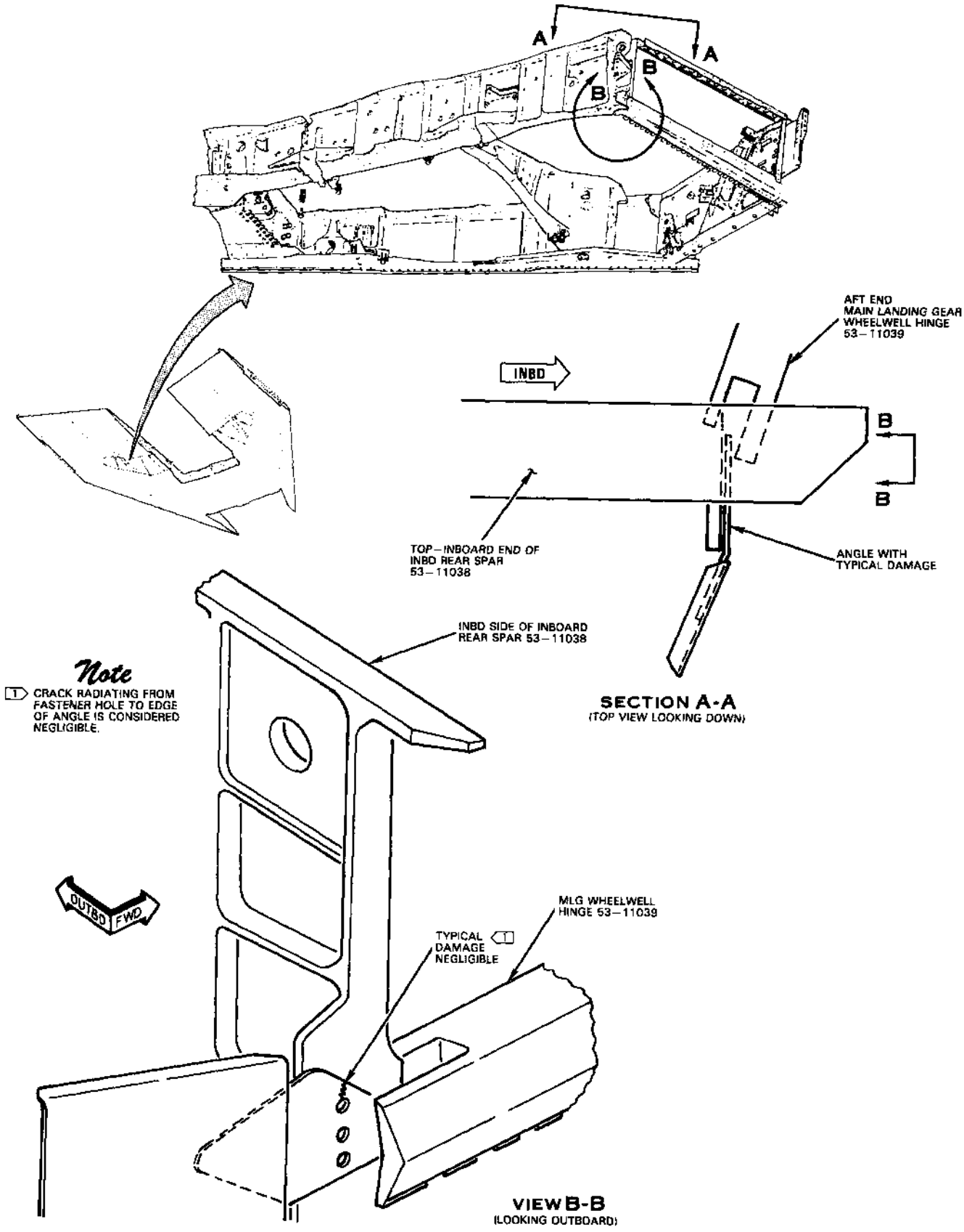


Figure 2-85C. Negligible Damage of Angle

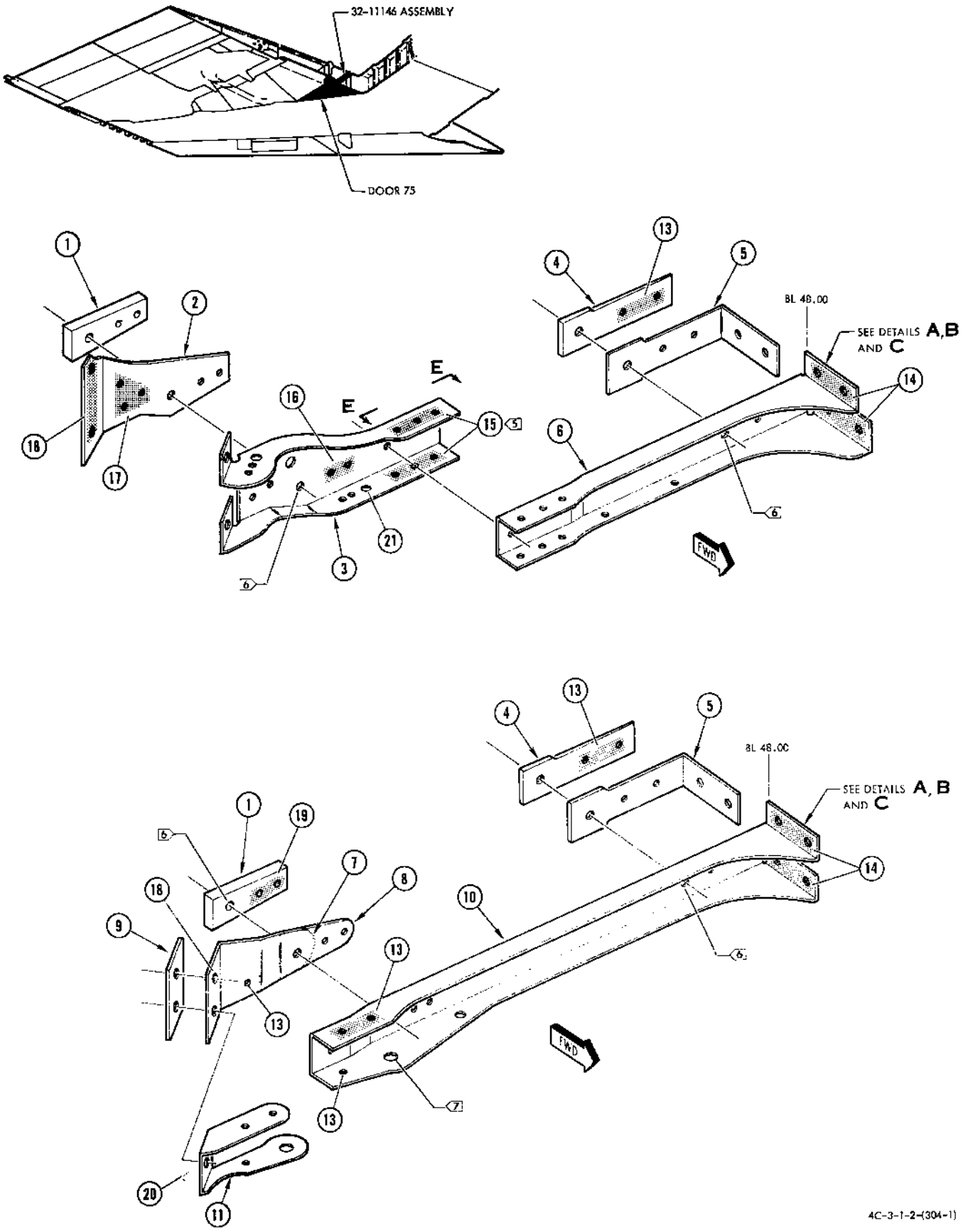
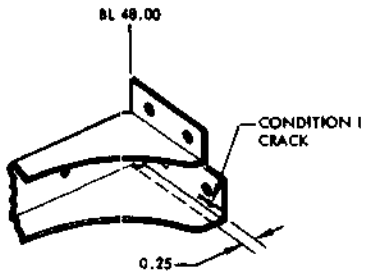
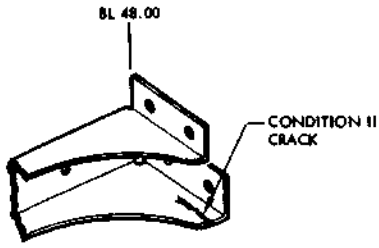


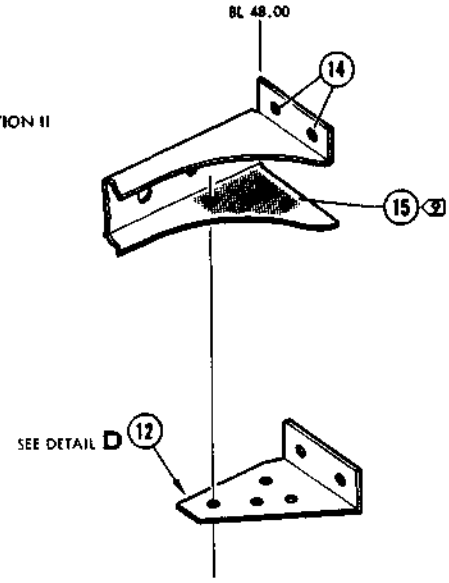
Figure 2-86. Channel, 32-11146, Repair and Replacement Index (Sheet 1 of 2)



DETAIL A



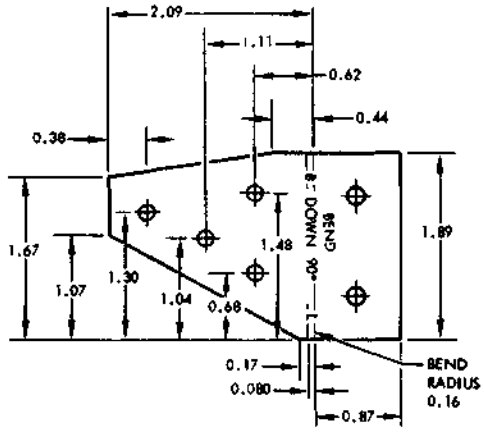
DETAIL B



DETAIL C

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-11146-53 [2]	SHIM	0.375	2024-T4 AL ALY	QQ-A-250/4(T4)
2	32-11146-93, -94	CLIP	0.063	7075-T6 AL ALY	QQ-A-250/12(T6)
3	32-11146-89, -90	GUSSET	0.063	7075-T6 AL ALY	QQ-A-250/12(T6)
4	32-11146-55 [2]	SHIM	0.125	2024-T3 AL ALY	QQ-A-250/4(T3)
5	32-11146-63	CLIP	0.063	7075-T6 ALCLAD	QQ-A-250/13(T6)
6 [11]	32-11146-91 -92	CHANNEL	0.063	7075-T6 AL ALY	QQ-A-250/12(T6)
7 [12]	32-11146-49 [2]	GUSSET	0.063	7075-T6 ALCLAD	QQ-A-250/13(T6)
8 [12]	32-11146-51 [3]	GUSSET	0.063	7075-T6 ALCLAD	QQ-A-250/13(T6)
9 [12]	32-11146-39	SHIM	0.063	2024-T3 ALCLAD	QQ-A-250/5(T3)
10 [12]	32-11146-61, -62	CHANNEL	0.063	7075-T6 ALCLAD	QQ-A-250/13(T6)
11 [12]	32-11146-47, -48	CLIP	0.071	7075-T6 ALCLAD	QQ-A-250/13(T6)
12	53-010135-3, -4 [1]	CLIP	0.071	7075-T6 ALCLAD	QQ-A-250/12(T6)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
13	MS21470DD6				0.190 +.007 -.000
14	AN3-3A	MS21042-3	AN960D10 6800-02 [4]	15-25	0.196 +.006 -.000
15	NAS1054-5-3	NAS528A5			0.156 +.006 -.000
16	NAS1054-4-3 [2]	NAS528A4			0.124 +.003 -.000
	NAS1054-4-8 [3]	NAS528A4			0.124 +.003 -.000
17	NAS529-5-3	NAS528A5			0.155 +.003 -.000
18	AN3-6A	MS21042-3	AN960D10	15-25	0.191 +.006 -.000
19	MS21426AD4				0.128 +.014 -.000
20	AN3-7A	MS21042-3	AN960D10	15-25	0.191 +.006 -.000
21	MS21426AD3 [3]	MS21051L3			0.191 +.006 -.000



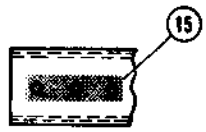
DETAIL D

INSPECTION AND REPAIR PROCEDURE

A. LOWER DOOR 75 TO GAIN INSPECTION ACCESS, REFER TO T.O. 1F-4C-3-1-3.
B. REMOVE HYDRAULIC COMPONENTS AS NECESSARY FOR ACCESS TO 32-11146 ASSEMBLY, REFER TO T.O. 1F-4( )-2-6.
C. VISUALLY INSPECT ENTIRE 32-11146 BRACKET ASSEMBLY FOR CRACKS.
D. PERFORM EDDY-CURRENT INSPECTION ON AREA SHOWN IN DETAILS A AND B. REFER TO T.O. 1F-4C-36 FOR INSPECTION PROCEDURE.
E. CLASSIFY CRACKS AS FOLLOWS:
   (1) CONDITION I: CRACK EMANATING FROM FORWARD EDGE OF LOWER FLANGE OF 32-11146-61, -62 OR -91, -92 CHANNEL AND CAN BE ELIMINATED BY TRIMMING, SEE DETAIL A.
   (2) CONDITION II: CRACKS OR DAMAGE BEYOND SCOPE OF CONDITION I.
F. REMOVE 32-11146 ASSEMBLY FROM AIRCRAFT.
G. FOR CONDITION I CRACK TRIM FLANGE AT TRIM LINE LOCATED BY 0.25 DIMENSION, SEE DETAIL A.
H. FOR CONDITION II CRACK, REPLACE 32-11146-61, -62 OR -91, -92 CHANNEL
I. FABRICATE REPAIR CLIP, 53-010135-3, -4, SEE DETAIL D.
J. DRILL FASTENER HOLES IN REPAIR CLIP AND 32-11146 CHANNEL AS SHOWN IN DETAIL C. SEE FASTENER CHART FOR HOLE SIZE.
K. REFINISH REWORKED AREA, HOLES, AND REPAIR PARTS, REFER TO T.O. 1F-4C-3-1-6.
L. INSTALL REPAIR PART ON 32-11146 CHANNEL.
M. REINSTALL 32-11146 ASSEMBLY.
N. REINSTALL HYDRAULIC COMPONENTS, REFER TO T.O. 1F-4( )-2-6.
O. CLOSE DOOR 75, REFER TO T.O. 1F-4C-3-1-3.

Notes

[1] REPAIR PART. NOT REQUIRED ON RF-4C.
[2] LEFT SIDE.
[3] RIGHT SIDE.
[4] RETAINER.
[5] MANUFACTURED HEAD INSIDE FLANGE OF CHANNEL.
[6] 0.250 +.007 -.000 DIAMETER HOLE.
[7] 0.312 +.007 -.000 DIAMETER HOLE
[8] FASTENERS FOR PLATENUT.
[9] INSTALL MANUFACTURED HEAD FAR SIDE.
[10] FORM IN 7075-0 CONDITION AND HEAT TREAT TO 7075-T6, REFER TO T.O. 1F-4C-3-1-1.
[11] F-4E 67-208 AND UP, RF-4C 67-428 THRU 72-156, AND F-4G.
[12] F-4C, F-4D, F-4E 66-284 THRU 66-382, AND RF-4C 63-7742 THRU 66-478.



VIEW E-E

G9104095

Figure 2-86. Channel, 32-11146, Repair and Replacement Index (Sheet 2 of 2)

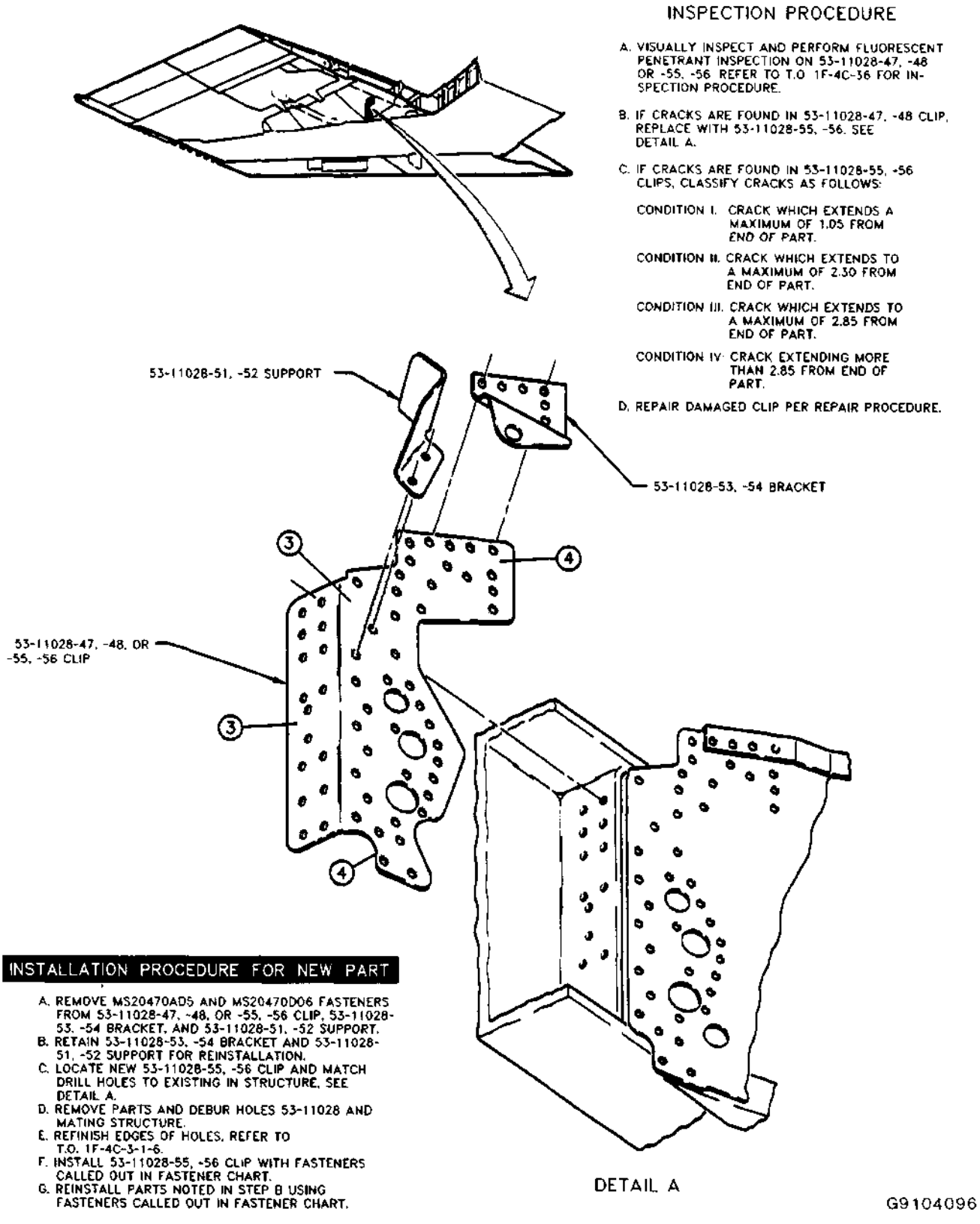
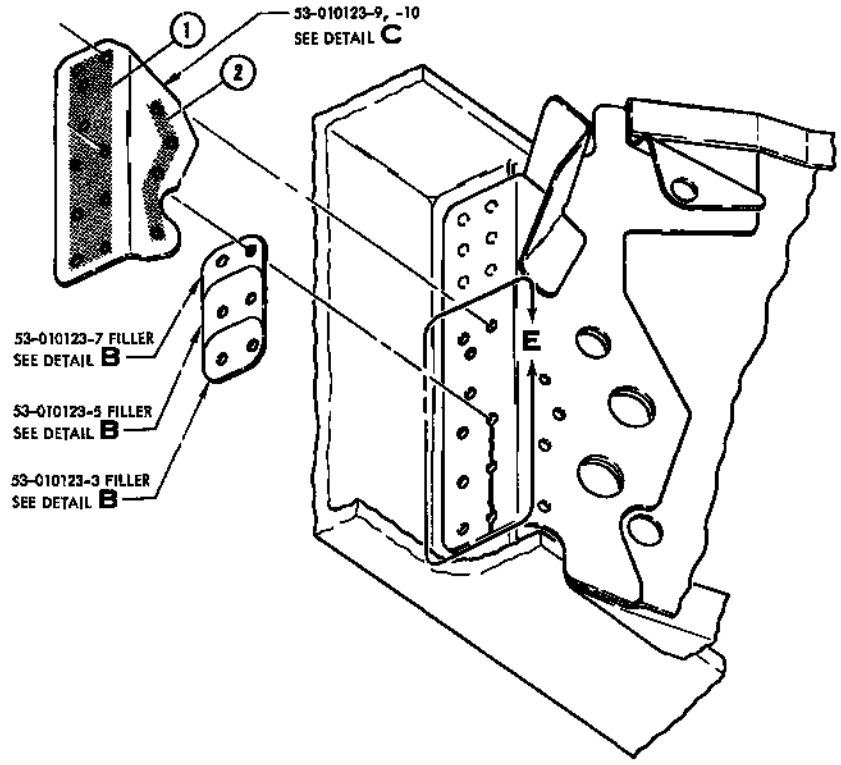
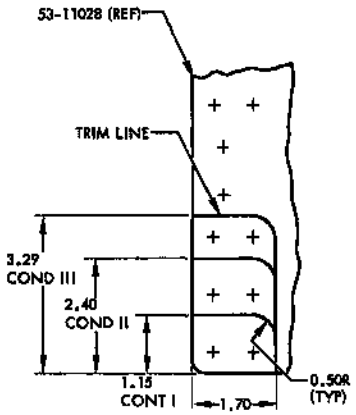


Figure 2-87. Clip, 53-11028, Crack Repair and Replacement Index (Sheet 1 of 2)



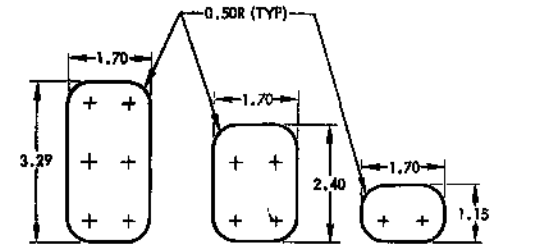
DETAIL D



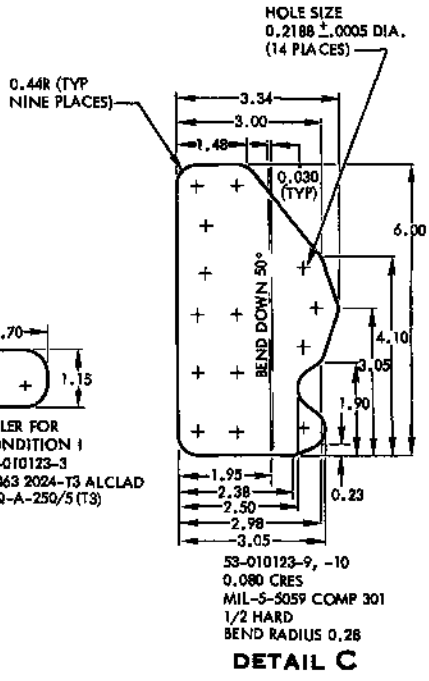
DETAIL E

REPAIR PROCEDURE

A. REMOVE 14 MS20470DD6 FASTENERS FROM 53-11028 CLIP AND SPAR, SEE DETAIL D
B. INSERT 0.020 CRES BETWEEN STRIP 32-11011 OR 53-111011 SPAR AND 53-11028 CLIP TO BE TRIMMED.
C. USE EXTREME CAUTION TO PREVENT DAMAGE TO 32-11011 OR 53-111011 SPAR. TRIM CLIP FOR CONDITION I, II, OR III, SEE DETAIL E.
D. REINSPECT TRIMMED AREA PER NOTE A INSPECTION PROCEDURE TO ENSURE CRACK IS REMOVED. TRIMMED AREA SHOULD CLEAN UP MINIMUM OF 0.100 BEYOND CRACK.
E. FABRICATE REPAIR CLIP, 53-010123-9, -10, SEE DETAIL C, AND REPAIR FILLER 53-010123 -3, -5, OR -7 AS REQUIRED FOR REWORK CONDITION, SEE DETAIL B.
F. LOCATE REPAIR PART AND MATCH DRILL HOLES TO EXISTING HOLES IN 53-11028 CLIP AND SPAR, USE HOLE SIZE IN FASTENER CHART, SEE DETAIL D.
G. REMOVE PARTS, DEBURR HOLES IN REPAIR PARTS AND STRUCTURE.
H. REFINISH HOLES, REWORKED AREA, AND REPAIR PARTS, REFER TO T.O. 1F-4C-3-1-6.
I. INSTALL REPAIR PARTS WITH FASTENERS CALLED OUT IN FASTENER CHART, SEE DETAIL D.
J. FOR CONDITION IV REPLACE 53-11028 WITH NEW PART, SEE DETAIL A.



DETAIL B

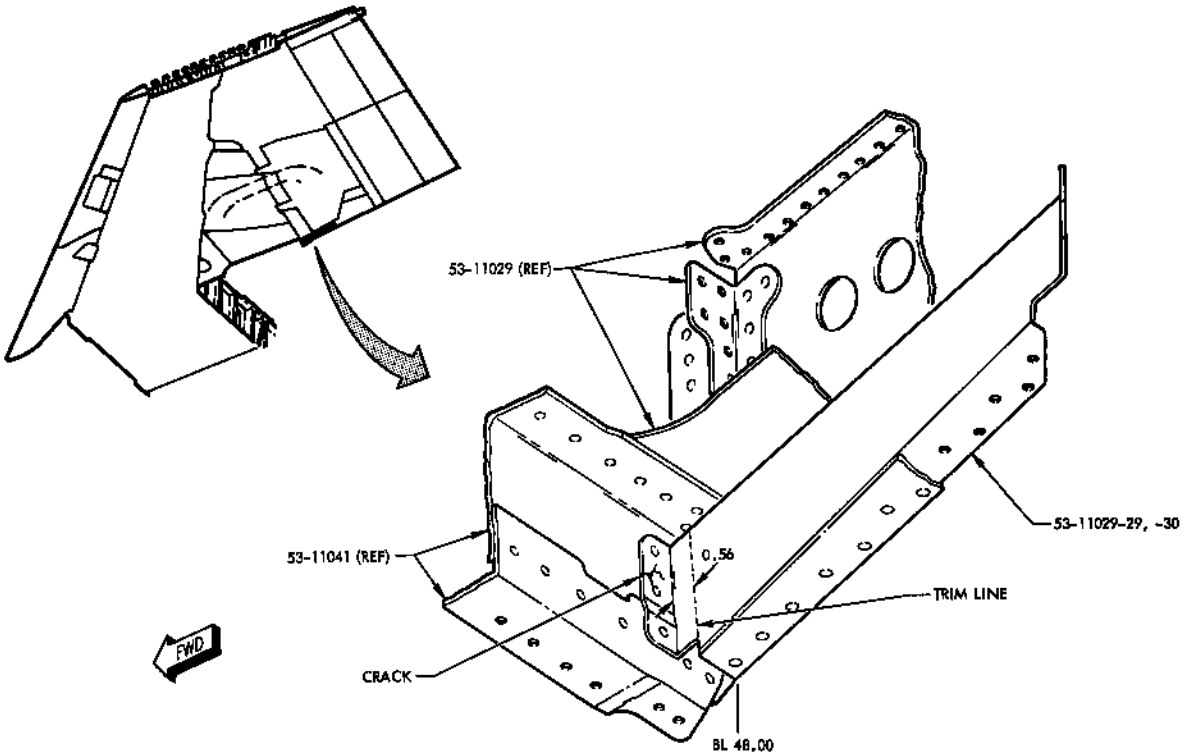


DETAIL C

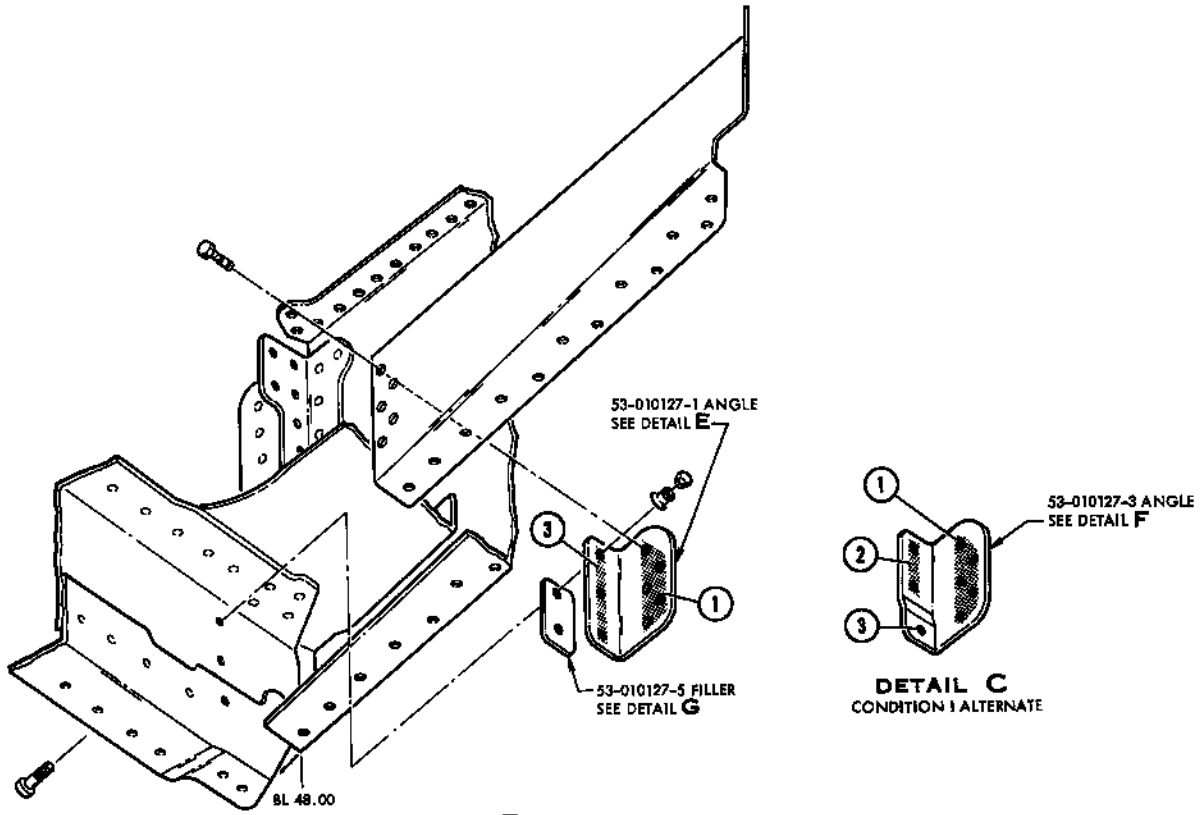
REF NO.	FASTENER	NUT OR COLLAR	WASHER UNDER HEAD	WASHER UNDER NUT	TORQUE (INCH-LB)	HOLE SIZE
1	NAS3003-6	MS21042-3	AN960D6	AN960D6L	20-25	0.2188 +.0005
2	NAS3003-3	MS21042-3	AN960D6	AN960D6L	20-25	0.2188 ∓.0005
3	MS20470DD6					0.191 +.011 -.000
4	MS20470AD5					0.159 +.013 -.000

4C-3-1-2-(306-2)

Figure 2-87. Clip, 53-11028, Crack Repair and Replacement Index (Sheet 2 of 2)



DETAIL A
CRACKED CONDITION

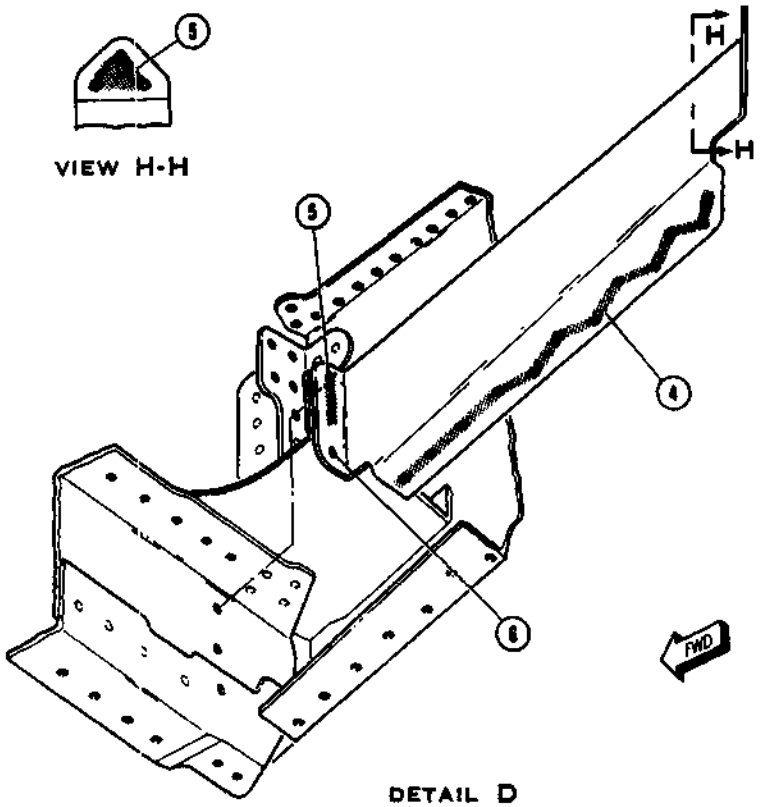


DETAIL B
CONDITION I

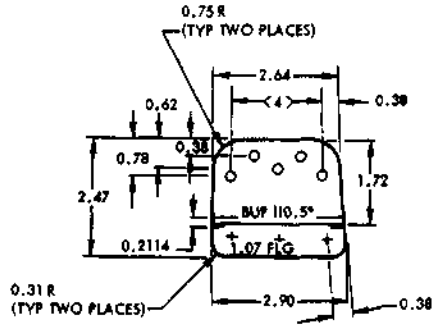
DETAIL C
CONDITION I ALTERNATE

4C-3-1-2-(323-1)

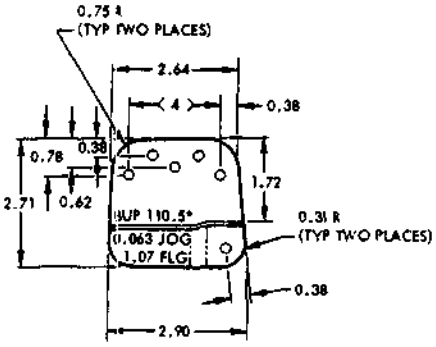
Figure 2-88. Channel, 53-11029, Crack Repair (Sheet 1 of 2)



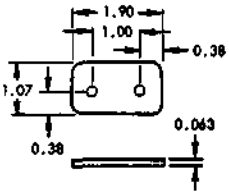
DETAIL D
CONDITION II



DETAIL E
CONDITION I [1]
53-010127-1 ANGLE
0.080 2024-T3 ALCLAD
QQ-A-250/5 (T3)



DETAIL F
CONDITION I ALTERNATE [2] [3]
53-010127-3 ANGLE
0.080 2024-T4 ALCLAD
QQ-A-250/5 (T4)



DETAIL G
CONDITION I
53-010127-5 FILLER
0.063 2024-T3 ALCLAD
QQ-A-250/5 (T3)

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	NAS1669-08L2		0.1650 +0.003 -0.000
2	HL550-5-3	HL579-5	0.1635 +0.0022 -0.0000
3	HL550-5-4	HL579-5	0.1635 +0.0022 -0.0000
4	NAS1670-3L5		0.199 +0.003 -0.000
5	MS20470AD5		0.156 +0.013 -0.000
6	NAS529-5-4	NAS528A5	0.156 +0.003 -0.000

INSPECTION PROCEDURE

A. EXTEND SPEEDBRAKE TO FULL DOWN POSITION OR REMOVE IF NECESSARY TO PERMIT INSPECTION ACCESS, PER T.O.1F-4C( )-2-4.
B. VISUALLY INSPECT AND PERFORM EDDY-CURRENT INSPECTION ON 53-11029-29, -30 CHANNEL, PER T.O. 1F-4C-36.
C. IF CRACKS EXIST, CLASSIFY AS FOLLOWS:
CONDITION I AND ALTERNATE 1; CRACKS IN THE FLANGE AREA WHICH CAN BE COMPLETELY REMOVED, SEE DETAIL A
CONDITION II; CRACKS WHICH EXTEND BEYOND FLANGE AREA AND TRIM LINE PART SHALL BE REPLACED, SEE DETAIL D.

REPAIR PROCEDURE

A. REMOVE TWO MS20470AD5 RIVET AND ONE NAS529-5-4 HI-SHEAR RIVET FROM FLANGE OF 53-11029-29, -30 CHANNEL.
B. REMOVE CRACKED FLANGE AT TRIM LINE, SEE DETAIL A.
C. FABRICATE REPAIR PART FOR CONDITION I PER DETAILS E AND G, AND FOR CONDITION I ALTERNATE PER DETAIL F.
D. LOCATE REPAIR PARTS AND DRILL FASTENER HOLES TO SIZE INDICATED IN CHART, SEE DETAIL B OR C. LOCATING AND DRILLING OF HOLE SHALL BE IN ACCORDANCE WITH T.O.1F-4C-3-1-1.
E. REFINISH REWORKED AREA, HOLES, AND REPAIR PARTS IN ACCORDANCE WITH CORROSION CONTROL PROCEDURE IN T.O.1F-4C-3-1-6.
F. INSTALL REPAIR PARTS WITH FASTENERS INDICATED IN CHART.

INSTALLATION PROCEDURE FOR NEW PART

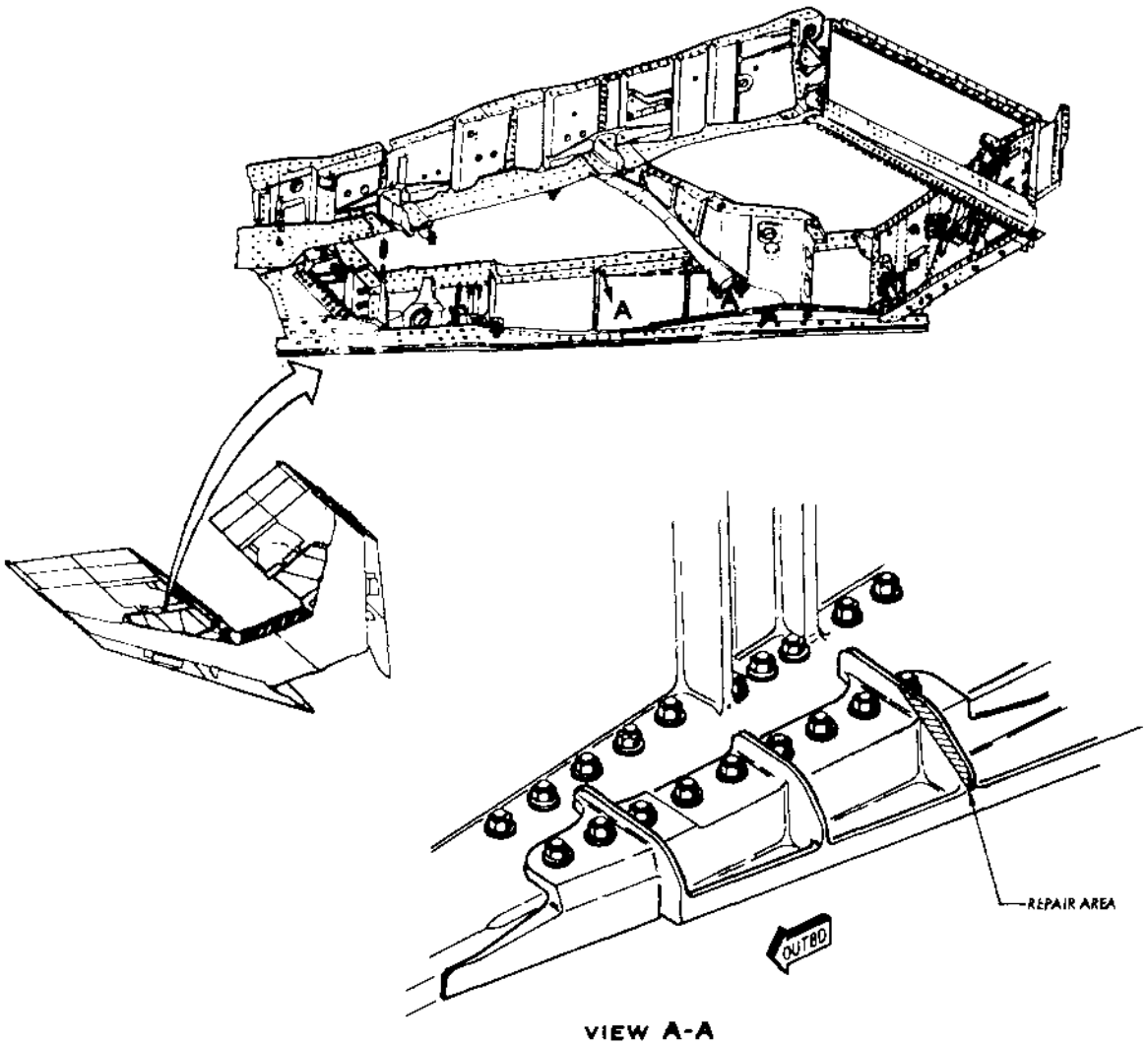
A. REMOVE FASTENERS AND DAMAGED PART, SEE DETAIL A AND D.
B. LOCATE NEW PART AND DRILL FASTENER HOLES TO SIZE INDICATED IN CHART. LOCATING AND DRILLING OF FASTENER HOLES SHALL BE IN ACCORDANCE WITH T.O.1F-4C-3-1-1.
C. REFINISH HOLES IN ACCORDANCE WITH CORROSION CONTROL PROCEDURE IN T.O.1F-4C-3-1-6.
D. INSTALL NEW PART AND FASTENERS INDICATED IN CHART, SEE DETAIL D.

Notes

[1] BEND RADIUS 0.28.
[2] FORM IN 2024-O CONDITION AND HEAT TREAT TO 2024-T4 CONDITION.
[3] BEND RADIUS 0.13.

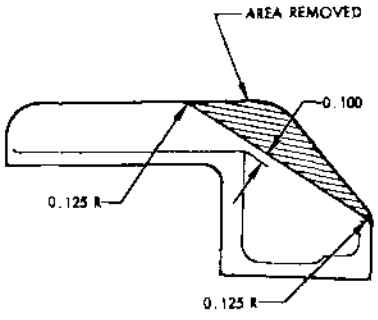
G9104097

Figure 2-88. Channel, 53-11029, Crack Repair (Sheet 2 of 2)



VIEW A-A

REPAIR APPLICABLE TO THE FOLLOWING PARTS:
32-11429-11, -12, -15, -16 AND -19, -20.

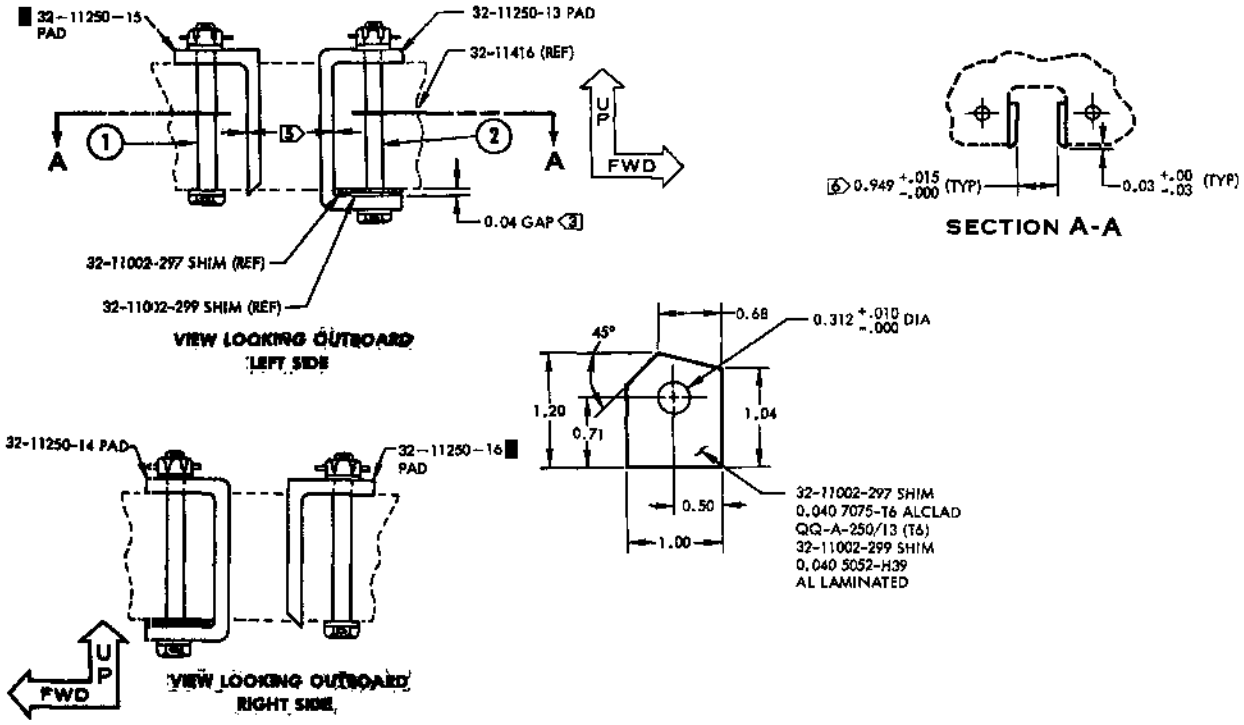


REPAIR PROCEDURE

A. PLACE AIRCRAFT ON JACKS AND PARTIALLY RETRACT LANDING GEAR TO IMPROVE ACCESSIBILITY OF DAMAGED PART.
B. PROTECT MLG ACTUATOR CYLINDER FROM ABRASION OR DAMAGE DURING TRIMMING OF DOOR SILL VANE.
C. TRIM VANE BY GRINDING OR FILING.
D. BREAK SHARP EDGES.
E. POLISH GROUND SURFACE TO 125 MICROINCH FINISH.
F. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURES IN T.O. 1F-4C-3-1-6
G. REPAIR MAY BE DUPLICATED ON ADJACENT VANE IF NECESSARY.

G9104098

Figure 2-89. Main Landing Gear Door Sill Repair



REF NO	FASTENER 2	NUT	WASHER	SHIM	HOLE SIZE
1	NAS1305-36DHW	AN310-5 MS24665-134 9	AN960D516 4		0.312 +.010 -.000
2	NAS1305-40DHW	AN310-5	AN960D516 4	32-11002-297	0.312 +.010 -.000 8
		MS24665-134 9		32-11002-299	0.375 +.010 -.000 7

WARNING

THESE PADS CONTAIN BERYLLIUM, WHICH IS A SUSPECTED CARCINOGEN IN MAN. DO NOT MACHINE, DRILL OR REWORK THESE PADS UNTIL LOCAL BIOENVIRONMENTAL ENGINEER OUTLINES AND APPROVES THE CONTROLS TO ELIMINATE THE BERYLLIUM HAZARD.

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE PADS ON RIB AND USING HOLE IN RIB AS A GUIDE, DRILL HOLES IN PADS TO SIZE INDICATED IN CHART.

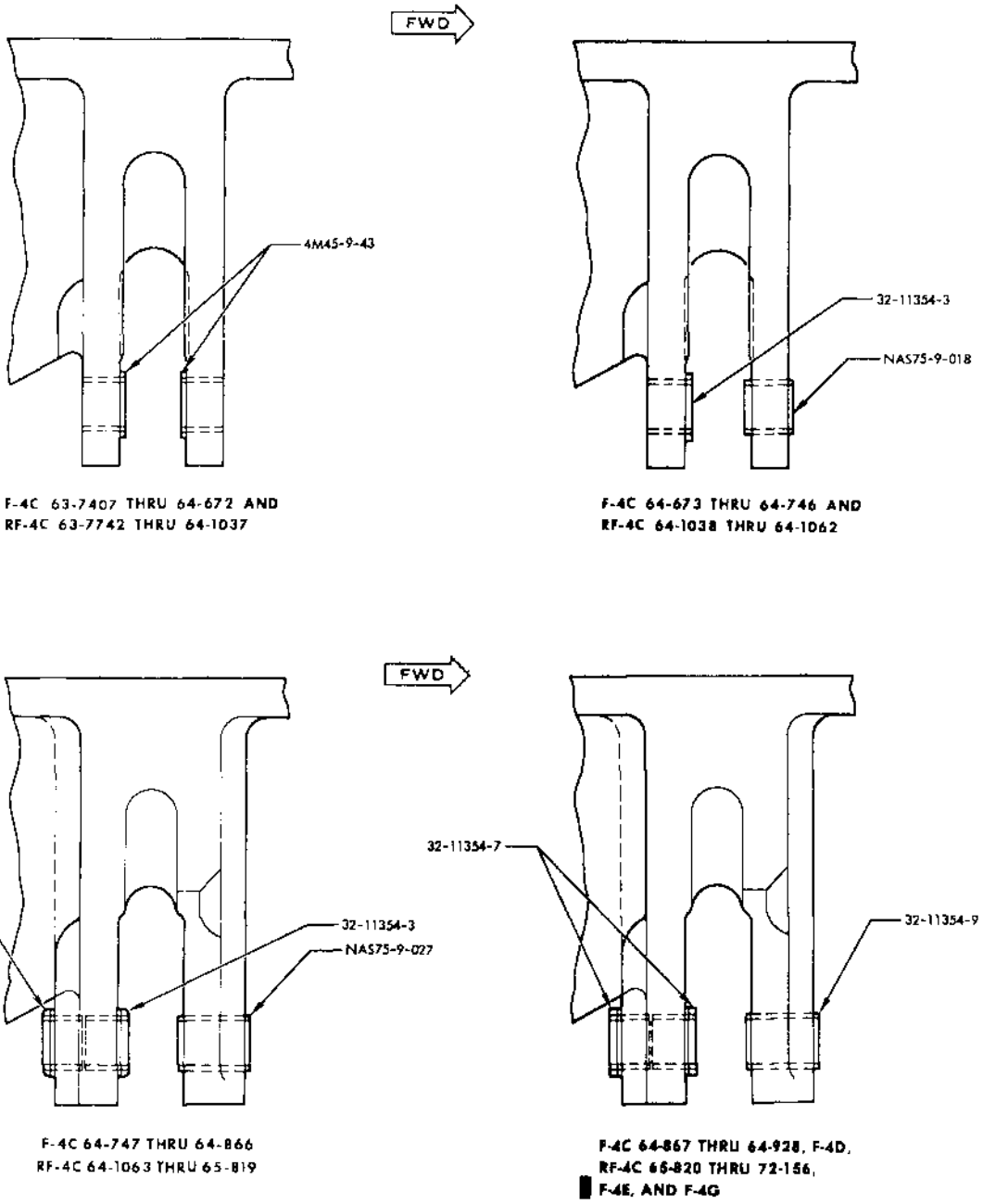
B. REFINISH HOLES IN ACCORDANCE WITH CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

Notes

1. SEE FIGURE 2-83 FOR PAD THICKNESS.
2. SAFETY BOLTS WITH MS20995-NC32 WIRE.
3. DIMENSION SHOWN IS NOMINAL GAP. TOTAL SHIM THICKNESS MUST NOT EXCEED 0.080. LAMINATE SHIM THICKNESS MUST NOT EXCEED 0.039. UNSHIMMED GAP MUST NOT EXCEED 0.008.
4. ONE UNDER HEAD AND ONE UNDER NUT.
5. AFTER INSTALLATION OF BOLTS, PADS ARE TO BE FIRMLY IN CONTACT WITH RIB. MAXIMUM ALLOWABLE GAP IS 0.006.
6. DIMENSION SHOWN IS BEFORE MILLING OF THE PADS AND GEAR OPERATION. REFER TO T.O. 1F-4( )-2-5, FOR MILLING AND ADJUSTMENT OF PADS.
7. THE 32-11250-13, -14 PADS HAVE A 0.375 DIAMETER HOLE ALREADY DRILLED IN THE LOWER LEG.
8. UPPER LEG.
9. COTTER PIN.
10. REPLACE 32-11250-11 AND -12 PADS WITH SUPERCEDING 32-11250-13, -14, -15 OR -16 PADS. THIS WILL NECESSITATE ENLARGING THE 0.250 DIAMETER HOLE IN RIB 32-11416, TO 0.312

4C-3-1-2-(58)E

Figure 2-90. Main Landing Gear Drag Beam Pad, 32-11250, Replacement



INSTALLATION PROCEDURE

A. REFINISH AREA AND HOLES PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
B. INSTALL BUSHINGS AS SHOWN.

4C-3-1-2-(59)B

Figure 2-91. Main Landing Gear Intermediate Rib Shrink Link Bushing Replacement

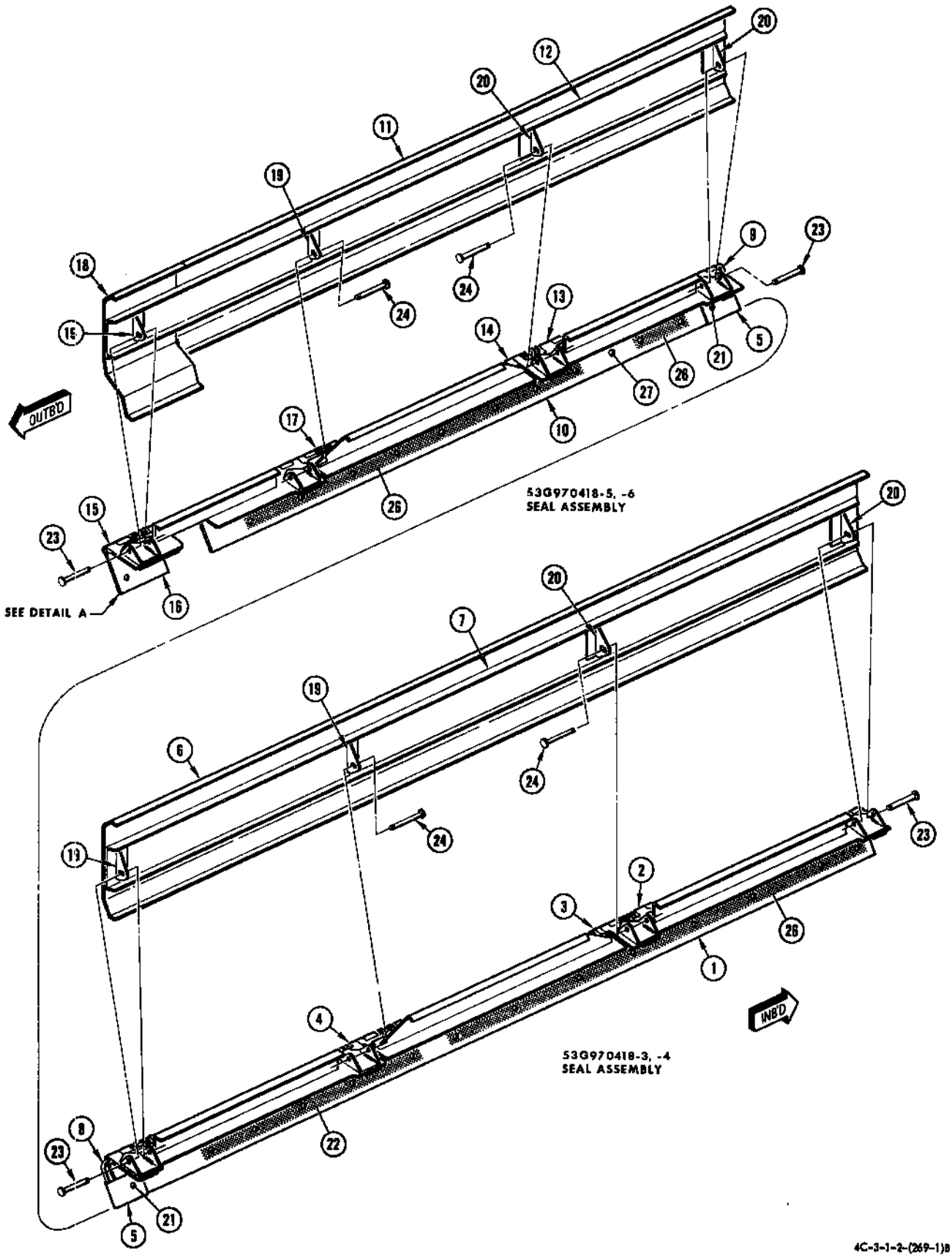
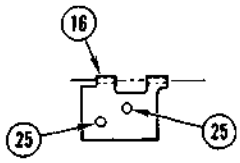


Figure 2-92. Seal Assembly, 53G970418, Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G (Sheet 1 of 2)



DETAIL A

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53G970785-19,-20	HINGE HALF	9M366H9-2800	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
2	53G970786-3,-4	HINGE HALF ASSY	9M366H9-1000	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
3	53G970786-5,-6	HINGE HALF ASSY	9M366H9-1000	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
4	53G970786-7,-8	HINGE HALF ASSY	9M366H9-1000	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
5	53G970789-3	RETAINER	0.250	2024-T351 AL ALY	QQ-A-250/4 (T351)
6	53G970781-5,-6	SEAL	0.016	301 CRES	MIL-S-5059 (H 1/2)
7	53G970781-9,-10	CHANNEL	0.032	301 CRES	MIL-S-5059 (H 1/2)
8	53G970788-3	PIN	0.085	1090 MUSIC WIRE	QQ-W-470
9	53G970788-5	PIN	0.085	1090 MUSIC WIRE	QQ-W-470
10	53G970785-3,-4	HINGE HALF	9M366H9-2000	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
11	53G970781-7,-8	SEAL	0.016	301 CRES	MIL-S-5059 (H 1/2)
12	53G970781-11,-12	CHANNEL	0.032	301 CRES	MIL-S-5059 (H 1/2)
13	53G970786-9,-10	HINGE HALF ASSY	9M366H10-800	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
14	53G970786-11,-12	HINGE HALF ASSY	9M366H9-900	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
15	53G970786-13,-14	HINGE HALF ASSY	9M366H10-800	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
16	53G970785-11,-12	HINGE HALF	9M366H9-200	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
17	53G970783-3,-4 (1)	SPRING	0.059	1090 MUSIC WIRE	QQ-W-470
18	53G970781-17,-18	SEAL	0.016	301 CRES	MIL-S-5059 (H 1/2)
19	53G970781-15	ANGLE	0.032	A286 STAINLESS	AMS5525
20	53G970781-16	ANGLE	0.032	A286 STAINLESS	AMS5525

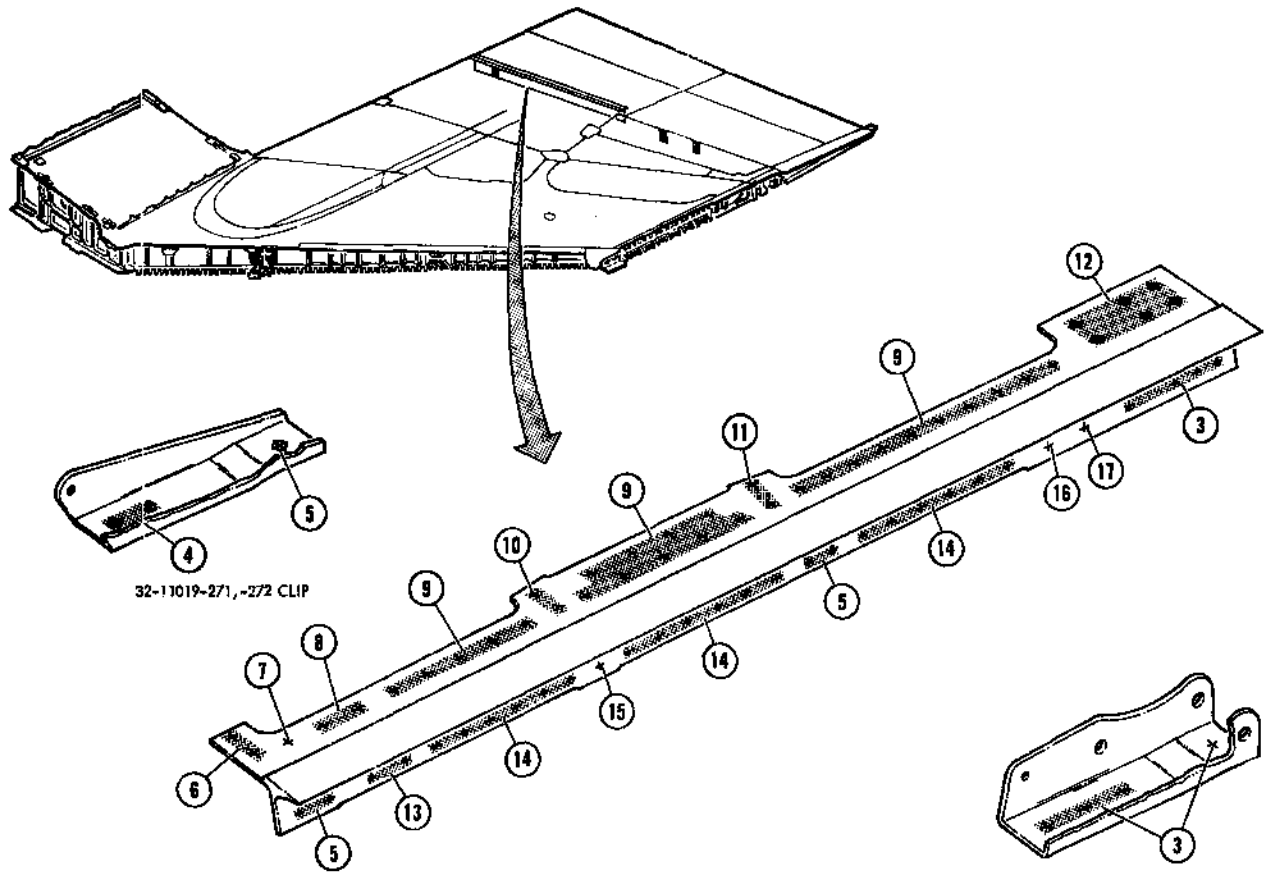
REF NO.	FASTENER	WASHER	NUT	TORQUE (INCH-LB)	HOLE SIZE
21	NAS464P3A4	AN960-4L AN936A10 (7)	MS21059L3	20-25	0.191 +.006 -.000
22	NAS464P3A3	AN960-4L	F29339-3	20-25	0.191 +.006 -.000
23	MS20392-1C27	AN960-4L (3)	MS24665-69 (2)		0.125 +.005 -.000
24	MS20392-1C33	AN960-4L (4) AN960-4L (5) AN960-4 (6)	MS24665-69 (2)		0.125 +.005 -.000
25	NAS464P3A4	AN960-4L	F29339-3	20-25	0.191 +.006 -.000
26	NAS464P3A3	AN960-4L	MS21059L3	20-25	0.191 +.006 -.000
27	NAS464P3A3	AN960D10	MS21042-3	20-25	0.191 +.006 -.000

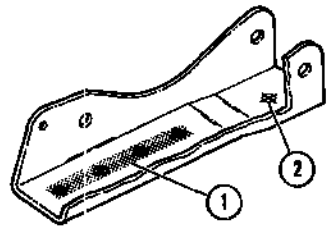
Notes

(1) THIRTY ONE REQUIRED.
(2) COTTER PIN.
(3) UNDER COTTER PIN.
(4) ONE UNDER PIN HEAD AND ONE UNDER COTTER PIN.
(5) ONE BETWEEN 53G970781 ANGLE AND 53G970786 CHANNEL.
(6) FOUR BETWEEN 53G970781 ANGLE AND 53G970786 CHANNEL. TOTAL WASHER BUILDUP TO BE 0.015 TO 0.030 INCH LESS THAN ACTUAL GAP DIMENSION.
(7) INSTALL AN936A10 WASHER ADJACENT TO 53G970789 RETAINER.

1F-4C-3-1-2-(269-2)B

Figure 2-92. Seal Assembly, 53G970418, Index - F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566; ALSO F-4E 72-121 AND UP AND F-4G (Sheet 2 of 2)





REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS529-6-6	NAS528A6			0.188 +.003 -.000
2	NAS529-6-5	NAS528A6			0.188 +.003 -.000
3	NAS529-5-5	NAS528A5			0.154 +.003 -.000
4	NAS529-5-2	NAS528A5			0.154 +.003 -.000
5	NAS529-5-4	NAS528A5			0.154 +.003 -.000
■ 6	NAS1670-3L5				0.199 +.003 -.000
7	NAS333CFA5	MS21042-3	AN960D10	15-25	0.1900 +.0012 -.0005
8	NAS333CFA6	MS21042-3	AN960D10	15-25	0.1900 +.0012 -.0005
9	R3105T6-4	NAS1080C6			0.190 +.003 -.000
10	R3105T6-6	NAS1080C6			0.190 +.003 -.000
11	R3105T6-5	NAS1080C6			0.190 +.003 -.000
■ 12	NA5583-8T	MS21042-3	AN960D10	15-25	0.1900 +.0012 -.0005
13	NAS529-5-6	NAS528A5			0.154 +.003 -.000
14	NAS529-5-3	NAS528A5			0.154 +.003 -.000
15	NAS529-5-6	NAS528A5			0.154 +.003 -.000
16	NAS529-6-7	NAS528A6			0.188 +.003 -.000
17	NAS529-6-5	NAS528A6			0.188 +.003 -.000

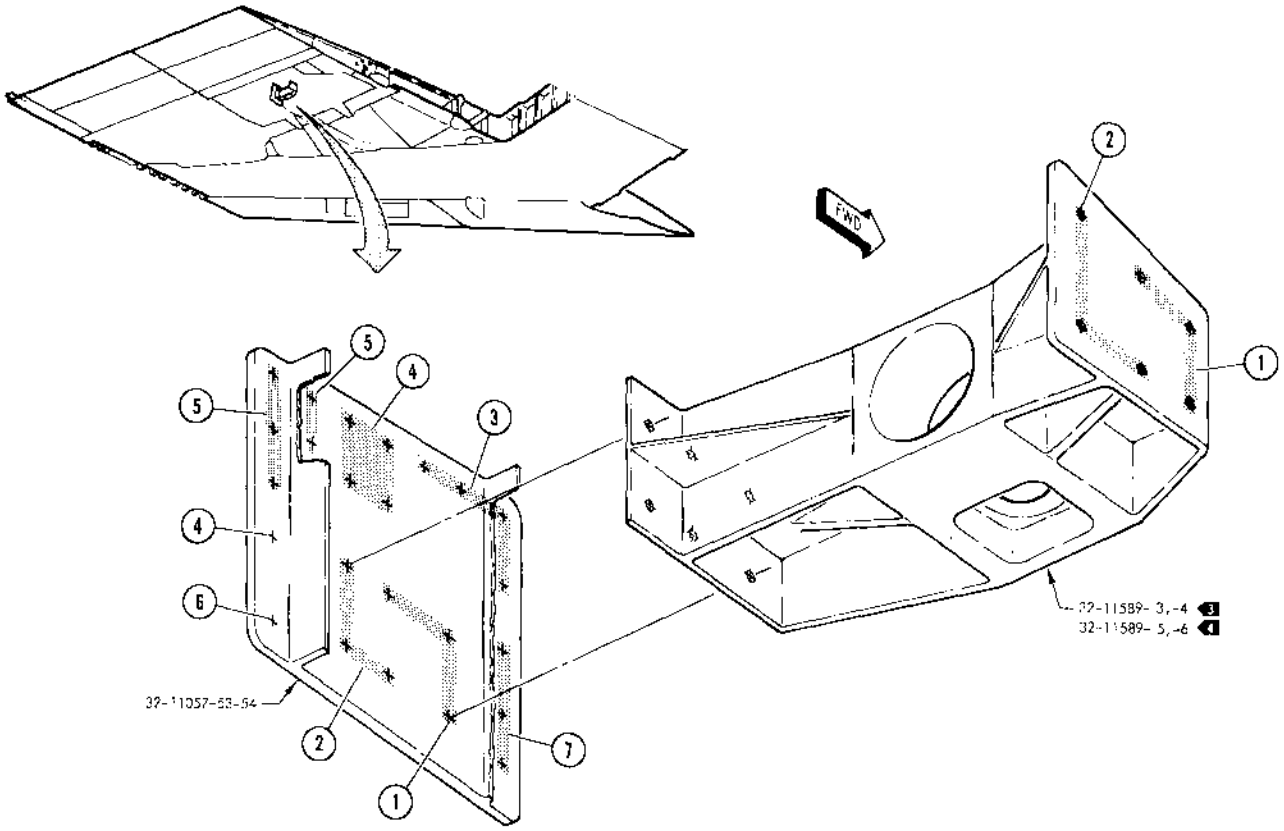
INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHODS OF LOCATING AND ENLARGING HOLES. COUNTERSINK HOLES AS REQUIRED.

B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

4C-3-1-2-(350)A

Figure 2-92A. Clip and Cap, 32-11019, Replacement Index



REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1304-5	MS21042-4	AN960D416L AN960D416	50-70	0.250 +.007 -.000
2	NAS1304-4	MS21042-4	AN960D416L AN960D416	50-70	0.250 +.007 -.000
3	MS20470DD6-( )				0.19 +.007 -.000
4	NAS1054-6-5	NAS528A6			0.189 +.006 -.000
5	NAS1055-6-5	NAS528A6			0.188 +.006 -.000
6	NAS1054-6-4	NAS528A6			0.188 +.006 -.000
7	NAS1054-6-3	NAS528A6			0.188 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHODS OF LOCATING AND ENLARGING HOLES. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

REPLACEMENT PROCEDURE

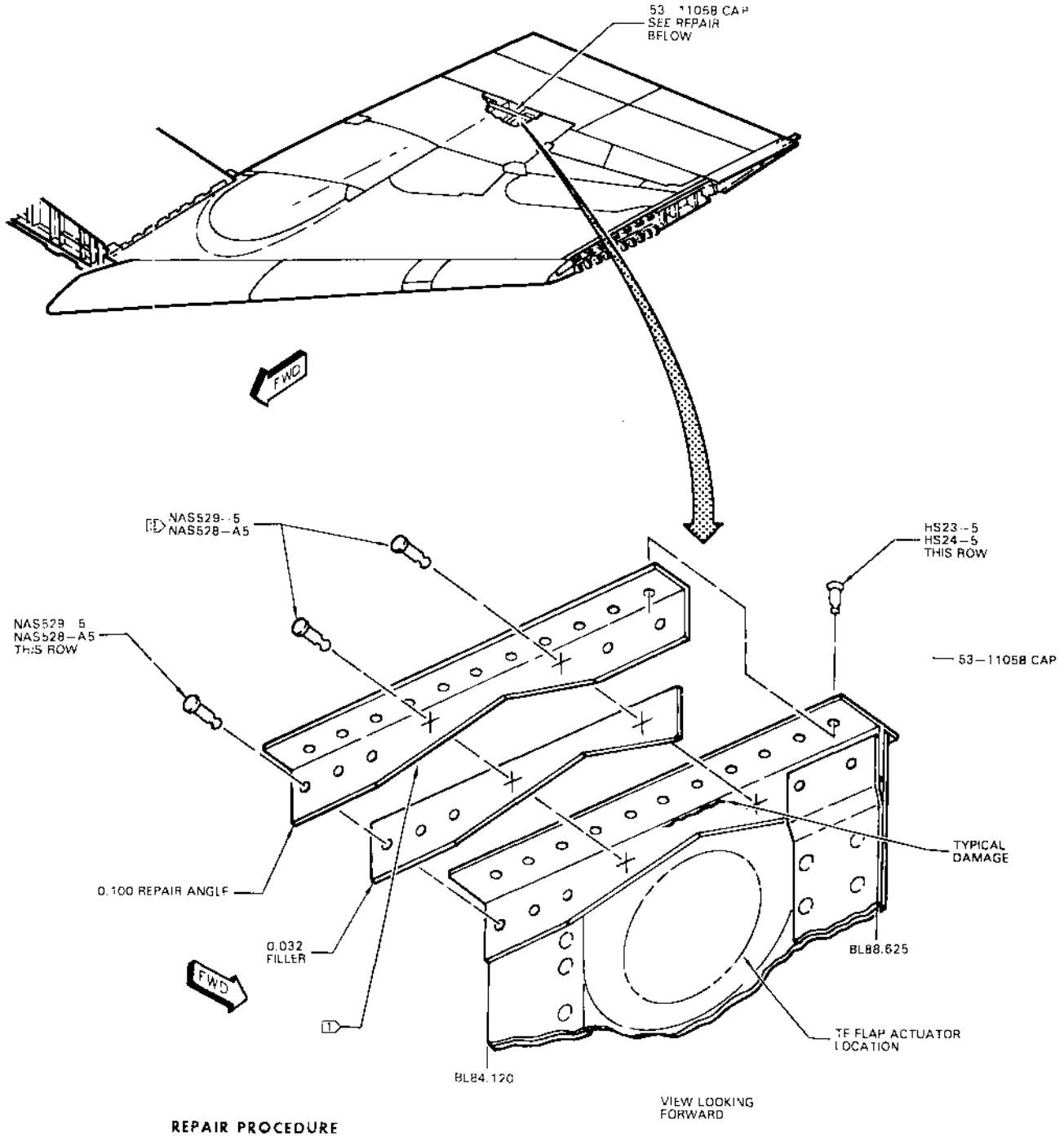
A. REFERENCE TO 1F-4( )-2-4 FOR POSITIONING FLAPS AND SPEED BRAKE FOR ACCESS TO DOOR 88 AND FLAP ACTUATOR.
B. REMOVE DOOR 88 PER TO 1F-4C-3-1-3 FOR ACCESS TO ACTUATOR AND 32-11589 FITTING.
C. REMOVE ACTUATOR REFERENCE TO 1F-4( )-2-4.
D. REMOVE FASTENERS THRU 32-11589 FITTING.
E. REMOVE FASTENERS THRU 32-11057 CHANNEL.
F. REMOVE CHANNEL AND FITTING.
G. INSTALL CHANNEL 32-11057 AND NEW 32-11589 FITTING. LOCATE AND DRILL HOLES TO SIZE IN CHART. REMOVE DEBURR AND CLEAN PARTS. REFINISH IN ACCORDANCE WITH CORROSION CONTROL IN TO 1F-4C-3-1-6.
H. INSTALL CHANNEL AND FITTING AND INSTALL FASTENERS CALLED OUT IN CHART.
I. INSTALL ACTUATOR REFERENCE TO 1F-4( )-2-4.
J. INSTALL DOOR 88 REFERENCE TO 1F-4C-3-1-3.

Notes

1> DELETED
2> DELETED
3 F-4C, F-4D 64-929 THRU 65-779, AND RF-4 63-7742 THRU 66-387.
4 F-4D 65-780 THRU 66-8825, RF-4 66-388 THRU 72-156, F-4E, AND F-4G.

4C-3-1-2-(351)C

Figure 2 92B. Fitting, 32-11589, Replacement Index



REPAIR PROCEDURE

A. STOP DRILL BOTH ENDS OF CRACK.
B. MANUFACTURE REPAIR ANGLE AND FILLER FROM 7075-T6 ALUMINUM ALLOY.
C. MATCH DRILL REPAIR PARTS TO EXISTING FASTENER HOLES.
D. MATE DRILL TWO NEW HOLES FOR NAS529-5 FASTENER.
E. REMOVE REPAIR PARTS AND DEBURR.
F. FINISH REWORKED AREA AND REPAIR PARTS. SEE TO 1F-4C-3-1-6.
G. SEAL AREA PER TO 1F-4C-3-1-6.
H. POSITION REPAIR PARTS AND INSTALL FASTENERS.

Notes

[1] TRIM REPAIR PARTS TO MATCH EXISTING CAP WEB AND CLEAR ACTUATOR PATH.
[2] NEW FASTENER LOCATIONS.

4C-3-1-2 (438)

Figure 2-92C. Trailing Edge Flap Actuator Area Cap, 53-11058, Repair

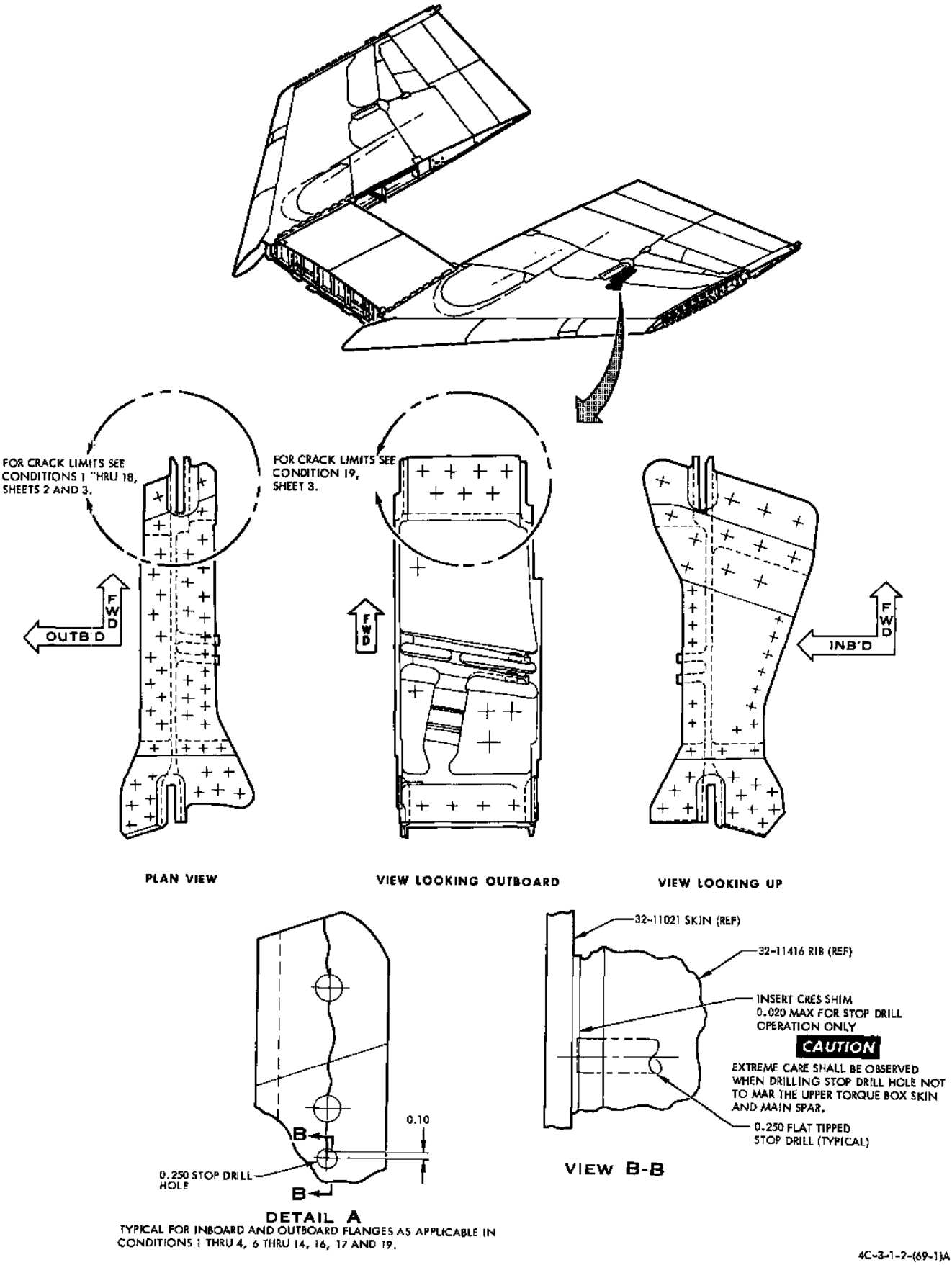


Figure 2-93. Rib, 32-11416 Permissible Crack Limits (Sheet 1 of 3)

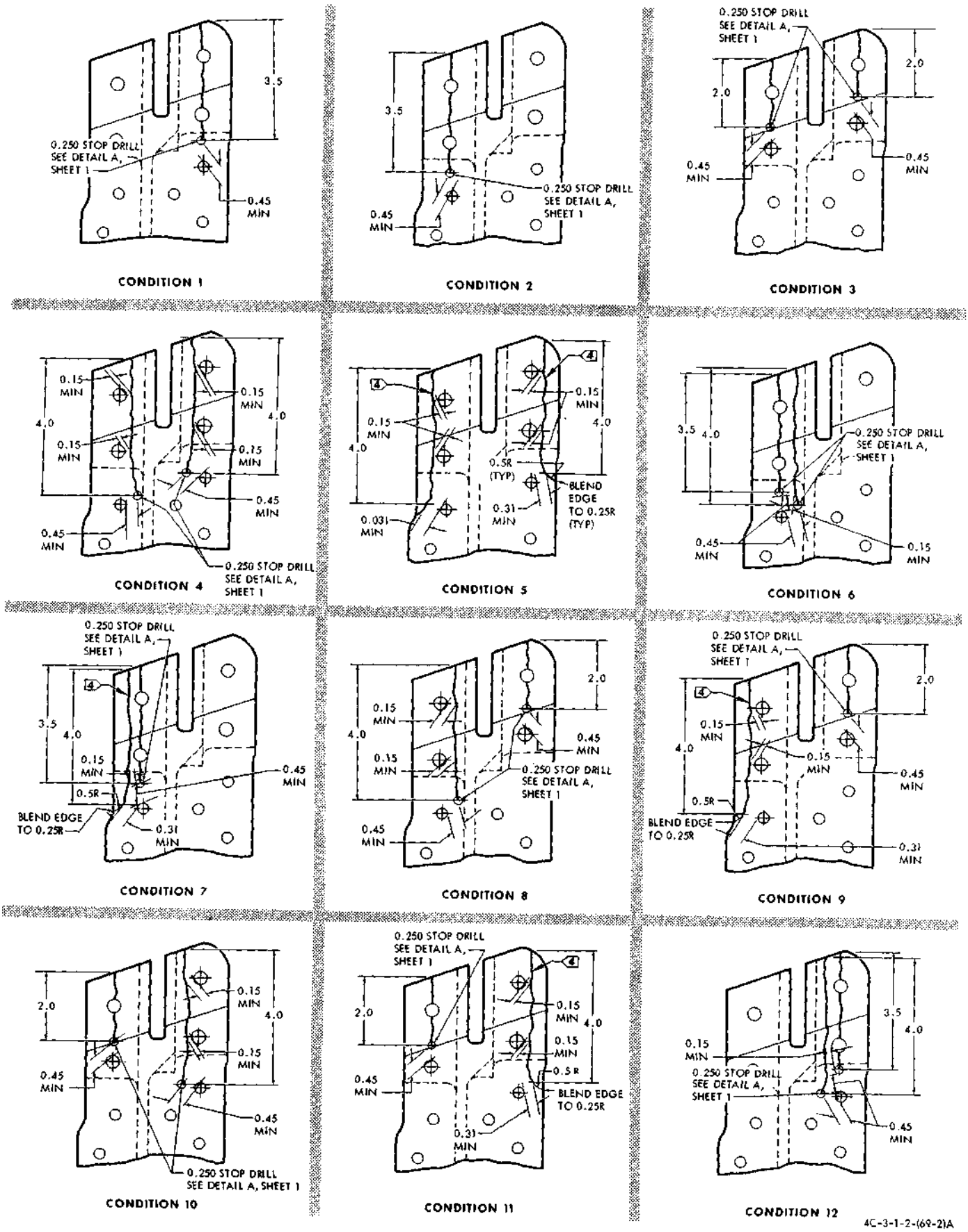
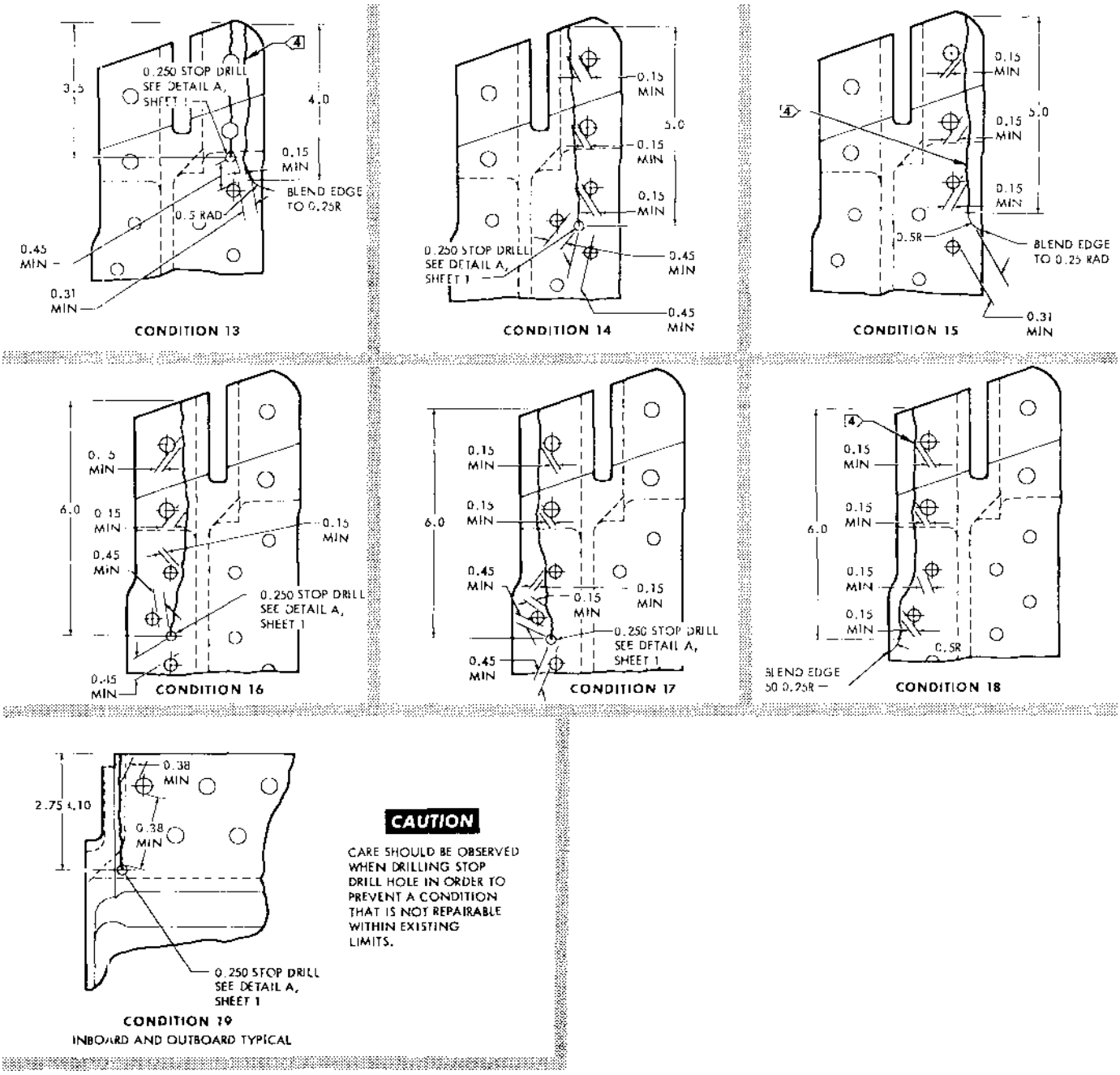


Figure 2-93. Rib, 32-11416 Permissible Crack Limits (Sheet 2 of 3)



CAUTION

CARE SHOULD BE OBSERVED WHEN DRILLING STOP DRILL HOLE IN ORDER TO PREVENT A CONDITION THAT IS NOT REPAIRABLE WITHIN EXISTING LIMITS.

Notes

1. DELETED.
2. DELETED.
3. BLEND CUSPS AND EDGES TO 0.06 RADIUS OR FLAT.
4. FOR CONDITIONS 5, 7, 9, 11, 13, 15 AND 18, FINISH 125 MICROINCH OR BETTER ON EDGE OF RIB CAP AFTER CLEANUP. ALODINE COAT REWORKED SURFACES PER MIL-C-5541 AND APPLY TWO COATS EPOXY PRIMER, PER TO 1F-4C-3-1-6, PRIOR TO APPLICATION OF FINISH COAT.

4C 3-1-2 168 3.96

Figure 2-93. Rib, 32-11416 Permissible Crack Limits (Sheet 3 of 3)

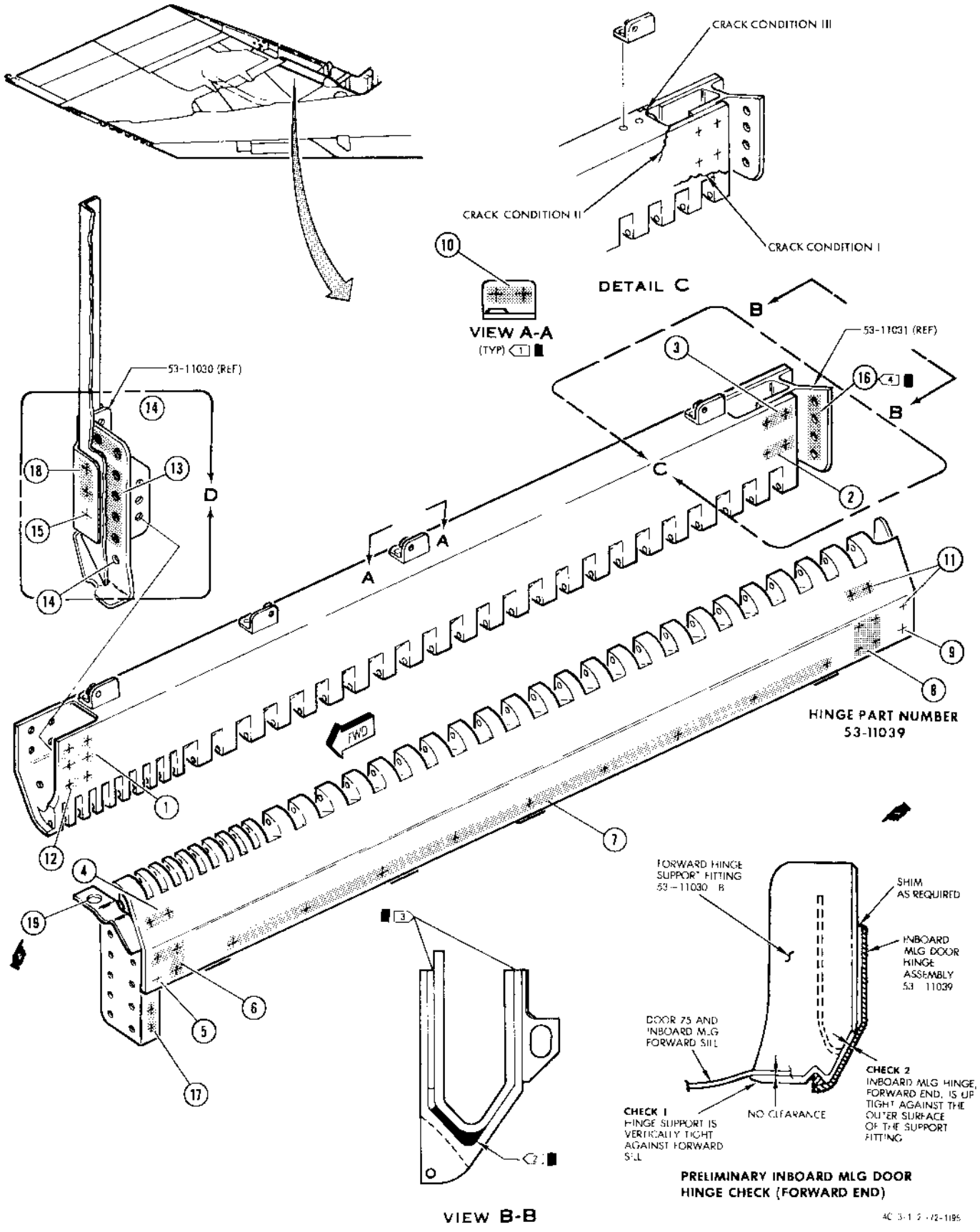
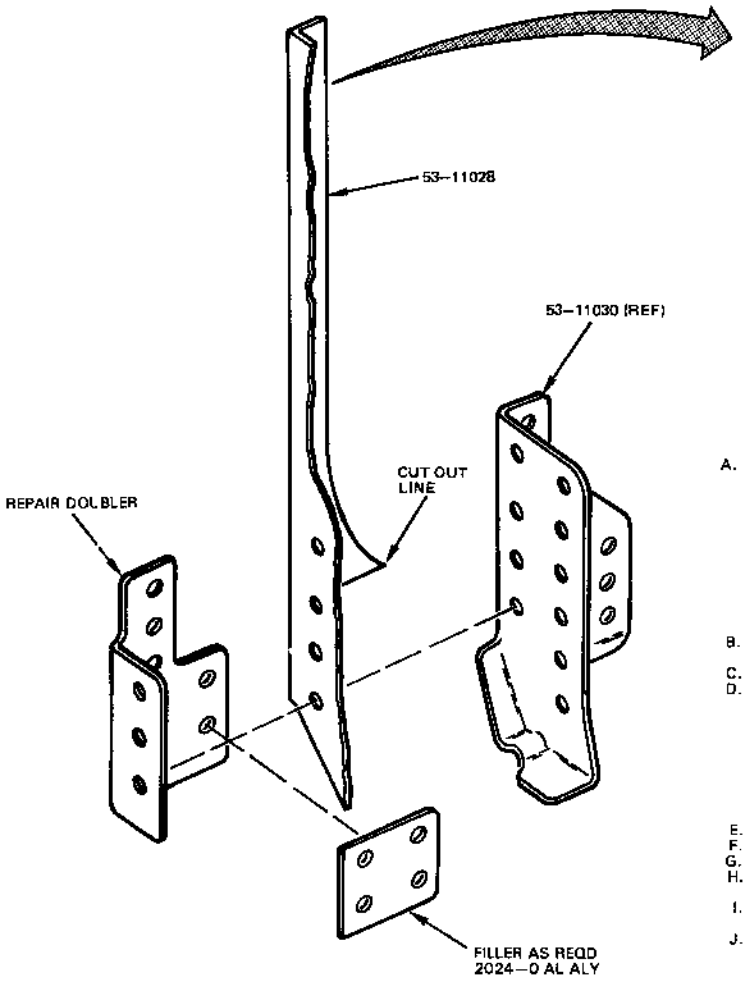
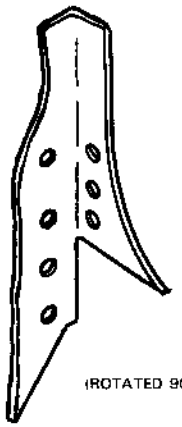
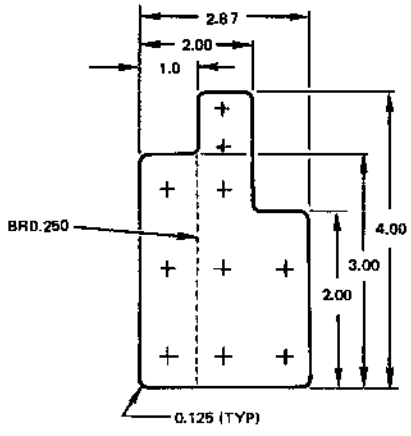


Figure 2-94. Wheel Well Landing Gear Hinge (Mating Inboard Door) Replacement - F-4
(Sheet 1 of 4)



DETAIL D





DETAIL E

INSTALLATION PROCEDURE FOR NEW PART

A. VISUALLY CHECK MISMATCH BETWEEN HINGE AND FORWARD LOWER INBOARD FLAP CLOSURE SKIN (TUNNELL SKIN)

NOTE

IF DOUBLER IN DETAIL D IS INSTALLED, DO NOT CUT SEAL. HINGE MAY BE REMOVED BY REMOVING FASTENERS 13, 14, 15, 16, 17 AND 18.

B. ON RF-4C AIRCRAFT, REMOVE 53-32512-41 OR -42 SKINS AND ATTACHING PARTS AS REQUIRED.
C. TRIM FORWARD END OF SEAL 53-110051 AS REQUIRED.
D. REMOVE FASTENERS 1, 4, 5, 6, 12 AND 16. DO NOT DAMAGE HOLES.

NOTE

WHEN REMOVING SHIMS, MARK LOCATION AND THICKNESS FOR FUTURE INSTALLATION.

E. REMOVE HINGE AND 53-11031 BRACKET.
F. REMOVE 53-11030 BRACKET.
G. REMOVE 53-11031 BRACKET FROM ASSEMBLY.
H. CHECK HOLES FOR DAMAGE. IF DAMAGED, SEE INSPECTION AND REPAIR PROCEDURE.
I. OBTAIN 11SR-2-72-2 OR -1 REPAIR DOUBLER OR MANUFACTURE AS SHOWN IN DETAIL E.
J. TRIM DOUBLER AS REQUIRED AND PROTECT WITH DISSIMILAR TAPE AS PER T.O. 1F-4C-3-1-6.

NOTE

DO NOT CUT OUT SECTION OF AIRCRAFT UNTIL DOUBLER IS MANUFACTURED AND HOLES ARE LOCATED IN DOUBLER USING AIRCRAFT AS TEMPLATE.

K. LOCATE HOLES IN NEW HINGE TO SIZE INDICATED IN CHART.

NOTE

DOUBLER REPLACES INBOARD SHIM.

L. INSTALL BRACKETS AND ORIGINAL SHIM ON NEW HINGE, 53-11030 AND 53-11031.
M. TEMPORARILY INSTALL HINGE IN AIRCRAFT TO FIND CORRECT LOCATION OF THE NEW HINGE USING INBOARD GEAR DOOR.
N. CHECK AFT PORTION OF HINGE FOR OVER/UNDER FLUSH CONDITION. SEE SECTION F-F.
O. REMOVE HINGE AND ATTACHING PARTS FROM AIRCRAFT.
P. REFINISH REWORKED AREA AND PARTS PER T.O. 1F-4C-3-1-6.
Q. INSTALL 53-11031 BRACKET IN HINGE.
R. INSTALL 53-11030 BRACKET, FILLER AND DOUBLER IN HINGE USING FASTENERS 1, 4, 5, 6, AND 12.

NOTE

SEAL MUST BE ATTACHED TO HINGE DURING THIS OPERATION.

S. INSTALL COMPLETE HINGE ASSEMBLY ON AIRCRAFT.

NOTE

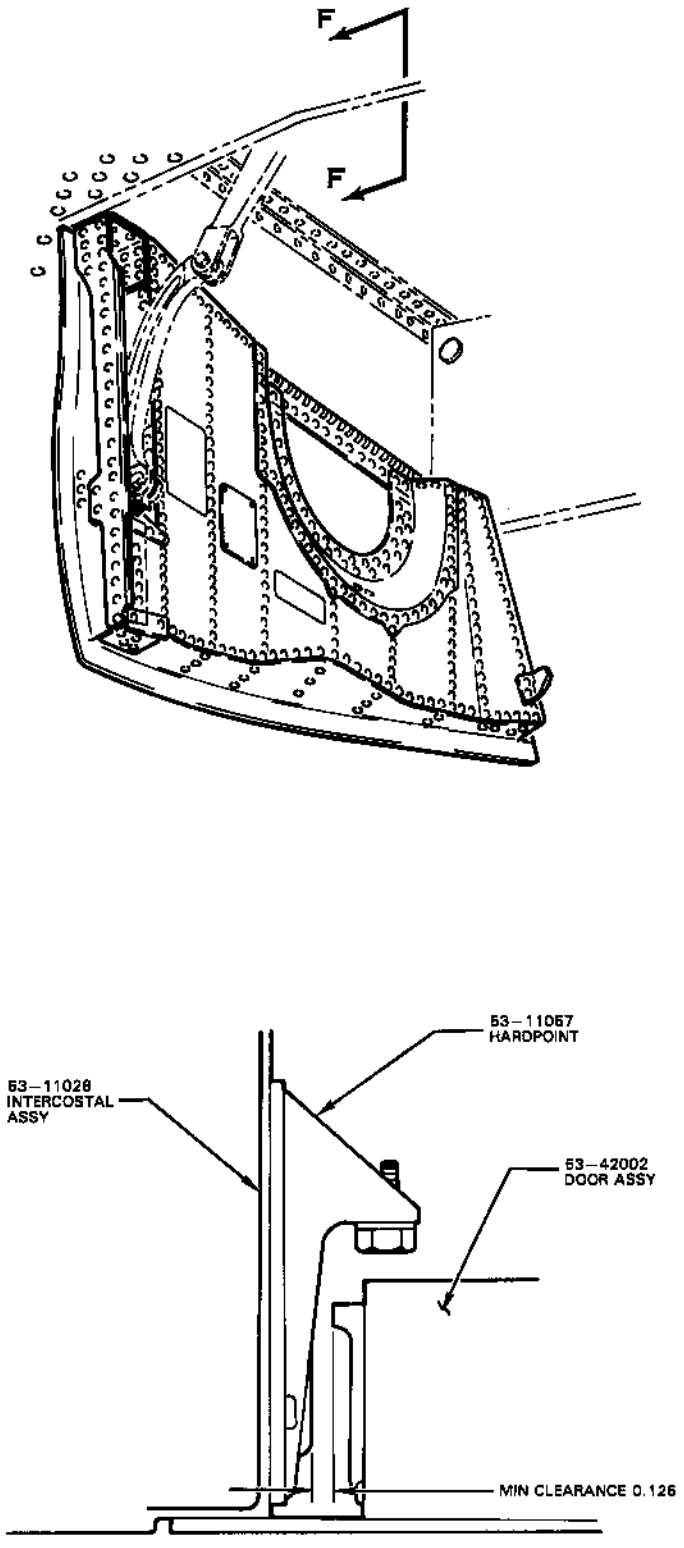
DOOR 53-42002, MUST BE USED AS TOOL TO PROPERLY LOCATE THE NEW INBOARD HINGE. HINGE TO BE POSITIONED TO ALLOW CLEARANCE AS SHOWN IN SECTION F-F, BETWEEN DOOR WING STRUCTURE.

MAJOR CHANGE

REPAIR DOUBLER
0.061 CRES 1-8 HARD

4C 3 2-172-2195

Figure 2-94. Wheel Well Landing Gear Hinge (Mating Inboard Door) Replacement - F-4 (Sheet 2 of 4)



SECTION F-F

(DOOR IN CLOSED POSITION)

4C–3–1–2–(72–2.1)L

Figure 2-94. Wheel Well Landing Gear Hinge (Mating Inboard Door) Replacement - F-4
(Sheet 3 of 4)

REF NO.	FASTENER	WASHER	NUT OR COLLAR	HOLE SIZE
1	NAS529-6-6		NAS52J A6	0.188 +.003 -.000
2	NAS333CPA5	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000
3	NAS529-6-6		NAS528 A6	0.188 +.003 -.000
4	NAS333CPA4	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000
5	NAS1303-8	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000
6	NAS333CPA6	AN 960PD10L	NAS679 A3W	0.189 +.004 -.000
7	CR 3213-5-6			0.160 +.003 -.000
8	NAS333CPA4	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000
9	NAS1303-6	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000
10	CR3213-4-3			0.189 +.003 -.000
11	NAS333CPA4	AN960PD10L	NAS679 A3W	0.129 +.003 -.000
12	NAS333CPA5	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000
13	NAS529-6-3		NAS528 A6	0.188 +.003 -.000
14	NAS529-6-5		NAS528 A6	0.188 +.003 -.000
15	NAS1669-3L4			0.199 +.003 -.000
④16	NAS1669-3L4			0.199 +.003 -.000
17	NAS1303-6	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000
18	NAS529-6-5		NAS528 A6	0.188 +.003 -.000
19	NAS 1581A3H3T	AN 960PD10L	NAS679 A3W	0.189 +.003 -.000

NOTES

① BRACKETS MAY VARY IN NUMBER AND LOCATION. CHECK HINGE BEING REPLACED FOR NUMBER AND LOCATION OF BRACKETS.

② THIS AREA TO BE FREE OF OBSTRUCTIONS FOR WATER DRAIN.

③ SHIM EITHER LOCATION AS NECESSARY TO PROPERLY ALIGN INBOARD MAIN LANDING GEAR DOOR 53-42002.

④ FOR OVERSIZED HOLES REFER TO REPAIR 1F-4C-3-1-2, FIG. 2-858.

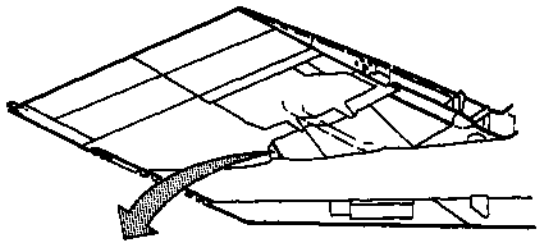
INSPECTION AND REPAIR PROCEDURE

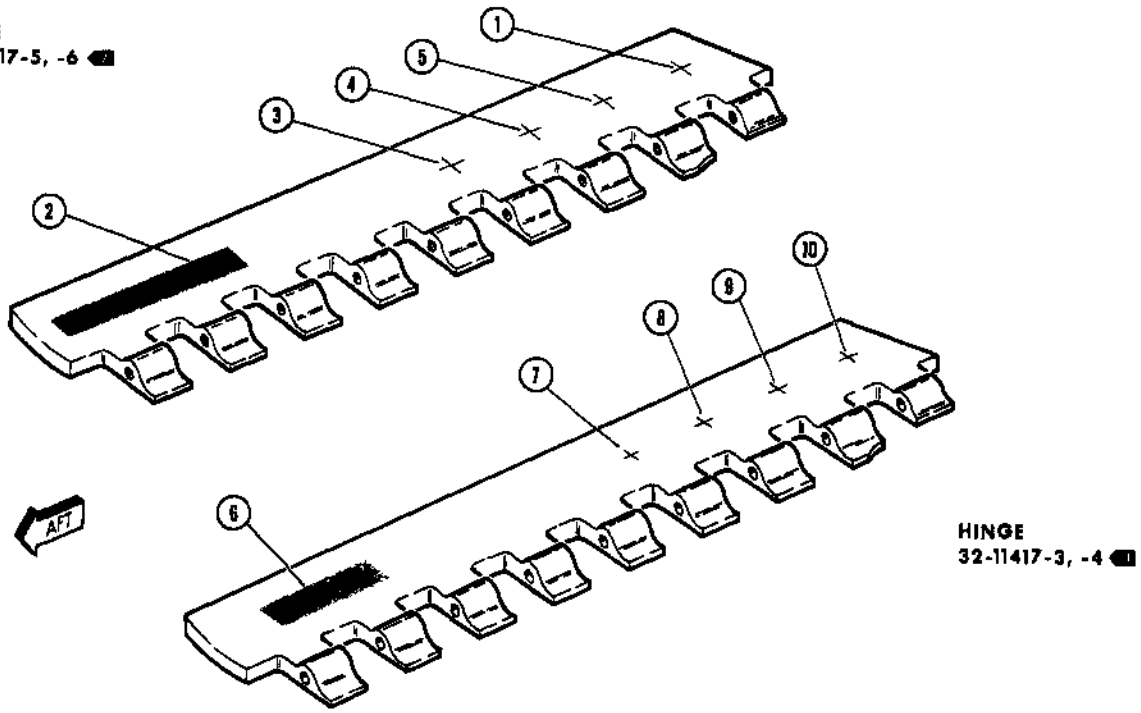
A. REMOVE HINGE PIN AND LANDING GEAR DOOR TO PROVIDE ACCESS TO 53-11039 HINGE.
B. REMOVE LOOSE OR DAMAGE FASTENERS.
C. CHECK FOR OVERSIZE HOLES.
D. VISUALLY INSPECT AND PERFORM FLUORESCENT PENETRANT INSPECTION ON 53-11039 HINGE. REFERENCE TO 1F-4C-36 FOR PROCEDURES.
E. IF CRACK EXISTS PER CONDITION 1, 11, AND/OR 111 REMOVE AND REPLACE HINGE.
F. INSTALL NEW NEW HINGE PER PROCEDURE FOR NEW PART. INSTALL FASTENERS INDICATED IN CHART.
G. IF HOLES ARE OVERSIZED, CONTACT F-4 STRUCTURAL ENGINEERING OOALC/MMSRA.

MAJOR CHANGE

4C-3-2-(72-3)95

Figure 2-94. Wheel Well Landing Gear Hinge (Mating Inboard Door) Replacement-F-4 (Sheet 4 of 4)





REF NO.	FASTENER	NUT OR COLLAR	WASHER OR NUT BASE	TORQUE (INCH-LB)	HOLE SIZE
1	NAS584-13T	MS21042-4	AN960D416	50-70	0.2495 +.0017 -.0000
2	NAS584-7T	MS21042-4	AN960D416	50-70	0.2495 +.0017 -.0000
3	NAS584-8T	RM52LH2935-048	2935-04	50-70	0.2495 -.0017 -.0000
4	NAS584-10T	RM52LH2935-048	2935-04	50-70	0.2495 +.0017 -.0000
5	NAS584-12T	RM52LH2935-048	2935-04	50-70	0.2495 +.0017 -.0000
6	▶2 NAS585-7T	MS21042-5	AN960D516	100-140	0.3120 +.0017 -.0000
	▶3 NAS585-10T	MS21042-5	AN960D516	100-140	0.3120 +.0017 -.0000
7	▶1 NAS584-8T	RM52LH2935-048	2935-04	50-70	0.2495 +.0017 -.0000
	▶3 NAS584-11T	RM52LH2935-048	2935-04	50-70	0.2495 +.0017 -.0000
8	▶1 NAS584-10T	RM52LH2935-048	2935-04	50-70	0.2495 +.0017 -.0000
	▶3 NAS584-13T	RM52LH2935-048	2935-04	50-70	0.2495 -.0017 -.0000
9	▶1 NAS584-12T	RM52LH2935-048	2935-04	50-70	0.2495 +.0017 -.0000
	▶3 NAS584-15T	RM52LH2935-048	2935-04	50-70	0.2495 +.0017 -.0000
10	▶1 NAS584-13T	MS21042-4	AN960D416	50-70	0.2495 -.0017 -.0000
	▶3 NAS584-16T	MS21042-4	AN960D416	50-70	0.2495 +.0017 -.0000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES TO RECEIVE FASTENERS.
B. REFINISH COUNTERSINKS ACCORDING TO THE CORROSION PROCEDURE IN TO 1F-4C-3-1-6.

INSPECTION AND REPAIR PROCEDURE

A. VISUALLY INSPECT AND PERFORM FLUORESCENT PENETRANT INSPECTION ON 32-11417-5, -6 HINGE. REFERENCE TO 1F-4C-36 FOR PROCEDURE.
B. IF ANY EVIDENCE OF A CRACK IS FOUND, HINGE SHALL BE REPLACED.

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
▶2 F-4C 63-7407 THRU 64-746 AND RF-4C 68-7742 THRU 64-1062.
▶3 F-4C 64-747 THRU 64-928, F-4D, F-4E, RF-4C 64-1063 THRU 72-156, AND F-4G.
▶4 F-4E 66-284 THRU 71-1402 AND F-4G.
▶5 F-4E 72-121 AND UP.

4C-3-1-2-(65)C

Figure 2-95. Wheel Well Landing Gear Hinge (Mating Outboard Door) Replacement

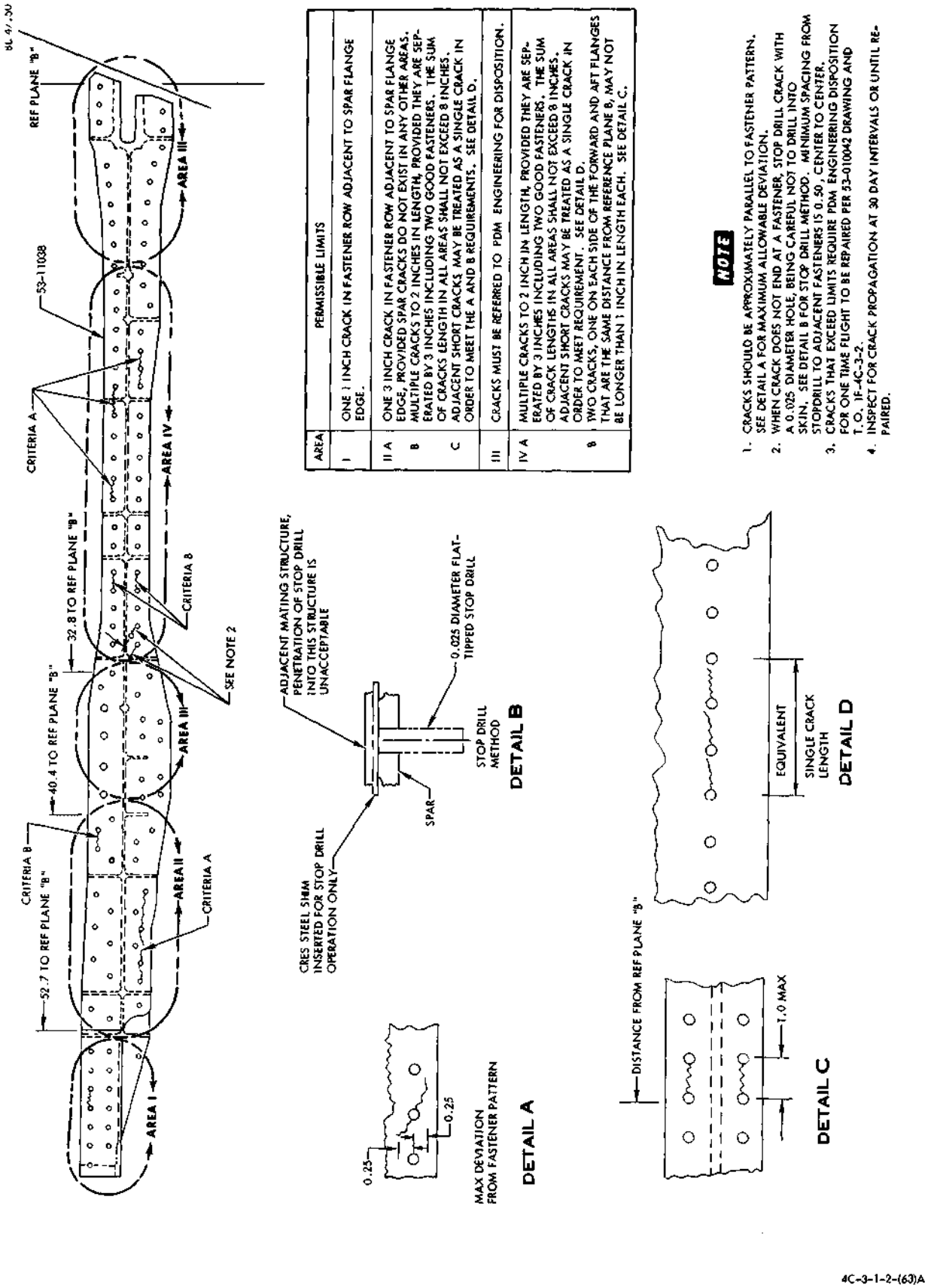
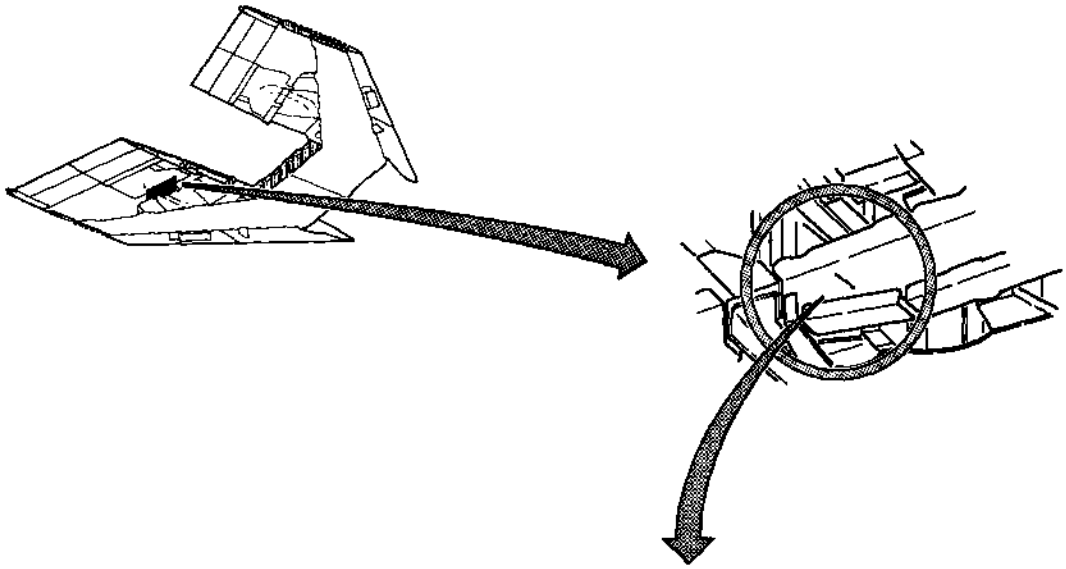
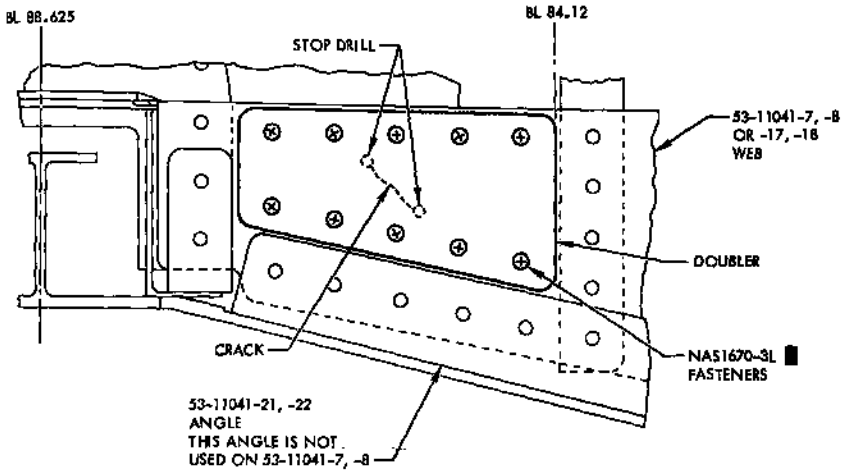


Figure 2-96. Rear Spar Inboard, 53-11038, Upper Cap
Crack Limits for Unrestricted Flight





REPAIR PROCEDURE

NOTE

THE WEB SHALL BE REPLACED IF CRACKS HAVE PROGRESSED INTO THE UPPER OR LOWER HORIZONTAL FLANGES OF THE WEB. THIS REPAIR IS TYPICAL THROUGHOUT THE WEB SURFACE.

A. STOP DRILL ENDS OF CRACKS WITH 0.191 DIAMETER DRILL.
■ B. FABRICATE DOUBLER FROM 0.063, 7178-T6 ALCLAD, QQ-A-250/16 (T6) MATERIAL. SIZE AND SHAPE OF DOUBLER WILL BE DETERMINED BY LOCATION OF CRACKS WITH REGARD TO EXISTING STRUCTURE.

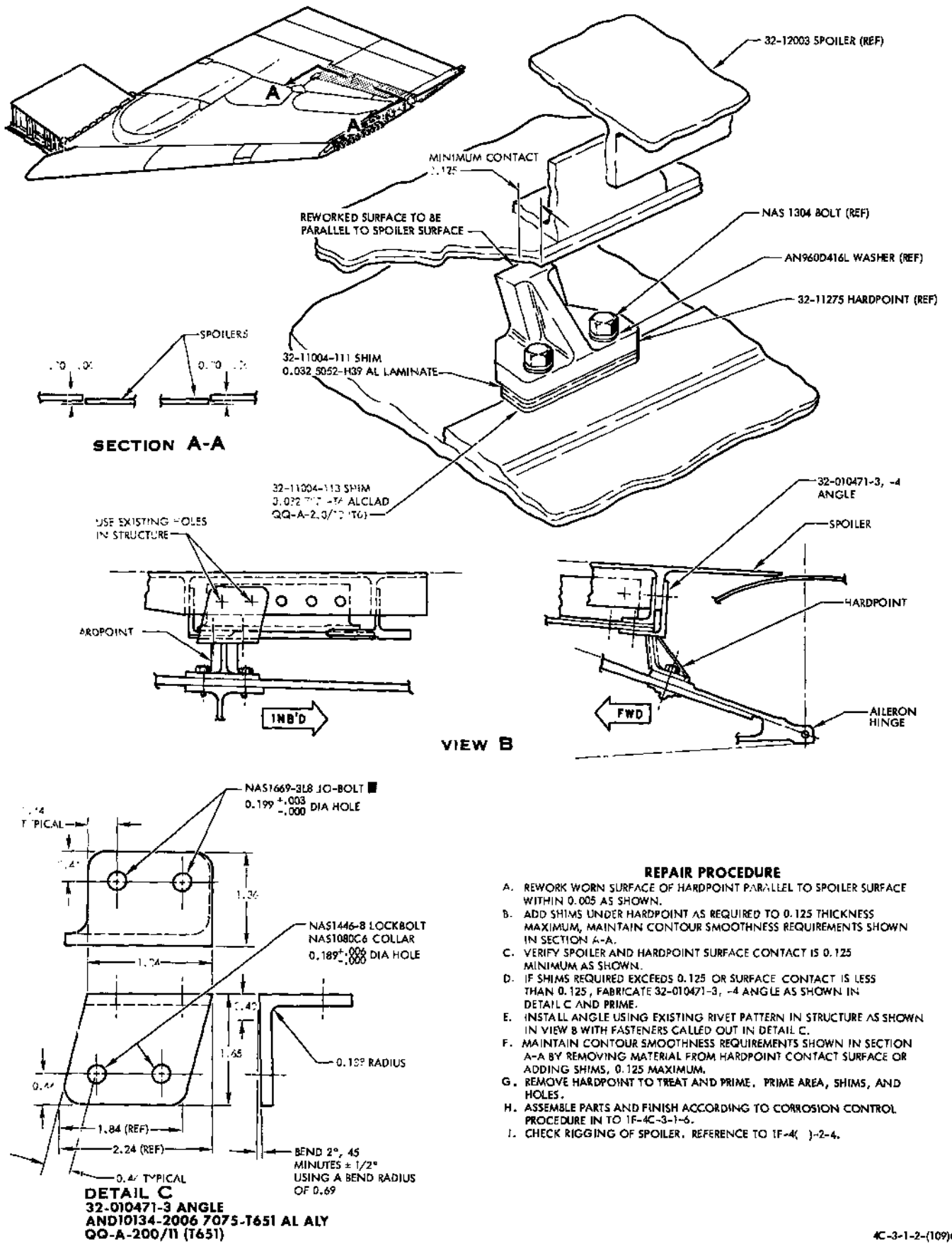
CAUTION

EXERCISE CARE TO PREVENT DRILLING INTO STRUCTURE BEHIND WEB AND PREDETERMINE ADEQUATE CLEARANCE FOR INSTALLATION OF FASTENERS.

C. LOCATE AND DRILL A MINIMUM OF FOUR FASTENER HOLES (0.199 $^{+.003}_{-.000}$ DIAMETER) ON EACH SIDE OF THE CRACK DAMAGE. USE AN EDGE DISTANCE OF TWO TIMES HOLE DIAMETER AND EQUAL SPACING CENTER TO CENTER.
D. COUNTERSINK AS REQUIRED TO RECEIVE FASTENERS.
E. CLEAN AND TREAT AREA AND DOUBLER FOR CORROSION CONTROL PER TO 1F-4C-3-1-6.
■ F. INSTALL DOUBLER USING NAS1670-3L FASTENERS. FASTENER LENGTH SHALL BE DETERMINED ON INSTALLATION.
G. PAINT PER TO 1F-4C-3-1-1.

4C-3-1-2-(64)B

Figure 2-97. Web Crack Repair, Forward Speed Brake Well

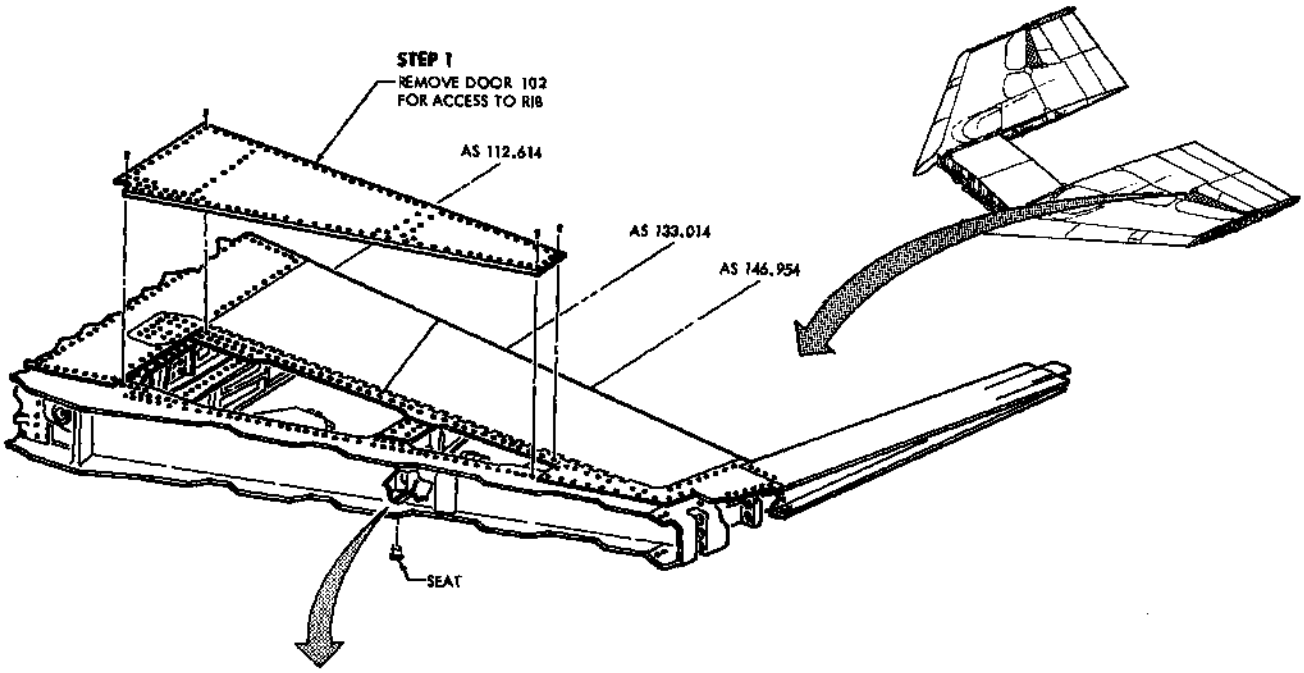


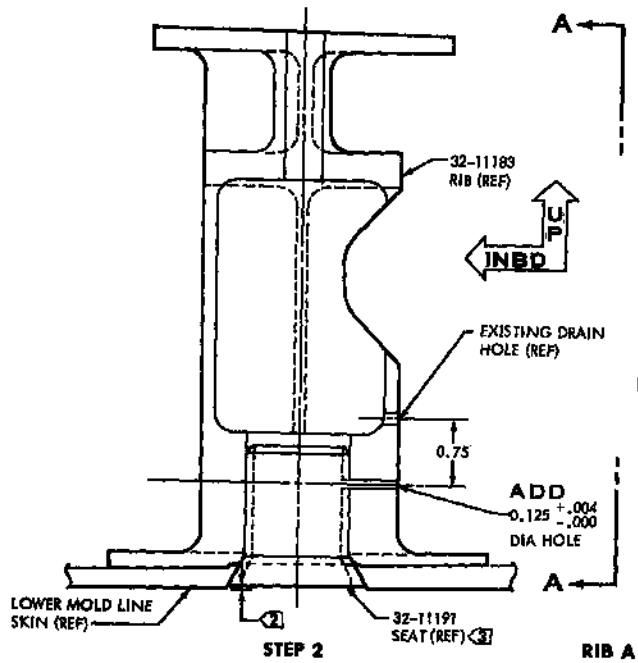
REPAIR PROCEDURE

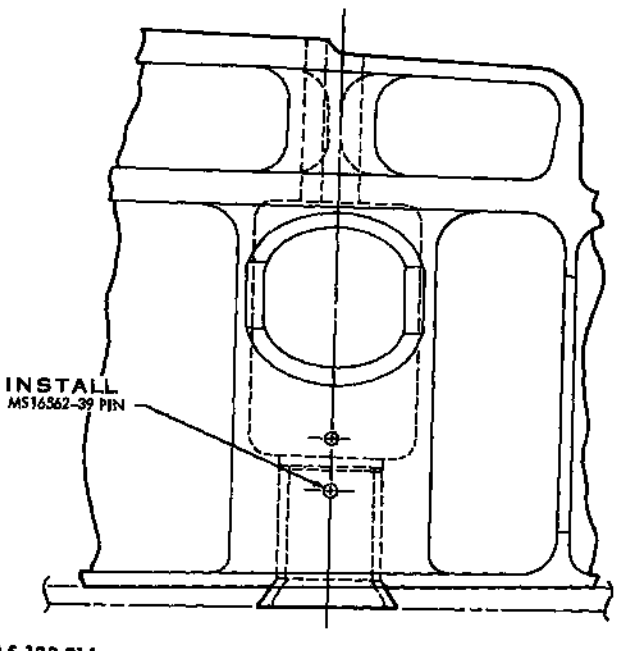
A. REWORK WORN SURFACE OF HARDPOINT PARALLEL TO SPOILER SURFACE WITHIN 0.005 AS SHOWN.
B. ADD SHIMS UNDER HARDPOINT AS REQUIRED TO 0.125 THICKNESS MAXIMUM, MAINTAIN CONTOUR SMOOTHNESS REQUIREMENTS SHOWN IN SECTION A-A.
C. VERIFY SPOILER AND HARDPOINT SURFACE CONTACT IS 0.125 MINIMUM AS SHOWN.
D. IF SHIMS REQUIRED EXCEEDS 0.125 OR SURFACE CONTACT IS LESS THAN 0.125, FABRICATE 32-010471-3, -4 ANGLE AS SHOWN IN DETAIL C AND PRIME.
E. INSTALL ANGLE USING EXISTING RIVET PATTERN IN STRUCTURE AS SHOWN IN VIEW B WITH FASTENERS CALLED OUT IN DETAIL C.
F. MAINTAIN CONTOUR SMOOTHNESS REQUIREMENTS SHOWN IN SECTION A-A BY REMOVING MATERIAL FROM HARDPOINT CONTACT SURFACE OR ADDING SHIMS, 0.125 MAXIMUM.
G. REMOVE HARDPOINT TO TREAT AND PRIME. PRIME AREA, SHIMS, AND HOLES.
H. ASSEMBLE PARTS AND FINISH ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
I. CHECK RIGGING OF SPOILER. REFERENCE TO 1F-4( )-2-4.

4C-3-1-2-(109)C

Figure 2-98. Inboard Spoiler Hardpoint Repair







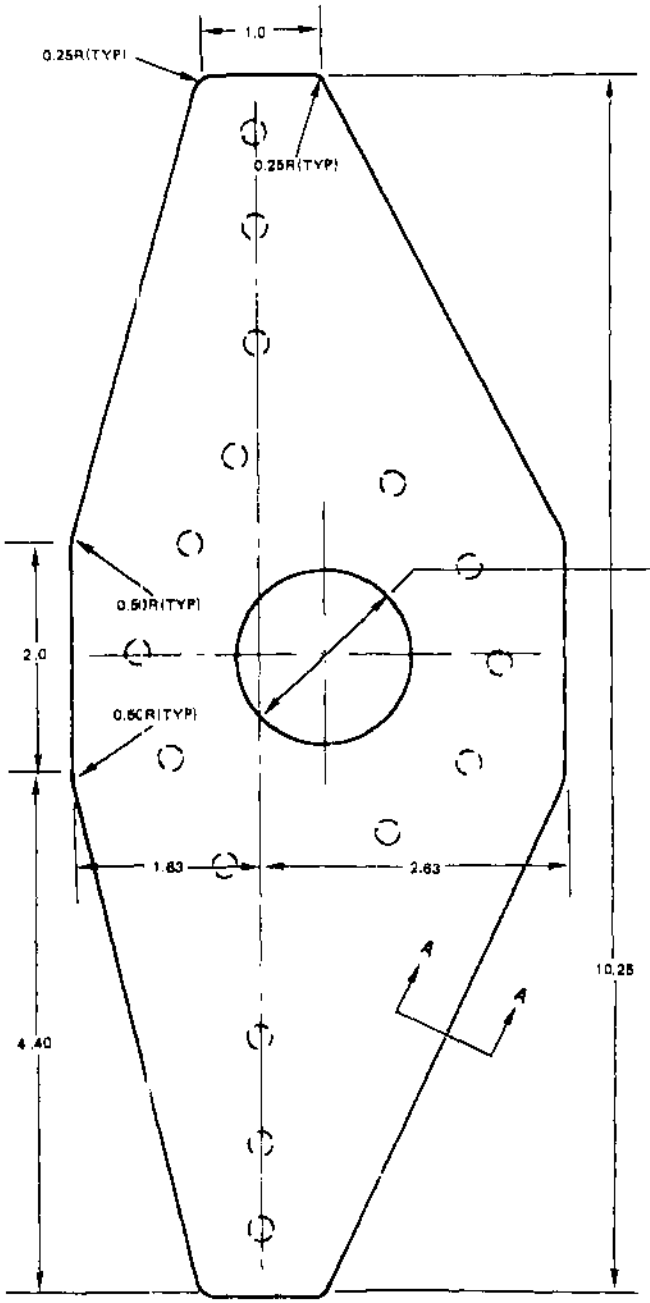
Notes

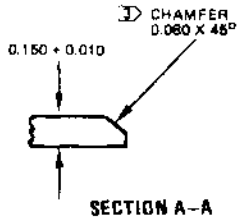
1. REINSTALL DOOR PER TO 1F-4C-3-1-3.
2. SEAT MAY BE RECESSED A MAXIMUM OF 0.10 FROM WING MOLD LINE.
3. 32-11191-3 SEAT FOR F-4C, F-4D, RF-4, AND F-4G
   32-11191-5 SEAT FOR F-4E ONLY.

CAUTION
REFER TO TEXT FOR REPAIR PROCEDURE

4C-3-1-2-(108)D

Figure 2-99. Outboard Trailing Edge Pylon Restraint Seat, 32-11191, Repair





REPAIR PROCEDURE

A. REMOVE DOOR 102. REFERENCE T.O.1F-4C-3-1-3.
B. EDDY-CURRENT INSPECT RIB IN AREA OF SEAT HOLE. IF CRACKS ARE ROUND, FABRICATE REPAIR DOUBLER.

NOTE

NO MORE THAN THREE CRACKS IN BARREL WALL EXTENDING FROM BUSHING UP TO BUT NOT THROUGH UPPER RIB FLANGE.

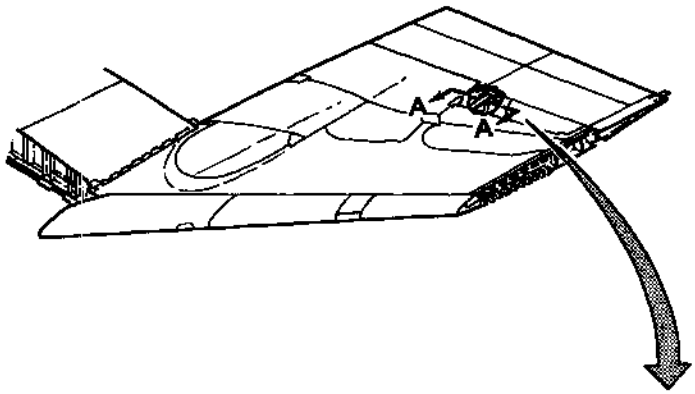
C. REMOVE AFFECTED FASTENERS AS SHOWN. (13) NAS584 BOLTS AND (3) MS20426DD6 RIVETS.
D. LOCATE AND DRILL FASTENER HOLES IN REPAIR DOUBLER. FOR METHOD OF LOCATING HOLES REFERENCE T.O.1F-4C-3-1-1.
E. COUNTERSINK FASTENER HOLES IN DOUBLER AS REQUIRED.
F. INSTALL COUNTERSINK FILLERS IN EXISTING COUNTERSINKS WITH MIL-S-81733.
G. FAY SEAL DOUBLER WITH MIL S-81733.
H. INSTALL DOUBLER WITH SAME TYPE FASTENERS AS REMOVED WITH PROPER GRIP LENGTH.
I. FINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
J. REINSTALL DOOR 102. REFERENCE T.O.1F-4C-3-1-3.
K. DELETED.

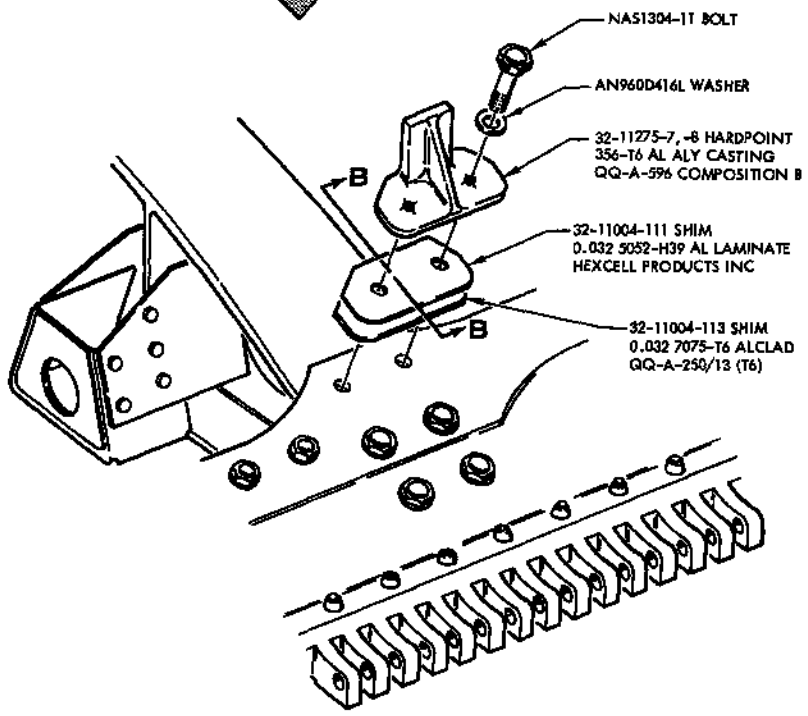
Notes

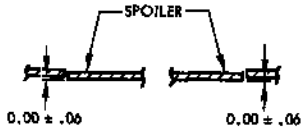
1. TEMPORARY REPAIR FOR CRACKED OUTBOARD TRAILING EDGE PYLON RIB, 32-11183, TO BE USED UNTIL NEW PARTS BECOME AVAILABLE.
(2) PART USED FOR RIGHT AND LEFT SIDE.
(3) CHAMFER OPPOSITE EDGE FOR RIGHT SIDE.
(4) HOLE TO CENTER OVER EXISTING HOLE IN STRUCTURE.

G9104099

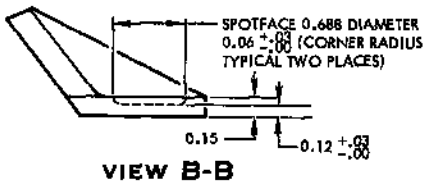
Figure 2-99A. Cracked Outboard Trailing Edge Pylon Rib, 32-11183, Temporary Repair







SECTION A-A



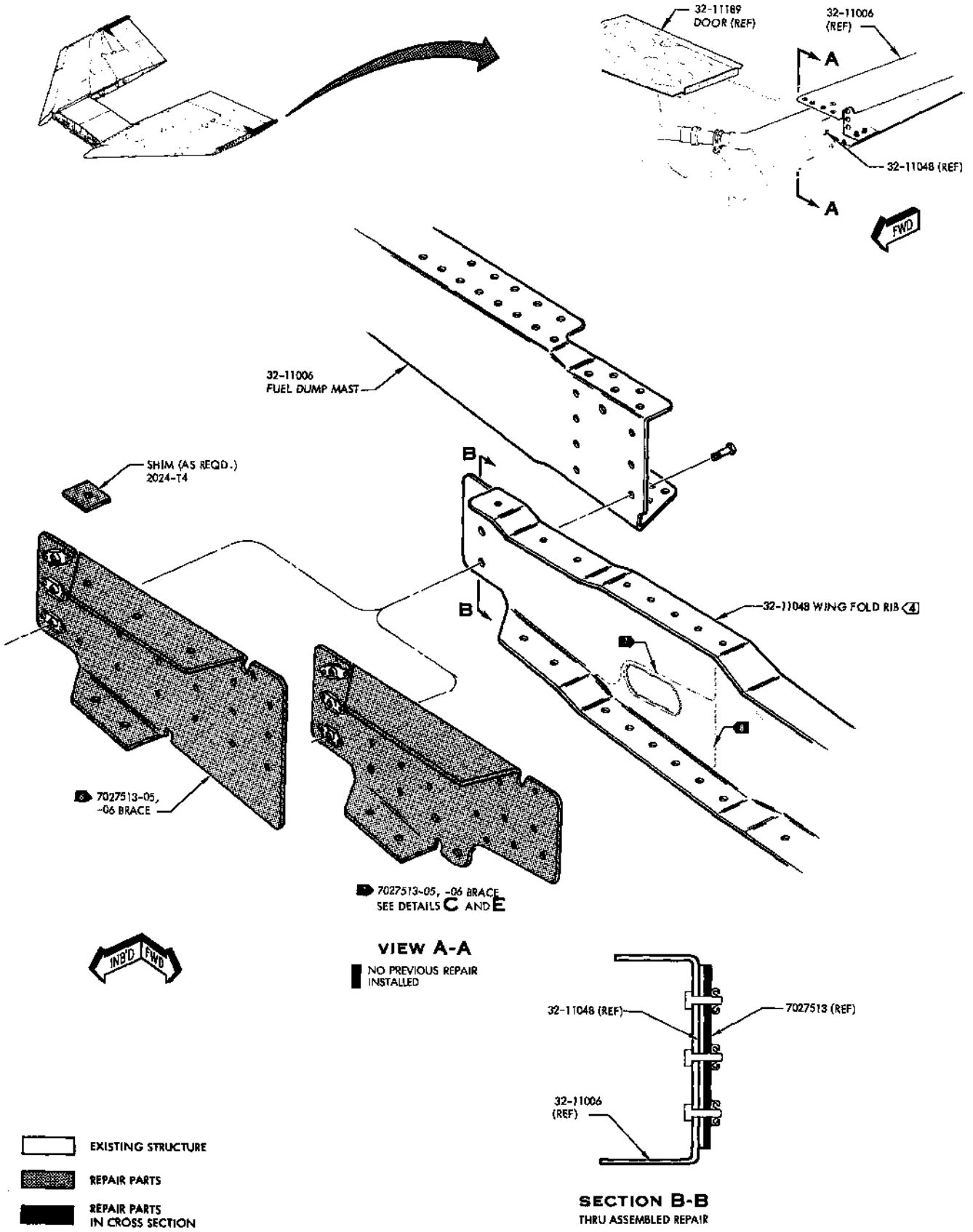
VIEW B-B

INSTALLATION PROCEDURE FOR HARDPOINT

A. ENLARGE PILOT HOLE INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO 0.2495 +.0017 -.0000 DIAMETER. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES. SPOTFACE HOLES PER VIEW B-B TO RECEIVE FASTENERS.
B. REFINISH HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
C. INSTALL HARDPOINT AND SHIM AS REQUIRED TO MAINTAIN CONTOUR SMOOTHNESS REQUIREMENTS SHOWN. CHECK RIGGING OF SPOILER. REFER TO T.O. 1F-4( )-2-4.

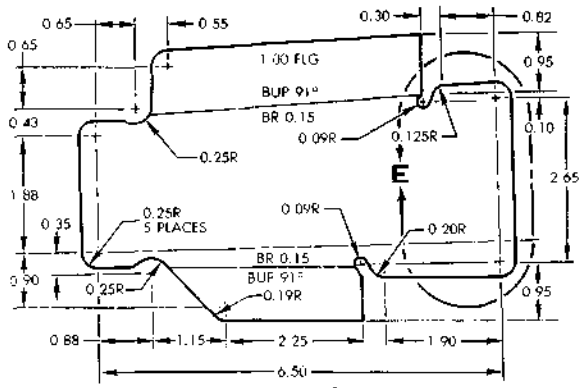
4C-3-1-2-(107)B

Figure 2-100. Inboard Spoiler Hardpoint Replacement



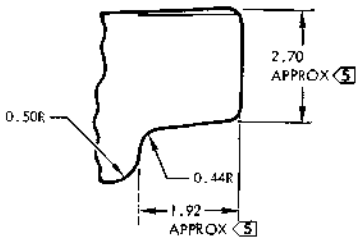
4C-3-1-2-(230-1)

Figure 2-101. Wing Fold Rib, 32-11048, Repair - F-4C, F-4D, F-4E 66-284 THRU 71-236, RF-4C, AND F-4G (Sheet 1 of 3)

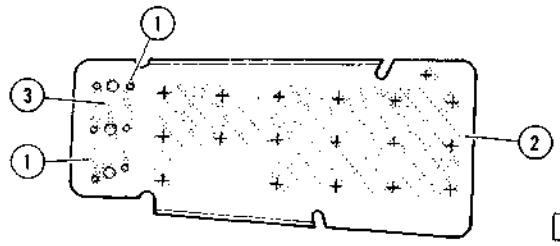


DETAIL C
FLAT PATTERN

7027513 -05 SHOWN, 06 OPPOSITE
0.063 301 CRES STEEL
MIL - S - 5059 (1/4 HARD)



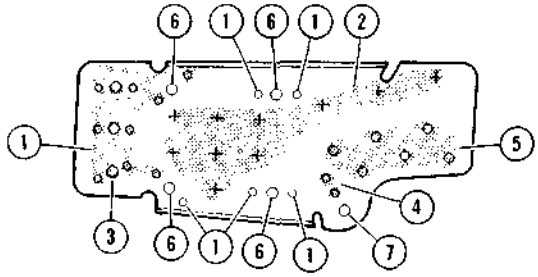
DETAIL E 6



D UNTRIMMED BRACE

FWD

FASTENER LOCATION
DETAIL D



7 TRIMMED BRACE

LEGEND	
○	EXISTING FASTENER
+	NEW FASTENER

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	MS20426AD3-5		0.096 +.004 -.000
2	MS20470AD5-7		0.159 +.005 -.001
3	NAS464P3A4 9	F1934-3-2 6	0.190 +.005 -.001
4	MS20426A3-6		0.096 +.004 -.000
5	MS20470AD5-7 4		0.159 +.005 -.001
6	AN515-8R10	MS21059L08 6	0.187 +.006 -.000
7	NAS229-9	MS21051L3 6	0.191 +.006 -.000

REPAIR PROCEDURE

A. FABRICATE REPAIR PART.
B. REMOVE FUEL DUMP MAST, SEE FIGURE 2-80.
C. REMOVE FASTENERS THAT WILL SECURE REPAIR PART TO 32-11048 RIB.
D. DRILL MATING FASTENER HOLES IN REPAIR PART AND 32-11048 RIB PER THE HOLE SIZES IN FASTENER CHART.
E. PREPARE REPAIR PART AND MATING SURFACE OF 32-11048 RIB. APPLY MIL-S-81733 CLASS B SEALER TO MATING SURFACE OF REPAIR PART AND 32-11048 RIB PER TO 1F-4C-3-1-5.

NOTE

COMPLETELY INSTALL FASTENERS WITHIN 24 HOURS AFTER MIXING SEALER

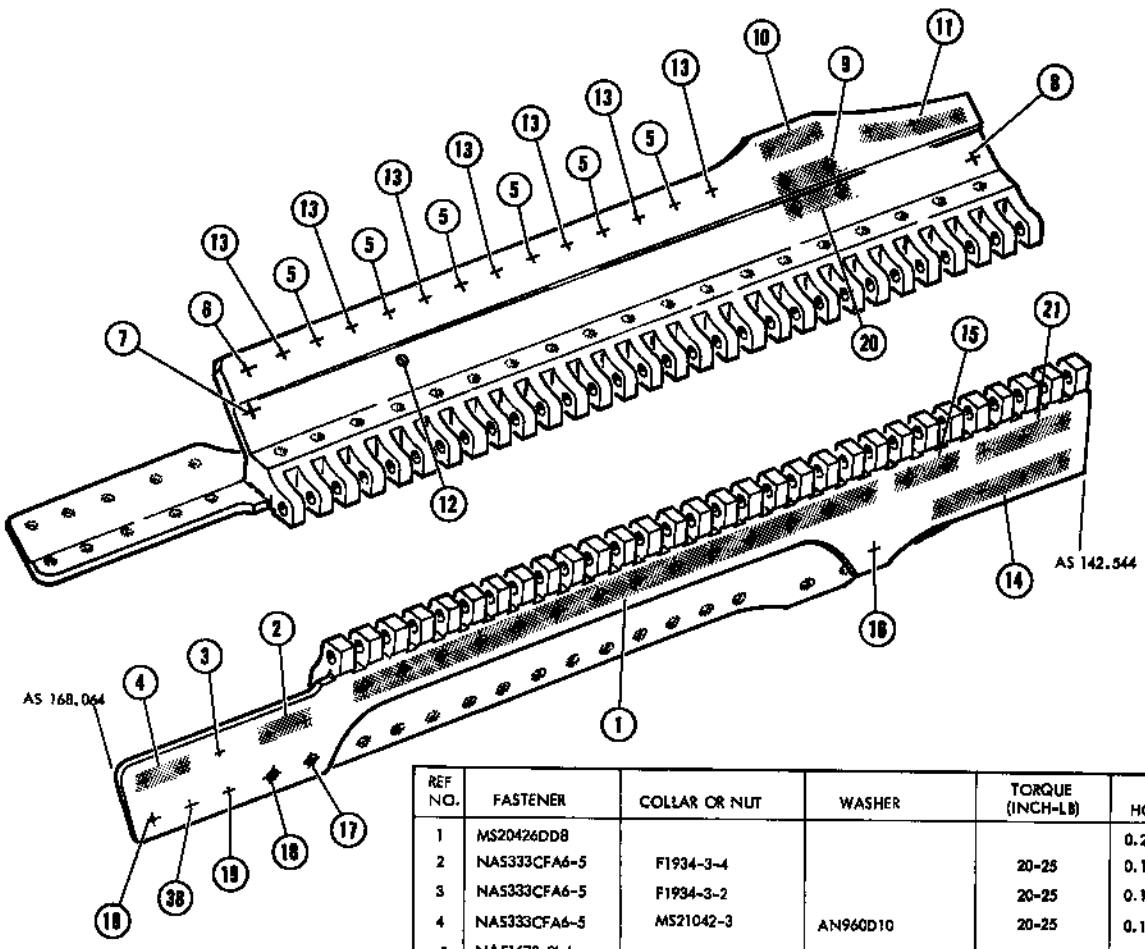
F. PERMANENTLY INSTALL REPAIR PART AND FASTENERS. FASTENERS ARE INSTALLED WET WITH SEALANT, MIL-S-81733.
G. INSTALL FUEL DUMP MAST. SEE FIGURE 2-80.

Notes

1. DELETED
2. MAINTAIN TWO DIAMETER MINIMUM EDGE DISTANCE, FOUR DIAMETER MINIMUM SPACING FOR ADDED RIVET LOCATION AND CLEAR EXISTING STRUCTURE AND NUT PLATES.
3. DELETED
4. IF EXISTING FASTENERS IN 32-11048 RIB DO NOT PERMIT PROPER EDGE DISTANCE IN REPAIR PART, REMOVE EXISTING FASTENER COUNTERSINK AND INSTALL MS20426AD5-6 RIVET BEFORE INSTALLING REPAIR PART.
5. TRIM TO EXISTING HOLE IN 32-11048 RIB.
6. REMOVE PLATE NUTS AND REINSTALL AFTER INSTALLATION OF REPAIR PART.
7. F-4C, F-4D, F-4E 66-284 THRU 67-219 AND RF-4C.
8. F-4E 67-220 AND UP AND F-4G.
9. NAS1303-4H BOLT MAY BE USED AS A SUBSTITUTE.
10. BEND RADII 0.13 UNLESS OTHERWISE NOTED.
11. RELIEF RADII 0.09.
12. DELETED

4C-3-1-2-230 3184

Figure 2-101. Wing Fold Rib, 32-11048, Repair - F-4C, F-4D, F-4E 66-284 THRU 71-236, RF-4C, AND F-4G (Sheet 3 of 3)



HINGE
32-11072-3, -4
32-11072-5, -6

REMOVAL PROCEDURES

A. DRILL OFF HEADS OF FASTENERS WHICH CANNOT BE REMOVED WITHOUT REMOVING CLOSURE BEAMS SO THAT BEAMS ARE LEFT ON AIRCRAFT.

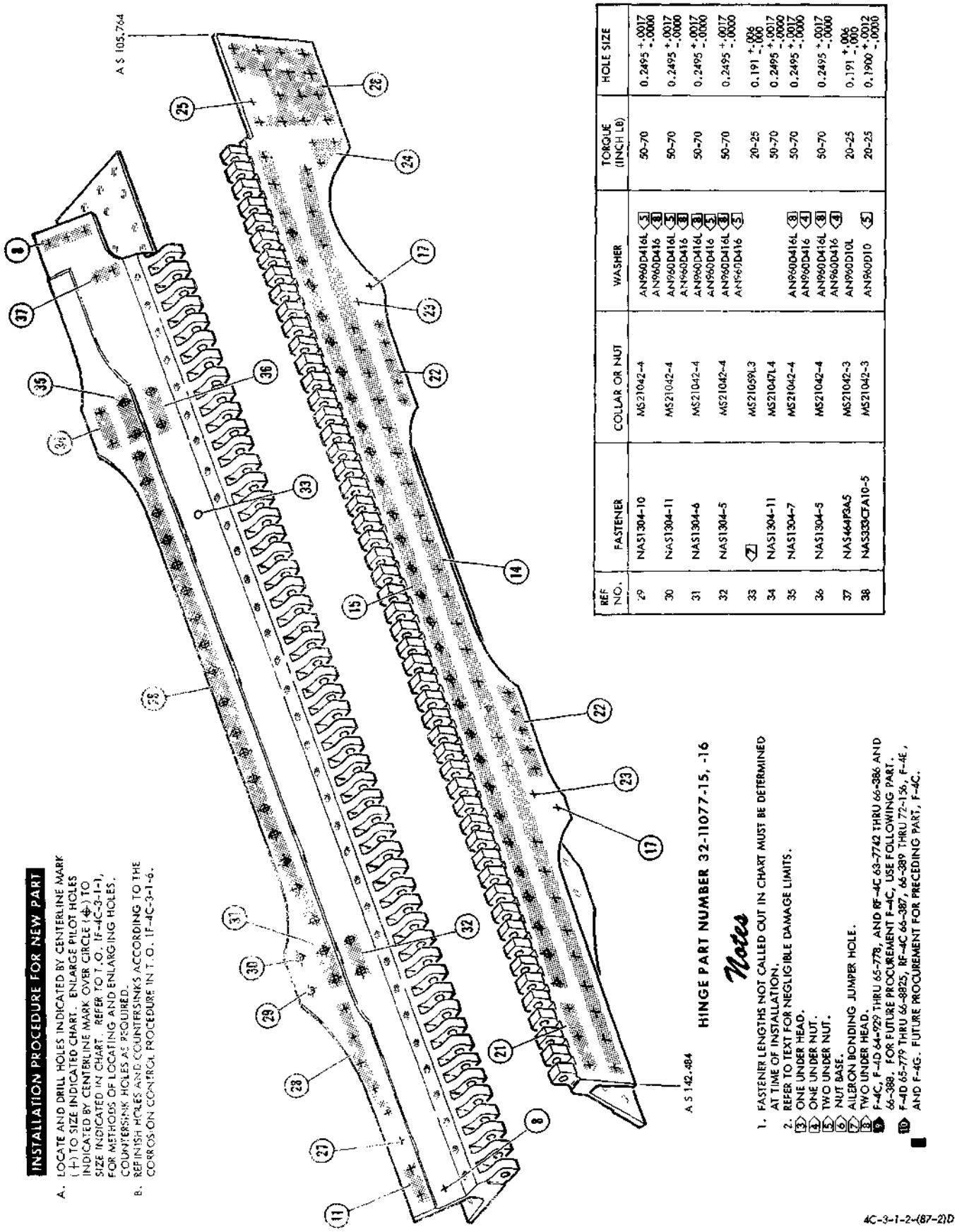
INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHODS OF LOCATING AND ENLARGING HOLES. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
C. INSTALL NUT PLATES AS PER TABLE SO THAT HINGE MAY BE INSTALLED WITHOUT REMOVING CLOSURE BEAMS.
D. ATTACH NUT PLATE REF 16 TO 0.040 ALUMINUM STRIP AND BOND TO STRUCTURE WITH SEALANT PER TO 1F-4C-3-1-6.

REF NO.	FASTENER	COLLAR OR NUT	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	MS20426DD8				$0.257^{+.007}_{-.000}$
2	NAS333CFA6-5	F1934-3-4		20-25	$0.1900^{+.0012}_{-.0005}$
3	NAS333CFA6-5	F1934-3-2		20-25	$0.1900^{+.0012}_{-.0005}$
4	NAS333CFA6-5	MS21042-3	AN960D10	20-25	$0.1900^{+.0012}_{-.0005}$
5	NAS1670-3L4				$0.199^{+.003}_{-.000}$
6	NAS1304-6	RM52LHA525-0	AN960D416L [3] AN960D416 [5]	50-70	$0.2495^{+.0017}_{-.0000}$
7	NAS1304-5	RM52LHA525-0	AN960D416L [3] AN960D416 [5]	50-70	$0.2495^{+.0017}_{-.0000}$
8	NAS1303-4	MS21059L3	AN960D10L [3] AN960D10L	20-25	$0.1900^{+.0012}_{-.0005}$
9	NAS1303-6	MS21059L3	AN960D10L [3] AN960D10	20-25	$0.1900^{+.0012}_{-.0005}$
10	NAS1304-10	MS21047L4	AN960D416L	50-70	$0.2495^{+.0017}_{-.0000}$
11	NAS1304-5	MS21059L4	AN960D416L	50-70	$0.2495^{+.0017}_{-.0000}$
12	[7]	MS21059L3		20-25	$0.191^{+.006}_{-.000}$
13	NAS583-4T	F1934-3-2		20-25	$0.199^{+.003}_{-.000}$
14	NAS334CFA6	NAS1032C4	AN960D416	50-70	$0.2495^{+.0017}_{-.0000}$
15	NAS1438-15	NAS1080C8			$0.248^{+.003}_{-.000}$
16	NAS334CFA7-5	3M145-4	2935-04 [6]	50-70	$0.2495^{+.0017}_{-.0000}$
17	NAS333CFA7	RM52LH2935-02	2935-0 [6]	20-25	$0.1900^{+.0012}_{-.0000}$
18	NAS333CFA6	MS21042-3	AN960D10 [5]	20-25	$0.1900^{+.0012}_{-.0000}$
19	NAS333CFA6	MS21042-3	AN960D10	20-25	$0.1900^{+.0012}_{-.0000}$
20	NAS1303-4	MS21059L3	AN960D10L [3] AN960D10	20-25	$0.1900^{+.0012}_{-.0005}$
21	NAS1438-17	NAS1080C8			$0.248^{+.003}_{-.000}$
22	NAS333CFA5-5	MS21042-3	AN960D10	20-25	$0.1900^{+.0012}_{-.0000}$
23	NAS334CFA7	RM52LH2935-048	2935-04 [6]	50-70	$0.2495^{+.0017}_{-.0000}$
24	NAS333CFA5	MS21042-3	AN960D10	20-25	$0.1900^{+.0012}_{-.0005}$
25	NAS333CFA21	MS21042-3	AN960D10	20-25	$0.1900^{+.0012}_{-.0005}$
26	NAS333CFA13	MS21042-3	AN960D10L [4]	20-25	$0.1900^{+.0017}_{-.0005}$
27	NAS584-6T	MS21059L4		50-70	$0.2495^{+.0017}_{-.0005}$
28	NAS1669-3L4				$0.199^{+.003}_{-.000}$

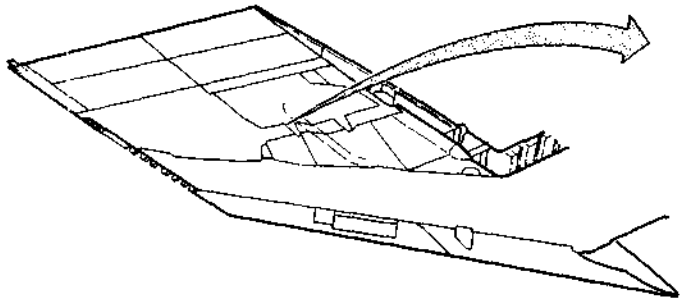
4C-3-1-2-(87-1)G

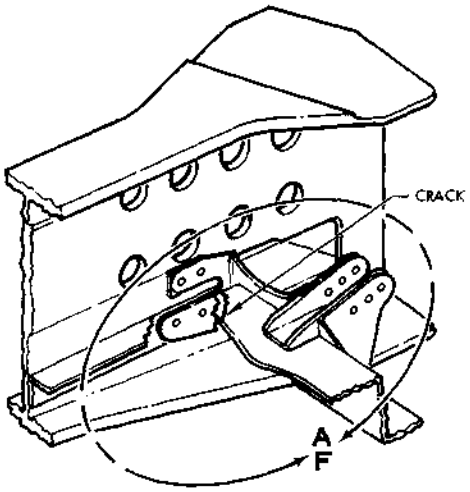
Figure 2-102. Outboard Trailing Edge Hinge Replacement (Sheet 1 of 2)

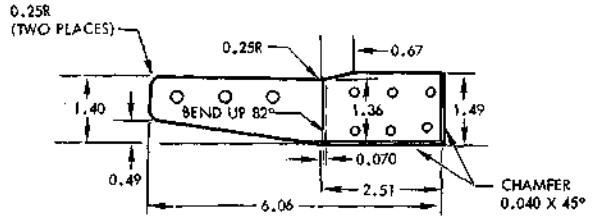


REF NO.	FASTENER	COLLAR OR NUT	WASHER	TORQUE (INCH LB)	HOLE SIZE
29	NAS1304-10	MS21042-4	AN960D416L 3 AN960D416 4	50-70	0.2495 +.0017 -.0000
30	NAS1304-11	MS21042-4	AN960D416L 5 AN960D416 6	50-70	0.2495 +.0017 -.0000
31	NAS1304-6	MS21042-4	AN960D416L 3 AN960D416 5	50-70	0.2495 +.0017 -.0000
32	NAS1304-5	MS21042-4	AN960D416L 3 AN960D416 5	50-70	0.2495 +.0017 -.0000
33	7	MS21059L3		20-25	0.191 +.006 -.000
34	NAS1304-11	MS21047L4		50-70	0.2495 +.0017 -.0000
35	NAS1304-7	MS21042-4	AN960D416L 8 AN960D416 4	50-70	0.2495 +.0017 -.0000
36	NAS1304-5	MS21042-4	AN960D416L 8 AN960D416 4	50-70	0.2495 +.0017 -.0000
37	NAS464P3A5	MS21042-3	AN960D10L 4	20-25	0.191 +.006 -.000
38	NAS333CFA10-5	MS21042-3	AN960D10 5	20-25	0.1900 +.0012 -.0000

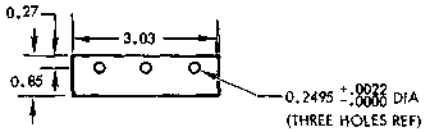
Figure 2-102. Outboard Trailing Edge Hinge Replacement (Sheet 2 of 2)



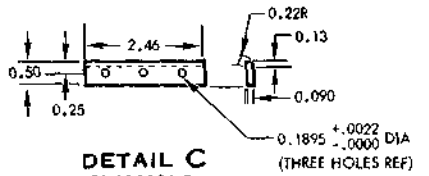




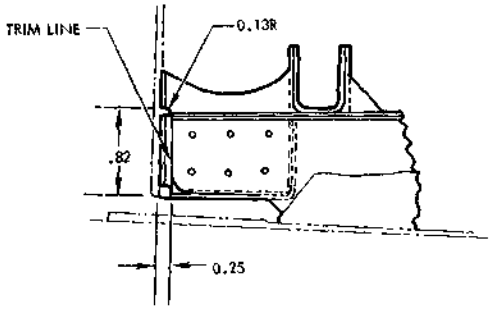
DETAIL E
53-010126-3, -4 ⟨2⟩



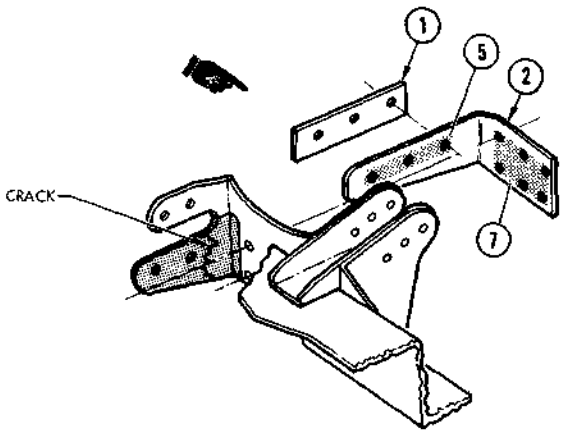
DETAIL D
53010126-9



DETAIL C
53-010126-5



DETAIL B



DETAIL A

REPAIR PROCEDURE

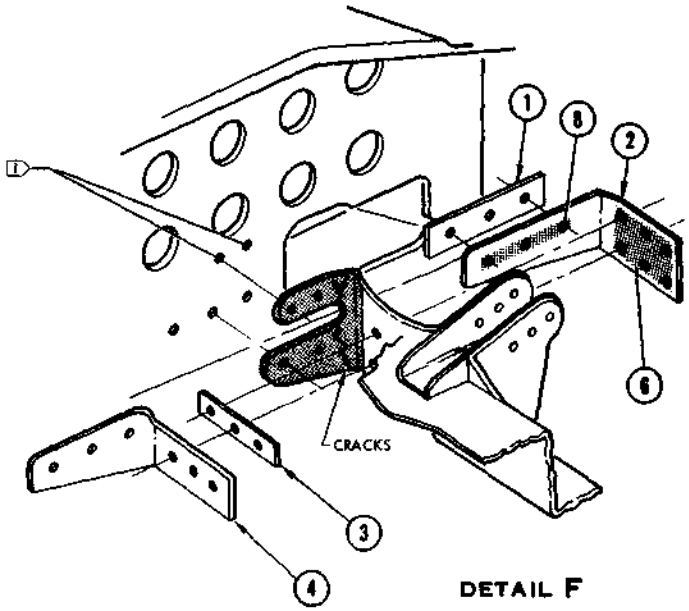
A. REMOVE FASTENERS FROM 32-11212 SUPPORT IN AREA OF CRACK, FOR CONDITION I SEE DETAILS A AND B, FOR CONDITION II SEE DETAILS F AND G.
B. TRIM CRACK FLANGES TO TRIM LINE, SEE DETAIL B OR G AS APPLICABLE.
C. MANUFACTOR REPAIR PARTS, SEE DETAILS C, D, E, AND H.
D. LOCATE REPAIR PARTS AND DRILL FASTENER HOLES TO MATING HOLES IN STRUCTURE TO SIZE INDICATED IN CHART, SEE DETAILS A OR F.
E. REMOVE REPAIR PARTS AND DEBURR HOLES IN REPAIR PARTS AND STRUCTURE.
F. REFINISH EDGES OF REWORKED AREA, HOLES AND REPAIR PARTS, REFER TO T.O.1F-4C-3-1-6.
G. INSTALL REPAIR PART WITH FASTENERS INDICATED IN CHART, SEE DETAIL A OR F.

4C-3-1-2-(303-1)A

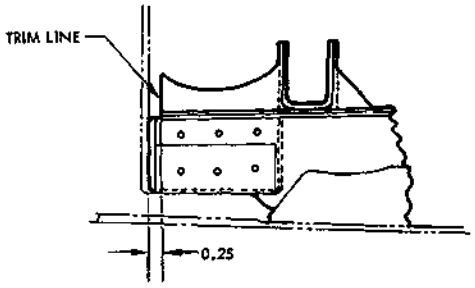
Figure 2-103. Support, 32-11212, Crack Repair (Sheet 1 of 2)

INSPECTION PROCEDURE

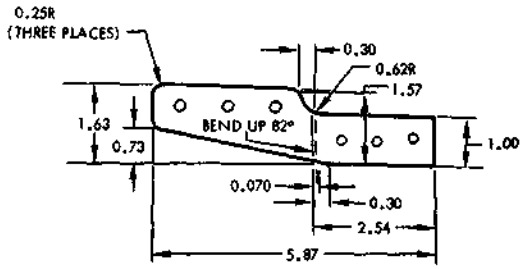
A. EXTEND SPEEDBRAKE TO FULL DOWN POSITION OR IF NECESSARY REMOVE SPEEDBRAKE, REFER TO T.O. 1F-4( )-2-4.
B. VISUALLY INSPECT AND PERFORM FLUORESCENT PENETRANT INSPECTION ON 32-11212-75, -76 OR -97, -98 SUPPORT, REFER TO T.O. 1F-4C-36.
C. CLASSIFY CRACKS AS SHOWN BELOW:
   CONDITION I: CRACKS IN LOWER FLANGE, SEE DETAIL A.
   CONDITION II: CRACKS IN UPPER FLANGE OR BOTH FLANGES, SEE DETAIL F.
   CONDITION III: CRACKS IN EITHER FLANGE WHICH EXTEND BEYOND TRIM LINE, SEE DETAIL F.
D. FOR CONDITIONS I AND II REPAIR PER REPAIR PROCEDURE AND CONDITION III REPLACE 32-11-212 SUPPORT, SEE FIGURE 2-106.



DETAIL F



DETAIL G



DETAIL H
53-010126-7, -8 (2)

Note

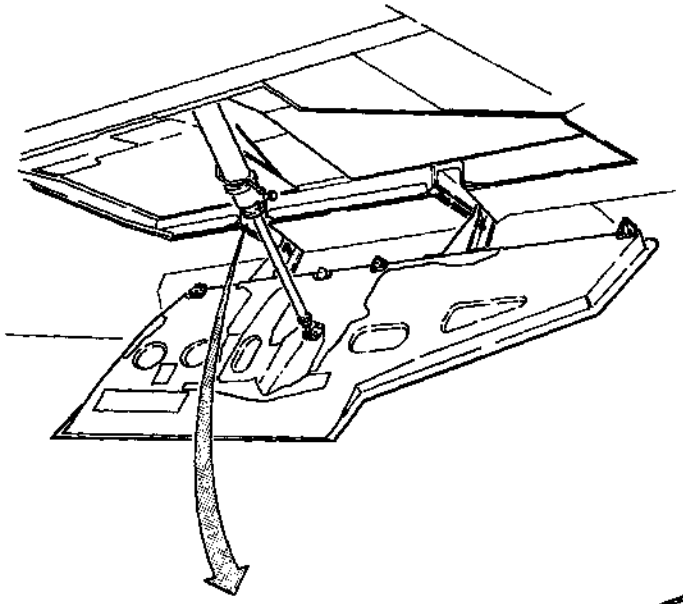
(1) PLUG HOLES WITH MS20470B6 RIVETS.
(2) BEND RADIUS 0.13. FORM IN 2024-0 CONDITION AND HEAT TREAT TO 2024-T42 CONDITION REFER TO T.O. 1F-4C-3-1-1.

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	53-010126-9	FILLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
2	53-010126-3, -4	ANGLE	0.090	2024-T42 AL ALY (2)	QQ-A-250/4 (T42)
3	53-010126-5	FILLER	0.090	2024-T3 AL ALY	QQ-A-250/4 (T3)
4	53-010126-7, -8	ANGLE	0.090	2024-T42 AL ALY (2)	QQ-A-250/4 (T42)

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
5	HL552-8-6	HL579-8	0.2495 +.0022 -.0000
6	HL552-6-6	HL579-6	0.1895 +.0022 -.0000
7	HL552-6-4	HL579-6	0.1895 +.0022 -.0000
8	HL552-8-7	HL579-8	0.2495 +.0022 -.0000

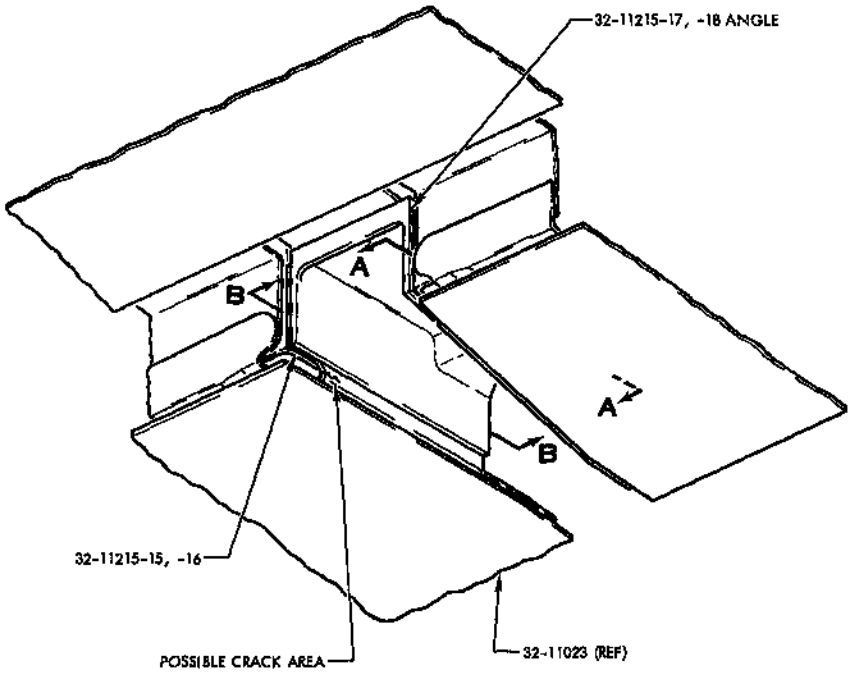
4C-3-1-2-(303-2)

Figure 2-103. Support, 32-11212, Crack Repair (Sheet 2 of 2)



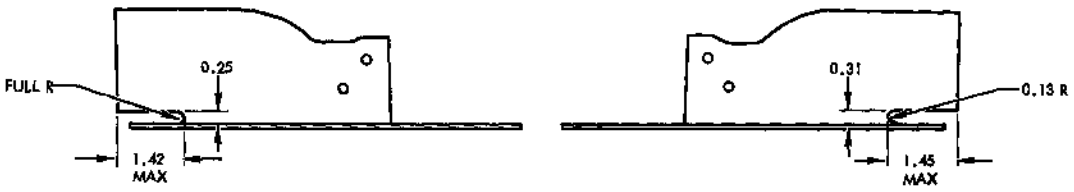
REPAIR PROCEDURE

A. EXTEND SPEED BRAKE TO FULL DOWN POSITION. REFER TO T.O. 1F-4( )2-4.
B. VISUALLY AND FLUORESCENT PENETRANT INSPECT 32-11215-15, -16 AND 32-11215-17, -18 ANGLE. REFER TO T.O. 1F-4C-36 FOR INSPECTION PROCEDURE.
C. IF CRACKS EXIST, CLASSIFY AS FOLLOWS:
   CONDITION I -CRACKS WHICH EXTENDS 0.20 MAXIMUM ALONG RADIUS.
   CONDITION II -CRACKS WHICH EXTENDS MORE THAN 0.20 ALONG RADIUS.
D. FOR REWORK OF CONDITION I, ROUT OUT CRACKS AND SMOOTH TO 63 MICROINCH FINISH, SEE VIEWS A-A AND B-B. FOR CONDITION II SEE NOTE [2].
E. REFINISH REWORKED AREA. REFER TO T.O. 1F-4C-3-1-6.



Notes

[1] REMOVE CRACK MAINTAINING DIMENSIONS SHOWN IN VIEWS A AND B.
[2] REMOVE AND REPLACE. SEE FIGURE 2- .



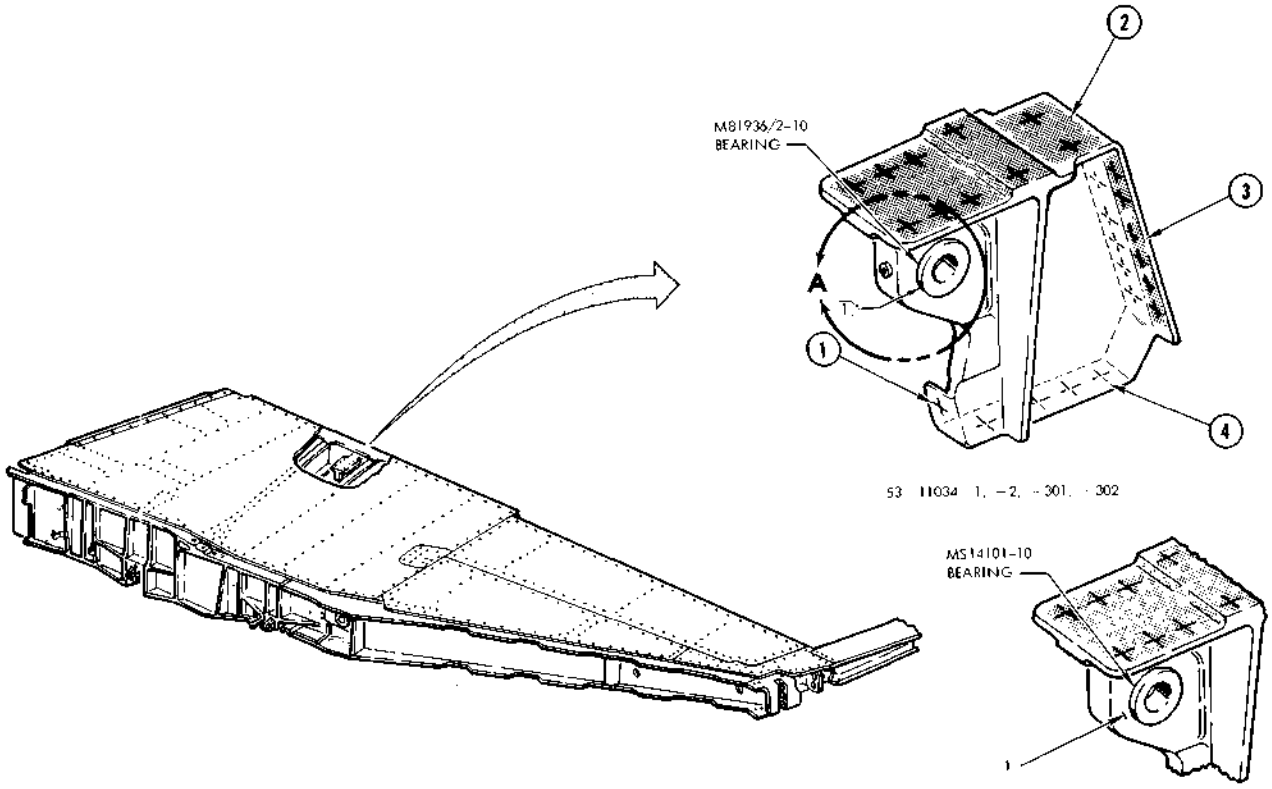
VIEW A-A
32-11215-17, -18 ANGLE

VIEW B-B
32-11215-15, -16 ANGLE

[1] **REPAIR FOR CONDITION I**
[2] **REPAIR FOR CONDITION II**

4C-3-1-2-301

Figure 2-104. Angle, 32-11215, Crack Repair



53 11034 1, -2, -301, -302

DETAIL A

53-11034-303, -304

REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	HL56-6	HL83-6		0.2026 +.0020 -.0000
③	NAS2903	MS21042-3	AN960C10L	
2	NAS1703T	MS21042-3	AN960C10L	0.2036 +.0007 -.0005
3	HS40P-5	HS15-5		0.172 +.003 -.000
■ ③	NAS1303	NAS679-A3W	AN960C10L	0.190 +.003 -.001
4	HL63-6	HL79-6		0.2026 +.0020 -.0000
③	HT4016-3	MS21042-3	AN906C10L	0.2026 +.0020 -.0000

INSTALLATION PROCEDURE FOR NEW PART

A. EXTEND SPEED BRAKE TO FULL DOWN POSITION AND INSTALL SAFETY DEVICE IN ACCORDANCE WITH TO 1F-4( )-2-4.
B. ON AIRCRAFT NOT EQUIPPED WITH SLATS, REMOVE AFT FLAP BLC DUCT.
C. REMOVE 53-11039 ANGLE.
D. REMOVE FASTENERS ON UPPER, LOWER AND AFT SIDES OF 53-11034 FITTING AND REMOVE FITTING. RETAIN SHIMS FOR USE WITH NEW FITTING.
E. POSITION NEW FITTING, LOCATE AND DRILL AFT FASTENER HOLES. ALL HOLES TO BE DRILLED TO SIZE INDICATED IN CHART. METHOD OF LOCATING HOLES TO BE IN ACCORDANCE WITH TO 1F-4C-3-1-1.
F. INSTALL SUFFICIENT TEMPORARY FASTENERS TO HOLD FITTING IN PLACE.
G. SHIM AS REQUIRED AND DRILL HOLES IN LOWER SURFACE.
H. DRILL HOLES IN UPPER SURFACE.
I. REMOVE FITTING, DEBURR AND REFINISH HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
J. INSTALL 53-11034 FITTING WITH FASTENERS INDICATED.

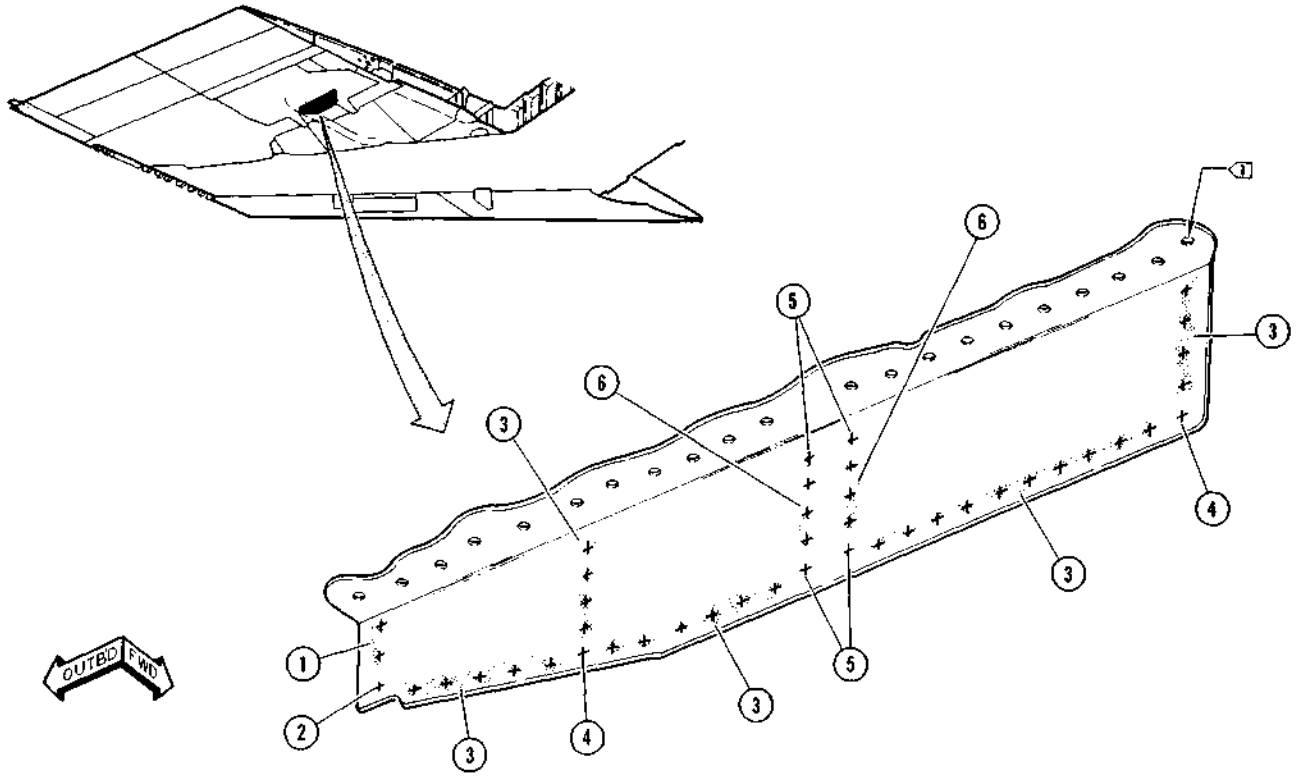
Notes

1. IF CRACKS ARE DETECTED IN REGION SURROUNDING BEARING, FITTING SHALL BE REPLACED.
2. FASTENER LENGTHS NOT INDICATED WILL BE DETERMINED AT TIME OF INSTALLATION.

■ ③ SUITABLE SUBSTITUTE OR REFER TO 1F-4C-3-1-1, FIGURE 5-6A.

4C-3 1 2-(329)85

Figure 2-104A. Fitting, 53-11034, Replacement



REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	HS51P-6-3	HS15-6	0.188 $^{+.003}_{-.000}$
2	HS51P-6-4	HS15-6	0.188 $^{+.003}_{-.000}$
3	NAS529-6-3	NAS528A6	0.188 $^{+.003}_{-.000}$
4	NAS529-6-4	NAS528A6	0.188 $^{+.003}_{-.000}$
5	NAS529-5-5	NAS528A5	0.156 $^{+.003}_{-.000}$
6	NAS529-5-4	NAS528A5	0.156 $^{+.003}_{-.000}$

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. METHOD OF LOCATING HOLES TO BE IN ACCORDANCE WITH T.O. 1F-4C-3-1-1.

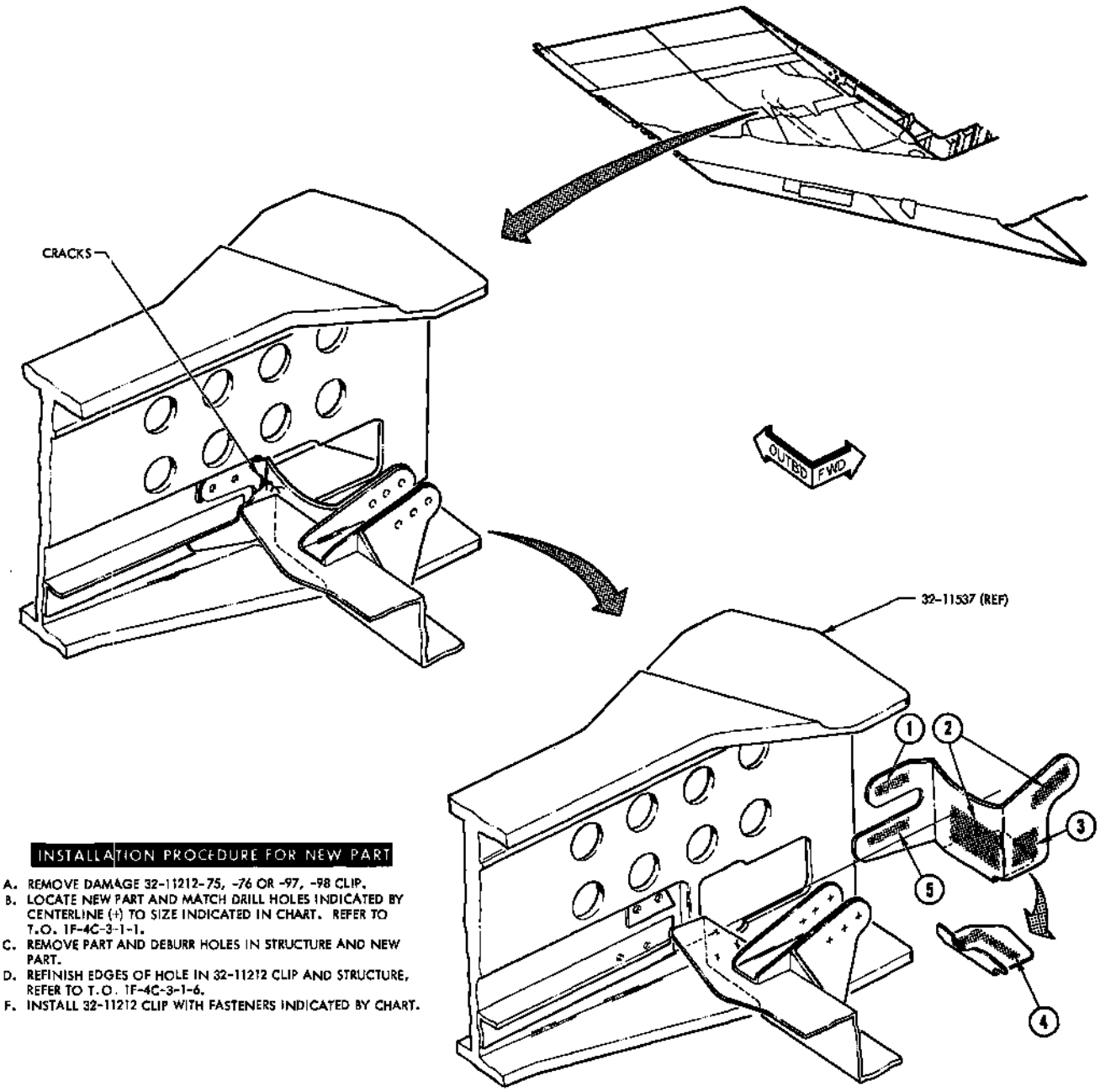
B. REFINISH HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

Note

1/ INSTALL FASTENERS IN ACCORDANCE WITH T.O. 1F-4C-3-1-3.

4C-3-1-2-(328)

Figure 2-105. Web, 53-11041-35, -36, Replacement



INSTALLATION PROCEDURE FOR NEW PART

A. REMOVE DAMAGE 32-11212-75, -76 OR -97, -98 CLIP.
B. LOCATE NEW PART AND MATCH DRILL HOLES INDICATED BY CENTERLINE (+) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1.
C. REMOVE PART AND DEBURR HOLES IN STRUCTURE AND NEW PART.
D. REFINISH EDGES OF HOLE IN 32-11212 CLIP AND STRUCTURE, REFER TO T.O. 1F-4C-3-1-6.
F. INSTALL 32-11212 CLIP WITH FASTENERS INDICATED BY CHART.

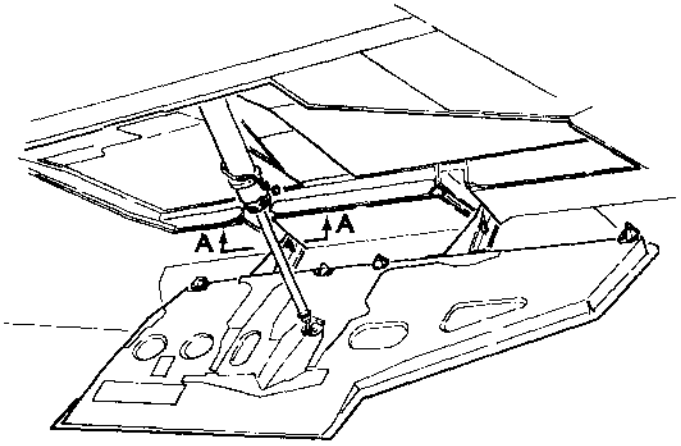
REF NO.	FASTENER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
1	NAS529-6-5	NAS528A6		0.188 +.003 -.000
2	NAS529-6-3	NAS528A6		0.188 +.003 -.000
3	NAS529-5-3	NAS528A5		0.154 +.003 -.000
4	NAS633CFA10	52LH2935-02	20-25	0.1900 +.0012 -.0000
5	NAS529-8-5	2935-0 (1) NAS528A8		0.248 +.003 -.000

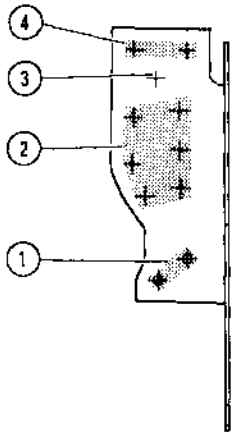
Note

(1) NUT BASE.

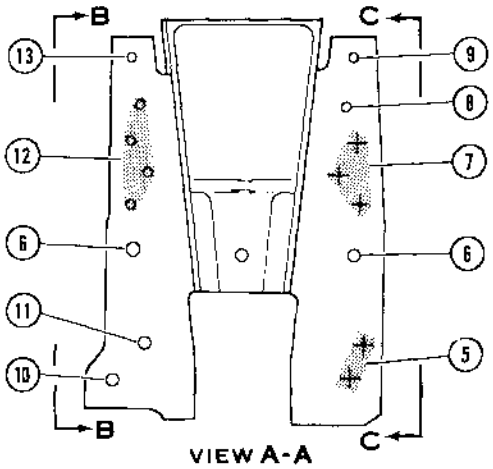
4C-3-1-2-(309)

Figure 2-106. Support, 32-11212, Replacement

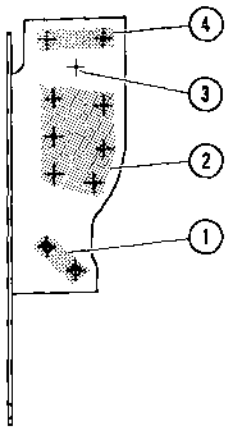




VIEW B-B
32-11215-15, -16 ANGLE



VIEW A-A



VIEW C-C
32-11215-17, -18 ANGLE

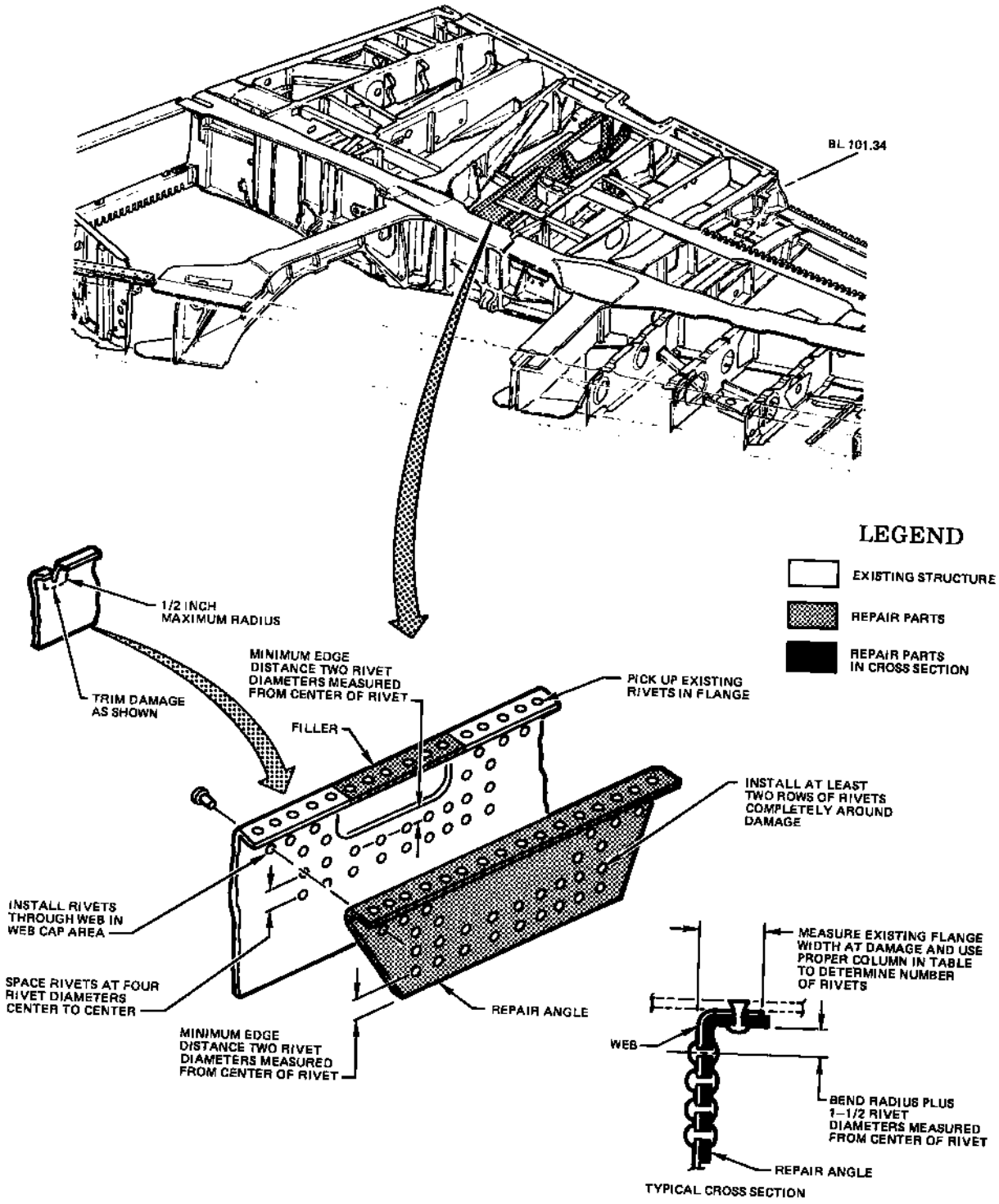
REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS333CFA10	RM52LH2935-02 2935-0 (1)		15-25	$0.1900^{-.0012}_{-.0005}$
2	NAS529-6-4	NAS528A6			$0.188^{+.003}_{-.000}$
3	NAS529-6-5	NAS528A6			$0.188^{+.003}_{-.000}$
4	NAS529-6-7	NAS528A6			$0.188^{+.003}_{-.000}$
5	NAS583-10T	RM52LH2935-02 2935-0 (1)		15-25	$0.1900^{-.0012}_{-.0005}$
6	NAS334CFA10	RM52LH2935-048 2935-04 (1)		40-60	$0.2495^{+.0017}_{-.0000}$
7	NAS525-6-5	NAS528A6			$0.188^{+.003}_{-.000}$
8	NAS1416-6-5	NAS1080C6			$0.187^{+.003}_{-.000}$
9	NAS1416-6-6	NAS1080C6			$0.187^{+.003}_{-.000}$
10	HT45-7	RM52LH2935-048 2935-04 (1)		40-60	$0.2495^{+.0017}_{-.0000}$
11	66117H4-12	LH9376-4	AN960D416		$0.2495^{+.0017}_{-.0000}$
12	NAS333CFA5	M521042L3	AN960D10	15-25	$0.1900^{+.0012}_{-.0000}$
13	NAS333CFA10	M521042L3	AN960D10	15-25	$0.1900^{+.0012}_{-.0000}$

Note

(1) NUT BASE

4C-3-1-2-(305)A

Figure 2-107. Angle, 32-11215, Replacement

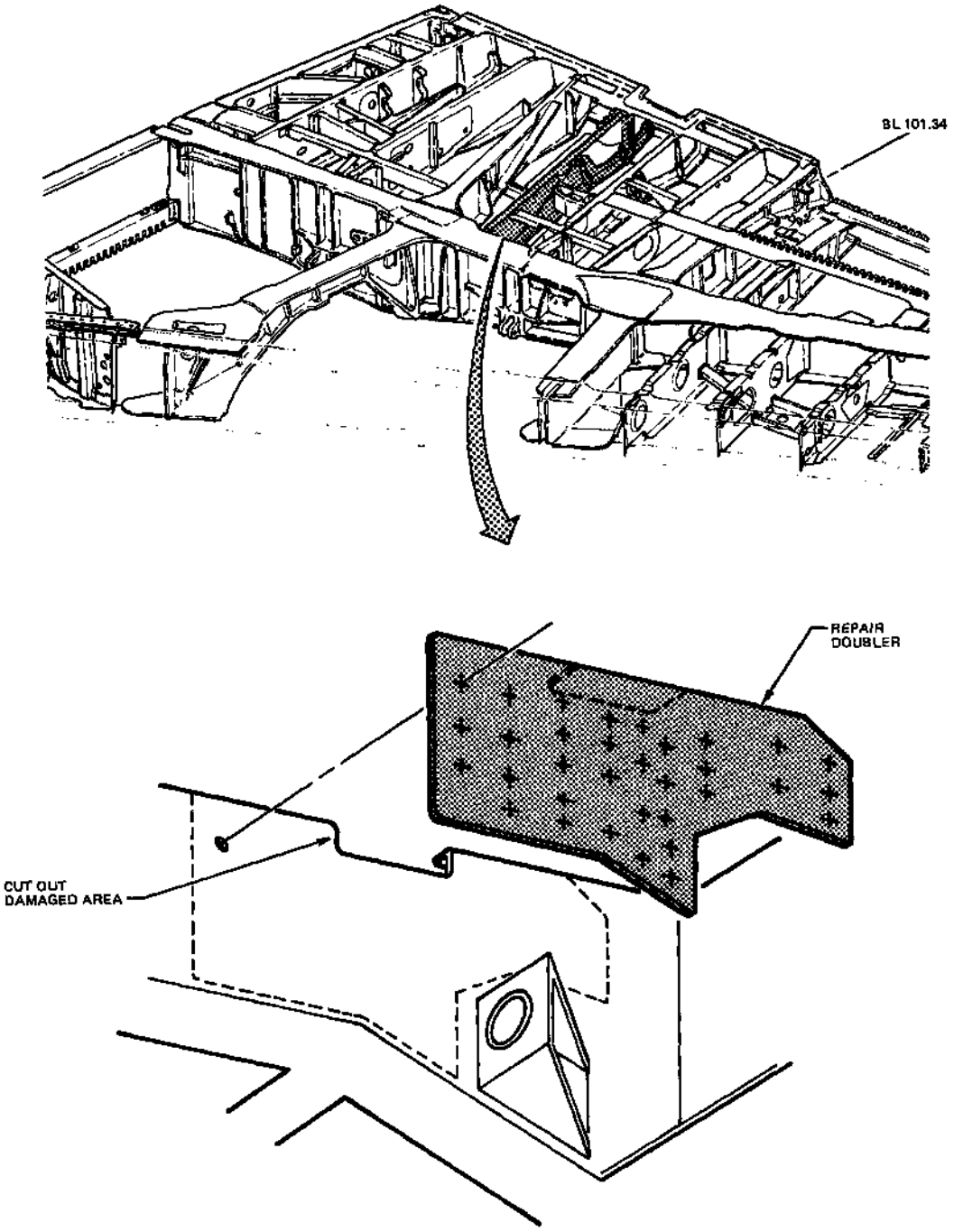


Notes

1. REPAIR PER TO 1F-4C-3-1-6, FIG. 2-21 EXCEPT AS SHOWN. DOUBLERS MAY BE TRIMMED TO FIT EXISTING STRUCTURE.
2. PICK UP EXISTING FASTENERS. NEW FASTENERS TO BE MS20470AD4.
3. REPAIR DOUBLERS TO BE 7075-T6 0.071. HEAT TREAT TO T6 AFTER FORMING.

4C-3-1-2-(402)

Figure 2-107A. Rib, 32-11057, Repair



Notes

1. REPAIR PER TO 1F-4C-3-1-5, FIG. 2-21 EXCEPT AS SHOWN. DOUBLERS MAY BE TRIMMED TO FIT EXISTING STRUCTURE.
2. PICK UP EXISTING FASTENERS. NEW FASTENERS TO BE MS20470AD4.
3. REPAIR DOUBLERS TO BE 7075-T6 0.071. HEAT TREAT TO T6 AFTER FORMING.

4C-3-1-2-(403)

Figure 2-107B. Rib, 32-11059, Repair

CENTER WING AND COMPONENTS HINGE TOLERANCES

2-196. GENERAL. See figure 2-108.

2-197. The hinge tolerances given are the maximum wear limitations that can be given to ensure safety of flight. To increase life expectancy and to ensure proper operation of units, hinges and pins must be properly lubricated as specified in TO 1F-4C-6WC-2 and TO 1F-4(R)C-6WC-2. Description, material, repairs, and replacement of hinges are discussed separately in appropriate paragraphs discussing the structure.

2-198. WEAR TOLERANCES. See figure 2-108 for permissible in service tolerances for hinges and hinge pins. To determine if hinges and pins are within limits, measure the pin OD and hinge tang hole ID and subtract the difference. Match the difference against, in service tolerance, clearance column. If clearance is not sufficient or it is too great, it may be possible to install a different hinge pin and bring the clearance within acceptable limits. If a hinge tang hole has been enlarged to such a degree that the maximum diameter pin is still insufficient, the tang shall be considered a missing tang for evaluating negligible damage.

2-199. NEGLIGIBLE DAMAGE. The limits are given for two areas: negligible limits for hinge legs and negligible limits for hinge tangs.

NOTE

This paragraph does not include allowable negligible damage for center and outer wing wing fold ribs. For center wing wing fold rib, refer to paragraph 2-64 and for outer wing wing fold rib, refer to TO 1F-4C-3-1-4.

2-200. Negligible Limits for Hinge Legs. Dents to 0.060 in depth are negligible, provided radius of depression is not less than 2 inches. The allowable depth of nicks, scratches, gouges, and corrosion is as follows:

a. Unblended damage may be a maximum of 0.005 in depth and unlimited in length. Corrosion must be blended.

b. Blended damage may be a maximum of 0.010 in depth and unlimited in length.

For rework procedure, refer to TO 1F-4C-3-1-5. Refinish reworked area in accordance with corrosion control procedure in TO 1F-4C-3-1-6.

2-201. Negligible Limits for Hinge Tangs.

a. The number of missing, cracked, or severely corroded hinge tangs allowed, except drive hinges and landing gear door hinges, are as follows:

(1) If more than 10 percent of total tangs are damaged, hinge half must be replaced.

(2) Two adjacent tangs may be damaged if the next two or more adjacent tangs are good. The exception to this is end tangs where the second and third tangs must be good. Panels 141L/R may have three adjacent tangs damaged if the next two or more adjacent tangs are good.

(3) Up to 50 percent of fillet tangs may be damaged or missing in addition to limits given in (1) and (2). Fillet tangs are hinge tangs that are machined out leaving a small segment of the hinge tangs for aerodynamic fairing.

(4) Excessive damage to fillet tangs on the centerwing outboard leading edge hinge or the corresponding leading edge flap hinge will be repaired in accordance with figure 2-109.

b. Drive hinges cannot have cracked, missing, or severely corroded tangs. The negligible allowable tang limits are the same as negligible damage for hinge legs.

c. Landing gear door hinge tang limits are as follows:

(1) Nicks, scratches, gouges, and corrosion that do not exceed 0.005 in depth are negligible. Blend corrosion regardless of depth. If more than 0.030 of material is removed, that tang is considered as a broken tang.

(2) Inboard door hinge; a maximum of two consecutive tangs may be broken from each end with twice as many undamaged tangs adjacent. A maximum of three consecutive tangs may be broken at any position along the hinge with an equal number of undamaged tangs on both sides. A maximum of six tangs may be broken in the hinge with no more than four broken in any eight tang span.

(3) Outboard door hinge; a maximum of one tang may be broken from each end with two undamaged tangs adjacent. A maximum of two consecutive tangs may be broken at any position along the hinge with an equal number of undamaged tangs on both sides. A maximum of three tangs may be broken in the hinge with no more than two broken tangs in any five tang span.

Blend damaged or broken tangs by rework procedure in TO 1F-4C-3-1-5. Refinish area in accordance with corrosion control procedure in TO 1F-4C-3-1-6.

2-202. Repair. Only the outer wing fold rib hinge pin (32-15084) is repairable. All other hinge pins must be replaced when they are worn beyond the limits shown on figure 2-108. The following repair is a depot repair that must be accomplished by OO-ALC.

2-203. Grind off chromium plating and all wear damage. Minimum acceptable diameter roughness is to be 125 RMS or better. Grind in accordance with MIL-STD-866.

CAUTION

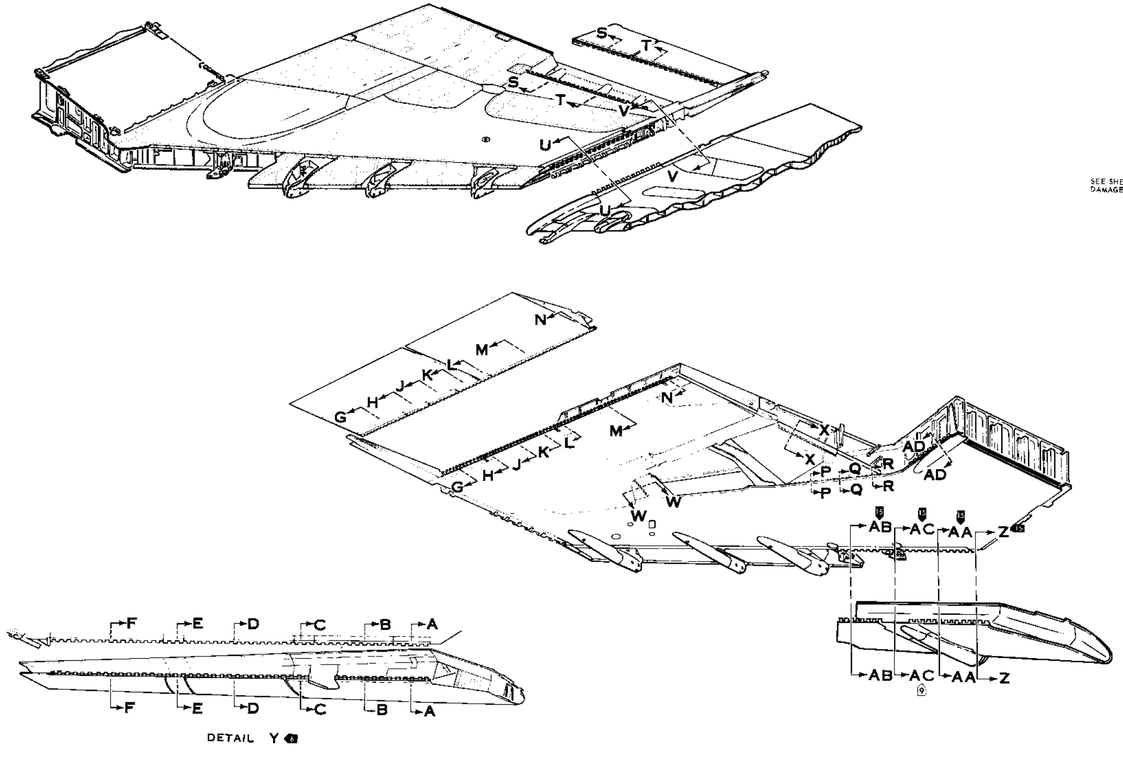
Thread crests may be ground but the major diameter must not be reduced to less than 0.4200.

2-204. Shot peen pin to an intensity of 0.012-0.015 A2 per MIL-S-13165.

2-205. Chromium plate to 0.4339 +0.0000, -0.0011 diameter per MIL-STD1501.

2-206. Cadmium plate 0.0002-0.0003 thick, Type I, Class 3, per MIL-STD-870.

2-207. Apply dry film lubricant per MIL-L-8937.



Note

SEE SHEET 3 AND 4 FOR HINGE DAMAGE LIMITATIONS AND NOTES.

4C-3-1-2-(151-1)E

Figure 2-108. Center Wing and Components Hinge Tolerances (Sheet 1 of 4)

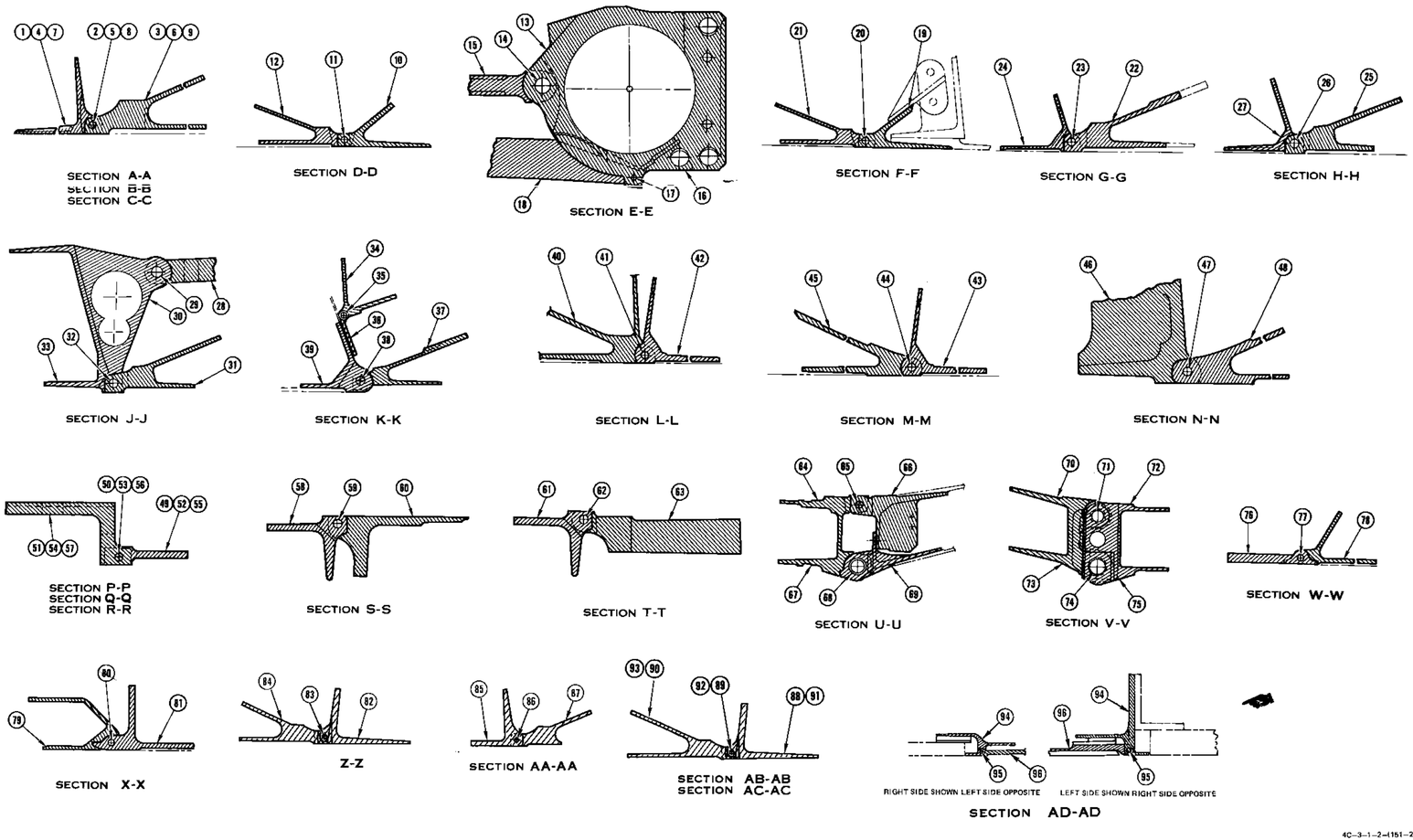


Figure 2-108. Center Wing and Components Hinge Tolerances (Sheet 2 of 4)

SECTION	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				HOLE SIZE	CLEARANCE
A-A	1	32-11508	HINGE STRUCT	0.164 +.008 -.000 (8) 0.164 +.016 -.000 (7)	BETWEEN 1 AND 2 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 1 AND 2 0.004 MINIMUM 0.020 MAXIMUM
	2	32-19433	PIN	(5) 0.1606 +.0006 -.0007 X 31.50	
	3 5	32-19421 32-11371	HINGE INBD FLAP DOOR 141	0.164 +.008 -.000 (8) 0.164 +.016 -.000 (7)	BETWEEN 2 AND 3 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 2 AND 3 0.004 MINIMUM 0.020 MAXIMUM
B-B	4	32-11506	HINGE STRUCT	0.164 +.008 -.000 (8) 0.164 +.016 -.000 (7)	BETWEEN 4 AND 5 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 4 AND 5 0.004 MINIMUM 0.020 MAXIMUM
	5	32-19433	PIN	(5) 0.1605 +.0006 -.0007 X 31.50	
	6 5	32-19409 32-11371	HINGE INBD FLAP DOOR 141	0.164 +.008 -.000 (8) 0.164 +.016 -.000 (7)	BETWEEN 5 AND 6 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 5 AND 6 0.004 MINIMUM 0.020 MAXIMUM
C-C	7	32-11506	HINGE STRUCT	0.164 +.008 -.000 (8) 0.164 +.016 -.000 (7)	BETWEEN 7 AND 8 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 7 AND 8 0.004 MINIMUM 0.020 MAXIMUM
	8	32-19433	PIN	(5) 0.1605 +.0006 -.0007 X 15.28	
	9 5	32-19409 32-11371	HINGE INBD FLAP DOOR 141	0.164 +.008 -.000 (8) 0.164 +.016 -.000 (7)	BETWEEN 8 AND 9 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 8 AND 9 0.004 MINIMUM 0.020 MAXIMUM
D-D	10	32-11514	HINGE STRUCT	0.185 +.008 -.000 (8) 0.185 +.016 -.000 (7)	BETWEEN 10 AND 11 0.003 MINIMUM 0.013 MAXIMUM BETWEEN 10 AND 11 0.003 MINIMUM 0.020 MAXIMUM
	11	32-19275	PIN	(5) 0.1815 +.0006 -.0007 X 61.17	
	12	32-19254	HINGE OUTBD FLAP	0.185 +.008 -.000 (8) 0.185 +.016 -.000 (7)	BETWEEN 11 AND 12 0.003 MINIMUM 0.013 MAXIMUM BETWEEN 11 AND 12 0.003 MINIMUM 0.020 MAXIMUM
E-E UPPER	13	32-11511	HINGE STRUCT	0.4375 +.0010 -.0005	BETWEEN 13 AND 14 0.0007 MINIMUM 0.0027 MAXIMUM
	14	32-19352	PIN	(5) 0.4367 +.0008 -.0007 X 6.870	
	15	32-19351	LINK DRIVE ROD	0.4370 +.0020 -.0000	BETWEEN 14 AND 15 0.0007 MINIMUM 0.0032 MAXIMUM
E-E LOWER	16	32-11511	HINGE STRUCT	0.185 +.008 -.000	BETWEEN 16 AND 17 0.003 MINIMUM 0.013 MAXIMUM
	17	32-19275	PIN	(5) 0.1815 +.0006 -.0007 X 61.17	
	18	32-19268	PIN ASSY OUTBD FLAP	0.185 +.008 -.000	BETWEEN 17 AND 18 0.003 MINIMUM 0.013 MAXIMUM

SECTION	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				HOLE SIZE	CLEARANCE
F-F	19	32-11514	HINGE STRUCT	0.185 +.008 -.000 (8) 0.185 +.016 -.000 (7)	BETWEEN 19 AND 20 0.003 MINIMUM 0.013 MAXIMUM BETWEEN 19 AND 20 0.003 MINIMUM 0.020 MAXIMUM
	20	32-19275	PIN	(5) 0.1815 +.0006 -.0007 X 61.17	
	21	32-19262	HINGE OUTBD FLAP	0.185 +.008 -.000 (8) 0.185 +.016 -.000 (7)	BETWEEN 20 AND 21 0.003 MINIMUM 0.013 MAXIMUM BETWEEN 20 AND 21 0.003 MINIMUM 0.020 MAXIMUM
G-G	22	32-11072	HINGE STRUCT	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 22 AND 23 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 22 AND 23 0.002 MINIMUM 0.012 MAXIMUM
	23	32-17011	PIN	(5) 0.2532 ± .0009 X 59.50	
	24	32-17008	HINGE AILERON	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 23 AND 24 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 23 AND 24 0.002 MINIMUM 0.012 MAXIMUM
H-H	25	32-11077	HINGE STRUCT	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 25 AND 26 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 25 AND 26 0.002 MINIMUM 0.012 MAXIMUM
	26	32-17011	PIN	(5) 0.2532 ± .0009 X 59.50	
	27	32-17035	HINGE AILERON	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 26 AND 27 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 26 AND 27 0.002 MINIMUM 0.012 MAXIMUM
J-J UPPER	28	15560-2A 2218000-1 (4) (3)	HINGE CYLINDER	0.3750 +.0010 -.0000 (1) 0.3750 +.0035 -.0000 (2)	BETWEEN 28 AND 29 0.0005 MINIMUM 0.0060 MAXIMUM BETWEEN 28 AND 29 0.0005 MINIMUM 0.0120 MAXIMUM
	29	32-17012	PIN	(6) 0.3745 +.0000 -.0006 X 12.75	
	30	32-17004	HINGE AILERON	0.3750 +.0035 -.0000 (1) 0.3750 +.0035 -.0000 (2)	BETWEEN 29 AND 30 0.0005 MINIMUM 0.0060 MAXIMUM BETWEEN 29 AND 30 0.0005 MINIMUM 0.0060 MAXIMUM
J-J LOWER	31	32-11077	HINGE STRUCT	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 31 AND 32 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 31 AND 32 0.002 MINIMUM 0.012 MAXIMUM
	32	32-17011	PIN	(5) 0.2532 ± .0009 X 59.50	
	33	32-17004	HINGE AILERON	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 32 AND 33 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 32 AND 33 0.002 MINIMUM 0.012 MAXIMUM
K-K UPPER	34	9M62HX2A850	HINGE DOOR 104	0.133 +.010 -.000	BETWEEN 34 AND 35 0.003 MINIMUM 0.015 MAXIMUM
	35	MS20253-2-837	PIN	(5) 0.089 ± .001 X 8.37	
	36	32-17042	HINGE AILERON	0.133 +.010 -.000	BETWEEN 35 AND 36 0.003 MINIMUM 0.015 MAXIMUM

SECTION	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				HOLE SIZE	CLEARANCE
K-K LOWER	37	32-11077	HINGE STRUCT	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 37 AND 38 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 37 AND 38 0.002 MINIMUM 0.012 MAXIMUM
	38	32-17011	PIN	(5) 0.2532 ± .0009 X 59.50	
	39	32-17008	HINGE AILERON	0.2560 +.0060 -.0000 (8) 0.2560 +.0075 -.0000 (7)	BETWEEN 38 AND 39 0.002 MINIMUM 0.009 MAXIMUM BETWEEN 38 AND 39 0.002 MINIMUM 0.012 MAXIMUM
L-L	40	53-11027	HINGE STRUCT	0.213 +.014 -.000 (8) 0.213 +.025 -.000 (7)	BETWEEN 40 AND 41 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 40 AND 41 0.003 MINIMUM 0.030 MAXIMUM
	41	32-18012	PIN	(5) 0.2092 ± .0009 X 60.71	
	42	32-18530	RIB TE FLAP	0.213 +.014 -.000 (8) 0.213 +.025 -.000 (7)	BETWEEN 41 AND 42 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 41 AND 42 0.003 MINIMUM 0.030 MAXIMUM
M-M	43	53-11027	HINGE STRUCT	0.213 +.014 -.000 (8) 0.213 +.025 -.000 (7)	BETWEEN 43 AND 44 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 43 AND 44 0.003 MINIMUM 0.030 MAXIMUM
	44	32-18012	PIN	(5) 0.2092 ± .0009 X 60.71	
	45	32-18506	HINGE TE FLAP	0.213 +.014 -.000 (8) 0.213 +.025 -.000 (7)	BETWEEN 44 AND 45 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 44 AND 45 0.003 MINIMUM 0.030 MAXIMUM
N-N	46	32-11593	HINGE STRUCT	0.213 +.014 -.000 (8) 0.213 +.025 -.000 (7)	BETWEEN 46 AND 47 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 46 AND 47 0.003 MINIMUM 0.030 MAXIMUM
	47	32-18012	PIN	(5) 0.2092 ± .0009 X 60.71	
	48	32-18606	HINGE TE FLAP	0.213 +.014 -.000 (8) 0.213 +.025 -.000 (7)	BETWEEN 47 AND 48 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 47 AND 48 0.003 MINIMUM 0.030 MAXIMUM
P-P	49	32-11180	HINGE STRUCT	0.133 ± .015 .000	BETWEEN 49 AND 50 0.003 MINIMUM 0.015 MAXIMUM
	50	32-11093	PIN	(5) 0.129 ± .001 X 15.40	
	51	53-11049	HINGE DOOR 75	0.133 ± .015 .000	BETWEEN 50 AND 51 0.003 MINIMUM 0.015 MAXIMUM
Q-Q	52	32-11180	HINGE STRUCT	0.133 ± .015 .000	BETWEEN 52 AND 53 0.003 MINIMUM 0.015 MAXIMUM
	53	32-11093	PIN	(5) 0.129 ± .001 X 15.40	
	54	32-11173	HINGE DOOR 76	0.133 ± .015 .000	BETWEEN 53 AND 54 0.003 MINIMUM 0.015 MAXIMUM
R-R	55	32-11180	HINGE STRUCT	0.133 ± .015 .000	BETWEEN 55 AND 56 0.003 MINIMUM 0.015 MAXIMUM
	56	32-11093	PIN	(5) 0.129 ± .001 X 15.40	
	57	32-11173	HINGE DOOR 75	0.133 ± .015 .000	BETWEEN 56 AND 57 0.003 MINIMUM 0.015 MAXIMUM

4C-3-1-2-1151.3U

Figure 2-108. Center Wing and Components Hinge Tolerances (Sheet 3 of 4)

SECTION	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				HOLE SIZE	CLEARANCE
S–S	58	32–11102	HINGE STRUCT	0.182 $^{+.015}_{-.000}$ (8) 0.182 $^{+.030}_{-.000}$ (7)	BETWEEN 58 AND 59 0.001 MINIMUM 0.018 MAXIMUM BETWEEN 58 AND 59 0.001 MINIMUM 0.033 MAXIMUM
	59	32–12006	PIN	(5) 0.1795 $^{+.0008}_{-.0007}$ X 53.65	
	60	32–12015	SKIN INBD SPOILER	0.182 $^{+.015}_{-.000}$ (8) 0.182 $^{+.030}_{-.000}$ (7)	BETWEEN 59 AND 60 0.001 MINIMUM 0.018 MAXIMUM BETWEEN 59 AND 60 0.001 MINIMUM 0.033 MAXIMUM
T–T	61	32–11102	HINGE STRUCT	0.182 $^{+.015}_{-.000}$ (8) 0.182 $^{+.030}_{-.000}$ (7)	BETWEEN 61 AND 62 0.001 MINIMUM 0.018 MAXIMUM BETWEEN 61 AND 62 0.001 MINIMUM 0.033 MAXIMUM
	62	32–12006	PIN	(5) 0.1795 $^{+.0006}_{-.0007}$ X 53.66	
	63	32–12012	HINGE OUTBD SPOILER	0.182 $^{+.015}_{-.000}$ (8) 0.182 $^{+.030}_{-.000}$ (7)	BETWEEN 62 AND 63 0.001 MINIMUM 0.018 MAXIMUM BETWEEN 62 AND 63 0.001 MINIMUM 0.033 MAXIMUM
U–U UPPER	64	32–11040	RIB WING FOLD CWS	0.4375 $^{+.0030}_{-.0010}$ 11 0.4375 $^{+.0035}_{-.0010}$ (11)(18) 0.4375 $^{+.0025}_{-.0010}$ (13) 0.4375 $^{+.0030}_{-.0010}$ (13)(18)	BETWEEN 64 AND 65 0.0020 MINIMUM 0.0060 MAXIMUM BETWEEN 64 AND 65 0.0020 MINIMUM 0.0051 MAXIMUM
	65	32–15084	PIN (19)	(5) 0.4345 $^{+.0000}_{-.0013}$ X 39.00	
	66	32–15549	CAP ASSY WING FOLD OW	0.4375 $^{+.0030}_{-.0010}$ 11 0.4375 $^{+.0035}_{-.0010}$ (11)(18) 0.4375 $^{+.0025}_{-.0010}$ (13) 0.4375 $^{+.0030}_{-.0010}$ (13)(18)	BETWEEN 65 AND 66 0.0020 MINIMUM 0.0060 MAXIMUM BETWEEN 65 AND 66 0.0020 MINIMUM 0.0051 MAXIMUM
U–U LOWER	67	32–11128	BUSHING WING FOLD CWS	0.8447 $^{+.0020}_{-.0005}$ (14) 0.8447 $^{+.0011}_{-.0005}$ (13)	BETWEEN 67 AND 68 0.0022 MINIMUM 0.0057 MAXIMUM BETWEEN 67 AND 68 0.0022 MINIMUM 0.0051 MAXIMUM
	68	32–14001	PIN	(5) 0.8476 $^{+.0000}_{-.0013}$ X 3.58	
	69	32–15086	BUSHING WING FOLD OW	0.8447 $^{+.0020}_{-.0005}$ (12) 0.8447 $^{+.0011}_{-.0005}$ (13)	BETWEEN 68 AND 69 0.0022 MINIMUM 0.0057 MAXIMUM BETWEEN 68 AND 69 0.0022 MINIMUM 0.0051 MAXIMUM
V–V UPPER	70	32–11262	BUSHING WING FOLD CWS	0.8750 $^{+.0040}_{-.0005}$ 0.8750 $^{+.0033}_{-.0005}$ (12)	BETWEEN 70 AND 71 0.0013 MINIMUM 0.0068 MAXIMUM BETWEEN 70 AND 71 0.0013 MINIMUM 0.0065 MAXIMUM
	71	32–14003	PIN	(5) 0.8732 $^{+.0000}_{-.0013}$ X 3.52	
	72	32–15100	BUSHING WING FOLD OW	0.8750 $^{+.0040}_{-.0005}$ 0.8750 $^{+.0033}_{-.0005}$ (13)	BETWEEN 71 AND 72 0.0013 MINIMUM 0.0068 MAXIMUM BETWEEN 71 AND 72 0.0013 MINIMUM 0.0065 MAXIMUM

SECTION	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				HOLE SIZE	CLEARANCE
V–V LOWER	73	32–11263	BUSHING WING FOLD CWS	1.0625 $^{+.0040}_{-.0005}$ 1.0625 $^{+.0033}_{-.0005}$ (13)	BETWEEN 73 AND 74 0.0014 MINIMUM 0.0070 MAXIMUM BETWEEN 73 AND 74 0.0014 MINIMUM 0.0067 MAXIMUM
	74	32–14003	PIN	(5) 1.0606 $^{+.0000}_{-.0015}$ X 3.52	
	75	32–15099	BUSHING WING FOLD OW	1.0625 $^{+.0040}_{-.0005}$ 1.0625 $^{+.0033}_{-.0005}$ (13)	BETWEEN 74 AND 75 0.0014 MINIMUM 0.0070 MAXIMUM BETWEEN 74 AND 75 0.0014 MINIMUM 0.0067 MAXIMUM
W–W	76	32–11417	HINGE STRUCT	0.133 $^{+.010}_{-.000}$ (8) 0.133 $^{+.020}_{-.000}$ (7)	BETWEEN 76 AND 77 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 76 AND 77 0.003 MINIMUM 0.030 MAXIMUM
	77	32–42051	PIN	(5) 0.130 ± .010 X 10.00	
	78	32–42004 32–421500	HINGE DOOR	0.133 $^{+.010}_{-.000}$ (8) 0.133 $^{+.020}_{-.000}$ (7)	BETWEEN 77 AND 78 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 77 AND 78 0.003 MINIMUM 0.030 MAXIMUM
X–X	79	53–11039	HINGE STRUCT	0.133 $^{+.010}_{-.000}$ (8) 0.133 $^{+.020}_{-.000}$ (7)	BETWEEN 79 AND 80 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 79 AND 80 0.003 MINIMUM 0.030 MAXIMUM
	80	53–42050	PIN	(5) 0.129 ± .010 X 29.67	
	81	53–42050	HINGE DOOR	0.133 $^{+.010}_{-.000}$ (8) 0.133 $^{+.020}_{-.000}$ (7)	BETWEEN 80 AND 81 0.003 MINIMUM 0.020 MAXIMUM BETWEEN 80 AND 81 0.003 MINIMUM 0.030 MAXIMUM
Z–Z	82 (15)	53 110140	HINGE STRUCT	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 82 AND 83 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 82 AND 83 0.004 MINIMUM 0.020 MAXIMUM
	83 (15)	53–110136	PIN	(5) 0.1605 $^{+.0006}_{-.0007}$ X 31.50	
	84 (15)	53110118	HINGE DOOR 141	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 83 AND 84 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 83 AND 84 0.004 MINIMUM 0.020 MAXIMUM
AA–AA	85 (15)	53–110120	HINGE STRUCT	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 85 AND 86 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 85 AND 86 0.004 MINIMUM 0.020 MAXIMUM
	86 (15)	53–110136	PIN	(5) 0.1605 $^{+.0006}_{-.0007}$ X 31.50	
	87 (15)	53–110118	HINGE DOOR 141	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 86 AND 87 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 86 AND 87 0.004 MINIMUM 0.020 MAXIMUM

SECTION	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE	
				HOLE SIZE	CLEARANCE
AB–AB	88 (15)	53-110120	HINGE STRUCT	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 89 AND 90 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 89 AND 90 0.004 MINIMUM 0.020 MAXIMUM
	89 (15)	32-19433	PIN	(5) 0.1605 $^{+.0006}_{-.0007}$ X 15.29	
	90 (15)	53 110118	HINGE DOOR 141	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 89 AND 90 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 89 AND 90 0.004 MINIMUM 0.020 MAXIMUM
AC–AC	91 (15)	32 11565	HINGE STRUCT	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 91 AND 92 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 91 AND 92 0.004 MINIMUM 0.020 MAXIMUM
	92 (15)	32–11433	PIN	(5) 0.1605 $^{+.0006}_{-.0007}$ X 15.29	
	93 (15)	53 110118	HINGE DOOR 141	0.164 $^{+.008}_{-.000}$ (8) 0.164 $^{+.016}_{-.000}$ (7)	BETWEEN 92 AND 93 0.004 MINIMUM 0.014 MAXIMUM BETWEEN 92 AND 93 0.004 MINIMUM 0.020 MAXIMUM
AD–AD	94 (15) (16) (17)	32–32054–131, –132 53–07925–11, –12 53–320028–3, –4	HINGE STRUCT	0.093 $^{+.0075}_{-.0000}$	BETWEEN 94 AND 95 0.012 MAXIMUM
	95	MS20253–2–2604	PIN	0.089 ±.001 X 26.04	
	96	32 32054–5, –6	HINGE DOOR 74	0.093 $^{+.0075}_{-.0000}$	BETWEEN 95 AND 96 0.012 MAXIMUM

Notes

1. ADDITIONAL INFORMATION INCLUDING NEGLIGIBLE DAMAGE MAY BE FOUND IN TEXT, UNDER HINGE TOLERANCE FOR CENTER WING AND COMPONENTS.
2. THE HINGE PART NUMBER CAN BE FOUND IN THE SECTIONS SEPARATELY AND/OR T.O.1F-4C-4-1.
3. MADE BY NATIONAL WATERLIFT CO. LTD., KALAMAZOO, MICHIGAN.
4. MADE BY WESTON HYDRAULICS LTD.-NORTH HOLLYWOOD, CALIFORNIA.
5. DENOTES HINGE PIN DIMENSIONS.
6. F-4C, F-4D, F-4E 66 284 THRU 66 286 AND 66 288 THRU 66-295 AND RF-4C; ALSO, F 4E 66-287 AND 66 296 THRU 71 236 BEFORE T.O.1F-4E-556.
7. FOR FIRST THREE TANGS AT EACH END OF HINGE.
8. FOR REMAINING TANGS NOT COVERED IN NOTE (7).
9. LEFT SIDE.
10. RIGHT SIDE.
11. ANY TWO TANG HOLES CAN BE WORN TO 0.4375 $^{+.0032}_{-.0010}$ DISREGARD CLEARANCE BETWEEN 64 AND 65 FOR THESE TWO HOLES.
12. ANY ONE LOCKING LUG HOLE CAN BE WORN TO 0.8447 $^{+.0028}_{-.0005}$ MAXIMUM SIZE PIN IS RECOMMENDED.
13. FOR DEPOT COMPLIANCE.
14. ANY ONE PAIR OF LOCKING LUG HOLES CAN BE WORN TO 0.8447 $^{+.0028}_{-.0005}$ MAXIMUM SIZE PIN IS RECOMMENDED.
15. F-4E 66-287, 66-296 THRU 71-1402 AFTER T.O.1F-4E-556. F-4E 72-121 AND UP AND F-4G.
16. F-4E 66-287, 66-296 THRU 71-1402 AFTER T.O.1F-4E-556 AND F-4G.
17. F-4E 72-121 AND UP.
18. WING FOLD WITH REPAIR BUSHING INSTALLED
19. BOTH THE HINGE PIN (65) AND TANGS (64, 66) MUST MEET THE ESTABLISHED TOLERANCES INDIVIDUALLY AND AS AN ASSEMBLY

Figure 2-108. Center Wing and Components Hinge Tolerances (Sheet 4 of 4)

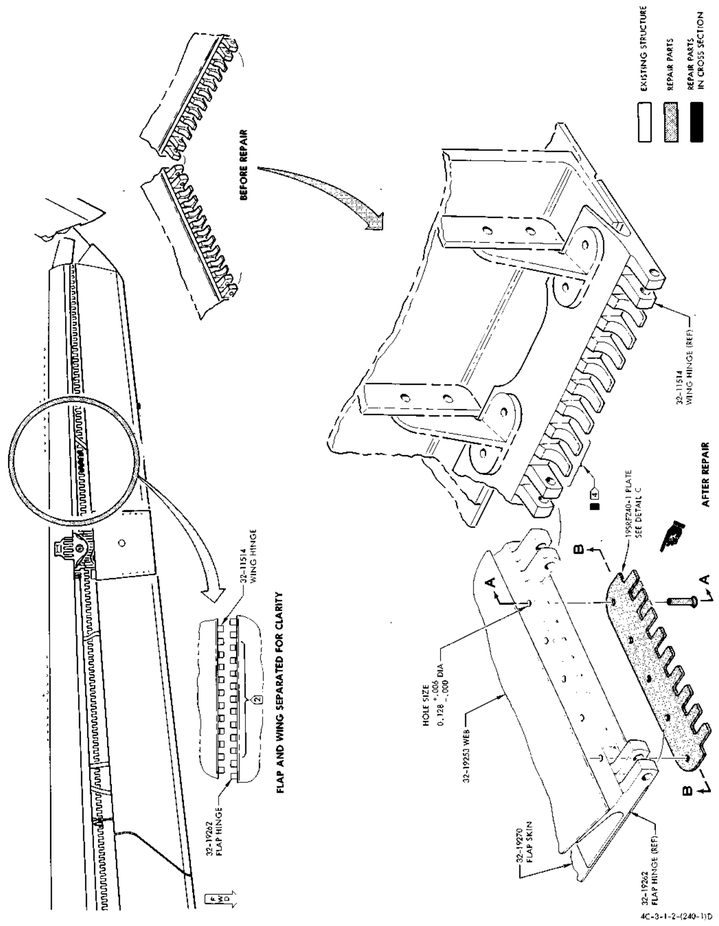


Figure 2-109. Center Wing Outboard Leading Edge Flap Hinge Fillet Tang Repair (Sheet 1 of 2)

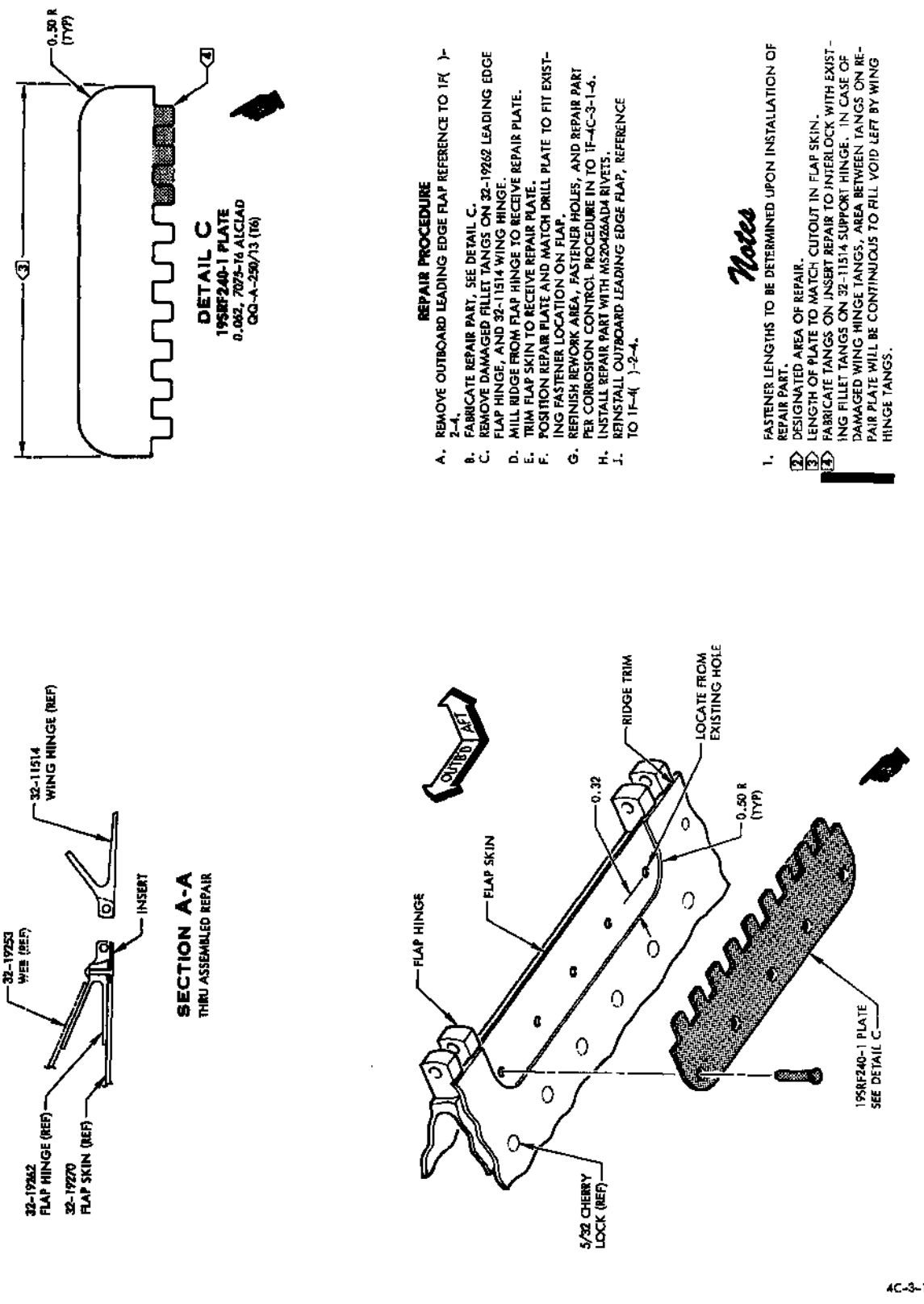


Figure 2-109. Center Wing Outboard Leading Edge Flap Hinge Fillet Tang Repair (Sheet 2 of 2)

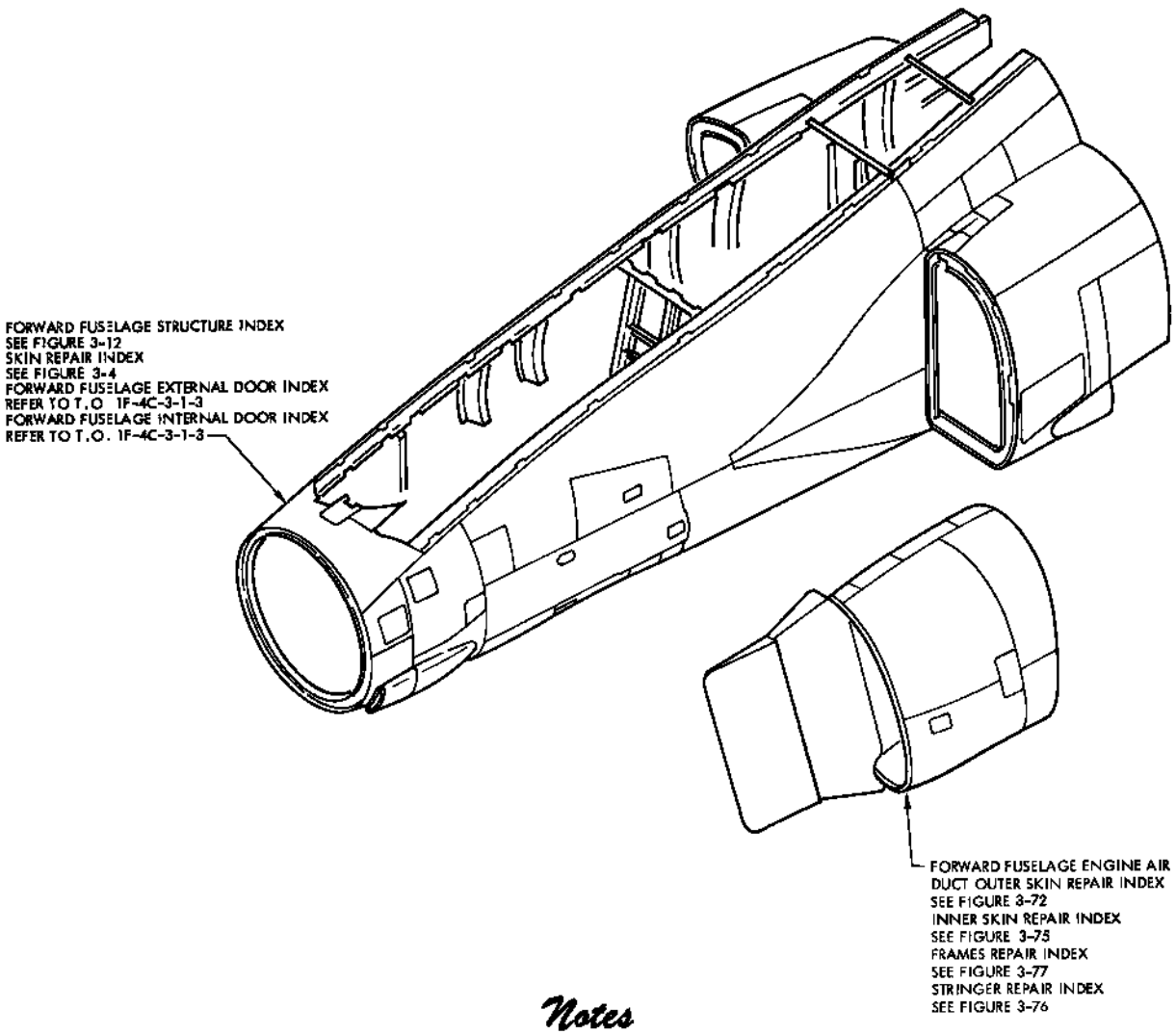
SECTION III

FORWARD FUSELAGE

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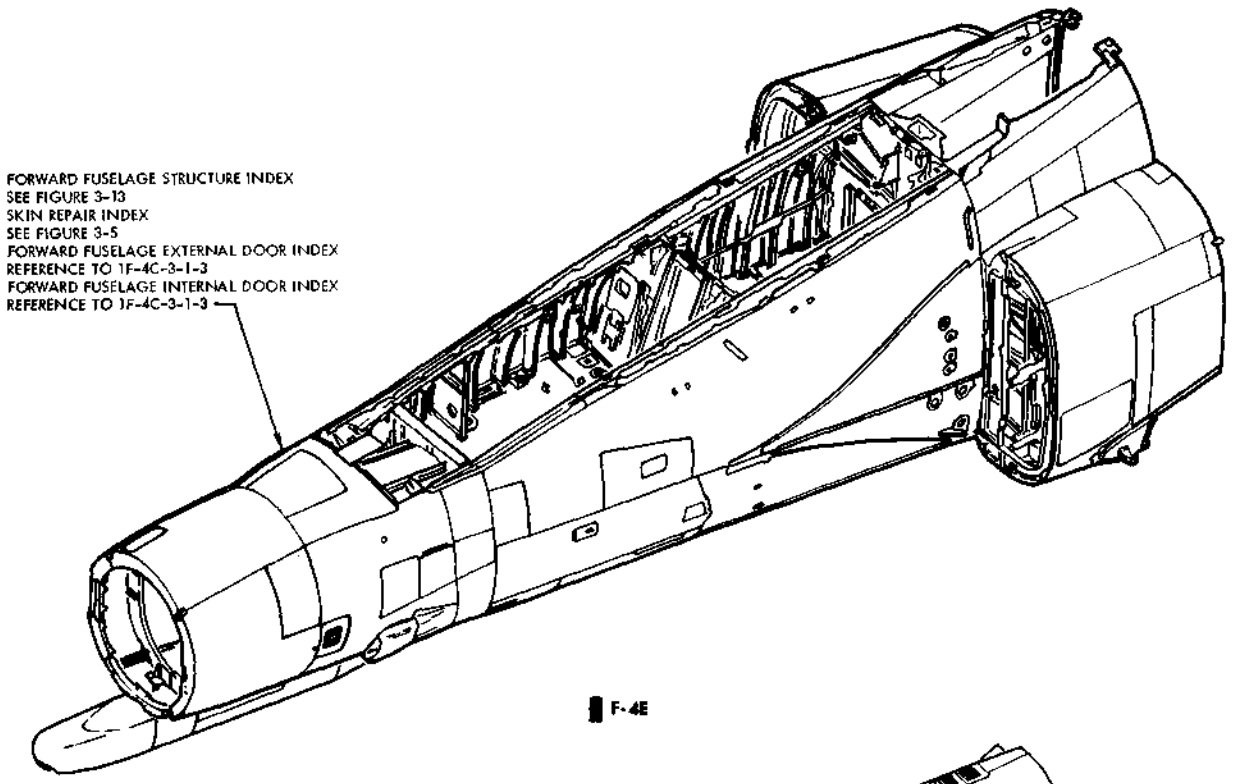


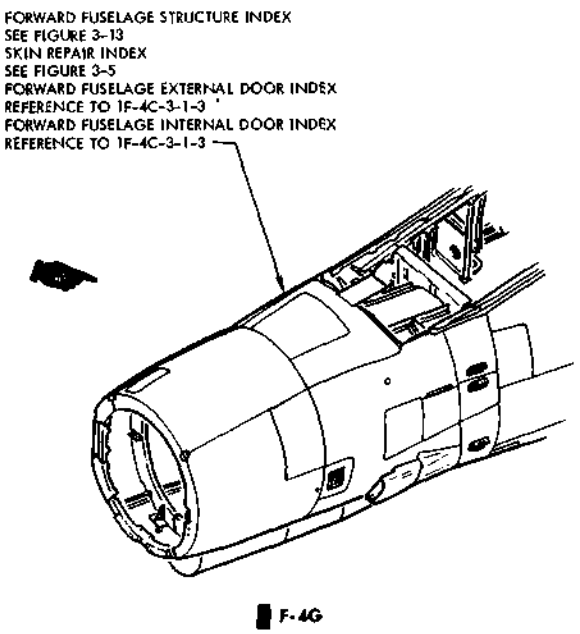
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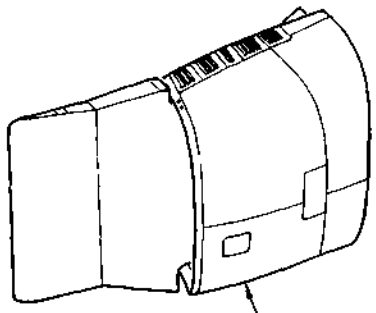
1. F-4C FORWARD FUSELAGE ASSEMBLY DRAWING NUMBER IS 53-31001-1.
2. F-4D FORWARD FUSELAGE ASSEMBLY DRAWING NUMBER IS 53-31201-1.

4C-3-1-2-(159)A

Figure 3-1. Forward Fuselage Index - F-4C AND F-4D







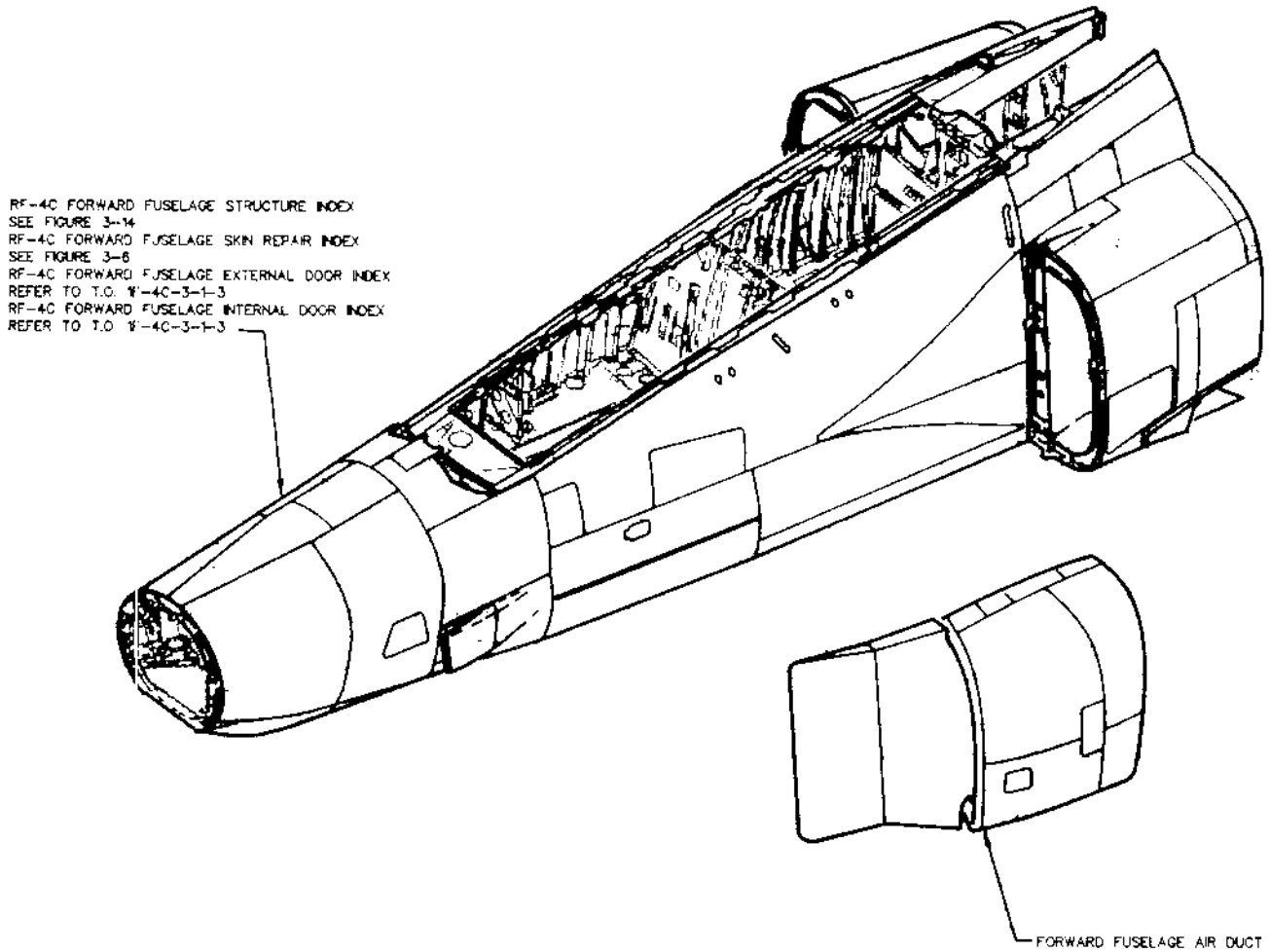
FORWARD FUSELAGE ENGINE AIR DUCT OUTER SKIN REPAIR INDEX, SEE FIGURE 3-72
INNER SKIN REPAIR INDEX, SEE FIGURE 3-75
FRAMES REPAIR INDEX, SEE FIGURE 3-77
STRINGER REPAIR INDEX, SEE FIGURE 3-76

Notes

1. F-4E FORWARD FUSELAGE ASSEMBLY DRAWING NUMBER IS 53-310014.
2. F-4G FORWARD FUSELAGE ASSEMBLY DRAWING NUMBER IS 53G310014.

4C-3-1-2-(160)B

Figure 3-2. Forward Fuselage Index - F-4E AND F-4G



Note

RF-4C FORWARD FUSELAGE ASSEMBLY
DRAWING NUMBER IS 53-34001-1
ON 63-7742 THRU 65-887, AND 53-34001-301
ON 65-888 THRU 72-56.

G9104100

Figure 3-3. Forward Fuselage Index - RF-4

INTRODUCTION

3-1. GENERAL.

3-2. Forward fuselage assemblies of F-4C AND F-4D are similar enough to be described together. Major components are in the same locations. Major assemblies are at the same fuselage stations, buttock lines and water lines. F-4E, F-4G, and RF-4C forward fuselages are similar to F-4C and F-4D in that the cockpits, fuel cell, nose landing gear well, breathing oxygen, hydraulic compartment, and engine air ducts are in the same locations. The radar compartment is changed on the F-4E and a forward firing gun is mounted on the bottom of the fuselage, forward of the nose landing gear well. The F-4G is same as F-4E except the gun is removed and the gun pod and armament compartment is reworked to accommodate electronic equipment. A camera compartment is added to the RF-4C and missile provisions are replaced with reconnaissance equipment.

3-2A. STRUCTURAL INFORMATION DATA CHANGES.

3-2B. Personnel should be familiar with the following data changes contained in this manual:

a. When alodine is specified in this manual, change to chemical conversion coating, Specification MIL-C-5541.

b. When sealant, Specification MIL-S-8802, is specified in this manual, change to sealant, Specification MIL-S-81733, except in the integral fuel cell areas.

3-2C. SAFETY SUMMARY.

3-2D. Personnel should be familiar with the following warnings before using chemical conversion coating, sealants, cements, solvents, and primers.

WARNING

- When using chemical conversion coating, Specification MIL-S-8802/81733, sealants, cements, solvents, and primers, ensure adequate ventilation. Avoid skin and eye contact. Approved respirators will be worn when applying these substances. The local bioenvironmental engineer will furnish information concerning specific respiratory requirements and protective clothing.
- When involved with vac-cadmium operations, the local bioenvironmental engineer will provide specific requirements concerning protective equipment.

3-3. FORWARD FUSELAGE, F-4C AND F-4D. See figure 3-1.

3-4. The F-4C and F-4D forward fuselage consists of two parts: forward fuselage structure and forward engine air ducts. The forward fuselage structure extends from CFS 46.68 to FS 249.65. The two cockpits are entirely in the forward fuselage. The forward cockpit extends from CFS 77.00 to the canted bulkhead at CFS 134.50. The rear cockpit extends from the canted bulkhead at CFS 134.50 aft to FS 203.00. The cockpit regions are enclosed by redistribution bulkheads at CFS 77.00 and FS 203.00. The bending structure in this area consists of three longerons per side plus tension skin where continuous. The major part of the equipment along with the number one fuel cell is in the forward fuselage. The general locations are as follows: radar compartment from CFS 48.53 to CFS 77.00; electronics and oxygen compartments from FS 164.00 to FS 203.00 below the rear cockpit floor; hydraulic and pneumatic compartments beneath WL 23.00 floor between FS 203.00 and FS 249.00; and number one fuel cell area above WL 23.00 floor between FS 203.00 and FS 249.00. The engine air intake ducts are on the forward fuselage. They consist of an inner duct skin, which is a noncylindrical pressure vessel stiffened by rings in canted fuselage station planes, supported by a bending structure of five stringers and outer nacelle skin. The forward inboard wall, the ramp, is tied to the forward fuselage at five points through which a portion of the outward acting airload is resisted. The duct forward of the bulkhead at FS 203.00 is not an integral part of the fuselage since the canted duct rings do not coincide with the aft cockpit frames. This forward duct is an overhanging beam supported by bulkheads at FS 203.00 and FS 249.00 with the portion between these bulkheads having rings, which are part of the fuel cell frames, therefore are primary structure. Aft of the cockpits is the number one fuel cell, FS 203.30 to FS 249.00. The bending structure consists of upper, side and lower longerons, stringers along the ducts, tension and compression skins. The major torque box in this area is formed by the upper moldline skin, inboard duct skins, outboard fuel cell floor, keel web, and hydraulic compartment door. The shell consisting of the inboard and outboard duct skins is used as a torque box. The forward fuselage to center fuselage splice is of the manufacturing type and should not be attempted with limited facilities and tooling at organizational/field maintenance. The interior of the radome and radar equipment compartment, which extends to the aft edge of door 4, is pressurized and refrigerated. The nose landing gear is contained in a well, beneath the forward cockpit, formed by the keel webs and cockpit floor. For repair purposes, the forward fuselage has been divided into the following

parts: main structural assembly and engine air ducts.

3-5. FORWARD FUSELAGE, F-4E AND F-4G. See figure 3-2.

3-6. The F-4E and F-4G forward fuselage is forward of FS 249.65; the aft edges of doors 19, 21, 33, 128, and 22 are at this fuselage station. The forward fuselage to center fuselage splice is a manufacturing type. Disassembly of this splice cannot be accomplished at organizational/field maintenance where tooling and facilities are limited. The interior area covered by the radome is sealed and air conditioned. Adjacent to the radome, on F-4E between CFS 2.30 and CFS 77.00 is the gun nose structure. This assembly is constructed of formed stressed skins over aluminum alloy frames, extruded tees, formers, and forgings to support radar and armament equipment. The gun nose structure has an armament compartment which is fume sealed and vented. The F-4G forward fuselage structure is same as F-4E except the gun system is removed and the armament compartment and gun pod are modified to accommodate electronic equipment. A chin pod is installed on underside of radome. The chin pod area has machined aluminum alloy beams, frames, and an equipment rack installed for support of equipment. The equipment compartment area has an upper and lower equipment shelf and shroud skins made of aluminum alloy. The shroud skins have openings to outer mold line doors for access, removal, and installation of equipment. The forward and aft cockpits are located between CFS 77.00 and FS 203.00. The cockpits are air conditioned and pressurized. The nose landing gear is housed in a well, beneath the cockpits, enclosed by keel walls and the cockpit floor. The gun pod extends beneath the radome, gun nose structure assembly, and nose landing gear doors. The gun pod is built up of removable fairings and doors. The number one fuel cell is behind the aft cockpit and below the upper electronic equipment compartment. Under the aft cockpit floor and aft of the nose gear well are the lower electronic equipment compartment, liquid oxygen compartment, and hydraulic compartment. Engine air ducts extend along the main structure outboard of the aft cockpit and number one fuel cell. For repair purposes, the forward fuselage has been divided into the following parts: skin, structural assembly, and engine air ducts.

3-7. FORWARD FUSELAGE, RF-4C. See figure 3-3.

3-8. The RF-4C forward fuselage consists of two parts: the forward fuselage structure and the forward engine air ducts. The photo nose structure of the forward fuselage extends from CFS -6.20 to CFS 77.00. Camera windows of the photo nose are load carrying structural parts of the aircraft. The two cockpits are entirely in the forward fuselage. The forward cockpit extends from CFS 77.00 to the canted bulkhead at CFS 134.50. The rear cockpit extends from the canted bulkhead at CFS 134.50 to FS 203.00. The cockpit areas are contained forward and aft by redistribution bulkheads at CFS 77.00 and FS 203.00. The bending structure in this area consists of three longerons per side plus tension skin where continuous. There is no torque box in this region because of the nonstructural nose gear doors on the lower surface. The major portion of electronics, aircraft tubing systems, controls equipment, etc., along with photo equipment and number one fuel cell are in the forward fuselage. The engine air intake ducts are in the forward fuselage. They consist of an inner duct skin, which is a noncylindrical pressure vessel stiffened by a bending structure of five stringers, and the outer nacelle skin. The forward inboard wall, the ramp, is tied to the forward fuselage at five points through which a portion of the outward acting airload is resisted. The duct forward of bulkhead at FS 203.00 is not an integral part of the fuselage since the canted rings do not coincide with the aft cockpit frames. This forward duct is an overhanging beam supported by bulkheads at FS 203.00 and FS 249.00 with the portion between these bulkheads having rings which

are part of the fuel cell frames, therefore are primary structure. Immediately behind the aft cockpit is the number one fuel cell, FS 203.00 to FS 249.00. The bending structure consists of upper, side, and lower longerons, stringers along the ducts, tension and compression skins. The major torque box in this area is formed by upper moldline skins, inboard duct skins, outboard fuel cell floor, keel web, and hydraulic compartment door. The shell, consisting of the inboard and outboard duct skins, is used as a torque box.

3-9. REPAIR CONSIDERATIONS.

3-10. When making repairs to the main structural assembly, repair must be as strong as or stronger than the original part. Forming and heat treating of some repair parts are required. Refer to TO 1F-4C-3-1-1 for heat treatment requirements and sheet metal forming techniques. Whenever possible, repair material shall be of the same type and have the same hardness condition as the part it replaces. Repairs in the cockpit, radar compartment, and number one fuel cell should be sealed according to procedure in TO 1F-4C-3-1-6. Repairs to moldline skins and to structure areas subject to outside conditions must be sealed to prevent entry of water. Refer to TO 1F-4C-3-1-6 for sealing procedures and materials. When countersunk or dimpled rivets are replaced on outside skins or interior structure exposed conditions, such as wheel and control surface wells, seal the rivet head with wet primer or sealer at time of installation. Refer to TO 1F-4C-3-1-6 for method of application and materials.

3-10A. FASTENER REQUIREMENTS DURING FLIGHT. See figure 3-6B for allowable loose and missing fasteners in doors and panels during flight.

MAIN STRUCTURAL ASSEMBLY

3-11. DESCRIPTION.

3-12. The main structural assembly of the forward fuselage extends from the aft end of the radome to center fuselage splice between door 33 and door 36. The main assembly is stressed skin, 7178, 7075, and 2024 aluminum alloy, over 7178 aluminum alloy bulkheads and frames. Extruded and formed sheet longerons and stringers act as load carrying members and skin stiffeners. A two piece keel supports cockpit floors, number one fuel cell floor, and the nose landing gear. The material used in the floors and keel is mainly 7178 aluminum alloy; an exception is the titanium webs in nose landing gear area of the keel. Since the radar compartments and cockpits are pressurized, the structure in these areas is pressure sealed. The structure containing number one fuel cell is liquid sealed. Refer to TO 1F-4C-3-1-6. The camera compartment of the RF-4 is not pressurized.

3-13. ACCESS FOR REPAIRS.

3-14. On F-4C and F-4D, access to the forward radar area may be gained by opening the radome and sliding radar unit forward on its track and removing doors 2, 4, and 126. The bulkhead, which forms the aft end of this area, may also be reached through the nose wheel well and forward cockpit through doors 5L/R. Removing doors 6L/R provides access to the outboard sides of keel webs, the outboard forward cockpit floor, and refrigeration compartment floors. Outboard areas of the forward cockpit and consoles are accessible through doors 9L/R. Bottom outboard portions of the aft cockpit floor are accessible through the missile bay, by removing heat and vent lines. The CNI access door, at aft end of nose wheel well and door 16, provides access to repair the center area of the aft cockpit floor and the keel webs on either side. Removal of number one fuel tank permits access to the fuel cell floor, and the aft bulkhead of the aft cockpit. The inboard aft engine air duct skins may be repaired by removing the fuel cell liners, which are attached with blind fasteners. After removing door 115 and missile wing door and its actuator, further access to the hydraulic pneumatic compartment may be gained by removing door 32—31087. On RF—4, the camera doors permit additional access to the radar compartment as well as to the camera compartment. The radar mapping set radomes, doors 506L/R, doors 507L/R, door 508L, and doors 510L/R provides access to areas along the bottom of the fuselage on each side corresponding to the missile bay on the F—4C, F—4D, F—4E, AND F—4G. Door 509 permits access to the area under the aft cockpit corresponding to CNI compartment on F—4C, F—4D, F—4E, AND F—4G. When access is gained for the purpose of making a structural repair, a thorough inspection of the surrounding structure shall be made for damage and corrosion. Refer to TO 1F—4C—3—1—6. Check areas of dissimilar metal contact. Contact sealing for continuity and effectiveness. Clean and paint as required. Refer to TO 1F—4C—3—1—3 for access door locations.

3-15. FIXED MOLDLINE SKIN PANELS. See figures 3-4 thru 3-6.

3-16. The fixed skin panels are primarily 2024, 7075, and 7178 aluminum alloy or alclad. The engine air duct aft skins are chemically machined 7075 aluminum alloy sheet. The skins are fastened to the internal structure with flush fasteners.

3-17. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS. Nicks, gouges, or scratches in skin panels shall be removed by blending to the surface of the panel. Damage that is through the protective surface coating enables corrosion to start on the skin panel. If skin thickness is 0.040 or more, depth of blending will be 0.010 maximum. For skins less than 0.040, depth of blending will be 0.005 maximum. Corrosion must be removed regardless of depth. If corrosion removal exceeds negligible damage limits, the area shall be repaired by patching. Refer to TO 1F-4C-3-1-5 for negligible damage and corrosion removal rework procedures. After reworking, clean, treat, and refinish the surface per TO 1F-4C-3-1-6. Dents that do not exceed 0.060 in depth are negligible provided radius of the dent is greater than 2 inches, dent does not create an oil-can tendency, and does not interfere with internal tubing or mechanisms. Refer to TO 1F-4C-3-1-5 for repair of oil-can damage. A nick or gouge in the edge of a panel which can be blended and not reduce the fastener edge distance to less than one and one half times fastener diameter is negligible. A nick or small gouge which can be removed by drilling a hole larger than the damaged area and installing a rivet is negligible. If cracked or chipped paint exists around a rivet head, the paint should be removed and the rivet measured for tilt according to procedure in TO 1F-4C-3-1-5.

3-18. PATCH REPAIRS. Skin damage, which exceeds negligible damage but is small enough not to require replacing a large section or the complete skin panel, may be repaired by patching.

3-19. Lap Patch. A lap patch may be used aft of the engine air duct ramp leading edge when access to the back side of the skin is not readily available. Refer to TO 1F-4C-3-1-5.

3-20. Tools and Equipment.

Motor, drill, pneumatic
Reamer, 0.165 diameter
Tool, Jo-Bolt
File, rotary, 1/2-inch (nominal)
Bit, router, number 2 (nominal)
Countersink, 100°

3-21. Materials.

Sheet stock, 0.071, 7178-T6 alclad, QQ-A-250/15 (T6)
Sheet stock, 7178-T6 alclad, QQ-A-250/15 (T6), see figure 3-4, 3-5, or 3-6 for gage
Jo-Bolts, NAS1670-08L
Materials, corrosion control and sealing, refer to TO 1F-4C-3-1-6

3-22. Procedure.

a. Cut out damaged area. Small cracks or cuts may be routed or blended out. Where a large rectangular cutout is required to completely remove damage, a minimum corner radius of 1-inch shall be used.

b. Inspect inner structure for corrosion or damage to substructure and repair according to applicable procedure.

CAUTION

Tape a protective covering over wire bundles, hydraulic lines, and mechanisms to prevent chips and shavings from falling into bundles. Remove chips, shavings, and cover before closing up repair.

c. Polish edges of cutout to a smooth finish.

d. If fillers are required, use same gage and material as existing skin. See figure 3-4, 3-5, or 3-6 for skin gages.

e. Cut patch from 0.071, 7178-T6 alclad.

f. Lay out and drill fastener pattern. Fill existing countersunk holes in skin with a rivet head. Refer to TO 1F-4C-3-1-5 for procedure. Minimum edge distance is 0.33; minimum spacing for fasteners, other than existing fasteners, is 0.65 measured from center of fastener hole.

g. Bevel edge of patch 45°.

h. Drill, countersink, and ream holes to size for NAS1670-08L Jo-Bolts, refer to TO 1F-4C-3-1-1.

i. Clean, treat, and prime repair parts and repair areas according to TO 1F-4C-3-1-6.

j. Refer to TO 1F-4C-3-1-6 for areas that require sealing and procedure for application.

k. Aluminum rivets, Hi-Shear rivets, Jo-Bolts, and other permanent type fasteners shall be sealed with wet primer or sealer at time of installation. Refer to TO 1F-4C-3-1-6 for method of application and materials.

l. Remove zinc chromate primer and sealer from outside surface and refinish to match surrounding area using materials and procedure in TO 1F-4C-3-1-6.

3-23. Flush Patch. The area forward of the air duct ramp leading edge shall be repaired with flush type patches to maintain contour smoothness requirements listed in TO 1F-4C-3-1-1. Refer to TO 1F-4C-3-1-5 for flush patch repair clear of structure and a flush patch repair over structure.

3-24. Tools and Equipment.

Motor, drill, pneumatic
Bits, drill, number 21, 23, and 3/16-inch
Bit, router, number 2 (nominal)
Reamer, 0.189 diameter
Reamer, 5/32-inch diameter
Countersink, 100°
Set, Hi-Shear rivet, 5/32 and 3/16-inch diameter

3-25. Materials.

Sheet stock, 0.071 7178-T6 alclad, QQ-A-250/15 (T6)
Sheet stock, 7178-T6 alclad, QQ-A-250/15, see figure 3-4, 3-5, or 3-6 for gage
Rivets, Hi-Shear, NAS1055-5 and NAS1055-6
Collars, Hi-Shear, NAS528A5 and NAS528A6
Materials, corrosion control and sealing, refer to TO 1F-4C-3-1-6

3-26. Procedure.

a. Cut out damaged area. Small damages which may be removed by a 3-inch diameter cutout may be circular in shape. Larger damages may be rectangular with a minimum corner radius of 1/2-inch.

CAUTION

Tape a protective covering over wire bundles, hydraulic lines, and mechanisms to prevent chips and shavings from falling into bundles. Remove chips, shavings, and cover before closing up repair.

b. Polish edges of cut to a smooth finish.

c. If damage does not fall over interior structure, make a single doubler as shown in TO 1F-4C-3-1-5. When damage extends over a longeron, stringer, bulkhead, or frame, make a doubler for installation on each side of interior structure as shown in TO 1F-4C-3-1-5. A filler may be used instead of joggling the doubler if desired.

d. Lay out fastener pattern on skin, drill several holes in skin and doubler with a number 23 drill, and temporarily fasten doubler to skin.

e. Drill remaining holes through skin and doubler with a number 23 drill and ream holes to size.

f. Install permanent fasteners through skin and doubler. Refer to TO 1F-4C-3-1-6.

g. Cut patch to size and polish edges to a smooth finish.

h. Lay out fastener pattern on patch, drill several holes in patch and doubler with a number 23 drill, and temporarily fasten patch to doubler.

i. Drill remaining holes through patch and doubler with number 23 drill and ream holes to size.

j. Clean, treat, and prime repair parts and repair areas according to TO 1F-4C-3-1-6.

k. Refer to TO 1F-4C-3-1-6 for areas that require

sealing and procedure for application.

l. Aluminum rivets, Hi-Shear rivets, Jo-Bolts, and other permanent type fasteners shall be sealed with wet primer or sealer at time of installation. Refer to T.O. 1F-4C-3-1-6 for method of application and materials.

m. Remove zinc chromate primer and sealer from outside surface and refinish to match surrounding area using materials and procedure in T.O. 1F-4C-3-1-6.

3-27. **INSERTION REPAIR.** When a damage is located near the edge of a skin panel and is not large enough to require replacement of skin panel, an insertion repair shall be made. In the insertion repair, damage is cut out leaving a hole extending to one, two or three edges of the skin panel.

3-28. Lap Patch. A lap type insertion may be used aft of the engine air duct ramp leading edge when access to the back of the skin panel is not readily available. Refer to T.O. 1F-4C-3-1-5.

3-29. Tools and Equipment.

Motor, drill, pneumatic

Bit, drill, numbers 22 and 13

Tool, installation, Jo-Bolt

File, rotary, 1/2-inch (nominal)

Bit, router, number 2 (nominal)

Reamers, 0.165 and 0.199 diameter

3-30. Materials.

Sheet stock, 0.071, 7178-T6 alclad, Federal Specification QQ-A-250/15 (T6)

Sheet stock, 7178-T6 alclad, Federal Specification QQ-A-250/15 (T6) see figure 3-4, 3-5 or 3-6 for gage

Jo-Bolts, NAS1670-08L

Materials, corrosion control and sealing, refer to T.O. 1F-4C-3-1-6.

3-31. Procedure.

a. Cut out damaged area according to extent of damage. The radius at each corner of a rectangular type cutout shall be a minimum of one inch.

b. Inspect inner structure for corrosion or damage to substructure and repair according to applicable procedure.

CAUTION

Tape a protective covering over wire bundles, hydraulic lines, and mechanisms to prevent chips and shavings from falling into bundles. Remove chips, shavings, and cover before closing up repair.

c. Polish edges of cutout to a smooth finish.

d. If fillers are required, make from same gage and material as existing skin. See figure 3-4, 3-5 or 3-6 for skin gages.

e. Cut patch from 0.071, 7178-T6 alclad.

f. Lay out and drill fastener pattern. Fill countersunk holes in skin with a rivet head. Refer to T.O. 1F-4C-3-1-5 for procedure. Minimum edge distance is 0.33; minimum spacing for fasteners, other than existing fasteners, is 0.65 measured from center of fastener hole.

g. Bevel edges of patch 45 degrees.

h. Drill, countersink, and ream holes to size for NAS1670-08L Jo-Bolts, refer to T.O. 1F-4C-3-1-1.

i. Clean, treat, and prime repair parts and repair areas according to T.O. 1F-4C-3-1-6.

j. Refer to T.O. 1F-4C-3-1-6 for areas that require sealing and procedure for application.

k. Aluminum rivets, Hi-Shear rivets, Jo-Bolts, and other permanent type fasteners shall be sealed with wet primer or sealer at time of installation. Refer to T.O. 1F-4C-3-1-6 for method of application and materials.

l. Remove zinc chromate primer and sealer from outside surface and refinish to match surrounding area using materials and procedure in T.O. 1F-4C-3-1-6.

3-32. Flush Patch. The area forward of the air duct ramp leading edge shall be repaired with flush type fasteners to maintain contour smoothness requirements listed in T.O. 1F-4C-3-1-1. Refer to T.O. 1F-4C-3-1-5 for a typical example of a flush skin insertion repair.

3-33. Tools and Equipment.

Motor, drill, pneumatic

Bits, drill, numbers 22 and 13

Reamer, 0.189 diameter

Reamer, 5/32-inch diameter

Countersink, 100°

Set, Hi-Shear rivet, 5/32 and 3/16-inch diameter

Bit, router, number 2 (nominal)

3-34. Materials.

Sheet stock, 0.071, 7178-T6 alclad, Federal Specification QQ-A-250/15 (T6)

Sheet stock, 7178-T6 alclad, Federal Specification QQ-A-250/15 (T6) see figure 3-4, 3-5 or 3-6 for gage

Rivets, Hi-Shear, NAS1055-5 and NAS1055-6

Collars, Hi-Shear, NAS528A5 and NAS528A6

Materials, corrosion control and sealing, refer to T.O. 1F-4C-3-1-6

3-35. Procedure.

a. Cut out damaged area. If damage is of such a nature as to require a corner, its minimum radius shall be 1/2 inch.

CAUTION

Tape a protective covering over wire bundles, hydraulic lines, and mechanisms to prevent chips and shavings from falling into bundles. Remove chips, shavings, and protective cover before closing up repair.

b. Polish edges of cut to a smooth finish.

c. Make a doubler from 7178-T6 alclad as shown in T.O. 1F-4C-3-1-5.

d. Lay out fastener pattern on skin, drill several holes in skin and doubler, and temporarily fasten doubler to skin.

e. Drill remaining holes through skin and doubler with a pilot drill and ream holes to size for NAS1055 Hi-Shear rivets.

f. Install permanent fasteners through skin and doubler. Refer to T.O. 1F-4C-3-1-6.

g. Cut insertion to size and polish edges to a smooth finish.

h. Lay out fastener pattern on insertion, drill several holes in insertion and doubler, and temporarily fasten insertion to doubler.

i. Drill remaining holes through insertion and doubler with a pilot drill, and ream holes to size for NAS1055 Hi-Shear rivets.

j. Clean, treat, and prime all repair parts and repair areas according to T.O. 1F-4C-3-1-6.

k. Refer to T.O. 1F-4C-3-1-6 for areas that require sealing and procedure for application.

l. Aluminum rivets, Hi-Shear rivets, Jo-Bolts, and other permanent type fasteners shall be sealed with wet primer or sealer at the time of installation. Refer to T.O. 1F-4C-3-1-6 for method of application and materials.

m. Remove all zinc chromate primer and sealer from the outside surface and refinish to match the surrounding area using the materials and procedure in T.O. 1F-4C-3-1-6.

3-36. **TRIMMING MISSILE WELL SKIN TO CLEAR MISSILE RACK.** See figure 3-8. Additional trim may be required for missile well skin to clear missile racks. Remove skin material as shown. Metal treat and refinish per T.O. 1F-4C-3-1-6.

3-37. **REPLACEMENT.** Replacement of large skin panels at organizational/field maintenance is not practical because of forming, heat treating, and machining equipment required. Small skin panels, with a simple curved contour, may be manufactured at organizational/field maintenance. If skin curve is slight, flat stock may be used. If skin panel is chemically milled, replacement part should be the same thickness as land area in the vicinity of the fasteners. Refer to T.O. 1F-4C-3-1-1 for sheet metal forming information, removal and installation of fasteners, and gap and contour smoothness requirements.

3-37A. Fairing Assembly, 53-39307-1-2, Replacement Index. See figure 3-6A.

3-38. Skin, 53-39057, Replacement. See figure 3-7.

3-39. Skin, 32-31451-5, -6, Replacement. See figure 3-10. The 32-31451-5, -6 skins are 0.125 fiberglass and are located on each side of fuselage upper longerons at FS 203.00. When replacing skins, inspect and remove all traces of corrosion from longeron. The skins will be replaced with 0.125, 7075-T6 aluminum alloy skin as noted below. 32G31451-6001, -6002 are the aluminum alloy skins.

WARNING

Provide adequate ventilation when using aluminum filled epoxy compound and sealant, Specification MIL-S-81733. Avoid skin and eye contact.

a. Fill voids in longeron with aluminum filled epoxy compound, RP1250 or equivalent, and sand to restore original contour.

b. Use removed splice skin, 32-31451, as a template to scribe contour and locate holes for new splice.

c. Drill holes utilizing oversize only when required to remove corrosion in longeron holes. Holes requiring greater than the second oversize, will not be used. For oversized bolts, see figure 3-10.

d. Reinstall the skin with sealant, Specification MIL-S-81733, completely covering the area between the longeron and the skin. Install fasteners while sealer is still wet. Refer to T.O. 1F-4C-3-1-6.

NOTE

Length of oversize fastener will be determined at time of installation.

3-39A. Forward Fuselage Doubler - FS 172.20, Repair. For forward fuselage doubler repair at FS 172.20 see figure 3-10A.

3-39B. Forward Fuselage Skin - FS 172.18, Repair. For forward fuselage skin repair at FS 172.18, see figure 3-10B.

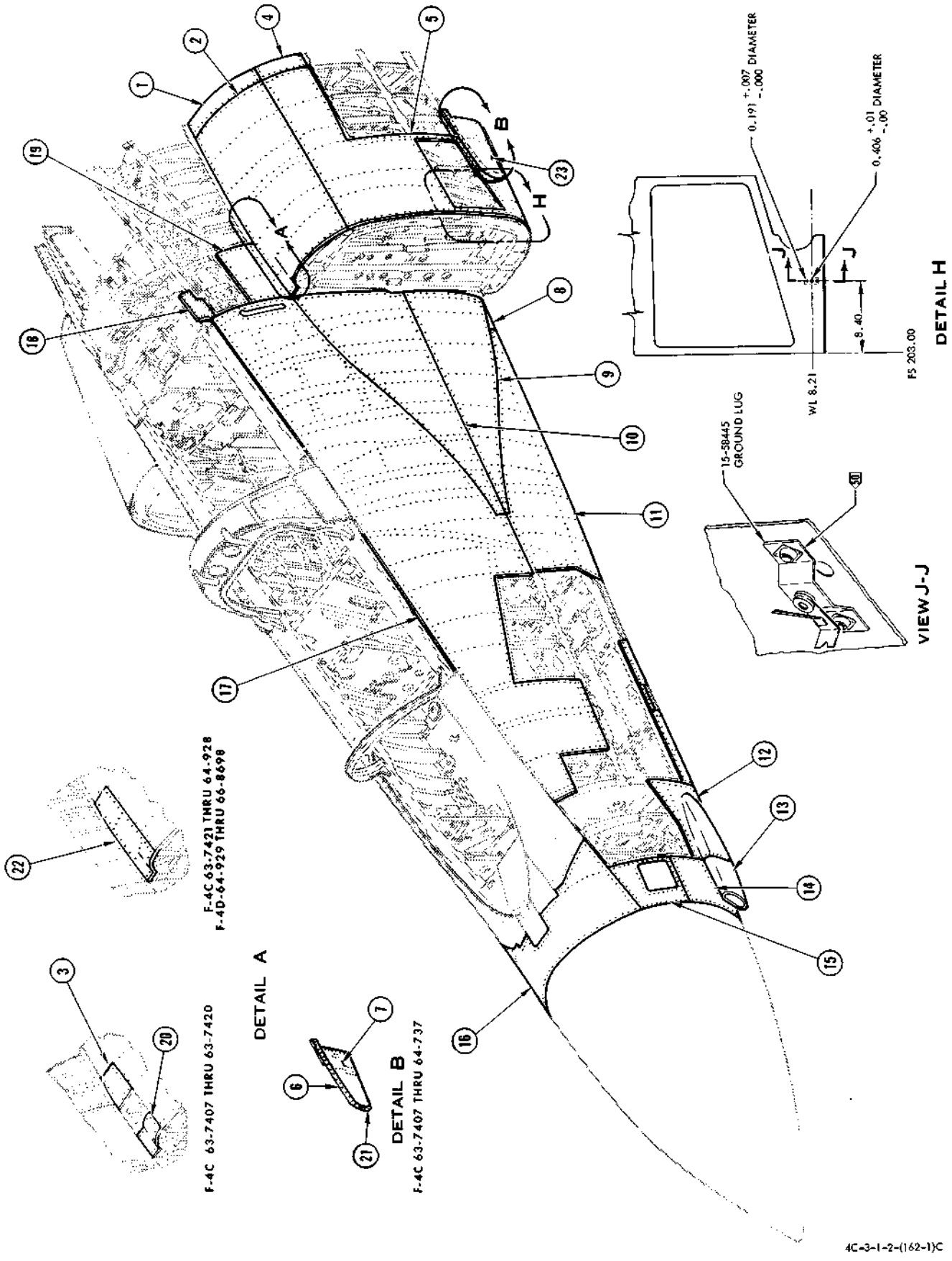


Figure 3-4. Skin Index - F-4C AND F-4D (Sheet 1 of 6)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	32-31961-21	SKIN	0.160 (3)	7075-T6 AL ALY	QQ-A-250/12 (T6)
2 20	32-31961-19	SKIN	0.071 (2)	7075-T6 AL ALY	QQ-A-250/12 (T6)
20	32-31961-31	SKIN	0.071 (2)	7075-T6 AL ALY	QQ-A-250/12 (T6)
3	32-31961-11	SKIN	0.071 (1)	7075-T6 AL ALY	QQ-A-250/12 (T6)
4	32-31961-17	SKIN	0.160 (3)	7075-T6 AL ALY	QQ-A-250/12 (T6)
5 17	32-31961-27	SKIN	0.071 (2)	7075-T6 AL ALY	QQ-A-250/12 (T6)
17	32-31961-29	SKIN	0.071 (2)	7075-T6 AL ALY	QQ-A-250/12 (T6)
6	32-31358-21	PLATE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7 15	32-31358-37	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31358-39	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8 16	32-31850-3	EDGING MEMBER	0.160 (3)	7075-T6 AL ALY	QQ-A-250/12 (T6)
16	32-31850-5	EDGING MEMBER	0.160 (3)	7075-T6 AL ALY	QQ-A-250/12 (T6)
9 6	32-31259-17	DOUBLER	0.080 (1)	2024-T6 AL ALY	QQ-A-250/4 (T6)
6	32-31259-27	DOUBLER	0.080 (1)	2024-T6 AL ALY	QQ-A-250/4 (T6)
19	32-31259-31	DOUBLER	0.080 (1)	2024-T6 AL ALY	QQ-A-250/4 (T6)
10 18	32-31258-21	DOUBLER	0.080 (1)	7178-T6 AL ALY	QQ-A-250/14 (T6)
18	32-31258-83	DOUBLER	0.080 (1)	7178-T6 AL ALY	QQ-A-250/14 (T6)
19	32-31258-81	DOUBLER	0.080 (1)	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	32-31003-171	SKIN	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
12	32-31903-47	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-83197-5	INLET	(4)	AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
14 20	32-31903-41	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-31903-87	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31903-21	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16 20	32-31903-3	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
20	32-31903-85	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
17 22	53-31003-3	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-31003-5	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31451-5	SKIN	0.125	GLASS FABRIC LAMINATE	MM501 TYPE I CLASS B
52	32G31451-6001	SKIN	0.125	7075-T6 AL ALY	QQ-A-250/12
19	32-31003-183	SKIN	0.110 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
20	32-31961-9	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
21	32-31358-17	PLATE	0.063 (1)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31961-8	SKIN	0.071 (1)	7075-T6 AL ALY	QQ-A-250/12 (T6)
23	32-31358-41	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)

4C-3-1-2-(162-2)F

Figure 3-4. Skin Index - F-4C AND F-4D (Sheet 2 of 6)

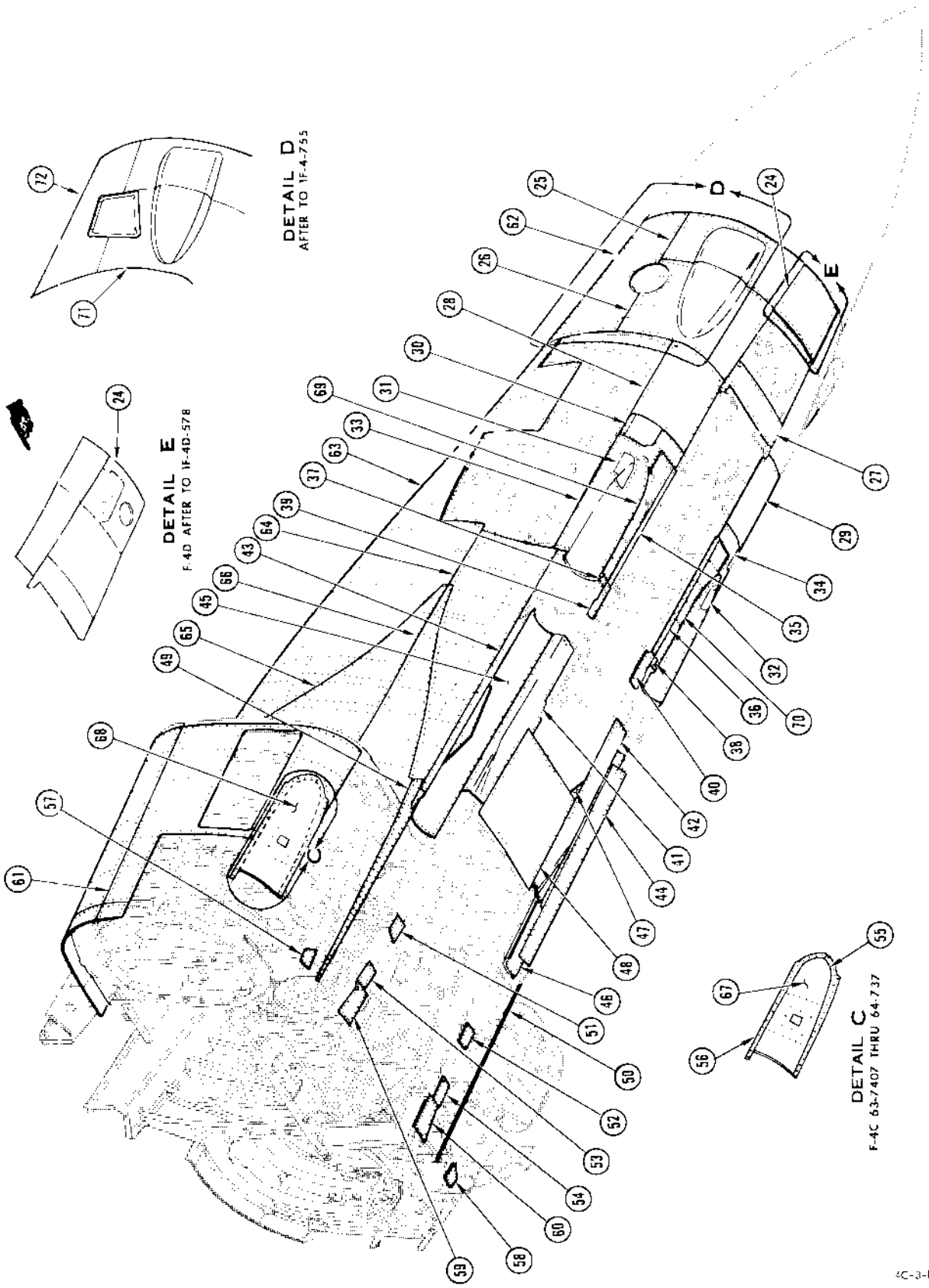


Figure 3-4. Skin Index - F-4C AND F-4D (Sheet 3 of 6)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
24 (35)	53-31051-3	SKIN	0.125 (6)	2024-T4 AL ALY	QQ-A-250/4 (T4)
(43)	53-31051-9	SKIN	0.125 (6)	2024-T4 AL ALY	QQ-A-250/4 (T4)
(51)	53G973036-31	SKIN	0.125	2024-T62 AL ALY	QQ-A-250/4 (T62)
25 (20)	32-31903-37	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(21)	32-31903-89	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26 (41)	32-31903-39	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-31903-33	SKIN	0.125 (6)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28 (11)	32-31004-129	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(34)	32-31004-215	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31003-133	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31854-282	SKIN	0.040	2024-T81 ALCLAD	QQ-A-250/5 (T81)
31	32-87350-4	WINDOW	0.080	GLASS FABRIC LAMINATE	MMS501 TYPE III
32	32-87350-3	WINDOW	0.080	GLASS FABRIC LAMINATE	MMS501 TYPE III
33 (28)	32-31854-224	SKIN	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
(31)	32-31854-706	SKIN	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
34 (26)	32-31854-223	SKIN	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
(31)	32-31854-705	SKIN	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
35	53-31004-5	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	32-31003-143	SKIN	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
37	32-31854-96	SKIN	0.080 (1)	2024-T81 AL ALY	QQ-A-250/4 (T81)
38	32-31854-95	SKIN	0.080 (1)	2024-T81 AL ALY	QQ-A-250/4 (T81)
39	32-31854-107	SKIN	0.080	2024-T81 ALCLAD	QQ-A-250/5 (T81)
40	32-31854-105	SKIN	0.080	2024-T81 ALCLAD	QQ-A-250/5 (T81)
41 (29)	32-31854-229	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	DELETED				
(30)	53-09849-21	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
42 (29)	32-31854-267	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(30)	32-31854-477	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
43 (13)	32-31854-42	SKIN	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(37)	32-31854-430	SKIN	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(30)	32-31854-718	SKIN	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
44 (15)	32-31854-41	SKIN	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(35)	32-31854-429	SKIN	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(30)	32-31854-717	SKIN	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
45 (22)	32-94535-18	SKIN	0.090	2024-T81 AL ALY	QQ-A-250/4 (T81)
(21)	32-94535-20	SKIN	0.090	2024-T6 AL ALY	QQ-A-250/4 (T81)
46 (20)	32-94535-17	SKIN	0.090	2024-T81 AL ALY	QQ-A-250/4 (T81)
(21)	32-94535-19	SKIN	0.090	2024-T81 AL ALY	QQ-A-250/4 (T81)
47	32-31854-69	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
48	32-31852-91	SKIN (7)	0.080 (1)	7178-T6 AL ALY	QQ-A-250/14 (T6)
49 (15)	32-31850-4	EDGING MEMBER	0.160 (5)	7075-T6 AL ALY	QQ-A-250/12 (T6)
(16)	32-31850-6	EDGING MEMBER	0.160 (5)	7075-T6 AL ALY	QQ-A-250/12 (T6)
50 (15)	32-31850-3	EDGING MEMBER	0.160 (5)	7075-T6 AL ALY	QQ-A-250/12 (T6)
(16)	32-31850-5	EDGING MEMBER	0.160 (5)	7075-T6 AL ALY	QQ-A-250/12 (T6)
51	32-31854-120	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
52	32-31854-119	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
53	32-31854-118	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
54	32-31854-117	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
55	32-31358-18	PLATE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56 (11)	32-31358-22	PLATE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
57	32-31004-83	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	32-31003-181	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	32-31155-13	SPLICE PLATE	0.250 (5)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60	32-31276-7	SPLICE PLATE	0.125 (5)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
61 (11)	32-31961-28	SKIN	0.071 (5)	7075-T6 AL ALY	QQ-A-250/12 (T6)
(12)	32-31961-30	SKIN	0.071 (5)	7075-T6 AL ALY	QQ-A-250/12 (T6)
62 (33)	32-31903-29	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(32)	32-31903-83	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63 (37)	53-31004-3	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(38)	53-31004-7	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64	32-31004-159	SKIN	0.050	2024-T6 ALCLAD	QQ-A-250/15 (T6)
65 (24)	32-31258-31	DOUBLER	0.080 (1)	7178-T6 AL ALY	QQ-A-250/14 (T6)
(25)	32-31258-39	DOUBLER	0.080 (1)	7178-T6 AL ALY	QQ-A-250/14 (T6)
(32)	32-31258-82	DOUBLER	0.080 (1)	7178-T6 AL ALY	QQ-A-250/14 (T6)
66 (8)	32-31259-18	DOUBLER	0.080 (1)	2024-T6 AL ALY	QQ-A-250/4 (T6)
(9)	32-31259-28	DOUBLER	0.080 (1)	2024-T6 AL ALY	QQ-A-250/4 (T6)
(10)	32-31259-32	DOUBLER	0.080 (1)	2024-T6 AL ALY	QQ-A-250/4 (T6)
67 (13)	32-31358-38	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(14)	32-31358-40	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
68 (12)	32-31358-42	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
69 (27)	32-83175-6	DUCT	CASTING	EZ33A MAGNESIUM ALLOY	QQ-M-56 (T5)
(28)	32-83175-10	DUCT	CASTING	EZ33A MAGNESIUM ALLOY	QQ-M-56 (T5)
70 (27)	32-83175-5	DUCT	CASTING	EZ33A MAGNESIUM ALLOY	QQ-M-56 (T5)
(28)	32-83175-9	DUCT	CASTING	EZ33A MAGNESIUM ALLOY	QQ-M-56 (T5)
71 (42)	32G31903-7	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
72 (44)	32G31903-9	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(46)	32G31903-11	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(162-4)E

Figure 3-4. Skin Index - F-4C AND F-4D (Sheet 4 of 6)

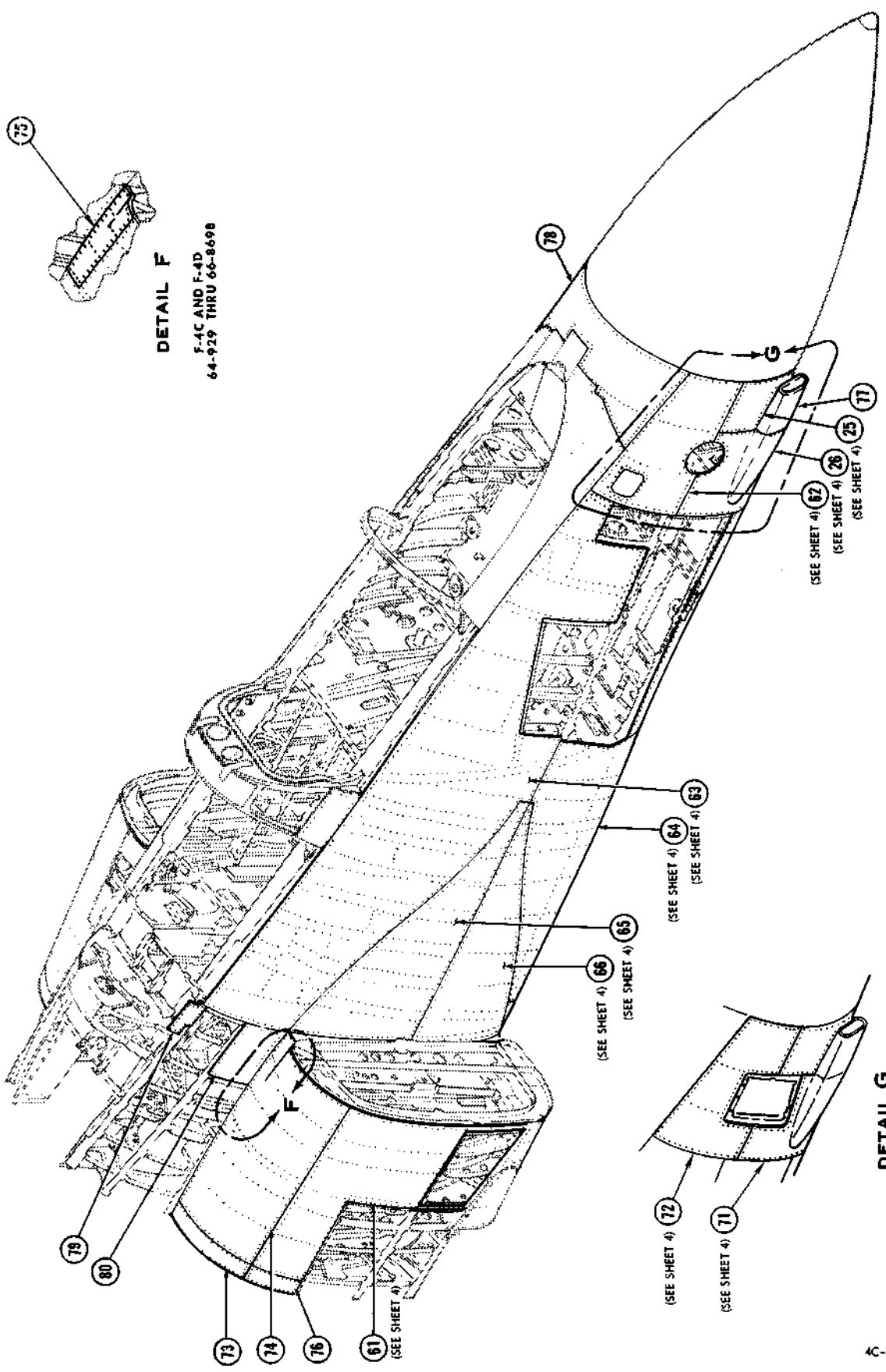


Figure 3-4. Skin Index - F-4C AND F-4D (Sheet 5 of 6)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
73	32-31961-22	SKIN	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
74 (29)	32-31961-20	SKIN	0.160 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
(9)	32-31961-32	SKIN	0.071 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
75	32-31961-7	SKIN	0.071 <1>	7075-T6 AL ALY	QQ-A-250/12 (T6)
76	32-31961-18	SKIN	0.160 <3>	7075-T6 AL ALY	QQ-A-250/12 (T6)
77 (34)	32-83197-4	INLET <4>		AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
(35)	32-83197-7	INLET <4>		AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
78 (36)	32-31903-3	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(37)	32-31903-85	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
79	32-31451-6	SKIN	0.125	GLASS FABRIC LAMINATE	MMS501 TYPE I
<52>	32G31451-6002	SKIN	0.125	7075-T6 AL ALY	QQ-A-250/12
80 (31)	32-31004-173	SKIN	0.110 <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(17)	32-31004-211	SKIN	0.110 <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)

Notes

<1> THIS SKIN IS MILLED FROM THE STOCK GAGE LISTED. THE LANDS REMAIN SAME THICKNESS AS THE STOCK WITH THE REST OF THE SKIN BEING 0.040 IN THE AREAS BETWEEN ROWS OF FASTENERS.

<2> THIS SKIN IS MILLED FROM THE STOCK GAGE LISTED. THE LANDS REMAIN SAME THICKNESS AS THE STOCK WITH THE REST OF SKIN BEING 0.050 IN THE AREAS BETWEEN ROWS OF FASTENERS.

<3> THIS PART IS CHEMICALLY MILLED FROM STOCK GAGE LISTED. THE LANDS REMAIN SAME THICKNESS AS STOCK WITH THE REST OF SKIN BEING 0.071.

<4> MACHINED CASTING.

<5> THIS SKIN IS CHEMICALLY MILLED FROM THE STOCK GAGE LISTED. THE LANDS REMAIN SAME THICKNESS AS THE STOCK MATERIAL, WITH THE REST OF THE SKIN BEING 0.060 IN THE AREAS BETWEEN ROWS OF FASTENERS.

<6> THIS SKIN IS CHEMICALLY MILLED FROM THE STOCK GAGE LISTED. THE LANDS REMAIN SAME THICKNESS AS THE STOCK MATERIAL, WITH THE REST OF THE SKIN BEING 0.063 IN THE AREAS BETWEEN ROWS OF FASTENERS.

<7> 4288 DAMPING TAPE IS INSTALLED IN THE CHEMICALLY MILLED AREAS.

(8) F-4C 63-7407 THRU 63-7442.
(9) F-4C 63-7443 THRU 63-7662.
(10) F-4C 63-7663 THRU 64-928 AND F-4D.
(11) F-4C 63-7407 THRU 64-737.
(12) F-4C 64-738 THRU 64-928 AND F-4D.
(13) F-4C 63-7407 THRU 63-7468.
(14) F-4C 63-7469 THRU 64-737.
(15) F-4C 63-7407 THRU 63-7526.
(16) F-4C 63-752 THRU 64-928 AND F-4D.
(17) F-4C AND F-4D 64-929 THRU 65-611.
(18) F-4D 65-612 THRU 66-7504.
(19) F-4D 66-7505 THRU 66-8825.
(20) F-4C AND F-4D 64-929 THRU 66-8698.
(21) F-4D 66-8699 THRU 66-8825.
(22) F-4C AND F-4D 64-929 THRU 66-8747.
(23) F-4D 66-8748 THRU 66-8825.
(24) F-4C 63-7407 THRU 63-7597.
(25) F-4C 63-7598 THRU 64-928.
(26) F-4C.
(27) F-4C 63-7407 THRU 64-881.
(28) F-4C 64-882 THRU 64-928 AND F-4D.
(29) F-4C 63-7407 THRU 64-754.
(30) F-4C 64-755 THRU 64-928 AND F-4D 64-929 THRU 63-7407.
(31) F-4D.
(32) F-4D 65-666 THRU 66-8825.
(33) F-4C AND F-4D 64-929 THRU 65-770.
(34) F-4D 65-771 THRU 66-8825.
(35) F-4C 63-7527 THRU 64-928 AND F-4D 64-929 THRU 65-785.
(36) F-4D 65-786 THRU 66-8825.
(37) F-4C AND F-4D 64-929 THRU 66-234.
(38) F-4D 66-235 THRU 66-8825.
(39) F-4D 64-929 THRU 66-8698 BEFORE TO 1F-4D-578.
(40) F-4D 66-8699 THRU 66-8825 BEFORE TO 1F-4D-578.
(41) F-4C AND F-4D BEFORE TO 1F-4-755.
(42) F-4C AND F-4D AFTER TO 1F-4-755.
(43) F-4C AND F-4D 64-929 THRU 66-8698 BEFORE TO 1F-4-755.
(44) F-4C AND F-4D 64-929 THRU 66-8698 AFTER TO 1F-4-755.
(45) F-4D 66-8699 THRU 66-8825 BEFORE TO 1F-4-755.
(46) F-4D 66-8699 THRU 66-8825 AFTER TO 1F-4-755.
(47) F-4C AND F-4D 64-929 THRU 65-607.
(48) F-4D 64-608 THRU 66-8825.
(49) F-4C 64-7598 THRU 64-928 AND F-4D.

<50> BOND BETWEEN 15-58445 BRACKET AND SKIN WITH MIL-S-8802 PER TO 1F-4C-3-1-6.

(51) F-4D AFTER TO 1F-4D-578.

<52> 32G314451-6001, -6002 SUPERSEDE 32-31451-5, -6.

4C-3-1-2-(162-6) F

Figure 3-4. Skin Index - F-4C AND F-4D (Sheet 6 of 6)

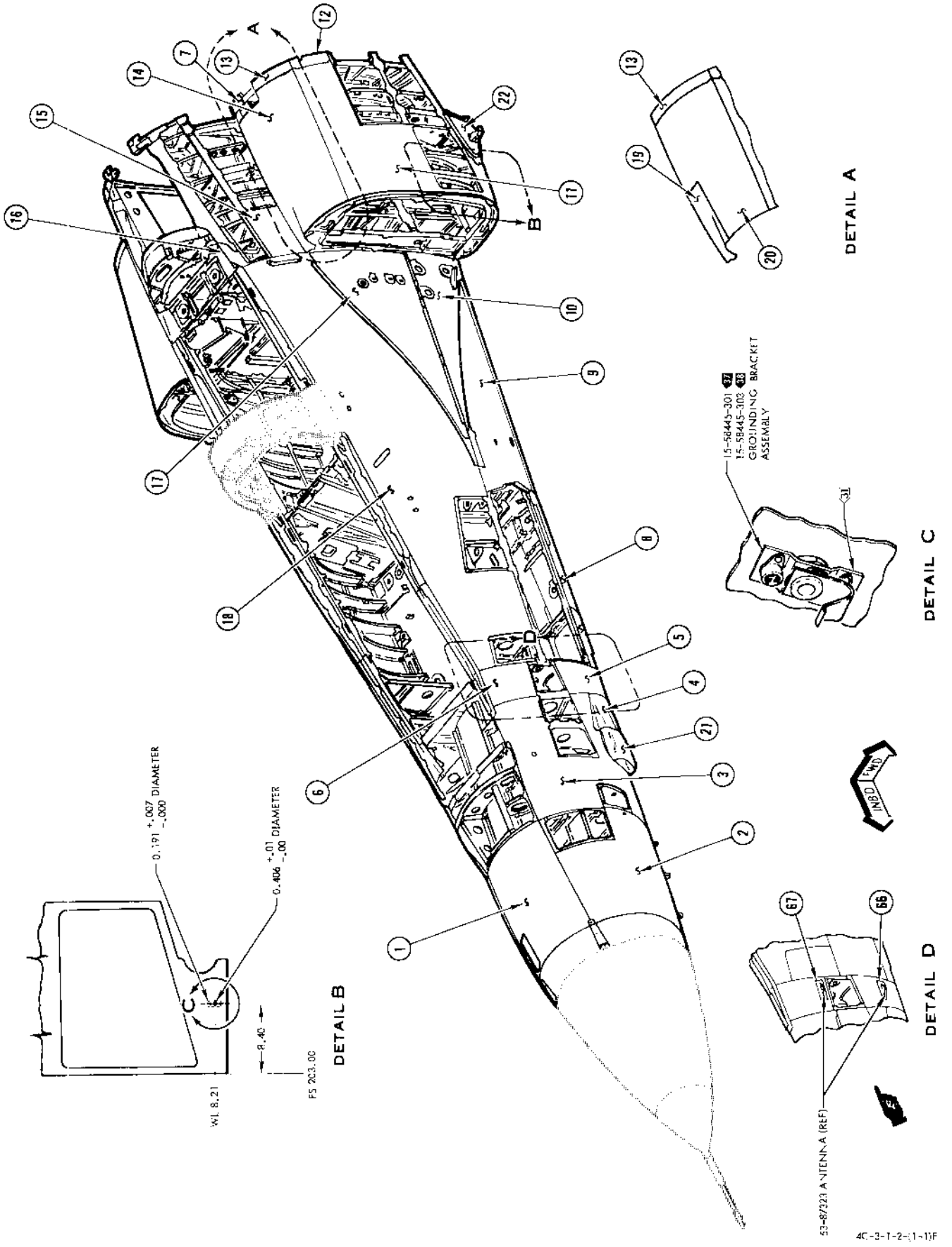


Figure 3-5. Skin Index - F-4E AND F-4G (Sheet 1 of 4)

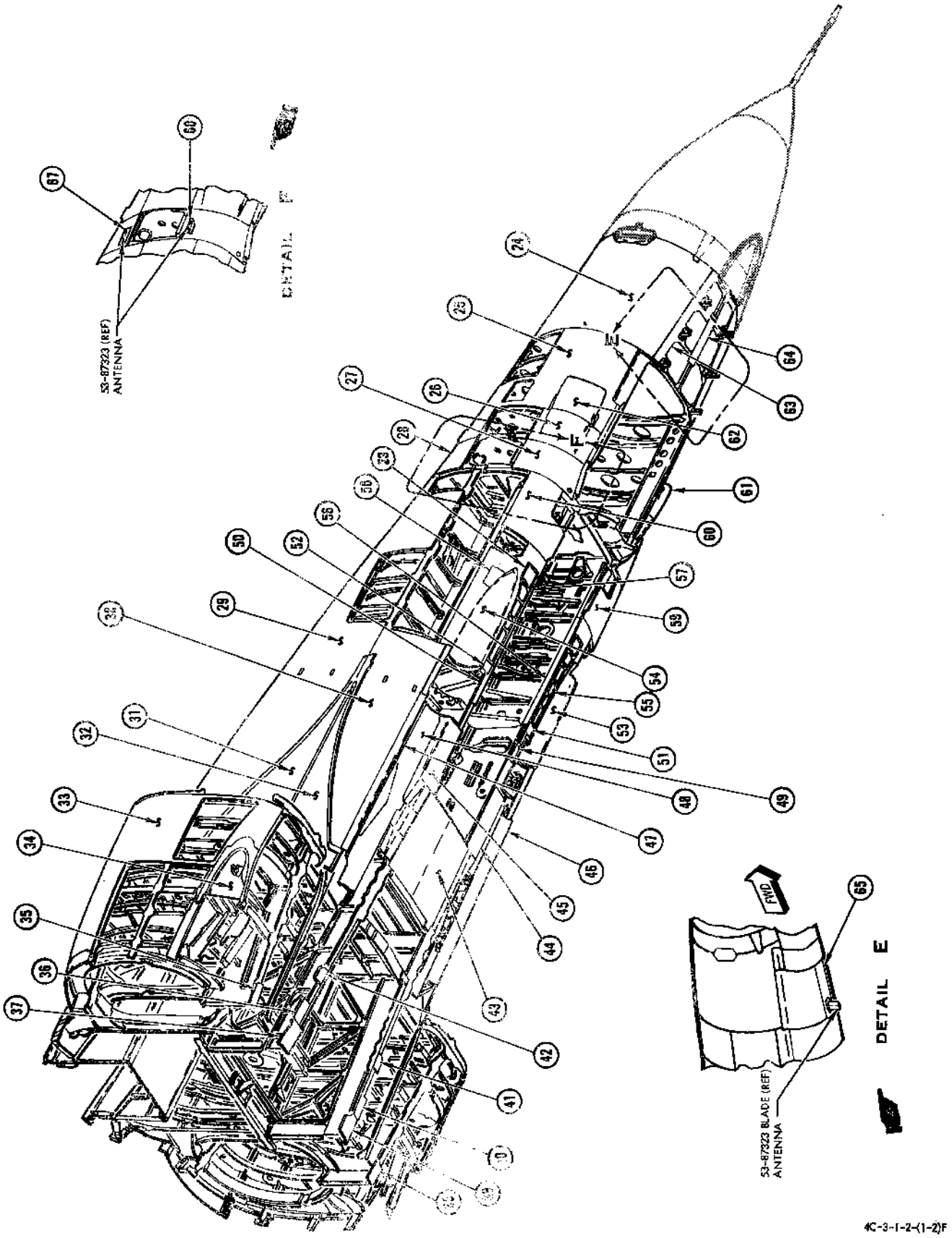


Figure 3-5. Skin Index - F-4E AND F-4G (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1 (21)	53-310106-11	SKIN	0.063 } <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(22)	53-310106-19	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
2 (23)	53-310106-7	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(29)	53-310106-15	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(30)	53-310106-21	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
3 (3)	53-310110-7	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(15)	53-310110-17	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	53-310109-3	SKIN	0.063	7178-T76 AL ALY	QQ-A-250/21 (T76)
5 (11)	53-310112-13	SKIN	0.063 <1>	7178-T76 AL ALY	QQ-A-250/21 (T76)
(12)	53-310112-21	SKIN	0.063	7178-T76 AL ALY	QQ-A-250/21 (T76)
6 (1)	53-310111-3	SKIN	0.063	7178-T76 AL ALY	QQ-A-250/21 (T76)
(12)	53-310111-5	SKIN	0.063	7178-T76 AL ALY	QQ-A-250/21 (T76)
7 (28)	32-31961-37	SKIN	0.160 <6>	7075-T6 AL ALY	QQ-A-250/12 (T6)
8	32-31854-789	SKIN	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
9	32-31003-171	SKIN	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
10	32-31259-31	DOUBLER	0.080 } <1>	2024-T6 AL ALY	QQ-A-250/4 (T6)
11	32-31961-29	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
12	32-31961-17, -18	SKIN	0.160 <6>	7075-T6 AL ALY	QQ-A-250/12 (T6)
13	32-31961-21, -22	SKIN	0.160 <4>	7075-T6 AL ALY	QQ-A-250/12 (T6)
14 (25)	32-31961-31, -32	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
(26)	32-31961-39, -32	SKIN	0.071 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
15	32-31003-183	SKIN <7>	0.110	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31004-211	SKIN <8>	0.110	7178-T6 AL ALY	QQ-A-250/14 (T6)
16 (16)	32-31451-5, -6	SKIN	0.125	GLASS FABRIC LAMINATE	MMS-501 TYPE I
(37)	32G31451-6001, -6002	SKIN	0.125	7075-T6 AL ALY	QQ-A-250/12
(15)	32-311503-11	SKIN <7>	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(15)	32-311504-11	SKIN <8>	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-31258-81	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
18 (24)	32-31003-3	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(27)	53-31003-5	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(15)	53-31003-7	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19 (9)	32-31961-7, -8	SKIN	0.071 } <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
20 (5)	32-31961-19, -20	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
21	53-830053-3	INLET	CASTING	AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
22 (33)	32-31358-43	WEB	0.125 } <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(34)	32-31358-49	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
23	32-83115-302	DUCT ASSEMBLY	CASTING	EZ 33A MAGNESIUM ALLOY	QQ-M-56 (T5)

4C-3-1-2-(1-3)G

Figure 3-5. Skin Index - F-4E AND F-4G (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
24 (19)	53-310106-13	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(20)	53-310106-17	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
25 (19)	53-310110-13	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(15)	53-310110-15	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
26 (13)	53-310109-5	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(14)	53-310109-7	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
27 (11)	53-310112-15	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(12)	53-310112-23	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
28 (11)	53-310111-4	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(12)	53-310111-6	SKIN	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
29 (9)	53-31004-3	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	53-31004-7	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(15)	53-31004-9	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31004-159	SKIN	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
31 (33)	32-31258-103	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(34)	32-31258-153	DOUBLER	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
32	32-31259-32	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	32-31961-30	SKIN	0.071 <1>	7075-T6 AL ALY	QQ-A-250/12 (T6)
34	32-31356-44	WEB	0.125 <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)
35	32-31004-83	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	32-31854-118	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
37	32-31155-13	SPLICE PLATE	0.250 <4>	7178-T6 AL ALY	QQ-A-250/15 (T6)
38	32-31003-181	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39	32-31276-7	SPLICE PLATE	0.125 <4>	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	32-31854-117	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/4 (T3)
41	32-31854-119	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
42	32-31854-120	SKIN	0.080	2024-T3 ALCLAD	QQ-A-250/5 (T3)
43	32-31852-91 <5>	SKIN	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
44 (21)	32-31854-477	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(22)	32-31854-835	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
45 (16)	32-31854-481	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(17)	32-31854-843	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
(23)	32-31854-885	SKIN	0.080	7075-T6 ALCLAD	QQ-A-250/13 (T6)
46	32-31854-718	SKIN	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
47	32-31854-717	SKIN	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
48	32-94535-20, -19	SKIN	0.090	2024-T81 AL ALY	QQ-A-250/4 (T81)
49	32-31854-105	SKIN	0.080	2024-T81 ALCLAD	QQ-A-250/5 (T81)
50	32-31854-107	SKIN	0.080	2024-T81 ALCLAD	QQ-A-250/5 (T81)
51	32-31854-95	SKIN	0.080 <1>	2024-T81 ALCLAD	QQ-A-250/4 (T81)
52	32-31854-96	SKIN	0.080 <1>	2024-T81 AL ALY	QQ-A-250/4 (T81)
53	32-31854-789	SKIN	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
54	32-31854-706	SKIN	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
55	32-83175-301	DUCT ASSEMBLY	CASTING	EZ 33A MAGNESIUM ALLOY	QQ-M-56 (T5)
56	32-31003-143	SKIN	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
57	53-31004-5	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	32-87350-4, -3	WINDOW	0.080	GLASS FABRIC LAMINATE	MMS-501 TYPE III
59	53-310249-3	SKIN	0.063	7178-T76 AL ALY	QQ-A-250/14 (T76)
60 (18)	53-310249-4	SKIN	0.063 <1>	7178-T76 AL ALY	QQ-A-250/14 (T76)
(19)	53-310249-5	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(20)	53-310249-7	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
61	53-830053-3	INLET	CASTING	AZ 91C MAGNESIUM ALLOY	QQ-M-56 (T6)
62	53-830053-4	INLET	CASTING	AZ 91C MAGNESIUM ALLOY	QQ-M-56 (T6)
63 (18)	53-310114-10	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
(15)	53-310114-20	SKIN	0.071 <3>	2024-T6 AL ALY	QQ-A-250/4 (T6)
64 (18)	53-310114-9	SKIN	0.071 <3>	2024-T6 AL ALY	QQ-A-250/4 (T6)
(15)	53-310114-19	SKIN	0.071 <3>	2024-T6 AL ALY	QQ-A-250/4 (T6)
65 (32)	53G973037-5	SKIN	0.080	7075-T6 AL ALY	QQ-A-250/12(T6)
66 (37)	53G973020-5	MOUNT	CASTING	A356-T61 AL ALY	MIL-A-21180(T61)
67 (32)	53G973019-5	MOUNT	IMA10295	7075-T7351 AL ALY	MMS-159(T7351)
68 (37)	53G973020-6	MOUNT	CASTING	A356-T61 AL ALY	MIL-A-21180(T61)

Notes

<1> THIS SKIN HAS BEEN CHEMICALLY MACHINED FROM THE STOCK GAGE LISTED TO 0.040. THE LANDS REMAIN STOCK THICKNESS.
<2> THIS SKIN HAS BEEN CHEMICALLY MACHINED FROM THE STOCK GAGE LISTED TO 0.050. THE LANDS REMAIN STOCK THICKNESS.
<3> THIS SKIN HAS BEEN CHEMICALLY MACHINED FROM THE STOCK GAGE LISTED TO 0.025. THE LANDS REMAIN STOCK THICKNESS.
<4> THIS SKIN MACHINED TO VARIOUS THICKNESS.
<5> 4288 DAMPING TAPE IS INSTALLED IN CHEMICALLY MACHINED AREAS.
<6> THIS SKIN HAS BEEN CHEMICALLY MACHINED FROM THE STOCK GAGE LISTED TO 0.071. THE LANDS REMAIN STOCK THICKNESS.
<7> LEFT SIDE.
<8> RIGHT SIDE.
(9) F-4E 66-284 THRU 66-297.
(10) F-4E 66-298 THRU 67-219.
(11) F-4E 66-284 THRU 66-312.
(12) F-4E 66-313 AND UP, MODIFIED ON F-4G.
(13) F-4E 66-284 THRU 66-338.
(14) F-4E 66-339 AND UP, AND F-4G.
(15) F-4E 67-220 AND UP, AND F-4G.
(16) F-4E 66-284 THRU 67-282.
(17) F-4E 68-303 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
(18) F-4E 66-284 THRU 67-219.
(19) F-4E 67-283 THRU 69-7588 AND F-4G.
(20) F-4E 69-7589 AND UP.
(21) F-4E 66-284 THRU 67-398.
(22) F-4E 68-303 AND UP AND F-4G.
(23) F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 AND UP.
(24) F-4E 66-284 THRU 66-297.
(25) F-4E 66-298 THRU 66-367.
(26) F-4E 66-284 THRU 66-295, 66-297 AND 66-300.
(27) F-4E 66-296, 66-298, 66-299, AND 66-301 THRU 67-219.
(28) F-4E 66-368 AND UP AND F-4G.
(29) F-4E 68-303 THRU 68-494.
(30) F-4E 68-495 AND UP AND F-4G.
(31) BOND BETWEEN 15-58445 BRACKET AND SKIN WITH MIL-S-8802 SEALANT PER TO 1F-4C-3-1-6.
(32) F-4G.
(33) F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-303.
(34) F-4E/G 69-304 THRU 69-7588, F-4E 69-7589 AND UP.
(35) F-4E 66-284 THRU 71-236 AND F-4G.
(36) F-4E 71-237 AND UP.
(37) 32G314451-6001, -6002 SUPERSEDE 32-31451-5, -6

4C-3-1-2-(1-4)G

Figure 3-5. Skin Index - F-4E AND F-4G (Sheet 4 of 4)

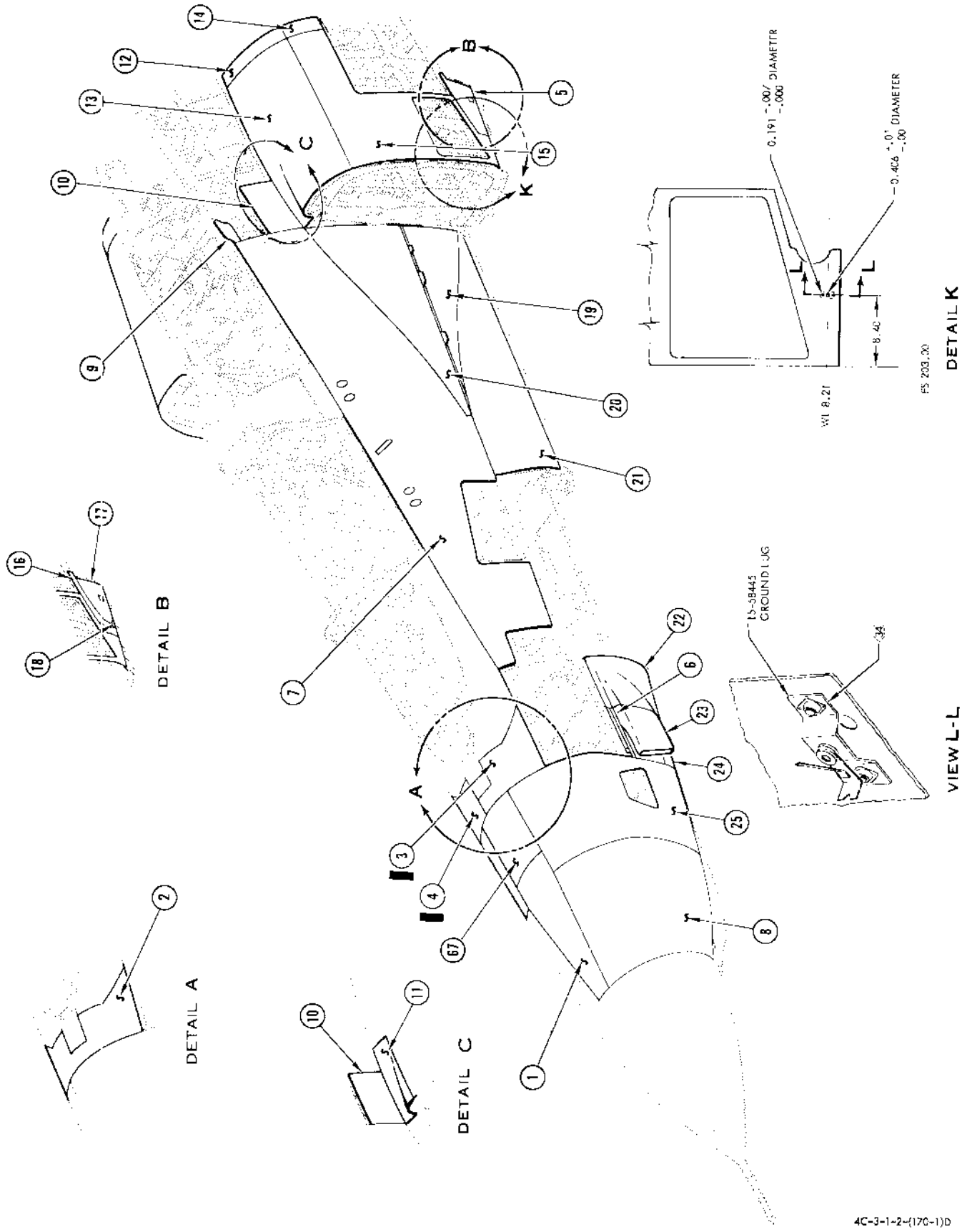


Figure 3-6. Skin Index - RF-4 (Sheet 1 of 5)

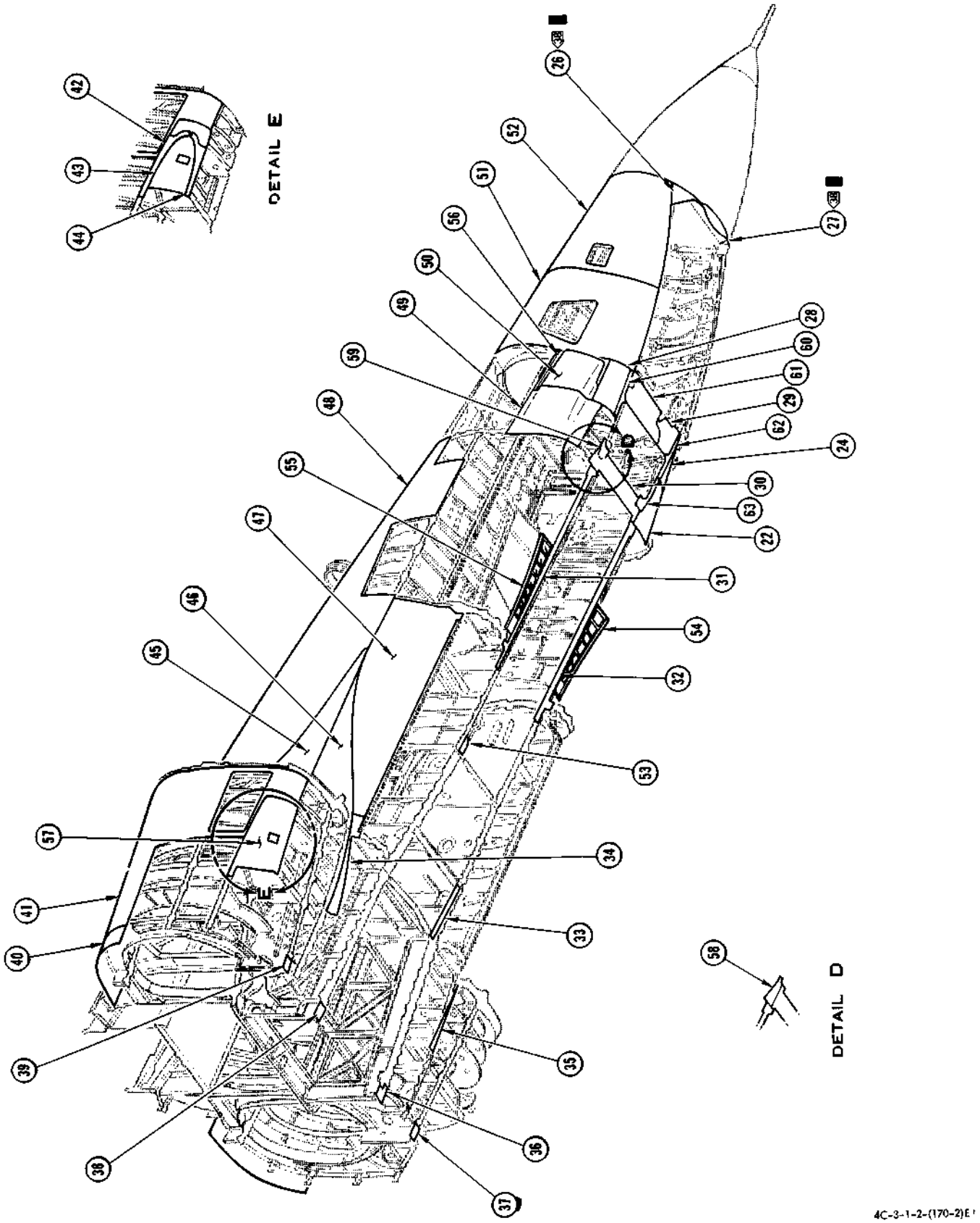


Figure 3-6. Skin Index - RF-4 (Sheet 2 of 5)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-39056-3	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
2 (21)	53-34165-3	SKIN	0.063 <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)
3 (29)	53-34165-5	SKIN	0.063 <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)
4 (29)	53-34165-7	SKIN	0.063 <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)
5 (14)	32-31358-41	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
6	53-39150-3	TRIM STRIP	0.071	5052-H34 AL ALY	QQ-A-250/8 (H34)
7 (17)	53-34003-3	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(18)	53-34003-37	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	53-39053-5	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
9 (17)	32-31451-5	SKIN	0.125	GLASS FABRIC LAMINATE	MMS501, TYPE I, CLASS B
(39)	32G31451-6001	SKIN	0.125	7075-T6 AL ALY	QQ-A-250/12
(18)	32-311503-11	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31003-183	SKIN	0.110 <2>	7178-T6 AL ALY	QQ-A-250/14 (T6)
11 (26)	32-31961-8	SKIN	0.071 <3>	7075-T6 AL ALY	QQ-A-250/12 (T6)
12	32-31961-21	SKIN	0.160 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
13 (26)	32-31961-19	SKIN	0.071 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
(27)	32-31961-31	SKIN	0.071 <3>	7075-T6 AL ALY	QQ-A-250/12 (T6)
14	32-31961-17	SKIN	0.160 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
15 (26)	32-31961-27	SKIN	0.071 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
(18)	32-31961-29	SKIN	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16 (13)	32-31358-21	PLATE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17 (7)	32-31358-37	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(8)	32-31358-39	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18 (13)	32-31358-17	PLATE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	53-34037-3	DOUBLER	0.080 <1>	2024-T6 AL ALY	QQ-A-250/4 (T6)
20 (7)	32-31258-21	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(38)	32-31258-61	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(39)	32-31258-77	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(9)	32-31258-159	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(10)	32-31258-171	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
21	53-34003-5	SKIN	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
22	53-39055-3	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
23	53-83501-11	INLET	<4>	AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
24	53-39057-5	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	53-39054-3	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
26 (23)	53-39155-4	SKIN	0.160 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
(24)	53-39307-4 (38)	SKIN	0.160 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
27 (23)	53-39255-3	SKIN	0.160 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
(24)	53-39307-3 (38)	SKIN	0.160 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
28 (7)	32-37015-5	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
29 (36)	53-39060-3	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(37)	53G39060-3	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(24)	53-39060-7	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
30 (15)	53-39061-5	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
(15)	32-37021-5	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
31	53-34004-7	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	53-34003-7	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	53-34003-9	SKIN	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34 (12)	53-34033-6	SILL	0.190 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
(6)	53-34033-8	SILL	0.190 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
(11)	53-34033-10	SILL	0.190 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
35 (12)	53-34033-5	SILL	0.190 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
(6)	53-34033-7	SILL	0.190 <3>	2024-T4 AL ALY	QQ-A-250/4 (T6)
(11)	53-34033-9	SILL	0.190 <3>	2024-T4 AL ALY	QQ-A-250/4 (T4)
36	53-34101-3	SPLICE PLATE	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	32-31003-181	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38	53-34102-3	SPLICE PLATE	0.250 <3>	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39	32-31004-83	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	32-31961-18	SKIN	0.160 <3>	7075-T6 AL ALY	QQ-A-250/12 (T6)
41 (18)	32-31961-28	SKIN	0.071 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
(18)	32-31961-30	SKIN	0.071 <2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
42 (13)	32-31358-22	PLATE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43 (7)	32-31358-38	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(8)	32-31358-40	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44 (13)	32-31358-18	PLATE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
45 (12)	32-31258-37	DOUBLER	0.080 <1>	2024-T4 AL ALY	QQ-A-250/4 (T4)
(31)	32-31258-65	DOUBLER	0.080 <1>	2024-T4 AL ALY	QQ-A-250/4 (T4)
(32)	32-31258-78	DOUBLER	0.080 <1>	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(33)	32-31258-97	DOUBLER	0.080 <1>	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(34)	32-31258-161	DOUBLER	0.080 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
46	53-34037-4	DOUBLER	0.080 <1>	2024-T6 AL ALY	QQ-A-250/4 (T6)
47	53-34004-5	SKIN	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
48 (7)	53-34004-3	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(8)	53-34004-39	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49 (35)	32-37020-3	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
50	53-83502-11	INLET	<4>	AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
51	53-39054-4	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
52	53-39053-6	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
53	53-34004-35	SKIN	0.190 <3>	2024-T3 AL ALY	QQ-A-250/4 (T3)
54 (3)	53-83503-1	DUCT ASSEMBLY		<5>	QQ-M-56 (T5)
(3)	53-83655-3	DUCT ASSEMBLY		EZ33A MAGNESIUM ALLOY	QQ-M-56 (T5)
55 (13)	53-83503-2	DUCT ASSEMBLY		<5>	QQ-M-56 (T5)
(13)	53-83655-4	DUCT ASSEMBLY		EZ33A MAGNESIUM ALLOY	QQ-M-56 (T5)
56	53-39150-4	TRIM STRIP	0.071	5052-H34 AL ALY	QQ-A-250/8 (H34)
57 (14)	32-31358-42	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
58 (15)	53SB6011-3	SKIN	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59 (25)	53-39324-3	FAIRING FILLET	<4>	356-T6 AL ALY	QQ-A-596 (T6)
60 (25)	53-39316-5	FAIRING FILLET	<4>	A356-T61 AL ALY	MIL-A-21180, CLASS 1 (T61)
61 (22)	53-39315-3	SKIN	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
62 (22)	53-39316-3	FAIRING FILLET	<4>	A356-T61 AL ALY	MIL-A-21180, CLASS 1 (T61)
63 (24)	53-39323-3	FAIRING FILLET	<4>	356-T6 AL ALY	QQ-A-596 (T6)

4C-3-1-2-(170-3)84

Figure 3-6. Skin Index - RF-4 (Sheet 3 of 5)

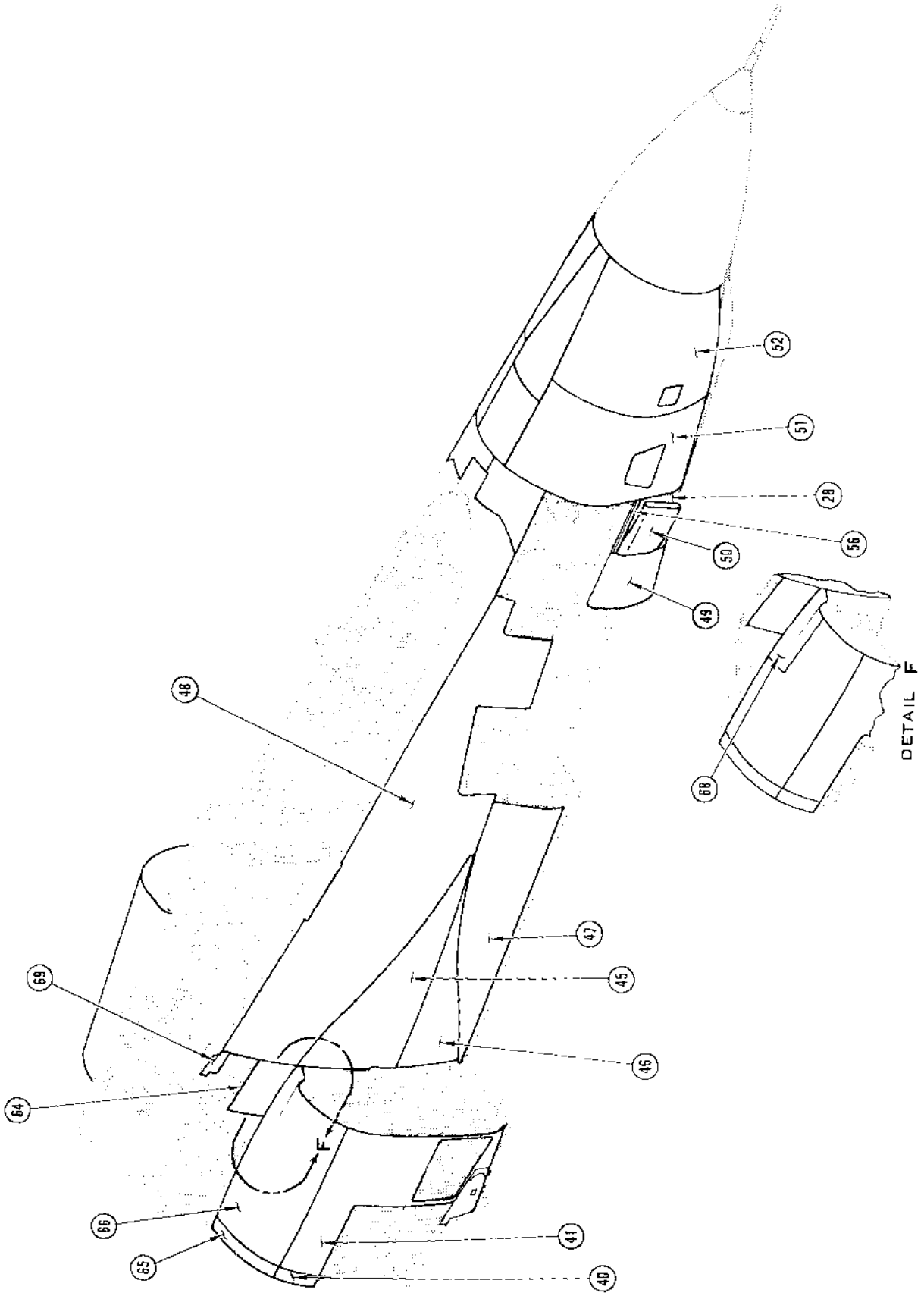


Figure 3-6. Skin Index - RF-4 (Sheet 4 of 5)

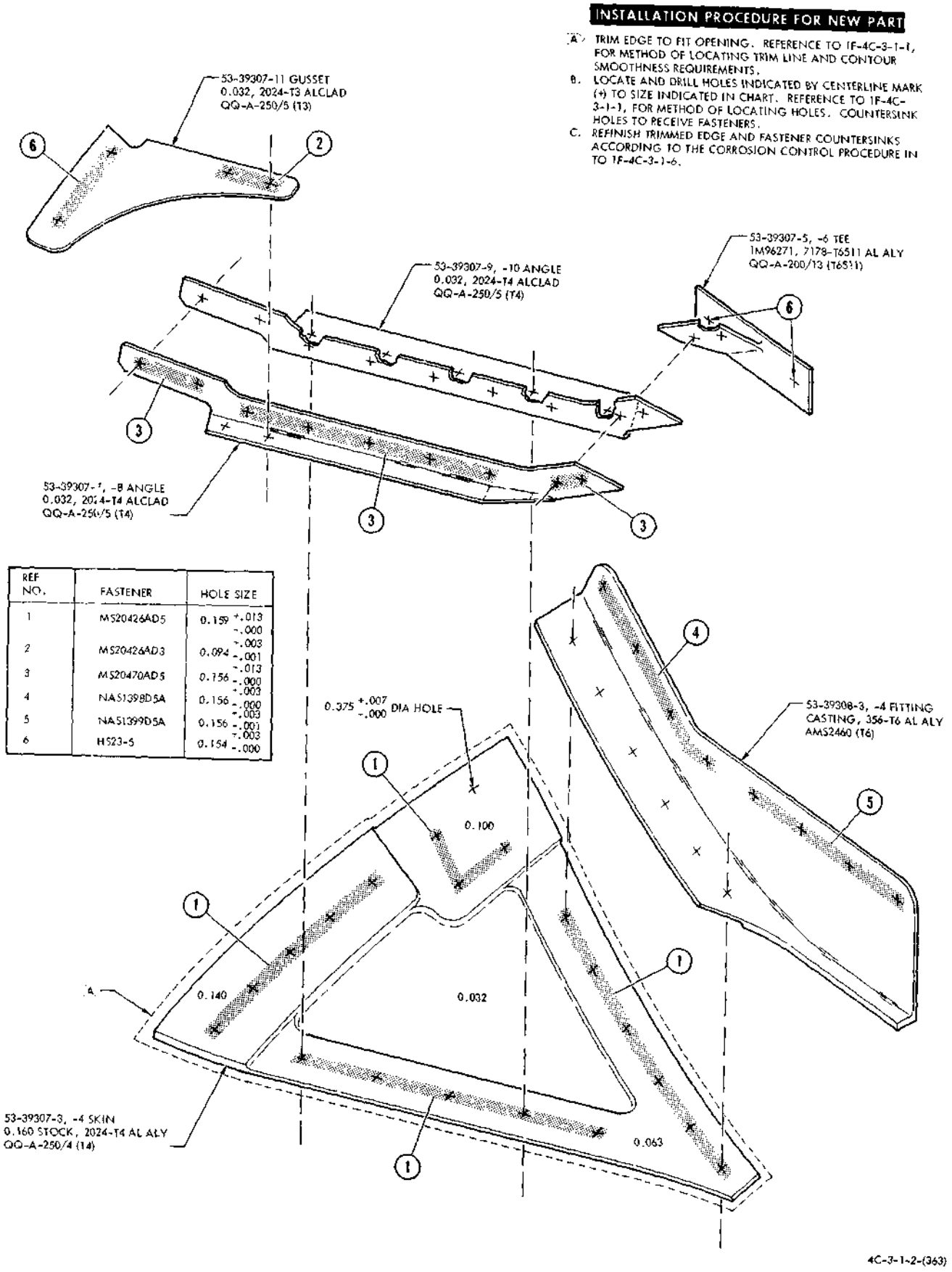
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
64	32-31004-173	SKIN	0.110 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31004-211	SKIN	0.110 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
65	32-31961-22	SKIN	0.160 (3)	7075-T6 AL ALY	QQ-A-250/12 (T6)
66	32-31961-20	SKIN	0.071 (2)	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31961-32	SKIN	0.071 (2)	7075-T6 AL ALY	QQ-A-250/12 (T6)
67	53-39130-3	COVER	0.125	GLASS FIBER BASE	TYPE II CLASS D MMS-501
68	32-31961-7	SKIN	0.071 (2)	7075-T6 AL ALY	QQ-A-250/12 (T6)
69	32-31451-6	SKIN	0.125	GLASS FABRIC LAMINATE	MMS501, TYPE 1, CLASS B
	32G31451-6002	SKIN	0.125	7075-T6 AL ALY	QQ-A-250/12
	32-311504-11	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

(1) THIS SKIN IS CHEMICALLY MILLED FROM THE STOCK GAGE LISTED. THE LANDS REMAIN THE SAME THICKNESS AS THE STOCK MATERIAL WITH THE REST OF THE SKIN BEING 0.040 IN THE AREAS BETWEEN ROWS OF FASTENERS.
(2) THIS SKIN IS CHEMICALLY MILLED FROM THE STOCK GAGE LISTED. THE LANDS REMAIN THE SAME THICKNESS AS THE STOCK MATERIAL WITH THE REST OF THE SKIN BEING 0.050 IN THE AREAS BETWEEN ROWS OF FASTENERS.
(3) THIS PART IS CHEMICALLY MILLED FROM THE STOCK GAGE LISTED.
(4) MACHINED CASTING.
(5) PARTS ADJACENT TO ALUMINUM ALLOY ARE 321 CRES MIL-S-6721, COMPOSITION T1 CONDITION A.
RF-4 64-997 THRU 64-1077.
RF-4 63-7742.
RF-4 63-7743 THRU 64-1061.
RF-4 69-367 THRU 69-383.
RF-4 69-384 THRU 72-156.
RF-4 64-1078 THRU 72-156.
RF-4 63-7742 THRU 63-7763.
RF-4 63-7742 THRU 64-1061.
RF-4 64-1062 THRU 72-156.
RF-4 63-7742 THRU 64-1013.
RF-4 64-1014 THRU 72-156.
RF-4 63-7742 THRU 67-444.
RF-4 67-445 THRU 72-156.
RF-4 66-934 THRU 66-415.
RF-4 66-416 THRU 69-366.
RF-4 63-7742 THRU 67-433.
RF-4 67-434 THRU 72-156.
RF-4 63-7742 THRU 69-375.
RF-4 69-376 THRU 72-156.
RF-4 69-367 THRU 72-156.
RF-4 63-7742 THRU 66-450.
RF-4 66-451 THRU 72-156.
RF-4 63-7742 THRU 63-7755.
RF-4 63-7756 THRU 72-156.
RF-4 64-997 THRU 72-156.
RF-4 64-997 THRU 65-932.
RF-4 65-868 THRU 69-366.
RF-4 63-7743 THRU 65-867.
(34) BOND BETWEEN 15-58445 BRACKET AND SKIN WITH MIL-S-8802 SEALANT PER TO 1F-4C-3-1-6.
DELETED.
RF-4 63-7742 THRU 69-375 BEFORE TO 1F-4(R)C-647.
RF-4 63-7742 THRU 69-375 AFTER TO 1F-4(R)C-647.
(38) FOR REPLACEMENT SEE FIGURE 3-6A.
(39) 32G314451-6001, -6002 SUPERSEDE 32-31451-5, -6.

4C-3-1-2-(170-5)F

Figure 3-6. Skin Index - RF-4 (Sheet 5 of 5)



REF NO.	FASTENER	HOLE SIZE
1	MS20426AD5	0.159 +.013 -.000
2	MS20426AD3	0.094 +.003 -.001
3	MS20470AD5	0.156 +.013 -.000
4	NAS1398D5A	0.156 +.003 -.000
5	NAS1399D5A	0.156 +.003 -.001
6	HS23-5	0.154 +.003 -.000

Figure 3-6A. Fairing Assembly, 53-39307-1, -2, Replacement Index

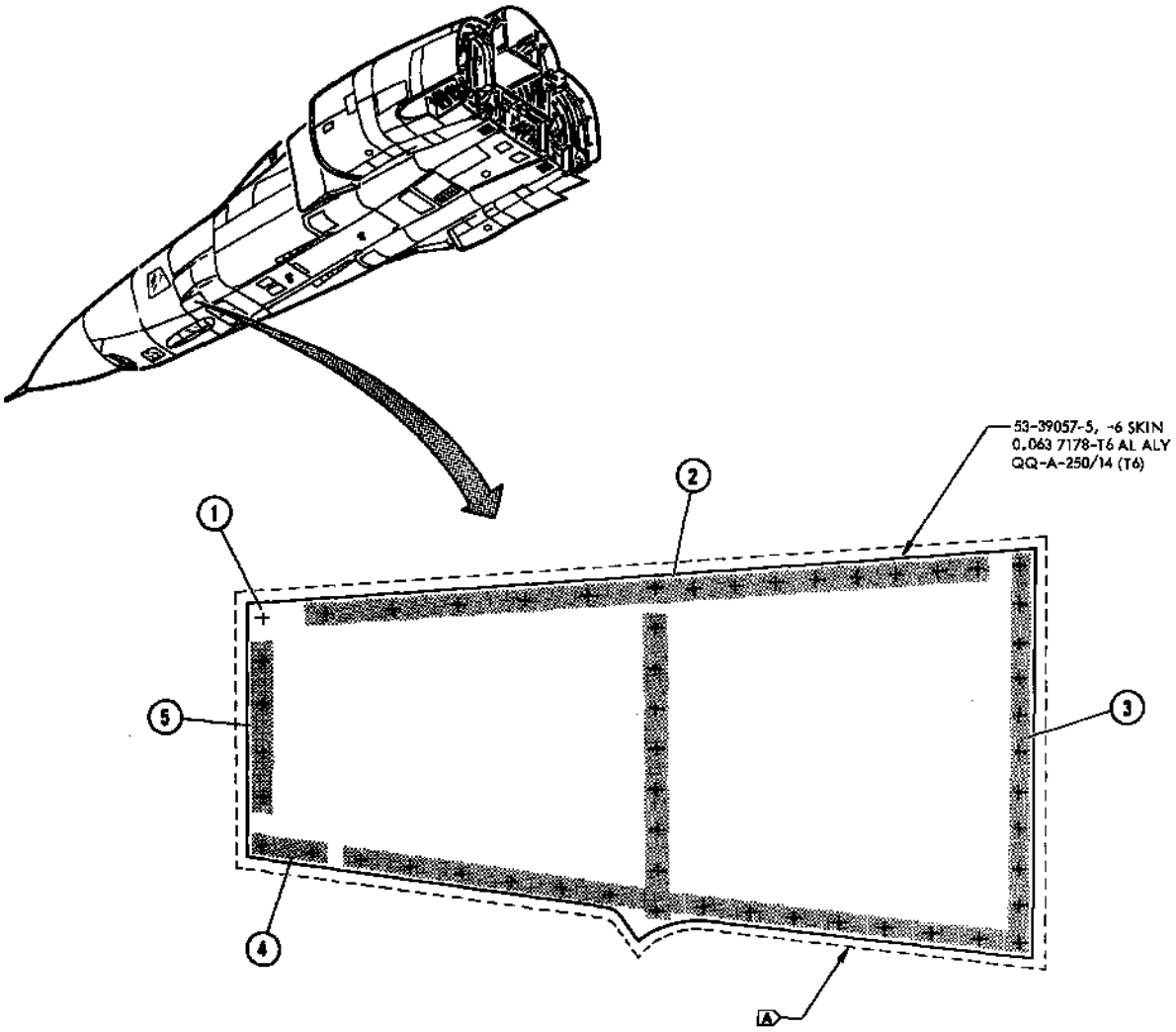
EXTERNAL DOORS AND PANELS					
DOOR NUMBER	PART NUMBER	F-4C	F-4D	RF-4C	F-4E/G
12L	32-30001	X	X	X	X
12R	32-30001	X	X	X	X
21L	32-31131	X	X	X	X
21R	32-31131	X	X	X	X
25L	32-31222	X	X	X	X
25R	32-31222	X	X	X	X
27L	53-87014	X	X	X	X
27L	53-34174			X	
27R	53-87014	X	X		X
27R	53-34174			X	
29L	32-31218	X	X	X	X
29R	32-31218	X	X	X	X
30L	32-31217	X	X	X	X
30R	32-31217	X	X	X	X
31L	32-31386	X	X	X	X
31R	32-31386	X	X	X	X
33L	32-31115	X	X	X	X
33R	32-31115	X	X	X	X
115L	32-31854	X	X		X
115R	32-31854	X	X		X
121L	32-32505	X	X	X	X
121R	32-32505	X	X	X	X
125L	32-30264	X	X	X	X
125R	32-30264	X	X	X	X
127L	32-30120	X	X	X	X
127R	32-30120	X	X	X	X
128L	32-30120	X	X	X	X
128R	32-30120	X	X	X	X
137L	53-11046	X	X	X	X
137R	53-11046	X	X	X	X

Notes

1. DOORS LISTED ABOVE CAN HAVE LOOSE OR MISSING FASTENERS IN FLIGHT SUBJECT TO THE FOLLOWING LIMITATIONS:
   A. LOOSE FASTENERS ARE CONSIDERED MISSING FASTENERS.
   B. NO CORNER FASTENERS CAN BE MISSING.
   C. WHEN MISSING FASTENERS ARE ALLOWED, ONE IN TEN FASTENERS IN A STRAIGHT LINE PATTERN CAN BE MISSING, BUT MUST HAVE MINIMUM OF TEN FASTENER SEPARATION.
   D. REPLACE ALL MISSING FASTENERS AT NEXT DOOR REMOVAL.
2. NO LOOSE OR MISSING FASTENERS ARE ALLOWED FORWARD OF THE AIR INLET DUCTS OR IN DOORS WITH LESS THAN 30 FASTENERS.

4C-3-1-2-(417)

Figure 3-6B. Allowable Loose and Missing Fasteners in Flight



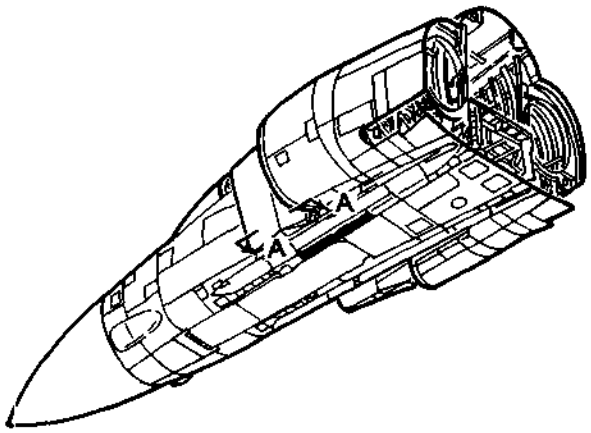
INSTALLATION PROCEDURE FOR NEW PART

A. TRIM EDGE TO FIT OPENING. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIM LINE.
B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES AS REQUIRED.
C. REFINISH TRIMMED EDGES, HOLES, AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	NAS333CFA6	MS21042-3	AN960D10	0.191 +.006 -.000
2	MS2042685			0.156 +.013 -.000
3	MS20426AD5			0.156 +.013 -.000
4	NAS1055-5-5	NAS528A5		0.156 +.006 -.000
5	MS20426AD5			0.156 +.013 -.000

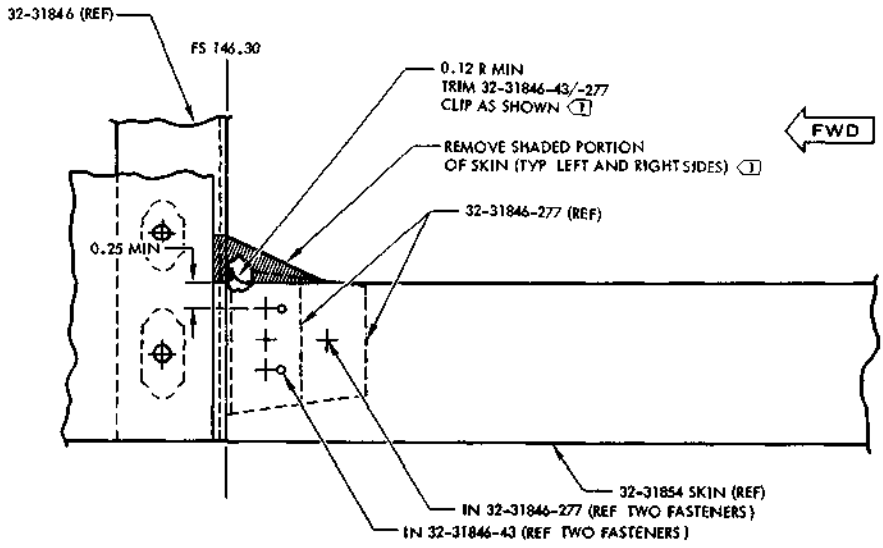
4C-3-1-2-(315)

Figure 3-7. Skin, 53-39057, Replacement-RF-4



Note

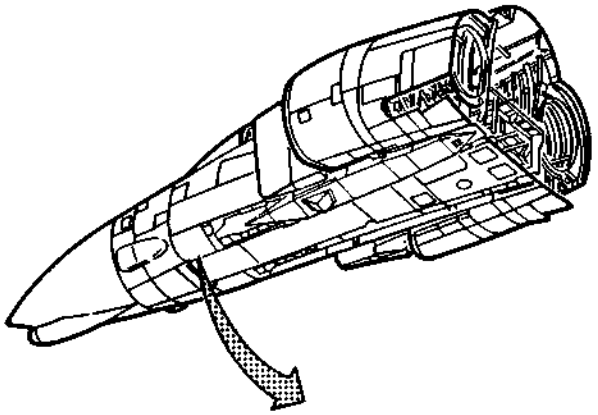
1 REFINISH TRIMMED SKIN PER T. O. 1F-4C-3-1-6.

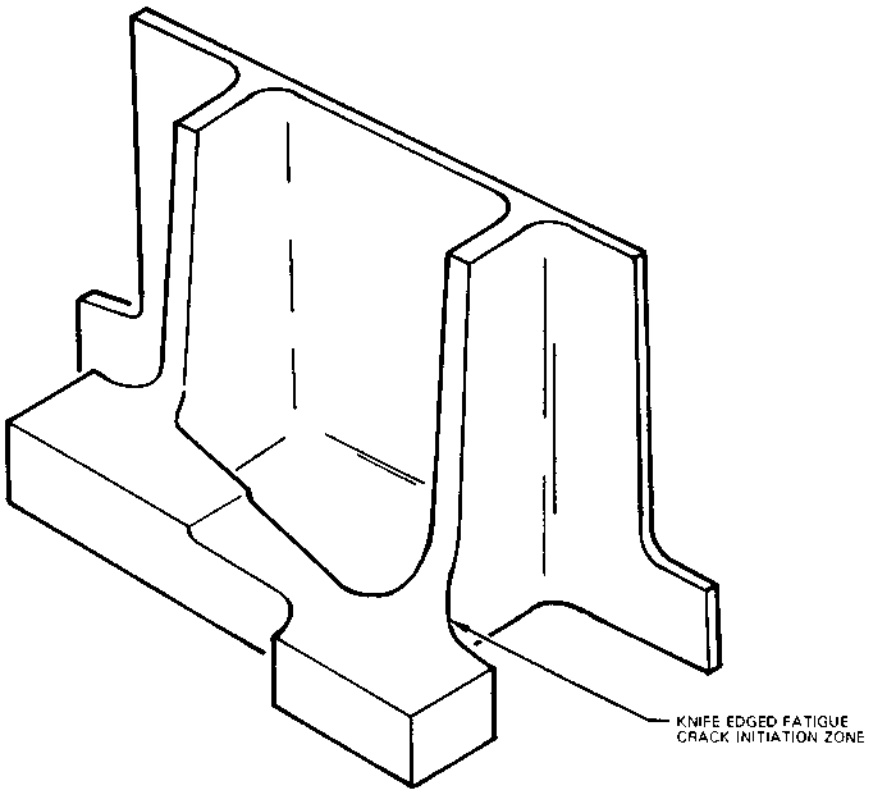


VIEW A-A

4C-3-1-2-(225)A

Figure 3-8. Trimming Missile Well Skin





Note

1 REFINISH BLENDED AREA PER TO 1F-4C-3-1-6

REPAIR PROCEDURE

A. REMOVE CRACK BY BLENDING. MAX DEPTH OF MATERIAL REMOVED AFTER BLENDING IS 0.100 INCH. REPLACE FITTING IF BEYOND LIMITS.
B. HAND POLISH 63 FINISH REWORKED AREA ALONG WITH KNIFE EDGE IN CRACK INITIATION ZONE. 1

4C 3-1-2 (462)87

Figure 3-8A. Fwd Missile Well Fitting.

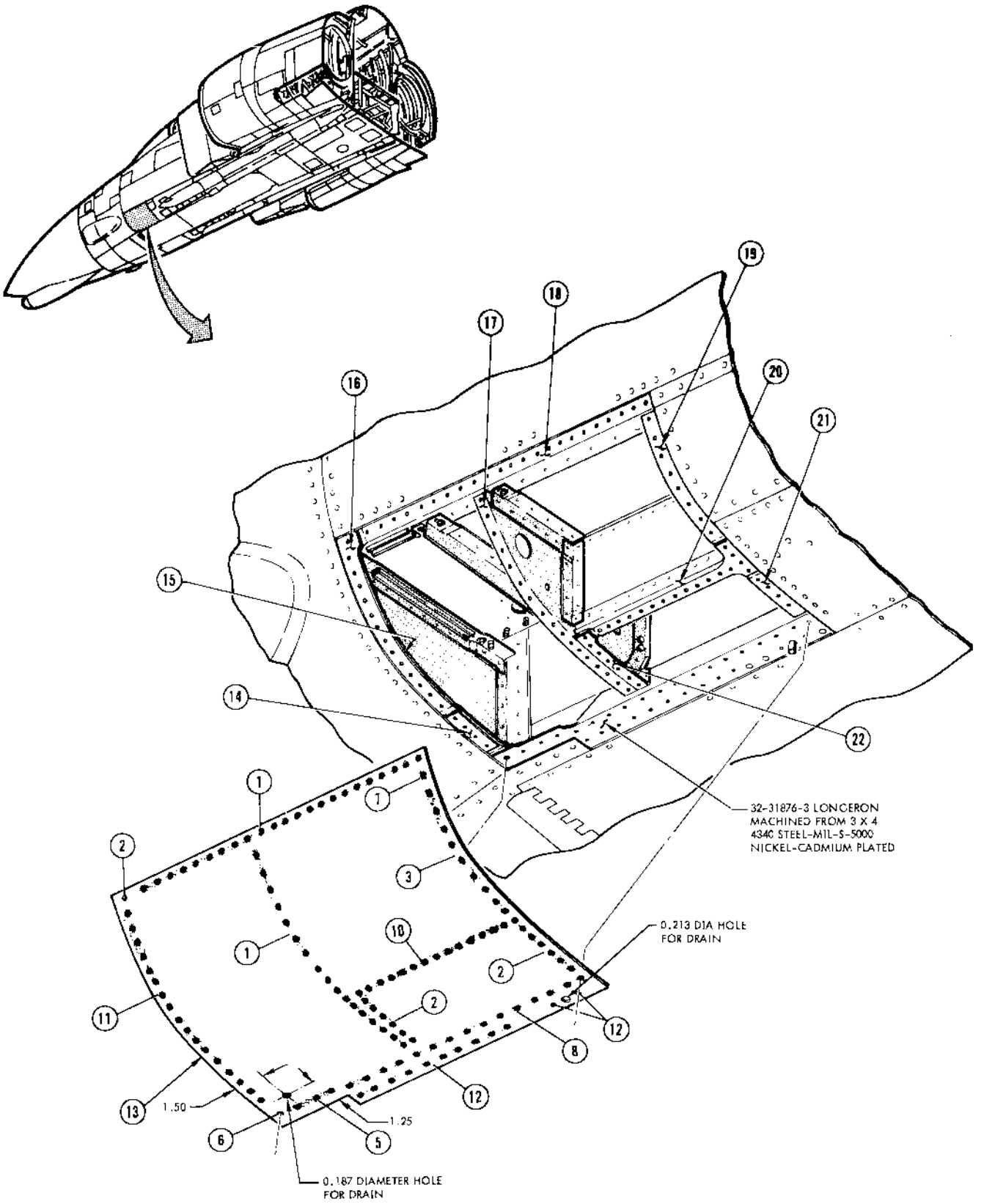


Figure 3-9. Skin, 32-31003-133, Replacement (Sheet 1 of 2)

REF NO.	FASTENER NUMBER	FASTENER NAME	COLLAR NUMBER	HOLE SIZE
1	NAS1055-5-2	HI SHEAR RIVET	NAS528-5	0.156 +.006 -.000
2	NAS1055-5-3	HI SHEAR RIVET	NAS528-5	0.156 +.006 -.000
3	NAS1055-5-4	HI SHEAR RIVET	NAS528-5	0.156 +.006 -.000
4	NAS1055-5-6	HI SHEAR RIVET	NAS528-5	0.156 +.006 -.000
5	NAS1055-5-7	HI SHEAR RIVET	NAS528-5	0.156 +.006 -.000
6	NAS1055-6-7	HI SHEAR RIVET	NAS528-6	0.189 +.006 -.000
7	NAS1670-08L2	JO BOLT		0.163 +.003 -.000
8	NAS1399MW5-4	CHERRY RIVET		0.159 +.005 -.000
9	MS20427M5-7	RIVET		0.159 +.013 -.000
10	MS20426AD5-5	RIVET		0.159 +.013 -.000
11	MS20426AD5-6	RIVET		0.159 +.013 -.000
12	MS20426AD5-7	RIVET		0.159 +.013 -.000

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
13	32-31003-133	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-31790-233	FILLER	0.080	2024-T3 AL ALY	QQ-A-250/4 (T3)
15	32-31790-267, -268	TEE	1M57247	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	32-31790-269, -270	FILLER	0.080	2024-T3 AL ALY	QQ-A-250/4 (T3)
17	32-31792-205	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
18 (5)	32-31908-19, -20	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(6)	32-31908-27, -28	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19 (5)	32-31792-191, -192	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
(6)	32-31792-295, -296	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
20	32-31885-9, -10	TEE	1M5536	2024-T6 AL ALY	QQ-A-200/3 (T6)
21	32-31792-9, -10	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
22	32-31792-21	FORMER	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)

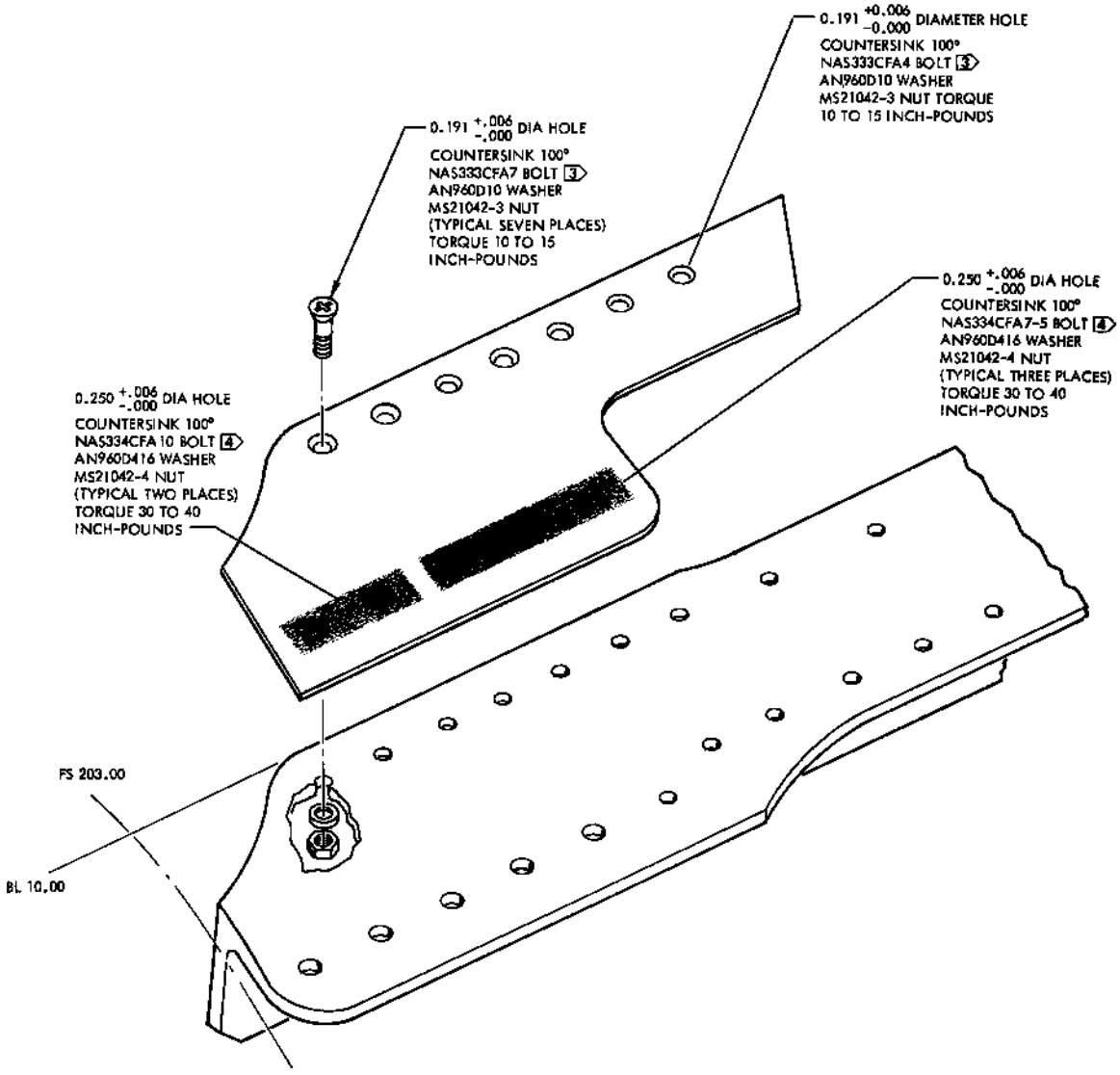
Notes

1. FOR ADDITIONAL INFORMATION REFER TO TEXT.
2. FOR INFORMATION ON GAPS AND MISMATCH REFER TO T. O. 1F-4C-3-1-1.
3. REFER TO T. O. 1F-4C-3-1-6 FOR APPLICABLE SEALING AND CORROSION CONTROL PROCEDURES.
4. WHERE COUNTERSUNK OR DIMPLED TYPE RIVETS ARE REPLACED OR INSTALLED ON OUTSIDE SKINS, THE RIVET HEAD SHALL BE SEALED WITH WET PRIMER OR SEALER AT THE TIME OF INSTALLATION. REFER TO T. O. 1F-4C-3-1-6 FOR CORROSION CONTROL PROCEDURES.

(5) F-4C 63-7407 THRU 63-7420.
(6) F-4C 63-7421 THRU 64-928, AND F-4D.

4C-3-1-2-(83-2)A

Figure 3-9. Skin, 32-31003-133, Replacement (Sheet 2 of 2)



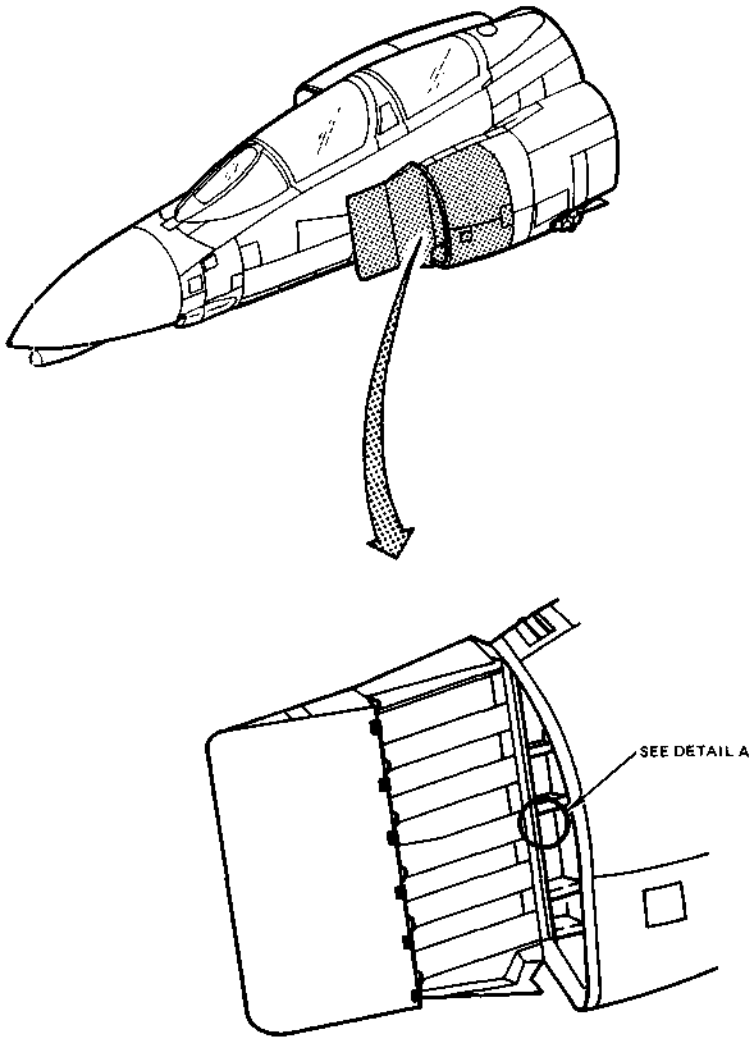
Notes

1. WHEN REPLACING THIS SKIN, REMOVE ALL TRACES OF CORROSION FROM LONGERON AND REFINISH WITH EPOXY PRIMER PER TO 1F-4C-3-1-6.
2. REINSTALL THE SKIN WITH MIL-S-81733 SEALER, COMPLETELY COVERING THE AREA BETWEEN THE LONGERON SKIN. INSTALL FASTENERS WHILE SEALER IS STILL WET. REFERENCE TO 1F-4C-3-1-6.

3. 1ST OVERSIZE - NAS1703 BOLT
   2ND OVERSIZE - NAS1603 BOLT.
4. 1ST OVERSIZE - NAS1704 BOLT
   2ND OVERSIDE - NAS1603 BOLT.
5. LENGTH OF OVERSIZE FASTENERS TO BE DETERMINED AT TIME OF INSTALLATION.

4C-3-1-2-(164)D

Figure 3-10. Skin, 32-31451-5, -6, Replacement

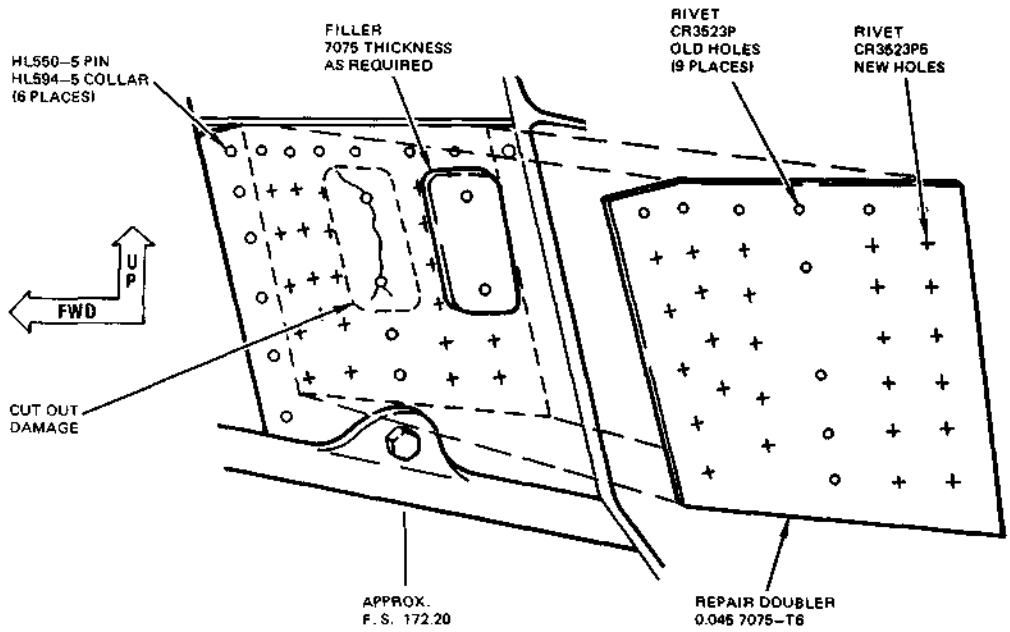


Note

THIS IS A TYPICAL REPAIR. DEVIATIONS ARE ACCEPTABLE AS LONG AS GOOD SHEET METAL REPAIR PRACTICES ARE FOLLOWED. THIS REPAIR MAY ALSO BE INCORPORATED WITH THE REPAIR SHOWN IN FIGURE 3-10B.

4C-3-1-2-(446-1)

Figure 3-10A. Forward Fuselage Doubler - FS 172.20, Repair (Sheet 1 of 2)



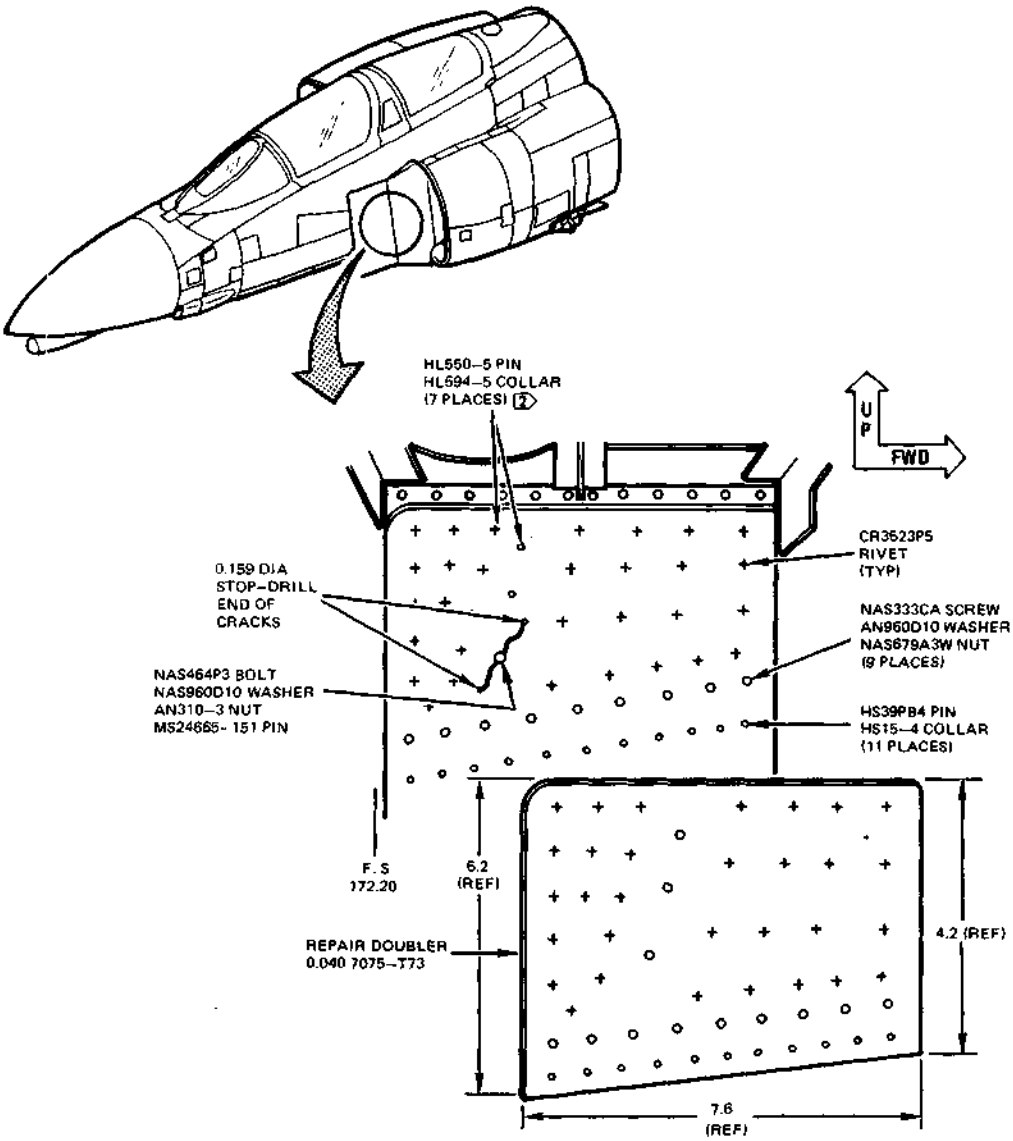
DETAIL A
(LOOKING INBOARD)

REPAIR PROCEDURE

A. CUT OUT DAMAGE AS REQUIRED.
B. FABRICATE REPAIR DOUBLER AND FILLER AS SHOWN.
C. MATCH-DRILL DOUBLER, FILLER AND SKIN FOR ORIGINAL DIAMETER AND NEW FASTENERS AS NOTED +. ORIGINAL HOLE PATTERN TO BE DRILLED TO MATCH PROPER CR3523P BLIND RIVET. NEW FASTENER HOLES TO MATCH CR3523P5 BLIND RIVETS WITH 4 DIA. DISTANCE BETWEEN EACH AND AN EDGE DISTANCE OF 2 DIA.
D. FINISH REWORKED AREA AND REPAIR PARTS PER 1F-4C-3-1-6.
E. APPLY SEALANT MIL S-81733 TO MATING SURFACES OF REPAIR PARTS AND ASSEMBLE WHILE SEALANT IS WET.
F. ASSEMBLE REPAIR WITH FASTENERS NOTED, INSTALL PINS AND COLLARS WET WITH MIL-S-81733 SEALANT.
G. FINISH PER 1F-4C-3-1-6.
H. THE DRAWINGS FOR THIS DOUBLER ARE:
53-34003 AND 53-34004 --- RF-4C
32-31003 AND 32-31004 --- F-4C/D/E/G

4C-3-1-2-(446-2)

Forward Fuselage Doubler - FS 172.20, Repair (Sheet 2 of 2)



DETAIL A
(LOOKING OUTBOARD)

Notes

1. THIS IS A TYPICAL REPAIR. DEVIATIONS ARE ACCEPTABLE AS LONG AS GOOD SHEET METAL PRACTICES ARE FOLLOWED. THIS REPAIR MAY ALSO BE INCORPORATED WITH THE REPAIR SHOWN IN FIGURE 3-10A.

2 COAT HEAD AND COLLAR WITH MIL-S-81733 AS NOTED.

REPAIR PROCEDURE

A. DISCONNECT BLC DUCT AND EQUIPMENT COOLING DUCT AND SLIDE BOTH FORWARD TO GAIN ACCESS. DO NOT ATTEMPT TO REMOVE LATERAL CONTROL ROD.
B. STOP-DRILL CRACK.
C. FABRICATE REPAIR DOUBLER AS SHOWN.
D. MATCH-DRILL DOUBLER AND SKIN FOR ORIGINAL AND NEW FASTENERS APPROX. AS SHOWN. NEW FASTENER PATTERN TO HAVE 4 DIA. SPACING BETWEEN FASTENERS AND AN EDGE DISTANCE OF 2 DIA.
E. FINISH REWORKED AREA AND REPAIR DOUBLER PER 1F-4C-3-1-6.
F. ASSEMBLE REPAIR WITH FASTENERS AS NOTED.
G. THE DRAWING PART NUMBERS FOR THE DAMAGED SKINS ARE:
   53-34003 AND 53-34004 --- RF-4C
   53-31003 AND 32-31004 --- F-4C/D/E/G

4C-3-1-2-(446)

Figure 3-10B. Forward Fuselage Skin - FS 172.18, Repair

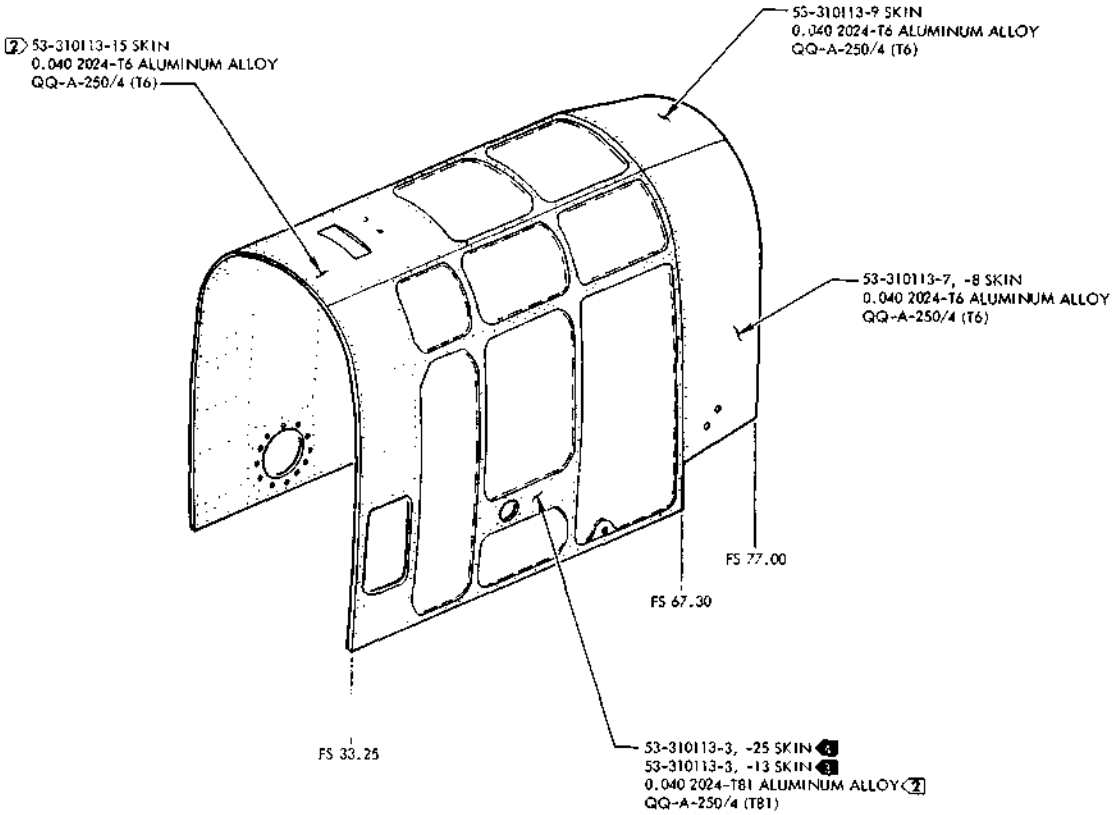
3-40. F—4E AND F—4G INTERNAL SKINS. See figures 3—11 and 3—11A.

3-41. The armament compartment on the F—4E has 2024 aluminum alloy skins which form a fume sealed web to isolate gun gases. The larger forward skins are chemically machined from 0.040 stock. The thickness of skins in chemically machined areas is 0.020. The smaller splice skins at the left end are constant gage 0.040. Equipment compartment on F—4G has 7075 aluminum alloy skins on sides which are constant gage 0.040. Upper skins are 2024 aluminum alloy, chemically milled from 0.040 stock. Thickness of chemically milled areas is 0.020. Access to internal skins may be gained through doors 79, (F—4G only), 167, 168, 170, 171, 172, 173, and 174. The rain removal nozzle or windshield fairing may be removed to reach the top splice skins. Skin installation and repairs must include sealing per TO 1F—4C—3—1—6. Armament compartment skins are finished with epoxy primer in the nose compartment, and gloss white epoxy top coat in armament compartment. Refer to TO 1F—4C—3—1—6.

3-42. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS. Any small, smooth, isolated dent no deeper than 0.062 is negligible. Nicks and scratches in constant gage area which are less than 0.005 deep; or less than 0.003 deep in chemically machined areas are negligible after blending and refinishing. Damage to the edge of the skins, when blended, that does not reduce fastener edge distance to less than one and one half times fastener diameter, is negligible. Damage which can be removed by drilling for and installing a MS20470B rivet, is negligible after rework, sealing, and refinishing. Damage that causes interference with mechanisms or tubing shall not be considered negligible.

3-43. REPAIRS. Refer to TO 1F—4C—3—1—5 for typical patch repairs. Patches will be 0.040 2024—T3 alclad material. Fasteners will be MS20470AD5 rivets or NAS1669—08L Jo—Bolts. The patch may be lap or scab type.

3-44. REPLACEMENT. Except in areas requiring special forming, the inner skins on F—4E may be replaced with constant gage 0.040, 2024—T3 alclad, QQ—A—250/5. Inner skins on F—4G may be replaced with constant gage 0.040, 7075—T6 aluminum alloy, QQ—A—250/12 (T6). Fasteners will be same as original or equal. NAS1669—08L Jo—Bolts may be substituted for MS20470AD5 rivets. Seal armament compartment areas on F—4E per TO 1F—4C—3—1—6. Refinish with epoxy primer and gloss white epoxy top coat per TO 1F—4C—3—1—6.

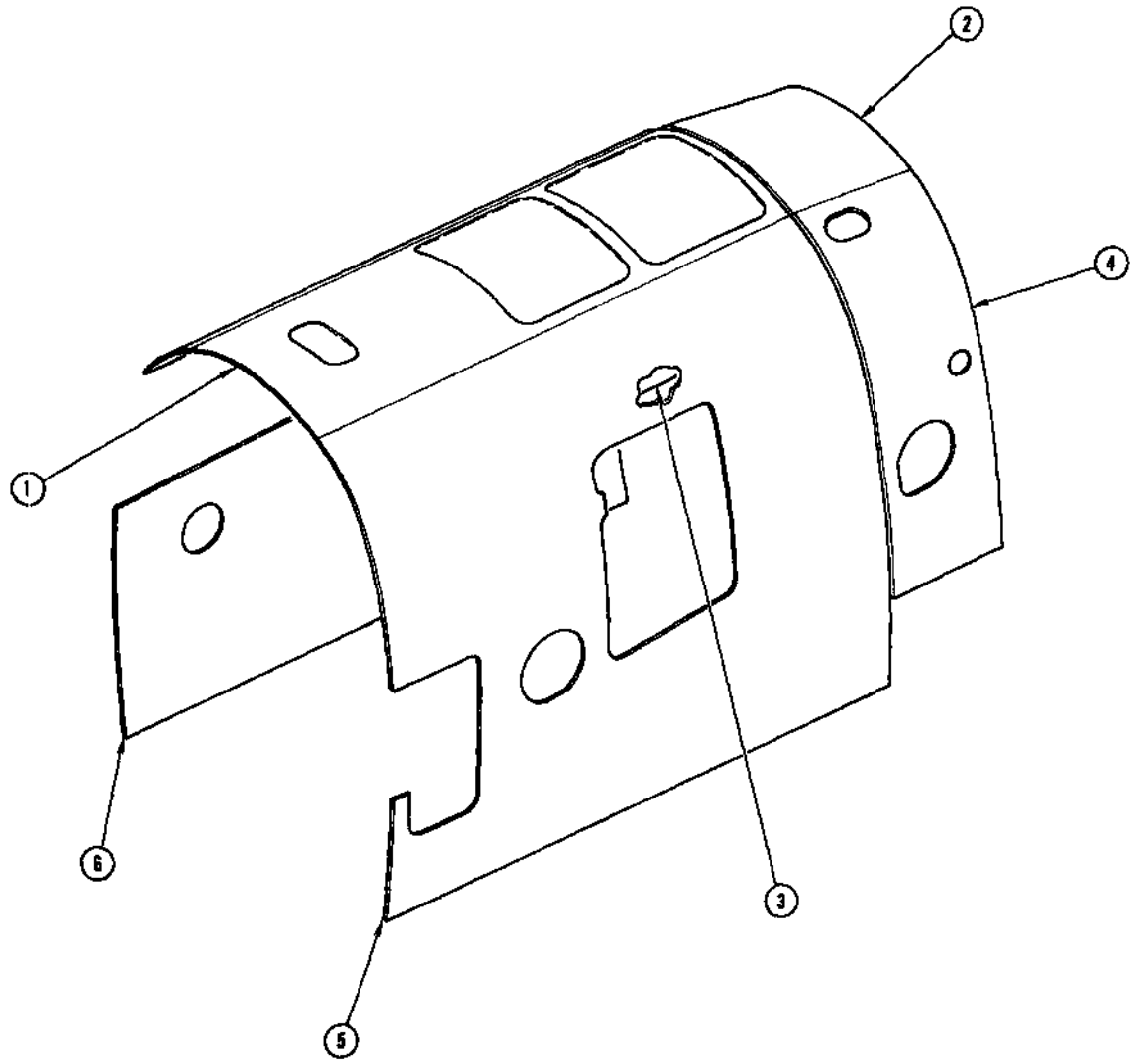


Notes

1. SEAL ALL REPAIRS PER T.O. 1F-4C-3-1-6.
2. SKIN THICKNESS GIVEN IS THE STOCK THICKNESS BEFORE CHEMICAL MACHINING TO 0.020 BAY AREA. THE REST OF THE SKIN REMAINS 0.040.
3. F-4E 66-284 THRU 67-398.
4. F-4E 68-303 AND UP.

4C-3-1-2-(2)A

Figure 3-11. Internal Skin Index - F-4E



REF NO.	PART NO.	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [1]	53-310113-15	SKIN	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
2	53-310113-9	SKIN	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
3	53G973018-15	SKIN	0.040	7075-T6 AL ALY	QQ-A-250/12 (T6)
4	53G973018-7	SKIN	0.040	7075-T6 AL ALY	QQ-A-250/12 (T6)
5	53G973018-17	SKIN	0.040	7075-T6 AL ALY	QQ-A-250/12 (T6)
6	53G973018-5	SKIN	0.040	7075-T6 AL ALY	QQ-A-250/12 (T6)

Note

[1] THICKNESS GIVEN IS STOCK. BAY AREAS ARE CHEMICALLY MACHINED TO 0.020.

4C-3-1-2-(375)

Figure 3-11A. Internal Skin Index - F-4G

3-45. **INTERNAL STRUCTURE.** See figures 3-12, 3-13, and 3-14.

3-46. The main structural parts of the forward fuselage internal structure are longerons and stringers, bulkheads and frames, floors and panels, and keel assembly. The longerons and stringers are load carrying members and are supported by bulkheads and frames. The bulkheads also serve as partitions for various compartments, an example being the pressure bulkheads at FS 77.00 and FS 203.00. Most of the compartments, such as cockpits and number one fuel cell, have floors. The two piece keel supports the floors, and has trunnion fittings for support of the nose landing gear. The aft engine air intake duct is formed by stringers and frames outboard of the number one fuel cell and aft of the cockpit.

3-47. **LONGERONS AND STRINGERS.** See figures 3-15 thru 3-17. Most of the longerons and stringers in forward fuselage internal structure are made of 7178 aluminum alloy extrusions. The main exceptions are the 32-31876-3 and 32-31877-11 longerons at each side of nose wheel well which are machined from 4340 steel bar stock. Sheet metal equivalents of the extrusions are found in TO 1F-4C-3-1-5. The basic shape of the extrusions are altered in most cases to fit the contour of the fuselage and for ease of attachment.

3-48. Negligible Damage and Corrosion Removal Limits. Nicks, scratches, and gouges parallel to the edges of the longeron or stringer that do not exceed 0.010 in depth and six inches in length are negligible if they are blended to the surface. For rework procedure refer to T.O. 1F-4C-3-1-5. Make a fluorescent-penetrant check, per T.O. 33B-1-1, of severe damage to determine if cracks exist at the base of the damage. If a crack exists, the part shall be repaired. Nicks on the outer edge of the extrusion legs may be considered negligible if no deeper than 1/8 inch after blending and do not decrease fastener edge distance to less than one and one half times fastener diameter. Refinish damaged area according to T.O. 1F-4C-3-1-6.

3-49. Patch Repair. Repairs for stringers and longerons may be designed to meet the requirements of a particular area using sheet metal equivalent for extruded stock listed in T.O. 1F-4C-3-1-5. Fasteners required on each side of splice line shall be of the quantity, size, and material indicated in figure 3-17G.

3-50. Insertion Repair. Repairs may be made using original material called out in figures 3-15, 3-16, and 3-17 for the inserted part. Repair doublers may be designed using the sheet metal equivalent shown in T.O. 1F-4C-3-1-5 as a guide. Fasteners required on each side of splice line shall be of the quantity, size, and material indicated in figure 3-17G.

3-51. Replacement. Because of size, shape, and inaccessibility of longerons and long stringers, it is not practical to replace them at organizational/field maintenance except 32-37016-9 longeron. For replacement of 32-37016-9 longeron, see figure 3-17A. Short stringers may be replaced with equivalent material to that called out in figures 3-15, 3-16, and 3-17. Sheet metal fillers may be used instead of joggles. Sheet metal equivalents for most extrusions may be found in T.O. 1F-4C-3-1-5. Fasteners must be of equivalent size and material and spacing as those in the area adjacent to the replacement.

3-51A. Hinges. See figures 3-17A1 through 3-17F. The structural half of the hinges are detail parts of longerons or stringers.

3-51B. Negligible Damage and Wear Tolerances. For negligible damage and wear tolerance limits, refer to paragraphs 3-176 and 3-175 respectively.

3-51C. Repairs. Consult local engineering for repair disposition.

3-51D. Replacement. For hinge replacement, see figures 3-17A1 through 3-17F respectively.

NOTE

The forward canopy sill has been filled with an epoxy filler to provide a smooth mating surface for the canopy seal. The epoxy has caused entrapment of water and has accelerated corrosion problems. The filler should be removed as it is no longer required.

3-52. CANOPY SILL REPAIR. See figures 3-18 through 3-19A. The following instructions are applicable to canopy sills. See T.O. 1F-4C-3-2 for repair of canopy longeron. All repairs shown on figures 3-18 through 3-19A may be added as required, providing total combined repair length for each side of forward cockpit does not exceed 22 inches, and total combined repair length for each side of aft cockpit does not exceed 23 inches. Repairs in figure 3-19 are for excessive corrosion damage areas and small cracks not exceeding 0.5 inch in length. Each individual repair may not exceed the specified repair length by more than two inches. Ends of adjacent repairs may not be closer than four inches. Typical repairs may be added in other areas provided the total allowed repairs are not increased and minimum spacing between repairs is not reduced. If repairs are required in excess of above, sills will be replaced at first scheduled PDM. If sills or longerons exhibit corrosion throughout its length, it should be scheduled for replacement at first PDM. Final decision to replace or repair sills and longerons in excess of above will be made by engineering at PDM facility.

a. Remove paint from forward and aft canopy sills per T.O. 1-1-8.

b. Remove EC2216 epoxy fairing compound from forward sills by applying heat to compound with an approved hot air gun. Heat to approximately 180° while scraping and lifting compound with a putty knife.

c. Thoroughly clean fore and aft sills per T.O. 1-1-691.

d. Remove all removable fasteners, see figure 3-10, and inspect for corrosion using nondestructive procedures per T.O. 1F-4C-36.

e. Surface and exfoliation corrosion will be removed, cleaned, and treated per T.O. 1F-4C-3-1-6. Repairs are required where limits of figure 3-19 are exceeded or for a 1.5 inch square by 0.040 deep area away from holes. Do not remove corrosion between longerons and sills unless corrosion is known to penetrate the longeron. This can be determined by removing fasteners and inspecting inside of holes for delamination of material and/or corrosion between layers of material. Repairs typical to figure 3-19, view BB, can be used for repair of corrosion damage between longerons and sills or where space under sills permit adding a repair.

f. Deleted

g. Deleted

h. Deleted

i. Deleted

j. Deleted

k. Install cockpit water diverters per T.O. 1F-4C-3-1-6.

l. Clean sills per T.O. 1-1-691 and apply one coat epoxy primer per T.O. 1F-4C-3-1-6 over sill and diverters. Cure primer one hour before topcoating or protect with wax-free kraft paper, if longer. If topcoating cannot be applied within eight hours, primer must be scuff sanded, recleaned, and new coat of primer applied.

m. Using standard spray gun or power pack spray unit, apply three coats polyurethane coating, Black, color No. 37038 per T.O. 1F-4C-3-1-6.

n. Two coats of polyurethane, Black, color No. 37038, may be applied by brush as an alternate method.

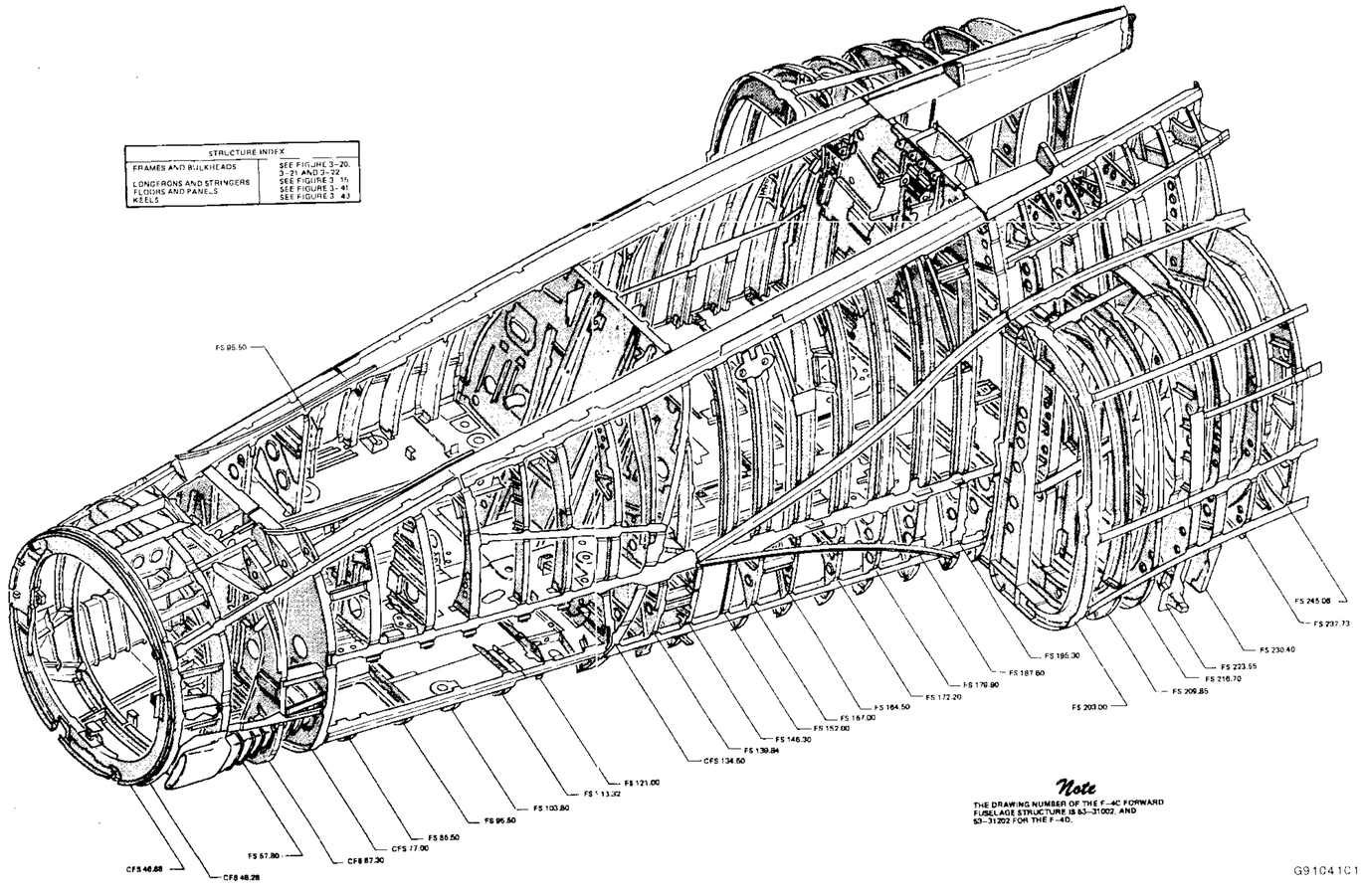


Figure 3-12. Internal Structure Index - F-4C and F-4D (Sheet 1 of 2)

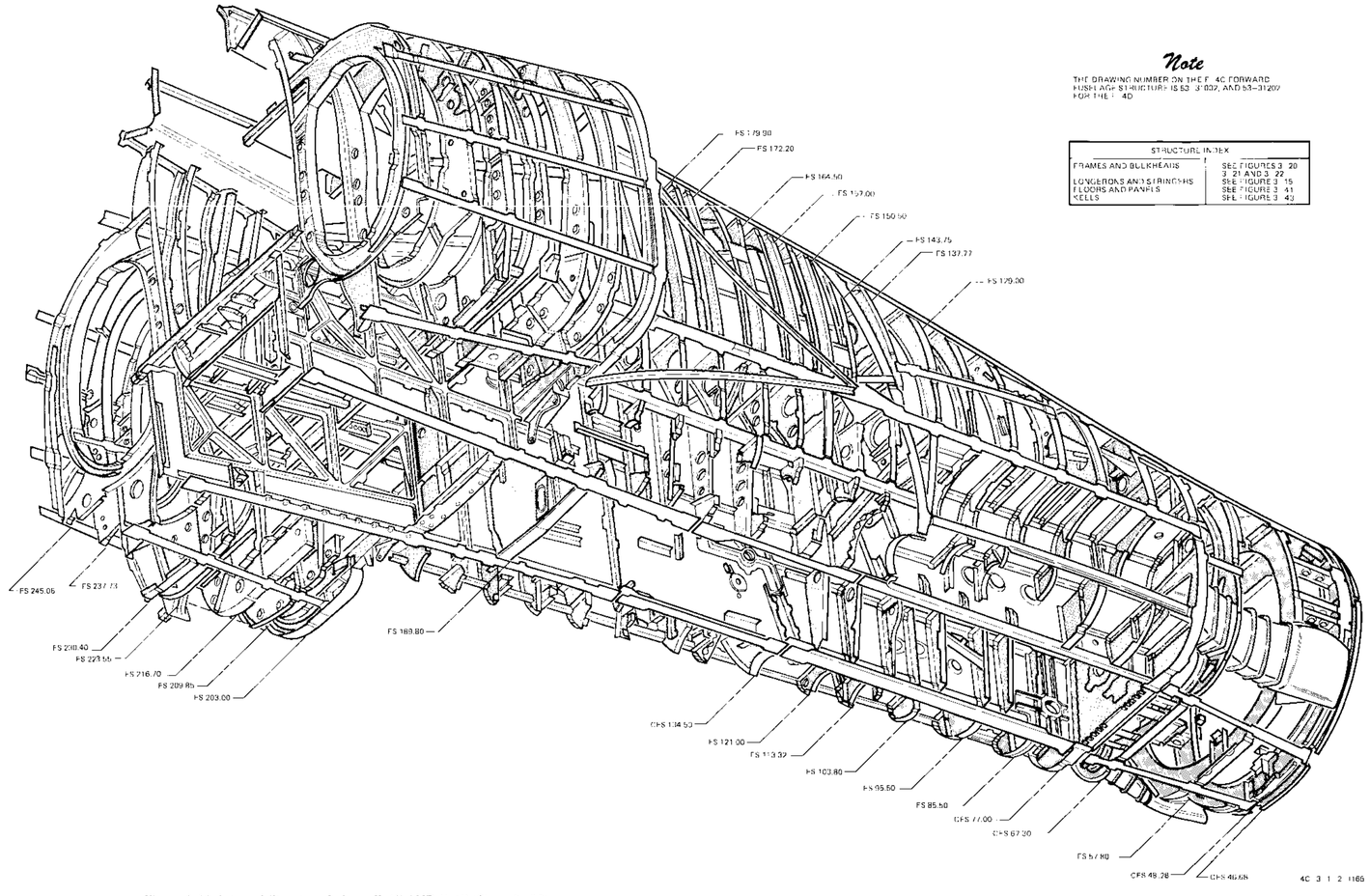
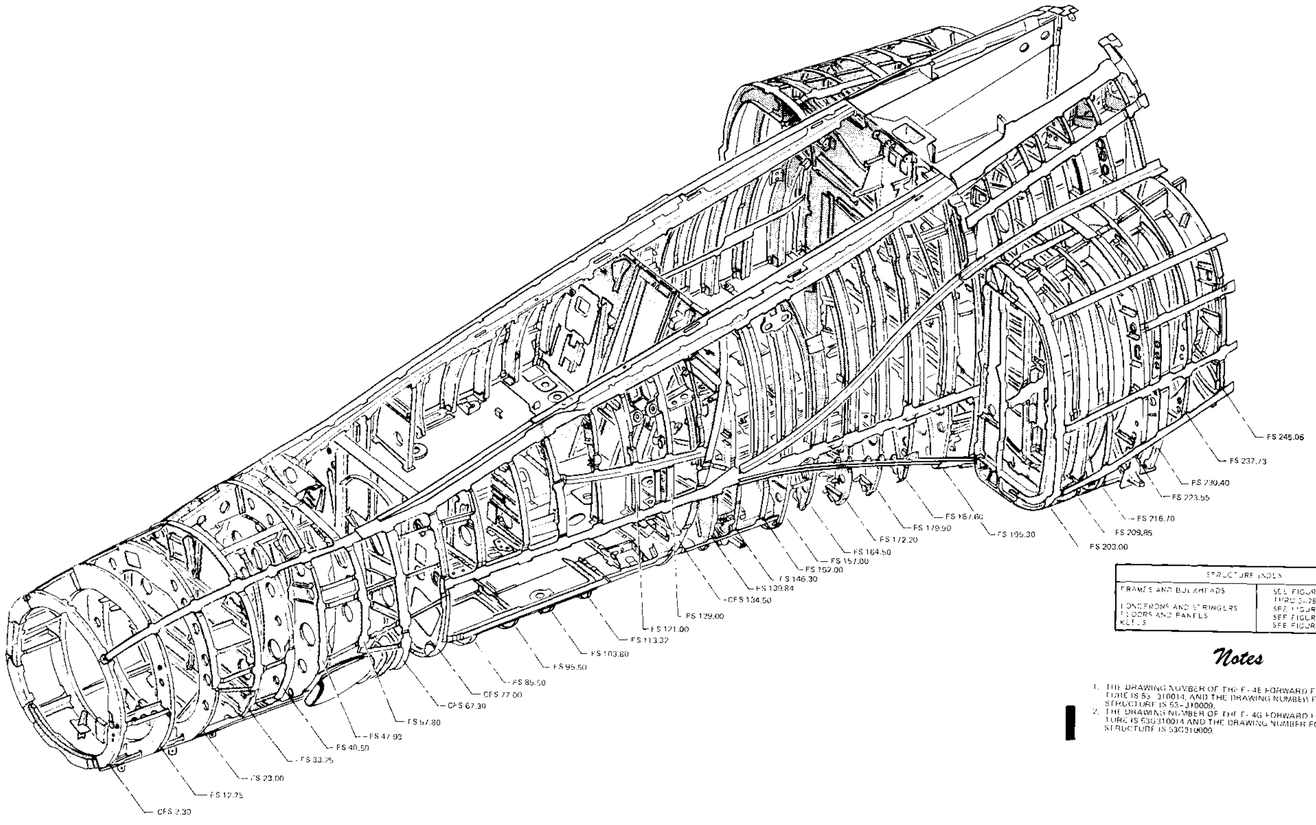


Figure 3-12. Internal Structure Index - F-4C AND F-4D (Sheet 2 of 2)



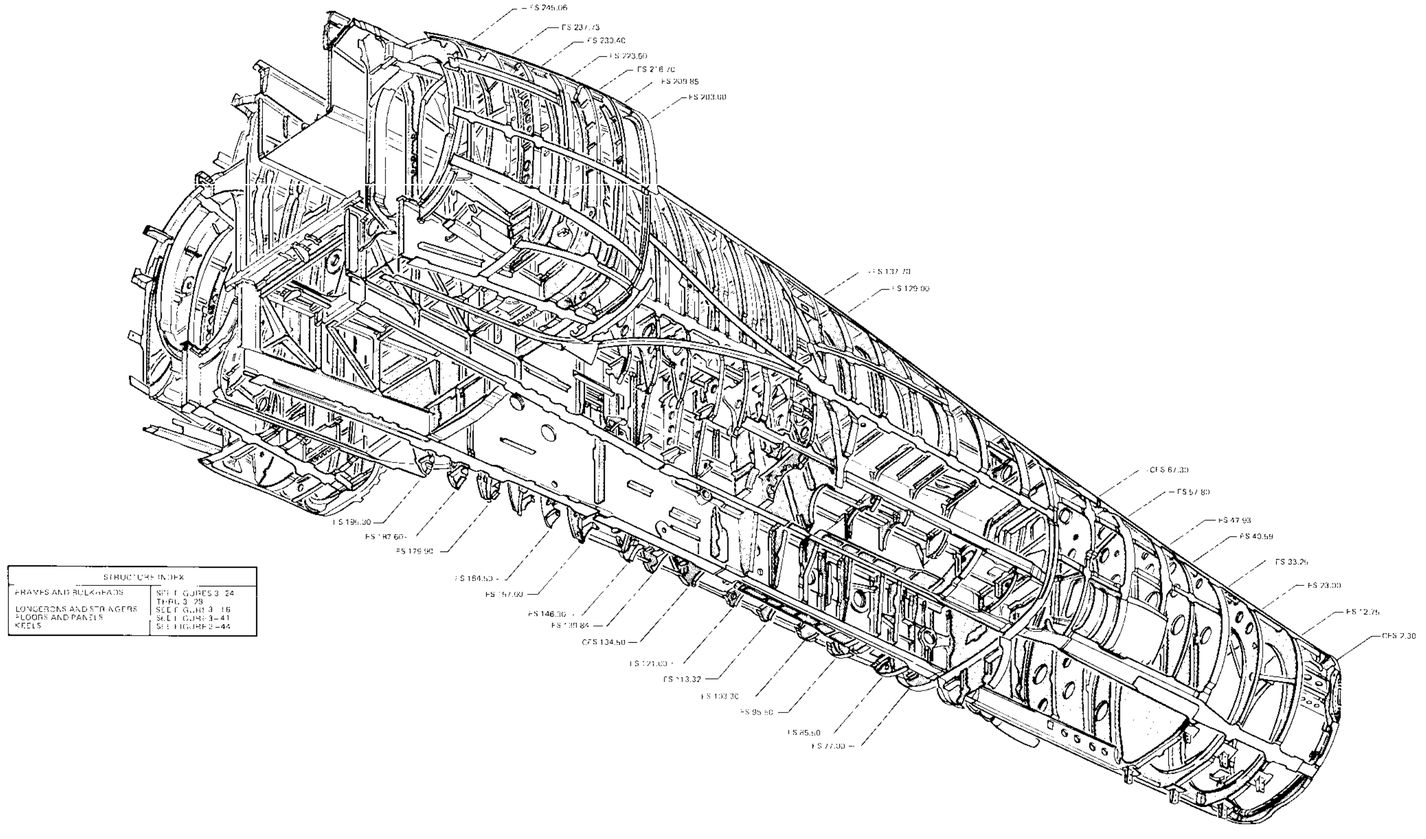
STRUCTURE INDEX	
FRAMES AND BULKHEADS	SEE FIGURES 3-24 THRU 3-28
LONGERONS AND STRINGERS	SEE FIGURE 3-16
FLOORS AND PANELS	SEE FIGURE 3-41
KEELS	SEE FIGURE 3-41

Notes

1. THE DRAWING NUMBER OF THE F-4E FORWARD FUSELAGE STRUCTURE IS 53-310014 AND THE DRAWING NUMBER FOR THE NOSE STRUCTURE IS 53-310000.
2. THE DRAWING NUMBER OF THE F-4G FORWARD FUSELAGE STRUCTURE IS 53J31001A AND THE DRAWING NUMBER FOR THE NOSE STRUCTURE IS 53G310000.

4C 3 1 2 (66) 1B

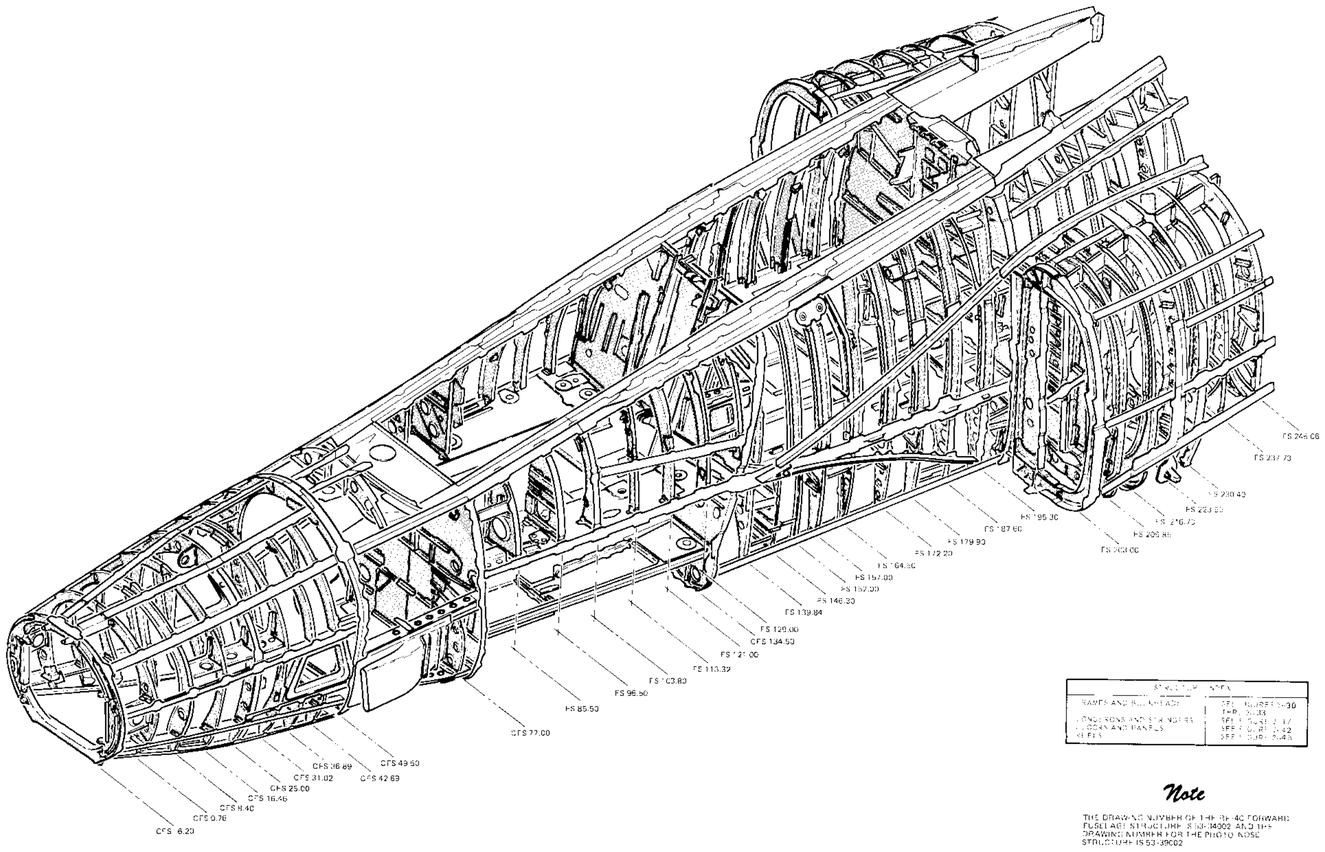
Figure 3-13. Internal Structure Index-F-4E AND F-4G (Sheet 1 of 2)



STRUCTURE INDEX	
FRAMES AND BULKHEADS	SHEET GUIDES 3-24 THRU 3-29
LONGERONS AND STRINGERS	SHEET GUIDE 3-16
FLOORS AND PANELS	SHEET GUIDE 3-41
KEELS	SHEET GUIDE 2-45

4G-3-1-2-166-2/4

Figure 3-13. Internal Structure Index-F-4E AND F-4G (Sheet 2 of 2)



STRUCTURE INDEX	
RAMPS AND BULKHEADS	SEE FIGURE 3-30
FRAMES AND STRINGERS	SEE FIGURE 3-17
SKIN AND PANELS	SEE FIGURE 3-42
KEELS	SEE FIGURE 3-43

Note

THE DRAWING NUMBER OF THE 3D-4C FORWARD FUSELAGE STRUCTURE IS 53-14002 AND THE DRAWING NUMBER FOR THE PHOTO NOSE STRUCTURE IS 53-39002

4C-3-1-2-158-1A

Figure 3-14. Internal Structure Index - RF-4 - Sheet 1 of 2.

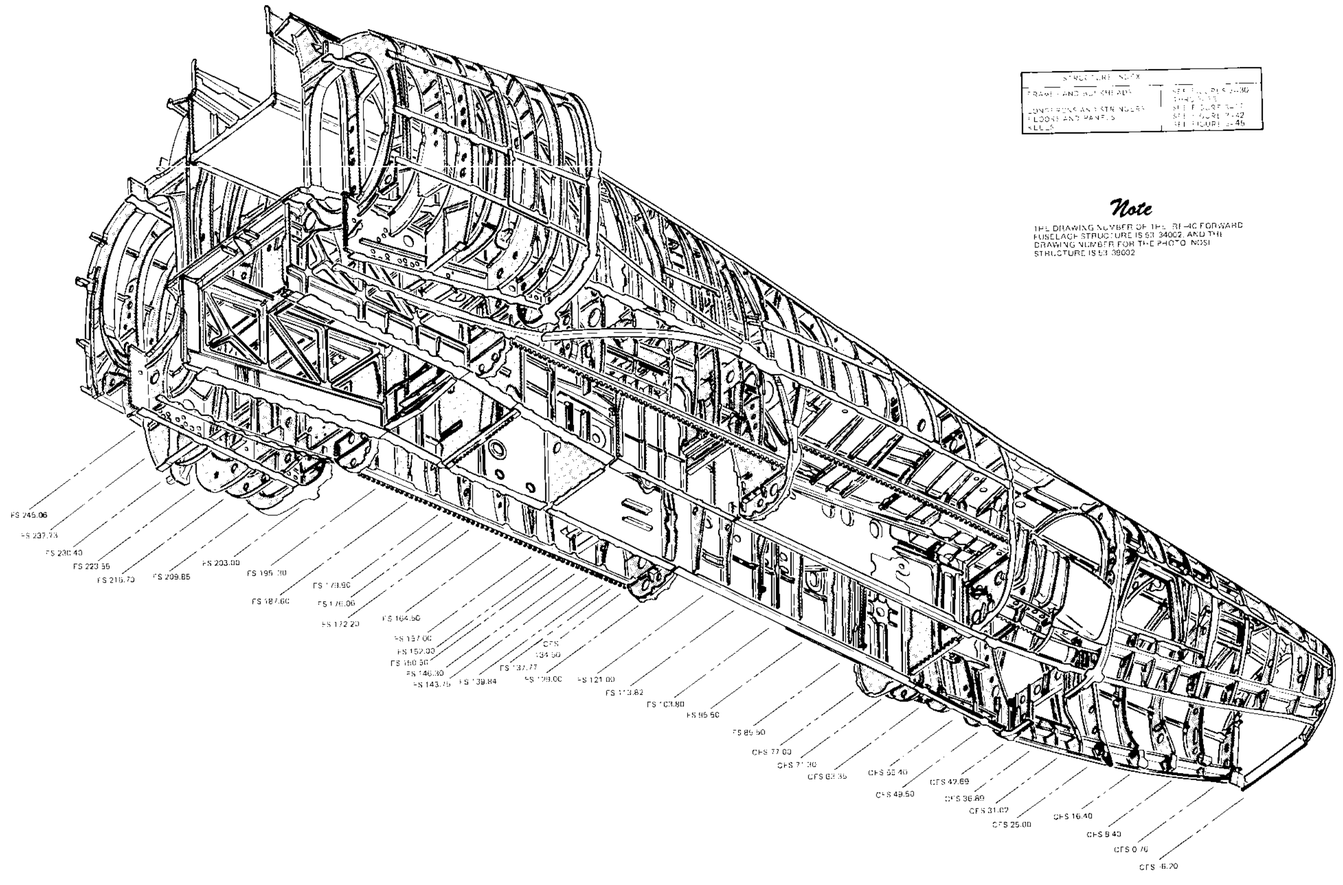


Figure 3-14. Internal Structure Index RF-4 Sheet 2 of 2

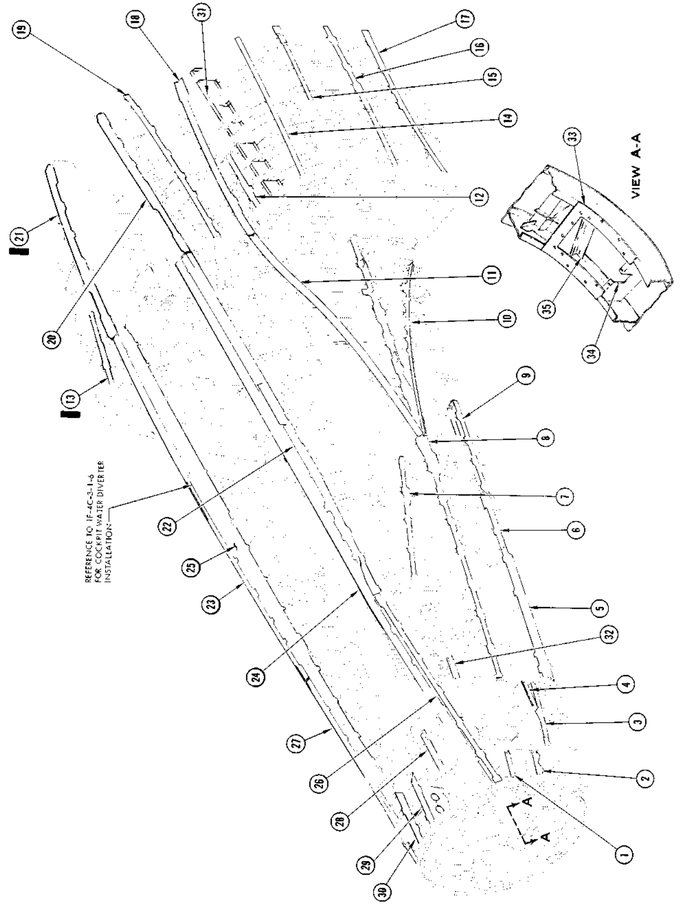
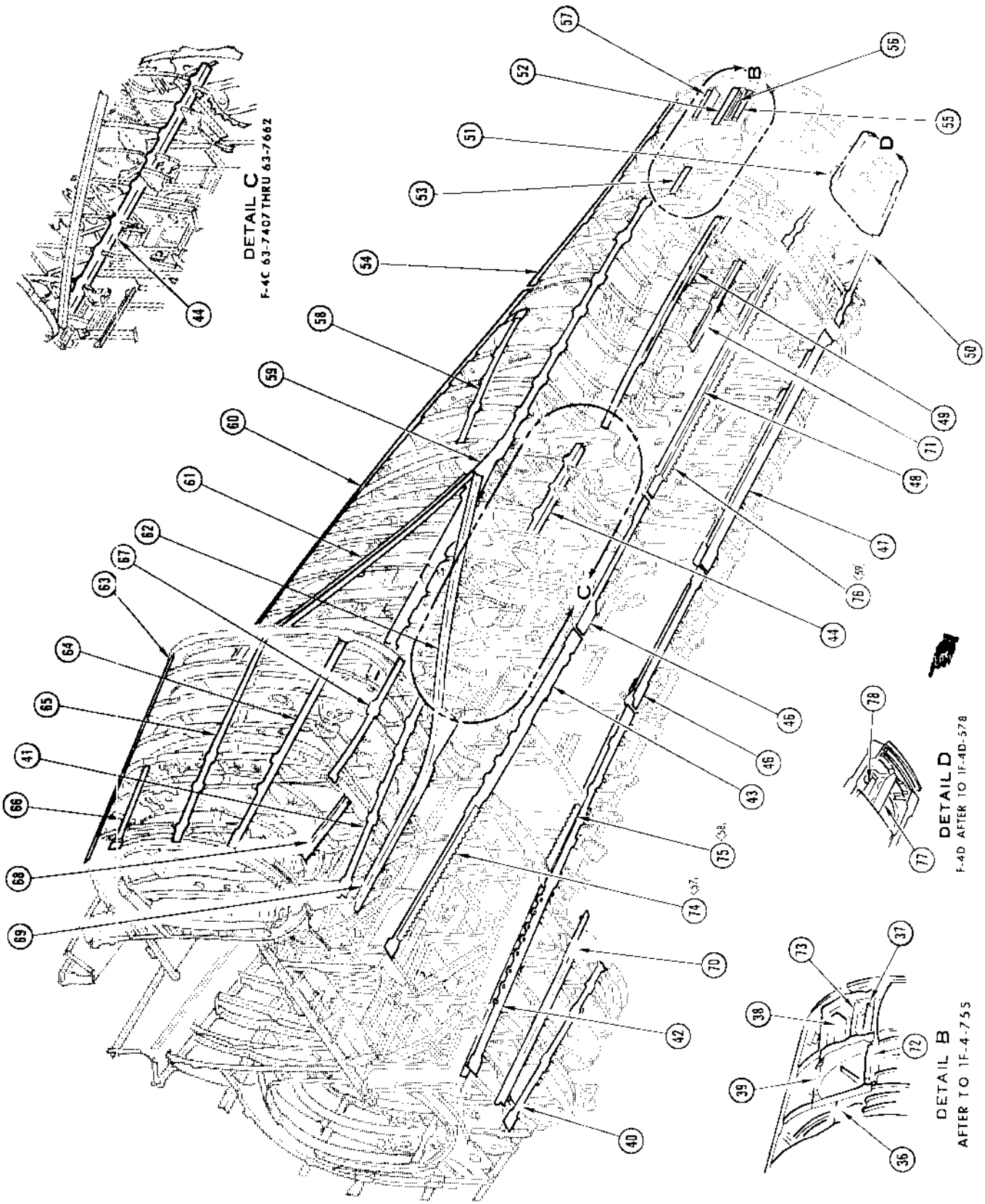


Figure 3-15. Longeron and Stringer Index - F-4C AND F-4D (Sheet 1 of 4)



4C-3-1-2-62-2

Figure 3-15. Longeron and Stringer Index - F-4C AND F-4D (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31945-7	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-31823-79	TEE	1M57258	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	32-31795-45	SILL	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-31795-39	SILL	1M5534	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-31908-27	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-31908-17	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7 BB	32-31127-15	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31127-27	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
8 BB	32-31799-19	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31799-39	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
9 BS	32-31872-13	SILL	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
BS	32-30312-3	SILL	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
10	32-31537-11	TEE	1M5711	2024-T4 AL ALY	QQ-A-200/3 (T4)
11 BL	32-31536-11	TEE	1M5711	2024-T4 AL ALY	QQ-A-200/3 (T4)
BS	32-31536-13	TEE	1M5711	2024-T4 AL ALY	QQ-A-200/3 (T4)
BS	32-31536-19	TEE	1M5711	2024-T4 AL ALY	QQ-A-200/3 (T4)
12 BB	32-31368-11	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31368-13	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31368-15	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
13 BB	32-31368-10	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31368-14	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31368-16	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-31367-23	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
15 BB	32-31500-9	STRINGER	1M5689	2024-T6 AL ALY	QQ-A-200/3 (T6)
BB	32-31500-11	STRINGER	1M5689	2024-T6 AL ALY	QQ-A-200/3 (T6)
16 BB	32-31506-7	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31506-27	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
17 BB	32-31505-9	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31505-47	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
18	32-30121-7,-6	ANGLE	1M2510	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-31135-733	CAP	1M5729	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-30058-5	LONGERON	1M97101	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	32-30058-6	LONGERON	1M97101	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	32-31354-11	LONGERON	1M5576	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	32-31354-17	LONGERON	1M5576	7178-T6 AL ALY	QQ-A-200/13 (T6)
24 BB	32-31863-11	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31863-17	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31863-19	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31863-21	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31863-27	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31863-35	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
25 BB	53-31022-7	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	53-31022-9	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	53-31022-11	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	53-31022-15	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	53-31022-17	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	53-31022-19	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	53-31022-21	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	53-31022-25	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	53-31022-27	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	32-31932-5	LONGERON	1M57238	7178-T6 AL ALY	QQ-A-200/13 (T6)
27	32-31932-4	LONGERON	1M57238	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-31916,-6	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29 BL	32-31837-5,-43	TEE	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
BL	32-31837-51	TEE	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
30 BB	32-31837-44	TEE	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31837-52	TEE	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
31 BS	32-31185-301,-302	WEB ASSEMBLY	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
BS	32-31185,303,-304	WEB ASSEMBLY	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	32-31801-11,-12	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	53-09031-251	COVER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	53-09031-247	LID	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	53-09031-243	PANEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36 BS	32-090130-63	TEE SPLICE	1M5472	7178-T6 AL ALY	QQ-A-200/13 (T6)
37 BS	32-090130-121	INTERCOSTAL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38 BS	32-090130-119	INTERCOSTAL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39 BS	32-090130-17	TEE	1M5599	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	32-31077-13	LONGERON	1M5384	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	32-31077-15	LONGERON	1M5384	7178-T6 AL ALY	QQ-A-200/13 (T6)
42	32-31096-11	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
43 BS	32-31078-11	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31078-13	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
44 BL	32-31872-14	SILL	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
BL	32-30312-4	SILL	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
45 BB	32-31264-9	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
BB	32-31264-11	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31264-13	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
46 BB	32-31265-7	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
BS	32-31265-9	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
47	32-31876-3	LONGERON	BAR STOCK	4340 STEEL ALLOY	MIL-S-5000
48 BL	32-31877-11	LONGERON	BAR STOCK	4340 STEEL ALLOY	MIL-S-5000 [2]
BL	32-31877-17	LONGERON	BAR STOCK	4340 STEEL ALLOY	MIL-S-5000
49	32-31908-28	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	32-30073-3	LONGERON	1M57301	7178-T6 AL ALY	QQ-A-200/13 (T6)
51	32-30073-4	LONGERON	1M57301	7178-T6 AL ALY	QQ-A-200/13 (T6)

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Figure 3-15. Longeron and Stringer Index - F-4C AND F-4D (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
52 (36)	32-31971-5	TEE	1M5472	7178-T6 AL ALY	QQ-A-200/13 (T6)
53 (36)	32-31971-7	TEE	1M5472	7178-T6 AL ALY	QQ-A-200/13 (T6)
54	32-31902-4	LONGERON	1M57238	7178-T6 AL ALY	QQ-A-200/13 (T6)
55 (37)	32-31823-73	INTERCOSTAL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(38)	32-31823-83	INTERCOSTAL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56	32-31823-23	TEE	1M558	7178-T6 AL ALY	QQ-A-200/13 (T6)
57 (39)	32-31823-29	INTERCOSTAL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	32-31127-17	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
59 (3)	32-31799-21	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
(40)	32-31799-40	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
60 (35)	32-31354-17	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
61 (3)	32-31536-12	TEE	1M5711	2024-T4 AL ALY	QQ-A-200/3 (T4)
(35)	32-31536-17	TEE	1M5711	2024-T4 AL ALY	QQ-A-200/3 (T4)
62	32-31537-12	TEE	1M5711	2024-T4 AL ALY	QQ-A-200/3 (T4)
63	32-31367-24	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
64 (6)	32-31505-10	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
(5)	32-31505-48	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
65 (6)	32-31506-8	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
(5)	32-31506-28	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
66 (35)	32-31500-10	STRINGER	1M5689	2024-T6 AL ALY	QQ-A-200/3 (T6)
(3)	32-31500-12	STRINGER	1M5689	2024-T6 AL ALY	QQ-A-200/3 (T6)
67	32-31534-6, -5	EDGING MEMBER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
68 (37)	32-31095-180, -179	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(38)	32-31095-232, -231	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(39)	32-31095-274, -273	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
69 (1)	32-31850-4	EDGING MEMBER	0.160 <1>	7075-T6 AL ALY	QQ-A-250/12 (T6)
(10)	32-31850-6	EDGING MEMBER	0.160 <1>	7075-T6 AL ALY	QQ-A-250/12 (T6)
70 (2)	32-31850-3	EDGING MEMBER	0.160 <1>	7075-T6 AL ALY	QQ-A-250/12 (T6)
(10)	32-31850-5	EDGING MEMBER	0.160 <1>	7075-T6 AL ALY	QQ-A-250/12 (T6)
71 (3)	32-31885-20, -19	TEE	1M57255	2024-T6 AL ALY	QQ-A-200/3 (T6)
(16)	32-31885-36, -35	TEE	1M57255	2024-T6 AL ALY	QQ-A-200/3 (T6)
72 (35)	32-090130-123	TEE	1M5599	7178-T6 AL ALY	QQ-A-200/13 (T6)
73 (35)	32-090130-61	TEE SPLICE	1M5472	7178-T6 AL ALY	QQ-A-200/13 (T6)
74	32-31429-5 <57>	HINGE	1M9632	7075-T6 AL ALY	QQ-A-200/11 (T6)
75	32-85019-3 <58>	HINGE	1M96154	2024-T4 AL ALY	QQ-A-200/3 (T4)
76	32-31267-7 <59>	HINGE	1M9499	7075-T6 AL ALY	QQ-A-200/11 (T6)
77 (35)	53G973076-39	WEB	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
78 (35)	53G973076-81	TEE	1MA160	7178-T6511 AL ALY	QQ-A-200/13 (T6511)

Notes

<1> THIS PART IS CHEMICALLY MILLED AND FORMED FROM THE STOCK GAGE LISTED.
<2> MACHINED IN THE C CONDITION THEN HEAT TREATED TO 150 TO 180 KSI.
(1) F-4C 63-7407 THRU 63-7526.
(2) F-4C 63-7407 THRU 63-7662.
(3) F-4C 63-7407 THRU 64-672.
(4) F-4C 63-7443 THRU 63-7468.
(5) F-4C 63-7443 THRU 64-928 AND F-4D.
(6) F-4C 63-7469 THRU 63-7675.
(7) F-4C 63-7469 THRU 64-790.
(8) F-4C 63-7527 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
(9) F-4C 63-7676 THRU 64-790.
(10) F-4C 63-7663 THRU 64-928 AND F-4D.
(11) F-4C 64-673 THRU 64-928 AND F-4D.
(12) F-4C AND F-4D 64-929 THRU 65-611.
(13) F-4D 65-612 THRU 66-8825.
(14) F-4D 66-7575 THRU 66-8825.
(15) F-4C AND F-4D 64-929 THRU 64-963.
(16) F-4D 64-964 THRU 66-8825.
(17) F-4C 64-791 THRU 64-928 AND F-4D 64-929 THRU 64-954.
(18) F-4D 64-955 THRU 65-665.
(19) F-4D 65-666 THRU 66-7574.
(20) 53-31022-19 REPLACES 53-31022-15 FOR FUTURE PROCUREMENT ONLY.
(21) F-4D 66-7575 THRU 66-8698.
(22) F-4C 63-7662 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
(23) F-4D 66-8699 THRU 66-8825.
(24) F-4C AND F-4D AFTER TO 1F-4-755.
(25) F-4D 66-8699 THRU 66-8786.
(26) F-4D 66-8787 THRU 66-8825.
(27) F-4C 63-7407 THRU 63-7442.
(28) F-4C 63-7407 THRU 63-7468.
(29) F-4C 63-7407 THRU 63-7420.
(30) F-4C 63-7421 THRU 64-928 AND F-4D.
(31) F-4D AFTER TO 1F-4D-578.
(32) DELETED.
(33) F-4C 63-7407 THRU 64-737 BEFORE TO 1F-4-755.
(34) F-4C 64-738 THRU 64-928 AND F-4D BEFORE TO 1F-4-755.
(35) F-4C 63-7663 THRU 64-928 AND F-4D 64-929 THRU 64-971.
(36) F-4D 64-972 THRU 66-8825.
(37) F-4C AND F-4D 64-929 THRU 64-971.
(38) F-4C 63-7407 THRU 64-817.
(39) F-4C 64-818 THRU 64-928 AND F-4D.
(40) DELETED.
(41) DELETED.
(42) DELETED.
(43) F-4D 65-612 THRU 66-8825.
(44) DELETED.
(45) F-4C 63-7469 THRU 64-881 AND F-4D 64-929 THRU 64-937.
(46) F-4C 64-882 THRU 64-928 AND F-4D 64-938 THRU 66-8825.
(47) DELETED.
(48) F-4C 63-7527 THRU 64-928 AND F-4D.
(49) F-4C 63-7663 THRU 64-928 AND F-4D 64-929 THRU 66-234.
(50) F-4D 66-235 THRU 66-8825.
(51) DELETED.
(52) F-4C AND F-4D BEFORE TO 1F-4-755.
<57> FOR REPLACEMENT, SEE FIGURE 3-17E.
<58> FOR REPLACEMENT, SEE FIGURE 3-17F.
<59> FOR REPLACEMENT, SEE FIGURE 3-17A1.
(53) F-4C 64-791 THRU 64-928 AND F-4D 64-929 THRU 66-7574.

4C-3-1-2-(82-4)J

Figure 3-15. Longeron and Stringer Index - F-4C AND F-4D (Sheet 4 of 4)

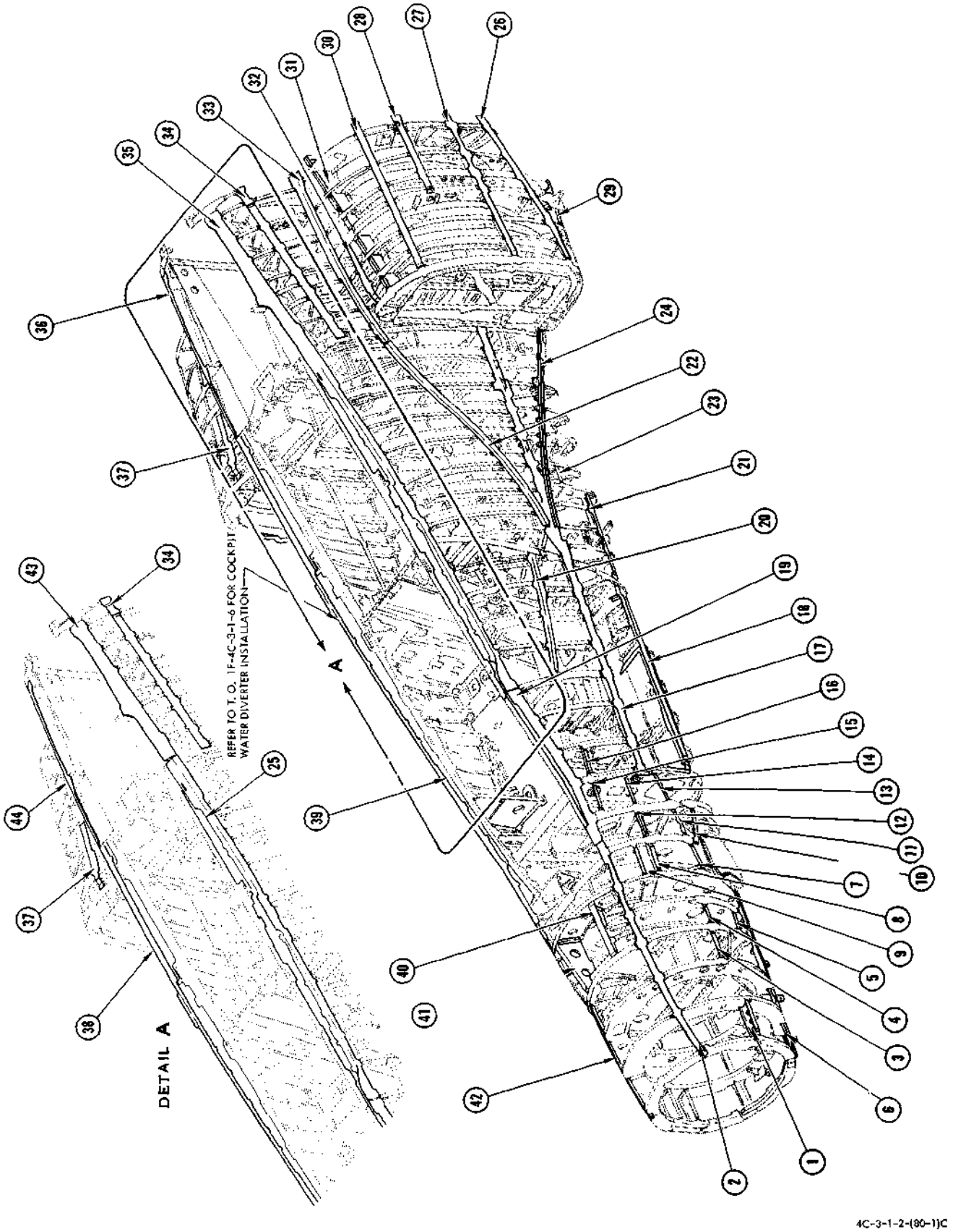
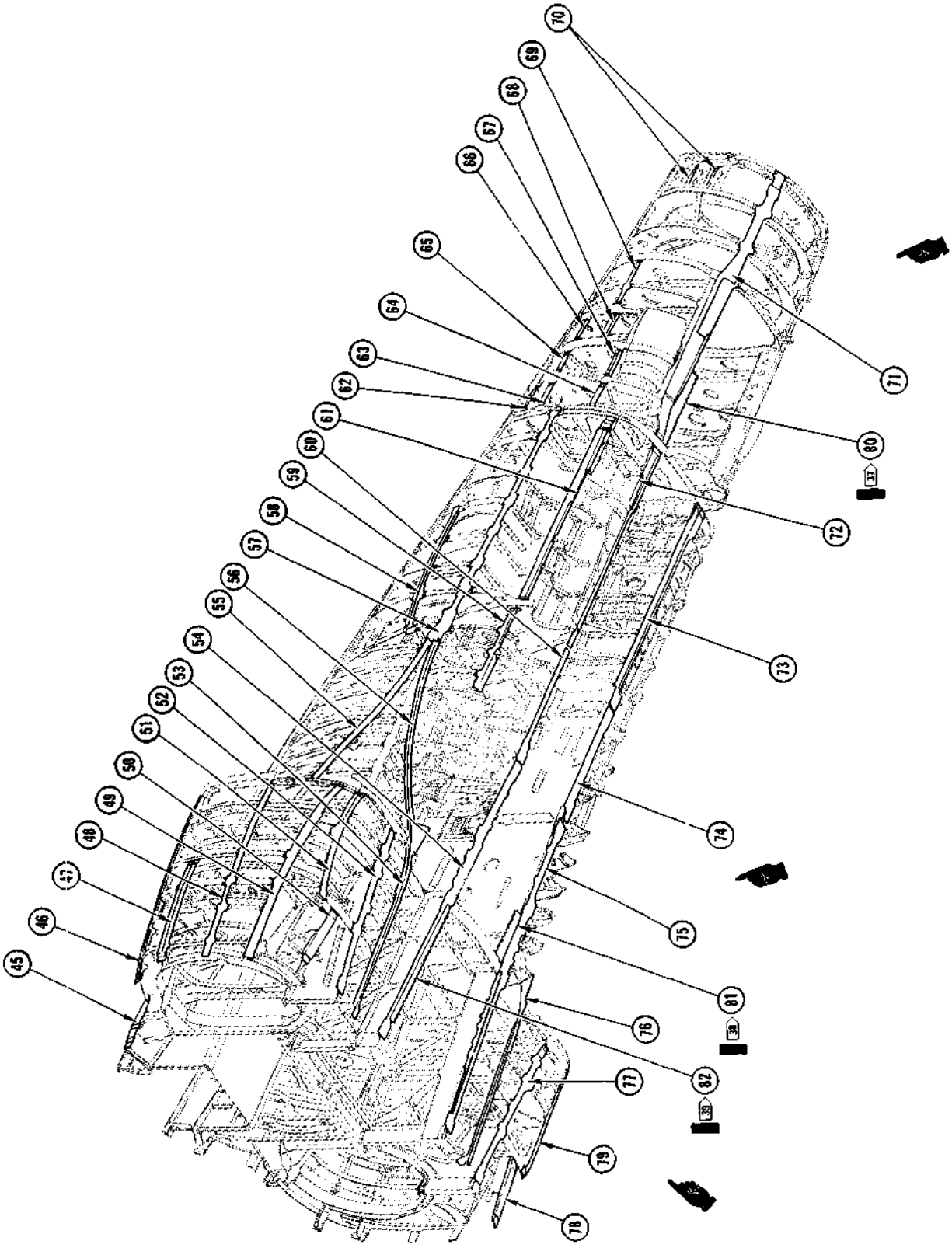


Figure 3-16. Longeron and Stringer Index - F-4E AND F-4G (Sheet 1 of 4)



4C-3-1-2-(80-2)D

Figure 3-16. Longeron and Stringer Index - F-4E AND F-4G (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-310253-5	INTERCOSTAL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	53-310082-7	LONGERON	1M57572	7075-T6 AL ALY	QQ-A-200/11 (T6)
	53-310082-11	LONGERON	1M57572	7075-T73 AL ALY	QQ-A-200/11 (T73)
3	53-310120-31	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	53-310120-29	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	53-310120-33	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	53-310083-9	LONGERON	1M57573	7075-T6 AL ALY	QQ-A-200/11 (T76)
	53-310083-19	LONGERON	1M57573	7075-T76 AL ALY	QQ-A-200/11 (T76)
7	53-310120-27	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-070182-201	TEE	1M5526	7178-T6 AL ALY	QQ-A-250/13 (T6)
8	53-310120-21	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
9	53-310258-3	SUPPORT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	53-310120-35	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	53-310120-25	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
12	53-310120-19	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310120-49	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	53-310120-23	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	53-310120-43	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-070182-69	STRINGER	1M5526	7178-T651 AL ALY	QQ-A-200/13 (T651)
15	53-310179-3	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-31801-11, -12	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-31799-39	LONGERON	1M9354	7178-T6 AL ALY	QQ-A-200/13 (T6)
18	32-31908-37	CHANNEL	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31908-45	CHANNEL	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
19	53-310218-1	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310218-301	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310218-303	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310218-305	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310218-307	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-31127-27	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	32-30312-3	SILL	0.071	7175-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31536-13	TEE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
	32-31536-19	TEE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
23	32-31848-25	ZEE	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31848-41	ZEE	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
24	32-31537-11	TEE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
25	32-31354-11	LONGERON	1M5576	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	32-31505-47	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
27	32-31506-27	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-31500-11	STRINGER	1M5689	2024-T6 AL ALY	QQ-A-200/3 (T6)
29	32-32534-5	EDGE MEMBER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31367-23	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31367-27	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	32-31185-303, -304	WEB ASSY	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31185-305, -304	WEB ASSY	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	32-31368-13	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31368-15	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
33	32-30121-7, -6	ANGLE	1M2510	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-30121-13, -6	ANGLE	1M2510	7178-T6 AL ALY	QQ-A-200/13 (T6)
34	32-31135-289	CAP	1M57291	7178-T6 AL ALY	QQ-A-200/13 (T6)
35	32-30361-7	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-30361-13	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-30361-37	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-30361-53	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
36	32-30361-11	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-30361-19	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-30361-39	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-30361-55	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T651)
37	32-31368-14	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31368-16	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
38	32-31354-17	LONGERON	1M5576	7178-T651 AL ALY	QQ-A-200/13 (T651)
39	53-310213-1	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310213-303	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310213-301	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310213-305	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310213-307	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	53-310121-9	INTERCOSTAL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
41	53-310121-10	INTERCOSTAL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
42	53-310082-8	LONGERON	1M57572	7075-T6 AL ALY	QQ-A-200/11 (T6)
	53-310082-12	LONGERON	1M57572	7075-T6 AL ALY	QQ-A-200/11 (T6)
43	32-30058-5	LONGERON	1M9710	7178-T6 AL ALY	QQ-A-200/13 (T6)
44	32-30058-6	LONGERON	1M9710	7178-T6 AL ALY	QQ-A-200/13 (T6)
45	32-31135-733	CAP	1M57291	7178-T6 AL ALY	QQ-A-200/13 (T6)
46	32-31367-24	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
47	32-31500-12	STRINGER	1M5689	2024-T6 AL ALY	QQ-A-200/3 (T6)
48	32-31506-28	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
49	32-31505-48	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
50	32-31095-274	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31095-401	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(80-3)G

Figure 3-16. Longeron and Stringer Index - F-4E AND F-4G (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
51	32-31534-6	EDGE MEMBER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52	32-31077-15	LONGERON	1M5384	7178-T6 AL ALY	QQ-A-200/13 (T6)
53	32-31850-6	EDGE MEMBER	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
54	32-31096-11	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
55	32-31536-17	TEE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
56	32-31537-12	TEE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
57	32-31799-40	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
58	32-31127-17	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
59	32-30312-4	SILL	0.071	7075-T6 ALCLAD	QQ-A-200/13 (T6)
60	32-31265-13	TEE	1M7495	7178-T651 AL ALY	QQ-A-200/13 (T651)
61	32-31908-38	CHANNEL	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
62	53-310119-4	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63 2	53-310120-11	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-070182-70	STRINGER	1M5526	7178-T651 AL ALY	QQ-A-200/13 (T651)
64 1	53-310120-7	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-070182-27	STRINGER	1M5526	7178-T651 AL ALY	QQ-A-200/13 (T651)
65	53-310120-9	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	53-310120-13	ANGLE	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
67	53-310120-5	STRINGER	1M5615	7178-T6 AL ALY	QQ-A-200/13 (T6)
68	53-310120-15	ANGLE	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
69 26	53-310120-3	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	53-310120-47	STRINGER	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
70 35	53-310253-7	INTERCOSTAL	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
35	53-310253-21	INTERCOSTAL	0.048	7178-T6 AL ALY	QQ-A-250/14 (T6)
71	53-310230-9	TEE	1M57574	7075-T6 AL ALY	QQ-A-200/11 (T6)
72 29	53-310222-3	LONGERON	FORGING	4340 STEEL	MIL-S-5000
30	53-310222-9	LONGERON	FORGING	4340 STEEL	MIL-S-5000
73 27	53-310221-3	LONGERON	FORGING	4340 STEEL	MIL-S-5000
28	53-310221-5	LONGERON	FORGING	4340 STEEL	MIL-S-5000
74	32-31264-15	LONGERON	1M57239	7178-T651 AL ALY	QQ-A-200/13 (T651)
75	32-31078-13	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
76	32-31850-5	EDGE MEMBER	0.160	7075-T6 AL ALY	QQ-A-250/12 (T6)
77	32-31077-13	LONGERON	1M5384	7178-T6 AL ALY	QQ-A-200/13 (T6)
78	32-31095-273	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
79	32-31534-5	EDGE MEMBER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
80	53-310188-7 37	HINGE	1M96250	7075-T73 AL ALY	QQ-A-200/11 (T73)
81	32-85019-3 38	HINGE	1M96154	2024-T4 AL ALY	QQ-A-200/3 (T4)
82	32-31429-5 39	HINGE	1M9632	7075-T6 AL ALY	QQ-A-200/11 (T6)

Notes

1. FORGED AND MACHINED IN THE E CONDITION THEN HEAT TREATED TO 150 TO 180 KSI.
2. F-4E 66-298 AND UP AND F-4G.
3. F-4E 66-284 THRU 67-219.
4. F-4E 67-220 THRU 67-398.
5. F-4E 66-284 THRU 66-297 AND 66-300.
6. F-4E 66-296, 66-298, 66-299 AND 66-301 AND UP AND F-4G.
7. F-4E 66-284 THRU 66-367.
8. F-4E 66-368 AND UP AND F-4G.
9. F-4E 68-303 AND UP AND F-4G.
10. F-4E 66-284 THRU 68-365.
11. F-4E 68-366 AND UP AND F-4G.
12. F-4E 66-284 THRU 67-376.
13. F-4E 67-377 AND UP AND F-4G.
14. F-4E 67-220 AND UP AND F-4G.
15. F-4E 67-220 THRU 67-341.
16. F-4E 67-342 THRU 68-483.
17. F-4E.
18. F-4E 66-368 THRU 67-219.
19. F-4E 67-220 THRU 68-483.
20. F-4E 66-368 THRU 68-483.
21. DELETED.
22. F-4E 66-284 THRU 68-538; F-4E/G 69-236 THRU 69-303.
23. F-4E 69-304 AND UP AND F-4G.
24. F-4E 66-284 THRU 66-297.
25. F-4E 66-284 THRU 67-282.
26. F-4E 67-283 AND UP AND F-4G.
27. F-4E 66-284 THRU 67-268.
28. F-4E 66-269 AND UP AND F-4G.
29. F-4E 66-284 THRU 67-287.
30. F-4E 67-288 AND UP AND F-4G.
31. F-4E 66-284 THRU 68-538; F-4E/G 69-236 THRU 69-7578.
32. F-4E/G 69-7579 THRU 69-7588; F-4E 69-7589 AND UP.
33. F-4E 68-484 THRU 69-7589 AND 71-237 THRU 74-01053 AND F-4G.
34. F-4E 71-224 THRU 71-236.
35. F-4E 66-284 THRU 71-1093 AND F-4G.
36. F-4E 71-1391 AND UP.
37. FOR REPLACEMENT, SEE FIGURE 3-17A2.
38. FOR REPLACEMENT, SEE FIGURE 3-17F.
39. FOR REPLACEMENT, SEE FIGURE 3-17E.
40. F-4E 68-484 THRU 74-01053 AND F-4G.
41. F-4E 74-01054 AND UP.
42. F-4G.

4C-3-1-2-(80-4)G

Figure 3-16. Longeron and Stringer Index - F-4E AND F-4G (Sheet 4 of 4)

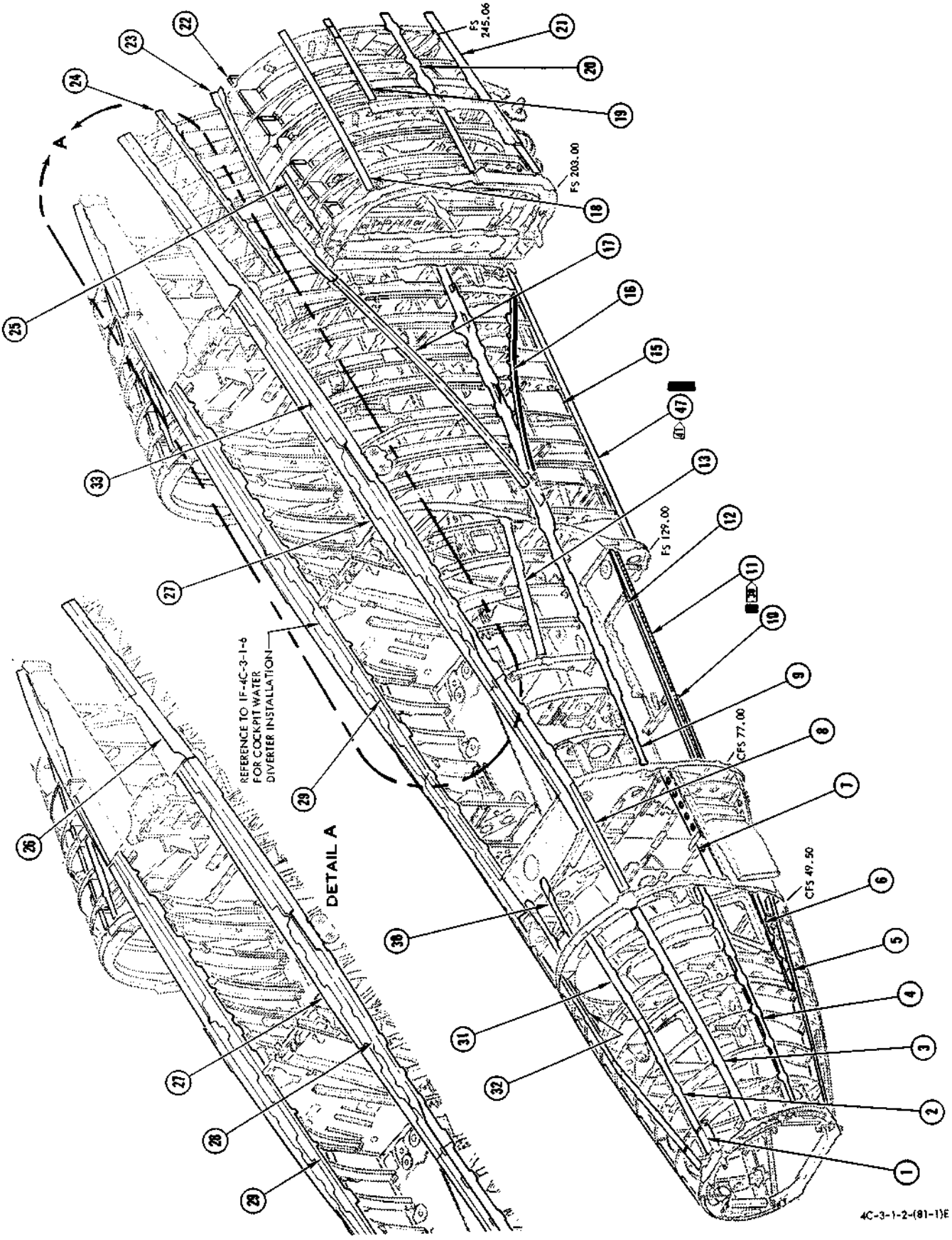


Figure 3-17. Longeron and Stringer Index - RF-4 (Sheet 1of 4)

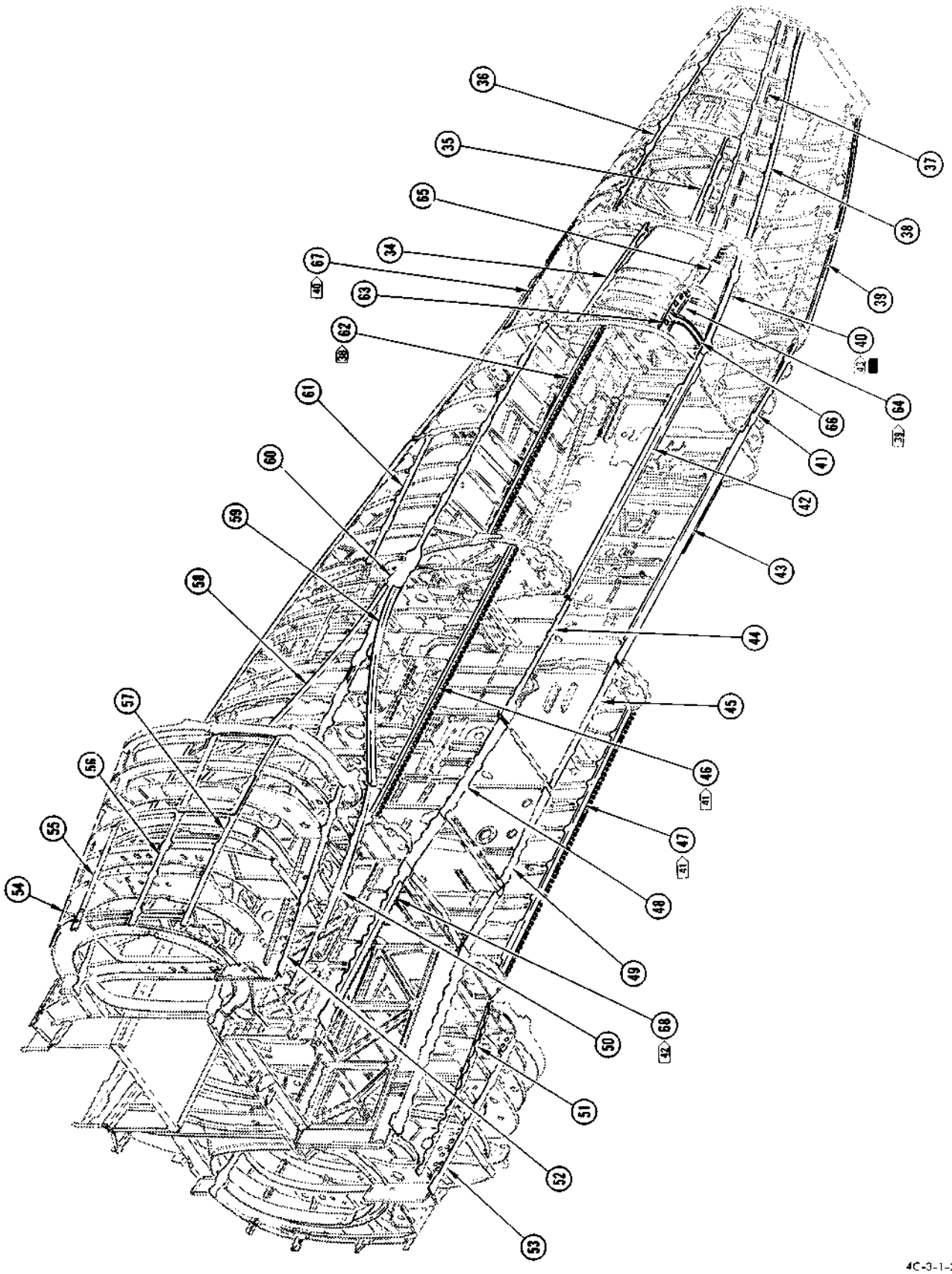


Figure 3-17. Longeron and Stringer Index - RF-4 (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [20]	53-39038-3,-4	SUPPORT	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[2]	53-39038-9,-10	SUPPORT	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-39041-5,-6	STRINGER	1M57345	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-39009-3,-4	LONGERON	1M57334	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	53-39010-3	LONGERON	1M57344	7178-T6 AL ALY	QQ-A-200/13 (T6)
5 [11]	53-39035-9	BEAM	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
[17]	53-39035-23	BEAM	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
6 [3]	53-39042-3	STRINGER	1M7597	7178-T6 AL ALY	QQ-A-200/13 (T6)
[4]	53-39042-5	STRINGER	1M7597	7178-T6 AL ALY	QQ-A-200/13 (T6)
7	53-39037-33	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	53-34042-3,-4	LONGERON	1M57369	7178-T6 AL ALY	QQ-A-200/13 (T6)
9 [9]	32-31799-25	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
[10]	32-31799-41	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
10	53-34020-55,-56	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	53-34051-5 <38>	HINGE HALF	1M96185	7075-T6 AL ALY	QQ-A-200/11 (T6)
12	53-34020-21,-22	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13 [9]	32-31127-15	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
[10]	32-31127-27	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	DELETED				
15	53-34040-17,-18	LONGERON	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-31537-13	MATCH ANGLE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
17	32-31536-13	MATCH ANGLE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
18	32-31367-23	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
19 [5]	32-31500-11	STRINGER	1M5689	2024-T4 AL ALY	QQ-A-200/3 (T4)
[6]	32-31500-15	STRINGER	1M5689	2024-T4 AL ALY	QQ-A-200/3 (T4)
20 [7]	32-31506-7	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
[8]	32-31506-27	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
21 [1]	32-31505-9	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
[2]	32-31505-48	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
22 [18]	32-31185-301,-302	WEB ASSEMBLY	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[19]	32-31185-303,-304	WEB ASSEMBLY	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-30121-7,-8	SPLICE ANGLE	1M2510	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-31135-289,-733	CAP	1M57291	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-31368-15,-16	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
26 [12]	32-30058-5,-6	LONGERON	1M97101	7178-T6 AL ALY	QQ-A-200/13 (T6)
27 [12]	53-34123-1	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
[15]	53-34123-301	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
[15]	53-34123-305	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
28 [12]	32-31354-21,-22	LONGERON	1M5576	7178-T6 AL ALY	QQ-A-200/13 (T6)
29 [12]	53-34124-1	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
[13]	53-34124-301	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
[14]	53-34124-303	SILL	1M2499	7178-T6 AL ALY	QQ-A-200/13 (T6)
30	53-34065-19,-20	TEE	1M5113	7075-T6 AL ALY	QQ-A-200/11 (T6)
31	53-39043-3,-4	STRINGER	1M5466	7178-T6 AL ALY	QQ-A-200/13 (T6)
32	53-39044-3,-4	ANGLE	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
33 [15]	32-30361-9,-10	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T6)
[16]	32-30361-17,-21	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T6)
[16]	32-30361-45,-47	LONGERON	1M57571	7178-T651 AL ALY	QQ-A-200/13 (T6)
34	53-39037-37	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	53-39042-4	STRINGER	1M7597	7178-T6 AL ALY	QQ-A-200/13 (T6)
36	53-39010-4	LONGERON	1M57344	7178-T6 AL ALY	QQ-A-200/13 (T6)
37 [11]	53-39035-10	BEAM	0.100	7178-T6 AL ALY	QQ-A-250/15 (T6)
[17]	53-39035-24	BEAM	0.100	7178-T6 AL ALY	QQ-A-250/15 (T6)
38	53-39215-6	CAP	1M474	7178-T6 AL ALY	QQ-A-200/13 (T6)
39	53-39215-5	CAP	1M474	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	32-37016-9 <45>	LONGERON	1M57336	7178-T6 AL ALY	QQ-A-200/13 (T6)
41 [25]	53-39012-5	LONGERON	1M57336	7178-T6AL ALY	QQ-A-200/13 (T6)
[25]	53G39012-3	LONGERON	1M57336	7178-T6 AL ALY	QQ-A-200/13 (T6)
[25]	53-39012-9	LONGERON	1M57336	7178-T6 AL ALY	QQ-A-200/13 (T6)
42	53-34010-11	LONGERON		4340 STEEL ALLOY BAR STOCK	MIL-S-5000 <1>
43 [27]	53-34009-5	LONGERON		4340 STEEL ALLOY BAR STOCK	MIL-S-5000 <1>
[26]	53-34009-7	LONGERON		4340 STEEL ALLOY BAR STOCK	MIL-S-5000 <1>
44	53-34012-3	LONGERON	1M7592	7178-T6 AL ALY	QQ-A-200/13 (T6)
45	53-34011-5	LONGERON	1M57337	7178-T6 AL ALY	QQ-A-200/13 (T6)
46	53-34053-9 <41>	HINGE HALF	1M96175	7178-T6 AL ALY	QQ-A-200/13 (T6)
47	53-34053-7 <41>	HINGE HALF	1M96175	7178-T6 AL ALY	QQ-A-200/13 (T6)
48	53-34014-5	LONGERON	1M57339	7178-T6 AL ALY	QQ-A-200/13 (T6)
49 [22]	53-34013-5	LONGERON	1M57339	7178-T6 AL ALY	QQ-A-200/13 (T6)
[23]	53-34013-9	LONGERON	1M57339	7178-T6 AL ALY	QQ-A-200/13 (T6)
50 [21]	53-34033-6	SILL	0.190	2024-T4 AL ALY	QQ-A-250/4 (T4)
[24]	53-34033-8	SILL	0.190	2024-T4 AL ALY	QQ-A-250/4 (T4)
[A]	53-34033-10	SILL	0.190	2024-T4 AL ALY	QQ-A-250/4 (T4)
51 [21]	53-34033-5	SILL	0.190	2024-T4 AL ALY	QQ-A-250/4 (T4)
[24]	53-34033-7	SILL	0.190	2024-T4 AL ALY	QQ-A-250/4 (T4)
[A]	53-34033-9	SILL	0.190	2024-T4 AL ALY	QQ-A-250/4 (T4)
52	32-31077-15	LONGERON	1M5384	7178-T6 AL ALY	QQ-A-200/13 (T6)
53	32-31077-13	LONGERON	1M5384	7178-T6 AL ALY	QQ-A-200/13 (T6)
54	32-31367-24	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
55	32-31500-12	STRINGER	1M5689	2024-T4 AL ALY	QQ-A-200/3 (T4)
56 [28]	32-31506-8	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
[8]	32-31506-28	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
57 [29]	32-31505-10	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)
[2]	32-31505-48	STRINGER	1M5691	7178-T6 AL ALY	QQ-A-200/13 (T6)

4C-3-1-2-(B1-3)F

Figure 3-17. Longeron and Stringer Index - RF-4 (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
58	32-31536-12	MATCH ANGLE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
59	32-31537-14	MATCH ANGLE	1M5711	2024-T6 AL ALY	QQ-A-200/3 (T6)
60 [2]	32-31799-26	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
[3]	32-31799-42	LONGERON	1M9554	7178-T6 AL ALY	QQ-A-200/13 (T6)
61	32-31127-17	SILL	1M5722	7178-T6 AL ALY	QQ-A-200/13 (T6)
62	53-34051-6 <38>	HINGE HALF	1M96185	7075-T6 AL ALY	QQ-A-200/11 (T6)
63	DELETED				
[24]	32G37009-1	BEAM ASSEMBLY	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64	32-37005-5 <39>	HINGE	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
65 [1]	53SB6012	STRINGER	1M5446	7178-T6 AL ALY	QQ-A-200/13 (T6)
[2]	32-37004-3	STRINGER	1M5446	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	32-37013-5	BEAM	1M57383	7178-T6 AL ALY	QQ-A-200/13 (T6)
67	53-39099-5,-6 <40>	HINGE	1M96181	7178-T6 AL ALY	QQ-A-200/13 (T6)
68	32-31429-5 <42>	HINGE	1M9632	7075-T6 AL ALY	QQ-A-200/11 (T6)

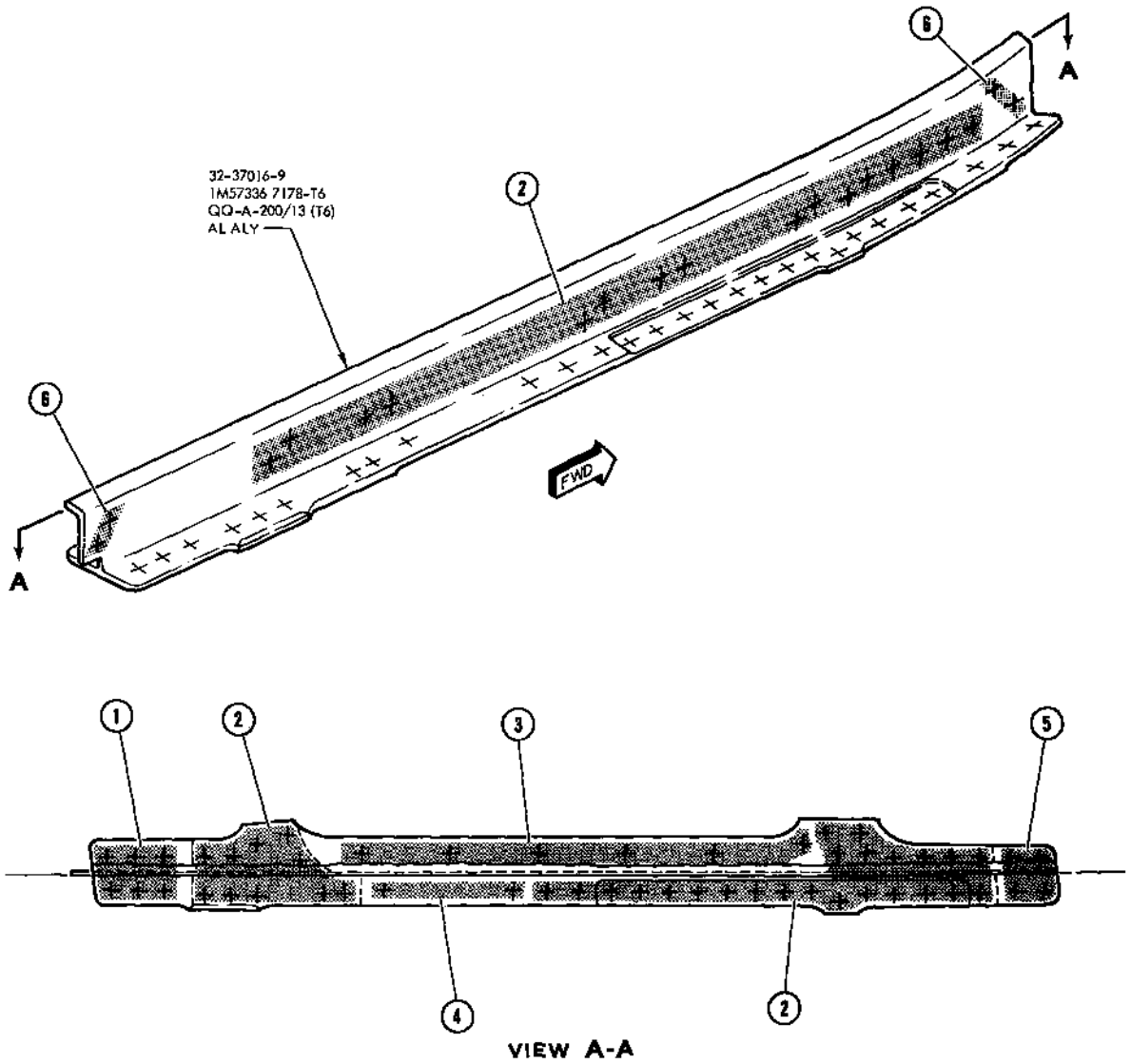
Notes

[1] MACHINED IN THE C CONDITION THEN HEAT TREATED TO 150 TO 180 KSI.
[2] RF-4 64-1017 THRU 72-156.
[3] RF-4 63-7742 THRU 63-7597.
[4] RF-4 63-7598 THRU 72-156.
[5] RF-4 63-7742 THRU 69-372.
[6] RF-4 69-373 THRU 72-156.
[7] RF-4 63-7742 THRU 64-1077.
[8] RF-4 64-1078 THRU 72-156.
[9] RF-4 63-7742 THRU 65-864.
[10] RF-4 65-865 THRU 72-156.
[11] RF-4 63-7742 THRU 69-357.
[12] RF-4 63-7742 THRU 67-444.
[13] RF-4 67-445 THRU 68-605.
[14] RF-4 68-606 THRU 72-156.
[15] RF-4 63-7742 THRU 67-461.
[16] RF-4 67-462 THRU 68-605.
[17] RF-4 69-358 THRU 72-156.
[18] RF-4 63-7742 THRU 65-932.
[19] RF-4 65-933 THRU 72-156.
[20] RF-4 63-7742 THRU 64-1016.
[21] RF-4 63-7742 THRU 63-7763.
[22] RF-4 64-1014 THRU 72-156.
[23] DELETED.

[24] DELETED.
[25] RF-4 64-997 THRU 64-1077.
[26] DELETED.
[27] RF-4 63-7742 THRU 64-1061.
[28] RF-4 64-1062 THRU 72-156.
[29] DELETED.
[30] DELETED.
[31] RF-4 63-7742 THRU 64-1013.
[32] DELETED.
[33] DELETED.
[34] RF-4 69-360 THRU 69-375.
[35] RF-4 63-7742 THRU 69-375 BEFORE TO 1F-4(R)C-647.
[36] RF-4 63-7742 THRU 69-375 AFTER TO 1F-4(R)C-647.
[37] RF-4 69-376 THRU 72-156.
[38] FOR REPLACEMENT, SEE FIGURE 3-40A.
[39] FOR REPLACEMENT, SEE FIGURE 3-17C.
[40] FOR REPLACEMENT, SEE FIGURE 3-17D.
[41] FOR REPLACEMENT, SEE FIGURE 3-17B.
[42] FOR REPLACEMENT, SEE FIGURE 3-17E.
[43] FOR REPLACEMENT, SEE FIGURE 3-17A.

4C-3-1-2-(81-4)G

Figure 3-17. Longeron and Stringer Index - RF-4 (Sheet 4 of 4)



REF NO.	FASTENER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE (INCH)
1	NAS1055-6-4	NAS528A6		0.189 +.006 -.000
2	MS20426AD5			0.159 +.007 -.000
3	MS24694S52	F1934-3-6	15-25	0.196 +.006 -.000
4	MS24694S59	MS21059L3	15-25	0.196 +.006 -.000
5	NAS1055-5-7	NAS528A5		0.156 +.006 -.000
6	NAS1054-5-3	NAS528A5		0.156 +.006 -.000

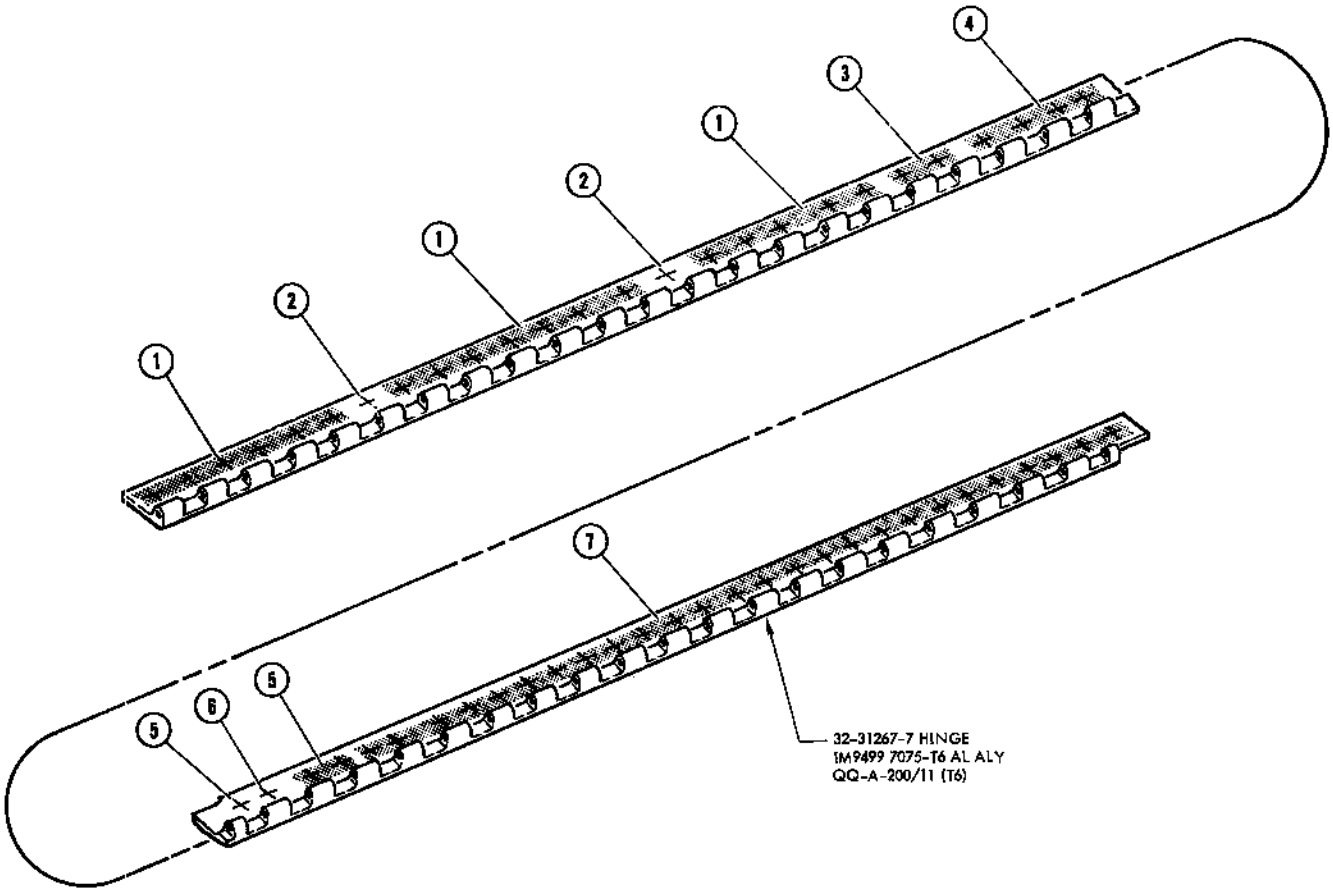
INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFER TO TO 1F-4C-3-1-1, FOR METHODS OF LOCATING AND ENLARGING HOLES. COUNTERSINK HOLES AS REQUIRED.

B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

4C-3-1-2-(355)

Figure 3-17A. Longeron, 32-37016, Replacement Index



INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLE. COUNTERSINK HOLE TO RECEIVE FASTENER.
B. REFINISH FASTENER HOLES PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

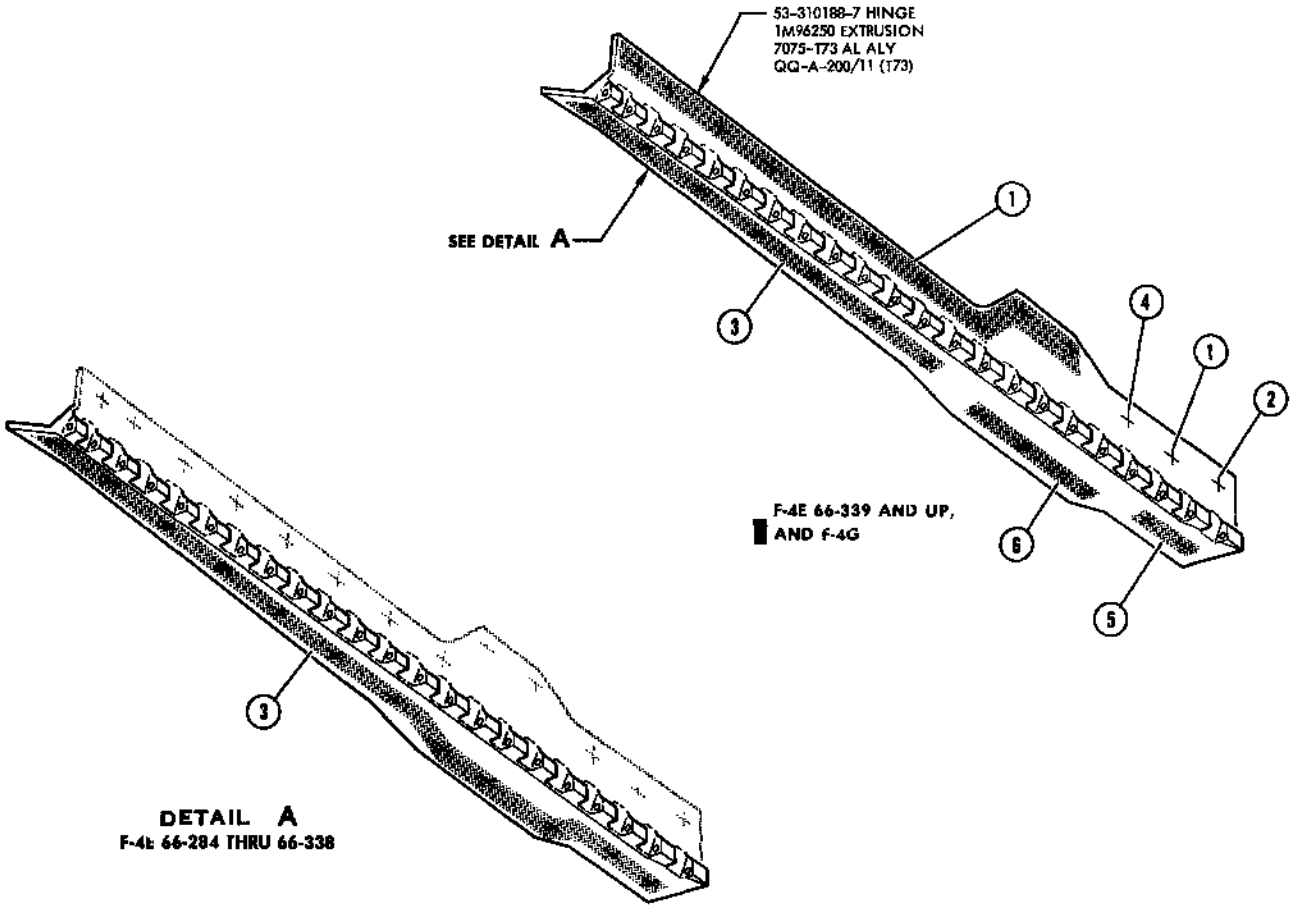
REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	AN3-5A	MS21059L3	AN960-10L <1>	15-25	0.191 +.006 -.000
2	AN3-5A	MS21061L3	AN960-10L <1>	15-25	0.191 +.006 -.000
3	AN3-6A	MS21042-3	AN960D10L	15-25	0.191 +.006 -.000
4	NAS464P3A17	MS21042-3	AN960D10L	15-25	0.191 +.006 -.000
5	NAS464P3A10	MS21042-3	AN960D10L <1> AN960D10 <2>	15-25	0.191 +.006 -.000
6	NAS464P3A10	RM52LH2935-02	AN960D10L <1> 2935-0 <2>	15-25	0.191 +.006 -.000
7	AN3-6A	MS21042-3	AN960D10	15-25	0.191 +.006 -.000

Notes

<1> UNDER HEAD OF BOLT.
<2> UNDER NUT.

4C-3-1-2-(356)

Figure 3-17A1. Hinge, 32-31267, Replacement Index



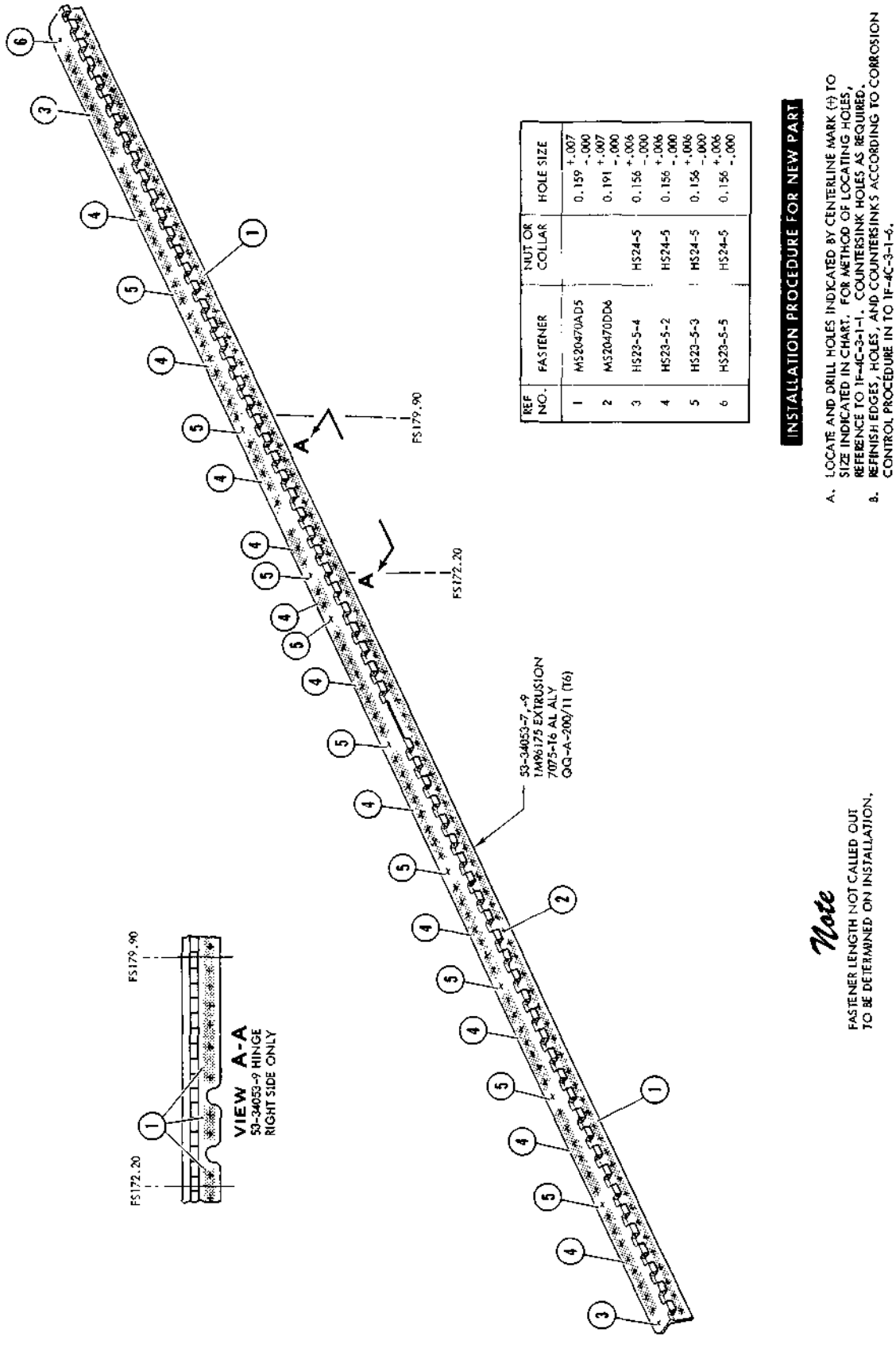
INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

REF NO.	FASTENER	WASHER (UNDER HEAD)	HOLE SIZE
1	NAS464P3A4	AN960-10L	0.196 $^{+.007}_{-.000}$
2	NAS464P4A4	AN960-416L	0.250 $^{+.006}_{-.000}$
3	NAS1503-5T		0.196 $^{+.007}_{-.000}$
4	NAS1503-12T		0.196 $^{+.007}_{-.000}$
5	NAS1503-7T		0.196 $^{+.007}_{-.000}$
6	NAS1503-8T		0.196 $^{+.007}_{-.000}$

4C-3-1-2-(336) B

Figure 3-17A2. Hinge, 53-310188, Replacement Index



REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	MS20470AD5		0.159 +.007 -.000
2	MS20470DD6		0.191 +.007 -.000
3	HS23-5-4	HS24-5	0.156 +.006 -.000
4	HS23-5-2	HS24-5	0.156 +.006 -.000
5	HS23-5-3	HS24-5	0.156 +.006 -.000
6	HS23-5-5	HS24-5	0.156 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

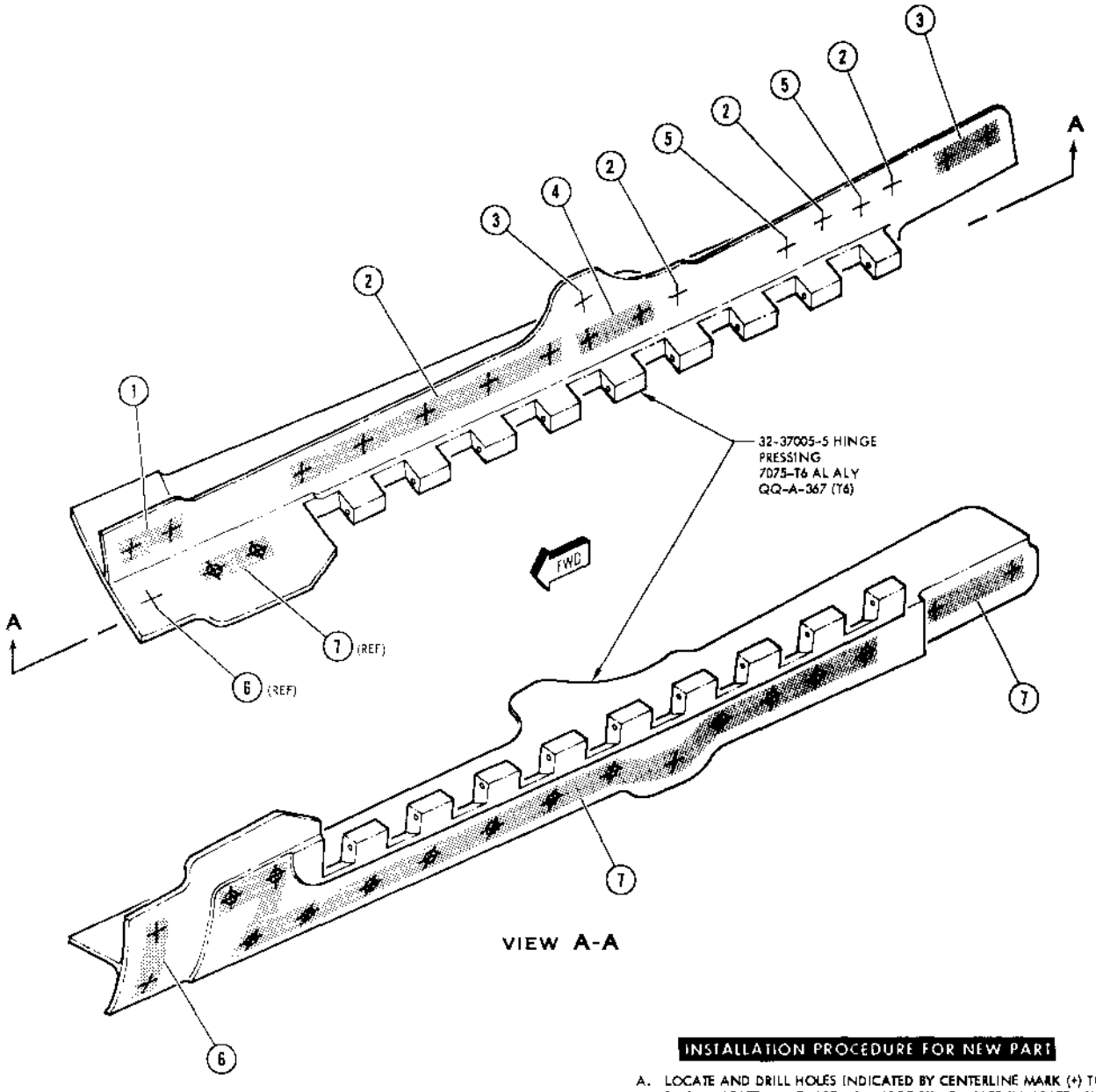
A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

FASTENER LENGTH NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.

4C-3-1-2-(337)

Figure 3-17B. Hinge, 53-34053, Replacement Index



REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	HS26AS-2	HS24-5	0.156 +.006 -.000
2	NAS1398D4A		0.126 +.006 -.000
3	MS20470AD5		0.159 +.007 -.000
4	NAS1097AD5		0.159 +.007 -.000
5	NAS1398D5A3		0.165 +.003 -.000
6	NAS1097DD6		0.191 +.007 -.000
7	MS20426AD5		0.159 +.007 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING AND ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

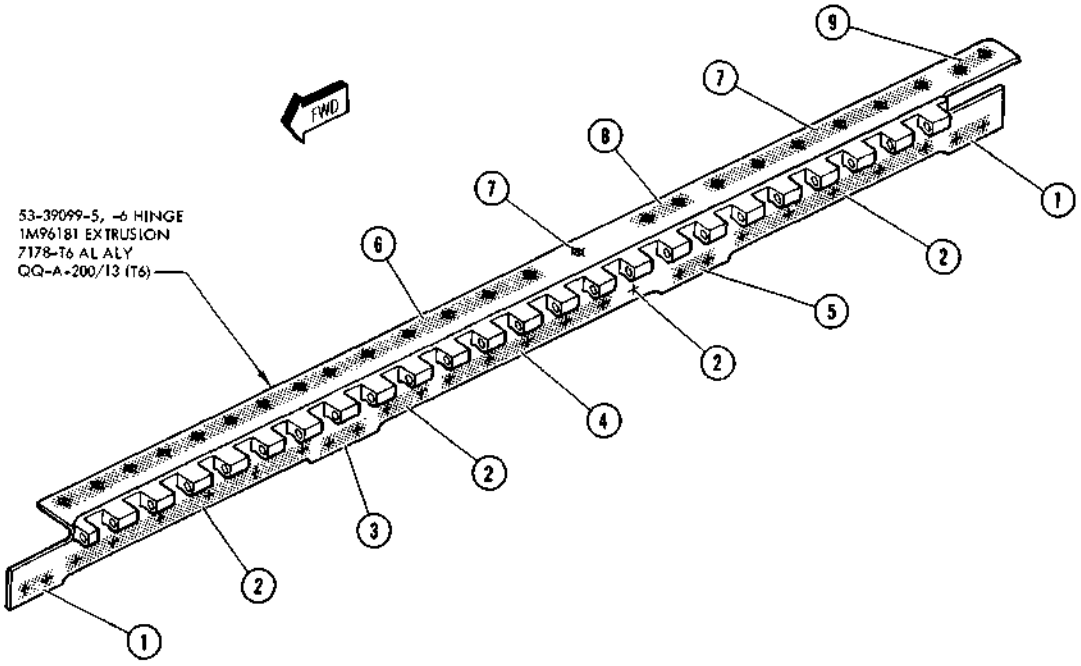
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

FASTENER LENGTH NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.

4C-3-1-2-(338)A

Figure 3-17C. Hinge, 32-37005, Replacement Index



REF NO.	FASTENER	WASHER	NUT OR COLLAR	HOLE SIZE
1	HS26A5-3		HS24-5	0.156 +.006 -.000
2	MS20470AD4			0.128 +.006 -.000
3	MS20426AD5			0.159 +.007 -.000
4	AN515-8R8	AN960D8	MS21042-08	0.169 +.006 -.000
5	MS20426DD6			0.191 +.007 -.000
6	NAS1097DD6			0.191 +.007 -.000
7	MS24694S52		MS21059L3	0.196 +.006 -.000
8	MS24694S53		RM52LHTA525-02	0.196 +.006 -.000
9	NAS525-6-6		NAS528A6	0.188 +.003 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING AND ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

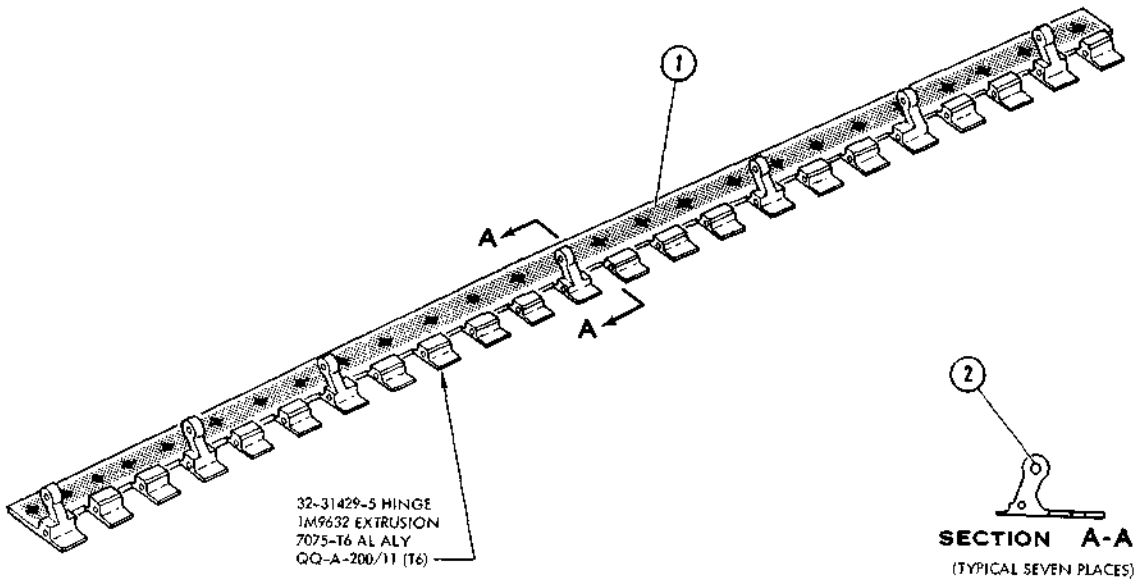
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

FASTENER LENGTH NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.

4C-3-1-2-(339)

Figure 3-17D. Hinge, 53-39099, Replacement Index



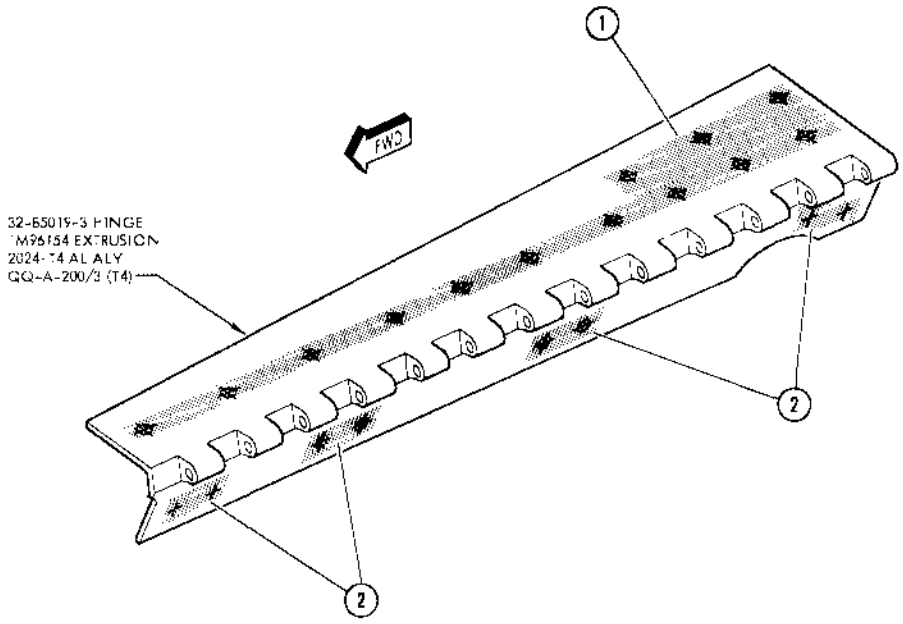
INSTALLATION PROCEDURE FOR NEW PART

A. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

REF NO.	FASTENER	(UNDER NUT)	PIN	NUT OR COLLAR	HOLE SIZE
1	MS24694S55	AN960D10		MS21042-3	0.191 $^{+.006}_{-.000}$
2	3M39C2-17	4M36-01011	MS24665-152		0.189 $^{+.006}_{-.000}$

4C-3-1-2-(340)

Figure 3-17E. Hinge, 32-31429, Replacement Index



REF NO.	FASTENER	WASHER		NUT OR COLLAR	HOLE SIZE
		UNDER HEAD	UNDER NUT		
1	MS24694S54		AN960D10	MS21042-3	0.196 $^{+.006}_{-.000}$
2	AN3-6A	AN960D10L	AN960D10	MS21042-3	0.196 $^{+.006}_{-.000}$

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (—) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (Φ) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING AND ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

4C-3-1-2-(341)

Figure 3-17F. Hinge, 32 85019, Replacement Index

TYPE FASTENERS	FLANGE ~ INCH THICKNESS	FASTENER DIAMETER	NUMBER OF FASTENERS ⟨5⟩ 3	4	5	6	7
			⟨4⟩ WIDTH OF FLANGE ~ INCHES				
⟨3⟩	0.025 THRU 0.100	5/32	0.56	0.75	0.94	1.13	1.31
	0.040 THRU 0.125	3/16	0.70	0.94	1.17	1.41	1.64
	0.160	3/16	0.59	0.78	0.98	1.17	1.36
	0.040 THRU 0.190	1/4	0.92	1.23	1.54	1.84	2.15
	0.250	1/4	0.84	0.86	1.07	1.29	1.50
	0.063 THRU 0.190	5/16	1.09	1.45	1.81	2.17	2.53
	0.250	5/16	0.86	1.14	1.43	1.71	2.00
	0.080 THRU 0.250	3/8	1.28	1.70	2.13	2.55	2.98
	0.312 THRU 0.375	3/8	0.93	1.24	1.54	1.86	2.16
⟨2⟩	0.025 THRU 0.040	5/32	0.51	0.68	0.86	1.03	1.20
	0.050 THRU 0.063	5/32	—	0.45	0.56	0.68	0.79
	0.032 THRU 0.040	3/16	0.97	1.29	1.61	1.94	2.26
	0.050 THRU 0.063	3/16	0.67	0.89	1.11	1.34	1.56
	0.050 THRU 0.071	1/4	1.05	1.39	1.74	2.09	2.44
	0.080 THRU 0.090	1/4	0.84	1.12	1.40	1.68	1.96

Notes

1. FASTENERS WITH COUNTERSUNK HEADS MAY BE UTILIZED AS LONG AS COUNTERSINK IS NOT IN COMPONENTS BEING REPAIRED OR ADDED BY THE REPAIR.

⟨2⟩ MS20470AD5, MS20470DD6, MS20470DD8 OR EQUIVALENT STRENGTH ALUMINUM RIVETS.

⟨3⟩ NAS1669L JO--BOLTS, NAS529 AND NAS1054 HIGH SHEAR RIVETS OR EQUIVALENT STRENGTH STEEL FASTENERS.

⟨4⟩ WHEN WIDTH OF FLANGE FALLS BETWEEN TWO VALUES SHOWN IN TABLE USE NUMBER OF FASTENERS ASSOCIATED WITH LARGER VALUE.

⟨5⟩ NUMBER OF FASTENERS INDICATED ARE REQUIRED ON EACH SIDE OF SPLICE LINE.

4C-3-1-2-(400)

Figure 3-17G. Longeron and Stringer Repair, Fastener Requirement

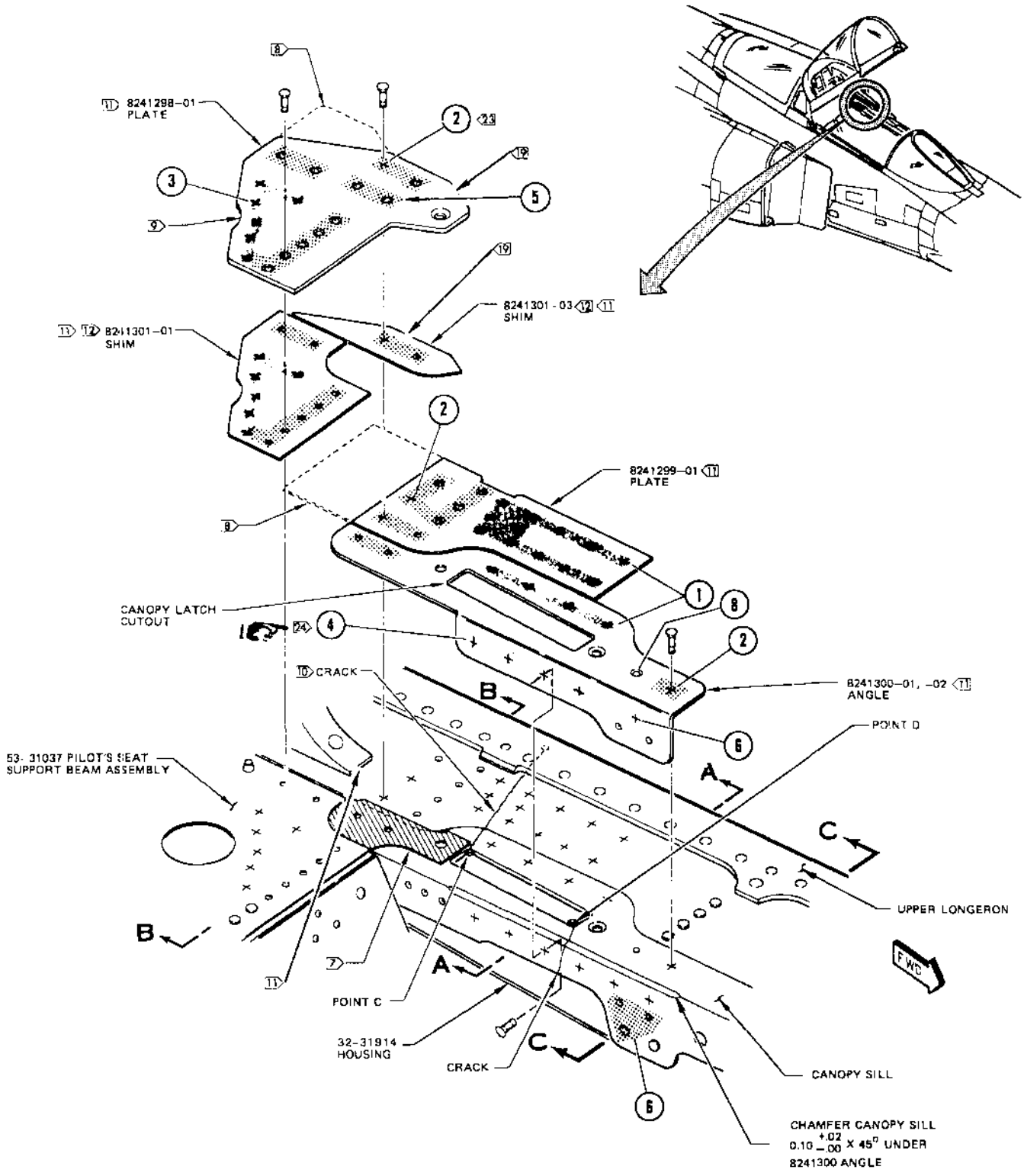
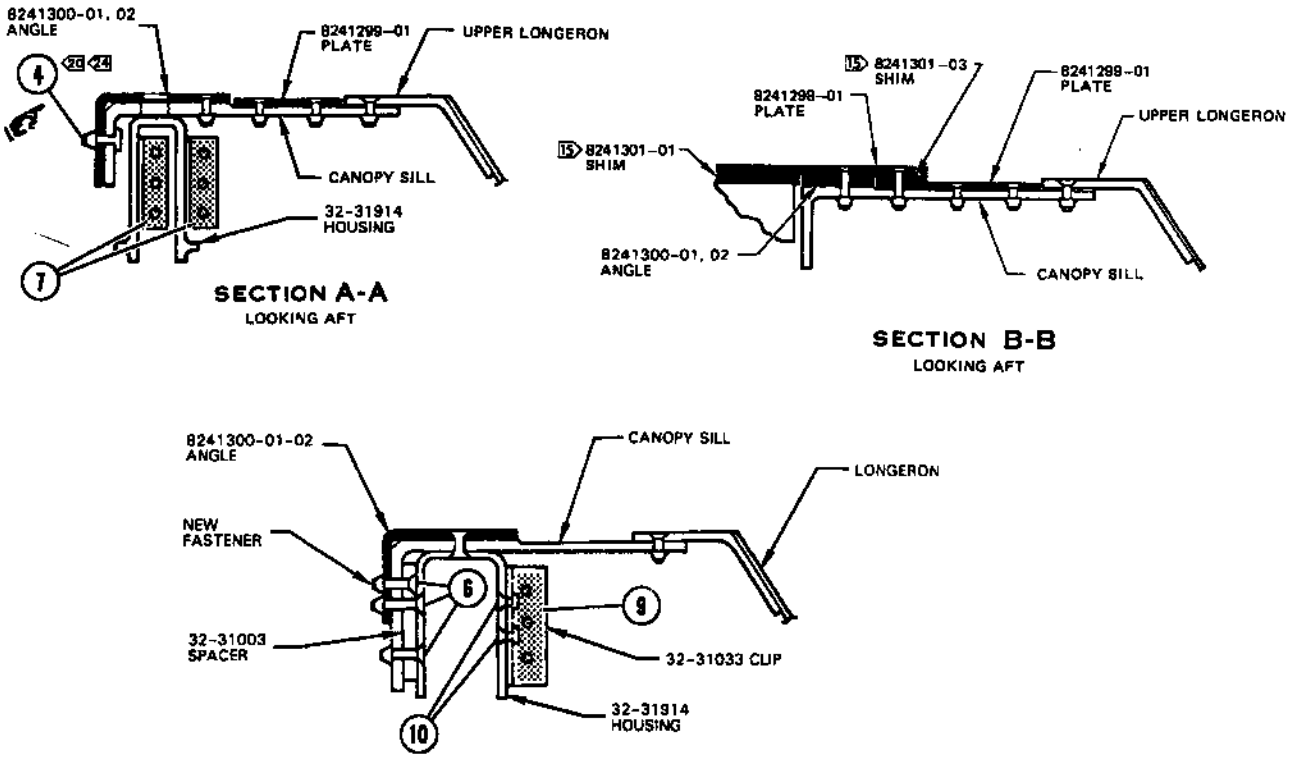


Figure 3-18. Canopy Sill Repair (Sheet 1 of 3)



Notes

1. IF CRACK EXTENDS MORE THAN 2.5 INCHES AFT OF POINT C OR MORE THAN 1 INCH FORWARD OF POINT D, SEE PARAGRAPH 3-52.
2. FLUORESCENT PENETRANT INSPECT FOR CRACK PER T.O.1F-4C-36.
3. STOP DRILL ALL ACCESSIBLE CRACKS WITH 0.257 $^{+0.007}_{-0.000}$ DIAMETER HOLE.
4. DIMENSIONS NOT SHOWN WILL BE MATCHED WITH CUTOUTS AND CONTOURS OF EXISTING STRUCTURE.
5. BREAK ALL SHARP CORNERS AND EDGES.
6. FOR FLAT PATTERN LAYOUT AND BEND ALLOWANCE REFER TO T.O.1F-4C-3-1-1.
7. REMOVE MATERIAL IN SHADDED AREA FROM 53-31037 PILOTS SEAT SUPPORT BEAM ASSEMBLY TO FIT 8241300 ANGLE. REMOVE AND DISCARD 53-31037 TEE (NOT SHOWN) FOR ACCESS TO SHADED AREA.
8. IF CRACK EXTENDS FURTHER AFT THAN SHOWN, THE 8241298 AND 8241299 PLATES AND 8241301 SHIM MAY BE EXTENDED TO MEET REQUIREMENTS IN NOTE 10.
9. TRIM AS REQUIRED TO CLEAR WIRE BUNDLE.
10. BRIDGE THE CRACK WITH THE 8241299-01 PLATE. INSTALL A MINIMUM OF EIGHT FASTENERS THRU THE PLATE AND CANOPY SILL ON EACH SIDE OF THE CRACK. ADJUST FASTENER PATTERN TO MAINTAIN PROPER EDGE DISTANCE BETWEEN NEW FASTENERS AND CRACK.
11. FILLET SEAL WITH MIL-S-81733 TO PROVIDE SURFACE FOR CANOPY SEAL.
12. INSPECT THE AREA UNDER 8241298-01 PLATE FOR GAPS. SIZE OF GAP MAY VARY ON INDIVIDUAL AIRCRAFT, SHIM AS REQUIRED WITH 8241301-01.
13. FINISH REPAIR PARTS PER T.O.1F-4C-3-1-6.
14. DELETED
15. SEAL FAYING SURFACES AND EDGES OF SHIMS WITH MIL-S-81733 SEALANT. REFER TO T.O.1F-4C-3-1-6.
16. LENGTHS OF ALL FASTENERS TO BE DETERMINED ON INSTALLATION. WHERE COUNTERSINKS EXIST UNDER REPAIR PART, INSTALL COUNTERSINK PLUG PER T. O. 1F-4C-3-1-5.
17. LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE.
18. DEGREASE PARTS PARTS PRIOR TO THIS PROCEDURE.
19. TRIM EDGE AS REQUIRED TO CLEAR CANOPY SEAL.
20. INSTALL NAS529 FASTENERS WITH COLLAR ON INBOARD SIDE OF CANOPY SILL.
21. THIS FASTENER MUST BE A DOUBLE FLUSH OD RIVET.
22. SEE FIGURE 3-18A FOR REPAIR OF F-4G, RIGHT SIDE.
23. IN MANY CASES THESE TWO FASTENERS CANNOT BE INSTALLED THROUGH 8241298-01 PLATE DUE TO TRIMMING FOR CANOPY SEAL CLEARANCE PER 19. CHECK PRIOR TO FINAL INSTALLATION OF 8241298-01 PLATE. WHEN THIS OCCURS, ELIMINATE 8241298-03 SHIM AND INSTALL THESE TWO FASTENERS FLUSH IN 8241299-01 PLATE.
24. NAS1303-()H BOLTS AND MS21084L3-7 GANG CHANNEL AT THE THREE AFT FASTENERS AND AN MS90354S0802, B100 BLIND BOLT IN THE FORWARD LOCATION CAN BE INSTALLED TO AVOID REMOVING THE 32-31914 HOUSING, PROVIDED THAT CLEARANCE EXISTS BETWEEN END OF FASTENER SHANK AND HOUSING, IF THE HOUSING IS LOCATED TOO CLOSE TO THE CANOPY SILL TO ALLOW CLEARANCE THEN THE HOUSING MUST BE REMOVED AND NAS529 FASTENERS INSTALLED. INSTALL NAS 1303 BOLTS AND B100'S WITH FASTENERS HEADS ON INBOARD SIDE OF CANOPY SILL AND SAFETY WIRE NAS1303 BOLT HEADS.

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Figure 3-18. Canopy Sill Repair (Sheet 2 of 3)

LEGEND

+ NEW FASTENER

O EXISTING FASTENER - REPLACE WITH EQUIVALENT FASTENER WHEN NOT OTHERWISE SPECIFIED.

REPAIR PARTS IN CROSS SECTION

REPAIR PROCEDURE

WARNING

PROVIDE ADEQUATE VENTILATION WHEN USING PRIMER OR SEALANT AVOID SKIN OR EYE CONTACT. PROMPTLY WASH CONTAMINATED SKIN OR CHANGE CLOTHING. THE LOCAL BIOENVIRONMENTAL ENGINEER WILL PROVIDE SPECIFIC INFORMATION REGARDING RESPIRATORY AND PERSONAL PROTECTION REQUIREMENTS.

A. REMOVE 32-31914 HOUSING BY REMOVING FASTENERS (7), SHOWN IN SECTION A-A AND FASTENERS (6),(8),(9),(10), SHOWN IN SECTION C-C. SEE NOTE 24 BEFORE REMOVING 32-31914 HOUSING.

B. LOCAL MANUFACTURE REPAIR PARTS PER AIR FORCE ENGINEERING DRAWINGS.

C. POSITION PARTS ON AIRCRAFT AND MATCH DRILL EXISTING FASTENER HOLES BEFORE DRILLING NEW FASTENER LOCATIONS.

D. DO STEP 17 AND HEAT TREAT PLATE, P/N 8241299 AND ANGLE, P/N 8241300 PER MIL-H-6875 TO 160-180 KSI.

E. DO STEP 17 AND COAT PLATE P/N 8241299 AND ANGLE, P/N 8241300 WTIH EPOXY PRIMER PER T.O.1F-4C-3-1-6 FOLLOWED BY MIL-S-81733 SEALER PER T.O.1-1-8 PRIOR TO INSTALLATION OR CADMIUM PLATE PER QQ-P-416 CLASS 1, TYPE II.

F. INSTALL REPAIR PARTS AS SHOWN USING PROPER FASTENERS.
NOTE. DO NOT INSTALL (8), UNTIL 32-31914 HOUSING IS INSTALLED.

G. INSTALL 32-31914 HOUSING.

REF NO.	FASTENER	COLLAR	HOLE SIZE
1	MS90353S05 MS90353-05		0.164 $\pm^{0.003}_{0.000}$
2	MS90353S06 MS90353-06		0.199 $\pm^{0.003}_{0.000}$
3	MS90354S05 MS90354-05		0.164 $\pm^{0.003}_{0.000}$
4 24	NAS 529-6 20	NAS528-A6	0.188 $\pm^{0.003}_{0.000}$
5	HL551-8	HL579-8	0.249 $\pm^{0.003}_{0.000}$
6	NAS1055-6 20	NAS528-A6	0.188 $\pm^{0.003}_{0.000}$
7	NAS529-5	NAS528-A5	0.154 $\pm^{0.003}_{0.000}$
8	MS20426DD6 21		
9	HL580-6	HL579-6	0.188 $\pm^{0.003}_{0.000}$
10	HL551-6	HL579-6	0.188 $\pm^{0.003}_{0.000}$

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Figure 3-18. Canopy Sill Repair (Sheet 3 of 3)

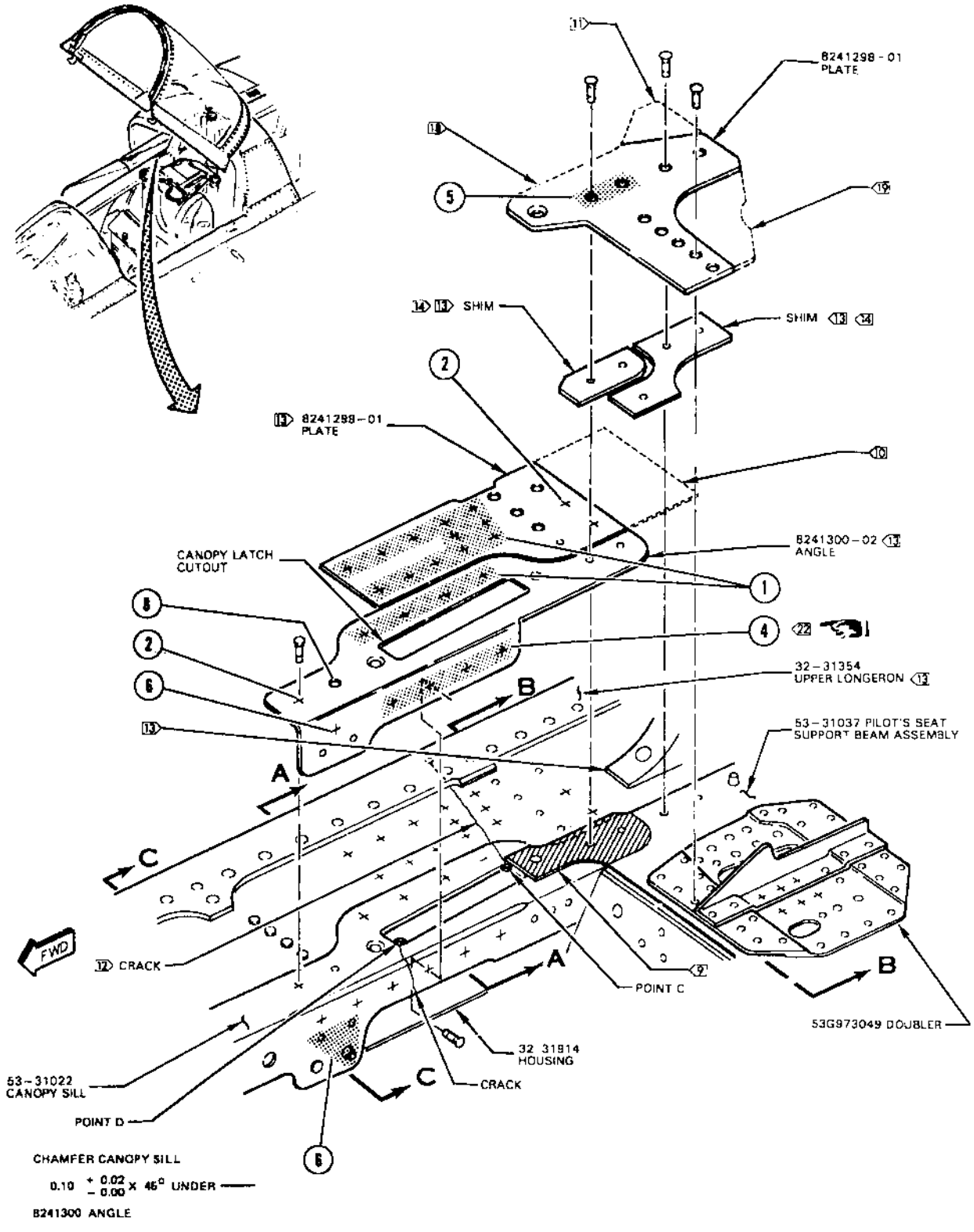
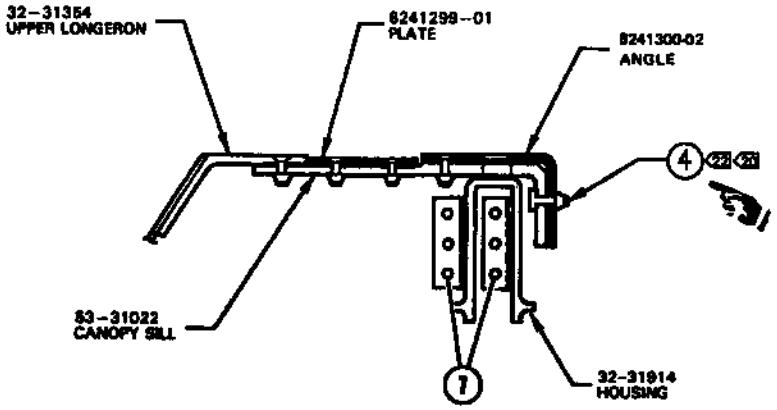
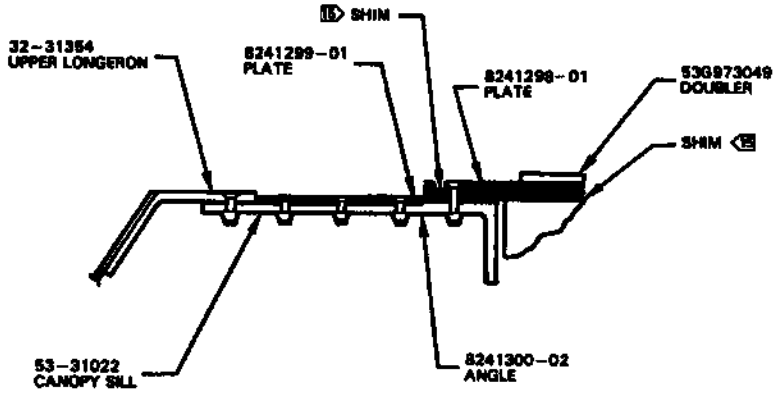


Figure 3-18A. Canopy Sill Repair - F-4G (Sheet 1 of 3)

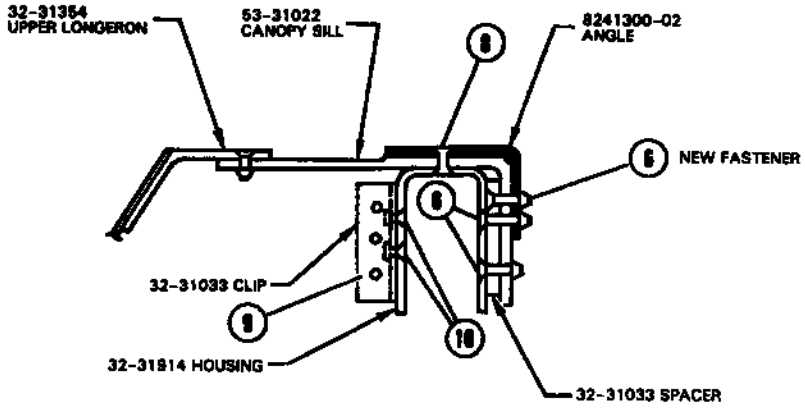


SECTION A-A



SECTION B-B

LOOKING AFT



SECTION C-C

LOOKING AFT

G9301928

Figure 3-18A. Canopy Sill Repair - F-4G (Sheet 2 of 3)

LEGEND

+ NEW FASTENER

O EXISTING FASTENER – REPLACE WITH EQUIVALENT FASTENER WHEN NOT OTHERWISE SPECIFIED.

■ REPAIR PARTS IN CROSS SECTION

Notes

1. IF CRACK EXTENDS MORE THAN 2.6 INCHES AFT OF POINT C OR MORE THAN 1 INCH FORWARD OF POINT D, SEE PARAGRAPH 3–52.
2. FLUORESCENT PENETRANT INSPECT FOR CRACK PER T.O.1F–4C–36.
3. STOP DRILL ALL ACCESSIBLE CRACKS WITH 0.257 $^{+\ 0.007}_{-\ 0.000}$ DIAMETER HOLE.
4. DIMENSIONS NOT SHOWN WILL BE MATCHED WITH CUTOUTS AND CONTOURS OF EXISTING STRUCTURE.
5. BREAK ALL SHARP CORNERS AND EDGES.
6. FOR FLAT PATTERN LAYOUT AND BEND ALLOWANCE REFER TO T.O.1F–4C–3–1–1.
7. FINISH REPAIR PARTS PER T.O. 1F–4C–3–1–6.
8. THIS REPAIR IS ONLY FOR RIGHT SIDE. REFER TO FIGURE 3–18 FOR LEFT SIDE REPAIR.
9. REMOVE MATERIAL IN SHADED AREA FROM 53–31037 PILOTS SEAT SUPPORT BEAM ASSEMBLY TO FIT 8Z4133–0–02 ANGLE REMOVE AND DISCARD 53–31037 TEE (NOT SHOWN) FOR ACCESS TO SHADED AREA.
10. IF CRACK EXTENDS FURTHER AFT THAN SHOWN, THE 8241298–01 PLATE, 8241301–01 SHIM AND 8241299–01 PLATE MAY BE EXTENDED TO MEET REQUIREMENTS IN NOTE (12).
11. TRIM AS REQUIRED'
12. BRIDGE THE CRACK WITH THE 8241299–01 PLATE. INSTALL A MINIMUM OF EIGHT FASTENERS THRU THE PLATE AND CANOPY SILL ON EACH SIDE OF THE CRACK. ADJUST FASTENER PATTERN TO MAINTAIN PROPER EDGE DISTANCE BETWEEN NEW FASTENERS AND CRACK.
13. FILLET SEAL WITH MIL-S-81733 TO PROVIDE SURFACE FOR CANOPY SEAL. SEE T.O. 1F–4C–3–1–6.
14. INSPECT THE AREA UNDER 8241298–01 PLATE FOR GAPS. SIZE OF GAP MAY VARY ON INDIVIDUAL AIRCRAFT. SHIM AS REQUIRED.
15. SEAL FAYING SURFACES AND EDGES OF SHIMS WITH MIL–S–81733 SEALANT. SEE T.O. 1F–4C–3–1–6.
16. LENGTHS OF ALL FASTENERS TO BE DETERMINED ON INSTALLATION. WHERE COUNTERSINKS EXITS UNDER REPAIR PART, INSTALL COUNTERSINK PLUG PER T.O. 1F–4C–3–1–6.
17. DEGREASE PARTS PARTS PRIOR TO THIS PROCEDURE.
18. TRIM EDGE AS REQUIRED TO CLEAR CANOPY SEAL.
19. TRIM AS REQUIRED TO FIT UNDER FORWARD LIP OF 53G973049 DOUBLER.
20. INSTALL THESE FASTENERS WITH COLLAR ON INBOARD SIDE OF CANOPY SILL.
21. THIS FASTENER MUST BE A DOUBLE FLUSH DD RIVET.
22. NAS1303–()H BOLTS AND MS21064L3–7 GANG CHANNEL AT THE THREE AFT FASTENERS AND AN MS90354S0602, B100 BLIND BOLT IN THE FORWARD LOCATION CAN BE INSTALLED TO AVOID REMOVING THE 32–31914 HOUSING, PROVIDED THAT CLEARANCE EXISTS BETWEEN END OF FASTENER SHANK AND HOUSING. IF THE HOUSING IS LOCATED TOO CLOSE TO THE CANOPY SILL TO ALLOW CLEARANCE, THEN THE HOUSING MUST BE REMOVED AND NAS529 FASTENERS INSTALLED. INSTALL NAS 1303 BOLTS AND B100'S WITH FASTENER HEADS ON INBOARD SIDE OF CANOPY SILL AND SAFETY WIRE NAS1303 BOLT HEADS.

REPAIR PROCEDURE

WARNING

PROVIDE ADEQUATE VENTILATION WHEN USING PRIMER OR SEALANT. AVOID SKIN OR EYE CONTACT. PROMPTLY WASH CONTAMINATED SKIN OR CHANGE CLOTHING. THE LOCAL BIOENVIRONMENTAL ENGINEER WILL PROVIDE SPECIFIC INFORMATION REGARDING RESPIRATORY AND PERSONAL PROTECTION REQUIREMENTS.

A. REMOVE 32–31914 HOUSING BY REMOVING FASTENERS 7 SHOWN IN SECTION A–A AND FASTENERS(6),(8),(9),(10), SHOWN IN SECTION C–C.

SEE NOTE (21) BEFORE REMOVING 32–31914 HOUSING.

B. LOCAL MANUFACTURE REPAIR PARTS PER AIR FORCE ENGINEERING DRAWINGS.

C. POSITION PARTS ON AIRCRAFT AND MATCH DRILL EXISTING FASTENER HOLES BEFORE DRILLING NEW FASTENER LOCATIONS.

D. DO STEP 17 AND HEAT TREAT PLATE, P/N 8241299 AND ANGLE, P/N 8241300 PER MIL-H-6875 TO 180-180 KSI.

E. DO STEP 17 AND COAT PLATE P/N 8241299 AND ANGLE, P/N 8241300 WITH EPOXY PRIMER PER TO 1F–4C–3–1–6 FOLLOWED BY MIL-S-81733 SEALER PER TO 1-1-8 PRIOR TO INSTALLATION OR CADMIUM PLATE PER QQ-P-416 CLASS I, TYPE II.

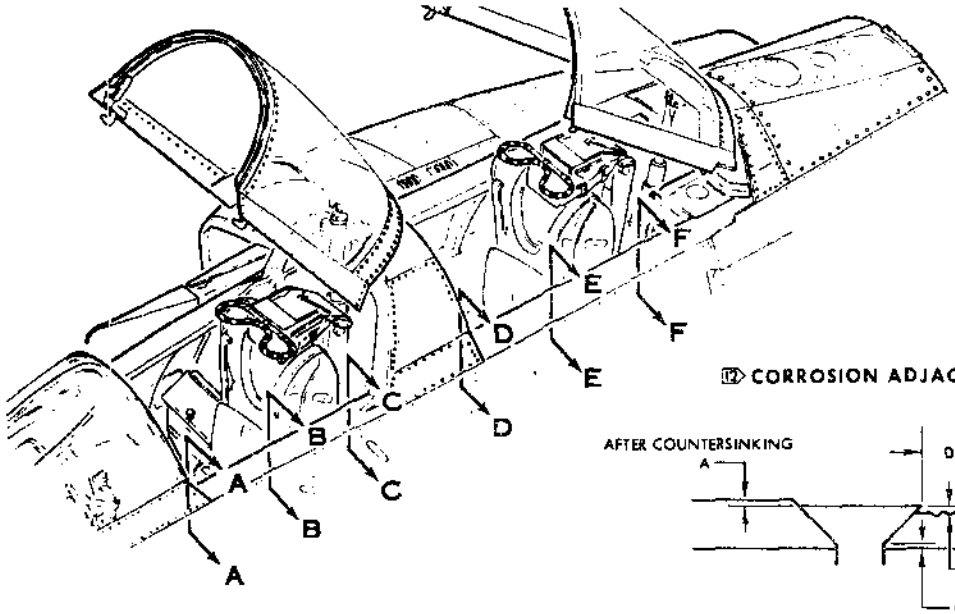
F. INSTALL REPAIR PARTS AS SHOWN USING PROPER FASTENERS NOTE. DO NOT INSTALL (8) UNTIL 32–31914 HOUSING IS INSTALLED.

G. INSTALL 32–31914 HOUSING.

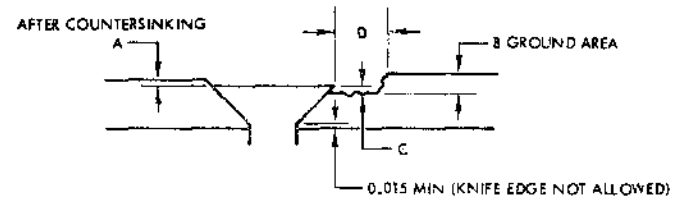
REF NO.	FASTENER	COLLAR	HOLE SIZE
1	MS90353S05 MS90353–05		0.184 $^{+\ 0.003}_{-\ 0.000}$
2	MS90353S06 MS90353–06		0.199 $^{+\ 0.003}_{-\ 0.000}$
3	MS90354S05 MS90354–05		0.184 $^{+\ 0.003}_{-\ 0.000}$
4 (22)	NAS529–6(21)	NAS528–A6	0.188 $^{+\ 0.003}_{-\ 0.000}$
5	HL551–8	HL579–8	0.249 $^{+\ 0.003}_{-\ 0.000}$
6	NAS1055 6(20)	NAS528–A6	0.188 $^{+\ 0.003}_{-\ 0.000}$
7	NAS529–5	NAS528–A5	0.154 $^{+\ 0.003}_{-\ 0.000}$
8	MS20426DD6(21)		
9	HL550–6	HL579–6	0.188 $^{+\ 0.003}_{-\ 0.000}$
10	HL551–6	HL579–6	0.188 $^{+\ 0.003}_{-\ 0.000}$

G9301929

Figure 3-18A. Canopy Sill Repair - F-4G (Sheet 3 of 3)

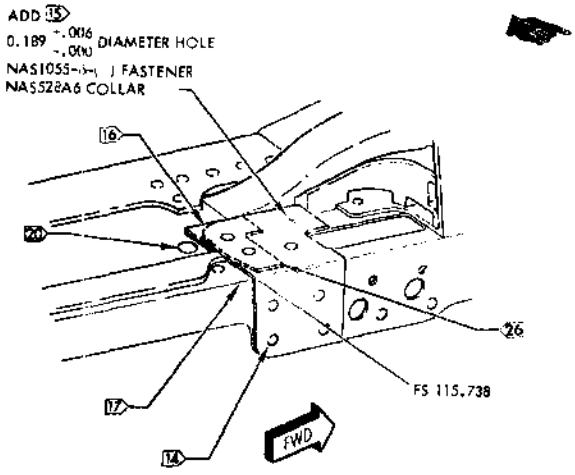


⑫ CORROSION ADJACENT TO FASTENERS



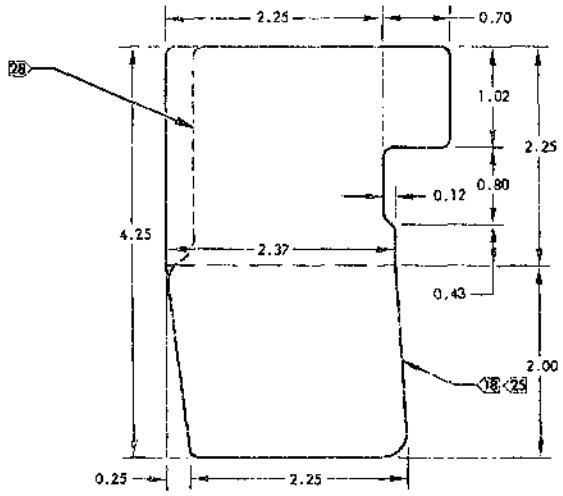
⑲ CORROSION REMOVAL LIMITS

FASTENER		A ⑬	B	C	D	AREA OF D
1/4 INCH	NAS584	0.010	0.025	0.015	0.37	1 SQUARE INCH
	MS24694S	0.010	0.025	0.015	0.37	1 SQUARE INCH
	NAS1055	0.020	0.025	0.010	0.50	1 SQUARE INCH
3/16 INCH		0.025	0.030	0.010	0.50	1 SQUARE INCH



VIEW A-A ㉗

FOR EXTENSIVE CORROSION USE REPAIR SHOWN AS FIGURE 3—19A



31SRF2-237-1 DOUBLER

4C-3-1-2-(237-1)K

Figure 3-19. Canopy Sill, Corrosion Limits and Repairs (Sheet 1 of 4)

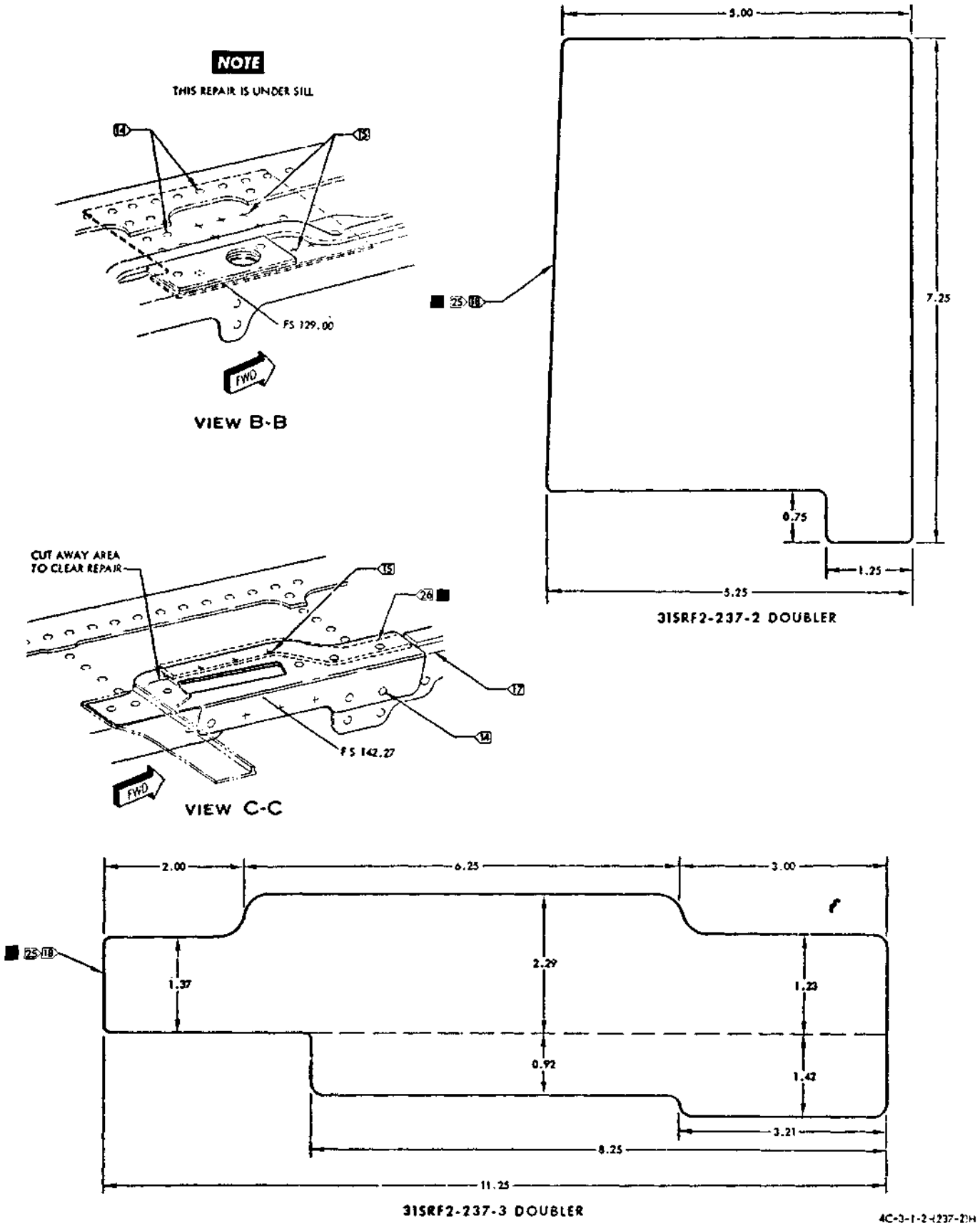
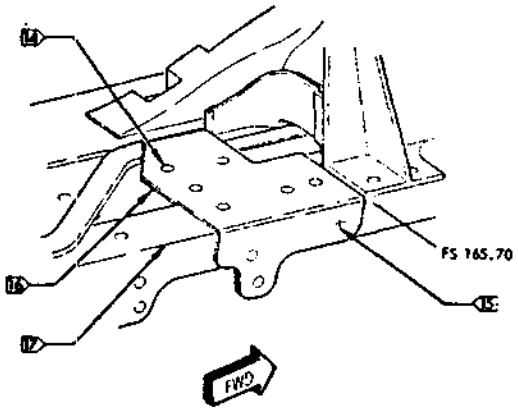
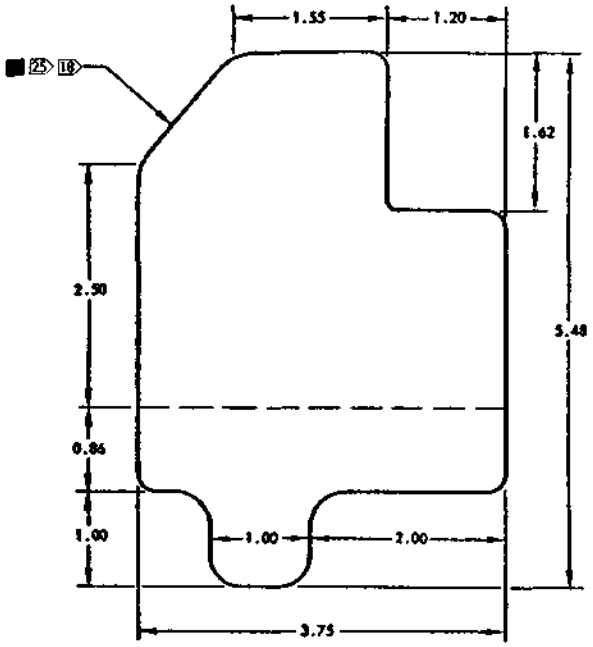


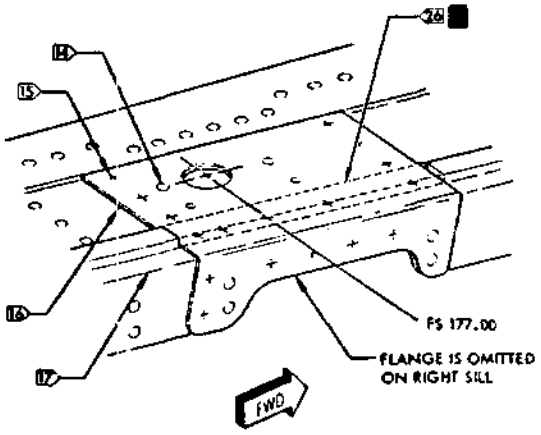
Figure 3-19. Canopy Sill, Corrosion Limits and Repairs (Sheet 2 of 4)



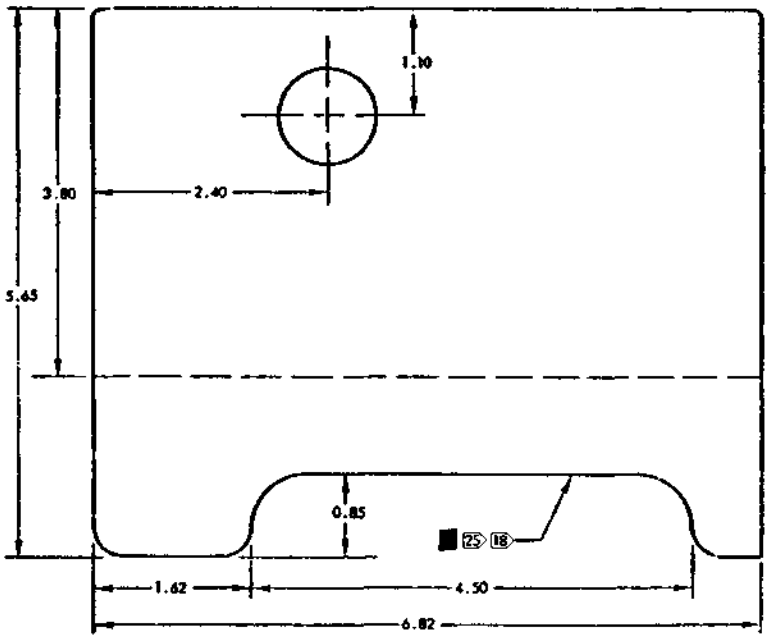
VIEW D-D



315RF2-237-4 DOUBLER



VIEW E-E

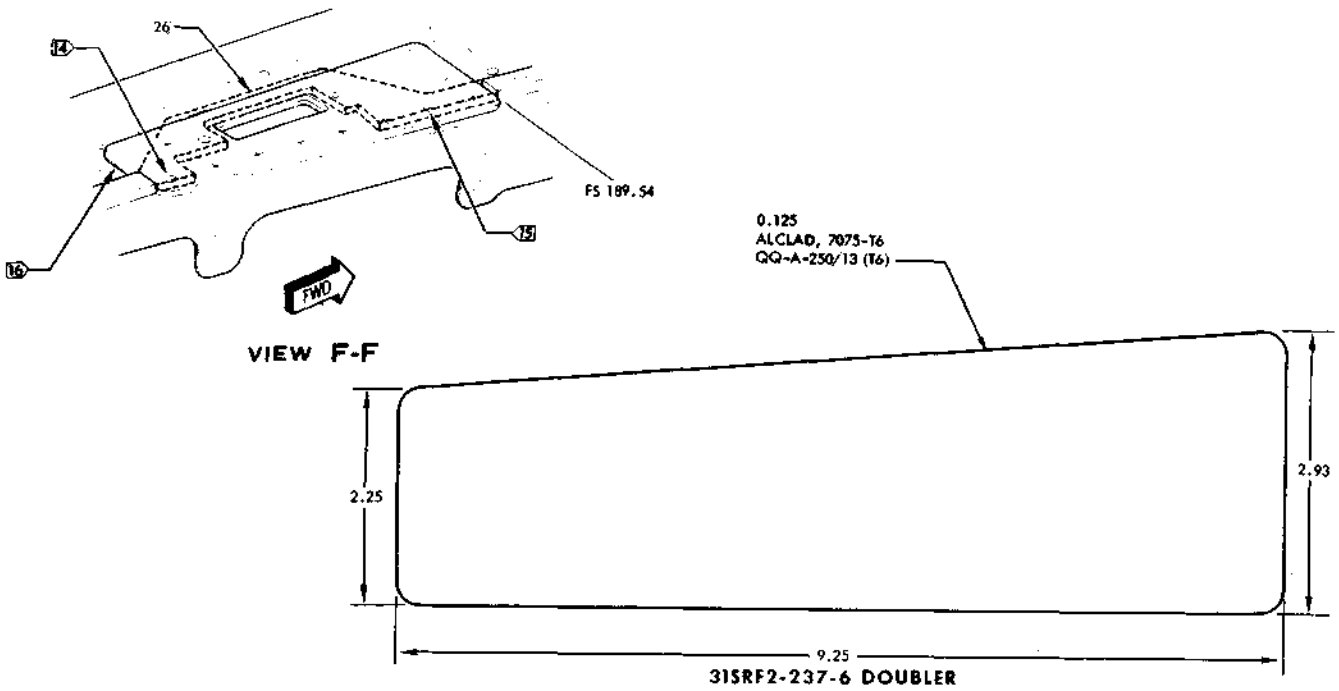


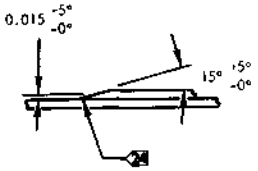
315RF2-237-5 DOUBLER

4C-3-1-2-(237-3)H

Figure 3-19. Canopy Sill, Corrosion Limits and Repairs (Sheet 3 of 4)

Figure 3-19, Sheet 3A deleted.





DETAIL G

Notes

1. FILL AFT EDGE OF REPAIRS, LEVEL TO CAUSE WATER TO RUN TO OUTBOARD OF SILL . USE EPOXY FAIRING COMPOUND PER TO 1F-4C-3-1-6.
2. COUNTERSUNK HOLES UNDER REPAIRS TO BE FILLED WITH ALUMINUM PLUGS PER TO 1F-4C-3-1-5.
3. MAINTAIN FASTENER EDGE DISTANCE AND SPACING PER TO 1F-4C-3-1-1.
4. FOR CORROSION CONTROL OF DISSIMILAR METAL CONTACT, REFER TO TO 1F-4C-3-1-6.
5. TRIM RAIN DIVERTERS TO CLEAR REPAIR DOUBLERS AS REQUIRED. REFER TO 28.
6. DIMENSIONS NOT SHOWN WILL BE MATCHED WITH CUTOUTS AND CONTOURS OF EXISTING STRUCTURE.
7. INSIDE CORNER RADII TO BE 0.12 MINIMUM, OUTSIDE CORNER RADII TO BE 0.10 MINIMUM, EXCEPT AS NOTED.
8. BEND RADIUS TO BE 0.10 ON REPAIR DOUBLERS.
9. BREAK ALL SHARP CORNERS AND EDGES.
10. LENGTH OF FASTENERS TO BE DETERMINED ON INSTALLATION.
11. FOR FLAT PATTERN LAYOUT AND BEND ALLOWANCE REFER TO TO 1F-4C-3-1-1.
12. CORROSION NOT WITHIN 1 INCH OF FASTENER HOLE MAY BE GROUND TO A MAXIMUM OF 0.040 DEEP AND 1.5 INCH SQUARE AREA. GROUND AREAS EXCEEDING THIS LIMITATION SHOULD BE REPAIRED.
13. RE-COUNTERSINK TO REMOVE CORROSION IN COUNTERSINK AND TO GAIN A CLEAN BEARING SURFACE.
14. HOLES MARKED O ARE EXISTING HOLES. REPLACE FASTENERS WITH SAME TYPE OF FASTENER.
15. HOLES MARKED + ARE ADDED HOLES. ADDED FASTENERS TO BE SAME TYPE AS COVERED BY REPAIR DOUBLER.
16. SHIM UNDER REPAIR DOUBLER WHERE SILL IS MACHINED WITH ALCLAD SHEET, 2024-T3, QQ-A-250/5 (T3).
17. CORNER TO BE CHAMFERED $0.10 \, {}^{+.02}_{-.01}$ X 45° UNDER REPAIR.
18. MATERIAL:
    0.071 4130 STEEL. FORM IN ANNEALED CONDITION, HEAT TREAT 160 TO 180 KSI PER MIL-H-6875. CADMIUM PLATE PER QQ-P-416 CLASS I, TYPE II, OR COAT WITH EPOXY PRIMER PER TO 1F-4C-3-1-6 FOLLOWED BY MIL-S-81733 PER TO 1-1-8, AFTER HOLES ARE DRILLED AND COUNTERSUNK.
19. IF LIMITS ARE EXCEEDED, REPAIR IS TO BE ACCOMPLISHED.
20. ALL REPAIRS IN THE CANOPY THRUSTER AREA MUST BE INSTALLED ON TOP OF CANOPY SILL.
21. INSTALL FASTENERS AND REPAIRS WET WITH MIL-S-81733 SEALING AND COATING COMPOUND.
22. REPAIRS ARE TYPICAL FOR THE ENTIRE LENGTH OF FORWARD/AFT CANOPY SILLS IF RESTRICTIONS ARE MET, PER PARAGRAPH 3-52.
23. IF PATCH EXTENDS OVER AREA WHERE CANOPY SEAL RESTS, THE FORWARD AND AFT EDGE OF PATCH MUST BE CHAMFERED AND FILLET SEALED WITH MIL-S-81733, SEE DETAIL G.
24. FILLET SEAL WITH MIL-S-81733 TO PROVIDE SURFACE FOR CANOPY SEAL.
25. TRIMMING OF AFT OUTBOARD CORNER ON 31SRF2-237-4 REPAIR DOUBLER MAY BE REQUIRED FOR INSTALLATION OF 8412422-01 DIVERTER AND 8412423-01 BULB SEAL, REFER TO TO 1F-4C-3-1-6.
26. INSTALL NEW RAIN DIVERTER SECTION WITH SIZE AS REQUIRED, TO MATCH EXISTING DIVERTER, MAKE FROM 2024-T4, OR NOTCH OLD DIVERTER SECTION TO FIT OVER REPAIR DOUBLER. FOR 32-311674-15 DIVERTER, INSTALLATION OF EITHER ALL OR A PORTION OF DIVERTER IS NOT REQUIRED WHEN TRIMMED MATERIAL THICKNESS IS LESS THAN 0.032.
27. FOR EXTENSIVE CORROSION USE REPAIR SHOWN IN FIGURE 3-19A.
28. TRIM AFT END OF DOUBLER AS REQUIRED TO CLEAR THRUSTER AREA AND ADJACENT FASTENER.

4C-3-1-2-(237-4196

Figure 3-19. Canopy Sill, Corrosion Limits and Repairs (Sheet 4 of 4)

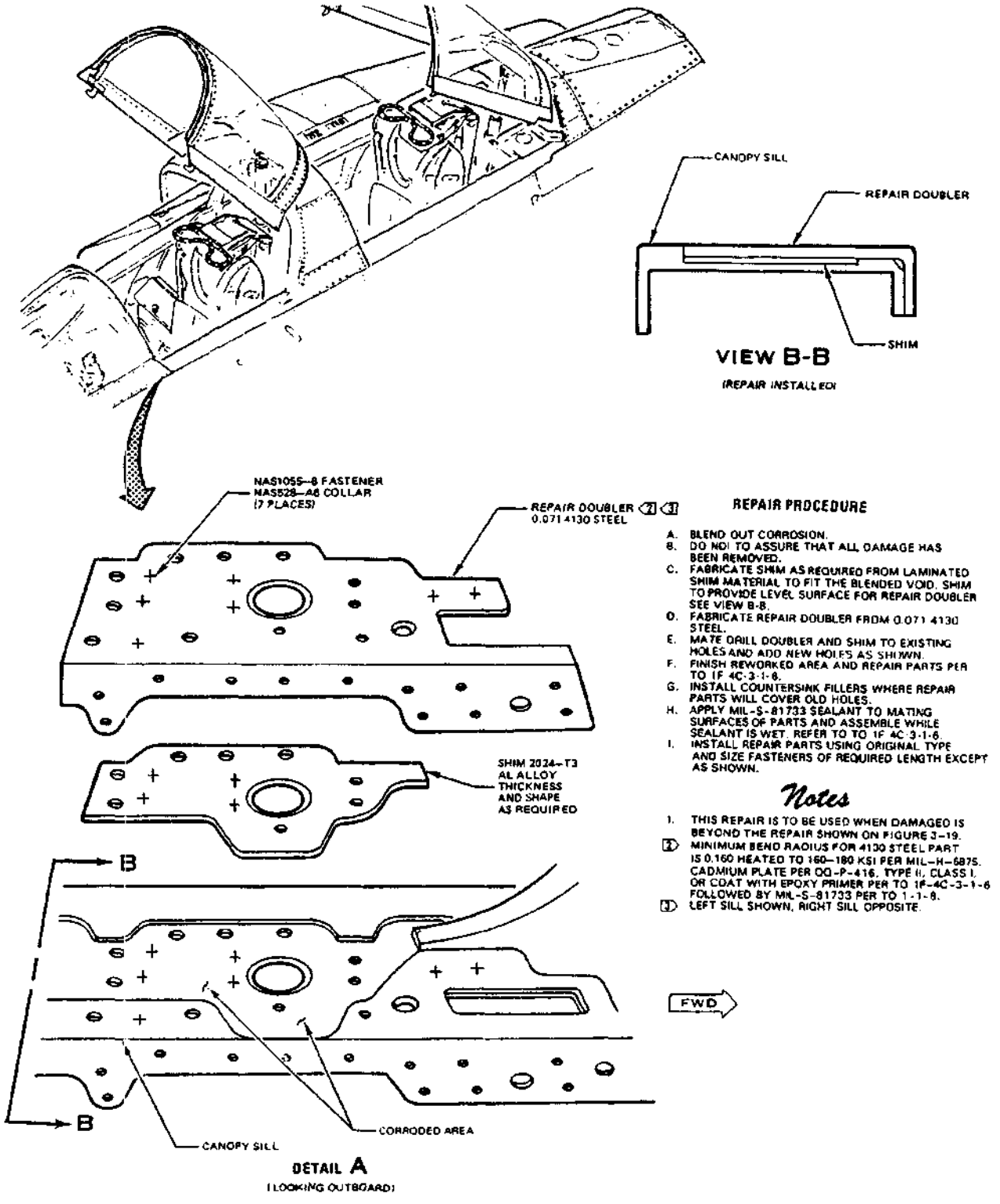


Figure 3-19A. Canopy Sill Corrosion Repair

3-53. BULKHEADS AND FRAMES. See figures 3-20 through 3-34. The typical construction of the forward fuselage bulkheads and frames is a 7178 alclad web fastened to extruded 7178 aluminum alloy tees at the web edges. Bulkheads at CFS 77.00 and FS 203.00 are pressure bulkheads with solid webs. The CFS 134.50 bulkhead has a solid web and provides support for the forward cockpit ejection seat. The remainder of the bulkheads and frames are two piece, left and right assemblies. Some of the lighter frames are formed, channel-shaped, 7178 alclad sheet. CFS 77.00 bulkhead extends downward to WL-11.00 and forms the aft end of the armament compartment on F-4E and the equipment compartment on F-4G. FS 33.250 bulkhead forms the forward end of the armament compartment on F-4E and forward end of equipment compartment on F-4G and the aft end of the radar compartment. Both bulkheads are sealed, pressure type, primarily of aluminum alloy extrusions and alclad sheet metal webs. The forward frame at CFS 2.30 forms the mount for the radome and is aluminum alloy extrusions and formed alclad sheet metal. Fittings supporting the radome and radar package are attached to the frame at CFS 2.30. On RF-4 the frame at CFS-6.20, which mates with the radome, is 7178 alclad reinforced with aluminum alloy forged fittings on each side and the lower radar support assembly forging which forms the bottom. Each frame from CFS 7.60 through CFS 31.02 is horseshoe shaped with door structures and longerons on the bottom side. From CFS 36.89 through CFS 71.30, each frame is built up of either one, two or four small separate assemblies depending on the stress load. An exception is the frame at CFS 49.50 which is a larger one-piece assembly.

3-54. Negligible Damage and Corrosion Removal Limits. Any small, smooth, isolated dent no deeper than 0.062 is negligible. Nicks and scratches with a depth less than 10 percent of thickness of part are negligible if they can be blended. Any damage, when blended, that does not reduce the edge distance for rivets or fasteners to less than one and one half times rivet diameter is negligible. Any damage that causes interference with mechanisms or tubing shall not be considered negligible.

3-54A. Repair to Seat Rail, 32-31937. For repair, see figure 3-22A.

3-55. Patch Repair. Refer to T.O. 1F-4C-3-1-5 for typical patch repairs. Bulkhead or frame damage that exceeds negligible damage but is not great enough to replace the entire part or make an insertion shall be repaired by patching. Seal seams and rivet patterns, where required, according to T.O. 1F-4C-3-1-6.

3-56. Insertion Repair. Repairs are not practical at organizational/field maintenance because of the extensive forming and heat treating required and inaccessibility of bulkheads and frames.

3-56A. Corrosion Repair to Bulkhead, 53-34005, CFS 77.00. For repair, see figure 3-31A.

3-57. Crack Repair to Bulkhead 32-31045 or 32-31046. For crack repair to the bulkhead, 32-31045, see figure 3-35, and to the bulkhead, 32-31046, see figure 3-36.

3-57A. Fitting, 32-31942, Repair. For repair to fitting, see figure 3-33A.

3-57A1. Repair to Conduit, 53G977603. For conduit repair, see figure 3-35A.

3-57B. Web Repair to Frame, 32-11046. For splice repair, see figure 3-36A.

3-57C. Repair to Lower Cap, 53-31025. For repair see figure 3-36B1.

3-58. Replacement. Replacement of parts at organizational/field maintenance should be limited to angles, shims, stiffeners, and doublers which do not require extensive forming, except fitting, 32-31826, frame, 32-31880, fitting, 53-39067-1, and diffuser, 53-83501-3. Replacement of an entire bulkhead or frame is impractical because of the equipment required and the inaccessibility of bulkheads and frames.

NOTE

If test connector is damaged and cable must be replaced, access hole in the vertical member sheet metal casing for support assembly aft cockpit console, right side, approximately FS 177.4 may be enlarged. The hole is 2 by 4 inches and maybe enlarged up to 2 by 6 inches as required to permit passage of connector. No stringers may be cut or removed. Edges of the hole shall be treated for corrosion, and a Teflon grommet, MS21265, shall be installed to prevent chafing of wires.

3-58A. Replacement of Fitting, 32-31826. For replacement of fitting, see figure 3-20A.

3-58B. Replacement of Frame, 32-31880. For replacement of frame, see figure 3-37C.

3-58C. Replacement of Fitting, 53-39067-1. For replacement of fitting, see figure 3-36B.

3-58C1. B.L.C. Air Duct Support and 32-31019-225, -226 Channel Repair - FS 230.40. See figure 3-36A1.

3-58D. Replacement of Diffuser, 53-83501-3. For replacement, see figure 3-36C.

3-59. TRANSFORMER-RECTIFIER MOUNT, FS 203.00. See figure 3-37. Minimum clearance between the transformer-rectifier attach bolts and the oxygen warm up plate is 0.12. If minimum clearance cannot be gained by replacing the mounting bolts with pan head type screws, the mounting bracket shall be repositioned per figure 3-37.

3-60. HINGES. See figures 3-38 through 3-40. The structural half of the hinges for nose landing gear forward door are integral parts of bulkheads or frame structural members.

3-61. Negligible Damage and Wear Tolerances. For negligible damage and wear tolerance limits, refer to paragraphs 3-176 and 3-175 respectively.

3-62. Repairs. Consult local engineering for repair disposition.

3-63. Replacement. Replace hinges damaged beyond repair. For door fasteners, refer to T.O. 1F-4C-3-1-3. For replacement of hinge, 53-34051, see figure 3-40A. For replacement of hinges, 53-310095, 32-31044, 32-31847, 53-39021, 53-39068, 53-39106, and 53-34073, see figures 3-37A through 3-37G respectively.

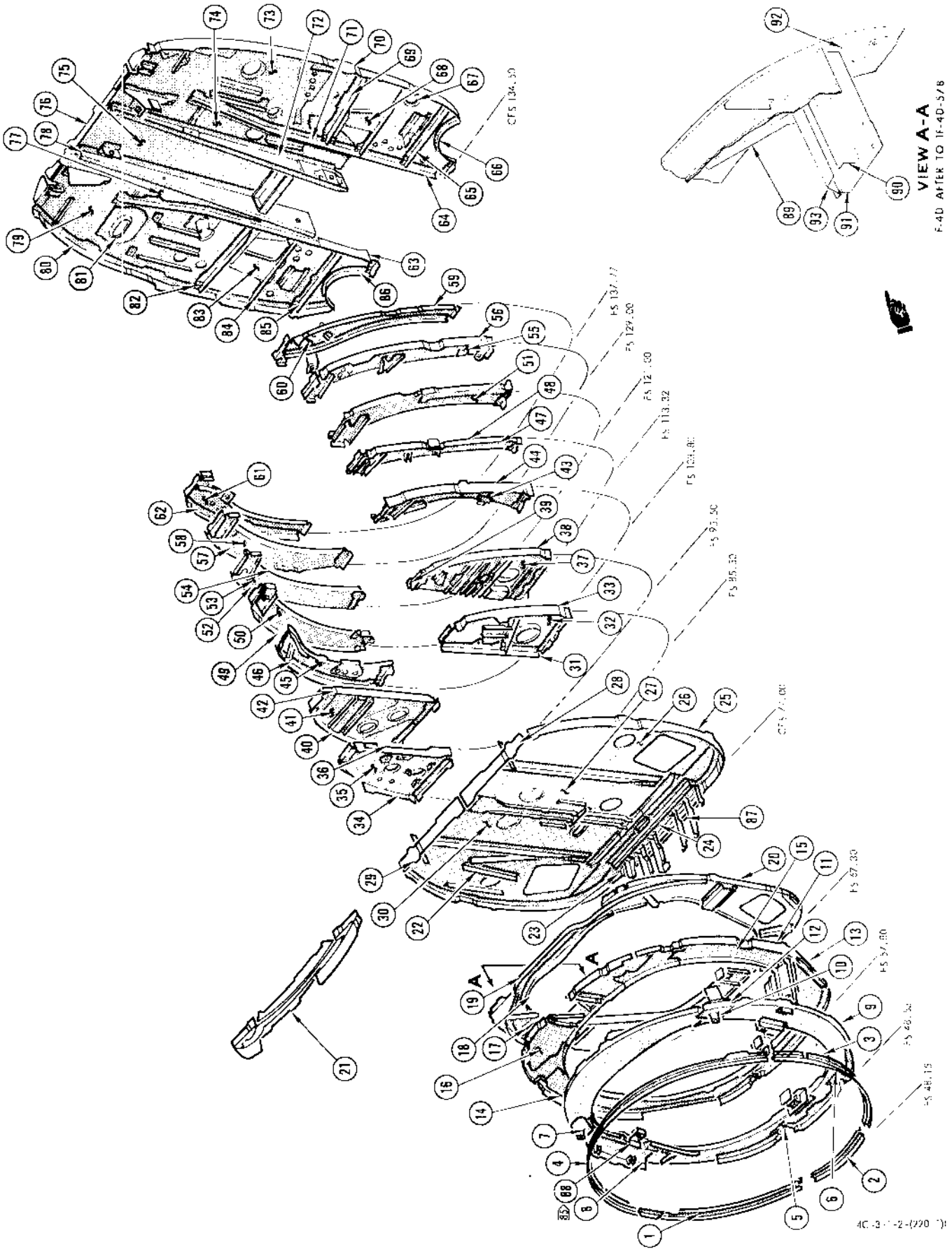
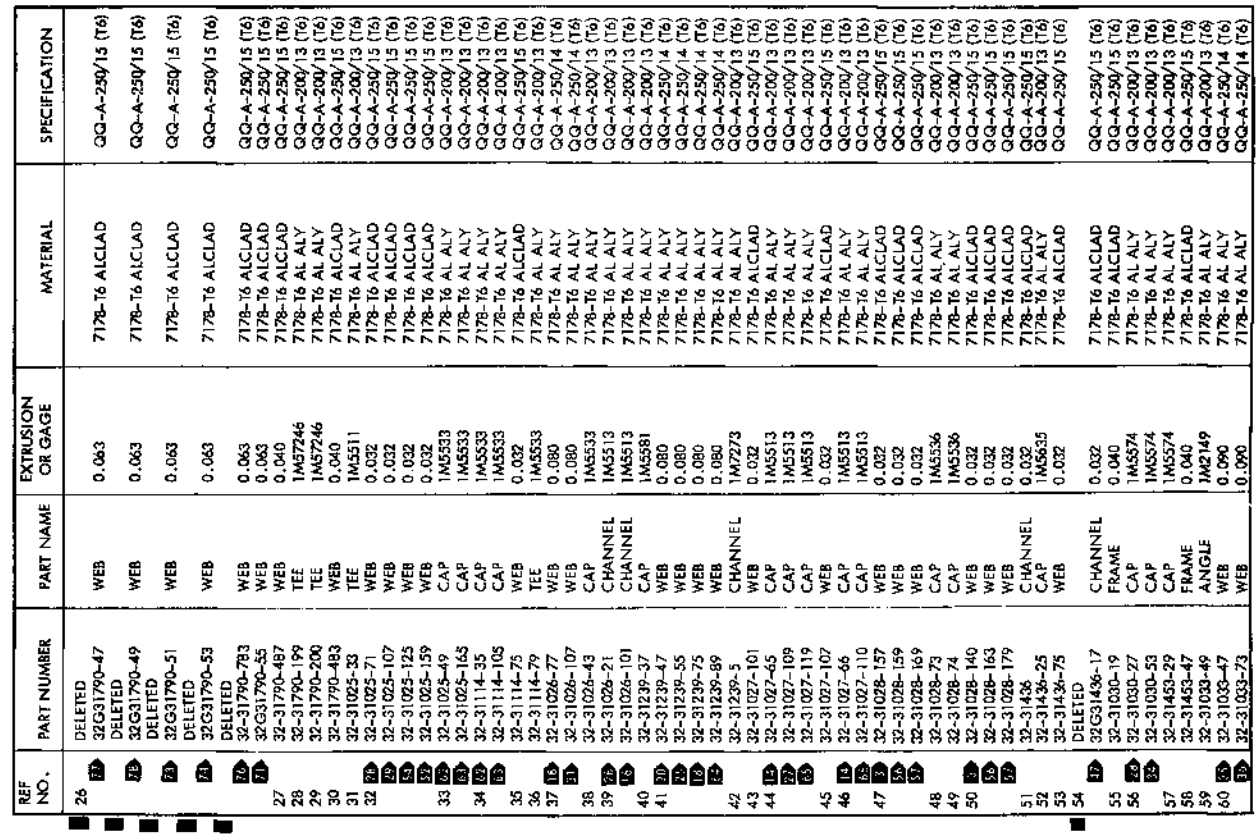


Figure 3-20. Frame and Bulkhead Index, FS 48.15 thru FS 137.77-F-4C AND F-4D (Sheet 1 of 3)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31789-55	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
2	32-31789-59	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
3	32-31789-69	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
4	32-31789-79	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-31789-73	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
5	32-31789-81	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-30070-8	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
6	32-30070-12	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	32-30070-7	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
7	32-30070-11	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	32-31831-8	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
8	32-31831-10	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	32-31783-165	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31783-195	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31783-251	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-31783-189	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31783-129	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31783-253	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31783-131	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31831-7	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
	32-31831-9	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
11	32-31783-171	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31783-259	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-31783-169	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31783-197	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-31784-157	TEE	1M5472	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31784-173	TEE	1M5472	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31784-251	TEE	1M5472	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-31784-155	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31784-121	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31784-235	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32G31784-123	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31784-185	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31784-125	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31784-239	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31784-127	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-31784-87	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31784-207	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31784-209	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31784-241	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-31785-102	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31785-173	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31785-181	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31785-191	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31785-207	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31785-5	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31785-205	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-31785-135	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	DELETED				
	32G31785-35	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32G31785-37	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32G31785-39	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-31796-73	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31796-81	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31790-455	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31790-699	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31790-711	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31790-787	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
23	32-31790-268	TEE	1M7247	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-31790-4	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-31790-267	TEE	1M57247	7178-T6 AL ALY	QQ-A-200/13 (T6)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
26	DELETED				
	32G31790-47	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32G31790-49	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32G31790-51	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32G31790-53	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32-31790-783	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31790-55	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-31790-487	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-31790-199	TEE	1M57246	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31790-200	TEE	1M57246	7178-T6 AL ALY	QQ-A-200/13 (T6)
30	32-31790-483	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-31025-33	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31025-71	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	32-31025-107	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	32-31025-125	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31025-159	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31025-49	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
34	32-31025-163	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31114-35	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
35	32-31114-105	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
36	32-31114-75	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	32-31114-79	TEE	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
38	32-31026-77	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31026-107	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31026-43	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
39	32-31026-21	CHANNEL	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	32-31026-101	CHANNEL	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	32-31239-37	CAP	1M5581	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31239-47	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31239-55	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31239-75	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31239-89	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
42	32-31239-5	CHANNEL	1M7273	7178-T6 AL ALY	QQ-A-200/13 (T6)
43	32-31027-101	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	32-31027-65	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31027-109	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31027-119	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
45	32-31027-107	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46	32-31027-66	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31027-110	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
47	32-31028-157	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	33-31028-159	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31028-169	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48	32-31028-73	CAP	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
49	32-31028-74	CAP	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
50	32-31028-140	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31028-163	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31028-179	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	32-31436	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52	32-31436-25	CAP	1M5535	7178-T6 AL ALY	QQ-A-200/13 (T6)
53	32-31436-75	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
54	DELETED				
	32G31436-17	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55	32-31030-19	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56	32-31030-27	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31030-53	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
57	32-31453-29	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
58	32-31453-47	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	32-31033-49	ANGLE	1M2149	7178-T6 AL ALY	QQ-A-200/13 (T6)
60	32-31033-47	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31033-73	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)

4C-3-1-2-(220-2)D

Figure 3-20. Frame and Bulkhead Index, FS 48.15 thru FS 137.77 - F-4C AND F-4D (Sheet 2 of 3)

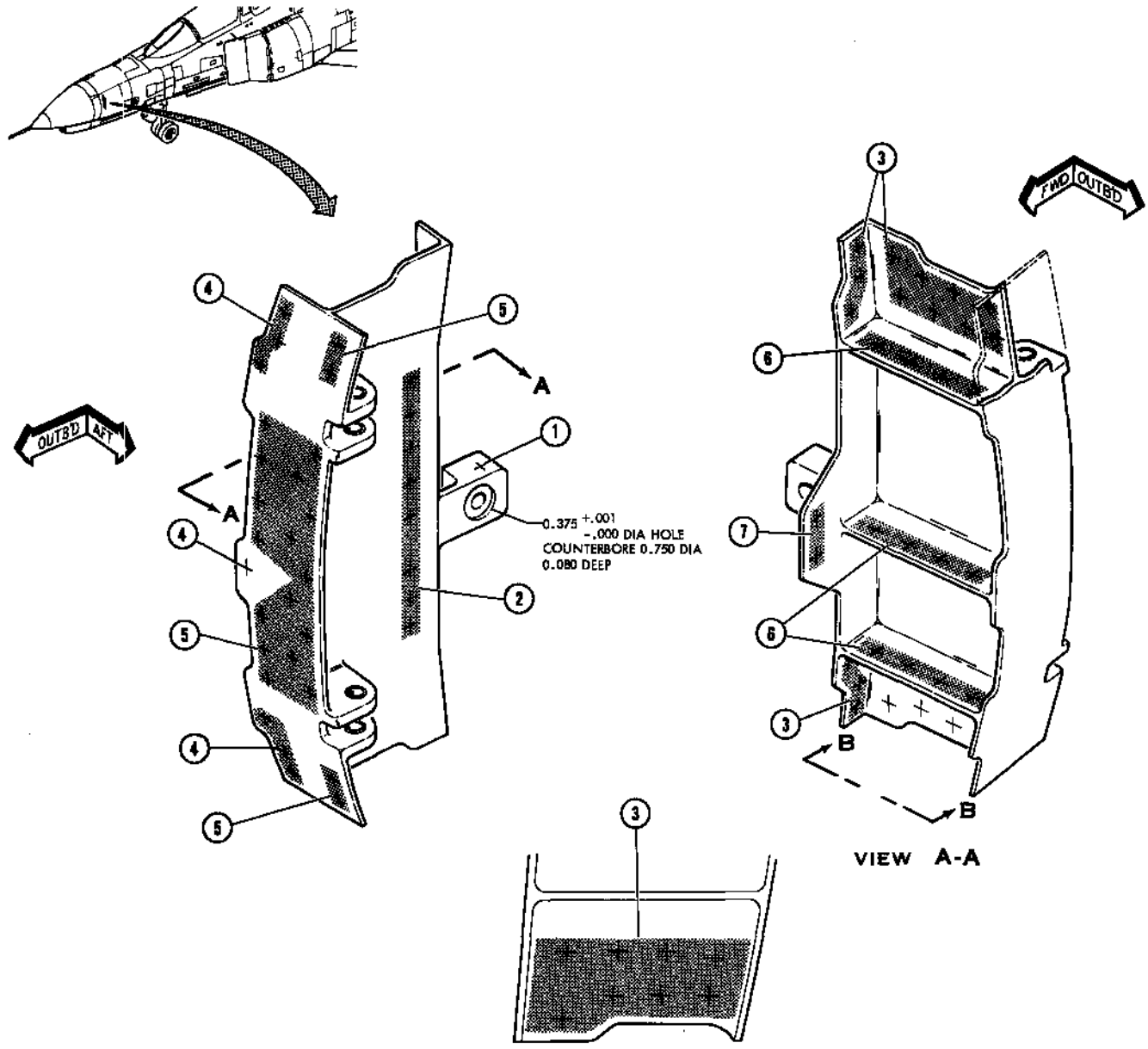
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
61	32-31033-48	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31033-77	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
62	32-31033-50	ANGLE	1M62149	7178-T6 AL ALY	QQ-A-250/15 (T6)
63	32-31879-91, -11	TEE	1M5272	7178-T6 AL ALY	QQ-A-200/13 (T6)
64	32-31879-63	ANGLE	AND10134-1604	7178-T6 ALCLAD	QQ-A-200/13 (T6)
65	32-31879-75	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
66	32-31879-429	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31879-813	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31879-825	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
67	32-31879-61	TEE	1M5638	2024-T6 AL ALY	QQ-A-200/3 (T6)
68	53-31024-5	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-31024-489	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-31024-1025	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
69	32-31879-21	TEE	1M5635	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-31024-1023	TEE	1M5635	7178-T6 AL ALY	QQ-A-200/13 (T6)
70	53-31024-31	CAP	1M5258	2024-T6 AL ALY	QQ-A-200/3 (T6)
71	53-31024-471	CAP	1M5258	2024-T6 AL ALY	QQ-A-200/3 (T6)
	53-31024-73	TEE	1M5175	7178-T6 AL ALY	QQ-A-200/13 (T6)
72	53-31024-457	TEE	1M5175	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-31039-3	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
73	53-31039-17	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-31024-101	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-483	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-715	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-791	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-873	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
74	53-31032-23	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-31032-55	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
75	53-31032-173	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-31032-3	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31032-51	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31032-71	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31032-105	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
76	53-31037-5	ANGLE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77	53-31032-25	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
78	53-31040-3	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-31040-5	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-31040-17	SEAT RAIL	1M97160	7178-T651 AL ALY	QQ-A-200/13 (T651)
79	53-31024-129	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-733	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-857	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-869	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
80	53-31024-1005	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-31024-137	CAP	1M5259	2024-T4 AL ALY	QQ-A-200/3 (T4)
	53-31024-253	CAP	1M5258	2024-T4 AL ALY	QQ-A-200/3 (T4)
81	32-31879-167	TEE	1M616	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-30353-7	TEE	1M508	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-31879-277	TEE	1M5635	7178-T6 AL ALY	QQ-A-200/13 (T6)
82	53-31024-15	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
83	53-31024-461	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-31024-893	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
84	32-31879-177	TEE	1M5638	2024-T6 AL ALY	QQ-A-200/3 (T6)
85	32-31879-76	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
86	32-31879-430	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31879-814	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
87	32-31804-3	HINGE	1M96128	2024-T4 AL ALY	QQ-A-200/3 (T4)
88	32-31804-5	HINGE	1M96128	2024-T4 AL ALY	QQ-A-200/3 (T4)
89	32-31826-301	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
90	53-070536-17	BRACKET	0.063	2024-T42 AL ALY	QQ-A-250/4 (T42)
	53G973077-99	ZEE	0.050	7075-T6 AL ALY	QQ-A-250/12 (T6)
91	53G973077-51	PAN	0.050	7075-T6 AL ALY	QQ-A-250/12 (T6)
92	53G973077-15	DOUBLER	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
93	53G973077-119	BRACKET	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)

Notes

1. F-4C 63-7407 THRU 63-7420.
2. F-4C 63-7421 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
3. F-4C 63-7407 THRU 63-7468.
4. F-4C 63-7469 THRU 64-928 AND F-4D.
5. F-4C 63-7407 THRU 63-7662.
6. F-4C 63-7663 THRU 64-928 AND F-4D.
7. F-4C 63-7407 THRU 64-672.
8. F-4C 63-673 THRU 64-817.
9. F-4C 64-818 THRU 64-928 AND F-4D.
10. F-4C AND F-4D 64-929 THRU 65-768.
11. F-4D 65-769 THRU 66-8825.
12. F-4D AFTER TO 1F-4D-578.
13. DELETED
14. F-4C 63-7407 THRU 63-7526.
15. F-4C 63-7527 THRU 63-7597.
16. F-4C 63-7598 THRU 64-928 AND F-4D.
17. F-4C 64-738 THRU 64-928.
18. F-4C 63-7407 THRU 64-672.
19. F-4C 64-673 THRU 64-928 AND F-4D.
20. F-4C 63-7407 THRU 63-7442.
21. F-4C 63-7443 THRU 63-7597.
22. DELETED
23. F-4C 63-7443 THRU 64-737.
24. F-4C 63-7407 THRU 63-7597.
25. F-4C 63-7527 THRU 64-928 AND F-4D 64-929 THRU 65-663.
26. F-4C 63-7407 THRU 64-737.
27. F-4C 64-738 THRU 64-928 AND F-4D 64-929 THRU 65-770.
28. F-4D 64-964 THRU 66-8825.
29. F-4C 64-673 THRU 64-928 AND F-4D 64-929 THRU 65-770.
30. F-4C 63-7421 THRU 64-817.
31. F-4D 66-8699 THRU 66-8825.
32. F-4C 64-738 THRU 64-928 AND F-4D.
33. F-4C AND F-4D 64-928 THRU 65-665.
34. F-4D 65-666 THRU 66-8825.
35. F-4C 63-7421 THRU 63-7526.
36. F-4C 63-7443 THRU 63-7603.
37. F-4C 63-7427 THRU 64-672.
38. F-4C 63-7469 THRU 64-928 AND F-4D.
39. F-4C 63-7604 THRU 64-672.
40. F-4C 63-7469 THRU 63-7526.
41. F-4C 63-7407 THRU 64-817.
42. F-4C 63-7407 THRU 63-7675.
43. F-4D 65-666 THRU 66-8825.
44. F-4C 64-673 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
45. F-4C.
46. F-4D 64-964 THRU 66-8825.
47. F-4C 64-818 THRU 64-928 AND F-4D 64-928 THRU 64-963.
48. F-4C 64-673 THRU 64-817 AND F-4D 64-964 THRU 66-8825.
49. F-4C;F-4D 64-929 THRU 66-8698.
50. F-4D 66-8699 THRU 66-8825.
51. F-4D 66-7505 THRU 66-8825.
52. F-4D 65-771 THRU 66-8698.
53. F-4C AND F-4D 64-929 THRU 66-8698 BEFORE TO 1F-4-755.
54. F-4C 63-7469 THRU 63-7597.
55. F-4C 63-7598 THRU 64-928 AND F-4D.
56. F-4C 64-818 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
57. F-4C AND F-4D 64-929 THRU 66-8698 AFTER TO 1F-4-755.
58. F-4C AND F-4D 64-929 THRU 64-963.
59. F-4D 66-8699 THRU 66-8825 BEFORE TO 1F-4-755.
60. F-4C AND F4D 64-929 THRU 66-7761.
61. F-4D 66-7762 THRU 66-8825.
62. F-4D 65-771 THRU 66-8825.
63. F-4D 65-664 THRU 66-8825.
64. F-4C 63-7527 THRU 64-928 AND F-4D.
65. F-4C 63-7598 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
66. F-4D 66-8699 THRU 66-8825.
67. F-4D 66-8699 THRU 66-8825 AFTER TO 1F-4-755.
68. F-4C 64-673 THRU 64-928 AND F-4D 64-929 THRU 66-8813.
69. F-4D 66-7505 THRU 66-8825.
70. DELETED
71. F-4C 64-738 THRU 64-928.
72. F-4D 64-929 THRU 64-963.
73. DELETED
74. F-4C 64-673 THRU 64-928 AND F-4D 64-929 THRU 66-8825.
75. F-4C 63-7407 THRU 63-7442.
76. F-4C 63-7443 THRU 64-672.
77. F-4C 63-7407 THRU 63-7634.
78. F-4C 63-7635 THRU 64-928 AND F-4D.
79. FOR REPLACEMENT, SEE FIGURE 3-20A.

Figure 3-20. Frame and Bulkhead Index, FS 48.15 thru FS 137.77 - F-4C AND F-4D (Sheet 3 of 3)

4C-3-1-2-(220-3)E



INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING AND ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

FASTENER LENGTH NOT CALLED OUT WILL BE DETERMINED ON INSTALLATION.

REF NO.	FASTENER	COLLAR	HOLE SIZE
1	NAS561P4		0.125 +.004 -.000
2	MS20470DD6		0.191 +.007 -.000
3	NAS1054-5	NAS528A5	0.156 +.006 -.000
4	NAS1055-5	NAS528A5	0.156 +.006 -.000
5	MS20426AD5		0.159 +.007 -.000
6	MS20470AD5		0.159 +.007 -.000
7	NAS1054-6	NAS528A6	0.189 +.006 -.000

4C-3-1-2-(345)

Figure 3-20A. Fitting, 32-31826, Replacement Index

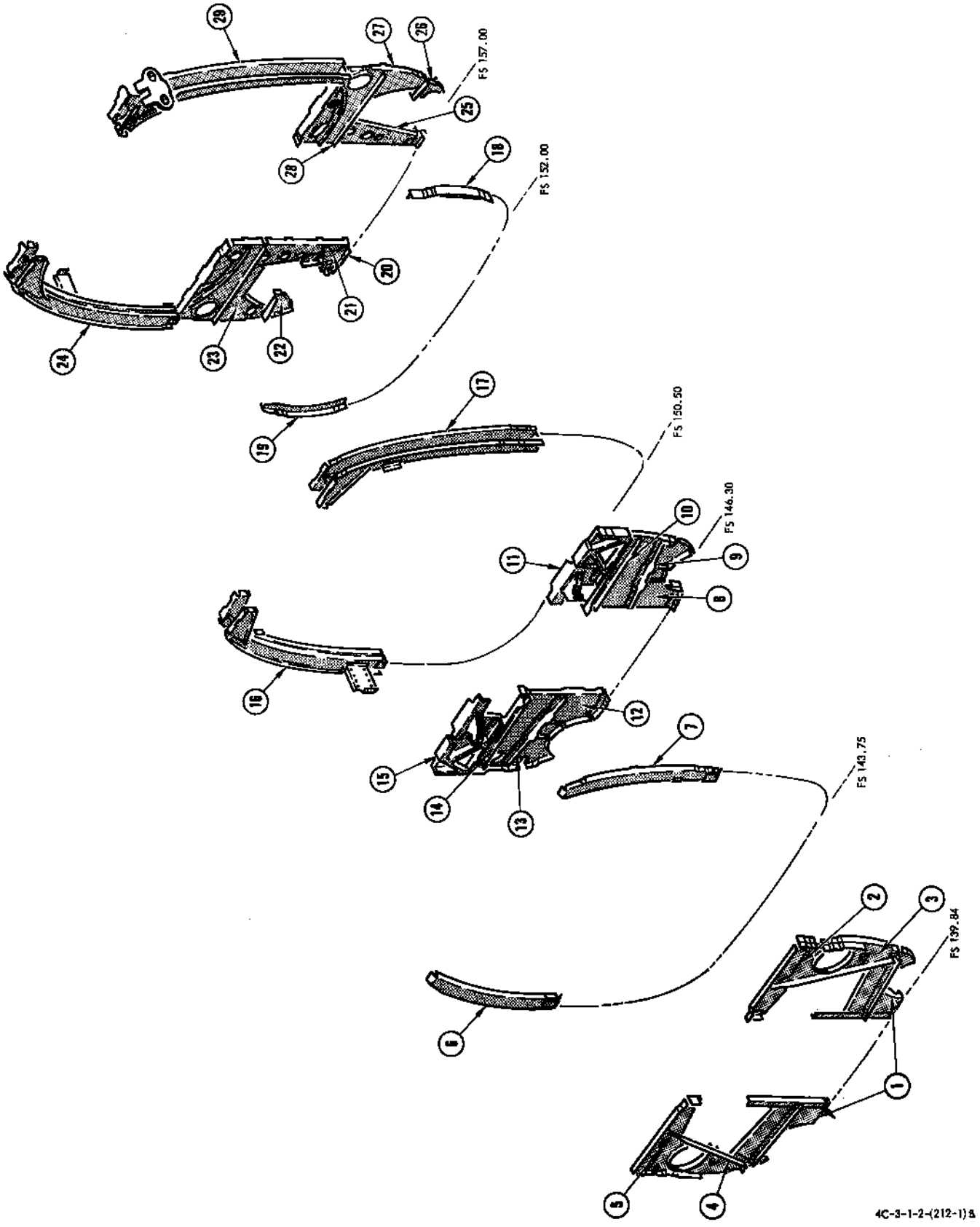


Figure 3-21. Frame and Bulkhead Index, FS 139.84 thru FS 195.3 - F-4C AND F-4D (Sheet 1 of 3)

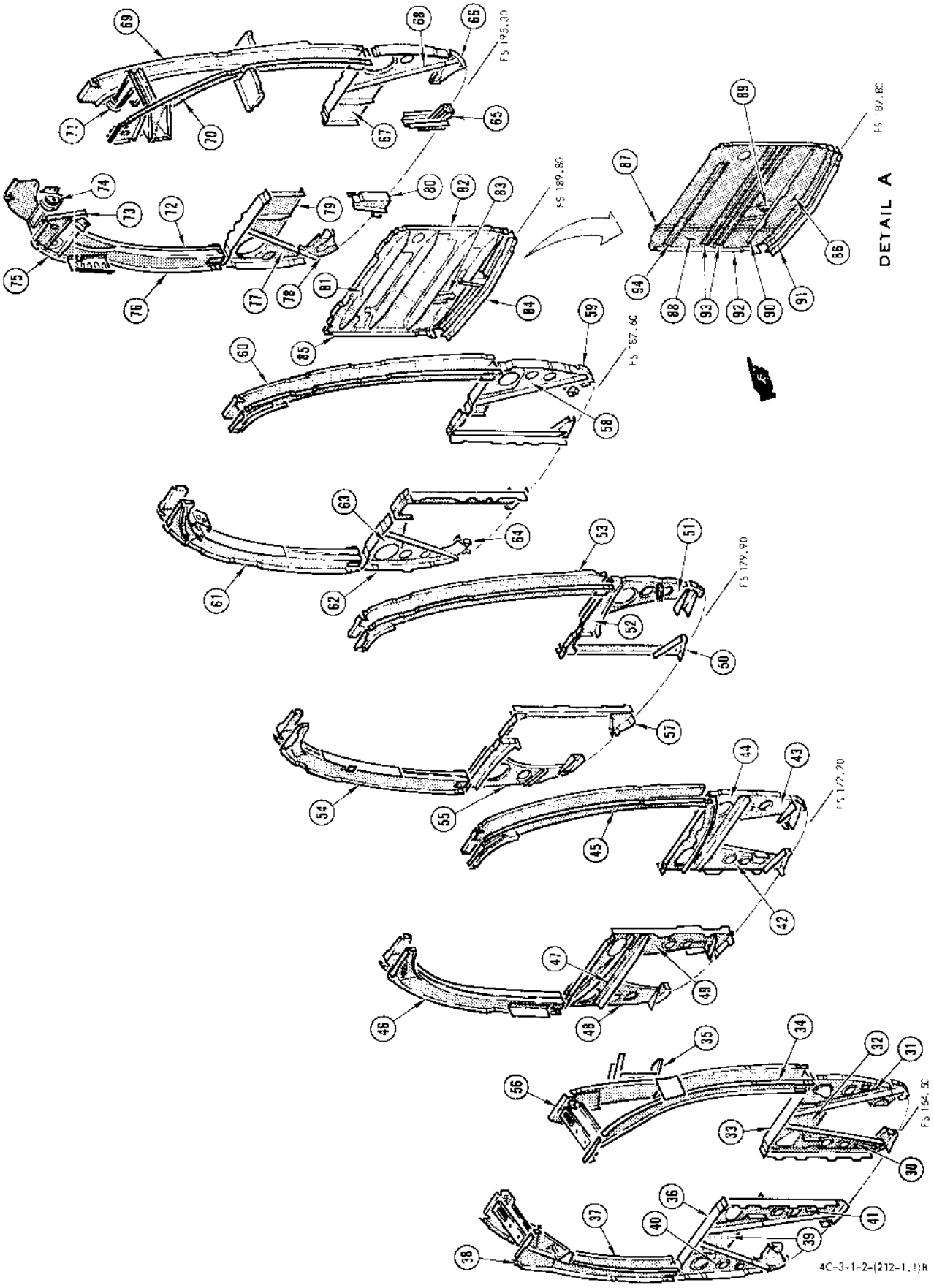


Figure 3-21. Frame and Bulkhead Index, FS 139.84 thru FS 195.3 - F 4C AND F 4D (Sheet 1A of 3)

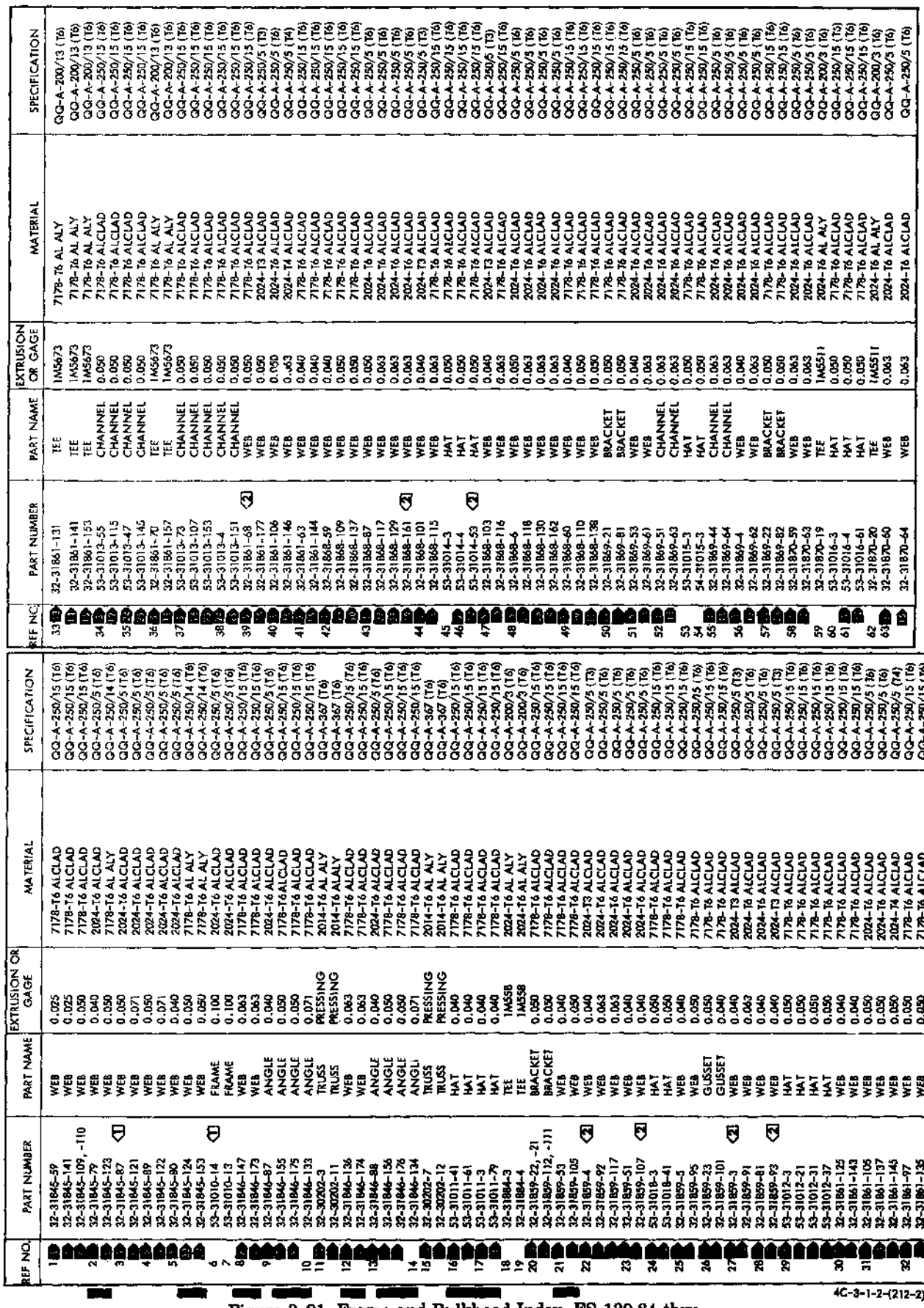
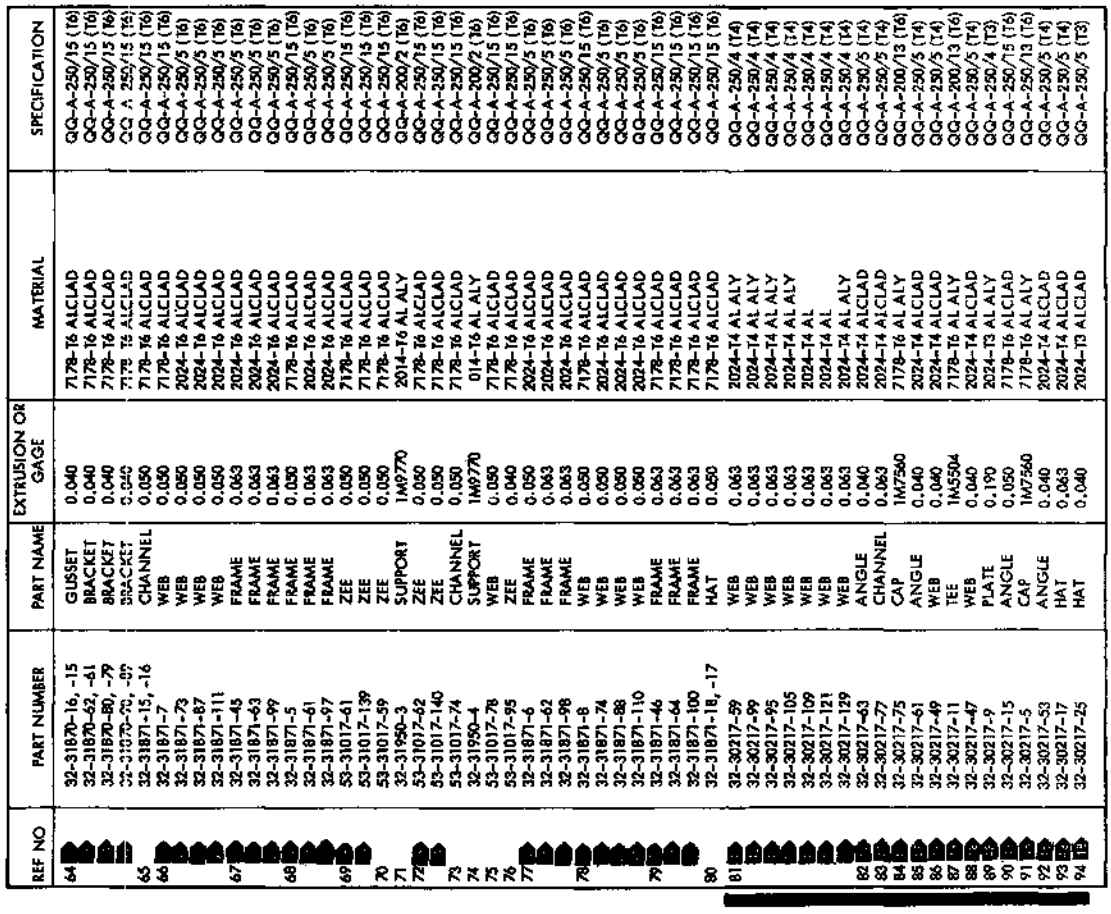


Figure 3-21. Frame and Bulkhead Index, FS 139.84 thru FS 195.3 - F-4C AND F-4D (Sheet 2 of 3)



REF NO	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
64	32-31870-16, -15	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31870-62, -61	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31870-80, -79	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31870-76, -67	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
65	32-31871-15, -16	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
66	32-31871-7	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31871-73	WEB	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31871-87	WEB	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31871-111	WEB	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
67	32-31871-45	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31871-63	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31871-99	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
68	32-31871-5	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31871-61	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31871-97	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
69	53-31017-61	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-139	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
70	53-31017-59	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	32-31950-3	SUPPORT	1M9770	2014-T6 AL ALY	QQ-A-200/2 (T6)
72	53-31017-62	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-140	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
73	53-31017-74	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
74	32-31950-4	SUPPORT	1M9770	014-T6 AL ALY	QQ-A-200/2 (T6)
75	53-31017-78	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
76	53-31017-95	ZEE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77	32-31871-6	FRAME	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31871-62	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32-31871-98	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
78	32-31871-8	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31871-74	WEB	0.050	2024-T6 ALCLAD	QQ-A-250/3 (T6)
	32-31871-88	WEB	0.050	2024-T6 ALCLAD	QQ-A-250/3 (T6)
	32-31871-110	WEB	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
79	32-31871-46	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31871-64	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31871-100	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
80	32-31871-18, -17	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
81	32-30217-59	WEB	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-30217-99	WEB	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-30217-95	WEB	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-30217-105	WEB	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-30217-109	WEB	0.063	2024-T4 AL	QQ-A-250/4 (T4)
	32-30217-121	WEB	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
82	32-30217-129	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
83	32-30217-63	CHANNEL	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
84	32-30217-77	CAP	1M7560	7178-T6 AL ALY	QQ-A-200/13 (T6)
85	32-30217-61	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
86	32-30217-49	WEB	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
87	32-30217-11	TEE	1M5504	7178-T6 AL ALY	QQ-A-200/13 (T6)
88	32-30217-47	WEB	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
89	32-30217-9	PLATE	0.190	2024-T3 AL ALY	QQ-A-250/4 (T3)
90	32-30217-15	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
91	32-30217-5	CAP	1M7560	7178-T6 AL ALY	QQ-A-250/13 (T6)
92	32-30217-53	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
93	32-30217-17	HAT	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
94	32-30217-25	HAT	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)

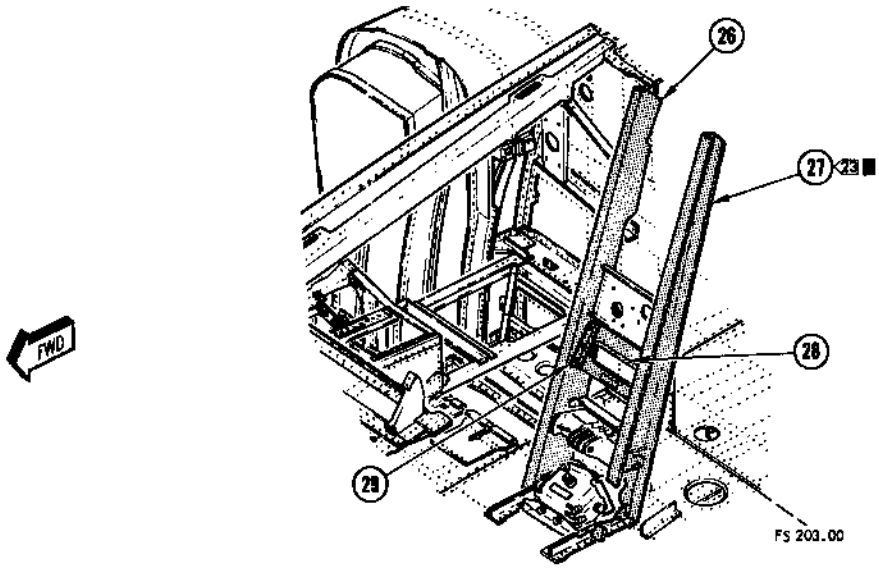
Notes

1. THIS PART IS CHEMICALLY MACHINED TO 0.025 IN AREAS OF LOWER STRESS INTENSITY.
2. AGE HARDEN TO T-81.

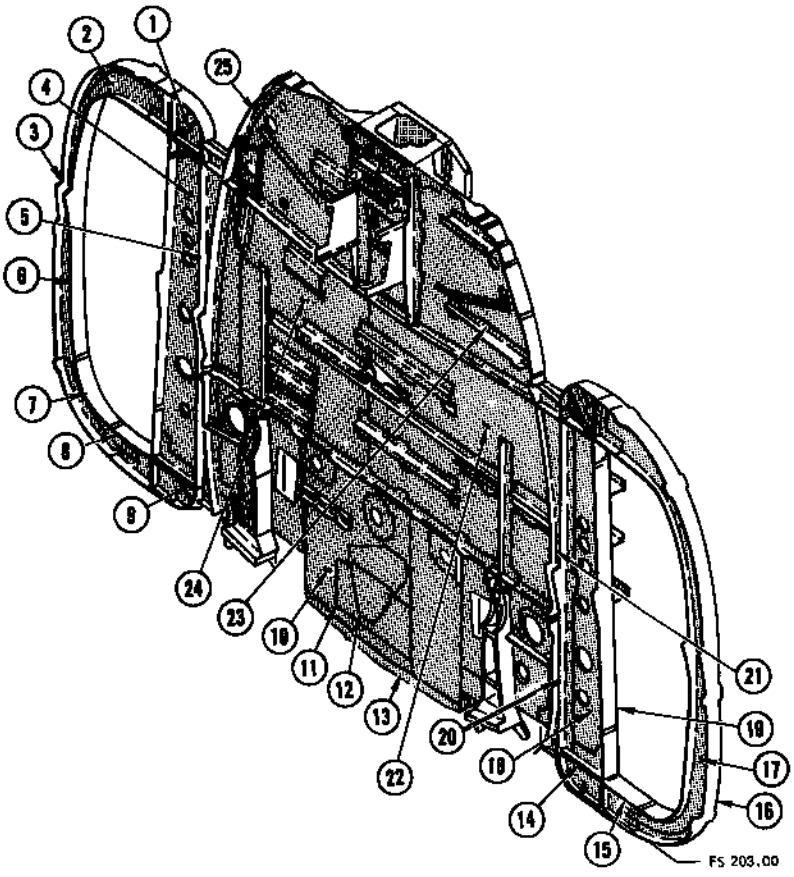
	F-4C 63-7407 THRU 63-7526.
	F-4C 63-7527 THRU 63-7662.
	F-4C 63-7407 THRU 63-7662.
	F-4C 63-7662 THRU 64-928 AND F-4D.
	F-4C 63-7663 THRU 64-781.
	F-4C 63-7407 THRU 64-781.
	F-4C 63-782 THRU 64-928 AND F-4D.
	F-4C AND F-4D 64-929 THRU 65-611.
	F-4D 65-612 THRU 66-8825.
	F-4C 63-7527 THRU 64-928 AND F-4D.
	F-4C 63-7407 THRU 63-7468.
	F-4C 63-7469 THRU 63-7662.
	F-4C 63-7663 THRU 64-928 AND F-4D.
	F-4C 63-7407 THRU 64-700.
	F-4C 64-701 THRU 64-881.
	F-4C 64-882 THRU 64-928 AND F-4D 64-929 THRU 65-665.
	F-4D 65-666 THRU 66-8825.
	F-4C 63-7663 THRU 64-928 AND F-4D 64-929 THRU 65-611.
	F-4D 65-666 THRU 66-7650.
	F-4C 63-7407 THRU 64-754.
	F-4C 64-755 THRU 64-928 AND F-4D.
	F-4C AND F-4D 64-929 THRU 66-8698.
	F-4D 66-8699 THRU 66-8825.
	F-4C 63-7527 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
	F-4C 63-7663 THRU 64-817.
	F-4C 64-818 THRU 64-928 AND F-4D 64-929 THRU 65-665.
	F-4C 63-7663 THRU 64-928 AND F-4D 64-929 THRU 64-963.
	F-4D 64-964 THRU 66-8825.
	F-4D 66-7651 THRU 66-8825.
	F-4C 63-7662 THRU 64-928 AND F-4D 64-929 THRU 65-770.
	F-4C 63-7663 THRU 64-672.
	F-4C 64-673 THRU 64-928 AND F-4D 64-929 THRU 65-785.
	F-4D 65-786 THRU 66-8825.
	F-4C 63-7663 THRU 64-754.
	F-4D 65-771 THRU 66-8825.
	F-4C 63-7407 THRU 63-7675.
	F-4C 63-767 THRU 64-928 AND F-4D.
	F-4C 64-755 THRU 64-928 AND F-4D 64-929 THRU 65-665.
	F-4C 64-818 THRU 64-845.
	F-4C 64-846 THRU 64-928.
	F-4D 64-929 THRU 65-611.
	F-4D 65-612 THRU 65-770.
	F-4D 65-771 THRU 66-7504.
	F-4D 66-7505 THRU 66-8698.
	F-4C 64-818 THRU 64-928 AND F-4D.
	F-4C 64-7407 THRU 64-817.

4C-3-1-2-(212-3) B

Figure 3-21. Frame and Bulkhead Index, FS 139.84 thru FS 195.3 - F-4C AND F-4D (Sheet 3 of 3)



AFT COCKPIT



4C-3-1-2-(214-1)C

Figure 3-22. Bulkhead Index, FS 203.00 - F-4C AND F-4D (Sheet 1 of 2)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1		32-31461-10,-9	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
2		32-31043-461,-462	CAP	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3		32-31043-2034	DOUBLER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	(1)	53-31025-27	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(2)	53-31025-457	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(3)	53-31025-811	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(7)	53-31025-887	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	(3)	32-31043-488	CAP	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(4)	32-31043-2123	CAP	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
6		32-31043-1916	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	(10)	32-31043-2078,-2077	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(11)	32-31043-2190,-2189	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(19)	32-31043-2244,-2243	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
8		32-31043-1058	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9		32-31460-8	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
10		32-31043-1839	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	(5)	53-31025-125	HAT	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(6)	53-31025-773	HAT	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12		32-31043-1835	DOOR	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13		32-31043-1865	CAP	1M7560	7178-T6 AL ALY	QQ-A-200/13 (T6)
14		32-31460-7	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
15		32-31043-1057	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16		32-31043-2033	DOUBLER	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
17		32-31043-1915	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	(4)	53-31025-9	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	(17)	53-31025-873	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
19	(18)	32-31043-1901,-1902	CAP	1M5648	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(15)	32-31043-2241,-2242	CAP	1M5648	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	(3)	32-31043-1919	CAP	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(4)	32-31043-2121	CAP	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	(12)	32-31043-137	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(13)	32-31043-2165	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(19)	32-31043-2237	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	(7)	53-31025-459	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(15)	53-31025-441	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(20)	53-31207-29	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	(7)	53-31025-269	ANGLE	1M2172	2024-T4 AL ALY	QQ-A-200/3 (T4)
	(8)	53-31025-435	ANGLE	1M2172	2024-T4 AL ALY	QQ-A-200/3 (T4)
24	(5)	53-31025-91	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(16)	53-31025-765	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(20)	53-31207-63	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	(18)	53-31025-267	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
	(19)	53-31207-77	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	(21)	32-31937-5	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	(20)	32-31937-25	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
27	(21)	32-31937-6 } (23)	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	(20)	32-31937-26 }	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
28	(21)	53-31052-29	SUPPORT	0.63	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	(20)	53-31052-55	SUPPORT (22)	0.63	2024-T4 ALCLAD	QQ-A-250/5 (T4)
29		53-31052-11	ANGLE (22)	0.63	2024-T4 ALCLAD	QQ-A-250/5 (T4)

Notes

(1) F-4C 63-7407 THRU 63-7420.
(2) F-4C 63-7421 THRU 63-7662.
(3) F-4C 63-7407 THRU 63-7442.
(4) F-4C 63-7443 THRU 64-928; F-4D.
(5) F-4C 63-7407 THRU 63-7526.
(6) F-4C 63-7527 THRU 64-928; F-4D.
(7) F-4C 63-7407 THRU 63-7468.
(8) F-4C 63-7469 THRU 64-928; F-4D.
(9) F-4C 63-7663 THRU 64-928; F-4D 64-929 THRU 64-963.
(10) F-4C 63-7407 THRU 64-881.
(11) F-4C 64-882 THRU 64-928; F-4D 64-929 THRU 65-665.
(12) F-4C 63-7407 THRU 64-711.
(13) F-4C 64-712 THRU 64-928; F-4D 64-929 THRU 65-665.
(14) F-4C; F-4D 64-929 THRU 64-963.
(15) F-4C 63-7469 THRU 64-928.
(16) F-4C 63-7527 THRU 64-928.
(17) F-4D 64-964 THRU 66-8825.
(18) F-4C; F-4D 64-928 THRU 65-665.
(19) F-4D 65-666 THRU 66-8825.
(20) F-4D.
(21) F-4C.
(22) SEE FIGURE 3-37 FOR REPOSITIONING.
(23) FOR REPAIR SEE FIGURE 3-22A.

4C-3-1-2-(214-2)C

Figure 3-22. Bulkhead Index, FS 203.00 - F-4C AND F-4D (Sheet 2 of 2)

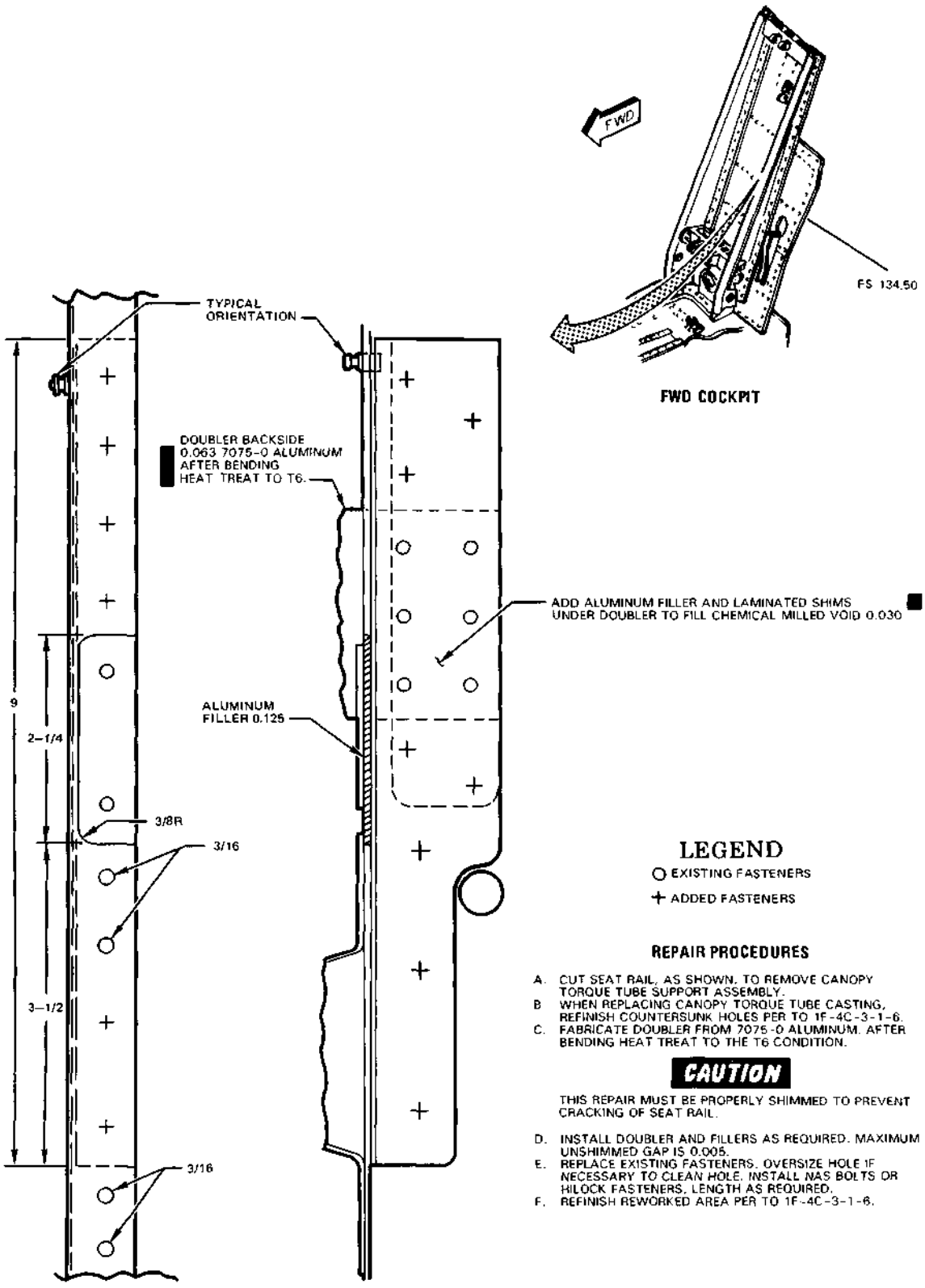
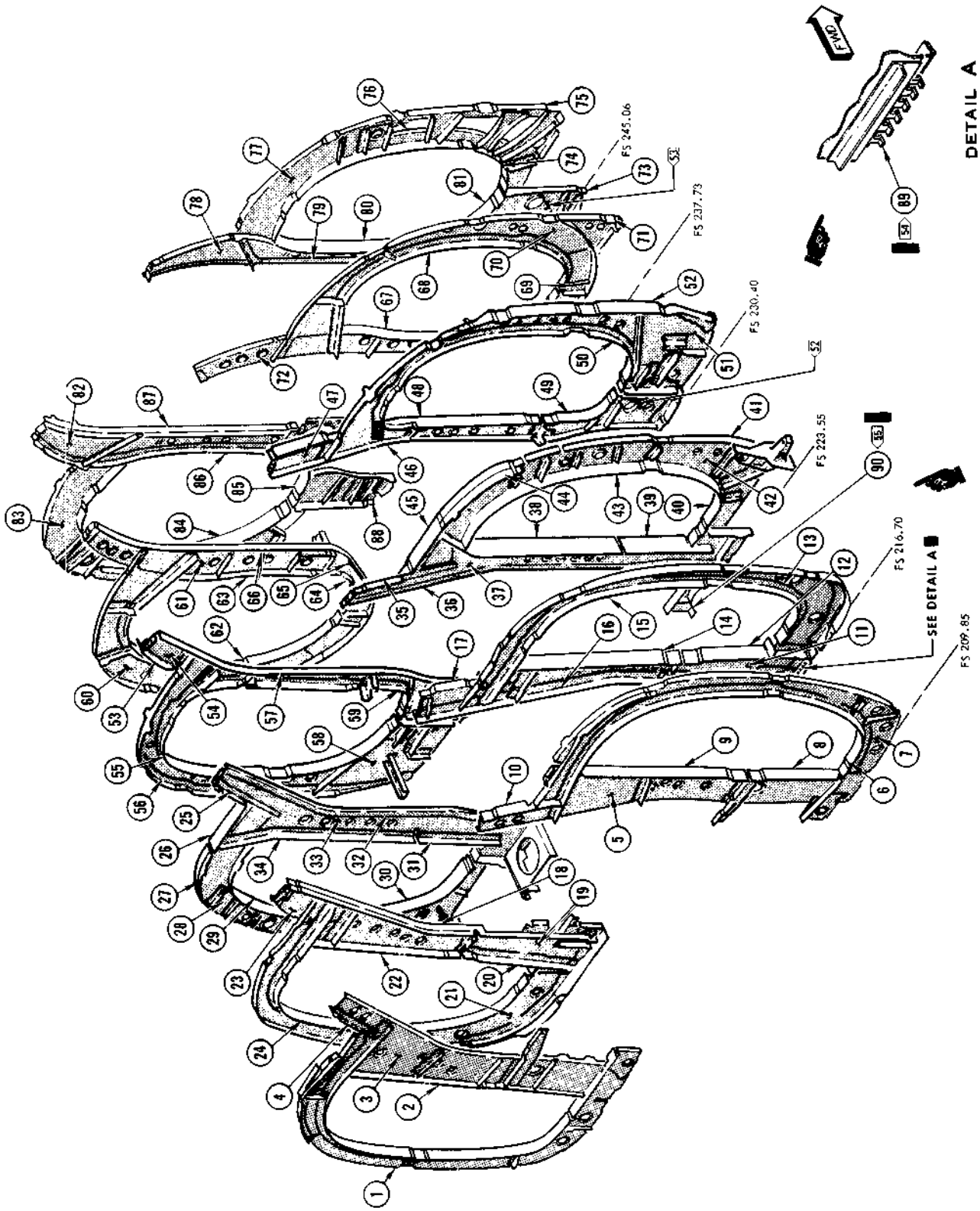
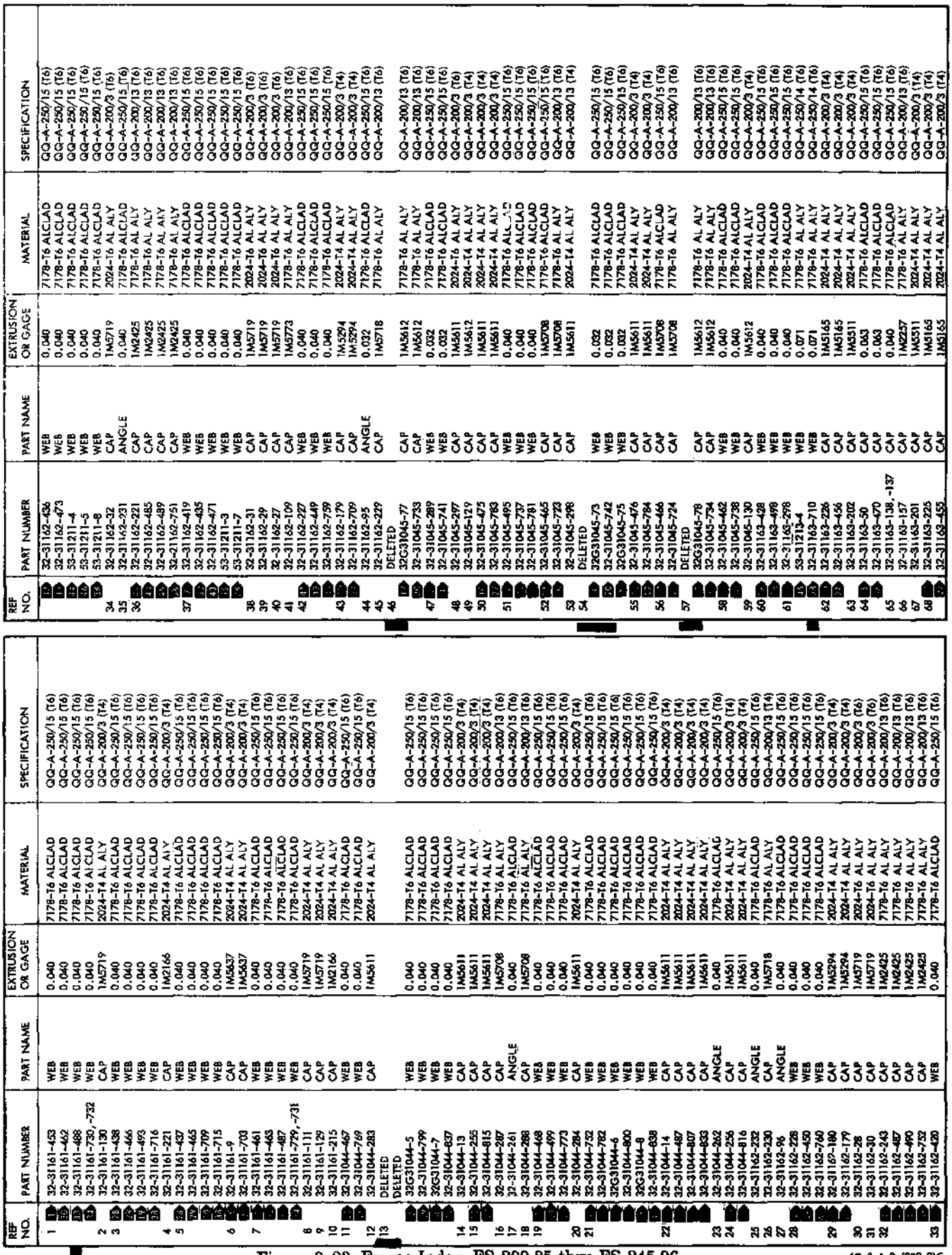


Figure 3-22A. Seat Rail Repair When Rail Must be Cut to Remove Canopy Torque Tube Support Assembly



4C-3-1-2-(239-1)B

Figure 3-23. Frame Index, FS 209.85 thru FS 245.06 - F-4C AND F-4D (Sheet 1 of 3)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31161-453	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-462	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-488	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-730,-732	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-31161-130	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
3	32-31161-438	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-466	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-493	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-31161-716	CAP	1M2166	2024-T4 AL ALY	QQ-A-200/3 (T4)
5	32-31161-221	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-437	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-465	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-709	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-31161-715	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-9	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
7	32-31161-703	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31161-461	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-463	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31161-487	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-31161-729,-731	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
10	32-31161-111	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31161-129	CAP	1M2166	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31161-215	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-31044-467	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-769	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-31044-283	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
13	DELETED				
	DELETED				
14	32G31044-5	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-799	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31044-7	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-837	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31044-13	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-255	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
16	32-31044-815	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-287	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	32-31044-261	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31044-288	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-31044-468	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-499	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-31044-773	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-284	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
21	32-31044-732	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-782	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31044-6	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-800	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31044-8	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-838	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31044-14	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-487	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-807	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-833	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
23	32-31044-262	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	32-31044-256	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-816	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
25	32-31162-232	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-31162-230	CAP	1M5718	7178-T6 AL ALY	QQ-A-200/13 (T6)
27	32-31162-96	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-31162-228	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-450	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-760	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31162-180	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31162-179	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
30	32-31162-28	CAP	1M5719	2024-T6 AL ALY	QQ-A-200/3 (T6)
31	32-31162-30	CAP	1M5719	2024-T6 AL ALY	QQ-A-200/3 (T6)
32	32-31162-243	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31162-487	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31162-490	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31162-732	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
33	32-31162-420	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	32-31162-436	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	32-31162-473	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	53-31211-4	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-5	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-8	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	32-31162-32	CAP	1M5719	2024-T6 AL ALY	QQ-A-200/3 (T6)
	32-31162-531	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-221	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
38	32-31162-485	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
39	32-31162-489	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	32-21162-751	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	32-31162-419	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	32-31162-435	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-471	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-3	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-7	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43	32-31162-31	CAP	1M5719	2024-T6 AL ALY	QQ-A-200/3 (T6)
	32-31162-29	CAP	1M5719	2024-T6 AL ALY	QQ-A-200/3 (T6)
44	32-31162-27	CAP	1M5719	2024-T6 AL ALY	QQ-A-200/3 (T6)
45	32-31162-109	CAP	1M5773	7178-T6 AL ALY	QQ-A-200/13 (T6)
46	32-31162-227	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-449	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-759	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	32-31162-179	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31162-709	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
48	32-31162-95	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	32-31162-229	CAP	1M5718	7178-T6 AL ALY	QQ-A-200/13 (T6)
50	DELETED				
	32G31045-77	CAP	1M5612	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31045-733	CAP	1M5612	7178-T6 AL ALY	QQ-A-200/13 (T6)
51	32-31045-289	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-741	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52	32-31045-297	CAP	1M5611	2024-T6 AL ALY	QQ-A-200/3 (T6)
53	32-31045-1219	CAP	1M5612	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31045-475	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
54	32-31045-783	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31045-495	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55	32-31045-737	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56	32-31045-781	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-465	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
57	32-31045-723	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31045-296	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/13 (T4)
58	DELETED				
	32G31045-73	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-742	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31045-75	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	32-31045-476	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31045-784	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
60	32-31045-466	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31045-724	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
61	DELETED				
	32G31045-79	CAP	1M5612	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31045-724	CAP	1M5612	7178-T6 AL ALY	QQ-A-200/13 (T6)
62	32-31045-462	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-738	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63	32-31045-130	CAP	1M5612	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31163-428	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64	32-31163-498	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
65	32-31163-298	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31213-4	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
66	32-31163-710	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
67	32-31163-226	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
68	32-31163-456	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31163-202	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
69	32-31163-50	CAP	1M5511	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-470	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
70	32-31163-138,-137	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-157	CAP	1M2257	7178-T6 AL ALY	QQ-A-200/13 (T6)
71	32-31163-201	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
72	32-31163-225	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
73	32-31163-455	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)

Figure 3-23. Frame Index, FS 209.85 thru FS 245.06 - F-4C AND F-4D (Sheet 2 of 3)

4C-3-1-2-(239-2)C

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
69	32-31163-49	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-469	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
70	32-31163-427	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-497	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	32-31163-417	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
72	32-31163-297	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-435	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31213-3	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31163-709	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
73	32-31046-225	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
74	32-31046-407	CAP	IM5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-779	CAP	IM5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
75	32-31046-267	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
76	32-31046-121, -122	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77	32-31046-265	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-725	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
78	32-31046-473	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-723	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14(T6)
	32-31046-755	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14(T6)
79	32-31046-459	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
80	32-31046-251	CAP	IM5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-789	CAP	IM5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
81	32-31046-205	CAP	IM5194	2024-T4 AL ALY	QQ-A-200/3 (T4)
82	32-31046-474	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-724	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14(T6)
	32-31046-756	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14(T6)
83	32-31046-266	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-726	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
84	32-31046-408	CAP	IM5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-780	CAP	IM5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
85	32-31046-206	CAP	IM5194	2024-T4 AL ALY	QQ-A-200/3 (T4)
86	32-31046-252	CAP	IM5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-790	CAP	IM5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
87	32-31046-460	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
88	32-31046-226	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
89	32-31044-207, -208	HINGE (84) (85)	0.625	7075-T6 AL ALY	QQ-A-250/12 (T6)
90	32-31880-3, -4	FRAME (84) (85)	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)

Notes

1. F-4C 63-7407 THRU 63-7420.
2. F-4C 63-7407 THRU 64-817.
3. F-4C 63-7407 THRU 63-7442.
4. F-4C 63-7443 THRU 64-928 AND F-4D.
5. DELETED
6. DELETED
7. F-4C 63-7407 THRU 63-7468.
8. F-4C 63-7443 THRU 64-928.
9. F-4D 65-612 THRU 66-8825.
10. F-4C 63-7407 THRU 64-881.
11. F-4D 64-929 THRU 65-611.
12. DELETED
13. F-4D 66-8698 THRU 66-8825.
14. F-4C AND F-4D 64-929 THRU 64-963.
15. F-4C AND F-4D 64-929 THRU 64-963.
16. F-4D 65-612 THRU 66-8825.
17. F-4C.
18. F-4C AND F-4D 64-929 THRU 65-611.
19. F-4C 64-818 THRU 64-928 AND F-4D 64-929 THRU 64-963.
20. F-4D.
21. F-4C 64-882 THRU 64-928.
22. F-4D 65-666 THRU 66-8825.
23. F-4C 63-7421 THRU 64-737.
24. F-4C 63-7469 THRU 64-737.
25. F-4C 63-7407 THRU 64-737.
26. F-4C 64-738 THRU 64-928 AND F-4D.
27. F-4C 64-882 THRU 64-928 AND F-4D.
28. F-4C 63-7407 THRU 63-7662.
29. F-4C 63-7663 THRU 64-817.
30. F-4C 63-7421 THRU 64-817.
31. F-4C 64-818 THRU 64-928 AND F-4D.
32. F-4C 63-7469 THRU 64-817.
33. F-4C 64-818 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
34. F-4D 66-8699 THRU 66-8825.
35. F-4C 64-738 THRU 64-928 AND F-4D 64-929 THRU 65-665.
36. F-4C 64-818 THRU 64-928.
37. DELETED
38. F-4D 64-964 THRU 66-8825.
39. F-4D 64-929 THRU 65-770.
40. F-4D 65-771 THRU 66-8825.
41. F-4C 63-7407 THRU 64-817.
42. F-4C 63-7443 THRU 64-817.
43. F-4C 64-818 THRU 64-928.
44. F-4D 64-929 THRU 64-937.
45. F-4D 64-929 THRU 64-963.
46. F-4D 64-938 THRU 64-963.
47. DELETED
48. F-4C 64-818 THRU 64-928 AND F-4D 64-929 THRU 66-7504.
49. F-4D 66-7505 THRU 66-8825.
50. F-4C 63-7421 THRU 64-928.
51. DELETED

52. FOR REPAIR, SEE FIGURE 3-35.
53. FOR REPAIR, SEE FIGURE 3-36.
54. FOR REPLACEMENT, SEE FIGURE 3-37B.
55. FOR REPLACEMENT, SEE FIGURE 3-37C.

4C-3-1-2-(239-3)C

Figure 3-23. Frame Index, FS 209.85 thru FS 245.06 - F-4C AND F-4D (Sheet 3 of 3)

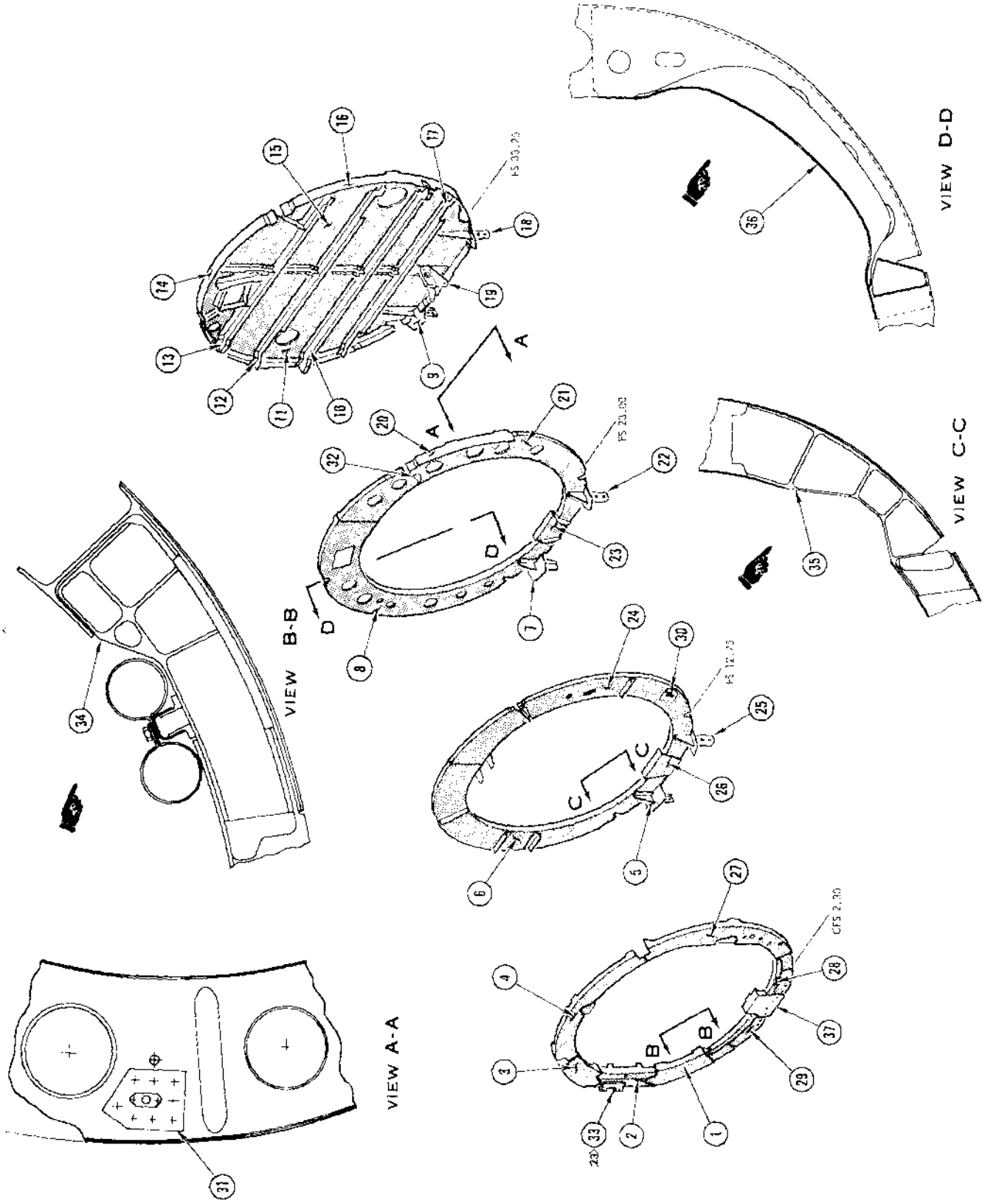


Figure 3-24. Frame and Bulkhead Index, CFS 2.30 thru FS33.25 - F-4E AND F-4G (Sheet 1 of 2)

Notes

(1) THIS PART HAS BEEN CHEMICALLY MACHINED FROM THE STOCK THICKNESS LISTED.
E F-4E AND MODIFIED ON F-4G.
F F-4G.
(4) MACHINED PART.
E F-4E 66-284 THRU 66-314.
E F-4E 66-315 AND UP AND F-4G.
E F-4E 66-284 THRU 67-219.
F F-4E 67-220 AND UP AND F-4G.
E F-4E 66-284 THRU 66-367.
E F-4E 66-368 AND UP AND MODIFIED ON F-4G.
E F-4E 66-284 THRU 67-398.
E F-4E 68-303 AND UP AND F-4G.
E F-4E 68-368 THRU 68-409.
E F-4E 68-410 AND UP AND MODIFIED ON F-4G.
E F-4E 66-284 THRU 68-538, AND F-4E/G 69-234 THRU 69-7578.
E F-4E/G 69-7579 THRU 69-7588 AND F-4E 73-01164, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201, AND 73-10202.
E F-4E 66-284 THRU 71-1093 AND F-4G.
E F-4E 71-1391 AND UP.
E F-4E 66-284 THRU 72-1493 AND F-4G.
E F-4E 68-303 THRU 73-01164, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201 AND 73-01202 AND F-4G.
F F-4E 73-01165 THRU 73-01168, 73-01171 THRU 73-01177, 73-01180 THRU 73-01189, 73-01192 THRU 73-01200, AND 73-01203 AND UP.
F F-4E 67-220 THRU 73-01164, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201, AND 73-01202 AND F-4G.
(22) FOR REPLACEMENT, SEE FIGURE 3-37A.
E F-4E.
E F-4E 68-303 AND UP AND MODIFIED ON F-4G.
E F-4E 67-220 AND UP AND MODIFIED ON F-4G.

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-310084-9	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	53-310096-3	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
	53-310096-5	FITTING	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
3	53-310084-7	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310084-31	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	53-310084-5	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310084-35	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
5	53-310139-4	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	53G973072-4	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367(T7352)
6	53-310085-51	FRAME	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310085-55	FRAME	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	53-310140-4	FITTING	FORGING	7075-T7354 AL ALY	QQ-A-367 (T7354)
8	53-310086-45	FRAME	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310086-49	FRAME	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
9	53-310141-4	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
10	53-310087-149	STIFFENER	1MS570	7178-T651 AL ALY	QQ-A-200/13 (T651)
11	53-310087-121	WEB	0.032	2024-T81 AL ALY	QQ-A-250/4 (T81)
	53-310087-165	WEB	0.032	2024-T81 AL ALY	QQ-A-250/4 (T81)
	53-310087-175	WEB	0.032	2024-T81 AL ALY	QQ-A-250/4 (T81)
12	53-310087-17	STIFFENER	1MS570	7178-T651 AL ALY	QQ-A-200/13 (T651)
13	53-310087-107	STIFFENER	1MS570	7178-T651 AL ALY	QQ-A-200/13 (T651)
14	53-310087-43	TEE	1MS9590	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	53-310087-147	WEB	0.032	2024-T81 AL ALY	QQ-A-250/4 (T81)
	53-310087-155	WEB	0.032	2024-T81 AL ALY	QQ-A-250/4 (T81)
16	53-310087-39	TEE	1MS7590	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	53-310087-21	STIFFENER	1MS570	7178-T651 AL ALY	QQ-A-200/13 (T651)
18	53-310141-3	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
19	53-310103-3	FITTING	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
20	53-310086-31	TEE	1MS6526	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	53-310086-3	FRAME	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310086-51	FRAME	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310086-55	FRAME	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
22	53-310140-3	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
23	53-310085-27	BRACKET	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	53-310085-49	FRAME	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310085-53	FRAME	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310085-63	FRAME	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	53-310139-3	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
	53G973072-3	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367(T7352)
26	53-310085-27	BRACKET	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310085-57	BRACKET	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
27	53-310084-27	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310084-29	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310084-41	FRAME	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
28	53-310101-3	FITTING	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
29	53-310168-3	FITTING	(4)	7075-T7351 AL ALY	QQ-A-225/9 (T7351)
30	53G970474-5	DOUBLER	0.040	7075-T6 AL ALY	QQ-A-250/12 (T6)
31	53G970474-7	DOUBLER	0.050	7075-T6 AL ALY	QQ-A-250/12 (T6)
32	53G970474-3	DOUBLER	0.050	7075-T6 AL ALY	QQ-A-250/12 (T6)
33	53-310095-3	HINGE (23)	1MS96252	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
34	53G973027-3	SUPPORT	(4)	7075-T7351 AL ALY	QQ-A-250/12 (T7351)
35	53G973028-3	SUPPORT	(4)	7075-T7351 AL ALY	QQ-A-250/12 (T7351)
36	53-070191-3	FRAME	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
37	53G973026-3	SUPPORT	(4)	7075-T651 AL ALY	QQ-A-250/12 (T651)

4C-3-1-2-(3-2)D

Figure 3-24. Frame and Bulkhead Index, CFS 2.30 thru FS 33.25 - F-4E AND F-4G (Sheet 2 of 2)

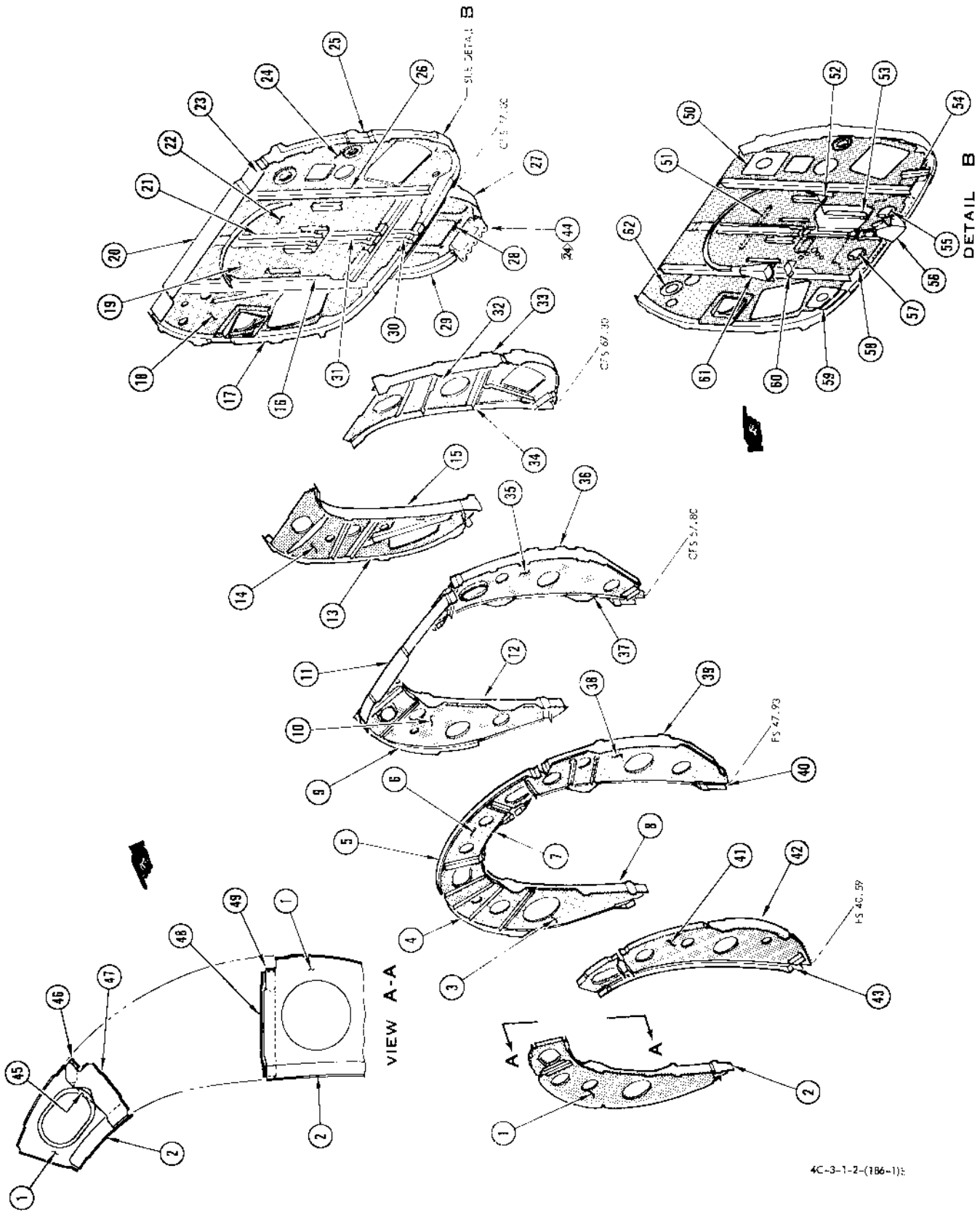


Figure 3-25. Frame and Bulkhead Index, FS 40.59 thru CFS 77.00 - F-4E AND F-4G (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-310088-44	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310088-65	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	53-310088-46	CAP	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310088-67	CAP	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-310089-91	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	53-310089-64	CAP	1M5736	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	53-310089-9	CAP	1M5736	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310089-103	CAP	1M57615	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	53-310089-5	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	53-310089-13	CAP	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	53-310089-12	CAP	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
9	53-310090-6	TEE	1M5736	7178-T6 AL ALY	QQ-A-200/13 (T6)
10	53-310090-81	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310090-105	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310090-119	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	53-310211-25	FRAME	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
12	53-310090-8	TEE	1M5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	53-310091-12	CAP	1M5599	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310091-161	CAP	1M5599	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	53-310091-131	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310091-149	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310091-171	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
15	53-310091-118	TEE	1M57596	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310091-167	TEE	1M57596	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	53-310209-13	TEE	1M57578	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	53-310209-25	CAP	1M57595	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310209-273	CAP	1M57595	7178-T6 AL ALY	QQ-A-200/13 (T6)
18	53-310209-261	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310209-265	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310209-299	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310209-407	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310209-413	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-810208-209	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
19	53-310209-76	TEE	1M57246	7178-T6 AL ALY	QQ-A-250/13 (T6)
20	53-310209-127	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	53-310209-213	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
22	53-310209-75	TEE	1M57246	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	53-310209-201	WEB	0.150	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	53-310209-293	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310209-415	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	53-310209-23	CAP	1M57595	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310209-271	CAP	1M57595	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	53-310209-11	TEE	1M57676	7178-T6 AL ALY	QQ-A-200/13 (T6)
27	53-310209-77	TEE	1M57585	7075-T6 AL ALY	QQ-A-200/11 (T6)
28	53-310209-81	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310209-281	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
29	53-310209-79	TEE	1M57585	7075-T6 AL ALY	QQ-A-200/11 (T6)
30	53-310209-17	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	53-310208-19	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	53-310091-129	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310091-169	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	53-310091-113	CAP	1M5599	7178-T6 AL ALY	QQ-A-200/13 (T6)
34	53-310091-117	TEE	1M57596	7178-T6 AL ALY	QQ-A-200/13 (T6)
35	53-310090-59	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310090-103	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310090-117	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
36	53-310090-5	TEE	1M5736	7178-T6 AL ALY	QQ-A-200/13 (T6)
37	53-310090-7	TEE	1M5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
38	53-310089-67	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
39	53-310089-63	CAP	1M5736	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	53-310089-11	CAP	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	53-310088-55	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
42	53-310088-45	CAP	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
43	53-310088-31	CAP	1M5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
44	53-310226-5	HINGE	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
45	53-070192-16	INTERCOSTAL	0.063	2024-T42 AL ALY	QQ-A-250/5 (T42)
46	53-070192-19	TEE	1MA160D05-10232	7075-T7351 AL ALY	QQ-A-200/11 (T7351)
47	53-070192-13	INTERCOSTAL	0.063	2024-T42 AL ALY	QQ-A-250/5 (T42)
48	53-070192-25	TEE	1MA160D03-10198	7075-T6511 AL ALY	QQ-A-200/11 (T6511)
49	53-070192-23	ANGLE	0.063	2024-T42 AL ALY	QQ-A-250/5 (T42)
50	53-070181-125	DOUBLER	0.090	7075-T6 AL ALY	QQ-A-250/12 (T6)
51	53-070181-57	ANGLE	0.050	7075-0 AL ALY	QQ-A-250/12, CONDO
52	53G973030-3	SUPPORT	2.00	7075-T7351 AL ALY	QQ-A-250/12 (T7351)
53	53-070181-133	SUPPORT	0.063	2024-T42 AL ALY	QQ-A-250/4 (T42)
54	53G973049-123	ANGLE	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
55	53-070181-35	SHIELD	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
56	53-070181-119	BRACKET	0.063	7075-0 AL ALY	QQ-A-250/4 (T3)
57	53-070181-99	SHIELD	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
58	53-070181-41	DOUBLER	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
59	53G973049-7	DOUBLER	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
60	53G973049-141	BRACKET	0.063	2024-T42 AL ALY	QQ-A-250/4 (T42)
61	53G973030-4	SUPPORT	2.00	7075-T7351 AL ALY	QQ-A-250/12 (T7351)
62	53G310209-51	DOUBLER	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)

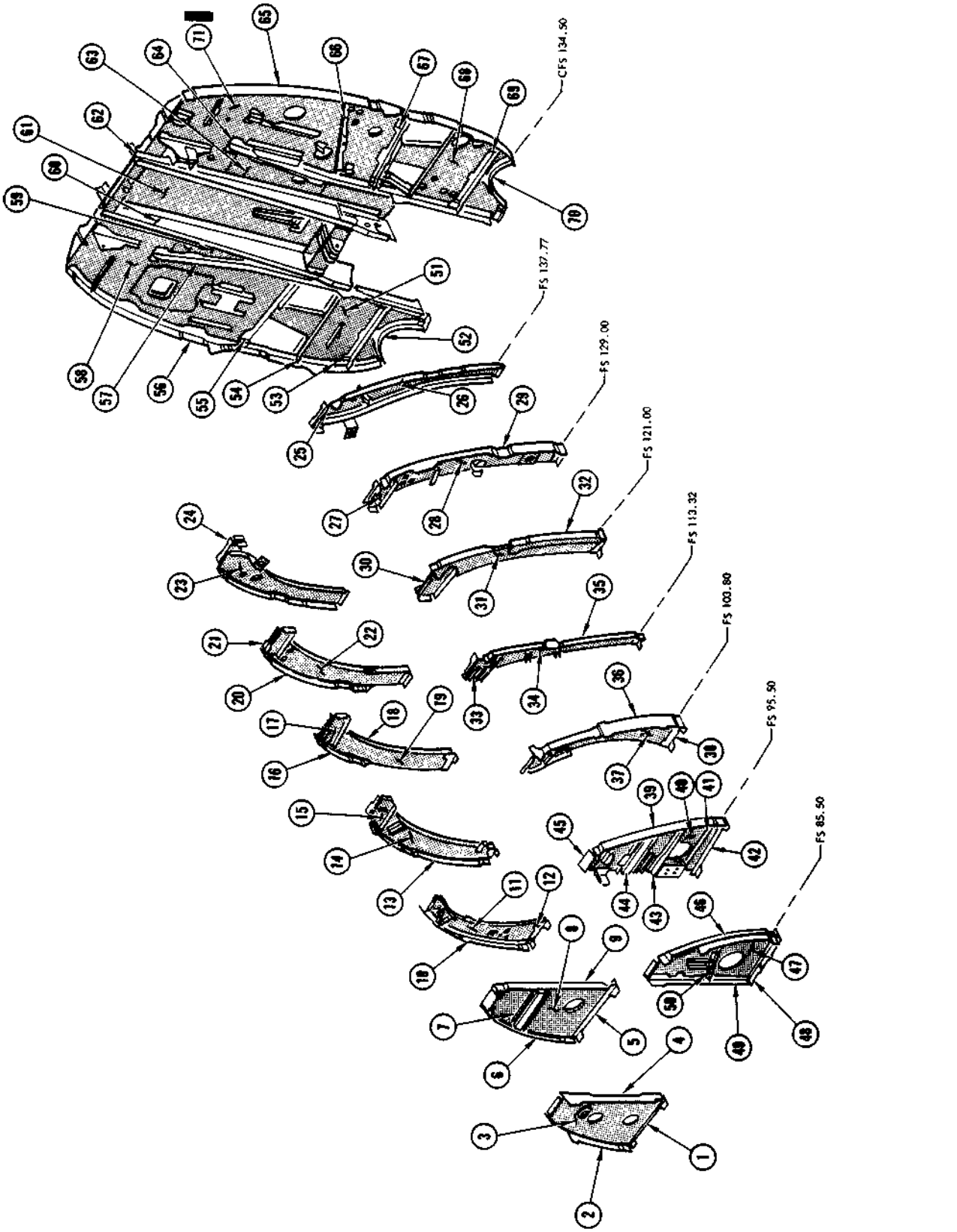
Notes

(1) THIS PART HAS BEEN CHEMICALLY MACHINED FROM THE STOCK THICKNESS LISTED.

F-4E 66-284 THRU 66-367.
F-4E 66-368 AND UP AND MODIFIED ON F-4G.
F-4E 66-284 THRU 66-382.
F-4E 67-208 AND UP AND F-4G.
F-4E 66-284 THRU 67-341.
F-4E 67-342 AND UP AND MODIFIED ON F-4G.
F-4E 66-284 THRU 67-282.
F-4E 67-283 AND UP AND F-4G.
F-4E 66-368 THRU 67-341.
F-4E 67-342 THRU 68-360.
F-4E 68-361 AND UP AND F-4G.
F-4E 66-284 THRU 68-365.
F-4E 68-366 AND UP AND MODIFIED ON F-4G.
F-4E 66-368 THRU 68-409.
F-4E 68-410 AND UP AND MODIFIED ON F-4G.
F-4E 67-342 THRU 68-409.
F-4E 68-410 THRU 68-536 AND MODIFIED ON F-4E/G 69-236 THRU 69-7260.
F-4E/G 69-7261 THRU 69-7588 AND F-4E 69-7589 AND UP.
F-4E 67-342 THRU 71-236 AND F-4G.
F-4E 71-237 AND UP.
F-4E AND MODIFIED ON F-4G.
F-4E 68-361 AND UP AND MODIFIED ON F-4G.
SEE FIGURE 3-39 FOR FASTENERS.
F-4G.
F-4G, EXCEPT 69-244, 69-249, 69-260, 69-264, 69-278, 69-290, 69-291, 69-303, 69-305, 69-307, 69-7252, 69-7261, 69-7267, 69-7294, 69-7297, 69-7551, 69-7557.

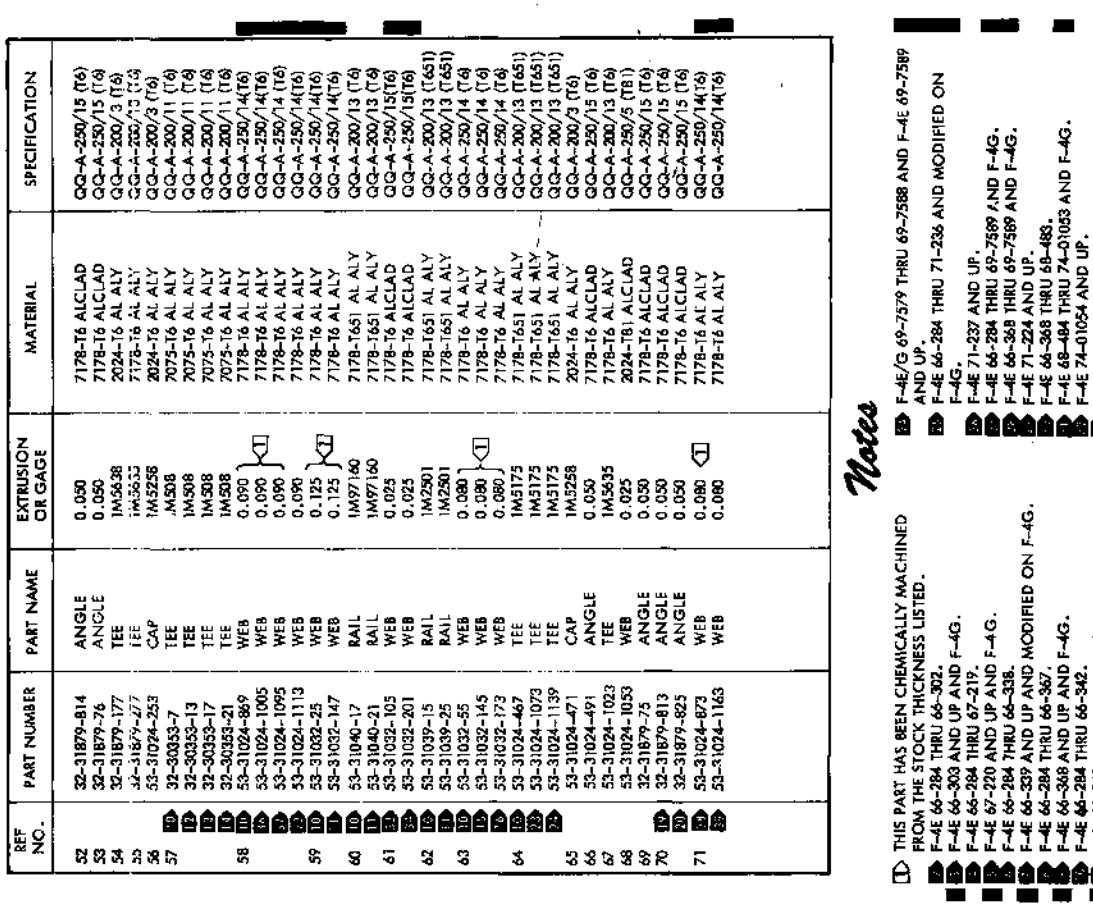
4C-3-1-2(186-2)G

Figure 3-25. Frame and Bulkhead Index, FS 40.59 thru CFS 77.00 - F-4E AND F-4G (Sheet 2 of 2)



4C-3-1-2-(221-1)

Figure 3-26. Frame and Bulkhead Index, FS 85.50 thru FS 137.77 - F-4E AND F-4G (Sheet 1 of 2)



REF NO	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31114-37	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	32-31114-105	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	32-31114-101	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-31114-79	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-31239-103	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	32-31239-37	CAP	1M5581	7178-T6 AL ALY	QQ-A-200/13 (T6)
7	32-31239-35	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31239-99	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
9	32-31239-105	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
10	32-31239-5	CHANNEL	1M7273	7178-T651 AL ALY	QQ-A-200/13(T651)
11	32-31027-110	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
12	32-31027-133	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-31027-77	CLIP	1M5261	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-31028-74	CAP	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	32-31028-191	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-31028-203	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-31028-219	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31028-249	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-31028-189	CLIP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-31028-223	CLIP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-31435-25	CAP	1M5535	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	32-31436-141	CAP	1M5535	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	32-31436-7	CLIP	0.050	7075-T6 ALCLAD	QQ-A-250/15 (T6)
24	32-31436-41	CHANNEL	AND10137-0706	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-31436-103	CHANNEL	AND10137-0705	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	32-31436-73	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-31436-101	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-31436-139	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31453-29	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
30	32-31453-21	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-31453-47	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/14 (T6)
32	32-31033-81	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	32-31033-109	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
34	32-31033-83	DOUBLER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	32-31033-69	DOUBLER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	32-31033-75	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
37	32-31033-17	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38	32-31030-69	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/14 (T6)
39	32-31030-53	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	32-31029-7	CLIP	0.050	7075-T6 ALCLAD	QQ-A-250/15 (T6)
41	32-31029-39	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	32-31029-47	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43	32-31029-17	ANGLE	1M2153	7178-T6 AL ALY	QQ-A-200/13 (T6)
44	32-31028-141	CLIP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
45	32-31028-221	CLIP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46	32-31028-169	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	32-31028-213	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48	32-31028-73	CAP	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
49	32-31027-119	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
50	32-31027-101	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	32-31027-157	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52	32-31027-73	CLIP	1M5261	7178-T6 AL ALY	QQ-A-200/13 (T6)
53	32-31026-43	CAP	1M5534	7178-T6 AL ALY	QQ-A-200/13 (T6)
54	32-31026-107	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
55	32-31026-41	STIFFENER	1M13	7178-T6 AL ALY	QQ-A-200/13 (T6)
56	32-31026-109	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
57	32-31026-105	STIFFENER	1M13	7178-T6 AL ALY	QQ-A-200/13 (T6)
58	32-31026-39	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	32-31026-45	TEE	1M5535	7178-T6 AL ALY	QQ-A-200/13 (T6)
60	32-31025-49	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
61	32-31025-165	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
62	32-31025-135	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63	32-31025-155	WEB	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64	32-31025-103	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
65	32-31025-33	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	32-31025-87	STIFFENER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
67	53-31024-1061	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
68	53-31024-1087	WEB	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
52	32-31879-814	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53	32-31879-76	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
54	32-31879-177	TEE	1M5538	2024-T6 AL ALY	QQ-A-200/3 (T6)
55	32-31879-277	TEE	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
56	53-31024-253	CAP	1M5258	2024-T6 AL ALY	QQ-A-200/3 (T6)
57	32-30353-7	TEE	.M5508	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-30353-13	TEE	1M5508	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-30353-17	TEE	1M5508	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-30353-21	TEE	1M5508	7075-T6 AL ALY	QQ-A-200/11 (T6)
58	53-31024-869	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14(T6)
	53-31024-1005	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14(T6)
	53-31024-1095	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-31024-1113	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14(T6)
59	53-31032-25	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14(T6)
	53-31032-147	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14(T6)
60	53-31040-17	RAIL	1M97160	7178-T651 AL ALY	QQ-A-200/13 (T6)
	53-31040-21	RAIL	1M97160	7178-T651 AL ALY	QQ-A-200/13 (T6)
61	53-31032-105	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15(T6)
	53-31032-201	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15(T6)
62	53-31039-15	RAIL	1M2501	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-31039-25	RAIL	1M2501	7178-T651 AL ALY	QQ-A-200/13 (T651)
63	53-31032-55	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-31032-145	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-31032-173	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
64	53-31024-467	TEE	1M5175	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-31024-1073	TEE	1M5175	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-31024-1139	TEE	1M5175	7178-T651 AL ALY	QQ-A-200/13 (T651)
65	53-31024-471	CAP	1M5258	2024-T6 AL ALY	QQ-A-200/3 (T6)
66	53-31024-491	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
67	53-31024-1023	TEE	1M5535	7178-T6 AL ALY	QQ-A-200/13 (T6)
68	53-31024-1053	WEB	0.025	2024-T81 ALCLAD	QQ-A-250/5 (T81)
69	32-31879-75	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
70	32-31879-813	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31879-825	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	53-31024-873	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14(T6)
	53-31024-1163	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14(T6)

Notes

△ THIS PART HAS BEEN CHEMICALLY MACHINED FROM THE STOCK THICKNESS LISTED.

F-4E 66-284 THRU 66-302.
F-4E 66-303 AND UP AND F-4G.
F-4E 66-284 THRU 67-219.
F-4E 67-220 AND UP AND F-4G.
F-4E 66-284 THRU 66-338.
F-4E 66-339 AND UP AND MODIFIED ON F-4G.
F-4E 66-284 THRU 66-367.
F-4E 66-368 AND UP AND F-4G.
F-4E 66-284 THRU 66-342.
F-4E 66-343 AND UP AND F-4G.
F-4E 66-343 THRU 67-219.
F-4E 66-220 THRU 67-385.
F-4E 67-386 AND UP AND F-4G.
F-4E 66-343 THRU 67-341.
F-4E 67-342 AND UP AND F-4G.
F-4E 66-284 THRU 67-398.
F-4E 68-303 AND UP AND F-4G.
F-4E 66-284 THRU 66-297, AND 66-300.
F-4E 66-298, 66-298, 66-299, AND 66-301 AND UP AND F-4G.
F-4E 66-284 THRU 68-409.
F-4E 68-410 AND UP AND F-4G.
F-4E 66-343 THRU 66-538, F-4E/G 69-236 THRU 69-7579.

F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 AND UP.
F-4E 66-284 THRU 71-236 AND MODIFIED ON F-4G.
F-4E 71-237 AND UP.
F-4E 66-284 THRU 69-7589 AND F-4G.
F-4E 66-368 THRU 69-7589 AND F-4G.
F-4E 71-224 AND UP.
F-4E 66-368 THRU 68-483.
F-4E 68-484 THRU 74-01055 AND F-4G.
F-4E 74-01054 AND UP.
F-4E 66-284 THRU 68-483.
F-4E 66-484 AND UP AND MODIFIED ON F-4G.
F-4E AND MODIFIED ON F-4G.
F-4E 66-343 THRU 67-398.
F-4E 68-303 THRU 68-409.
F-4E 66-284 THRU 69-538 AND F-4E/G 69-236 THRU 69-7588.
F-4E 69-7589 AND UP.

4C-3-1-2-(221-2)D

Figure 3-26. Frame and Bulkhead Index, FS 85.50 thru FS 137.77 - F-4E AND F-4G (Sheet 2 of 2)

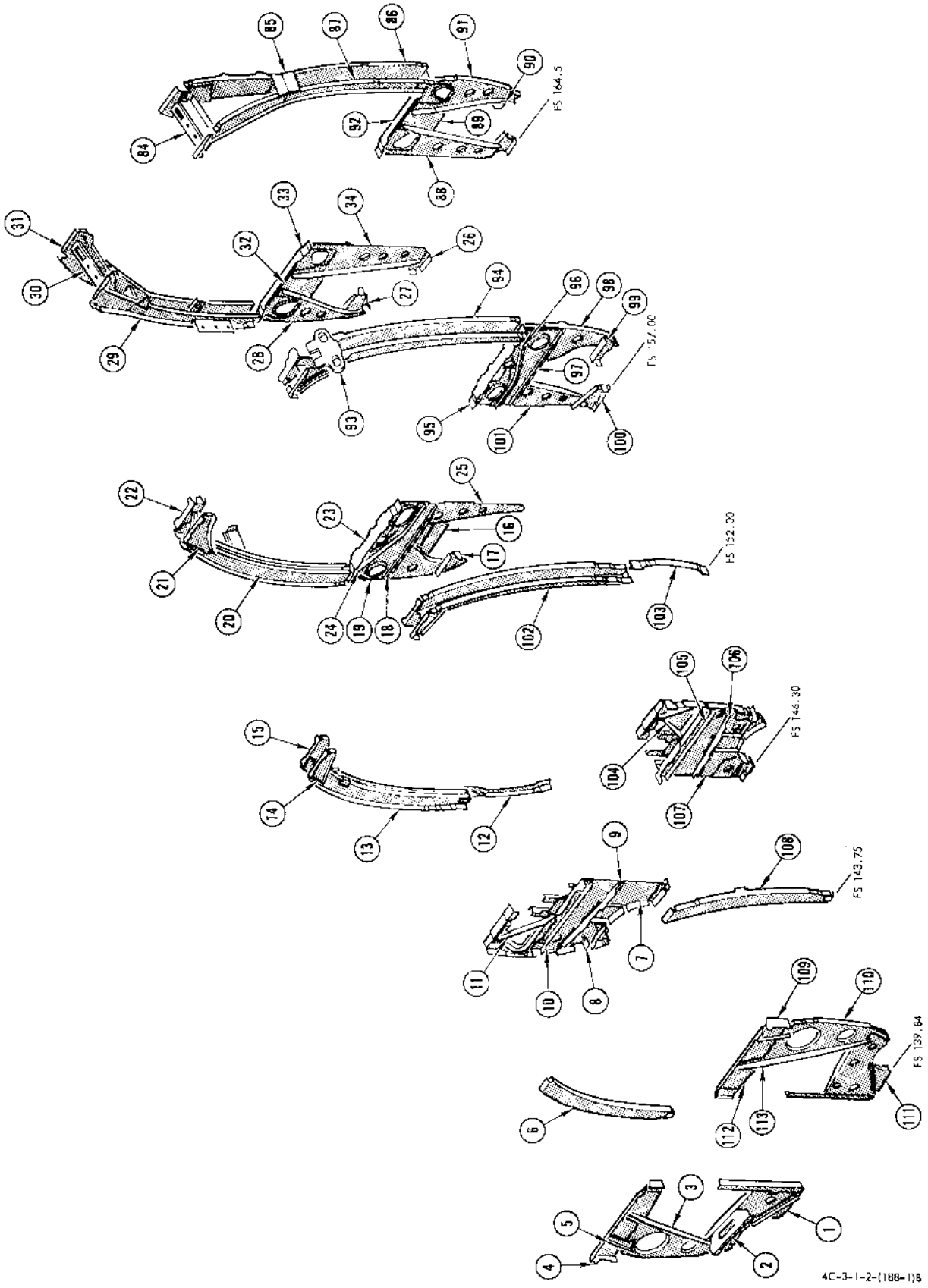


Figure 3-27. Frame Index, FS 139.84 thru FS 195.3 - F-4E AND F-4G (Sheet 1 of 3)

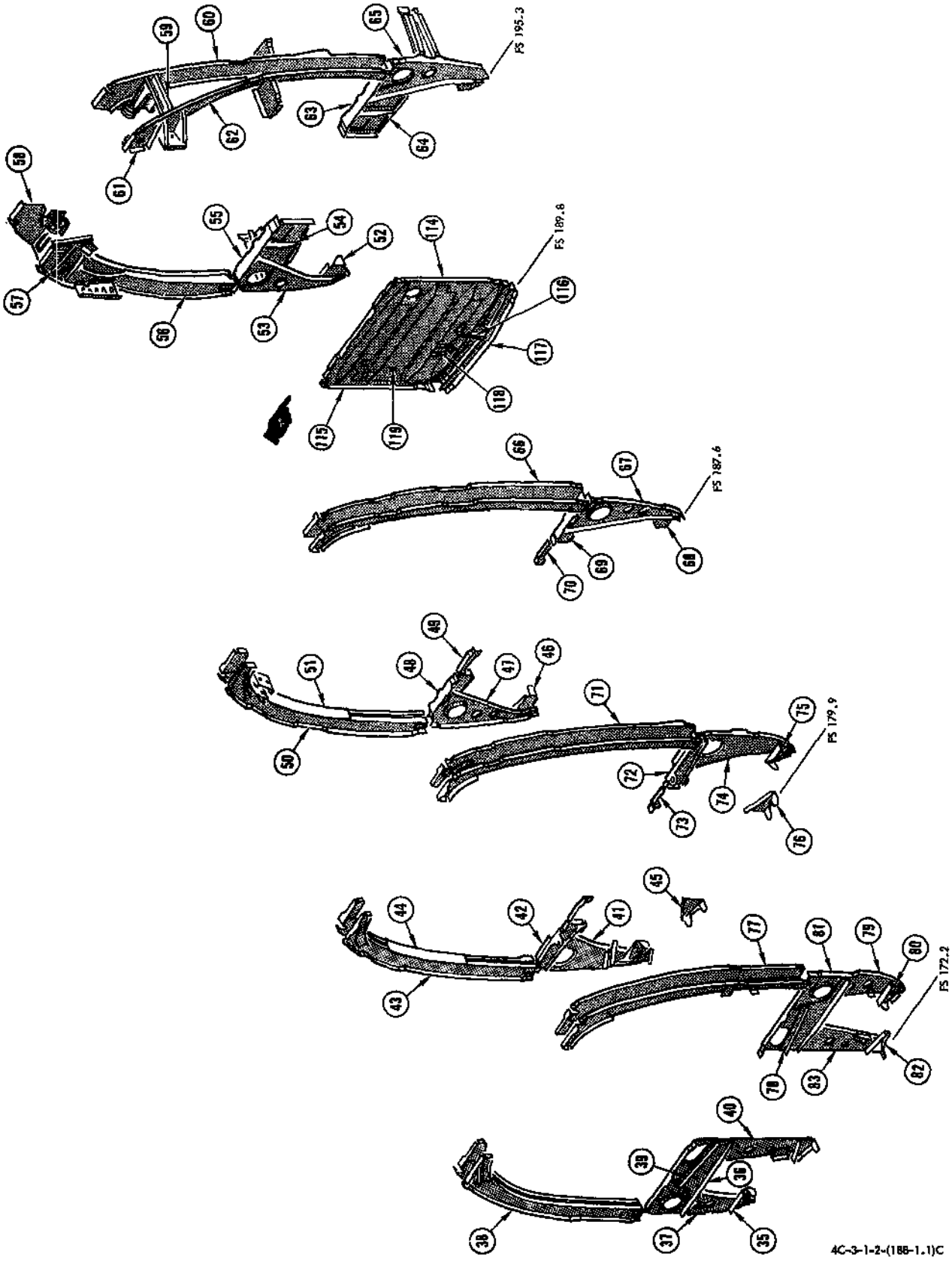
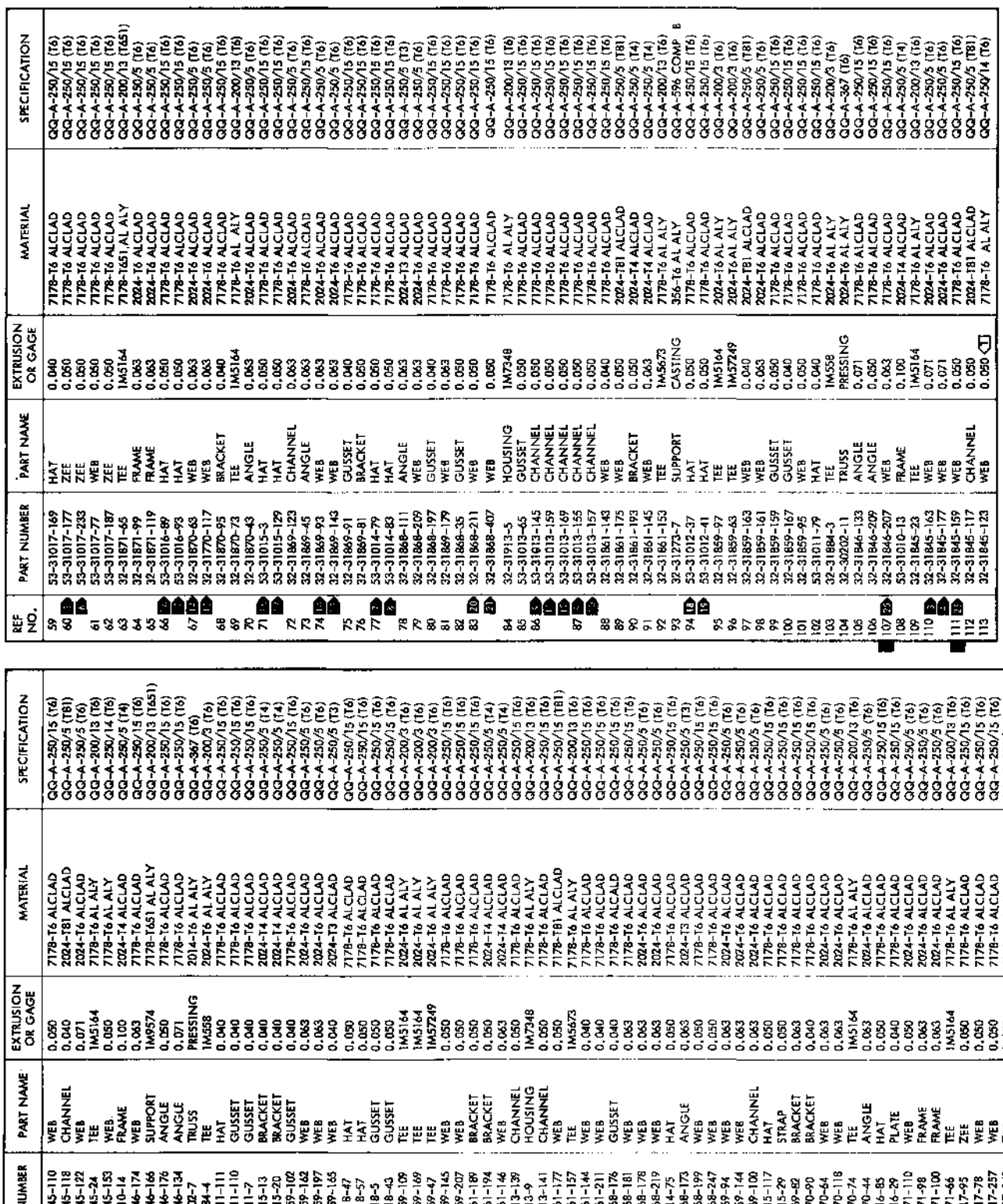


Figure 3-27. Frame Index, FS 139.84 thru FS 195.3 - F-4E AND F-4G (Sheet 1 A of 3)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31845-110	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-31845-118	CHANNEL	0.040	2024-T81 ALCLAD	QQ-A-250/5 (T81)
3	32-31845-122	WEB	0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
4	32-31845-24	TEE	1M5164	7178-T6 ALCLAD	QQ-A-200/13 (T6)
5	32-31845-153	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
6	32-31010-14	FRAME	0.100	2024-T4 ALCLAD	QQ-A-250/5 (T4)
7	32-31846-174	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31846-166	SUPPORT	1M9574	7178-T651 AL ALY	QQ-A-200/13 (T651)
9	32-31846-176	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31846-134	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-30202-7	TRUSS	PRESSING	2014-T6 AL ALY	QQ-A-367 (T6)
12	32-31884-4	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
13	53-31011-111	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	53-31011-110	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	53-31011-7	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-30315-13	BRACKET	0.040	2024-T4 ALCLAD	QQ-A-250/15 (T4)
17	32-30315-20	BRACKET	0.040	2024-T4 ALCLAD	QQ-A-250/15 (T4)
18	32-31859-102	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-31859-162	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
20	32-31859-197	WEB	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
21	32-31859-165	WEB	0.040	QQ-A-250/5	QQ-A-250/5 (T3)
22	53-31018-47	HAT	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	53-31018-57	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-31018-5	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	53-31018-43	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-31859-109	TEE	1M5164	2024-T6 AL ALY	QQ-A-200/3 (T6)
27	32-31859-169	TEE	1M5164	2024-T6 AL ALY	QQ-A-200/3 (T6)
28	32-31859-47	TEE	1M57249	2024-T6 AL ALY	QQ-A-200/3 (T6)
29	32-31859-145	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31859-207	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-31861-189	BRACKET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	32-31861-194	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
33	32-31861-146	WEB	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
34	53-31013-139	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	53-31913-9	HOUSING	1M7348	7178-T6 AL ALY	QQ-A-200/13 (T6)
36	53-31013-141	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	32-31861-177	WEB	0.050	7178-T81 ALCLAD	QQ-A-250/15 (T81)
38	32-31861-157	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
39	32-31861-144	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	32-31861-211	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
41	32-31868-176	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	32-31868-181	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43	32-31868-178	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
44	32-31868-219	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
45	53-31014-75	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46	32-31868-173	ANGLE	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
47	32-31868-199	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48	32-31868-247	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	32-31869-94	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
50	32-31869-144	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
51	32-31869-100	CHANNEL	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
52	53-31015-117	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53	53-31015-29	STRAP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
54	32-31869-82	BRACKET	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55	32-31870-90	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56	32-31870-64	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
57	32-31870-118	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
58	32-31870-74	TEE	1M5164	7178-T6 AL ALY	QQ-A-200/13 (T6)
59	32-31870-44	ANGLE	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
60	53-31016-85	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
61	32-31016-29	PLATE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
62	32-31871-110	WEB	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
63	32-31871-98	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
64	32-31871-100	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
65	32-31871-66	TEE	1M5164	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	53-31017-95	ZEE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
67	53-31017-78	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
68	53-31017-257	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
69	53-31017-140	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
70	53-31017-169	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	53-31017-177	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
72	53-31017-233	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
73	53-31017-77	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
74	53-31017-187	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
75	32-31871-65	TEE	1M5164	7178-T651 AL ALY	QQ-A-200/13 (T651)
76	32-31871-99	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
77	32-31871-119	FRAME	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
78	53-31016-89	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
79	53-31016-93	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
80	53-31870-63	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
81	32-31770-117	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
82	32-31870-95	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
83	32-31870-73	TEE	1M5164	7178-T6 AL ALY	QQ-A-200/13 (T6)
84	32-31870-43	ANGLE	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
85	53-31015-3	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
86	53-31015-129	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
87	32-31869-123	CHANNEL	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
88	32-31869-45	ANGLE	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
89	32-31869-93	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
90	32-31869-143	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
91	32-31869-91	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
92	32-31869-81	BRACKET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
93	53-31014-79	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
94	53-31014-83	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
95	32-31868-111	ANGLE	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
96	32-31868-211	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
97	32-31868-407	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
98	32-31913-5	HOUSING	1M7348	7178-T6 AL ALY	QQ-A-200/13 (T6)
99	53-31013-65	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
100	53-31913-145	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
101	53-31013-169	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
102	53-31013-155	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
103	53-31013-157	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
104	32-31861-143	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
105	32-31861-175	WEB	0.050	2024-T81 ALCLAD	QQ-A-250/5 (T81)
106	32-31861-193	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
107	32-31861-145	WEB	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
108	32-31861-153	TEE	1M5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
109	32-31273-7	SUPPORT	CASTING	356-T6 AL ALY	QQ-A-596 COMP B
110	53-31012-37	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
111	53-31012-41	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
112	32-31859-97	TEE	1M5164	2024-T6 AL ALY	QQ-A-200/3 (T6)
113	32-31859-63	TEE	1M57249	2024-T6 AL ALY	QQ-A-200/3 (T6)
114	32-31859-163	WEB	0.040	2024-T81 ALCLAD	QQ-A-250/5 (T81)
115	32-31859-161	WEB	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
116	32-31859-159	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
117	32-31859-167	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
118	32-31859-95	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
119	53-31011-79	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
120	32-31884-3	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
121	32-30202-11	TRUSS	PRESSING	2024-T6 AL ALY	QQ-A-367 (T6)
122	32-31846-133	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
123	32-31846-209	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
124	32-31846-207	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
125	53-31010-13	FRAME	0.100	2024-T4 ALCLAD	QQ-A-250/5 (T4)
126	32-31845-23	TEE	1M5164	7178-T6 AL ALY	QQ-A-200/13 (T6)
127	32-31845-163	WEB	0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
128	32-31845-177	WEB	0.071	2024-T6 ALCLAD	QQ-A-250/5 (T6)
129	32-31845-159	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
130	32-31845-117	CHANNEL	0.050	2024-T81 ALCLAD	QQ-A-250/5 (T81)
131	32-31845-123	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)

4C-3-1-2-(188-2)E

Figure 3-27. Frame Index, FS 139.84 thru FS 195.3 - F-4E AND F-4G (Sheet 2 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
114	32-30217-61	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
115	32-30217-63	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
116	32-30217-81	CHANNEL	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
117	32-30217-75	CAP	1M7560	7178-T6 AL ALY	QQ-A-200/13 (T6)
118	32-30217-77	CHANNEL	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
119	32-30217-241	WEB	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-30217-251	WEB	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)

Notes

(1) THIS PART HAS BEEN CHEMICALLY MACHINED FROM THE STOCK THICKNESS LISTED.

(2) F-4E 66-284 THRU 73-01164, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201 AND 73-01202 AND F-4G.

(3) F-4E 66-284 THRU 66-367.

(4) F-4E 66-368 AND UP AND F-4G.

(5) F-4E 66-284 THRU 67-219.

(6) F-4E 67-220 AND UP AND F-4G.

(7) F-4E 66-284 THRU 67-267.

(8) F-4E 67-268 AND UP AND F-4G.

(9) F-4E 66-284 THRU 66-338.

(10) F-4E 66-339 AND UP AND F-4G.

(11) F-4E 66-339 THRU 67-285.

(12) F-4E 67-268 AND UP AND F-4G.

(13) F-4E 66-368 THRU 67-398.

(14) F-4E 66-284 THRU 67-398.

(15) F-4E 68-303 AND UP AND F-4G.

(16) F-4E 66-284 THRU 68-331.

(17) F-4E 68-332 AND UP AND F-4G.

(18) F-4E 66-284 THRU 68-494.

(19) F-4E 68-495 AND UP AND F-4G.

(20) F-4E 66-284 THRU 71-236 AND F-4G.

(21) F-4E 71-237 AND UP.

(22) F-4E 73-01165 THRU 73-01168, 73-01171 THRU 73-01177, 73-01180 THRU 73-01189, 73-01192 THRU 73-01200, AND 73-01203 AND UP.

(23) F-4E 66-284 THRU 69-7578.

(24) F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 AND UP.

(25) F-4E AND MODIFIED ON F-4G.

(26) F-4E 66-368 AND UP AND MODIFIED ON F-4G.

4C-3-1-2-(188-3)E

Figure 3-27. Frame Index, FS 139.84 thru FS 195.3 - F-4E AND F-4G (Sheet 3 of 3)

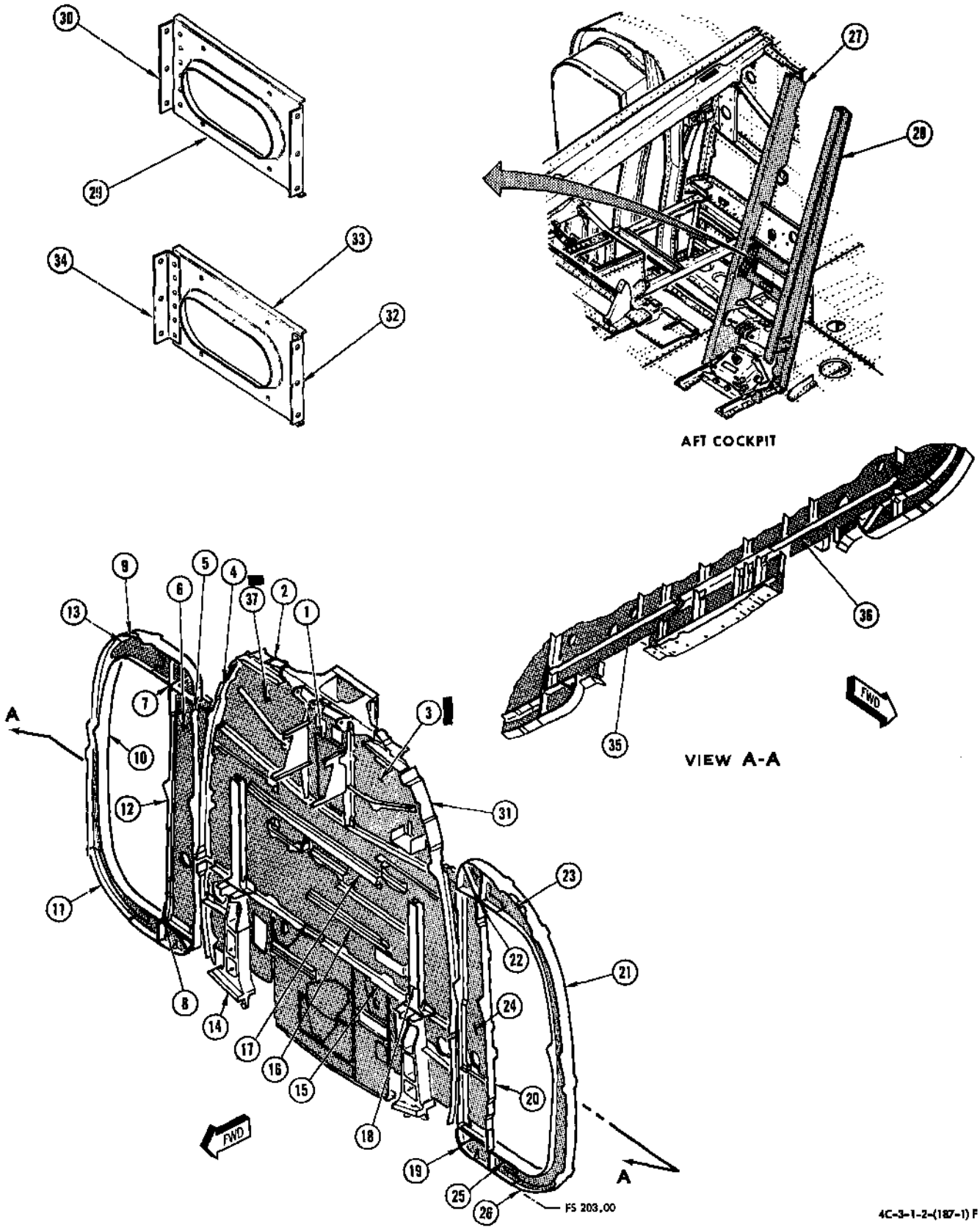


Figure 3-28. Bulkhead Index, FS 203.00 - F-4E AND F-4G (Sheet 1 of 2)

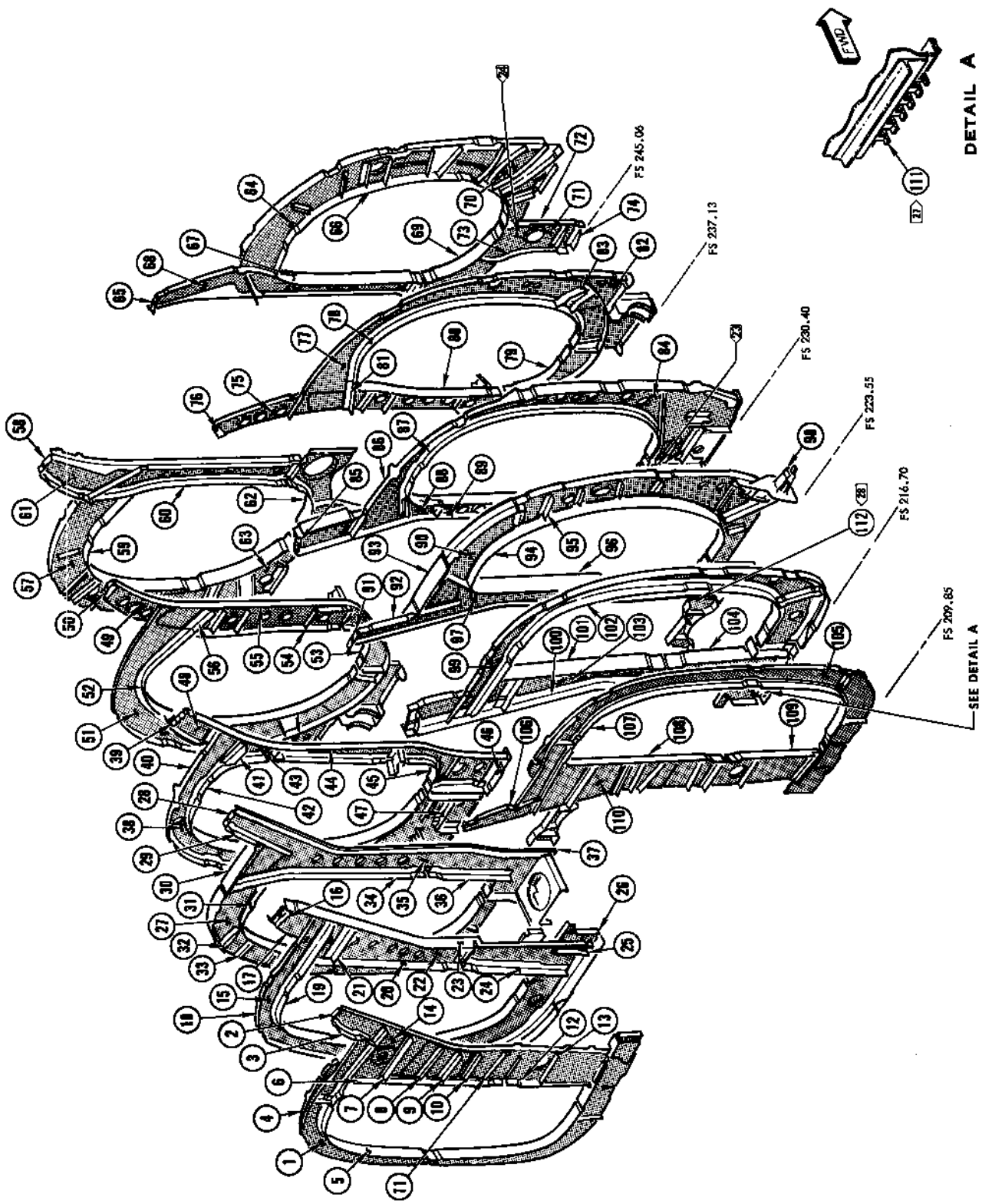
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31043-2219	DOOR ASSEMBLY	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-31207-93,-91	TEE	1M5653	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-310006-25	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-310006-143	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	53-31207-77	CAP	1M5647	7178-T651 AL ALY	QQ-A-200/13 (T651)
5	53-310006-114,-113	CAP	1M2251	7178-T651 AL ALY	QQ-A-200/13 (T651)
6	53-310006-63	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310006-77	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310006-111	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310006-139	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	32-31461-10	CORNER FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
8	32-31460-8	CORNER FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
9	32-31043-462	CAP	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31043-2244	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	32-31043-1058	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-31043-2242	CAP	1M5648	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	32-31043-1916,-1915	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
14	32-31842-16,-15	SUPPORT	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
15	32-31043-1445,-1709	CAP	1M9569	7178-T651 AL ALY	QQ-A-200/13 (T651)
16	53-31025-773	HAT	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	53-31025-467	HAT	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31843-41,-9	SUPPORT ASSEMBLY	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
19	32-31460-7	CORNER FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
20	32-31043-2241	CAP	1M5648	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	32-31043-2173,-2174	DOUBLER	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
22	32-31461-9	CORNER FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
23	32-31043-461	CAP	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-310006-61	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310006-75	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-310006-109	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	32-31043-2243	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	32-31043-1057	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-31937-25	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-31937-43	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-31937-51	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-31937-69	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-31937-59	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
28	32-31937-33	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-31937-45	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-31937-75	RAIL	MACHINED	7178-T651 AL ALY	QQ-A-200/13 (T651)
29	53-31052-55	SUPPORT	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
30	53-31052-11	ANGLE (18)	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
31	53-31043-2237	CAP	1M5647	7178-T651 AL ALY	QQ-A-200/13 (T651)
32	53-31052-91	ANGLE	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
33	53-31052-89	SUPPORT	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
34	53-31052-93	ANGLE	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
35	53-310006-47	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310006-103	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
36	53-310006-49	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-310006-97	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
37	53-310006-87	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
	53-310006-177	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
	53-310006-181	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)

Notes

- F-4E 66-284 THRU 67-247.
- F-4E 67-248 AND UP AND MODIFIED ON F-4G.
- F-4E 66-284 THRU 66-338.
- F-4E 66-339 THRU 66-367.
- F-4E 66-368 THRU 67-282.
- F-4E 67-283 AND UP AND MODIFIED ON F-4G.
- F-4E 66-368 AND UP AND MODIFIED ON F-4G.
- F-4E 66-284 THRU 66-342.
- F-4E 66-343 THRU 66-367.
- F-4E 66-368 THRU 68-365.
- F-4E 68-366 THRU 68-409.
- F-4E 68-410 AND UP AND F-4G.
- F-4E 66-284 THRU 66-342.
- F-4E 66-343 THRU 68-538 AND F-4E/G 69-236 THRU 69-7285.
- F-4E/G 69-7286 THRU 69-7588; F-4E 69-7589 AND UP.
- F-4E 66-284 THRU 69-7589 AND F-4G.
- F-4E 71-224 AND UP.
- (18) FOR REPOSITIONING SEE FIGURE 3-37.
- F-4E 66-284 THRU 66-338.
- F-4E 66-284 THRU 68-451.
- F-4E 66-339 AND UP AND F-4G.
- F-4E 68-452 THRU 68-538.
- F-4E 69-236 AND UP AND F-4G.

4C-3-1-2-(187-2)F

Figure 3-28. Bulkhead Index, FS 203.00 - F-4E AND F-4G (Sheet 2 of 2)



4C-3-1-2-(235-1)F

Figure 3-29. Frame Index, FS 209.85 thru FS 245.06 F-4E AND F-4G (Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31161-488	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-732	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-31161-452	CLIP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-31161-221	CAP	1M2166	2024-T4 AL ALY	QQ-A-200/3 (T4)
4	32-31161-193	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-733	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-31161-704	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
6	32-31161-130	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
7	32-31161-491	DOUBLER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31161-246	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-31161-244	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31161-253	STIFFENER	1M5649	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-31161-457	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-31161-112	CAP	1M5719	2024-T4 AL ALY	QQ-A-250/15 (T6)
13	32-31161-260	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-742	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-31161-716	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-744	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31044-850	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-864	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-31044-718	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-31044-262	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31044-185	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-31044-816	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
20	32-31044-833	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
21	32-31044-809	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31044-628	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-31044-732	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-31044-284	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
25	32-31044-281	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-31044-278	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	53-31211-14	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-46	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-52	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-31162-224	CLIP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31162-232	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31162-230	CAP	1M5718	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	32-31162-710	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
32	32-31162-16	CLIP	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	32-31162-18	CLIP	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
34	32-31162-32	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
35	53-31211-16	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	32-31162-130	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
37	32-31162-752	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
38	32-31045-738	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-833	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-867	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39	32-31045-288	CLIP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	32-31045-724	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	32-31045-62	CLIP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	32-31045-784	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
43	32-31045-808	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	32-31045-734	CAP	1M5612	7178-T6 AL ALY	QQ-A-200/13 (T6)
45	32-31045-130	CAP	1M5612	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31045-852	CAP	1M5612	2024-T4 AL ALY	QQ-A-200/3 (T4)
46	32-31045-112	CAP	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
47	32-31045-485	STIFFENER	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
48	32-31045-742	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	32-31163-710	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
50	32-31163-24	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	32-31163-498	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52	32-31163-456	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
53	32-31163-114	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
54	32-31163-202	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
55	32-31163-138	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56	32-31163-426	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
57	32-31046-726	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	32-31046-236	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	32-31046-780	CAP	1M5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
60	32-31046-790	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
61	32-31046-756	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
62	32-31046-206	CAP	1M5194	2024-T4 AL ALY	QQ-A-200/3 (T4)
63	32-31046-758	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64	32-31046-725	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-803	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
65	32-31046-235	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
66	32-31046-779	CAP	1M5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
67	32-31046-789	ANGLE	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
68	32-31046-755	WEB	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
69	32-31046-205	CAP	1M5194	2024-T4 AL ALY	QQ-A-200/3 (T4)
70	32-31046-757	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	32-31046-207	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
72	32-31046-711	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
73	32-31046-257	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
74	32-31046-197	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
75	32-31163-729	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31213-49	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
76	32-31163-23	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77	32-31163-497	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-55	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(235-2)F

Figure 3-29. Frame Index, FS 209.85 thru FS 245.06 F-4E AND F-4G (Sheet 2 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
78	32-31163-455	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
79	32-31163-113	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
80	32-31163-201	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
81	32-31163-425	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
82	32-31163-417	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
83	32-31163-721	BRACKET	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
84	32-31045-737	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-781	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-869	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31212-49	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
85	32-31045-287	CLIP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
86	32-31045-723	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
87	32-31045-297	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31045-849	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
88	32-31045-807	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
89	32-31045-733	CAP	1M5612	7178-T6 AL ALY	QQ-A-200/13 (T6)
90	53-31211-13	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-45	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-47	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-51	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
	53-31211-65	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
91	32-31162-223	CLIP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
92	32-31162-231	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
93	32-31162-229	CAP	1M5718	7178-T6 AL ALY	QQ-A-200/13 (T6)
94	32-31162-709	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
95	32-31162-17	CLIP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
96	32-31162-31	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
97	53-31211-25	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31211-33	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
98	32-30354-5	SUPPORT	FORGING	7075-T7352 AL ALY	QQ-A-367 (T7352)
99	32-31044-849	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-863	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31210-9	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31210-19	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
100	32-31044-731	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
101	32-31044-13	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
102	32-31044-815	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
103	32-31044-827	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-879	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-1007	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
104	32-31044-283	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
105	32-31161-487	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-731	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
106	32-31161-215	CAP	1M2166	2024-T4 AL ALY	QQ-A-200/3 (T4)
107	32-31161-703	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
108	32-31161-129	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
109	32-31161-111	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
110	32-31161-715	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-743	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
111	32-31044-207,-208	HINGE (27)	0.625	7075-T6 AL ALY	QQ-A-250/12 (T6)
112	32-31880-3, -4	FRAME (28)	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31880-7	FRAME (28)	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)

Notes

- F-4E 66-284 THRU 66-295, 66-297, AND 66-300.
- F-4E 66-296, 66-298, 66-299, AND 66-301 AND UP AND MODIFIED ON F-4G.
- F-4E 66-284 THRU 66-367.
- F-4E 66-368 AND UP AND F-4G.
- F-4E 66-284 THRU 66-338.
- F-4E 66-339 THRU 66-367.
- F-4E 66-284 THRU 67-219.
- F-4E 67-220 THRU 68-538 AND F-4E/G 69-236 THRU 69-357.
- F-4E 66-368 THRU 67-382.
- F-4E 67-383 THRU 68-451.
- F-4E 66-368 THRU 68-451
- F-4E 68-452 THRU 71-236 AND F-4G.
- F-4E 66-284 THRU 68-538.
- F-4E 69-236 AND UP AND F-4G.
- F-4E 71-237 AND UP.
- F-4E/G 69-358 THRU 69-7588; F-4E 69-7589 AND UP.
- F-4E 66-368 THRU 71-236 AND F-4G.
- F-4E 66-368 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
- F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
- F-4E 66-284 THRU 67-341.
- F-4E 67-342 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
- F-4E/G 69-7579 THRU 69-7588; F-4E 69-7589 AND UP.
- (27) FOR REPAIR, SEE FIGURE 3-35.
- (28) FOR REPAIR, SEE FIGURE 3-36.
- F-4E 66-284 THRU 71-236 LEFT SIDE AND F-4E 66-284 AND UP RIGHT SIDE AND F-4G.
- F-4E 71-237 AND UP LEFT SIDE.
- (27) FOR REPLACEMENT, SEE FIGURE 3-37B.
- (28) FOR REPLACEMENT, SEE FIGURE 3-37C.
- F-4E 68-452 AND UP AND F-4G.

4C-3-1-2-(235-3)F

Figure 3-29. Frame Index, FS 209.85 thru FS 245.06 F-4E AND F-4G (Sheet 3 of 3)

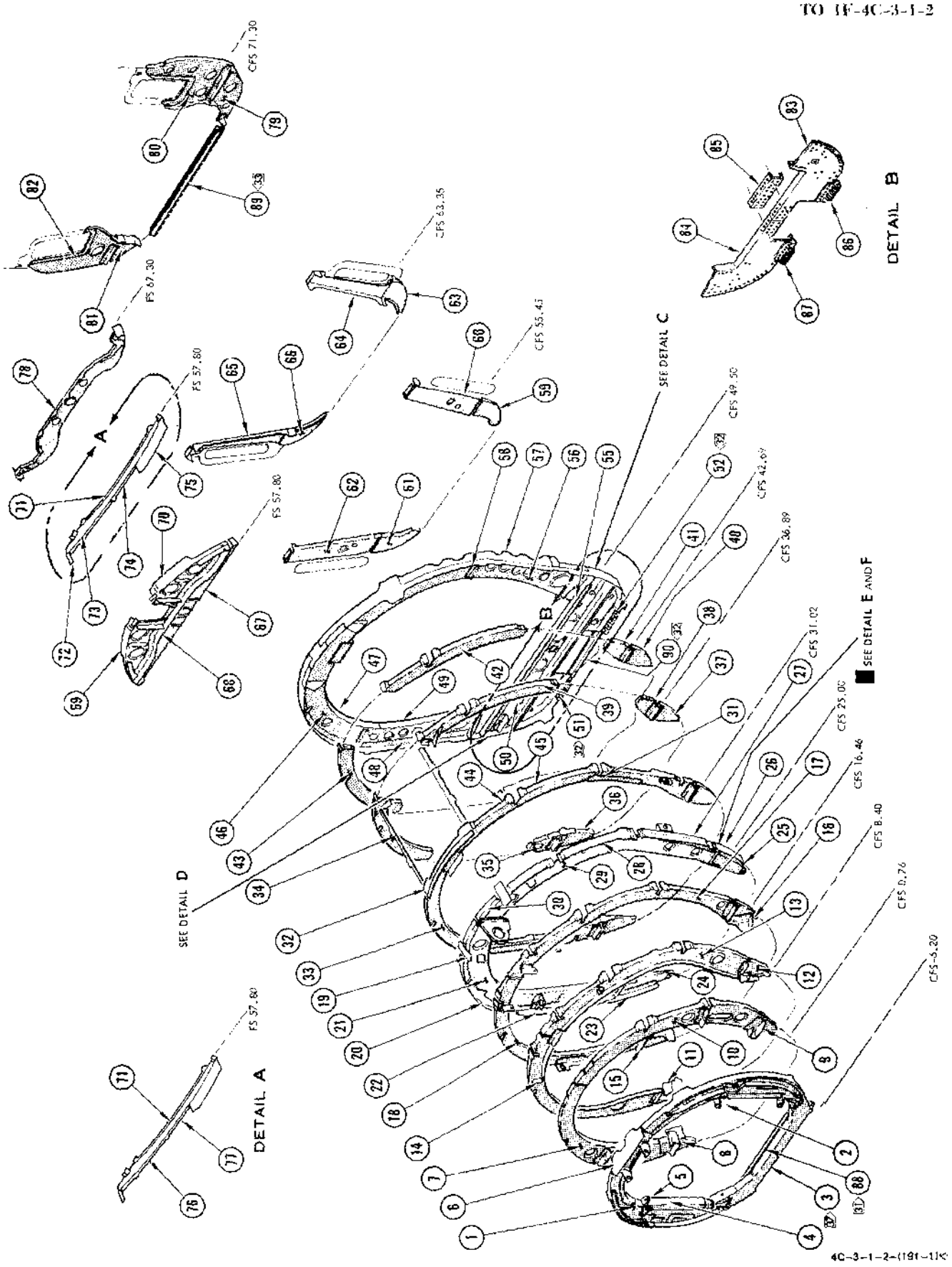


Figure 3-30. Frame Index, CFS-6.20 thru CFS 71.30 - RF-4 (Sheet 1 of 3)

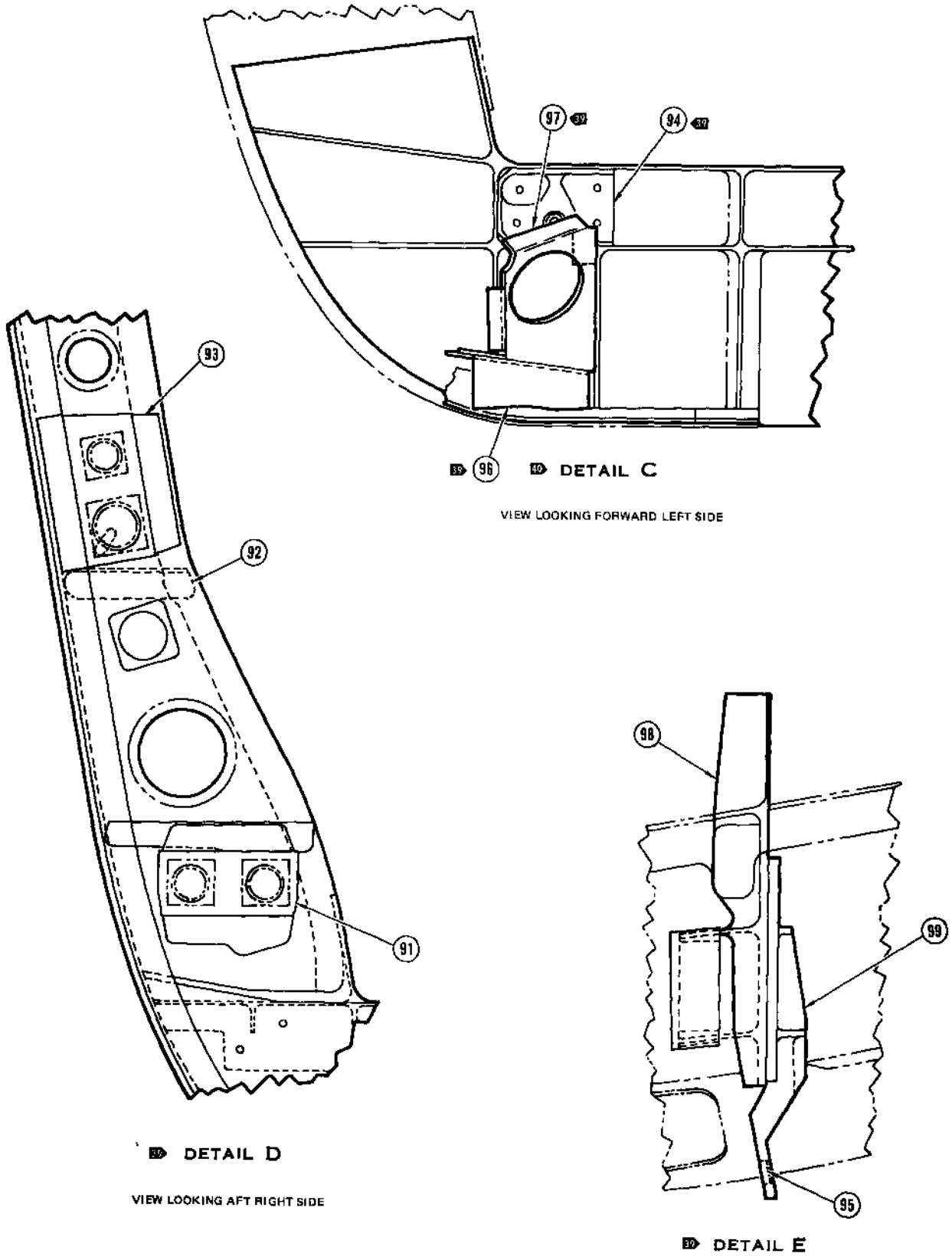
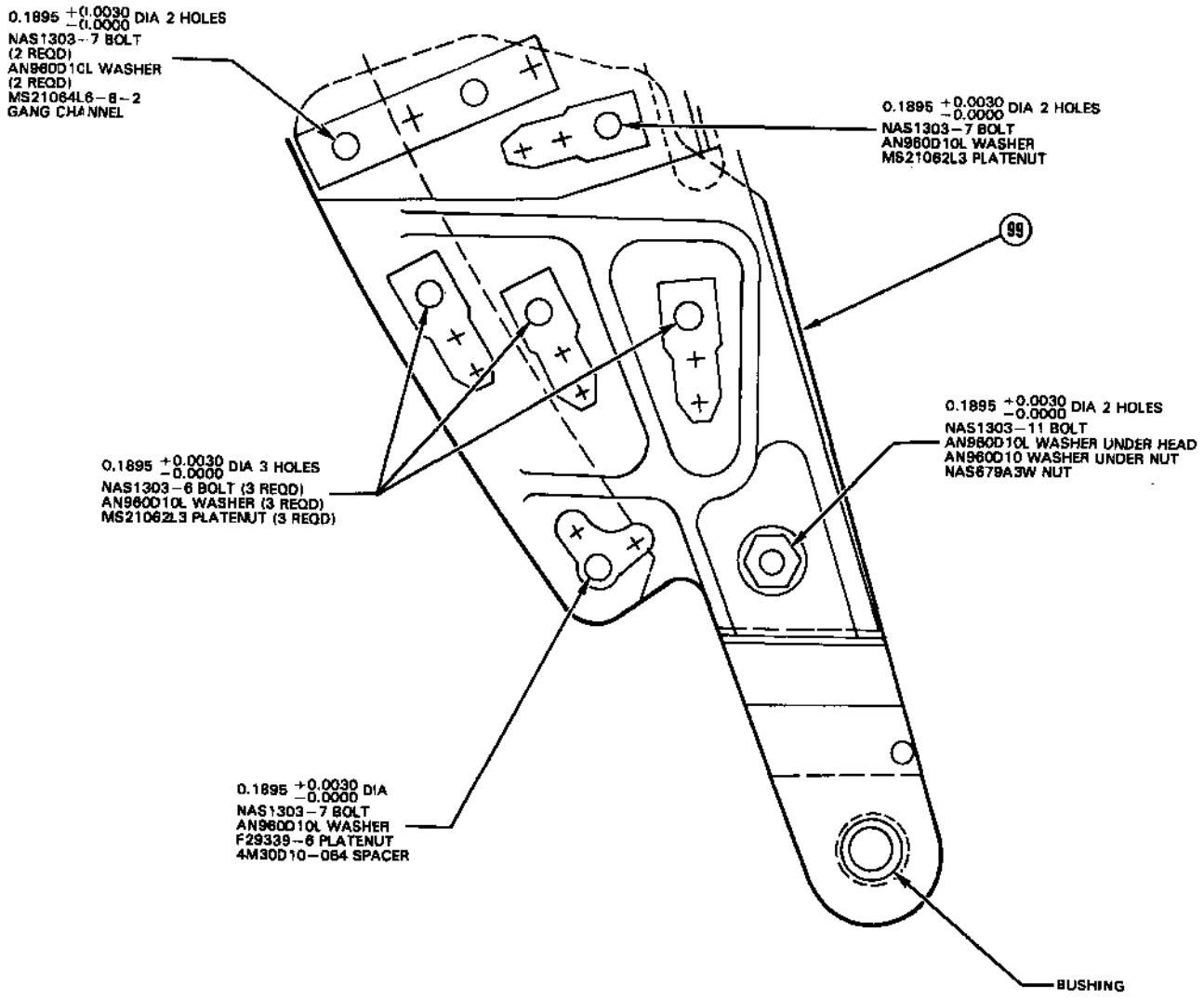


Figure 3-30. Frame Index, CFS-6.20 thru CFS 71.30 - RF-4 (Sheet 1A of 3)



DETAIL F

4C−3−1−2−(191−1.2)K

Figure 3-30. Frame Index, CFS-6.20 thru CFS 71.30 - RF-4 (Sheet 1B of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-39006-9, -10	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39006-59, -60	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-39081-1	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
3	53-39067-1	SUPPORT	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
4	53-39006-8, -7	BRACKET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-39066-1	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
6	53-39019-3	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	53-39019-5	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
7	53-39026-24	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	53-39218-3	FITTING	CASTING	356-T6 AL ALY	QQ-A-596 (T6)
9	53-39218-4	FITTING	CASTING	356-T6 AL ALY	QQ-A-596 (T6)
10	53-39026-23	FRAME	0.040	7178-T6 AL ALY	QQ-A-250/15 (T6)
11	53-39219-4	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
12	53-39219-3	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
13	53-39027-27	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	53-39027-28	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	53-39220-4	FITTING	PRESSING	7075-T651 AL ALY	QQ-A-225/9 (T651)
	53-39185-4	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
16	53-39220-3	FITTING	PRESSING	7075-T651 AL ALY	QQ-A-225/9 (T651)
	53-39185-3	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
17	53-39028-3	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39028-57	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-39028-17	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	53-39007-8	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	53-39007-10	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	53-39007-4	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39007-80	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-39007-12	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	53-39007-40	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	53-39202-4	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
25	53-39202-3	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
26	53-39007-39	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
27	53-39007-11	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	53-39007-9	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
29	53-39007-3	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39007-79	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	53-39007-7	CAP	1M5564	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	53-39029-33	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39029-47	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	53-39029-27	DOUBLER	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	53-39029-34	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	53-39030-6	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	53-39030-10	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39030-31	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	53-39030-24	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	53-39030-23	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38	53-39030-9	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39	53-39030-5	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	53-39031-22	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
41	53-39031-7	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	53-39031-5	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39031-29	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43	53-39031-6	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	53-39031-8	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39031-31	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
45	53-39031-22	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46	53-39008-8	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39008-101	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39008-139	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	53-39008-65	ANGLE	1M2544	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-39008-137	CAP	1M2544	7178-T6 AL ALY	QQ-A-200/13 (T6)
48	53-39008-6	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53G39008-78	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-39008-93	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53G39008-79	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-39008-151	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
49	53-39008-10	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39008-105	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	53-39008-67	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53G39008-75	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-39008-153	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	DELETED				
	53-39068-8	HINGE	1M96118	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
52	DELETED				
	53-39068-7	HINGE	1M96118	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
53	DELETED				
54	DELETED				
55	53-39008-51	ZEE	1M2539	7178-T6 AL ALY	QQ-A-200/13 (T6)
56	53-39008-9	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(191-2)G

Figure 3-30. Frame Index, CFS-6.20 thru CFS 71.30 - RF-4 (Sheet 2 of 3)

REF NUMBER	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
57 (24)	53-39008-5	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
(26)	53G39008-77	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
(24)	53-39008-149	CAP	1M57333	7178-T6 AL ALY	QQ-A-200/13 (T6)
58	53-39008-7	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	53-39032-3	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60	53-39032-5	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
61	32-37010-3	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
62 (18)	53-39033-6	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(30)	32-37010-5	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(6)	32-37010-25	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63 (18)	53-39033-3	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(19)	53-39033-21	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64	53-39033-5	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
65	32-37011-3	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
66	32-37011-5	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
67	53-34057-5	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
68	53-34057-13	TEE	1M5654	7178-T6 AL ALY	QQ-A-200/13 (T6)
69	53-34057-30	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
70	53-34057-29	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	53-34056-9	CAP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
72 (15)	53-34056-39	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(16)	53-34056-50	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
73 (17)	53-34056-33	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
74 (11)	53-34056-31	CAP	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
75 (15)	53-34056-41	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(16)	53-34056-49	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
76 (14)	53-34056-11	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77 (24)	53-34056-7	CAP	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
78 (1)	53-34066-33	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(2)	53-34066-35	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(28)	53-34066-53	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
79	53-39034-7	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
80	53-39034-9	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
81	32-37012-5	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
82 (8)	32-37012-3	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(27)	32-37012-19	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
83 (13)	53G970345-3	FITTING	PLATE	7075-T7351 AL ALY	MMS-159 (T7351)
84 (12)	53G970344-3	FITTING	PLATE	7075-T7351 AL ALY	MMS-159 (T7351)
85 (13)	53-311070-3	SPLICE FITTING	PLATE	7075-T7351 AL ALY	MMS-159 (T7351)
86 (13)	53-311074-3	HINGE	1M96188	7178-T651 AL ALY	QQ-A-200/13 (T651)
87 (12)	53-311074-4	HINGE	1M96188	7178-T651 AL ALY	QQ-A-200/13 (T651)
88	53-39021-7 <31>	HINGE	1M96178	7075-T6 AL ALY	QQ-A-200/11 (T6)
89	53-39106-3 <33>	HINGE	1M66180	7178-T651 AL ALY	QQ-A-200/13 (T651)
90 (29)	53-39068-9 <32>	HINGE	1M96267	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
91 (39)	53G973109-13	BRACKET	0.040	2024-T42 AL ALY	QQ-A-250/4 (T42)
92 (37)	53G973109-11	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
93 (38)	53G973109-3	BRACKET	0.040	2024-T42 AL ALY	QQ-A-250/4 (T42)
94 (35)	53G971047-3	FITTING	1.125	2024-T351 AL ALY	QQ-A-260/4 (T351)
95 (34)	53-39275-11	BUSHING	0.562	303 CRES	QQ-S-764, CLASS 303 5E COND. B
96 (39)	53-39325-19	MOUNT	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
97 (35)	53-39325-17	BRACKET	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
98 (19)	53G39202-5, -6	FITTING	0.125	7075-T7351 AL ALY	MMS-159 (T7351)
99 (39)	53G973108-3,-4	FITTING	0.125	7075-T7351 AL ALY	MMS-159 (T7351)

Notes

(1) RF-4 63-7742 THRU 63-7763.
(2) RF-4 64-997 THRU 72-156.
(3) RF-4 63-7742 THRU 64-1016.
(4) RF-4 64-1017 THRU 72-156.
(5) RF-4 63-7742 THRU 66-406.
(6) RF-4 66-407 THRU 72-156.
(7) RF-4 64-997 THRU 67-442.
(8) RF-4 63-7742 THRU 67-442.
(9) RF-4 63-7742 THRU 63-7749.
(10) RF-4 63-7750 THRU 72-156.
(11) DELETED.
(12) RF-4 69-360 THRU 69-375.
(13) RF-4 63-7742 THRU 64-1013.
(14) RF-4 63-7742 THRU 64-1037.
(15) RF-4 64-1038 THRU 64-1049.
(16) RF-4 64-1050 THRU 72-156.
(17) RF-4 64-1038 THRU 72-156.
(18) RF-4 63-7742 THRU 65-838.
(19) RF-4 65-839 THRU 72-156.
(20) DELETED.
(21) RF-4 63-7750 THRU 67-442.
(22) RF-4 67-443 THRU 72-156.
(23) RF-4 63-7742 THRU 69-375.
(24) RF-4 69-376 THRU 72-156.
(25) RF-4 63-7742 THRU 69-375 BEFORE TO 1F-4(R)C-647.
(26) RF-4 63-7742 THRU 69-375 AFTER TO 1F-4(R)C-647.
(27) RF-4 63-7742 THRU 67-442 BEFORE TO 1F-4(R)C-647.
(28) RF-4 67-443 THRU 69-375 BEFORE TO 1F-4(R)C-647.
(29) RF-4 67-443 THRU 69-375 AFTER TO 1F-4(R)C-647.
(30) RF-4 64-1014 THRU 66-406.
(31) FOR REPLACEMENT, SEE FIGURE 3-37D.
(32) FOR REPLACEMENT, SEE FIGURE 3-37E.
(33) FOR REPLACEMENT, SEE FIGURE 3-37F.
(34) DELETED.
(35) DELETED.
(36) DELETED.
(37) FOR REPLACEMENT, SEE FIGURE 3-36B.
(38) RF-4 63-7742 THRU 67-442 AFTER TO 1F-4(R)C-647.
(39) RF-4C 67-451, 67-453, 68-549, 68-577, 68-587, 68-593, 69-360, 69-364 THRU 69-368, 68-371 THRU 69-375, AFTER TO 1F-4(R)C-671.

4C-3-1-2-(191-3)K

Figure 3-30. Frame Index, CFS-6.20 thru CFS 71.30 - RF-4 (Sheet 3 of 3)

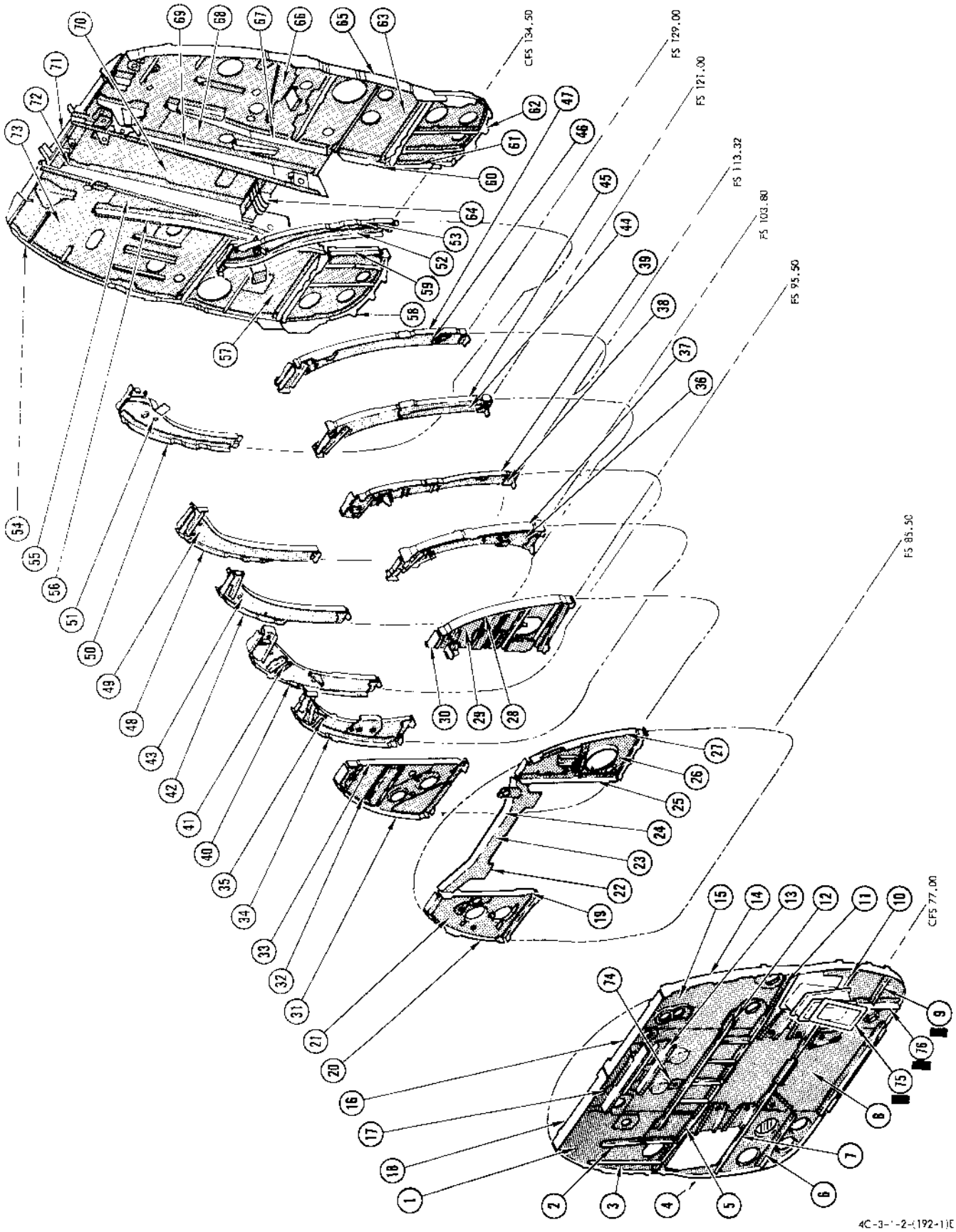


Figure 3-31. Frame and Bulkhead Index, CFS 77.00 thru CFS 134.50 RF-4 (Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-34005-9	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34005-265	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34005-269	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34005-473	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-34005-235	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-34005-27	TEE	1M5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-34005-71	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	53-34005-25	TEE	1M57358	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-34005-131	TEE	1M57358	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	53-34005-193	TEE	1M5194	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-34005-433	TEE	1M5194	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	53-34005-39	TEE	1M558	7178-T6 AL ALY	QQ-A-200/13 (T6)
7	53-34005-411	TEE	1M5331	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	53-34005-425	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34005-429	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	53-34005-37	TEE	1M558	7178-T6 AL ALY	QQ-A-200/13 (T6)
10	53-34005-409	TEE	1M57391	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	53-34005-191	TEE	1M5194	7178-T6 AL ALY	QQ-A-200/13 (T6)
12	53-34005-59	TEE	1M5616	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-34005-273	TEE	1M5616	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	53-34005-239	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	53-34005-5	TEE	1M57358	7178-T73 AL ALY	QQ-A-200/13 (T73)
	53-34005-453	TEE	1M57358	7178-T73 AL ALY	QQ-A-200/13 (T73)
15	53-34005-7	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-34005-257	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
16	53-34005-73	TEE	1M57246	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	53-34005-423	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-34005-74	TEE	1M57246	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-31114-79	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-31114-69	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	32-31114-81	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31114-111	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-80504-7	CAP	1M2351	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-80504-27	CAP	1M2351	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	53-80504-11	WEB	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-80504-9	CAP	1M2350	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-31025-33	TEE	1M5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31025-169	TEE	1M5511	7178-T651 AL ALY	QQ-A-200/13 (T651)
26	32-31025-99	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31025-109	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31025-127	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31025-143	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-31025-73	CAP	1M5533	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-31026-81	CAP	1M5534	7178-T6 AL ALY	QQ-A-200/13 (T6)
29	32-31026-77	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
30	32-31026-21	CHANNEL	1M7273	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	32-31239-51	CAP	1M5581	7178-T6 AL ALY	QQ-A-200/13 (T6)
32	32-31239-65	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31239-67	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31239-113	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	32-31239-5	CHANNEL	1M7273	7178-T6 AL ALY	QQ-A-250/14 (T6)
34	32-31027-66	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31027-110	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
35	32-31027-107	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	32-31027-101	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	32-31027-65	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31027-109	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31027-119	CAP	1M5513	7178-T6 AL ALY	QQ-A-200/13 (T6)
38	32-31028-157	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31028-159	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31028-169	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39	32-31028-73	CAP	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	32-31028-74	CAP	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	32-31028-163	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31028-171	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31028-179	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	32-31436-25	CAP	1M5653	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31436-141	CAP	1M5653	7178-T6 AL ALY	QQ-A-200/13 (T6)
43	32-31436-37	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31436-137	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	32-31029-21	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
45	32-31029-17	ANGLE	1M2153	7178-T6 AL ALY	QQ-A-200/13 (T6)

4C-3-1-2-(192-2)C

Figure 3-31. Frame and Bulkhead Index, CFS 77.00 thru CFS 134.50 - RF-4 (Sheet 2 of 3)

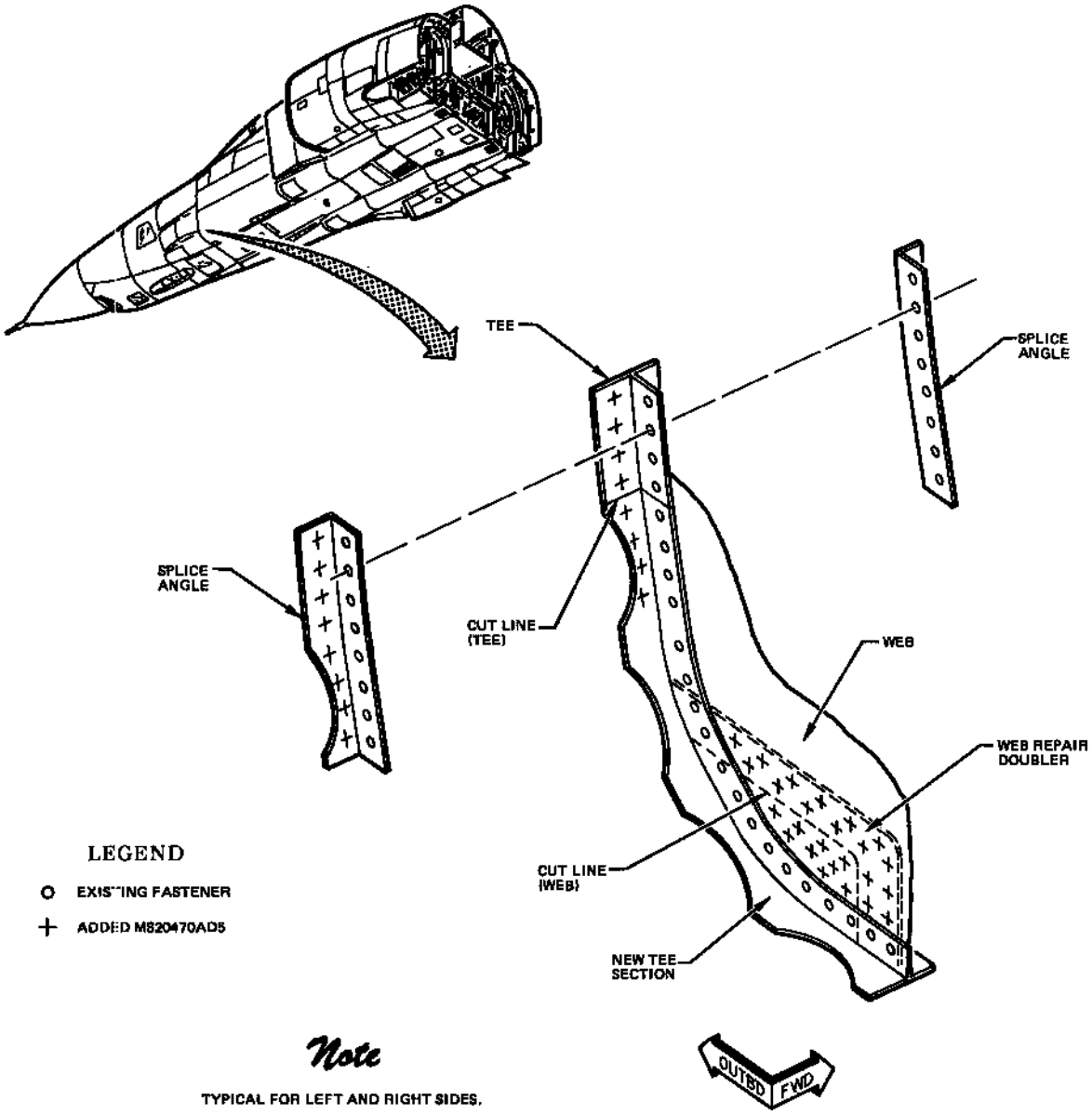
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
46	32-31030-19	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47 [16]	32-31030-27	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
[17]	32-31030-53	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
48	32-31453-29	CAP	1M5574	7178-T6 AL ALY	QQ-A-200/13 (T6)
49	32-31453-47	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	32-31033-50	ANGLE	1M2149	7178-T6 AL ALY	QQ-A-200/13 (T6)
51 [37]	32-31033-48	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
[38]	32-31033-77	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
[39]	32-31033-101	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
52 [37]	32-31033-47	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
[40]	32-31033-75	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
53	32-31033-49	ANGLE	1M2149	7178-T6 AL ALY	QQ-A-200/13 (T6)
54 [18]	53-31024-237	CAP	1M5258	7178-T6 AL ALY	QQ-A-200/13 (T6)
[19]	53-31024-851	CAP	1M5258	7178-T6 AL ALY	QQ-A-200/13 (T6)
55 [25]	53-31032-25	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
[26]	53-31032-147	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
56	53-31024-181	TEE	1M616	7178-T6 AL ALY	QQ-A-200/13 (T6)
57 [18]	53-31024-739	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[17]	32-34006-7	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	53-31024-290	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	53-31024-235	TEE	1M5194	7178-T6 AL ALY	QQ-A-200/13 (T6)
60	53-31024-277	TEE	1M5175	7178-T6 AL ALY	QQ-A-200/13 (T6)
61	53-31024-285	TEE	1M5194	7178-T6 AL ALY	QQ-A-200/13 (T6)
62	53-31024-289	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63 [18]	53-31024-445	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[19]	32-34006-3	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64 [6]	32-31939-11	FITTING	FORGING	4340 STEEL ALLOY	AMS 6427 (C)
[22]	32-31939-13	FITTING	FORGING	4340 STEEL ALLOY	AMS 6427 (C)
65 [18]	53-31024-263	CAP	1M5258	7178-T6 AL ALY	QQ-A-200/13 (T6)
[19]	53-31024-849	CAP	1M5258	7178-T6 AL ALY	QQ-A-200/13 (T6)
66 [11]	53-31024-193	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[20]	53-31024-853	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
[32]	53-31024-875	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
67	53-31024-73	TEE	1M5175	7178-T6 AL ALY	QQ-A-200/13 (T6)
68 [18]	53-31032-23	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
[23]	53-31032-55	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
[24]	53-31032-145	WEB	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
[10]	53-31032-173	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
69 [21]	53-31039-3	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
[24]	53-31039-15	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
70 [12]	53-31032-35	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[11]	53-31032-69	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	53-34171-5	TEE	1M5447	7178-T6 AL ALY	QQ-A-200/13 (T6)
72 [28]	53-31040-3	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
[32]	53-31040-15	SEAT RAIL	1M2501	7178-T6 AL ALY	QQ-A-200/13 (T6)
[29]	53-31040-19	SEAT RAIL	1M97160	7178-T651 AL ALY	QQ-A-200/13 (T651)
73	53-31024-711	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31024-855	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
74 [45]	53G34005-45	DOUBLER	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
75	53-83501-3 <47>	DIFFUSER	CASTING	AZ91C MAGNESIUM ALY	QQ-M-56 (T6)
76	53-34005-35	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)

Notes

[5] RF-4 63-7742.
[7] RF-4 63-7743 THRU 72-156.
[8] RF-4 63-7742 THRU 63-7763.
[9] RF-4 64-997 THRU 64-1013.
[10] RF-4 64-1014 THRU 72-156.
[6] RF-4 64-997 THRU 72-156.
[7] RF-4 63-7742 THRU 64-1013.
[8] RF-4 63-7742 THRU 64-1061.
[9] RF-4 64-1062 THRU 66-387.
[10] RF-4 63-7743 THRU 64-1017.
[11] RF-4 64-997 THRU 64-1077.
[12] RF-4 63-7742 THRU 63-7749.
[13] RF-4 63-7750 THRU 72-156.
[14] RF-4 64-1018 THRU 72-156.
[15] RF-4 64-1078 THRU 72-156.
[16] RF-4 63-7742 THRU 65-864.
[17] RF-4 65-865 THRU 72-156.
[18] RF-4 63-7742 THRU 64-1037.
[19] RF-4 64-1038 THRU 72-156.
[20] RF-4 63-1038 THRU 64-1061.
[21] RF-4 69-371 THRU 72-156.
[22] RF-4 64-1062 THRU 72-156.
[23] RF-4 63-7742 THRU 65-838.
[24] RF-4 65-839 THRU 72-156.
[25] RF-4 63-7742 THRU 66-433.
[26] RF-4 66-434 THRU 72-156.
[27] RF-4 64-1038 THRU 66-342.
[28] RF-4 66-343 THRU 67-461.
[29] RF-4 64-1014 THRU 66-433.
[30] RF-4 67-462 THRU 72-156.
[31] RF-4 64-997 THRU 66-433.
[32] RF-4 65-839 THRU 66-433.
[33] RF-4 66-388 THRU 66-472.
[34] RF-4 66-473 THRU 72-156.
[35] RF-4 63-7750 THRU 65-919.
[36] RF-4 65-920 THRU 72-156.
[37] RF-4 63-7742 THRU 65-932.
[38] RF-4 65-933 THRU 67-442.
[39] RF-4 67-443 THRU 72-156.
[40] RF-4 65-933 THRU 72-156.
[11] RF-4 63-7742 THRU 64-1017.
[41] RF-4 63-7742 THRU 67-442.
[42] RF-4 63-7742 THRU 69-370.
[43] RF-4 63-7742 THRU 69-384.
[44] RF-4 71-248 THRU 72-156.
[45] RF-4 69-360 THRU 69-375.
[47] FOR REPLACEMENT SEE FIGURE 3-36C.

4C-3-1-2-(192-3)F

Figure 3-31. Frame and Bulkhead Index, CFS 77.00 thru CFS 134.50 - RF-4 (Sheet 3 of 3)



LEGEND

O EXISTING FASTENER

\+ ADDED MS20470AD5

Note

TYPICAL FOR LEFT AND RIGHT SIDES.

REPAIR PROCEDURE

A. REMOVE FASTENERS FROM TEE AND BEND FUSELAGE SKIN OUT AS REQUIRED.
B. CUT TEE APPROXIMATELY AS SHOWN.
C. CUT OUT CORRODED PORTION OF WEB AS SHOWN.
D. REMOVE ALL SHARP CORNERS.
E. FABRICATE FILLER AND DOUBLER FROM 0.100, 7075–T6 ALUMINUM ALLOY.
F. POSITION FILLER AND DOUBLER AND MATE DRILL EXISTING FASTENER HOLES.
G. POSITION AND DRILL NEW FASTENER HOLES.
H. COUNTERSINK FASTENER HOLES AS REQUIRED.
I. REMOVE FILLER AND DOUBLER AND DEBURR FASTENER HOLES.
J. INSTALL FILLER AND DOUBLER WITH MS20470AD5 RIVETS.

NOTE

SPLICE ANGLES TO BE LONG ENOUGH TO PICK UP FOUR FASTENERS ON EITHER SIDE OF SPLICE.

K. FABRICATE A NEW TEE SECTION AND TWO SPLICE ANGLES FROM 0.080, 7075–T6 ALUMINUM ALLOY.
L. POSITION NEW TEE AND SPLICE ANGLES AND MATE DRILL EXISTING FASTENER HOLES.
M. POSITION AND DRILL NEW FASTENER HOLES.
N. COUNTERSINK FASTENER HOLES AS REQUIRED.
O. REMOVE TEE AND SPLICE ANGLES AND DEBURR FASTENER HOLES.

NOTE

LENGTH OF MS20470AD5 RIVETS TO BE DETERMINED AT TIME OF INSTALLATION.

P. INSTALL NEW TEE AND SPLICE ANGLES WITH MS20470AD5 RIVETS AND EXISTING FASTENERS.
Q. FINISH REWORK AREA PER TO 1F–4C–3–1–6.

4C–3–1–2–(413)

Figure 3-31A. Bulkhead, 53-34005, Corrosion Repair, CFS 77.00

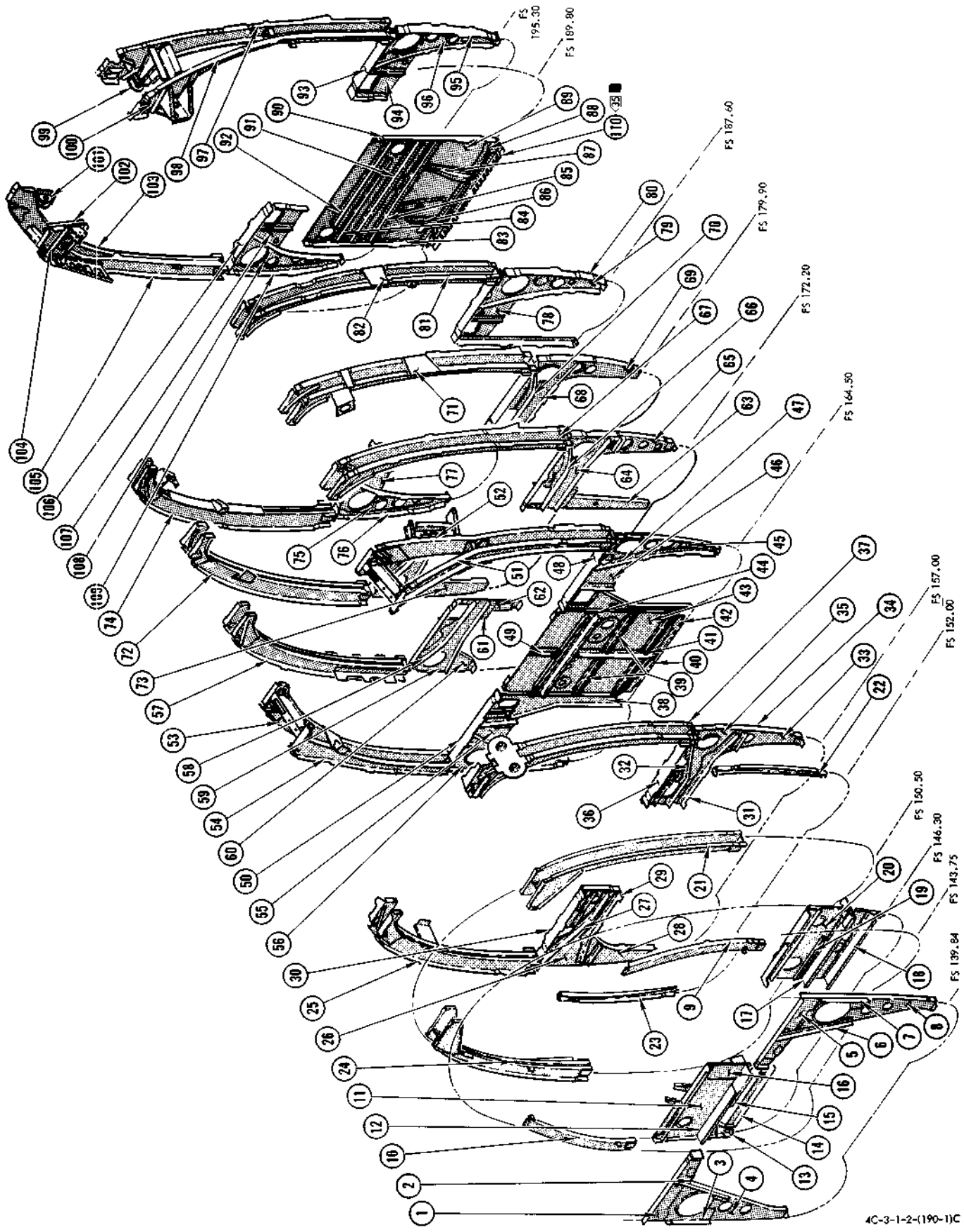


Figure 3-32. Frame and Bulkhead Index, FS 139.84 thru FS 195.30 - RF-4 (Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-34023-8	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-34023-12	CHANNEL	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	53-34023-6	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	53-34023-4	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-34023-28	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	53-34023-7	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	53-34023-11	CHANNEL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
8	53-34023-5	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	53-34023-3	WEB	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	53-34023-27	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	53-31010-23	FRAME	0.100	2024-T4 ALCLAD	QQ-A-250/5 (T4)
12	53-31010-24	FRAME	0.100	2024-T4 ALCLAD	QQ-A-250/5 (T4)
13	53-34024-95	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	53-34024-33	CHANNEL	IM7605	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	53-34024-23	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	53-34024-41	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	53-34024-143	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-34024-200	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	53-34024-87	DOUBLER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	53-34024-47	CHANNEL	IM7605	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	53-34024-51	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-34024-45	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	53-34024-155	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-34024-3	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	53-34024-185	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	53-31011-29	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	53-34025-11	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	53-34025-12	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	53-31011-30	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	53-31018-35	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	53-34026-33	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	53-34026-66	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	53-34026-10	TEE	IM57299	7178-T6 AL ALY	QQ-A-200/13 (T6)
34	53-34026-6	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	53-34026-64	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	53-34026-22	ANGLE	IM2310	7178-T6 AL ALY	QQ-A-200/13 (T6)
37	53-34026-29	TEE	IM5614	7178-T6 AL ALY	QQ-A-200/13 (T6)
38	53-34026-45	TEE	IM5614	7178-T6 AL ALY	QQ-A-200/13 (T6)
39	53-34026-21	ANGLE	IM2310	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	53-34026-9	TEE	IM57299	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	53-34026-5	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	53-34026-63	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43	53-34026-3	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	53-34026-7	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
45	53-34026-47	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46	53-34026-65	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	53-34026-17	TEE	IM5164	7178-T6 AL ALY	QQ-A-200/13 (T6)
48	53-31012-3	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	53-31012-21	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	53-31012-31	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	53-31012-37	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52	53-34027-8	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53	53-34027-65	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
54	53-34043-9	HAT	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55	53-34045-12	HAT	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56	53-34045-11	TEE	IM5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
57	53-34045-3	HAT	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	53-34045-39	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	53-34045-15	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
45	53-34027-3	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46	53-34027-5	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	53-34027-67	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48	53-34027-63	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	53-34027-9	TEE	IM5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
50	53-34045-23	TEE	IM5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
51	53-34027-43	TEE	IM5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
52	53-31013-103	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53	53-31013-47	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
54	53-31013-71	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55	53-31013-189	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/13 (T6)
56	53-31013-69	CHANNEL	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
57	53-31013-177	CHANNEL	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	53-31013-193	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	53-34027-6	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60	53-34027-4	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
61	53-31014-36	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
62	53-31014-67	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63	53-34028-53	TEE	IM5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
64	53-34028-37	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
65	53-34028-45	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
66	53-34028-18	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
67	53-34028-25	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
68	53-34028-99	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
69	53-34028-27	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
70	53-34028-97	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
71	53-34028-43	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
72	53-34028-71	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
73	53-34028-85	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
74	53-34028-3	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
75	53-34028-79	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
76	53-34028-41	TEE	IM5526	7178-T6 AL ALY	QQ-A-200/13 (T6)
77	53-31014-35	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
78	53-34029-5	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
79	53-34029-3	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
80	53-34029-9	TEE	IM5558	7178-T6 AL ALY	QQ-A-200/13 (T6)
81	53-31015-39	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
82	53-31015-91	HAT	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
83	53-31015-60	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
84	53-34029-4	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
85	53-31016-49	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
86	53-34030-4	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
87	53-34030-8	TEE	IM5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
88	53-34030-20	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
89	53-34030-47	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
90	53-34030-19	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
91	53-34030-39	TEE	IM5511	7178-T6 AL ALY	QQ-A-200/13 (T6)
92	53-34030-33	TEE	IM5673	7178-T6 AL ALY	QQ-A-200/13 (T6)
93	53-31030-25	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
94	53-31016-47	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
95	53-34044-53	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
96	53-34044-19	ANGLE	IM2301	7178-T6 AL ALY	QQ-A-200/13 (T6)
97	53-34044-15	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
98	53-34044-25	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
99	53-34044-23	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
100	53-34044-7	CHANNEL	IM7609	7075-T6 AL ALY	QQ-A-200/11 (T6)
101	53-34044-61	CHANNEL	IM7609	7075-T6 AL ALY	QQ-A-200/11 (T6)
102	53-34044-3	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(190-2)B

Figure 3-32. Frame and Bulkhead Index, FS 139.84 thru FS 195.30 - RF-4 (Sheet 2 of 3)

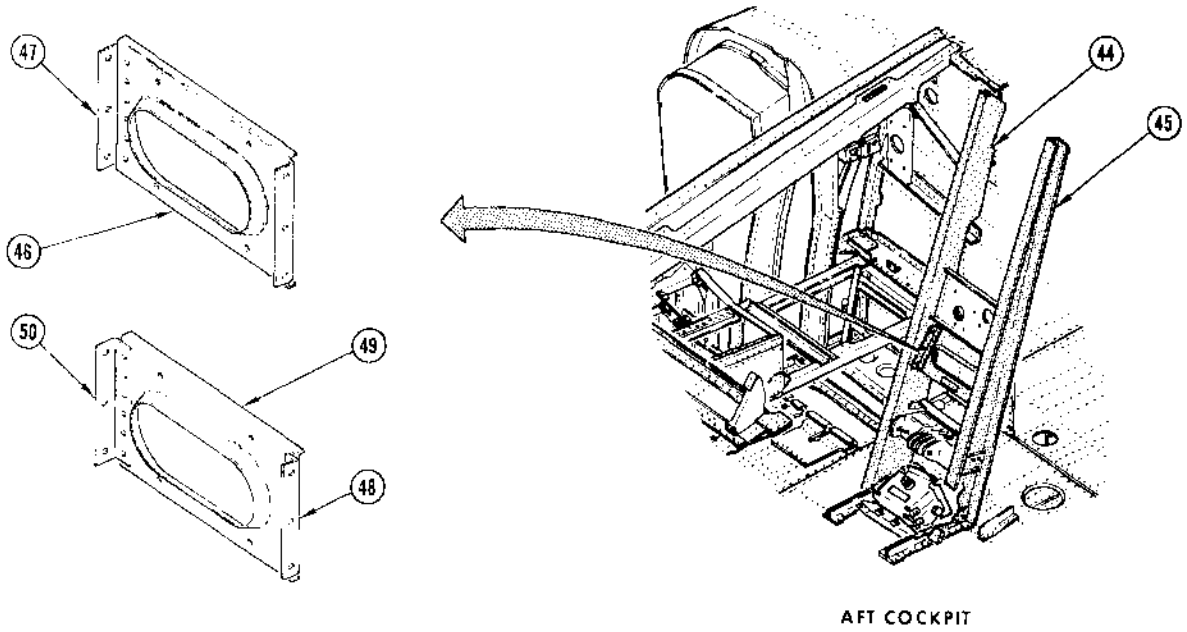
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
90	53-34044-51	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
91	53-34044-17	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
92	53-34044-37	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
93	53-34031-7	TEE	1M5164	7178-T651 AL ALY	QQ-A-200/13 (T651)
94	53-34031-5	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
95	53-34031-25	TEE	1M5539	7178-T6 AL ALY	QQ-A-200/13 (T6)
96	53-34031-29	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
97	53-31017-117	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-149	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
98	53-31017-119	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-141	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-155	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-215	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-203	ZEE	0.050	7179-T6 ALCLAD	QQ-A-250/15 (T6)
99	32-31950-3	SUPPORT	1M9770	2014-T6 AL ALY	QQ-A-200/2 (T6)
100	53-31017-77	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
101	32-31950-4	SUPPORT	1M9770	2014-T6 AL ALY	QQ-A-200/2 (T6)
102	53-31017-74,-73	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
103	53-31017-140	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31017-212	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
104	53-31017-78	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
105	53-31017-118	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
106	53-34031-31	TEE	1M5164	7178-T651 AL ALY	QQ-A-200/13 (T651)
107	53-34031-6	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34031-39	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
108	53-34031-4	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
109	53-34031-10	TEE	1M5539	7178-T6 AL ALY	QQ-A-200/13 (T6)
110	53-34073-3 (55)	HINGE	1M96194	7075-T651 AL ALY	QQ-A-200/11 (T651)

Notes

(1) RF-4C 63-7742 THRU 63-7763.
(2) RF-4C 64-997 THRU 72-156.
(3) RF-4C 63-7742 THRU 64-1035.
(4) RF-4C 64-1036 THRU 65-838.
(5) RF-4C 65-839 THRU 72-156.
(6) RF-4C 63-7742 THRU 65-838.
(7) RF-4C 63-7742 THRU 64-1077.
(8) RF-4C 64-1078 THRU 72-156.
(9) RF-4C 63-7742 THRU 66-406.
(10) RF-4C 66-407 THRU 72-156.
(11) RF-4C 63-7742 THRU 65-901.
(12) RF-4C 65-902 THRU 72-156.
(13) RF-4C 63-7742 THRU 64-1013.
(14) RF-4C 64-1014 THRU 64-1061.
(15) RF-4C 64-1062 THRU 67-444.
(16) RF-4C 63-7743.
(17) RF-4C 63-7742 AND 63-7744 THRU 72-156.
(18) RF-4C 65-839 THRU 65-932.
(19) RF-4C 65-933 THRU 72-156.
(20) RF-4C 63-7742 THRU 67-444.
(21) RF-4C 67-445 THRU 72-156.
(22) RF-4C 63-7742 THRU 64-1037.
(23) RF-4C 64-1038 THRU 72-156.
(24) RF-4C 63-7742 THRU 69-348.
(25) RF-4C 69-349 THRU 72-156.
(25A) RF-4C 63-7742 THRU 69-374.
(26) RF-4C 69-375 THRU 72-156.
(27) RF-4C 63-7742 THRU 69-383.
(28) RF-4C 63-7742 THRU 69-370.
(29) RF-4C 69-371 THRU 72-156.
(30) RF-4C 66-407 THRU 69-370.
(31) RF-4C 67-445 THRU 69-366.
(32) RF-4C 69-367 THRU 72-156.
(33) RF-4C 69-384 THRU 72-156.
(55) FOR REPLACEMENT, SEE FIGURE 3-37G.

4C-3-1-2-(190-3)C

Figure 3-32. Frame and Bulkhead Index, FS 139.84 thru FS 195.30 - RF-4 (Sheet 3 of 3)



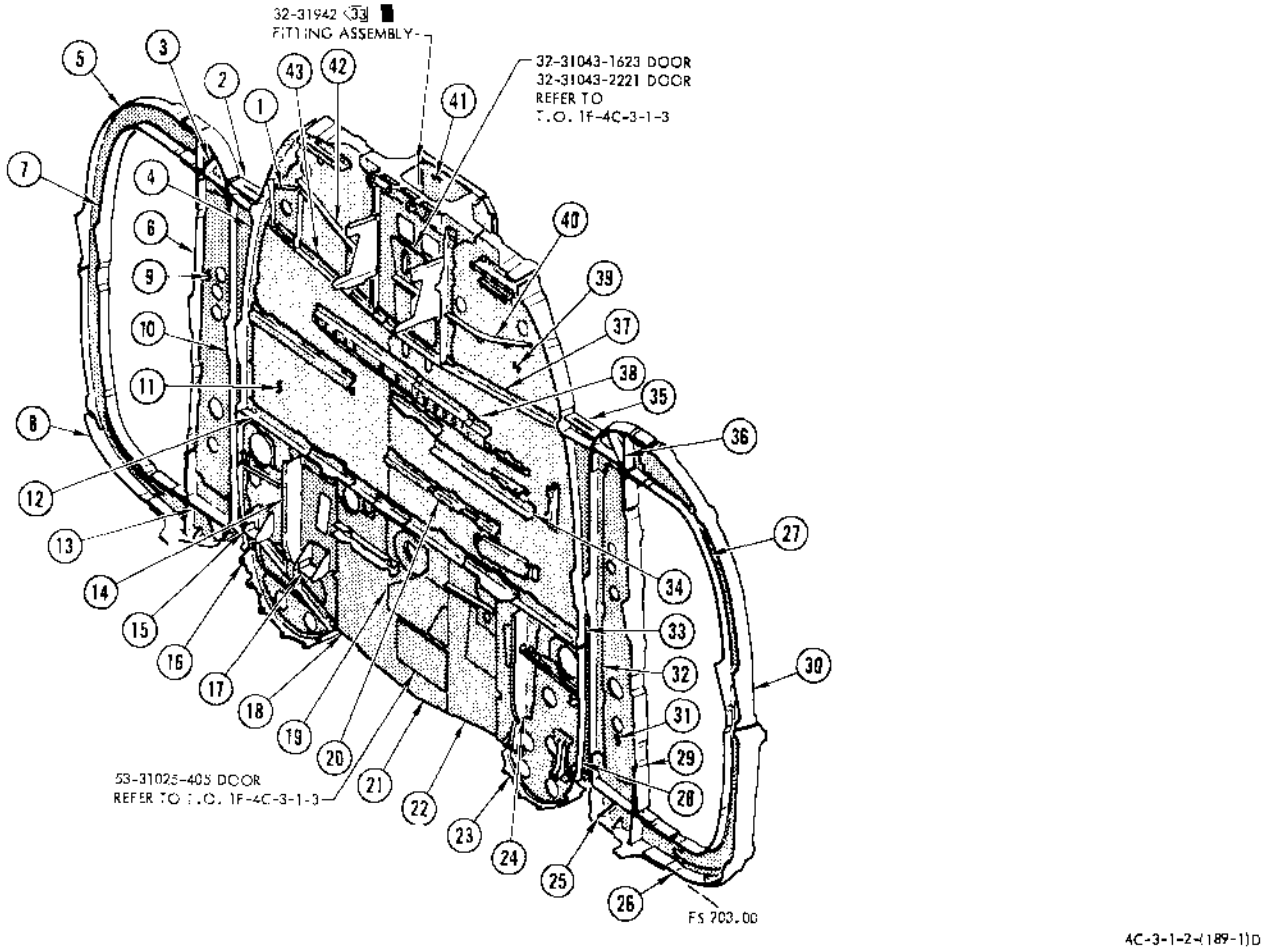


Figure 3-33. Bulkhead Index, FS 203.00 RF-4 (Sheet 1 of 2)

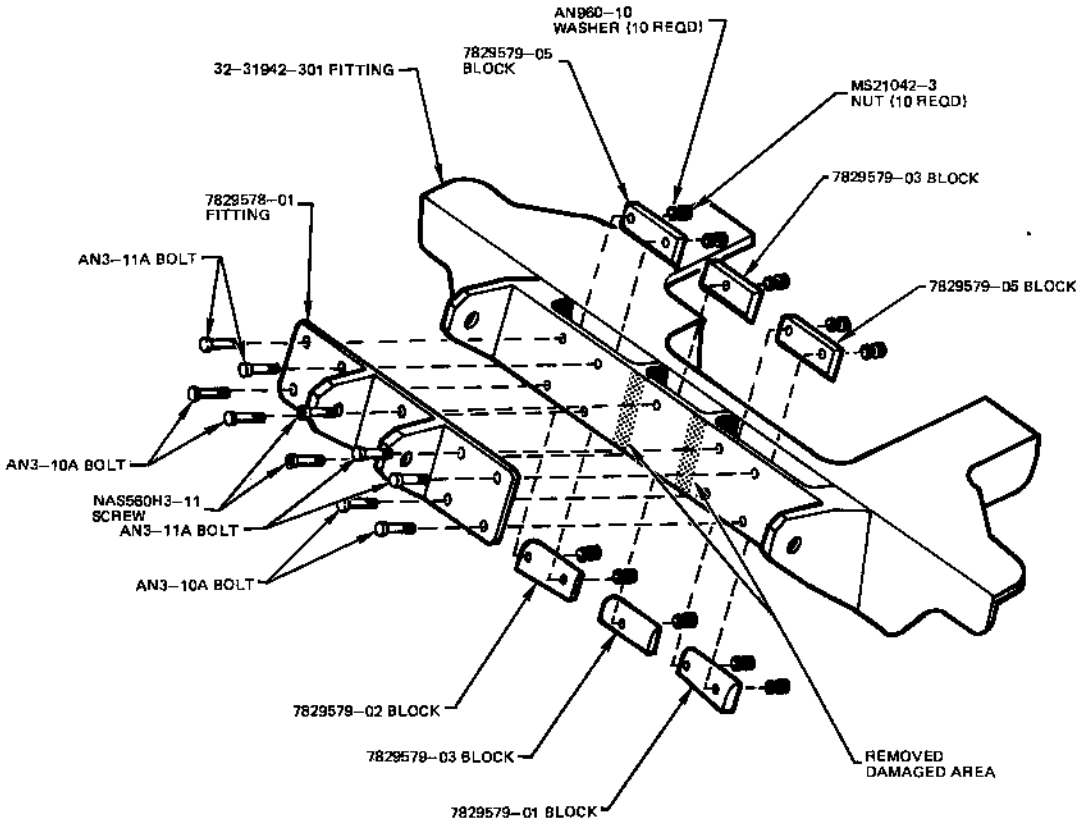
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 (3)	53-31025-121	BRACKET	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
(3)	53-31025-1029	BRACKET	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
2	32-31043-260	TEE	1M5751	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	32-31461-10	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
4 (3)	53-31025-737	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
(6)	53-31025-1013	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-31043-462	CAP	0.072	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-31043-1902	CAP	1M5648	7178-T6 AL ALY	QQ-A-200/13 (T6)
7 (5)	32-31043-2078	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
(5)	32-31043-2190	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	32-31043-1058	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9 (3)	53-31025-203	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(6)	53-31025-815	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(9)	53-31025-899	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
10	32-31043-488	CAP	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	53-31025-853	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	53-31025-153	CAP	1M9569	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	32-31460-8	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
14	53-31025-255	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15 (2)	53-31025-265	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	53-31025-841	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	53-31025-198	CAP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	53-31025-263	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-31025-213	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	53-31025-295	PLATE	0.032	PHENOLIC	MIL-P-15035
20	53-31025-125	HAT	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21 (11)	53-31025-215	CAP	1M7620	7178-T6 AL ALY	QQ-A-200/13 (T6)
(12)	53-31025-1041	CAP	1M7620	7178-T6 AL ALY	QQ-A-200/13 (T6)
22 (22)	53-31025-211	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(23)	53-31025-1045	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	53-31025-197	CAP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-31025-261	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-31460-7	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
26	32-31043-1057	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27 (5)	32-31043-2077	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
(6)	32-31043-2189	CAP	1M5649	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	53-31025-199	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31043-1901	CAP	1M5648	7178-T6 AL ALY	QQ-A-200/13 (T6)
30	32-31043-461	CAP	0.072	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31 (3)	53-31025-159	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
(9)	53-31025-875	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
32	32-31043-2121	CAP	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
33 (13)	32-31043-137	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
(15)	32-34007-27	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
(16)	32-34007-131	CAP	1M9586	7178-T6 AL ALY	QQ-A-200/13 (T6)
34	53-31025-419	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	32-31043-259	TEE	1M5751	7178-T6 AL ALY	QQ-A-200/13 (T6)
36	32-31461-9	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
37 (14)	53-31025-447	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
(31)	53-31025-777	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
(32)	53-31025-1135	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
38 (12)	53-31025-127	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(12)	53-31025-759	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(17)	32-34007-71	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39 (20)	53-31025-187	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(21)	53-31025-721	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(12)	53-31025-803	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	53-31025-451	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
41	53-31025-169	HAT TOP	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42 (2)	53-31025-25	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	53-31025-833	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43	53-31025-39	ANGLE	AND10134-1603	7178-T6 AL ALY	QQ-A-200/13 (T6)
44 (24)	32-31937-9	RAIL	2.00	7178-T651 AL ALY	QQ-A-200/13 (T651)
(24)	32-31937-19	RAIL	2.00	7178-T651 AL ALY	QQ-A-200/13 (T651)
(25)	32-31937-41	RAIL	2.00	7178-T651 AL ALY	QQ-A-200/13 (T651)
(26)	32-31937-65	RAIL	2.00	7178-T651 AL ALY	QQ-A-200/13 (T651)
(27)	32-31937-73	RAIL	2.00	7178-T651 AL ALY	QQ-A-200/13 (T651)
45 (28)	32-31937-7	RAIL	2.00	7178-T651 AL ALY	QQ-A-200/13 (T651)
(29)	32-31937-42	RAIL	2.00	7178-T651 AL ALY	QQ-A-200/13 (T651)
46 (7)	32-31052-29	SUPPORT	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(10)	53-31052-55	SUPPORT	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
47	53-31052-11	ANGLE	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
48 (10)	53-31052-91	ANGLE	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
49 (10)	53-31052-89	SUPPORT	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
50 (10)	53-31052-93	ANGLE	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)

Notes

(3) RF-4C 63-7742 THRU 66-386 AND 66-388.
(4) RF-4C 66-387 AND 66-389 THRU 72-156.
(5) RF-4C 63-7742 THRU 65-932.
(6) RF-4C 65-933 THRU 72-156.
(7) RF-4C 63-7742 THRU 65-838.
(8) RF-4C 65-839 THRU 72-156.
(9) RF-4C 63-7742 THRU 64-1017.
(10) RF-4C 64-1018 THRU 65-864.
(11) RF-4C 65-865 THRU 72-156.
(12) RF-4C 64-1018 THRU 69-384.
(13) RF-4C 63-7742 THRU 65-901.
(14) RF-4C 65-902 THRU 72-156.
(15) RF-4C 63-7742 THRU 65-864.
(16) RF-4C 63-7742 THRU 63-7763.
(17) RF-4C 64-997 THRU 64-1042.
(18) RF-4C 64-1043 THRU 72-156.
(19) RF-4C 64-997 THRU 72-156.
(20) RF-4C 63-7742 THRU 63-7749.
(21) RF-4C 63-7750 THRU 63-7763.
(22) RF-4C 63-7742.
(23) RF-4C 63-7743 THRU 63-7763.
(24) RF-4C 63-7742 THRU 66-450.
(25) RF-4C 66-451 THRU 72-156.
(26) RF-4C 64-997 THRU 66-433.
(27) RF-4C 66-434 THRU 68-561.
(28) RF-4C 68-562 THRU 69-371.
(29) RF-4C 69-372 THRU 72-156.
(30) RF-4C 63-7742 THRU 66-433.
(31) RF-4C 66-434 THRU 72-156.
(32) RF-4C 71-248 THRU 72-156.
(33) RF-4C 64-997 THRU 71-248.
(34) RF-4C 71-249 THRU 72-156.
(35) FOR REPAIR TO FITTING SEE FIGURE 3-33A.

4C-3-1-2-(189-2)D

Figure 3-33. Bulkhead Index, FS 203.00 - RF-4 (Sheet 2 of 2)



REPAIR PROCEDURE

A. REMOVE DAMAGED AREA FROM 32–31942 FITTING.
B. LOCATE 7829578 FITTING AND DRILL FASTENER HOLES.
C. COUNTERSINK FASTENER HOLES AS REQUIRED.
D. REMOVE FITTING, DEBURR, AND TREAT FASTENER HOLES, COUNTERSINKS, AND MILLED AREAS FOR CORROSION CONTROL PER TO 1F–4C–3–1–6.
E. INSTALL FITTING, RADIUS BLOCKS, AND FASTENERS.

Note

WHEN MANUFACTURE OR PART IS REQUIRED, CONTACT OO–ALC/MMEDD, HILL AFB, UT 84056, FOR NEEDED DRAWING.

4C–3–1–2–(383)A

Figure 3-33A. Fitting, 32-31942, Repair

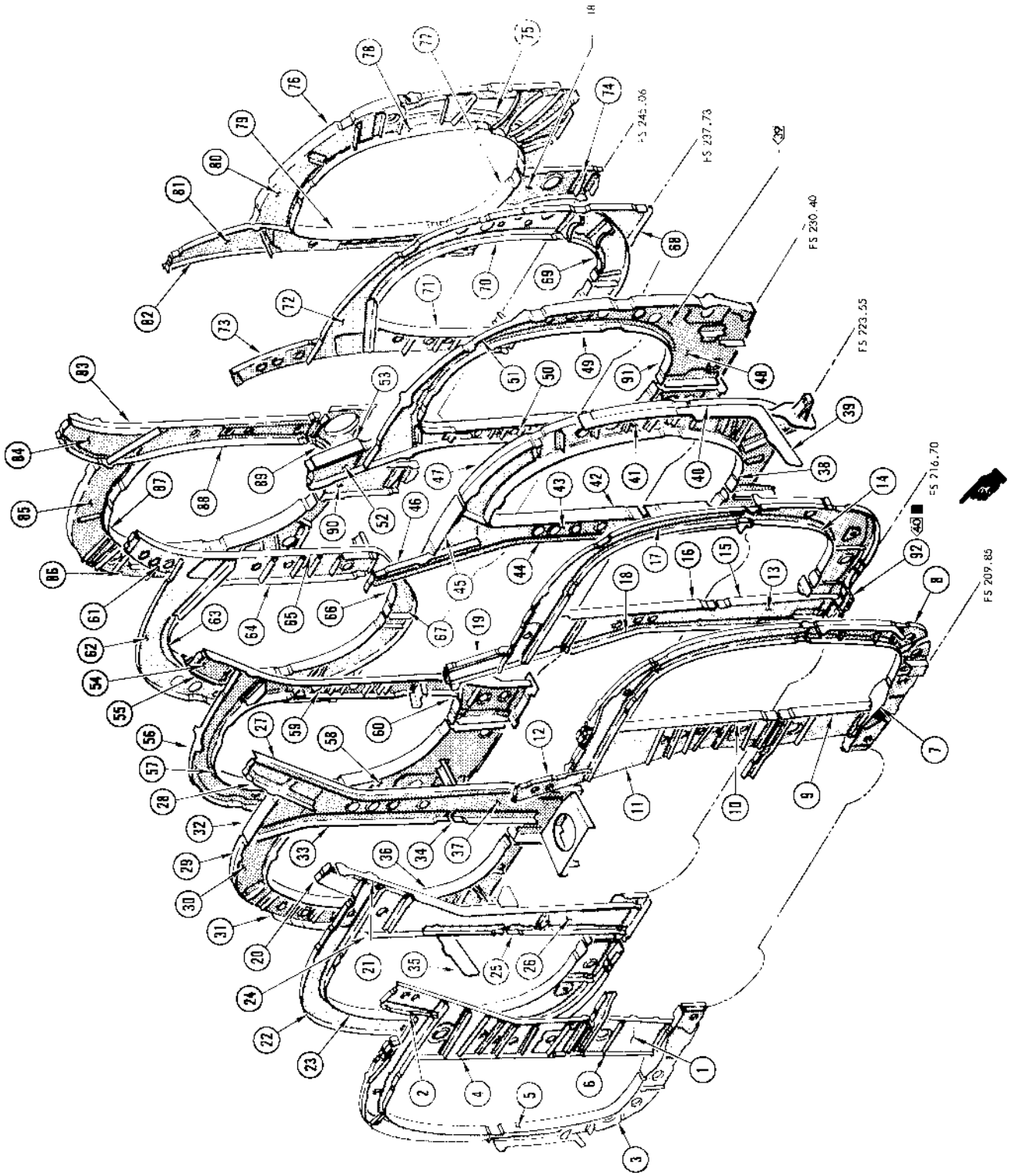


Figure 3-34. Frame Index, FS 209.85 thru FS 245.06 RF-4(Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31161-438	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-444	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-493	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-31161-221	CAP	1M2166	2024-T4 AL ALY	QQ-A-200/3 (T4)
3	32-31161-462	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-448	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-730, -732	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-31161-130	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
5	32-31161-10	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
6	32-31161-704	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
7	32-31161-112	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31161-9	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
8	32-31161-703	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31161-461	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-31161-463	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-487	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-729, -731	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31161-111	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
11	32-31161-129	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31161-437	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-31161-465	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-31161-709	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31161-215	CAP	1M2166	2024-T4 AL ALY	QQ-A-200/3 (T4)
14	32-31044-467	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31044-769	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31044-255	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
16	32-31044-815	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
17	32-31044-283	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-13	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31044-767	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31044-731	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-31044-845	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-31044-281	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-31044-282	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31044-732	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	32-31044-846	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-31044-765	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-256	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
24	32-31044-816	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-487	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
25	32-31044-807	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-833	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
26	32-31044-284	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31044-499	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-31044-773	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-444	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-31162-232	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31162-96	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31162-228	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-430	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-31162-110	CAP	1M5773	7178-T6 AL ALY	QQ-A-200/13 (T6)
32	32-31162-230	CAP	1M5718	7178-T6 AL ALY	QQ-A-200/13 (T6)
33	32-31162-32	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
34	32-31162-30, -29	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
35	32-31162-404	SILL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	32-31162-180	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31162-710	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
37	32-31162-423	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-437	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38	32-31162-457	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31162-179	CAP	1M5294	2024-T4 AL ALY	QQ-A-200/3 (T4)
39	32-31162-709	SILL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	32-31162-403	CAP	1M5773	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	32-31162-109	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-227	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31162-449	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	32-31162-31	CAP	1M5719	2024-T4 AL ALY	QQ-A-200/3 (T4)
43	32-31162-125	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	32-31162-443	CAP	1M2425	7178-T6 AL ALY	QQ-A-200/13 (T6)
45	32-31162-229	CAP	1M5718	7178-T6 AL ALY	QQ-A-200/13 (T6)
46	32-31162-231	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	32-31162-95	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48	32G31045-7	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-743	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	32-31045-779	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-475	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
50	32-31045-783	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31045-703	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	32-31045-815	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-723	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
52	32-31045-749	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53	32-31045-257	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
54	32-31045-730	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55	32-31045-298	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
56	32-31045-724	CAP	1M5708	7178-T6 AL ALY	QQ-A-200/13 (T6)
57	32-31045-476	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31045-784	CAP	1M5611	2024-T4 AL ALY	QQ-A-200/3 (T4)
58	32G31045-8	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-744	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
59	32-31045-704	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31045-816	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60	32-31045-130	CAP	1M5612	2024-T4 AL ALY	QQ-A-200/3 (T4)
61	32-31163-298	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31213-4	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31163-490	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
62	32-31163-710	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31163-428	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-498	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-759	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63	32-31163-266	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31163-456	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
64	32-31163-202	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
65	32-31163-442, -441	CAP	1M2257	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	32-31163-50	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-470	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
67	32-31163-138, -137	CAP	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
68	32-31163-417, -418	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-317, -761	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
69	32-31163-49	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-469	CAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
70	32-31163-225	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31163-455	CAP	1M5165	2024-T4 AL ALY	QQ-A-200/3 (T4)
71	32-31163-201	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
72	32-31163-427	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31163-497	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
73	32-31163-435	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31213-3	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31163-489	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-31163-709	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
74	32-31046-225	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
75	32-31046-121, -122	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
76	32-31046-267	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
77	32-31046-205	CAP	1M5194	2024-T4 AL ALY	QQ-A-200/3 (T4)
78	32-31044-407	CAP	1M5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-779	CAP	1M5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
79	32-31046-231	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-789	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
80	32-31046-265	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-725	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(231-2)B

Figure 3-34. Frame Index, FS 209.85 thru FS 245.06 RF-4(Sheet 2 of 3)

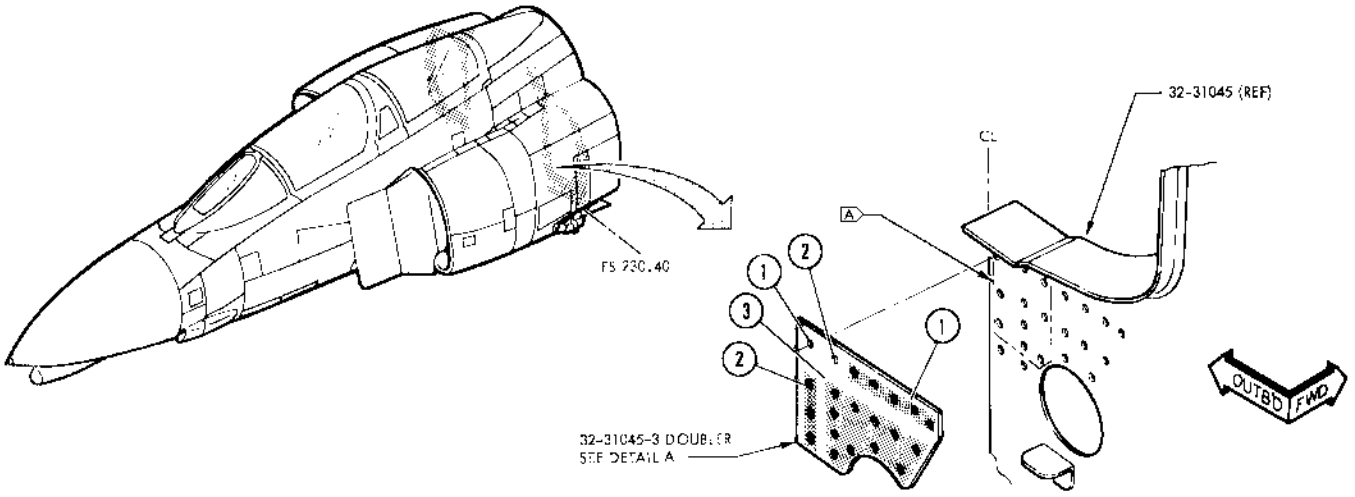
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
81	32-31046-245	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-745	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
82	32-31046-459	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
83	32-31046-460	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
84	32-31046-246	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-746	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
85	32-31046-266	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-726	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
86	32-31046-268	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31046-499	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
87	32-31046-408	CAP	1M5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-780	CAP	1M5638	2024-T4 AL ALY	QQ-A-200/3 (T4)
88	32-31046-252	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-31046-790	CAP	1M5637	2024-T4 AL ALY	QQ-A-200/3 (T4)
89	32-31044-206	CAP	1M5194	2024-T4 AL ALY	QQ-A-200/3 (T4)
90	32-31046-226	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
91	32-31045-129	CAP	1M5612	2024-T6 AL ALY	QQ-A-200/3 (T6)
92	32-31044-207, -208 (49)	HINGE	0.625	7075-T6 AL ALY	QQ-A-250/12 (T6)

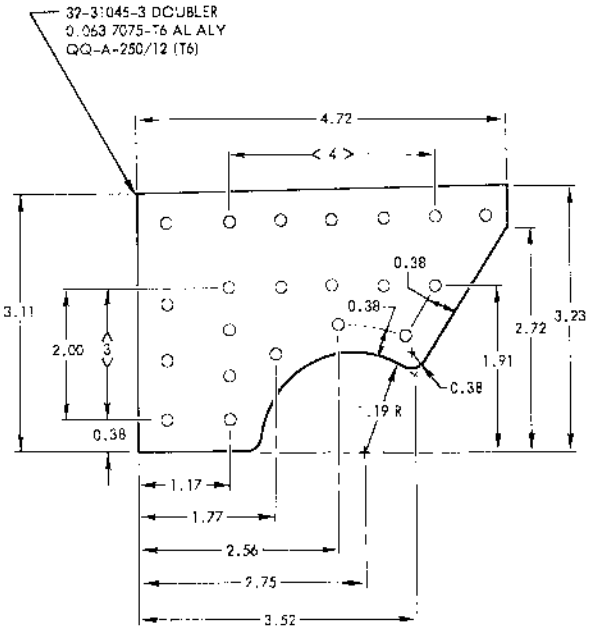
Notes

1. RF-4 63-7742 THRU 66-386 AND 66-388.
2. RF-4 66-387 AND 66-389 THRU 72-156.
3. RF-4 63-7742 THRU 65-932.
4. RF-4 65-933 THRU 72-156.
5. RF-4 63-7742 THRU 65-838.
6. RF-4 65-839 THRU 72-156.
7. RF-4 63-7742 THRU 64-1017.
8. RF-4 64-1018 THRU 65-864.
9. RF-4 65-865 THRU 72-156.
10. RF-4 63-7750 THRU 72-156.
11. RF-4 63-7742 THRU 65-901.
12. RF-4 64-1078 THRU 65-864.
13. RF-4 67-462 THRU 72-156.
14. RF-4 65-902 THRU 72-156.
15. RF-4 63-7742 THRU 66-428.
16. RF-4 66-429 THRU 72-156.
17. RF-4 63-7742 THRU 66-456.
18. FOR REPAIR, SEE FIGURE 3-36.
19. RF-4 66-457 THRU 72-156.
20. RF-4 63-7742.
21. RF-4 63-7742 THRU 63-7749.
22. RF-4 65-865 THRU 65-901.
23. RF-4 65-902 THRU 67-461.
24. RF-4 64-1018 THRU 64-1077.
25. RF-4 64-1078 THRU 72-156.
26. RF-4 63-7742 THRU 64-1077.
27. RF-4 64-1078 THRU 66-450.
28. RF-4 66-451 THRU 72-156.
29. RF-4 63-7743 THRU 64-1077.
30. RF-4 63-7742 THRU 64-1061.
31. RF-4 64-1062 THRU 72-156.
32. RF-4 64-1062 THRU 65-932.
33. RF-4 63-7743 THRU 63-7758.
34. RF-4 63-7759 THRU 72-156.
35. RF-4 63-7750 THRU 64-1077.
36. RF-4 65-902 THRU 69-370.
37. RF-4 69-371 THRU 72-156.
38. RF-4 63-7742 THRU 69-370.
39. FOR REPAIR, SEE FIGURE 3-35.
40. FOR REPLACEMENT, SEE FIGURE 3-37B.

4C-3-1-2-(231-3)D

Figure 3-34. Frame Index, FS 209.85 thru FS 245.06 RF-4 (Sheet 3 of 3)





DETAIL A

REPAIR PROCEDURE

A. INSPECT AREA FOR CRACK.
B. IF CRACK EXISTS, ROUT OUT DAMAGED AREA 0.06 WIDE. MAINTAIN 125 MICROINCH FINISH.
C. STOP DRILL CRACK IN WEB WITH 0.250 DRILL.
D. FABRICATE REPAIR PART 32-31045-3 DOUBLER, SEE DETAIL A.
E. INSTALL REPAIR PART 32-31045-3 IN AREA OF (A) ONLY. FOR CRACK OUTSIDE OF AREA CONTACT PDM ENGINEERING FOR DISPOSITION.

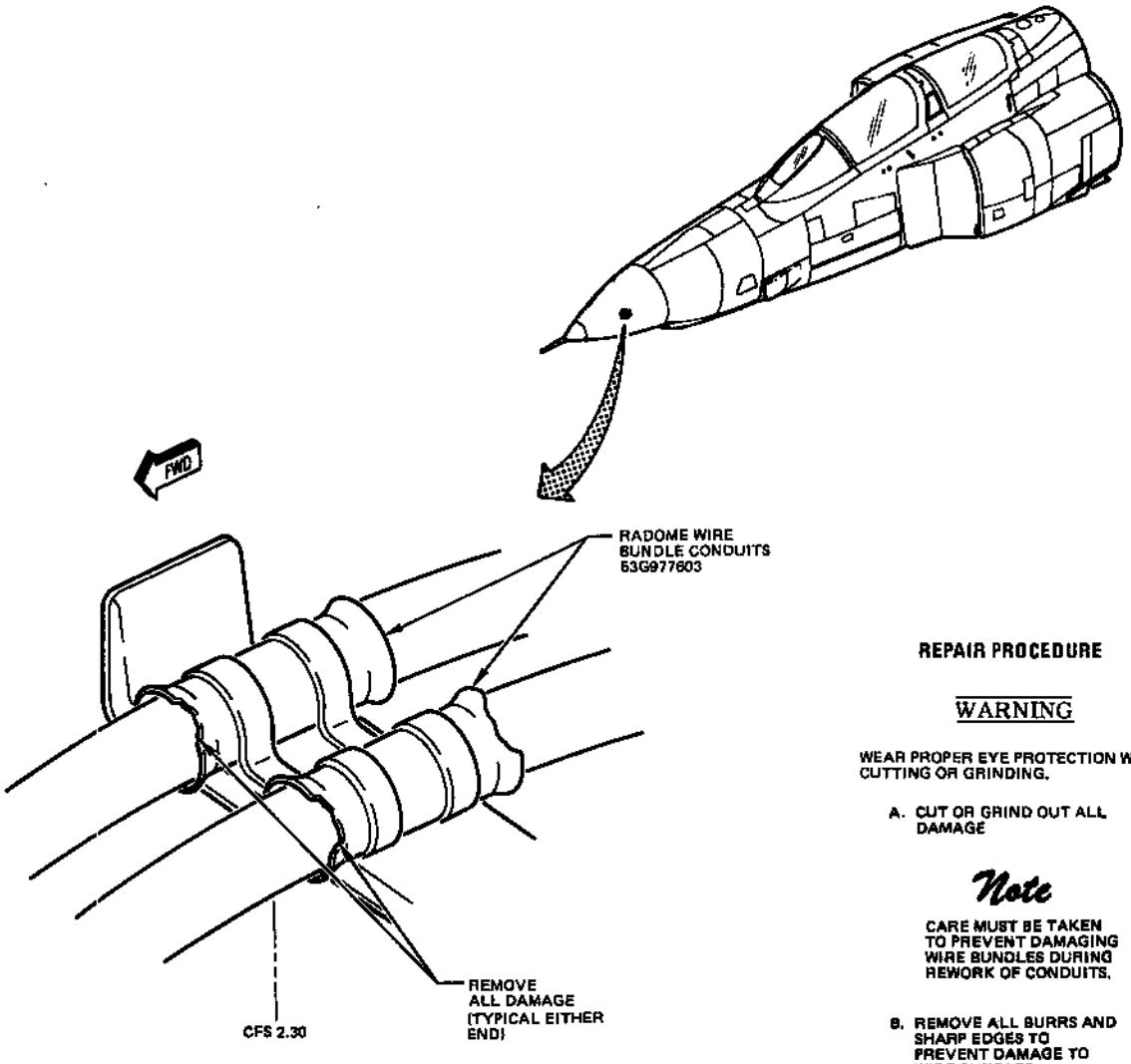
Note

(1) NEW FASTENER AT EXISTING LOCATION.

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	NAS1054-5-4 (1)	NAS528A5	$0.156^{+.006}_{-.000}$
2	NAS1054-5-3 (1)	NAS528A5	$0.156^{+.006}_{-.000}$
3	MS20470AD5		$0.156^{+.013}_{-.000}$

4C-3-1-2-(298)A

Figure 3-35. Frame, 32-31045, Crack Repair



REPAIR PROCEDURE

WARNING

WEAR PROPER EYE PROTECTION WHEN CUTTING OR GRINDING.

A. CUT OR GRIND OUT ALL DAMAGE

Note

CARE MUST BE TAKEN TO PREVENT DAMAGING WIRE BUNDLES DURING REWORK OF CONDUITS.

B. REMOVE ALL BURRS AND SHARP EDGES TO PREVENT DAMAGE TO WIRE BUNDLES.
C. FINISH REWORKED AREA PER TO 1F-4C-3-1-6.

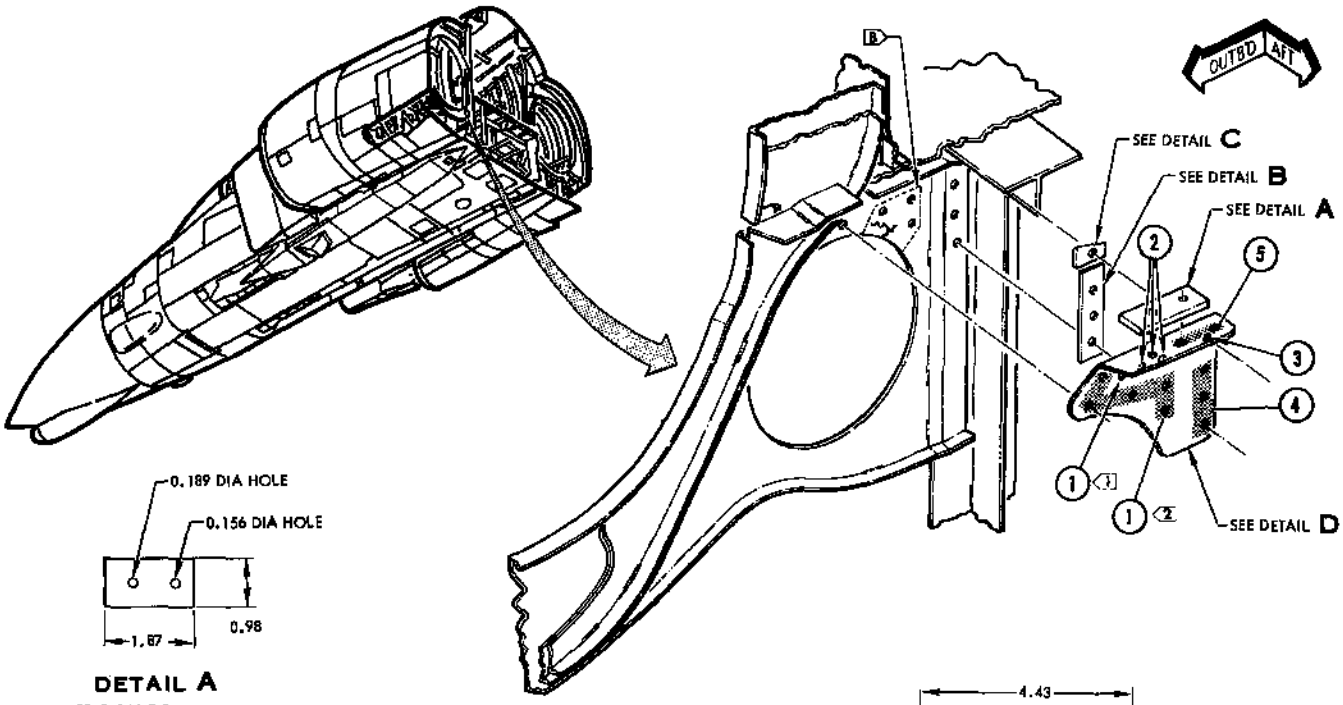
Note

THIS IS AN OPTIONAL METHOD AND IS NOT A REQUIRED PROCEDURE.

D. FOR REMOVAL AND REPLACEMENT OF CONDUIT, 53G977603, WHEN IT HAS BEEN DAMAGED BEYOND REPAIR.
   (1) CUT OFF CONDUIT, 53G977603.
   (2) REPLACE WITH TWO PIECE CONDUIT, 32-87067-19 AND -23.

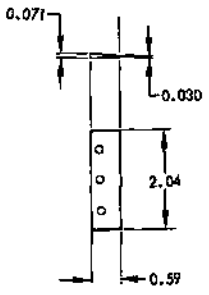
4C-3-1-2-(414)A

Figure 3-35A. Conduit, 53G977603 Repair, F-4G



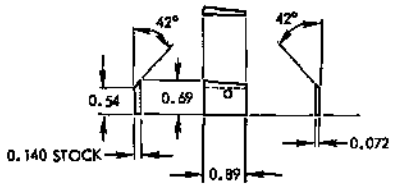
DETAIL A

32-31046-9 FILLER
0.080 2024-T3 AL ALY
QQ-A-250/4 (T3)



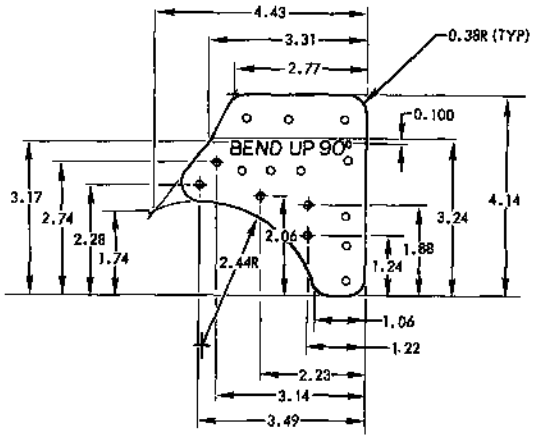
DETAIL B

53G010021-7 FILLER
0.071 2024-T3 AL ALY
QQ-A-250/4 (T3)



DETAIL C

53G010021-5,-6 FILLER
0.140 2024-T3 AL ALY
QQ-A-250/4 (T3)



DETAIL D

53G010021-3,-4 DOUBLER
0.050 7178-T6 AL ALY
QQ-A-250/14 (T6)

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	NAS1054-5-2	NAS528A5	0.156 +.000 -.000
2	NAS1054-5-3	NAS528A5	0.156 +.000 -.000
3	NAS1669-08LT5 ① ②		0.165 +.003 -.000
4	MS20470AD5 ① ②		0.156 +.013 -.000
5	NAS1054-6-3 ①	NAS528A6	0.191 +.006 -.000

REPAIR PROCEDURE

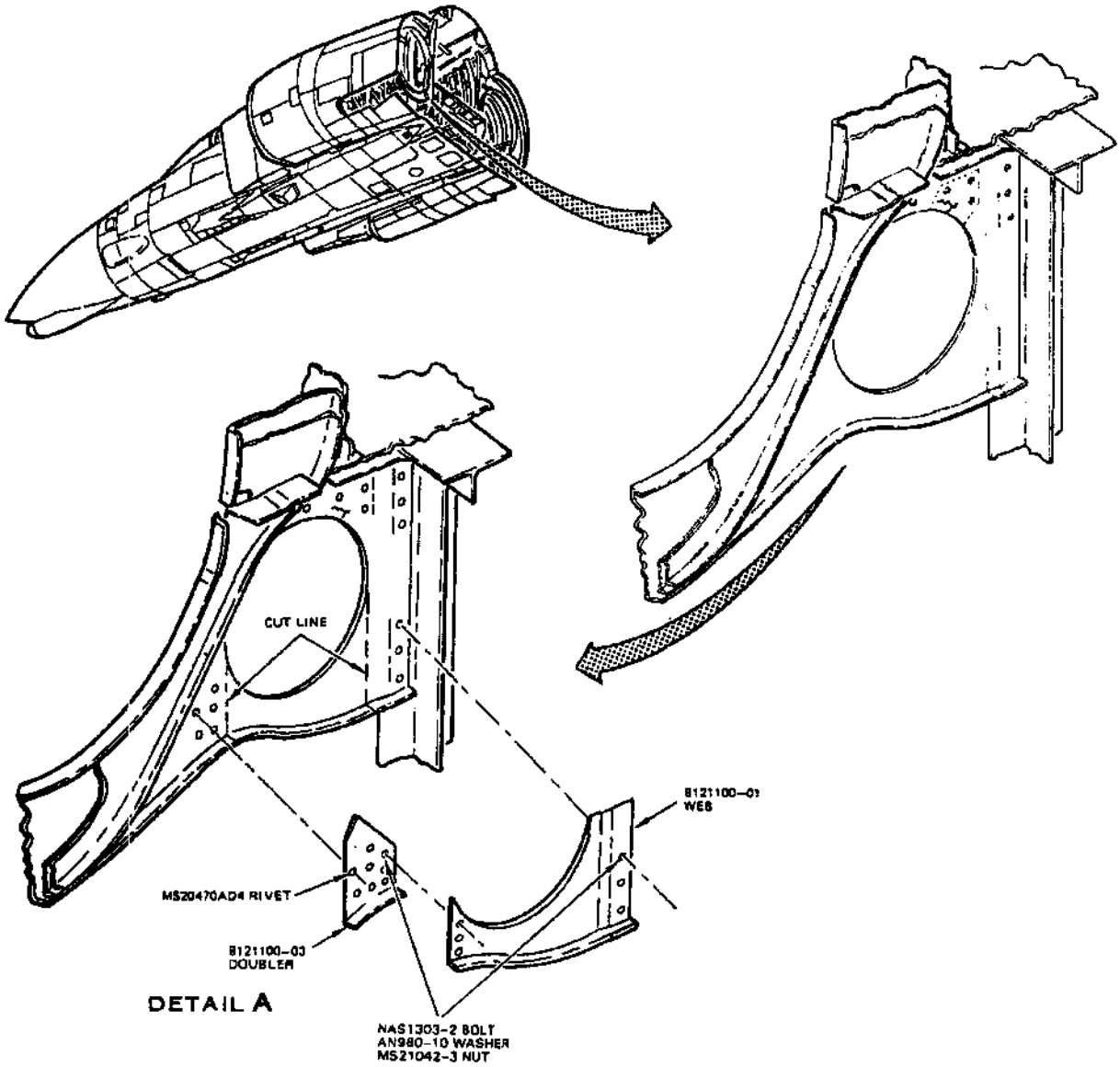
A. VISUAL INSPECT AREA FOR CRACK.
B. IF CRACKS EXIST IN CIRCLED AREA INSTALL REPAIR PARTS. FOR CRACKS OUTSIDE OF CIRCLED AREA CONTACT PDM ENGINEERING FOR DISPOSITION.
C. ROUT OUT CRACK TO 125 MICROINCH FINISH, MAX 0.06 WIDE.
D. STOP DRILL CRACKS WITH 0.250 DRILL.
E. FABRICATE REPAIR PARTS PER DETAIL A, B, C, AND D.
F. DRILL FASTENER HOLES IN REPAIR PARTS AND FRAME INDICATED IN CHART.
G. REFINISH PARTS, HOLES, COUNTERSINKS AND SHARP EDGES. REFER TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
H. INSTALL REPAIR PARTS WITH FASTENERS CALLED OUT IN FASTENER CHART.

Notes

① NEW FASTENERS AT EXISTING LOCATION.
② NEW FASTENERS AT NEW LOCATION.

4C-3-1-2-(300)A

Figure 3-36. Frame, 32-31046, Crack Repair



SPLICE PROCEDURE

A. CUT AS INDICATED IN DETAIL A. REMOVE SHARP EDGES AND FINISH PER T.O. 1F-4C-3-1-6.

B. REMOVE 32-63226-15, -16 DUCT AND MAKE NECESSARY REPAIRS TO DUCT. REFERENCE T.O. 1F-4C-3-1-4 FOR DAMAGE LIMITS AND REPAIR PROCEDURE. INSTALL DUCT ASSEMBLY.

C. REASSEMBLE THE STRUCTURE. LOCATE THE APW FASTENER PATTERN WITH TWO DIAMETER EDGE DISTANCE AND EQUAL SPACING WHERE POSSIBLE FOR THE SPECIFIED FASTENERS.

Notes

1. THIS STRUCTURE SPLICE IS USED FOR REMOVAL OF THE ENGINE BLEED AIR DUCT 32-63226-15, -16. IT REPLACES A MORE EXTENSIVE DISASSEMBLE AND REASSEMBLE PROCESS. THE TWO PIECE SPLICE CAN BE REMOVED FOR FUTURE DUCT REMOVAL.

G9216919

Figure 3-36A. Web Repair to Allow Removal and Installation of 32-11308-15, -16 Air Duct - FS 245.06

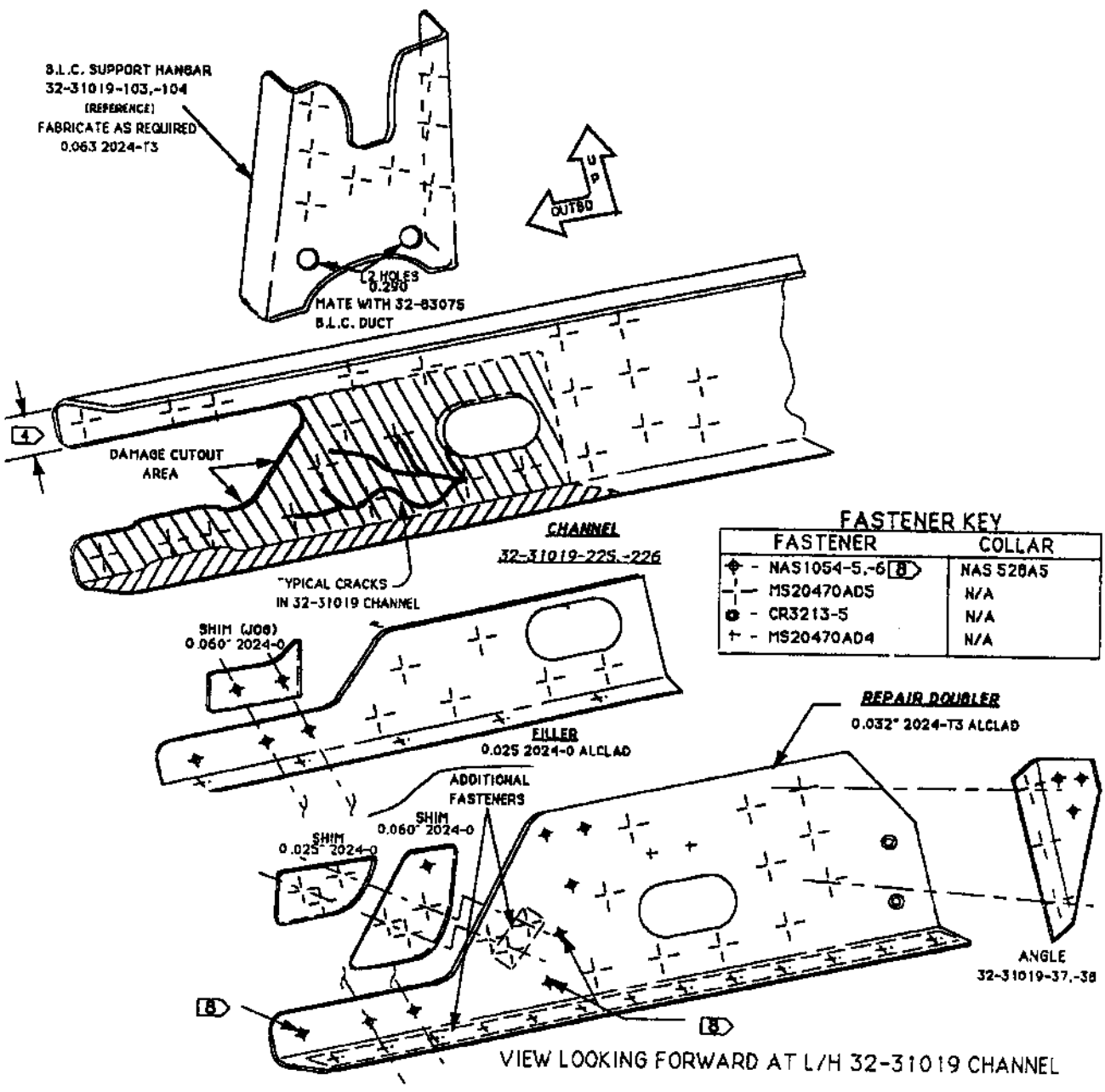
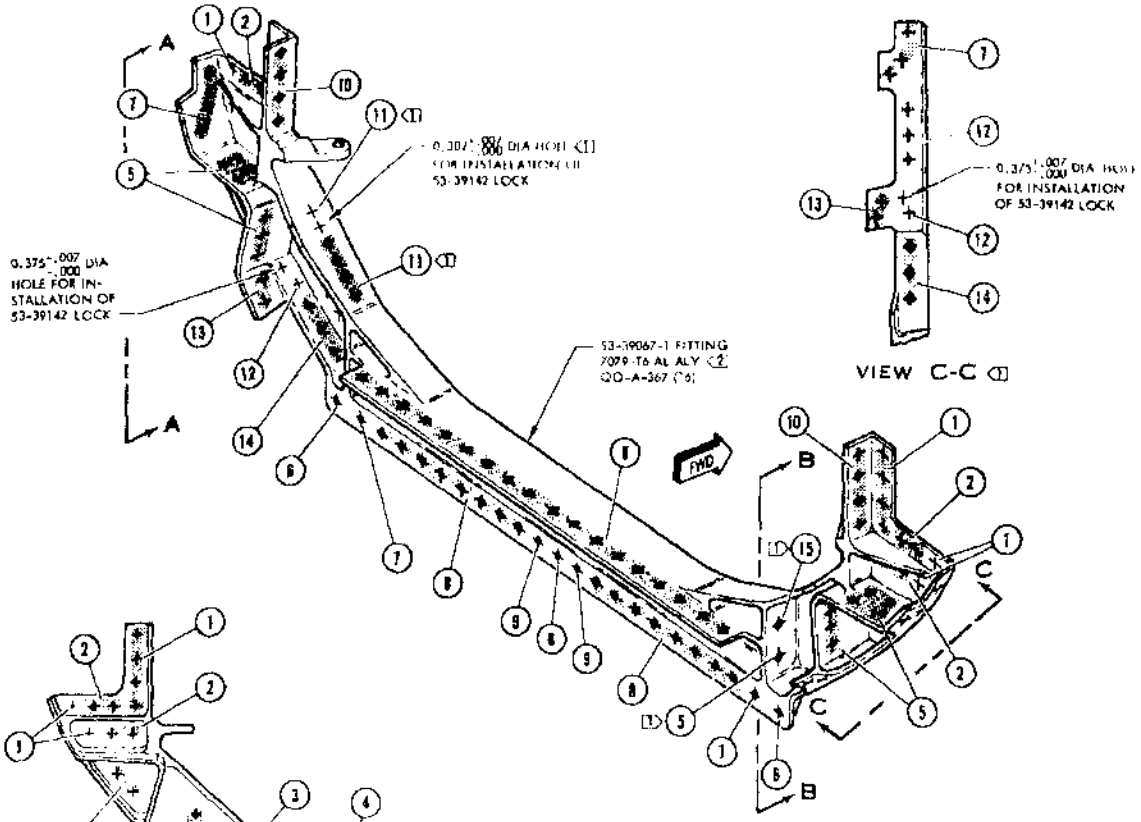


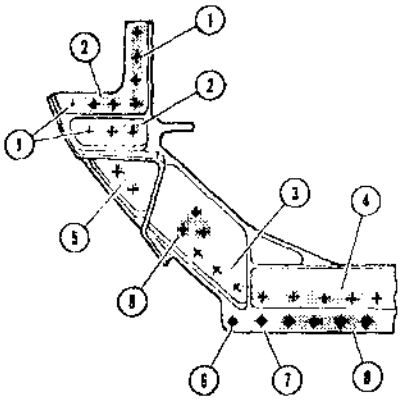
Figure 3-36A1. B.L.C. Air Duct Support and 32-31019-225, -226 Channel Repair - FS 230.40 (Sheet 1 of 2)

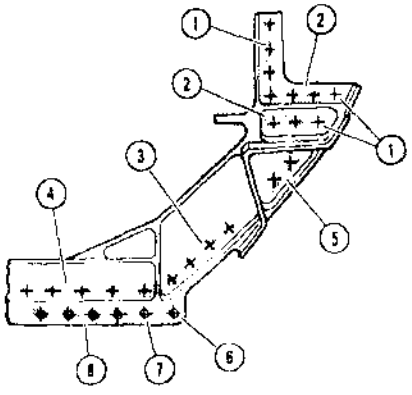
REPAIR PROCEDURE

1. SEE FIGURE 3-36A FOR ACCESS TO AIR DUCT AND CHANNEL, 32-31019.
2. VISUALLY INSPECT CHANNEL, PART NO. 32-31019-225, -226, AND SUPPORT, 32-31019-103, -104, FOR EXTENT OF DAMAGE, NDI TO ACCURATELY IDENTIFY CRACK TIP LOCATION.
3. REMOVE LOWER FLANGE AND WEB SECTION ENCOMPASSING CRACK(S) AS REQUIRED (SEE DAMAGE CUTOUT AREA IN THE ILLUSTRATION). PROVIDE A MINIMUM OF 0.125 RADIUS AT CORNERS OF ROUTED DAMAGE AREA. ALLOW A MINIMUM OF ONE HORIZONTAL ROW OF RIVETS ABOVE THE DAMAGE CUTOUT AREA.
4. IT IS PERMISSIBLE TO BLEND OUT VERTICAL CRACKS TO WITHIN 0.500 INCH OF THE UPPER FLANGE RADIUS. UPON NDI VERIFICATION OF CRACK TIP, STOP DRILL THE TIP 0.125 INCH. ROUTE OUT CRACK 0.062 MAXIMUM AND RADIUS INTO THE DAMAGE CUTOUT AREA (WHERE ADDITIONAL DAMAGE EXISTS IN CHANNEL WEB). WHERE CRACKS EXTEND INTO UPPER FLANGE RADIUS, CONTACT OO-ALC/LACES ENGINEERING FOR REPAIR.
5. FABRICATE REPAIR DOUBLER, FILLER, AND SHIMS AS PER ILLUSTRATION. DOUBLER WEB AND LOWER FLANGE SHALL BE THE SAME WIDTH AS CHANNEL, 32-31019-225, -226. LENGTH SHALL BE DICTATED BY THE EXTENT OF DAMAGE. FABRICATE FILLER AND SHIMS AS REQUIRED TO ACCOMMODATE MATING STRUCTURE AND THE ORIGINAL CONTOUR OF CHANNEL, 32-31019-225, -226.
6. DRILL FASTENER HOLES THROUGH REPAIR COMPONENTS AS INDICATED IN THE ILLUSTRATION. INSTALL FASTENERS AS INDICATED IN THE ILLUSTRATION. MAINTAIN FOUR DIAMETER FASTENER SPACING AND TWO DIAMETER EDGE DISTANCE WHEN LOCATING NEW FASTENERS. DETERMINE FASTENER GRIP LENGTH AT INSTALLATION.
7. TREAT REWORK AREA AND REPAIR PARTS FOR CORROSION PER T.O. 1F-4C-3-1-6.
8. SEE FASTENER KEY.

Figure 3-36A1. B.L.C. Air Duct Support and 32-31019-225, 226 Channel Repair - FS 230.40 (Sheet 2 of 2)







REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	HS26AS-3	HS24-3		0.156 +.006 -.000
2	HS26AS-2	HS24-3		0.156 +.006 -.000
3	NAS1398D5A2			0.159 +.007 -.000
4	NAS1399D5A2			0.159 +.007 -.000
5	NAS1669-08L2			0.165 +.003 -.000
6	HS26AS-4	HS24-5		0.156 +.006 -.000
7	HS26AS-4	HS24-5		0.156 +.006 -.000
8	MS20470AD5			0.159 +.007 -.000
9	NAS229-10	MS21042-3	ANR6D10	0.191 +.006 -.000
10	HS26A6-3	HS24-6		0.189 +.006 -.000
11	NAS1398D5A4			0.159 +.007 -.000
12	NAS1670-08L4			0.165 +.003 -.000
13	HS26AS-5	HS24-5		0.156 +.006 -.000
14	MS20426AD5			0.159 +.007 -.000
15	NAS464P3A4	MS21042-3		0.191 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES REFERENCE TO TF-4C-3-1-1. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. COUNTERSINK HOLES TO RECEIVE FASTENERS, AS REQUIRED.

B. REFINISH FASTENER COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

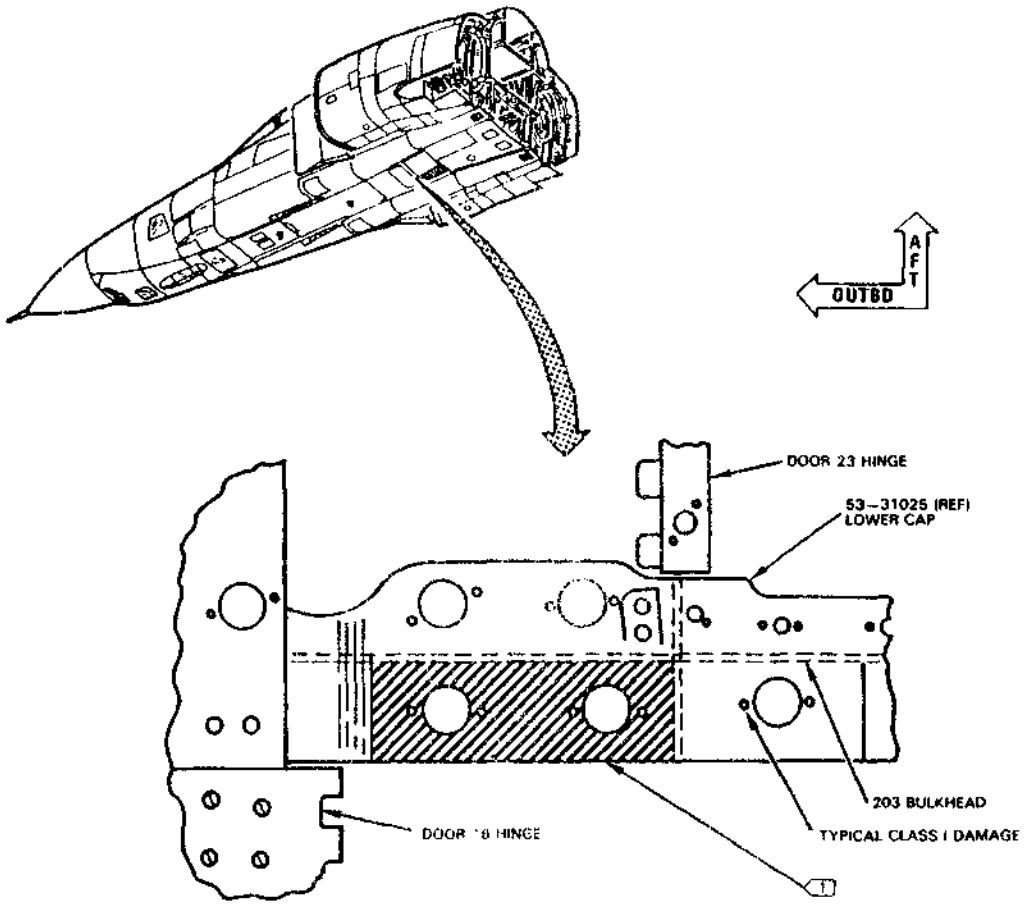
Notes

(1) (TYPICAL BOTH SIDES)

(2) ALTERNATE MATERIAL 7075-T6 AL ALY QQ-A-367 (T6).

G9216921

Figure 3-36B. Fitting, 53-39067-1, Replacement



DETAIL A
(VIEW LOOKING UP)

BONDING CLASSIFICATIONS

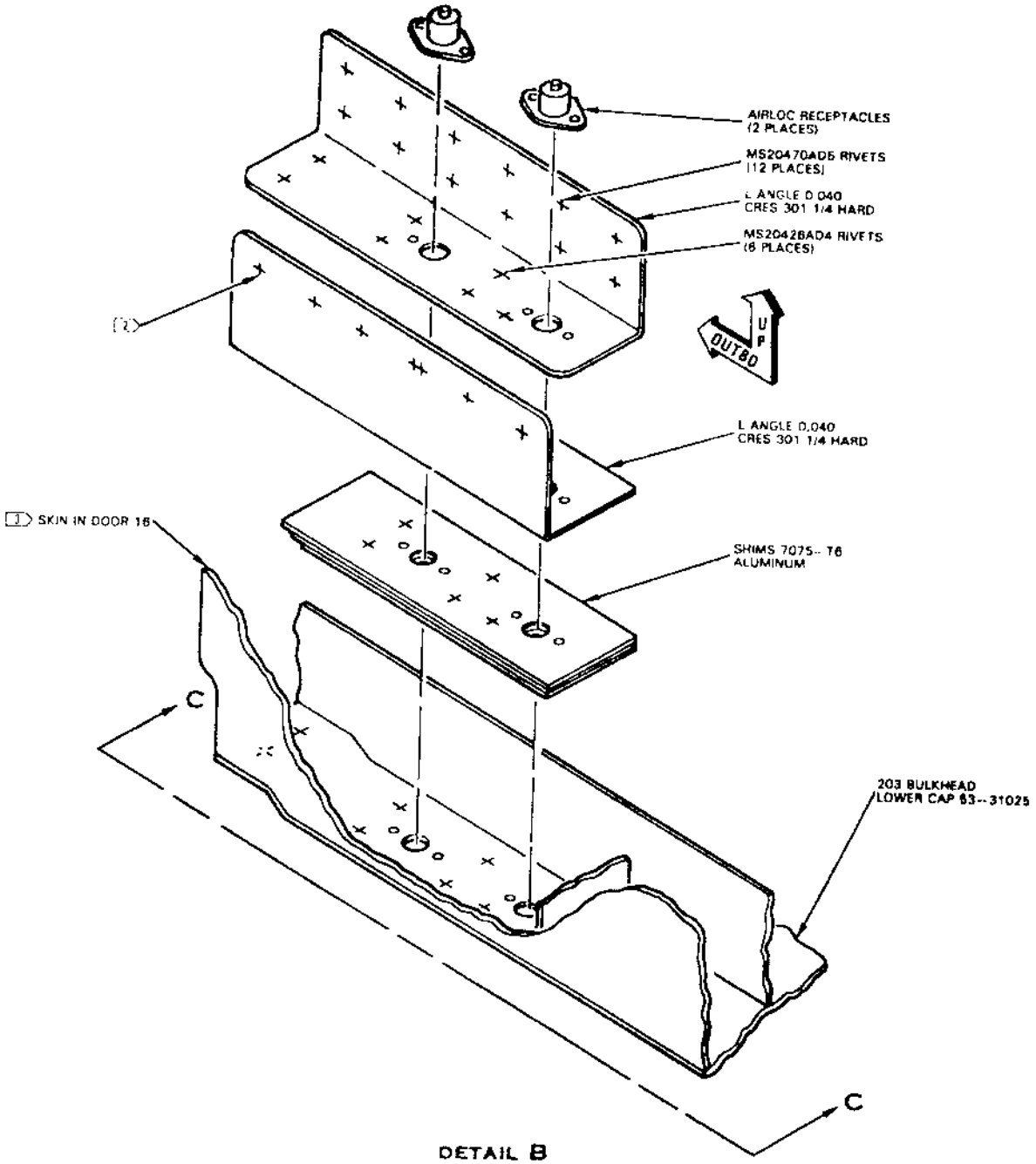
CLASS I: ONE CRACK PROPAGATING (REFER TO DETAIL A) FROM A RIVET HOLE TO A CORRESPONDING AIRLOC FASTENER HOLE IN THE CAP (53–31025). THIS IS ALLOWABLE (DAMAGE CONSIDERED NEGLIGIBLE).

(4) CLASS II: FOR CRACKS PROPAGATING FROM AN AIRLOC HOLE (MAXIMUM OF TWO AIRLOC HOLES) WHICH DO NOT EXTEND INTO A RISER'S RADIUS OR THE NEXT AIRLOCK HOLE, REPAIR PER THIS PROCEDURE IF CRACKS ARE WITHIN THE CROSSHATCHED AREA OF DETAIL A.

CLASS III: FOR CRACKS PROPAGATING BETWEEN ADJACENT AIRLOC FASTENER HOLES, AND DAMAGE NOT COVERED BY THE CLASS I OR CLASS II CONDITIONS, CONTACT ENGINEERING AT OO-ALC/LACE.

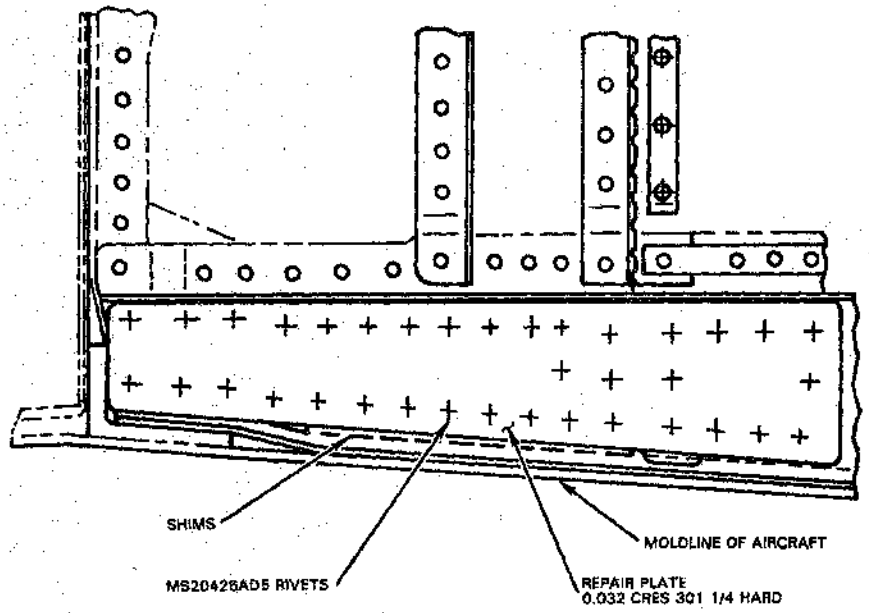
G9216922

Figure 3-36B1. FS 205.00 Bulkhead, Lower Cap 53-31025, Repair (Sheet 1 of 3)



G9216923

Figure 3-36B1. FS 203.00 Bulkhead, Lower Cap, 53-31025, Repair (Sheet 2 of 3)



SECTION C-C
(VIEW LOOKING AFT THROUGH DOOR 16)

LEGEND

\+ NEW FASTENER

o EXISTING FASTENER

REPAIR PROCEDURE

A. IF DAMAGE IS CLASS II, STOP DRILL CRACKS ENDS WITH 1/4 INCH DRILL.

B. FABRICATE SHIMS FROM 7075–T6 ALUMINUM, LENGTH AND HEIGHT AS REQUIRED. ALODINE SHIMS.

C. FABRICATE L ANGLES FROM 0.040 CRES 301 1/4 HARD. FABRICATE REPAIR PLATE FROM 0.032 CRES 301 1/4 HARD.

D. MATCH DRILL L ANGLES, REPAIR PLATE AND SHIMS TO EXISTING STRUCTURE FOR NEW AND EXISTING FASTENERS PER DETAIL B AND SECTION C–C.

E. INSTALL REPAIR PARTS TO AIRFRAME USING FASTENERS NOTED, LENGTH AS REQUIRED.

F. INSTALL NEW AIRLOC FASTENER RECEPTACLE(S).

G. SELECT PROPER LENGTH AIRLOC FASTENERS TO COMPENSATE FOR ADDED THICKNESS OF REPAIR.

H. FINISH REWORKED AREA REFER TO TO 1F–4C–3–1–6.

Notes

(1) CROSS–HATCHED AREA INDICATES REGION WHERE REPAIRABLE DAMAGE IS LOCATED.

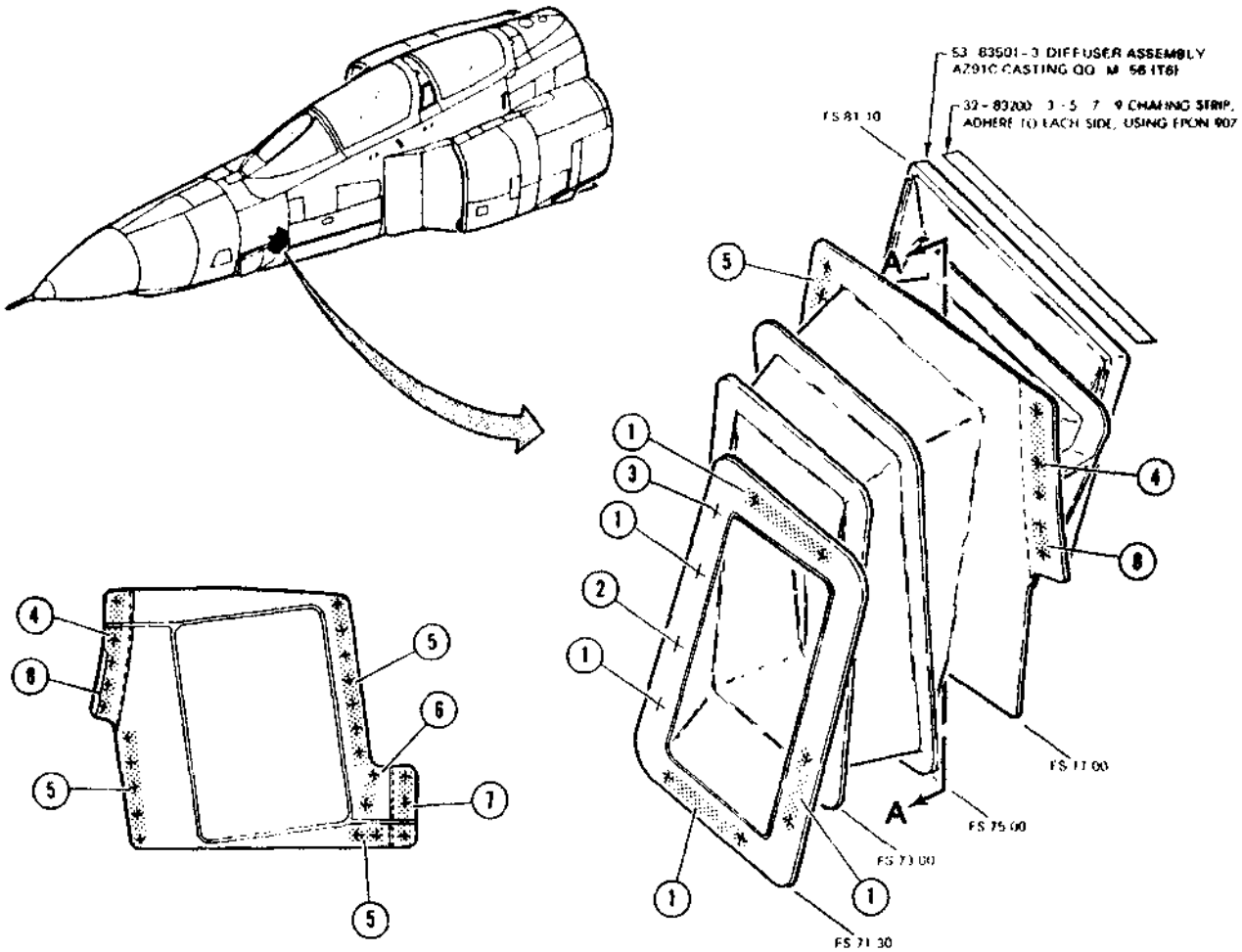
(2) FOR TYPE OF FASTENERS REFER TO SECTION C–C.

(3) FOR CLARITY, FASTENERS IN DOOR 16 SKIN ARE NOT SHOWN.

(4) AFTER DISCOVERY OF DAMAGE, REPAIR AT NEXT 100 HOUR INSPECTION. MONITOR DAMAGE AFTER EVERY 15 FLIGHT HOURS. IF DAMAGED AREA BECOMES LARGER, REPAIR MUST BE ACCOMPLISHED IMMEDIATELY.

G9216924

Figure 3-36B1. FS 203.00 Bulkhead, Lower Cap, 53-31025, Repair (Sheet 3 of 3)



SECTION A-A

FS 77.00 LOOKING FORWARD

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

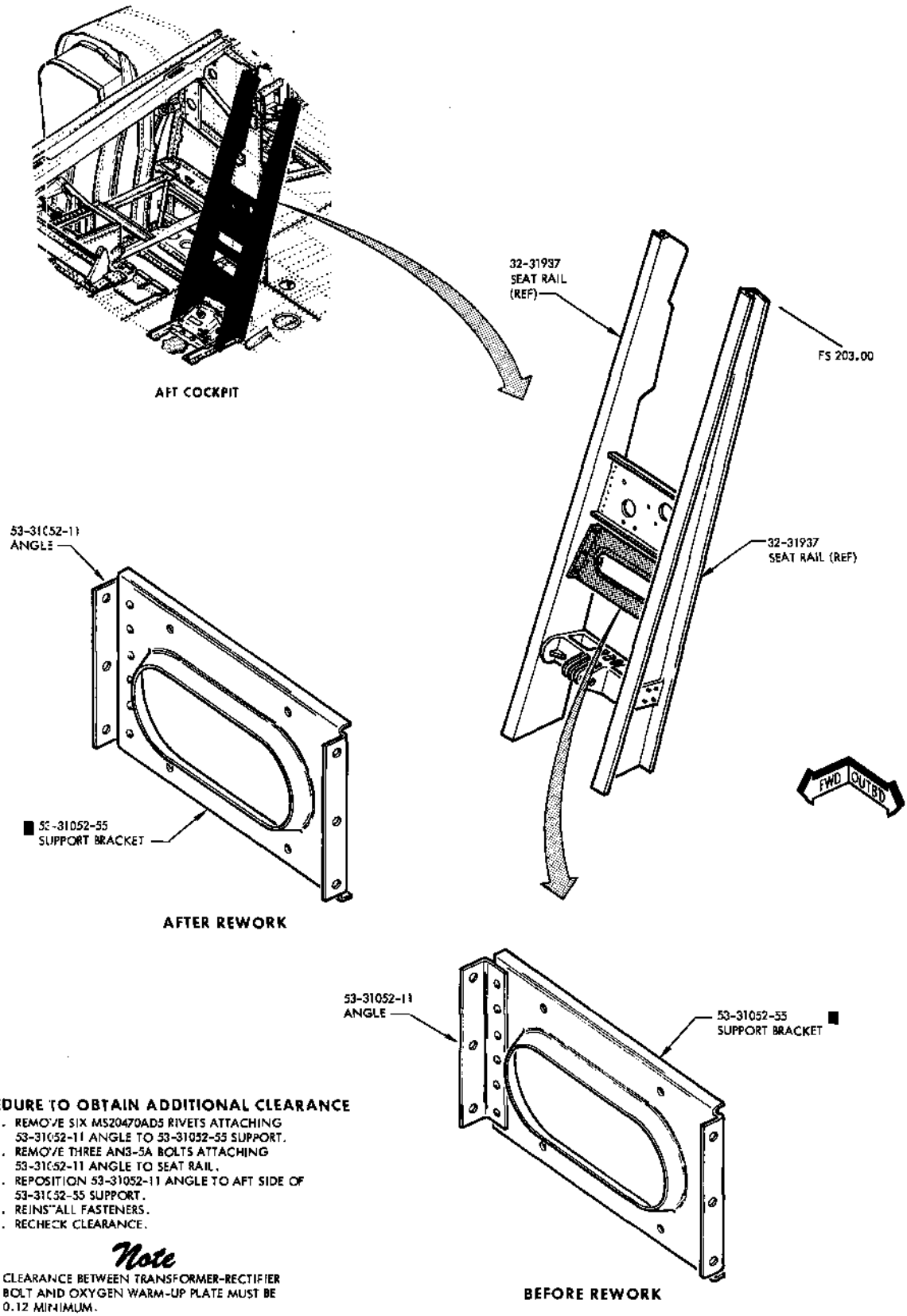
REF NO	FASTENER	WASHER	SHIM OR SPACER	NUT OR COLLAR	HOLE SIZE
1	AN3-6A	AN960D10 (2)		MS21042-3	0.191 +.006 -.000
2	AN3-10A	AN960D10 (2)		MS21042-3	0.191 +.006 -.000
3	AN3-11A	AN960D10 (2)		MS21042-3	0.191 +.006 -.000
4	NAS464P3A5	NAS1197-10 (3)	53-34005-151	MS21042-3	0.191 +.006 -.000
5	MS20470B6-( )(1)		53-34005-155		0.191 +.007 -.000
6	NAS1671-3CLK(1)		53-34005-155		0.199 +.003 -.000
7	NAS464P3A6	NAS1197-10 (3)	53-34005-153	MS21042-3	0.191 +.006 -.000
8	NAS1503-5	AN960D10 (4)	53-34005-151	MS21042-3	0.191 +.006 -.000

Notes

(1) FASTENER LENGTH TO BE DETERMINED AT TIME OF INSTALLATION
(2) ONE UNDER HEAD, TWO UNDER NUT
(3) ONE UNDER HEAD, ONE UNDER NUT.
(4) ONE UNDER NUT

G9216925

Figure 3-36C Diffuser, 53-83501-3, Replacement Index



PROCEDURE TO OBTAIN ADDITIONAL CLEARANCE

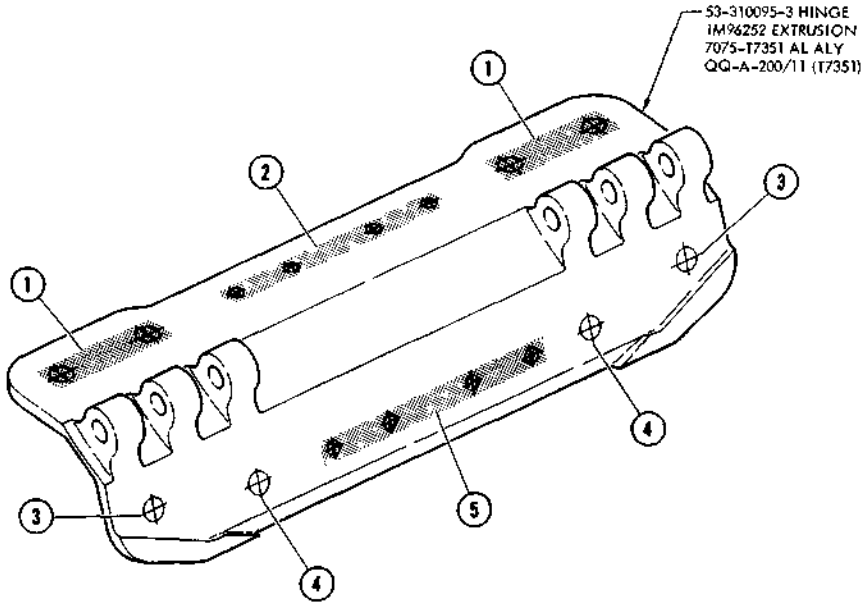
a. REMOVE SIX MS20470AD5 RIVETS ATTACHING 53-31052-11 ANGLE TO 53-31052-55 SUPPORT.
b. REMOVE THREE AN3-5A BOLTS ATTACHING 53-31052-11 ANGLE TO SEAT RAIL.
c. REPOSITION 53-31052-11 ANGLE TO AFT SIDE OF 53-31052-55 SUPPORT.
d. REINSTALL FASTENERS.
e. RECHECK CLEARANCE.

Note

CLEARANCE BETWEEN TRANSFORMER-RECTIFIER BOLT AND OXYGEN WARM-UP PLATE MUST BE 0.12 MINIMUM.

4C-3-1-2-(232)A

Figure 3-37. Transformer-Rectifier Support Bracket Reposition FS 203.00



INSTALLATION PROCEDURE FOR NEW PART

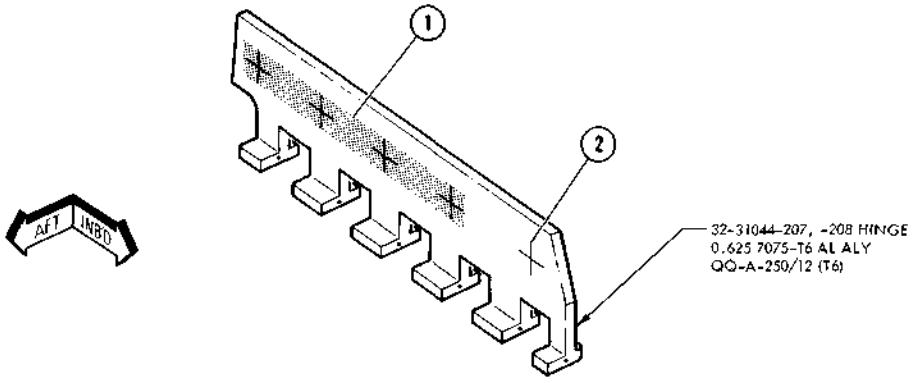
A. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	HL551-8-6	HL579-8	$0.250^{+.004}_{-.000}$
2	HL551-5-6	HL579-5	$0.164^{+.004}_{-.000}$
3	HL551-8-7	HL579-8	$0.250^{+.004}_{-.000}$
4	HL551-8-8	HL579-8	$0.250^{+.004}_{-.000}$
5	HL551-5-7	HL579-5	$0.164^{+.004}_{-.000}$

4C-3-1-2-(34Z)

Figure 3-37A. Hinge, 53-310095, Replacement Index



REF NO.	FASTENER	WASHER	NUT	TORQUE (INCH-LB)	HOLE SIZE
1	AN3-6A	AN960D10L (1) AN960D10 (2)	MS21042-3	20-25	0.191 +.006 -.000
2	AN3-7A	AN960D10 (3) AN960D10L (4)	MS21042-3	20-25	0.191 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

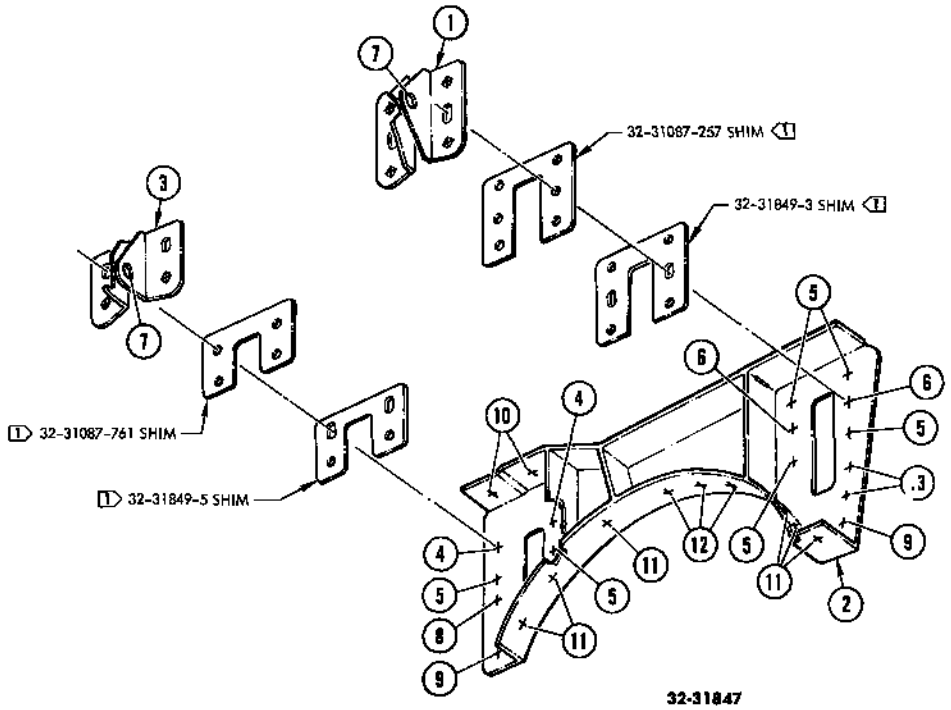
A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1.
B. REFINISH HOLES ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Notes

(1) UNDER BOLT.
(2) UNDER NUT.
(3) ONE UNDER BOLT, ONE UNDER NUT, LEFT SIDE, ONE UNDER NUT, RIGHT SIDE.
(4) UNDER BOLT RIGHT SIDE.

4C-3-1-2-(133)

Figure 3-37B. Hinge, 32-31044, Replacement Index



32-31880

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES (INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

32-31847

INSTALLATION PROCEDURE FOR NEW PART

A. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF ENLARGING PILOT HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31847-7	HINGE	1M7498	2024-T4 AL ALY	QQ-A-200/3 (T4)
2 ▶2	32-31880-3,-4	FRAME	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
▶3	32-31880-3,-7	FRAME	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
3	32-31847-9	HINGE	1M7498	2024-T4 AL ALY	QQ-A-200/3 (T4)

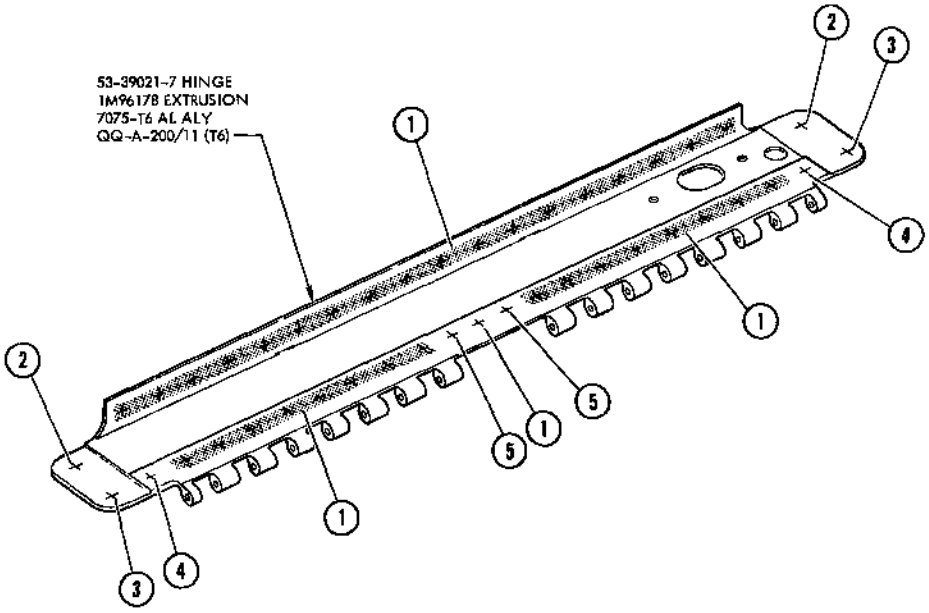
REF NO.	FASTENER	NUT OR COLLAR	BUSHING	WASHER	SHIM OR SPACER	TORQUE (INCH-LB)	HOLE SIZE
4	AN3-7A	F1934-3-4		AN960D10L		15-25	◀2
5	NAS1055-5-4	HS234-5					$0.156^{+.006}_{-.000}$
6	AN3-7A	F1972-3-2		AN960D10L		15-25	◀2
7	NAS1304-11	MS21042-4	NAS74A4-002	AN960D416L AN960D416		40-60	$0.250^{+.003}_{-.000}$
8	AN3-5A	F1934-3-4		AN960D10L		15-25	$0.196^{+.006}_{-.000}$
9	AN3-4A	MS21061L3		AN960D10L		15-25	$0.196^{+.006}_{-.000}$
10	AN3-6A	F1934-3-4		AN960D10L		15-25	$0.196^{+.006}_{-.000}$
11	MS24694S56	F1934-3-6				15-25	$0.196^{+.006}_{-.000}$
12	MS24694S56	MS21064L3-8-3			32-31854-141	15-25	$0.196^{+.006}_{-.000}$
13	AN3-5A	MS21063L3-6-2F		AN960D10L		15-25	$0.196^{+.006}_{-.000}$

Notes

1 RETAIN SHIMS FOR REINSTALLATION.
▶2 F-4C, F-4D, F-4E 66-284 THRU 71-236 AND F-4G.
▶3 F-4E 71-237 AND UP.

4C-3-1-2-(333)B

Figure 3-37C. Frame and Hinge, 32-31880 and 32-31847, Replacement Index



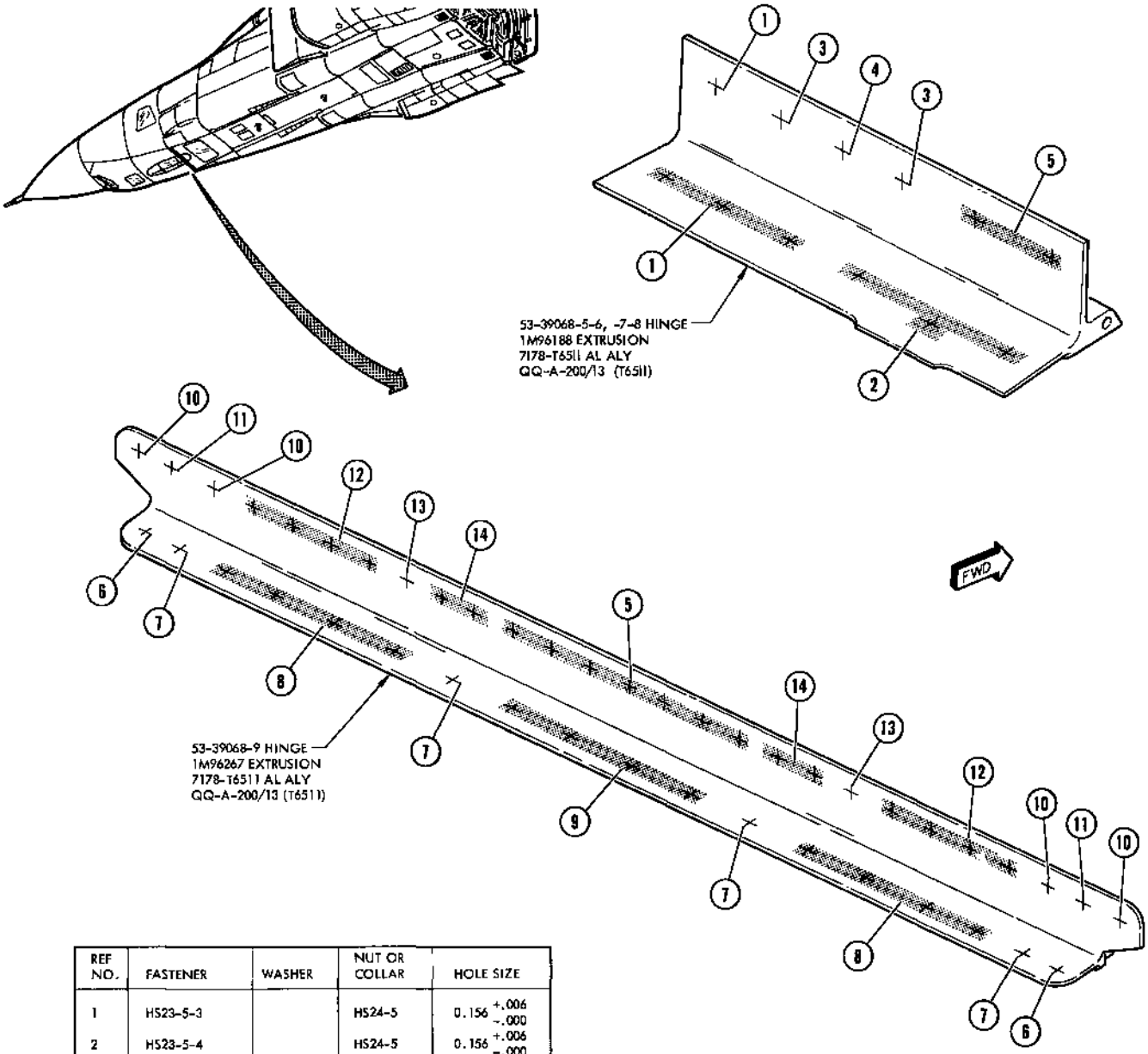
INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

REF NO.	FASTENER	WASHER (UNDER HEAD)	NUT OR COLLAR	HOLE SIZE
1	MS20470AD5			$0.159^{+.007}_{-.000}$
2	NAS1398D5A			$0.159^{+.007}_{-.000}$
3	HS26A5-4		HS24-5	$0.156^{+.006}_{-.000}$
4	HS23-5-4		HS24-5	$0.156^{+.006}_{-.000}$
5	NAS229-10	AN960D10	MS21042-3	$0.191^{+.006}_{-.000}$

4C-3-1-2-(163)A

Figure 3-37D. Hinge, 53-39021, Replacement Index



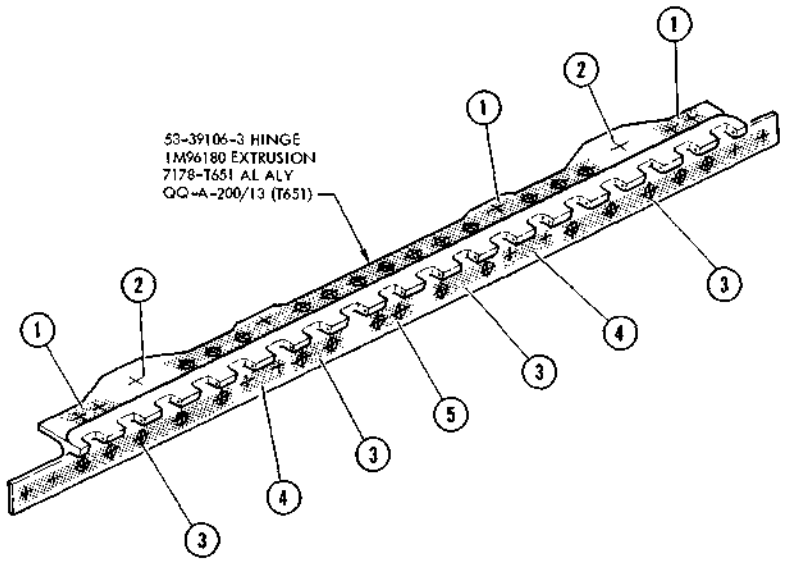
REF NO.	FASTENER	WASHER	NUT OR COLLAR	HOLE SIZE
1	HS23-5-3		HS24-5	0.156 +.006 -.000
2	HS23-5-4		HS24-5	0.156 +.006 -.000
3	HS26A5-3		HS24-5	0.156 +.006 -.000
4	HS26A5-2		HS24-5	0.156 +.006 -.000
5	HS26A5-4		HS24-5	0.156 +.006 -.000
6	NAS1055-4-3		NAS528A4	0.125 +.005 -.000
7	NAS1055-5-3		NAS528A5	0.156 +.006 -.000
8	NAS1055-5-2		NAS528A5	0.156 +.006 -.000
9	HS23-5-2		HS24-5	0.156 +.006 -.000
10	NAS1054-5-7		NAS528A5	0.156 +.006 -.000
11	NAS1054-5-8		NAS528A5	0.156 +.006 -.000
12	NAS1054-5-6		NAS528A5	0.156 +.006 -.000
13	AN3-7A	AN960D10	MS21042-3	0.191 +.006 -.000
14	HS26A5-5		HS24-5	0.156 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHODS OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

4C-3-1-2-(167)A

Figure 3-37E. Hinge, 53-39068, Replacement Index



REF NO.	FASTENER	WASHER UNDER HEAD	SHIM OR SPACER	NUT OR COLLAR	HOLE SIZE
1	MS20426AD5				0.159 +.007 -.000
2			50B24	2037-125	0.515 +.008 -.001
3	MS20470AD5				0.159 +.007 -.000
4	NAS1097AD5				0.159 +.007 -.000
5	NAS229DD8	AN960D10		MS21042-3	0.196 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING AND ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

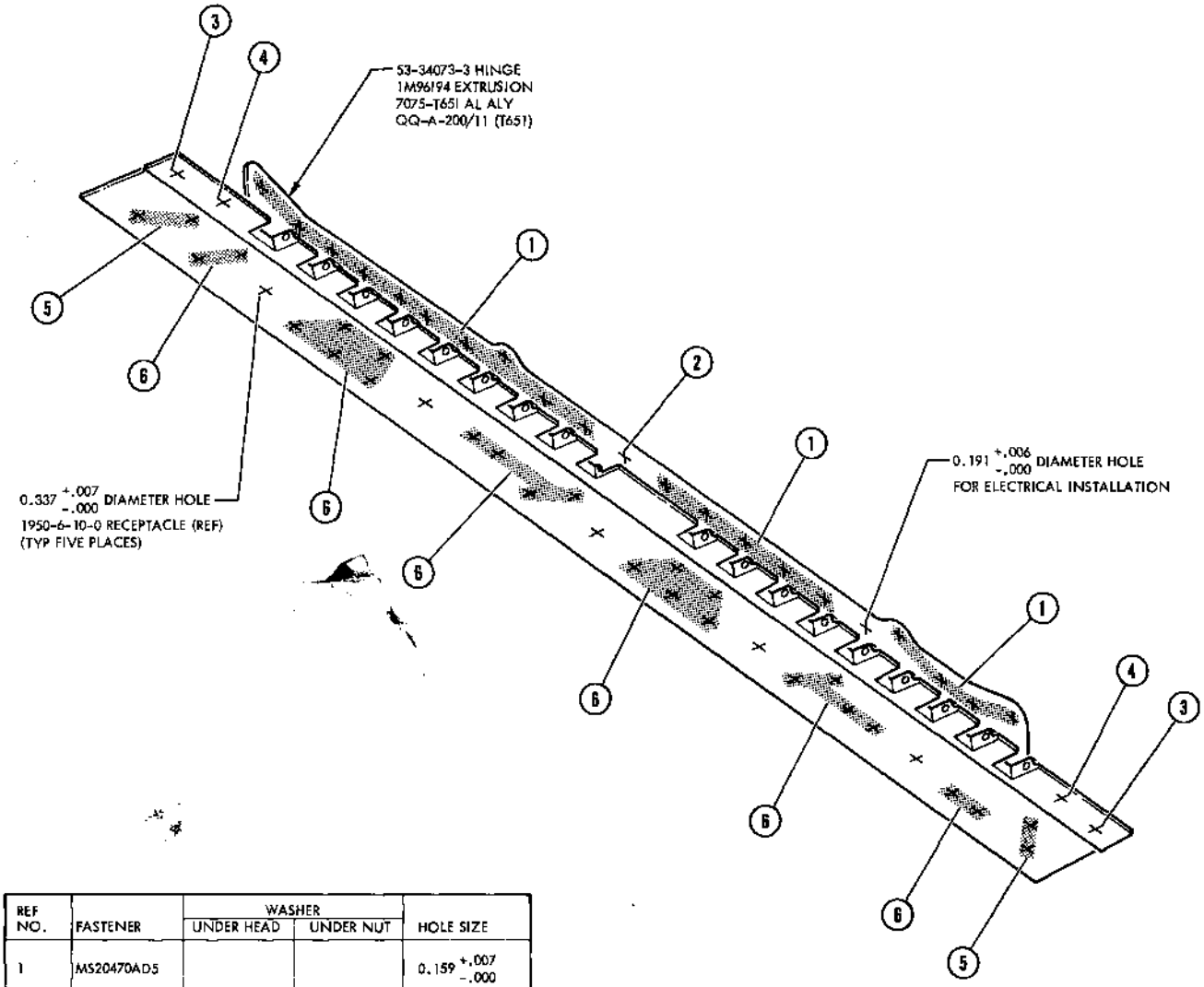
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PRODECURE IN TO 1F-4C-3-1-6.

Note

FASTENER LENGTH TO BE DETERMINED ON INSTALLATION.

4C-3-1-2-(185)

Figure 3-37F. Hinge, 53-39106, Replacement Index



REF NO.	FASTENER	WASHER		HOLE SIZE
		UNDER HEAD	UNDER NUT	
1	MS20470AD5			0.159 +.007 -.000
2	AN42-3	AN960D10L	AN960D10	0.191 +.006 -.000
3	MS20426AD5			0.159 +.007 -.000
4	MS20426AD3			0.098 +.008 -.000
5	NAS1097DD6			0.191 +.007 -.000
6	NAS1097AD5			0.159 +.007 -.000

INSTALLATION PROCEDURE FOR NEW PART

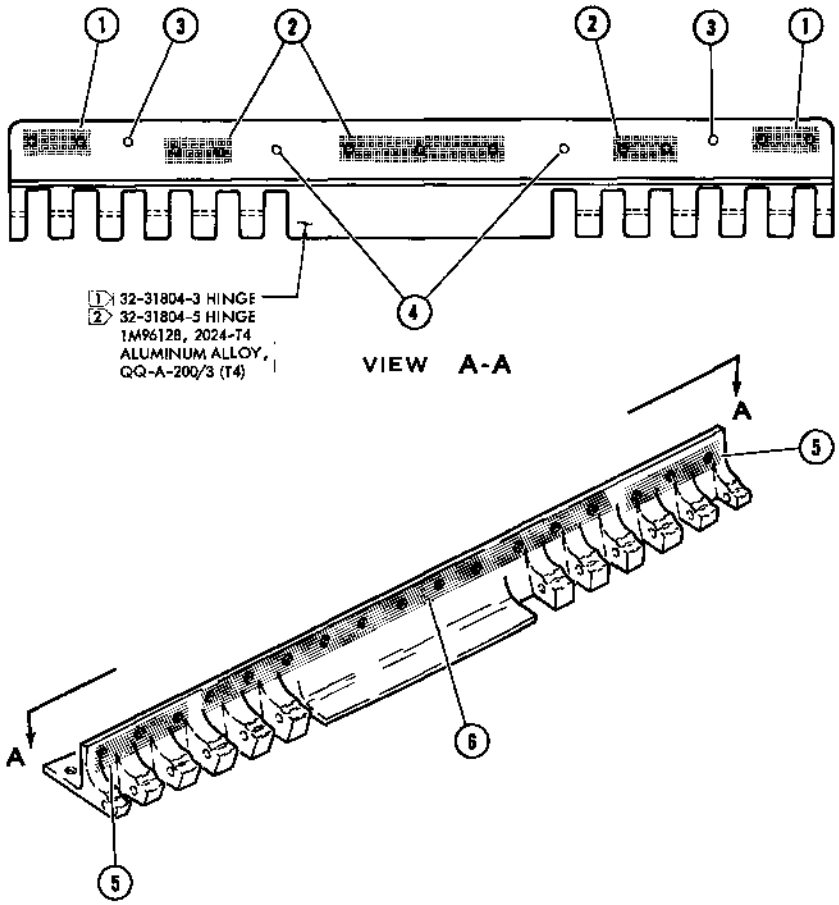
A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES ARE REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

FASTENER LENGTH TO BE DETERMINED ON INSTALLATION.

4C-3-1-2-(275)

Figure 3-37G. Hinge, 53-34073, Replacement Index



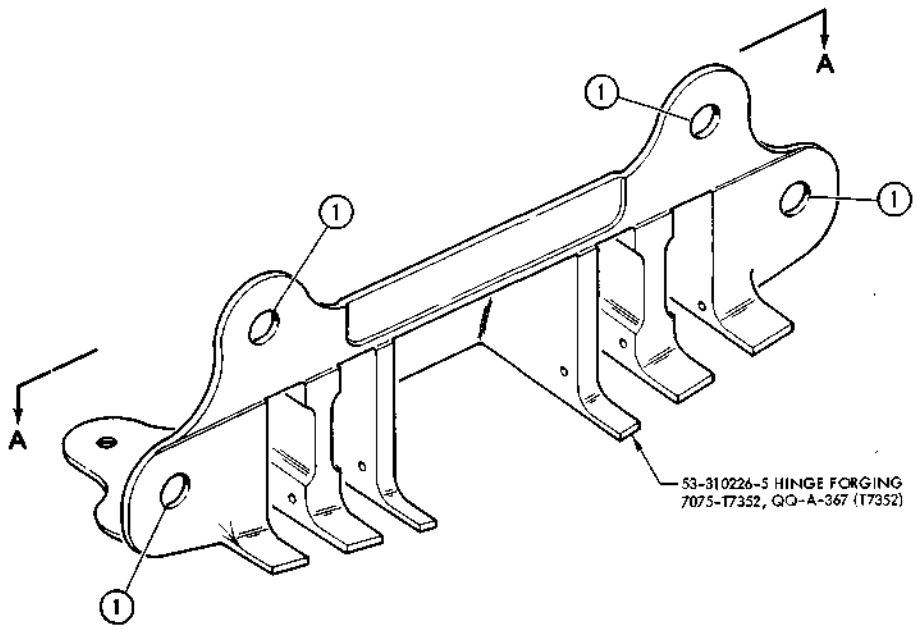
REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	MS24694S54	MS21042-3	AN960D10	0.191 $^{+.006}_{-.000}$
2	MS24694S52	MS21042-3	AN960D10	0.191 $^{+.006}_{-.000}$
3	MS24694S55	MS21042-3	AN960D10	0.191 $^{+.006}_{-.000}$
4	MS24694S53	MS21042-3	AN960D10	0.191 $^{+.006}_{-.000}$
5	AN3-6A	MS21042-3	AN960D10	0.191 $^{+.006}_{-.000}$
6	AN3-5A	MS21042-3	AN960D10	0.191 $^{+.006}_{-.000}$

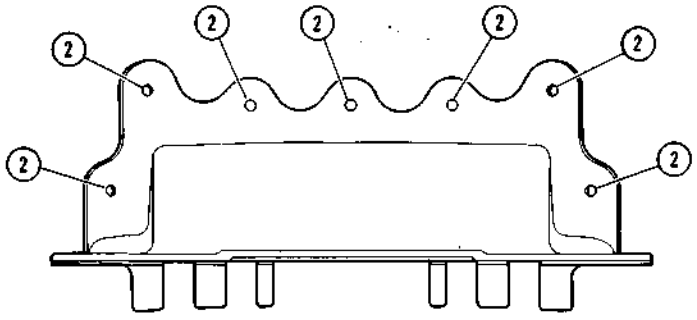
Notes

1 F-4C 63-7407 THRU 63-7634.
2 F-4C 63-7635 THRU 64-928, AND F-4D.

4C-3-1-2-(254)A

Figure 3-38. Forward Nose Landing Gear Door Structural Hinge - F-4C AND F-4D



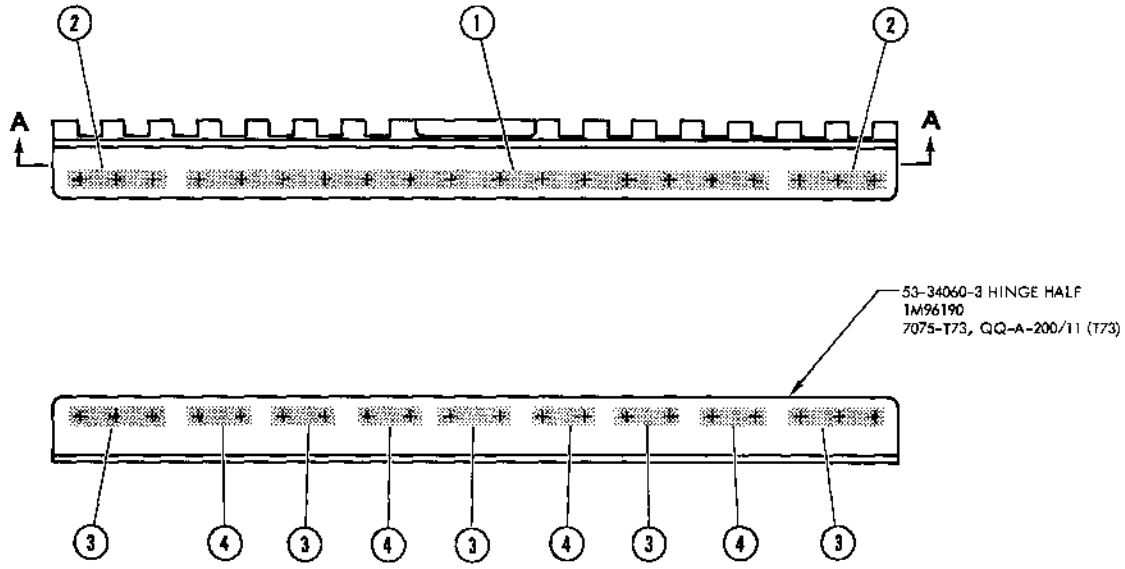


VIEW A-A

REF NO.	FASTENER OR SLEEVE BOLT	NUT OR RECEPTACLE	RETAINING RING	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	1916-6-6	1950-6-9-1	1944-6		90-110	0.377 +.007 -.000
2	NAS1503-6T	MS21042-3		AN960D10L	15-25	0.191 +.007 -.000

4C-3-1-2-(255)B

Figure 3-39. Sorward Nose Landing Gear Door Structural Hinge - F-4E AND F-4G

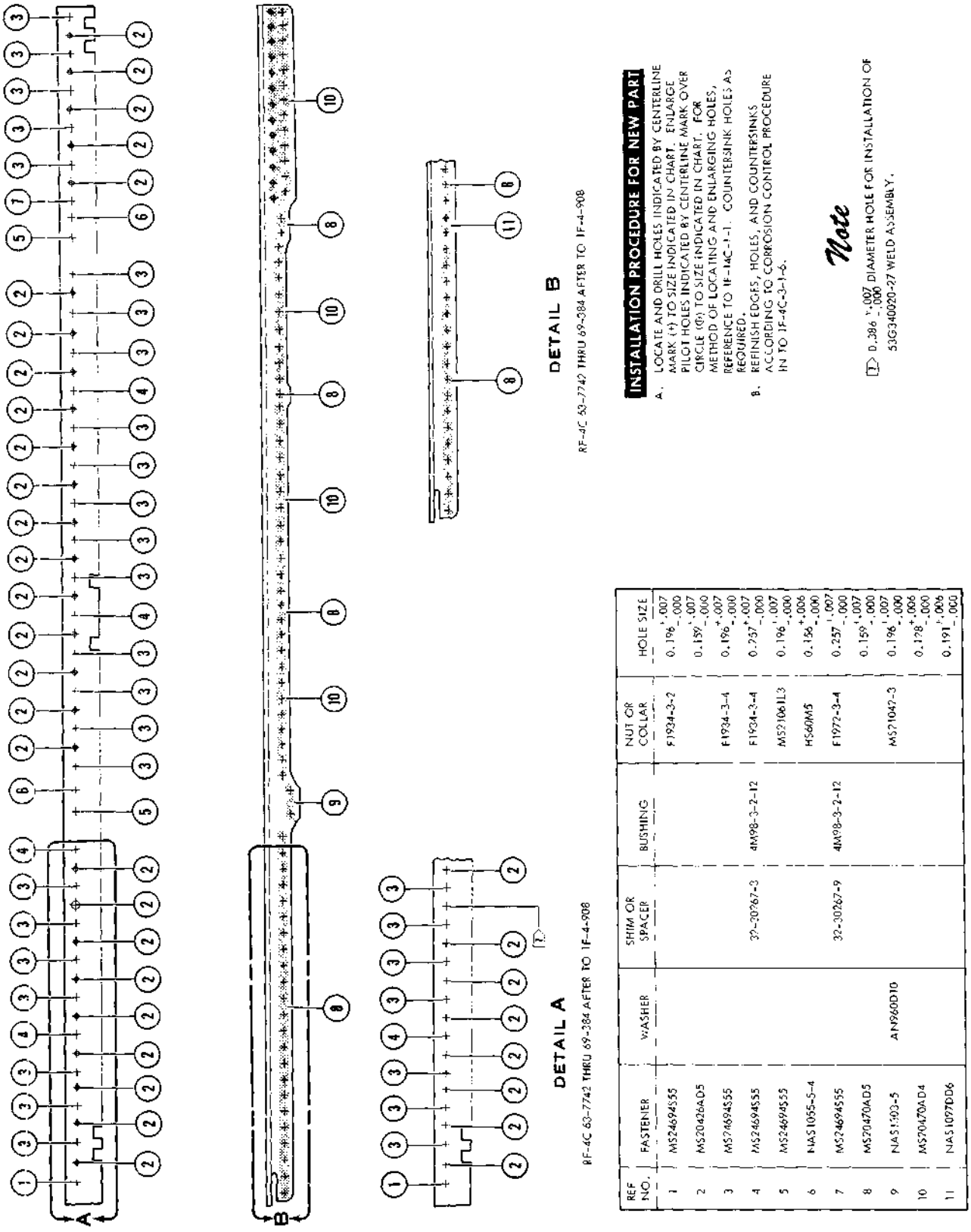


VIEW A-A

REF NO.	FASTENER	NUT	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	MS24694S50	MS21042-3	AN960D10	15-25	0.191 +.006 -.000
2	MS24694S53	MS21042-3	AN960D10	15-25	0.191 +.006 -.000
3	AN3-5A	MS21042-3	AN960D10 (2)	15-25	0.191 +.006 -.000
4	AN3-4A	MS21042-3	AN960D10	15-25	0.191 +.006 -.000

4C-3-1-2-(256)A

Figure 3-40. Forward Nose Landing Gear Door Structural Hinge - RF-4



REF NO.	FASTENER	WASHER	SHIM OR SPACER	BUSHING	NUT OR COLLAR	HOLE SIZE
1	MS24694S55				F1934-3-2	0.196 +.007 -.000
2	MS20426AD5					0.159 +.007 -.000
3	MS24694S55				F1934-3-4	0.196 +.007 -.000
4	MS24694S55		39-30267-3	4M98-3-2-12	F1934-3-4	0.257 +.007 -.000
5	MS24694S55				MS21061L3	0.196 +.007 -.000
6	NAS1055-5-4				HS60M5	0.156 +.006 -.000
7	MS24694S55		39-30267-9	4M98-3-2-12	F1972-3-4	0.257 +.007 -.000
8	MS20470AD5					0.159 +.007 -.000
9	NAS1303-5	AN960D10			MS21042-3	0.196 +.007 -.000
10	MS20470AD4					0.128 +.006 -.000
11	NAS1097DD6					0.191 +.006 -.000

4C-3-1-2-(330)

Figure 3-40A. Hinge, 53-34051-5, -6, Replacement

3-64. **FLOORS AND PANELS.** See figures 3-41, 3-41A, 3-42, and 3-42A. The forward fuselage floors are divided into three groups: number one fuel cell floor, forward cockpit floors, and aft cockpit floor. In general, floors are 7178 alclad webs stiffened by 7178 sheet metal angles and extrusions. The cockpit floors are pressure sealed and the number one fuel cell floor is liquid sealed. The cockpit floors are lined with insulation blankets and boards which should be replaced if badly damaged. The fuel cell is lined with plastic backing boards on F-4E 68-495 AND UP, F-4G, AND RF-4 69-349 THRU 72-156. See figure 3-58A.

3-65. **Negligible Damage and Corrosion Removal Limits.** Any small, smooth or isolated dent which is no deeper than 0.062 is negligible. Nicks and scratches with a depth of less than 10 percent of the thickness of the part are negligible if blended to the surface. Damage which, when blended, does not decrease the edge distance for fasteners to less than one and one half times fastener diameter is negligible. Damage that interferes with movement of internal mechanisms or tubing shall not be considered negligible.

3-66. **Patch Repair.** Refer to TO 1F-4C-3-1-5 for typical patch repairs. Floor damage which exceeds negligible damage but is not great enough to replace entire part or make an insertion shall be repaired by patching. Seal seams and rivet patterns, where required, according to TO 1F-4C-3-1-6.

3-67. **Insertion Repair.** Insertion repairs shall not be made at organizational/field maintenance because of the extensive disassembly and alignment required.

3-68. **Replacement.** Replacement of parts at organizational/field maintenance should be limited to angles, brackets, and doublers which do not require extensive forming. Replacement of an entire floor is impractical because of the inaccessibility of the floor attachment structure.

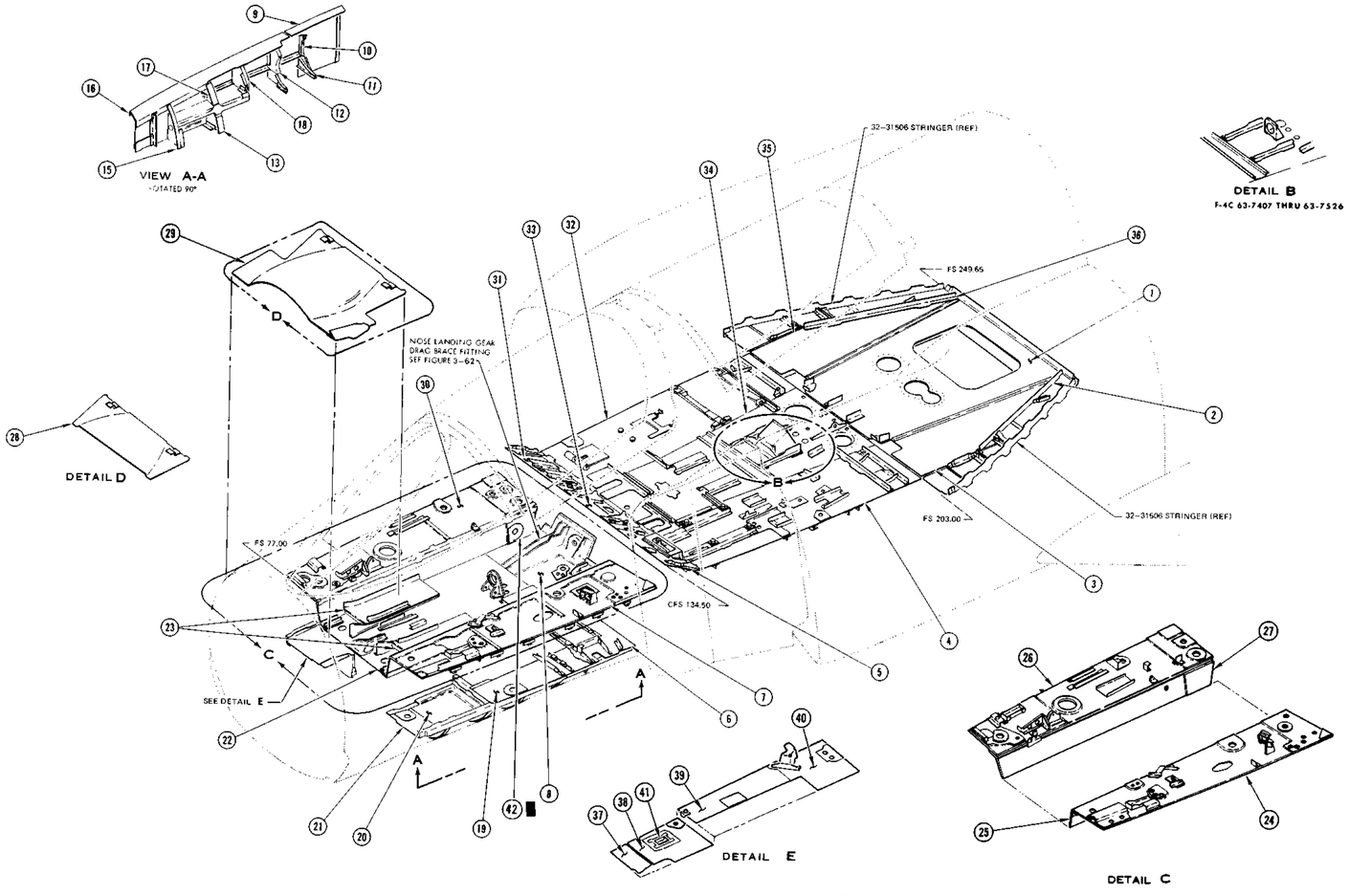


Figure 3-41. Floor and Panel Index-F-4C, F-4D, F-4E, AND F-4G (Sheet 1 of 4)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	29	32-31018-235	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	46	32-31018-433	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	28	32-31018-747	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	78	32-31018-765	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	77	32-31018-1021	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	30	32-31019-287	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
	48	32-31019-491	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
	4	32-31019-771	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	15	32-31019-401	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	13	32-31019-441	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	27	32-31019-421	WEB [5]	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	26	32-31019-765	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	20	32-31019-767	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	33	53-31028-53	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	34	53-31028-127	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	35	53-31028-131	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	36	53-31028-157	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	24	53-31028-173	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5		53-31028-5	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	38	32-31792-265	FLOOR	0.025	2024-T81 ALCLAD	QQ-A-250/5 (T81)
	42	32-31792-771	FLOOR	0.025	2024-T81 ALCLAD	QQ-A-250/5 (T81)
7	17	32-31013-1035	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	50	32-31013-1193	WEB [2]	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	45	32-31013-1213	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	44	32-31013-1235	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
8	40	32-31012-449	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	41	32-31012-825	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	47	32-31012-1055	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	70	32-31012-1057	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9		32-31908-17	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10		32-31792-71	ANGLE	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
11	31	32-31792-197	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	32	32-31792-827	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
12	79	32-31792-39	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	80	32-31792-409	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	81	32-31792-857	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
13	58	32-31797-9,-10	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
	43	32-31792-793	TEE	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	52	32-31792-794	TEE	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	54	32-31792-1017	TEE	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	39	32-31792-21	FORMER	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
15	88	32-31792-205	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	85	32-31792-867	TEE	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	86	32-31792-789	TEE	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
16	19	32-31908-19,-20	CHANNEL	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	53	32-31908-27,-28	CHANNEL	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	68	32-31908-37,-38	CHANNEL	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	69	32-31908-45,-38	CHANNEL	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
17	12	32-31792-191,-192	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
	55	32-31792-295,-296	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
	75	32-31792-795,-796	TEE	1M558	2024-T6 AL ALY	QQ-A-200/3 (T6)
18	89	32-31792-227	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	92	32-31792-849	FORMER	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
19	98	32-31792-267	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	93	32-31792-851	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
20	96	32-31792-269	FLOOR	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	94	32-31792-777	FLOOR	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
21	49	32-31792-781	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	51	32-31792-1013	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	95	32-31792-3	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	9	32-31012-499	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	11	32-31012-797	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	25	32-31012-1009	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	8	32-31509-49,-50	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	23	32-31509-75,-77	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	24	32-31509-81,-82	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	21	32-31509-97,-99	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	14	32-31013-773	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
	18	32-31013-805	WEB [2]	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
	22	32-31013-845	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	7	32-31013-425	WEB [3]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	10	32-31013-1001	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
26		32-31014-701	WEB [4]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
27	7	32-31014-433	WEB [3]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	10	32-31014-755	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
28	76	53-310217-3	DECK	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	6	32-31798-55	DECK	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	9	32-31798-59	DECK	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	17	32-31014-775	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	18	32-31014-1209	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	59	32-31014-1063	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	63	32-31014-1083	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	57	32-31014-1099	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	58	32-31014-1089	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	59	32-31014-1105	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	60	32-31014-1117	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
	67	32-31014-1199	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
31	15	53-31029-5	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	60	53-31029-69	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	83	53-31029-3	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	16	53-31029-55	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(222-2)C

Figure 3-41. Floor and Panel Index - F-4C, F-4D F-4E, AND F-4G (Sheet 2 of 4)

REF NO		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
	12	53-31029-71	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	13	53-31029-87	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	64	53G31029-11	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	65	53G31029-13	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33		53-31030-53	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	10	53-31030-3	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	70	53-31303-125	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	72	53-31030-129	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	87	53-31030-211	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	91	53-31030-227	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	71	53-31030-275	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	92	53-31030-273	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	86	53-31030-265	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	76	53-31030-263	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	85	53-31030-299	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	77	53-31030-405	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	80	53-31030-407	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	15	32-31019-402	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	81	32-31019-442	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	82	32-31019-422	WEB <5>	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	97	32-31019-488	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	93	32-31019-813	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
36	98	32-31019-288	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
	15	32-31019-492	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
	2	32-31019-772	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
37	21	32-31792-4	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	37	32-31792-895	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38	38	32-31792-283	FLOOR	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	84	32G31792-99	FLOOR	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	89	32-31792-741	FLOOR	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	60	32G31792-101	FLOOR	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
	88	32-31792-1123	FLOOR	0.040	2024-T6 ALCLAD	QQ-A-250/5 (T6)
39	39	32-31792-277	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	24	32G31792-105	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	29	32-31792-423	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	26	32G31792-107	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	36	32-31792-767	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	28	32G31792-109	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	27	32-31792-1209	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
40	31	32-31792-275	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	17	32G31792-87	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	32	32-31792-299	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	61	32G31792-89	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	62	32-31792-1205	FLOOR	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
41	33	32-31792-755	SUMP ASSY	<47>		
	34	32-31792-1117	SUMP ASSY	<51>		

Notes

1. REFER TO T.O. 1F-4C-3-1-6 FOR SEALING INSTRUCTIONS FOR COCKPIT AND FUEL CELL FLOORS AND WEBS.
<2> CHEMICALLY MACHINED TO 0.032 BETWEEN FS 85.50 AND FS 121.00.
<3> CHEMICALLY MACHINED TO 0.032 BETWEEN FS 85.50 AND FS 128.00.
<4> CHEMICALLY MACHINED TO 0.032 BETWEEN FS 96.50 AND FS 128.00.
<5> CHEMICALLY MACHINED TO 0.025 EXCEPT ALONG INBOARD ROW OF FASTENERS.
6 F-4C 63-7407 THRU 63-7597.
7 F-4C 63-7407 THRU 64-672.
8 F-4C 63-7407 THRU 64-737.
9 F-4C 63-7598 THRU 64-928, AND F-4D.
10 F-4C 64-673 THRU 64-817, AND F-4D 64-929 THRU 64-937.
11 F-4C 64-738 THRU 64-928.
12 F-4C 63-7407 THRU 63-7420.
13 F-4C 63-7527 THRU 63-7662.
14 F-4C 63-7663 THRU 64-928 BEFORE TO 1F-4C-598 AND F-4D 64-929 THRU 66-249.
15 F-4C 63-7407 THRU 63-7526.
16 F-4C 63-7421 THRU 63-7662 BEFORE TO 1F-4C-598.
17 F-4C 64-818 THRU 64-928, AND F-4D 64-933 THRU 64-963.
18 F-4D 64-964 THRU 65-611.
19 F-4D 65-612 THRU 66-7504.
20 F-4C 63-7663 THRU 64-817; F-4D 64-929 THRU 64-937.
21 F-4D 65-771 THRU 66-8825, F-4E, AND F-4G.
22 F-4D 65-666 THRU 66-8825.
23 F-4C 63-7598 THRU 64-737.
24 F-4C 64-738 THRU 64-928, AND F-4D 64-929 THRU 64-963.
25 F-4C.
26 F-4C 63-7421 THRU 63-7742.
27 F-4C 63-7763 THRU 64-809, AND F-4D 64-929 THRU 64-939.
28 F-4C 64-810 THRU 64-928.
29 F-4D 64-940 THRU 66-8825, F-4E, AND F-4G.
30 F-4C 63-7763 THRU 64-928, AND F-4D 64-929 THRU 64-963.
31 F-4D 64-964 THRU 66-8825, F-4E, AND F-4G.
32 F-4C 63-7527 THRU 64-928.
33 F-4C 63-7407 THRU 63-7662.
34 F-4C 63-7663 THRU 64-727.
35 F-4C 64-728 THRU 64-928, AND F-4D 64-929 THRU 66-248.
36 F-4D 66-249 THRU 66-8825.
37 F-4D 66-250 THRU 66-8825, F-4E, AND F-4G.
38 F-4C AND F-4D.
39 F-4E 68-495 AND UP AND F-4G.
40 F-4C AND F-4D 64-929 THRU 64-963.
41 F-4D 64-964 THRU 66-8825, AND F-4E 66-284 THRU 67-341.
42 F-4E AND F-4G.
43 F-4D 66-7505 THRU 66-8701.
44 F-4D 64-964 THRU 65-651.
45 F-4D 65-652 THRU 66-8825.
46 F-4D 64-929 THRU 65-665.
<47> FURNISHED AS A WELDED ASSEMBLY CONSISTING OF 32-31792-749 FLANGE, -751 SUMP, AND -753 TUBE.
48 F-4D 64-964 THRU 65-770.
49 F-4D 64-964 THRU 66-8696, AND F-4E 66-284 THRU 66-295, 66-297 AND 66-300.
50 F-4D 66-8699 THRU 66-8825, AND F-4E 66-296, 66-298, 66-299, 66-301 AND UP, AND F-4G.
<51> FURNISHED AS A WELDED ASSEMBLY CONSISTING OF 32-31792-1121 SUMP AND -1113 TUBE.
52 F-4E 66-284 THRU 67-282.
53 F-4C 63-7421 THRU 64-928, AND F-4D.
54 F-4E 67-283 AND UP, AND F-4G.
55 F-4E 66-284 THRU 66-316.
56 F-4E 66-317 AND UP AND MODIFIED ON F-4G.
57 F-4D 66-8702 THRU 66-8825.
58 F-4E 66-284 THRU 66-338.
59 F-4E 66-339 THRU 68-331.
60 F-4C 63-7469 THRU 64-928, AND F-4E 66-284 THRU 69-7588 BEFORE TO 1F-4-908.
61 F-4C 63-7469 THRU 64-928, AND F-4E 66-284 THRU 69-7588 AFTER TO 1F-4-908 AND F-4G.

4C-3-1-2-(222-3)C

Figure 3-41. Floor and Panel Index - F-4C, F-4D, F-4E, AND F-4G (Sheet 3 of 4)

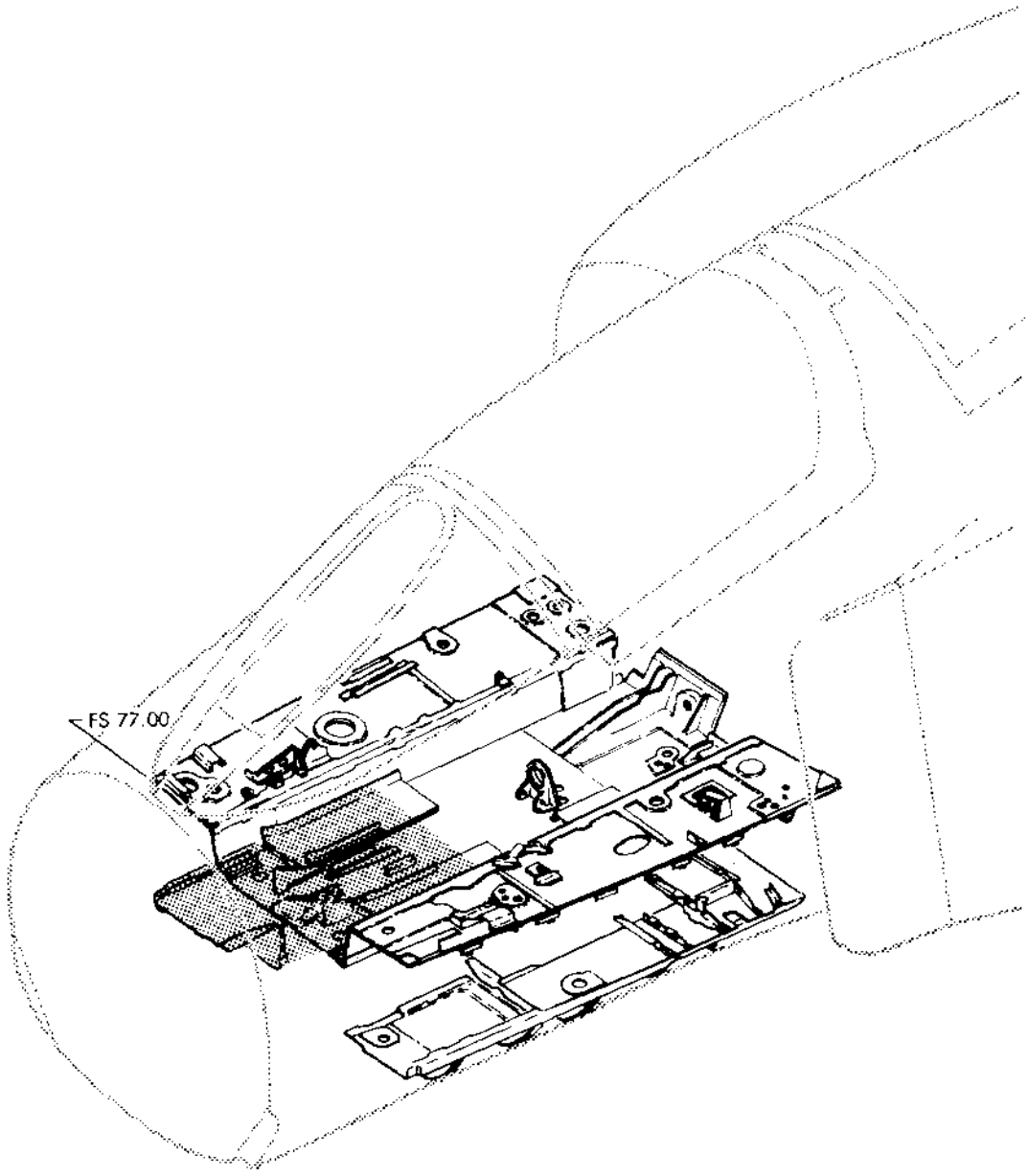
Notes

CONTINUED

15 F-4E 67-342 THRU 68-365.
16 F-4C 63-7407 THRU 63-7420 BEFORE TO 1F-4C-598.
17 F-4C 63-7407 THRU 63-7420 AFTER TO 1F-4C-598.
18 F-4C 63-7421 THRU 64-928 AFTER TO 1F-4C-598.
19 F-4E 68-332 THRU 68-451.
20 F-4E 68-452 AND UP AND F-4G.
22 F-4E 66-284 THRU 67-376.
23 F-4E 66-377 AND UP AND F-4G.
25 F-4E 68-366 AND UP AND F-4G.
31 F-4D 63-929 THRU 66-7592, 66-7594 THRU 66-7600, 66-7602, 66-7604, 66-7607 THRU 66-7611, 66-7613 THRU 66-7615 AND 66-7620.
32 F-4D 66-7593, 66-7601, 66-7603, 66-7605, 66-7606, 66-7612, 66-7616 THRU 66-7619, 66-7621 THRU 66-7725.
33 F-4E 66-284 THRU 66-297.
34 F-4D 66-7726 THRU 66-8825.
35 F-4E 68-368 THRU 68-410.
36 F-4E 66-298 THRU 68-367.
37 F-4E 68-411 THRU 68-494.
38 F-4E 66-284 THRU 68-494.
39 F-4C 63-7743 THRU 63-7526.
EC F-4C 63-7527 THRU 64-928, AND F-4D.
41 F-4C, F-4D, F-4E 66-284 THRU 69-7588 AND F-4G.
42 F-4E 69-7589 AND UP.
43 F-4C, AND F-4D 64-929 THRU 65-770 BEFORE TO 1F-4-908.
44 F-4C, AND F-4D 64-929 THRU 65-770 AFTER TO 1F-4-908.
45 F-4D 65-771 THRU 66-8825, AND F-4E 66-284 THRU 69-7588 BEFORE TO 1F-4-908.
46 F-4D 65-771 THRU 66-8825, F-4E 66-284 THRU 69-7588 AFTER TO 1F-4-908 AND F-4G.
27 F-4C 62-12199 THRU 64-817 BEFORE TO 1F-4-908.
28 F-4C 62-12199 THRU 64-817 AFTER TO 1F-4-908.
29 F-4C 64-818 THRU 64-928, AND F-4D 64-929 THRU 65-770 BEFORE TO 1F-4-908.
50 F-4C 64-818 THRU 64-928, AND F-4D 64-929 THRU 65-770 AFTER TO 1F-4-908.
91 F-4C 62-12199 THRU 63-7468, AND F-4D BEFORE TO 1F-4-908.
92 F-4C 62-12199 THRU 63-7468, AND F-4D AFTER TO 1F-4-908.
93 F-4E AND MODIFIED ON F-4G.

4C-3-1-2-(222-4)C

Figure 3-41. Floor and Panel Index - F-4C, F-4D, F-4E, AND F-4G (Sheet 4 of 4)

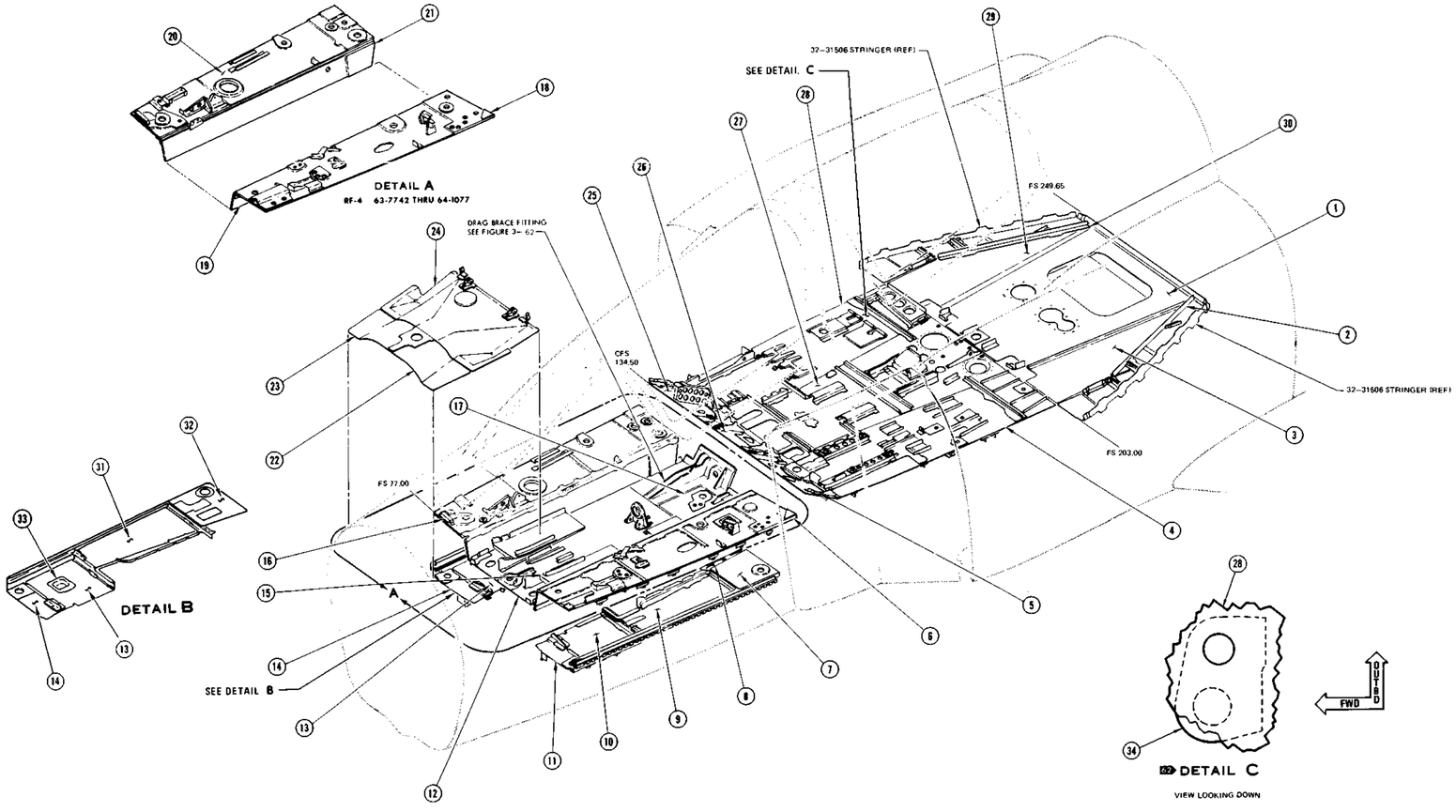


Note

AFTER REPAIR HAS BEEN COMPLETED PER TO 1F-4C-3-1-5, MAKE SURE AREA IS CLEAR OF ALL CORROSION AND DEBRIS. COAT AREA WITHIN THE BOX WITH MIL-S-81733 TO MAKE SURE ALL CRACKS AND SEAMS ARE COMPLETELY SEALED TO PRECLUDE MOISTURE ENTRAPMENT.

4C 3 1 2 1463)90

Figure 3-41A. Forward Cockpit Floor Repair-F-4C, F-4D, F-4E AND F-4G



4C-3-1-2-(193-1)G

Figure 3-42. Floor and Panel Index - RF-4 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 14	32-31018-401	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31018-471	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	32-31018-723	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2 23	32-31019-287	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
40	32-31019-491	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	32-31019-771	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
3 12	32-31019-401	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
13	32-31019-421	WEB	0.080 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
19	32-31019-487	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
4 16	53-34034-5	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	53-34034-89	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-34034-97	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	53-34034-101	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5 46	53-34034-3	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	53-34034-61	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6 20	32-31013-1037	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
30	32-31013-1195	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
39	32-31013-1209	WEB	0.090 (3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
45	32-31013-1233	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
40	32-31013-1267	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
42	32-31013-1431	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
7 32	53-34020-151	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	53-34020-245	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8 32	53-34020-5	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	53-34020-241	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9 48	53-34020-149	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	53-34020-433	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10 34	53-34020-7	FLOOR	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	53-34020-251	FLOOR	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	53-34020-9	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12 24	32-31012-773	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-31012-799	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13 34	53-34020-8	FLOOR	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	53-34020-251	FLOOR	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14 41	53-34020-10	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	53-34020-267	FLOOR	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15 46	32-31509-49, -51	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-31509-81, -82	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-31509-97, -99	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16 20	32-31014-777	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
29	32-31014-1033	WEB	0.090 (3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	32-31014-1087	WEB	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
17 43	32-31012-829	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	32-31012-1061	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18 46	32-31013-801	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
8	32-31013-807	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
9	32-31013-849	WEB	0.050 (4)	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	32-31013-1005	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
19 16	32-31013-425	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	32-31013-1001	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
20 46	32-31014-15	WEB	0.050 (5)	7178-T6 AL ALY	QQ-A-250/14 (T6)
21	32-31014-743	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
21 16	32-31014-433	WEB	0.050 (4)	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	32-31014-755	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
22 37	53-34057-9	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38	53-34057-85	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23 37	53-34057-10	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38	53-34057-86	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24 6	53-34057-7	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	53-34057-51	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	53-34035-5	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	53-31030-53	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	53-31030-215	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	53-34035-3	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)

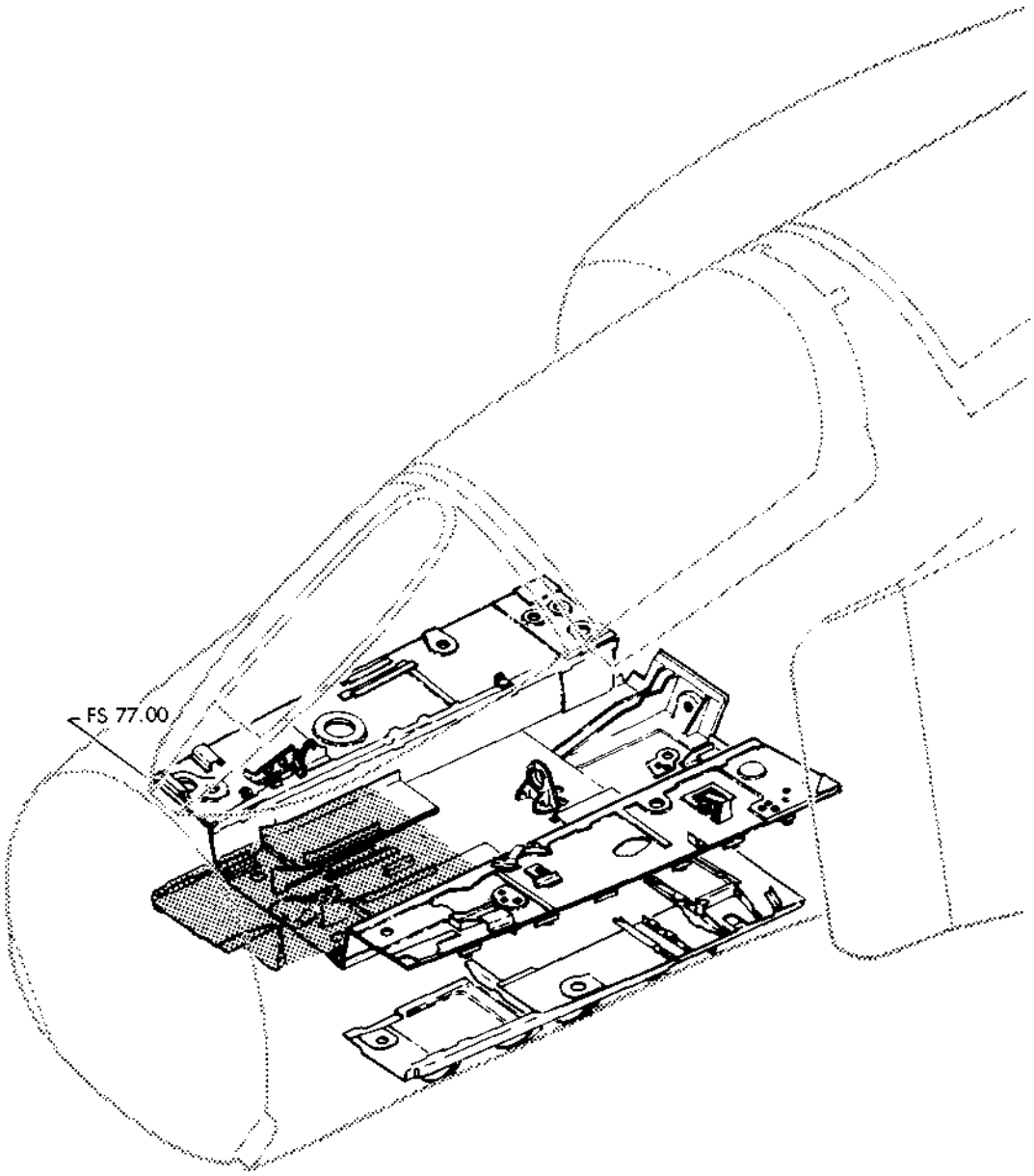
REF NO	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
29 59	32-31019-488	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
12	32-31019-402	WEB	0.080 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
13	32-31019-422	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
19	32-31019-813	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
30 23	32-31019-988	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
30	32-31019-492	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	32-31019-772	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
31 49	53-34020-149	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	53G34020-61	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	53-34020-433	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32 51	53-34020-4	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52	53G34020-53	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53	53-34020-213	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
54	53G34020-55	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55	53-34020-246	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
56	53G34020-57	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
57	53-34020-297	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	53G34020-59	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	53-34020-415	FLOOR	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33 25	53-34020-249	SUMP ASSY	(60)		
36	53-34020-271	SUMP ASSY	(61)		
34 62	53G973109-21	DOUBLER	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)

Notes

1. REFER TO T.O. 1F-4C-3-1-6 FOR SEALING INSTRUCTIONS FOR COCKPIT AND FUEL CELL FLOORS AND WEBS.
(2) CHEMICALLY MACHINED TO 0.025 EXCEPT ALONG THE INBOARD ROW OF FASTENERS.
(3) CHEMICALLY MACHINED FROM MATERIAL LISTED.
(4) CHEMICALLY MACHINED TO 0.032 BETWEEN FS 85.50 AND FS 128.00.
(5) CHEMICALLY MACHINED TO 0.032 BETWEEN FS 96.50 AND FS 128.00.
6 RF-4C 63-7742 THRU 64-1013.
7 RF-4C 64-1014 THRU 72-156.
8 RF-4C 63-7750 THRU 64-1017.
9 RF-4C 64-1018 THRU 64-1037.
10 RF-4C 63-7742 THRU 64-1037.
11 RF-4C 64-1038 THRU 64-1077.
12 RF-4C 63-7742 THRU 64-1017.
13 RF-4C 64-1018 THRU 65-864.
14 RF-4C 63-7742 THRU 64-1077.
15 RF-4C 64-1078 THRU 65-901.
16 RF-4C 63-7742 THRU 64-1061.
17 RF-4C 64-1062 THRU 65-901.
18 RF-4C 64-997 THRU 65-864.
19 RF-4C 65-865 THRU 72-156.
20 RF-4C 64-1078 THRU 65-864.
21 RF-4C 64-997 THRU 64-1077.
22 RF-4C 65-902 THRU 66-396.
23 RF-4C 63-7742 THRU 65-864.
24 RF-4C 63-7742 THRU 64-1061.
25 RF-4C 63-7743 THRU 68-576.
26 RF-4C 64-1062 THRU 72-156.
27 RF-4C 63-7750 THRU 72-156.
28 RF-4C 66-397 THRU 72-156.
29 RF-4C 65-865 THRU 66-406.
30 RF-4C 65-865 THRU 66-386 AND 66-388.
31 RF-4C 66-387 AND 66-389 THRU 72-156.
32 RF-4C 63-7742 THRU 66-406.
33 RF-4C 66-407 THRU 72-156.
34 RF-4C 63-7742 THRU 66-386 AND 66-388.
35 RF-4C 65-902 THRU 72-156.
36 RF-4C 68-577 THRU 72-156.
37 RF-4C 63-7742 THRU 66-450.
38 RF-4C 66-451 THRU 72-156.
39 RF-4C 66-387 AND 66-389 THRU 66-472.
40 RF-4C 68-562 THRU 68-576.
41 RF-4C 63-7742 THRU 66-442.
42 RF-4C 66-443 THRU 72-156.
43 RF-4C 63-7742 THRU 68-561.
44 RF-4C 68-562 THRU 72-156.
45 RF-4C 66-473 THRU 68-561, 68-577 THRU 69-384.
46 RF-4C 63-7742 THRU 63-7749.
47 RF-4C 71-248 THRU 72-156.
48 RF-4C 63-7742 THRU 69-384.
49 RF-4C 63-7742 THRU 69-384 BEFORE T.O. 1F-4-908.
50 RF-4C 63-7742 THRU 69-384 AFTER T.O. 1F-4-908.
51 RF-4C 63-7742 THRU 64-1017 BEFORE T.O. 1F-4-908.
52 RF-4C 63-7742 THRU 64-1017 AFTER T.O. 1F-4-908.
53 RF-4C 64-1018 THRU 67-442 BEFORE T.O. 1F-4-908.
54 RF-4C 64-1018 THRU 67-442 AFTER T.O. 1F-4-908.
55 RF-4C 67-443 THRU 69-336 BEFORE T.O. 1F-4-908.
56 RF-4C 67-443 THRU 69-336 AFTER T.O. 1F-4-908.
57 RF-4C 69-337 THRU 69-384 BEFORE T.O. 1F-4-908.
58 RF-4C 69-337 THRU 69-384 AFTER T.O. 1F-4-908.
59 RF-4C 65-865 THRU 66-450.
(60) FURNISHED AS A WELDED ASSEMBLY CONSISTING OF 53-34020-255 DRAIN, -257 SUMP, AND -259 FLANGE.
(61) FURNISHED AS A WELDED ASSEMBLY CONSISTING OF 53-34020-255 DRAIN AND -269 SUMP.
62 **RF-4C 67-453, 68-549, 68-593, 69-360, 69-361, 69-364 THRU 69-368 AND 69-371 THRU 69-374 AFTER TO 1F-4(R)C-671.**

Figure 3-42. Floor and Panel Index - RF-4 (Sheet 2 of 2)

4C-3-1-2-(193-2)G



Note

AFTER REPAIR HAS BEEN COMPLETED PER TO 1F-4C-3-1-5, MAKE SURE AREA IS CLEAR OF ALL CORROSION AND DEBRIS. COAT AREA WITHIN THE BOX WITH MIL-S-81733 TO MAKE SURE ALL CRACKS AND SEAMS ARE COMPLETELY SEALED TO PRECLUDE MOISTURE ENTRAPMENT.

4C-3-1-2-(464)90

Figure 3-42A. Forward Cockpit Floor Repair-RF-4C

3-69. **KEEL ASSEMBLY.** See figures 3—43 thru 3—45. The keels form the sides of the nose wheel well and extend from CFS 77.00 pressure bulkhead to the fuselage splice at FS 249.65. The keel webs from CFS 77.00 to the nose gear trunnion fitting are 0.028 titanium sheet. The webs aft of the trunnion fitting are 7178 alclad. The webs are fastened to longerons along their top and bottom edges. The splice is reinforced by a 7075 aluminum alloy truss. This portion of the keel supports the number one fuel cell floor. The remainder of the keel is reinforced by various stiffeners and doublers.

3-70. **Negligible Damage and Corrosion Removal Limits.** Dents in webs that do not exceed 0.062 in depth and have a radius of 2 inches or more are negligible provided no oil—can tendencies exist. Nicks, scratches, or gouges in webs, stiffeners, or intercostals which can be blended out without reducing the material thickness more than 10 percent are negligible. Any dent on an angle, stiffener, or intercostal should be straightened by forming. Damage to the edges of the structure is negligible if, after blending, they do not reduce fastener edge distance to less than one and one half times fastener diameter.

3-71. **Patch Repair.** Refer to TO 1F—4C—3—1—5.

3-72. **Insertion Repair.** Repairs, at organizational/field maintenance, will be limited to webs and stiffeners. Insertion material will be equal to the original material listed in figures 3—43, 3—44 and 3—45. Doubler material shall be same gage or one gage heavier. Fasteners will be equal in size, material, and spacing to the fasteners adjacent to the insertion area. Refer to TO 1F—4C—3—1—6 for insulation of dissimilar metals.

3-73. **Truss, 32—31157, Crack Repair.** For repair of the 32—31157 truss, refer to figure 3—46.

3-73A. **Fastener Replacement in Keel Web to Front Spar Splice Plate.** When fasteners are found loose or otherwise unserviceable, replace fasteners per figure 3—46A.

3-74. **Replacement.** Replacement of parts at organizational/field maintenance should be limited to angles stiffeners and doublers. Replacement of the keel or a large web is not practical because of the extensive disassembly and the inaccessiblity for installation.

3-75. **HINGES.** See figures 3-47 thru 3—49A. The structural half of hinges for nose landing gear aft door and Door 16 are integral parts of keel assemblies.

3-76. **Negligible Damage and Wear Tolerances.** For negligible damage and wear tolerance limits, refer to paragraphs 3-176 and 3-175 respectively.

3-77. **Repairs.** Consult local engineering for repair disposition.

3-78. **Replacement.** Replace hinges damaged beyond repair. For replacement of 32-31267 hinge, see figure 3-47; for 53-310225 hinge, see figure 3-48; for 53-310226 hinge, see figure 3-49. and for 53-34087 hinge, see figure 3-49A.

3-79. **WING CLOSURE WEB ASSEMBLY.** See figure 3-50. The wing closure web is a part of the wing to fuselage structure extending from FS 230.40 to FS 249.65. The web is made of 7178 aluminum alloy being reinforced by angles at the top and channels at the bottom with connecting stiffeners. The web assembly also forms a support for door 30. Refer to TO 1F-4C-3-1-3 for door location.

3-80. **Negligible Damage and Corrosion Removal Limits.** Any small, smooth, dent no deeper than 0.062 is negligible. Nicks and scratches with a depth of less than ten percent of the thickness of the part are negligible if they can be blended. Damage which, when blended, does not reduce the edge distance for rivets or fasteners to less than one and one half times the rivet diameter is negligible. Dents to angles or stiffeners should be straightened by forming.

3-81. **Patch Repair.** Refer to TO 1F-4C-3-1-5 for typical patch repairs. Wing closure web damage that exceeds negligible damage but is not great enough to replace entire part shall be repaired by patching. Access can be gained through door 30.

3-82. **Insertion Repair.** No repairs are practical at organizational/field maintenance because of inaccessibility and extensive disassembly required.

3-83. **Replacement.** Replacement of parts at organizational/field maintenance should be limited to angles, shims, stiffeners, and doublers which do not require extensive forming. Replacement of entire web is impractical because of the equipment required and the inaccessibility to mating structure.

3-84. **SHEAR WEB, 32-31186.** See figure 3-51. The 32-31186 shear web forms the outboard wall of the missile well assembly and is a splice point between the forward fuselage and center wing.

3-85. **Negligible Damage and Corrosion Removal Limits.** Small, smooth dents less than 0.062 in depth are negligible. Nicks and scratches less than 10 percent of material thickness, after blending, are negligible. Damage which after blending does not reduce fastener edge distance to less than one and one half times the fastener diameter is negligible. Corrosion less than 10 percent of material thickness, after blending, is negligible. Corrosion shall be removed per TO 1-1-2. Refer to TO 1F-4C-3-1-5 for rework procedures for negligible damage.

3-86. **Patch Repair.** Refer to TO 1F-4C-3-1-5, for typical patch repair. Shear web damage that exceeds negligible damage but is not great enough to replace the entire part shall be repaired by patching.

3-87. **Insertion Repair.** Insertion type repair is not practical because of inaccessibility and extensive disassembly required.

3-88. **Crack Repair to the 32-31186 Web.** For crack repair to the 32-31186 web, refer to figure 3-53.

3-89. **Replacement.** Replacement of parts at organizational/field maintenance should be limited to angles, shims, stiffeners, and doublers which do not require extensive forming. Replacement of entire web is impractical because of the equipment required and inaccessibility of mating structure.

3-90. **WELL ASSEMBLY, 32-31275, EXTERNAL HYDRAULIC POWER.** See figure 3-52. The 32-31275 well assembly provides the mounting and back-up structure for the utility hydraulic power quick disconnects.

3-91. **Negligible Damage and Corrosion Removal Limits.** Small, smooth dents less than 0.062 in depth are negligible. Nicks and scratches less than 10 percent of material thickness, after blending, are negligible. Damage which, after blending, does not reduce fastener edge distance to less than one and one half times fastener diameter, is negligible. Corrosion shall be removed per TO 1F-4C-3-1-6. Refer to TO 1F-4C-3-1-5 for rework procedure.

3-92. **Patch Repair.** Refer to TO 1F-4C-3-1-5. Well damage that exceeds negligible damage but is not great enough to replace the entire part, shall be repaired by patching.

3-93. **Insertion Repair.** Repair is not practical because of inaccessibility and extensive disassembly required.

3-94. **Replacement.** Replacement of parts at organizational/field maintenance should be limited to angles, shims, stiffeners, and doublers which do not require extensive forming. Replacement of the entire well assembly is impractical because of the equipment required and inaccessibility of mating structure.

3-94A. **Hinge, 32-31960.** See figure 3-52A. The structural half of hinge is a detail part of well assembly.

3-94B. Negligible Damage and Wear Tolerances. For negligible damage and wear tolerance limits, refer to paragraphs 3-176 and 3-175 respectively.

3-94C. Repairs. Consult local engineering for repair disposition.

3-94D. Replacement. For replacement of 32-31960 hinge, see figure 3-52A.

3-95. **NUMBER ONE FUEL CELL ELECTRONIC COMPARTMENT - F-4 AND UPPER EQUIPMENT COMPARTMENT - RF-4.** See figures 3-54 thru 3-58. The compartment is part of the forward fuselage structure extending from FS 203.00 to FS 249.65 in the number one fuel cell compartment. The forward and aft ends are formed by bulkheads. Access is gained through door 19. The web on F-4 is machined 7178 aluminum alloy, reinforced by angles, channels, and hats. The webs on RF-4 are 7178 alclad and the floor is a corrugated sandwich construction.

3-96. **Negligible Damage and Corrosion Removal Limits.** Small, smooth dents less than 0.062 are negligible. Nicks and scratches with depth less than 10 percent of the thickness of the part are negligible, if blended. Damage which, when blended, does not reduce the edge distance for fasteners to less than one and one half times fastener diameter is negligible. Dents to angles or stiffeners should be straightened by forming.

3-97. **Patch Repair.** Refer to TO 1F-4C-3-1-5 for typical patch repairs.

3-98. **Insertion Repair.** No repairs are practical at organizational /field maintenance because of inaccessibility and extensive disassembly required.

3-99. **Replacement.** Replacement of parts at organizational/field maintenance should be limited to angles, shims, stiffeners, and doublers which do not require extensive forming. Replacement of entire web is impractical because of the equipment required and the inaccessibility to mating structure.

3-100. **CONTROL TROUGH ASSEMBLY.** See figures 3-59 thru 3-61. The control trough houses the passage way for the stabilator, rudder, drag chute, and arresting gear control cables. The trough is an assembly of stringers, formers, and sheet metal panels.

3-101. **Negligible Damage and Corrosion Removal Limits.** Small, smooth dents less than 0.062 in depth are negligible. Nicks and scratches less than 10 percent of material thickness, after blending, are negligible. Damage which, after blending, does not reduce fastener edge distance to less than one and one half times fastener diameter is negligible. Corrosion less than 10 percent of material thickness, after blending, is negligible. Corrosion shall be removed per TO 1F-4C-3-1-6. Refer to TO 1F-4C-3-1-5 for rework procedures.

3-102. **Patch Repair.** Refer to TO 1F-4C-3-1-5 for typical patch repair. Damage to control trough parts that exceeds negligible damage but is not great enough to require replacement shall be repaired by patching.

3-103. **Insertion Repair.** Insertion type repair is not practical because of inaccessibility and extensive disassembly required.

3-104. **Replacement.** Replacement of parts at organizational/field maintenance should be limited to angles, shims, stiffeners, and doublers which do not require extensive forming. Replacement of entire trough assembly is impractical because of the equipment required and inaccessibility of mating structure.

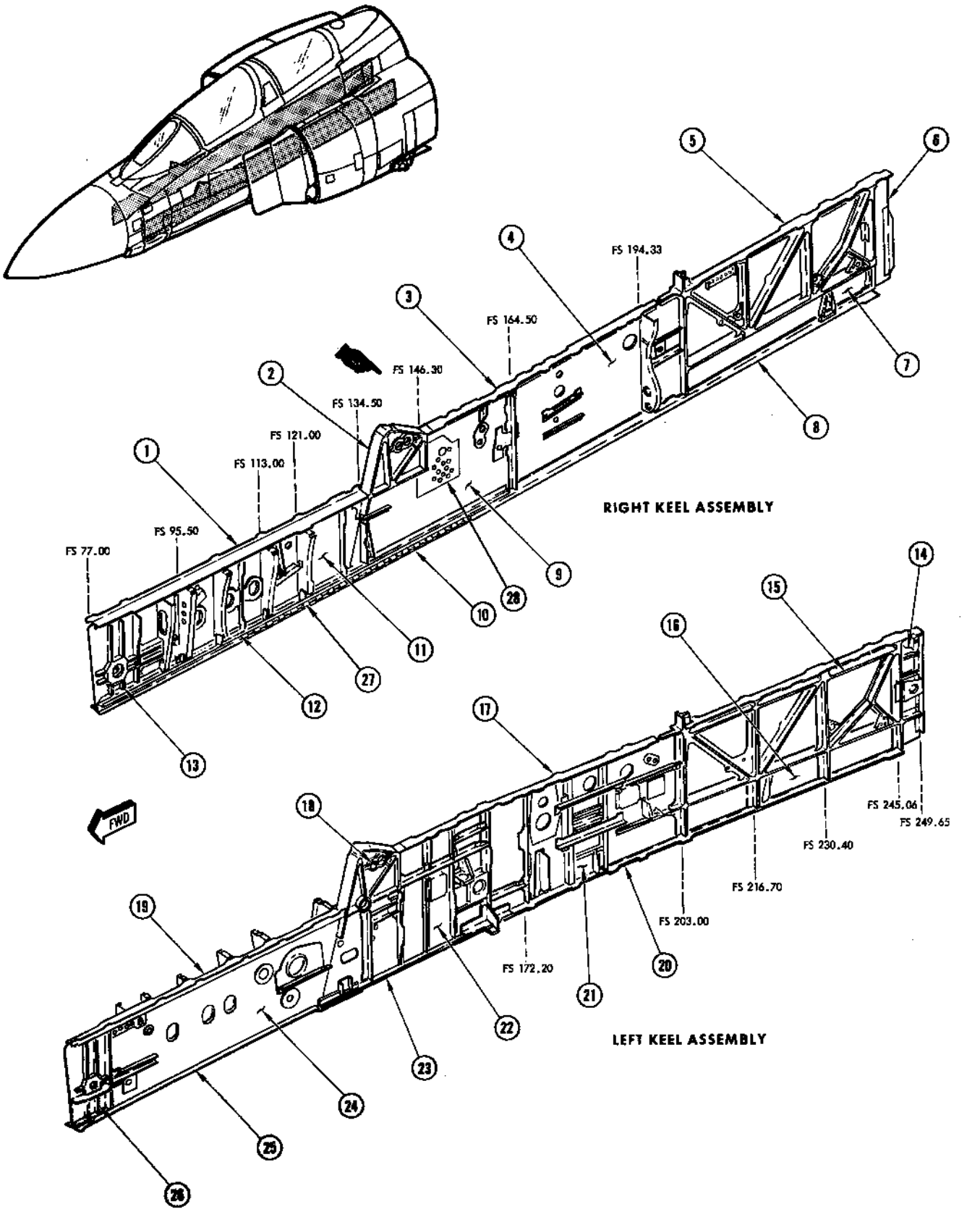


Figure 3-43. Keel Index - F-4C AND F-4D (Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31184-9	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31184-11	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31184-21	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31184-31	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31184-39	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	32-31156-307	FITTING ASSY	<3>	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31156-311	FITTING ASSY	<3>	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31156-315	FITTING ASSY	<3>	7075-T6 AL ALY	QQ-A-367 (T6)
3	32-31878-7	CAP	AND10136-3001	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	DELETED				
	32G31875-89	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1567	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31875-91	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1661	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-31157-14	TRUSS	<2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31157-22	TRUSS	<2>	7075-T6 AL ALY	QQ-A-250/12 (T6)
6	32-31875-17	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1507	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-31875-475	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1837	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31096-11	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
9	32-31875-1587	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G31875-227	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32G31875-127	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
	32G31875-129	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31265-7	LONGERON	1M7495	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31265-9	LONGERON	1M7495	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	32-31875-1465	WEB	0.040	8Mn TITANIUM ALLOY	<5>
	32-31875-1743	WEB	0.040	8Mn TITANIUM ALLOY	<5>
	32-31875-1785	WEB	0.040	6AI-4V TITANIUM ALLOY	<6>
12	32-31877-11	LONGERON	<4>	4340 STEEL	MIL-S-5000
	32-31877-17	LONGERON	<4>	4340 STEEL	MIL-S-5000
13	32-31901-1	FITTING ASSY	<1>	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31901-301	FITTING ASSY	<1>	7075-T6 AL ALY	QQ-A-367 (T6)
14	32-31875-17	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-507	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31157-15	TRUSS	<2>	7075-T651 AL ALY	QQ-A-250/12 (T651)
	32-31157-21	TRUSS	<2>	7075-T651 AL ALY	QQ-A-250/12 (T651)
16	32-31875-15	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1781	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-311575-213	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-31878-9	LONGERON	AND10136-3001	7178-T6 AL ALY	QQ-A-200/13 (T6)
18	32-31144-311	FITTING ASSY	<3>	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31144-313	FITTING ASSY	<3>	7075-T6 AL ALY	QQ-A-367 (T6)
19	32-31183-11	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31183-19	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31183-27	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31183-39	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-31078-11	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31078-13	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	32-31875-1549	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1557	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1597	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1675	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1759	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31875-1363	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31875-1651	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-31265-9	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31264-11	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31264-13	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-31875-1543	WEB	0.028	8Mn TITANIUM ALLOY	<5>
	32-31875-1627	WEB	0.028	8Mn TITANIUM ALLOY	<5>
	32-31875-1757	WEB	0.028	8Mn TITANIUM ALLOY	<5>
	32-31875-1833	WEB	0.028	8Mn TITANIUM ALLOY	<5>
25	32-31876-3	LONGERON	<4>	4340 STEEL	MIL-S-5000
26	32-31900-1	FITTING ASSY	<1>	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31900-301	FITTING ASSY	<1>	7075-T6 AL ALY	QQ-A-367 (T6)
27	32-31267-7	HINGE HALF	1M9499	7075-T6 AL ALY	QQ-A-200/11 (T6)
28	53G973079-3	DOUBLER	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)

4C-3-1-2-(194-2)D

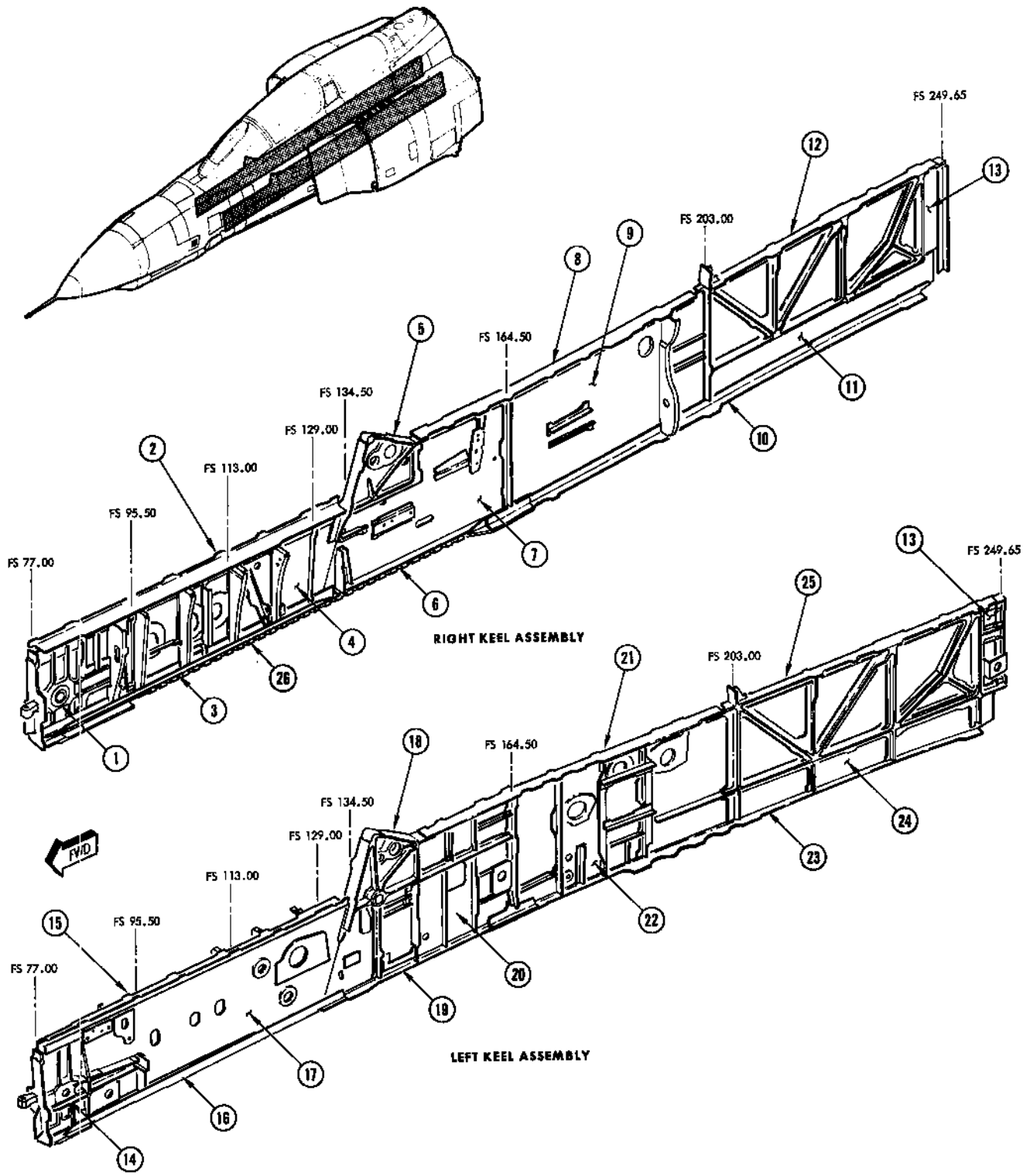
Figure 3-43. Keel Index - F-4C AND F-4D (Sheet 2 of 3)

Notes

(1) FORGED.
(2) MACHINED.
(3) PRESSED.
(4) FORGED AND MACHINED IN THE C CONDITION THEN HEAT TREATED TO 150-180 KSI.
(5) MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED.
(6) MIL-T-9046, TYPE III, COMPOSITION C, ANNEALED.
(A) F-4D 64-929 THRU 64-971.
(B) F-4C 63-7421 THRU 63-7662.
(C) F-4C 63-7407 THRU 63-7662.
(D) F-4C 63-7407 THRU 64-672.
(E) F-4C 63-7407 THRU 64-737.
(F) F-4C 63-7421 THRU 64-737.
(G) F-4C 63-7663 THRU 64-922.
(H) F-4C 64-673 THRU 64-928, AND F-4D 64-928 THRU 65-611.
(J) F-4C 64-738 THRU 64-928, AND F-4D 64-929 THRU 64-963.
(K) F-4C 63-7663 THRU 64-817.
(L) F-4C AND F-4D 64-929 THRU 64-963.
(M) F-4C 63-7407 THRU 64-922.
(N) F-4C AND F-4D 64-929 THRU 64-971.
(P) F-4C AND F-4D 64-929 THRU 65-611.
(Q) F-4C AND F-4D 64-929 THRU 65-768.
(R) F-4C 64-923 THRU 64-928, AND F-4D.
(S) F-4D 64-972 THRU 66-8825.
(T) F-4D 65-612 THRU 66-8825.
(U) F-4D 65-679 THRU 66-8825.
(V) F-4D 64-964 THRU 65-770.
(W) F-4C 64-818 THRU 64-928, AND F-4D 64-929 THRU 65-611.
(X) F-4C AND F-4D 64-929 THRU 66-242.
(Y) F-4D 66-243 THRU 66-8825.
(Z) F-4D 64-964 THRU 65-789.
(AA) F-4D 65-790 THRU 66-8825.
(AB) F-4D 65-771 THRU 66-8825.
(AC) F-4C AND F-4D 64-929 THRU 65-797.
(AD) F-4D 65-798 THRU 66-8825.
(AE) F-4C AND F-4D 64-929 THRU 66-8698.
(AF) F-4D 66-8699 THRU 66-8825.
(AG) F-4D 65-612 THRU 65-770.
(AH) F-4C AND F-4D 64-929 THRU 65-770.
(AJ) F-4D 65-771 THRU 66-7504.
(AK) F-4D 66-7505 THRU 66-8825.
(AL) F-4D 65-612 THRU 66-7504.
(AM) F-4C 63-7407 THRU 63-7420.
(AN) F-4D AFTER TO 1F-4D-578.
(AP) F-4C 63-7421 THRU 64-928 AND F-4D.
(AQ) F-4D 65-771 THRU 66-8825.
(AR) DELETED.
(AT) F-4C BEFORE TO 1F-4C-598 AND F-4D 64-929 THRU 64-971.
(AU) F-4D 65-612 THRU 66-8825.
(AV) F-4C AFTER TO 1F-4C-598 AND F-4D 64-929 THRU 64-971.
(AW) DELETED.
(AY) F-4D 64-972 THRU 65-611.

4C-3-1-2-(194-3)D

Figure 3-43. Keel Index - F-4C AND F-4D (Sheet 3 of 3)



4C-3-1-2-(223-1)D

Figure 3-44. Keel Index - F-4E AND F-4G (Sheet 1 of 2)

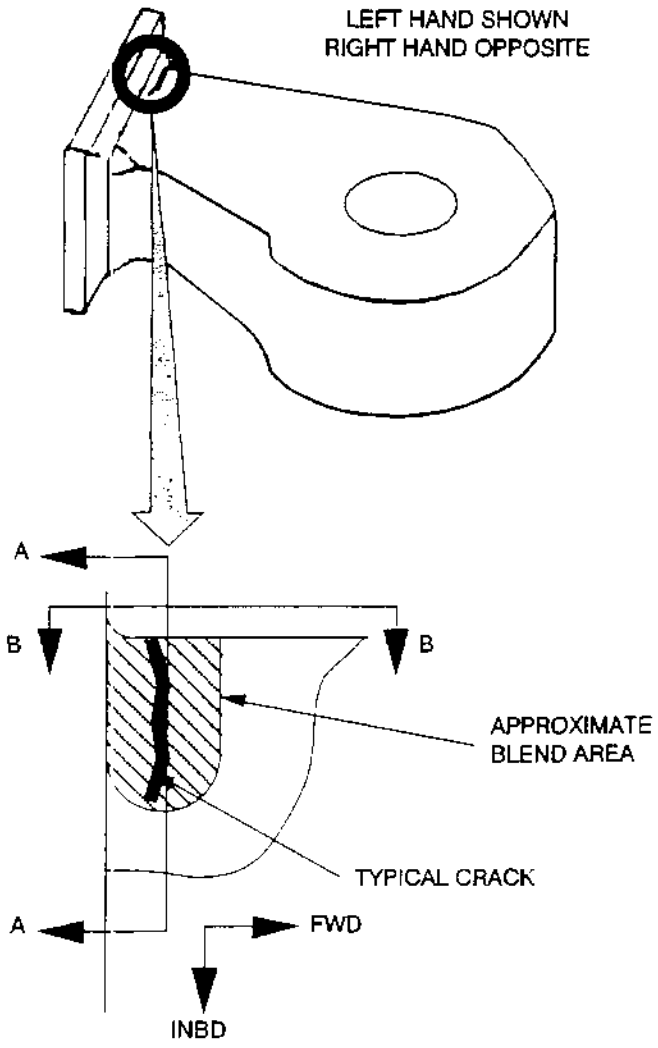
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-310224-1	FITTING ASSEMBLY	1	7075-T73 AL ALY	QQ-A-367 (T73)
2	32-31184-32	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
3 12	53-310222-3	LONGERON	3	4340 STEEL	MIL-S-5000 4
15	53-310222-9	LONGERON		4340 STEEL	MIL-S-5000
4 10	53-310220-5	WEB	0.040	6A1-4V TITANIUM ALLOY	5
13	53-310220-203	WEB	0.040	6A1-4V TITANIUM ALLOY	
14	53-310220-245	WEB	0.040	6A1-4V TITANIUM ALLOY	
5	32-31156-315	FITTING ASSEMBLY	2	7075-T6 AL ALY	QQ-A-367 (T6)
6	32-31265-13	TEE	1M795	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	DELETED				
24	53G310220-87	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
25	53G310220-89	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	DELETED				
26	53G310220-107	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	53-310220-269	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	53-310220-435	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31878-9	CAP	AND10136-3001	7178-T6 AL ALY	QQ-A-200/13 (T6)
9 10	53-310220-121	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	53-310220-207	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	53-310220-251	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-310220-283	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	53-310220-455	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31096-11	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	32-31875-475	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12 12	32-31157-23	TRUSS	2	7075-T651 AL ALY	QQ-A-367 (T651)
17	32-31157-28	TRUSS		7075-T351 AL ALY	MMS159
10	32-31157-43	TRUSS		7075-T351 AL ALY	MMS159
13 11	32-31875-1507	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	53-310220-429	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	53-310223-1	FITTING ASSEMBLY	1	7178-T73 AL ALY	QQ-A-367 (T73)
15	32-31183-19	CAP	1M5495	7178-T651 AL ALY	QQ-A-200/13 (T651)
16 21	53-310221-3	LONGERON	3	4340 STEEL	MIL-S-5000 4
22	53-310221-5	LONGERON		4340 STEEL	MIL-S-5000
17	53-310220-3	WEB	0.028	6A1-4V TITANIUM ALLOY	5
18 23	32-31144-313	FITTING ASSEMBLY	2	7075-T6 AL ALY	QQ-A-367 (T6)
16	32-31144-315	FITTING ASSEMBLY		7075-T6 AL ALY	QQ-A-367 (T6)
19	32-31264-15	LONGERON	1M57239	7178-T6 AL ALY	QQ-A-200/14 (T6)
20 26	53-310220-209	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	53-310220-401	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21 28	32-31878-7	CAP	AND10136-3001	7178-T6 AL ALY	QQ-A-200/13 (T6)
30	32-31878-23	CAP	AND10136-3001	7178-T6 AL ALY	QQ-A-200/13 (T6)
22 32	53-310220-171	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
31	53-310220-415	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
37	53-310220-453	WEB	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
23	32-31078-13	LONGERON	1M57252	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	32-311575-213	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25 15	32-31157-21	TRUSS	2	7075-T651 AL ALY	QQ-A-367 (T651)
16	32-31157-27	TRUSS		7075-T351 AL ALY	MMS159
27	32-31157-37	TRUSS		7075-T351 AL ALY	MMS159
29	32-31157-67	TRUSS		7075-T7351 AL ALY	MMS159
29	32-31157-61	TRUSS		7075-T7351 AL ALY	MMS159
38	32-31157-71	TRUSS		7075-T7351 AL ALY	MMS159
26	53-310225-3	HINGE HALF	1M9499	7075-T7351 AL ALY	QQ-A-200/11 (T7351)

Notes

1. MACHINED FORGING.
2. MACHINED PRESSING.
3. MACHINED.
4. FORGED AND MACHINED IN THE E CONDITION THEN HEAT TREATED TO 150 - 180 KSI.
5. MIL-T-9046, TYPE III, COMP. C, ANNEALED.
6. F-4E 67-288 AND UP AND F-4G.
7. DELETED
8. DELETED
9. DELETED
10. F-4E 66-284 THRU 66-367.
11. F-4E 66-368 THRU 68-409.
12. F-4E 66-284 THRU 67-287.
13. F-4E 66-368 THRU 67-316.
14. F-4E 67-317 AND UP AND F-4G.
15. F-4E 66-284 THRU 67-219.
16. F-4E 67-220 THRU 67-398.
17. F-4E 67-220 THRU 68-365.
18. F-4E 68-303 AND UP AND F-4G.
19. F-4E 68-366 AND UP AND F-4G.
20. F-4E 68-410 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
21. F-4E 66-284 THRU 67-268.
22. F-4E 67-269 AND UP AND F-4G.
23. F-4E 66-284 THRU 67-398.
24. F-4E 66-284 THRU 66-368.
25. F-4E 66-369 THRU 67-282.
26. F-4E 67-283 THRU 68-538, AND MODIFIED ON F-4E/G 69-236 THRU 69-7578.
27. F-4E 68-303 THRU 68-538.
28. F-4E/G 69-236 THRU 69-303.
29. F-4E/G 69-304 THRU 69-7588 AND F-4E 69-7589 THRU 71-1402.
30. F-4E 66-284 THRU 71-236 AND F-4G.
31. F-4E 71-237 THRU 73-01164, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201, AND 73-01202.
32. F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 71-1402.
33. F-4E 72-121 AND UP.
34. F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 AND UP.
35. F-4E 66-284 THRU 71-1402 AND F-4G.
36. F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
37. F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 73-01164.
38. F-4E 73-01165 THRU 73-01168, 73-01171 THRU 73-01177, 73-01180 THRU 73-01189, 73-01192 THRU 73-01200, AND 73-01203 AND UP.

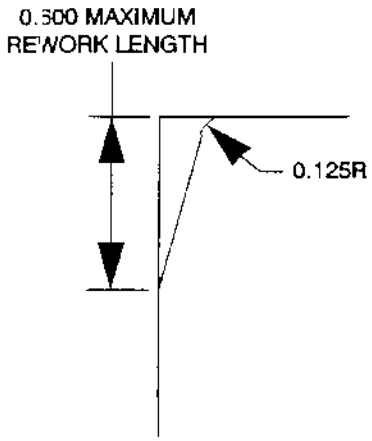
4C-3-1-2-(223-2)F

Figure 3-44. Keel Index - F-4E AND F-4G (Sheet 2 of 2)

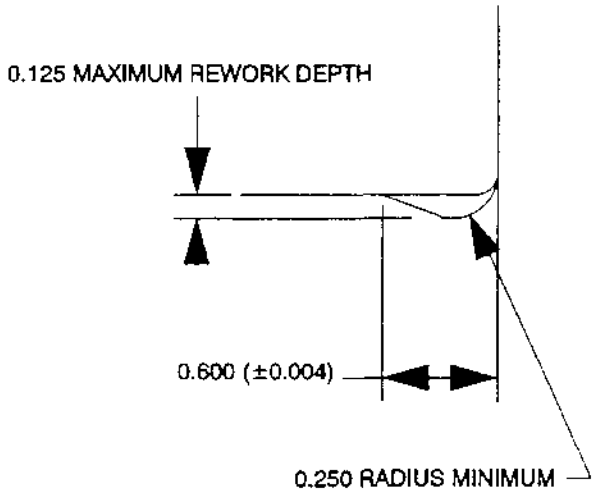


REPAIR PROCEDURE

1. ROUTE OUT CRACK USING A 0.250 INCH SPHERICAL CUTTER. NDI DURING THE ROUTING OPERATION TO ASSURE MINIMUM MATERIAL IS REMOVED TO REMOVE CRACK.
2. WHEN FITTING IS DETERMINED TO BE CRACK FREE, ROUTE AN ADDITIONAL 0.001 DEEP.
3. POLISH REWORKED AREA TO A SURFACE FINISH OF 63 RMS.
4. TREAT REWORKED AREA WITH ONE COAT OF EPOXY PRIMER MIL-P-23377 PER T.O. 1F-4C-3-1-6.



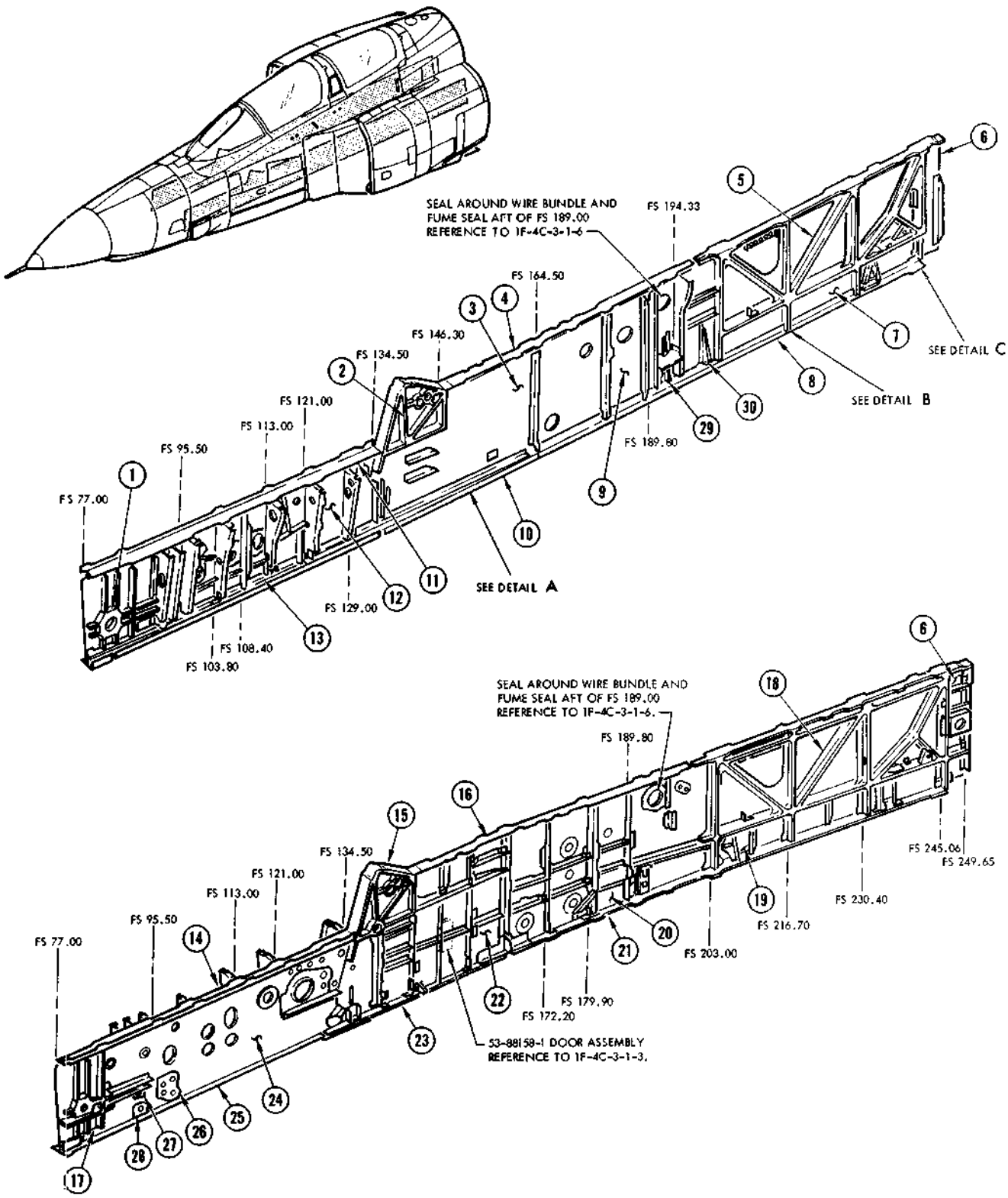
VIEW A-A



VIEW B-B

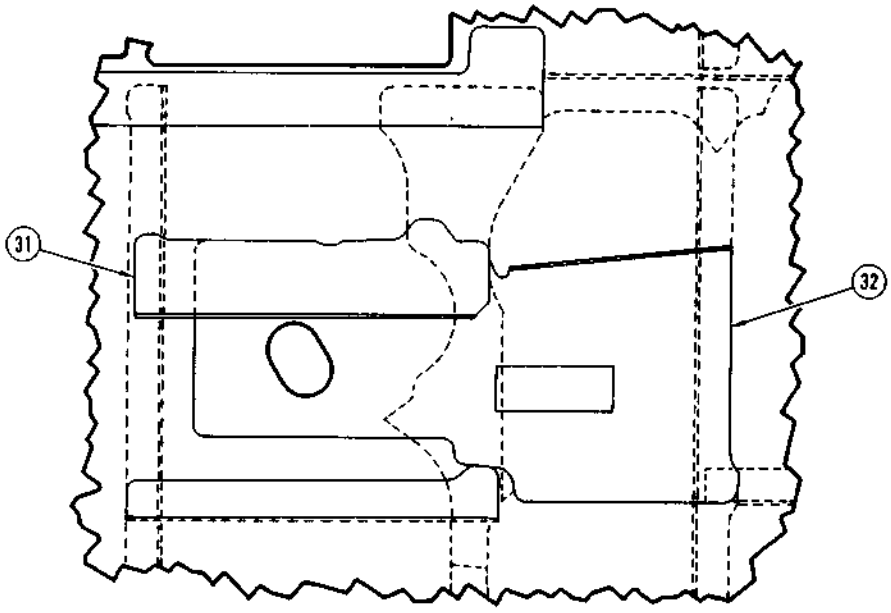
G990090C

Figure 3-44A. Gun Mounting Lug Repair - F-4E and F-4G.



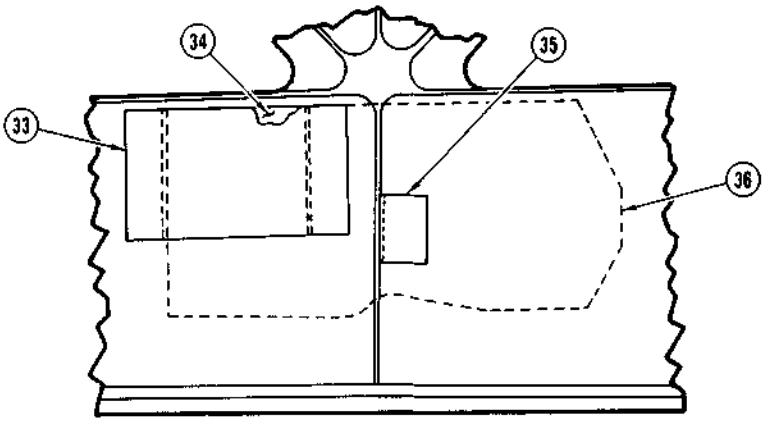
4C-3-1-2-(195-1)F

Figure 3-45. Keel Index - RF-4 (Sheet 1 of 2)



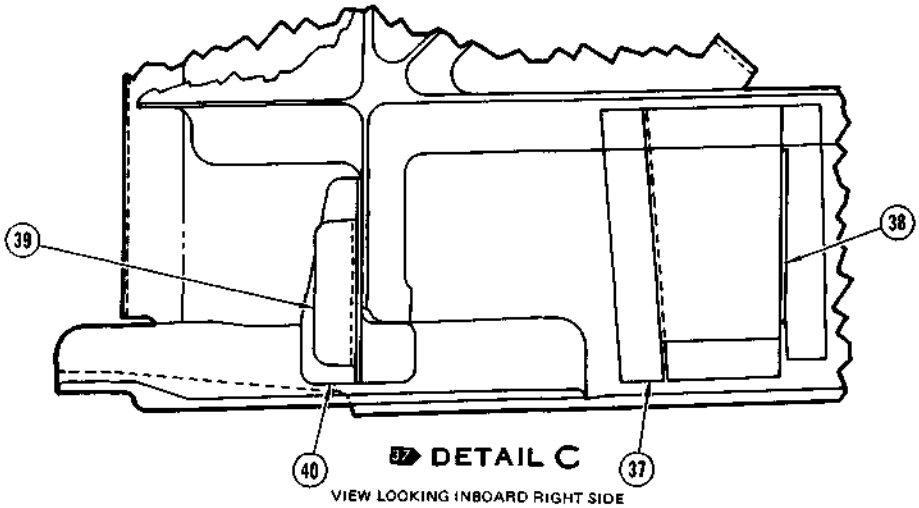
DETAIL A

VIEW LOOKING OUTBOARD RIGHT SIDE



DETAIL B

VIEW LOOKING INBOARD RIGHT SIDE



DETAIL C

VIEW LOOKING INBOARD RIGHT SIDE

4C-3-1-2-(196-1.1)F

Figure 3-45. Keel Index - RF-4 (Sheet 1A of 2)

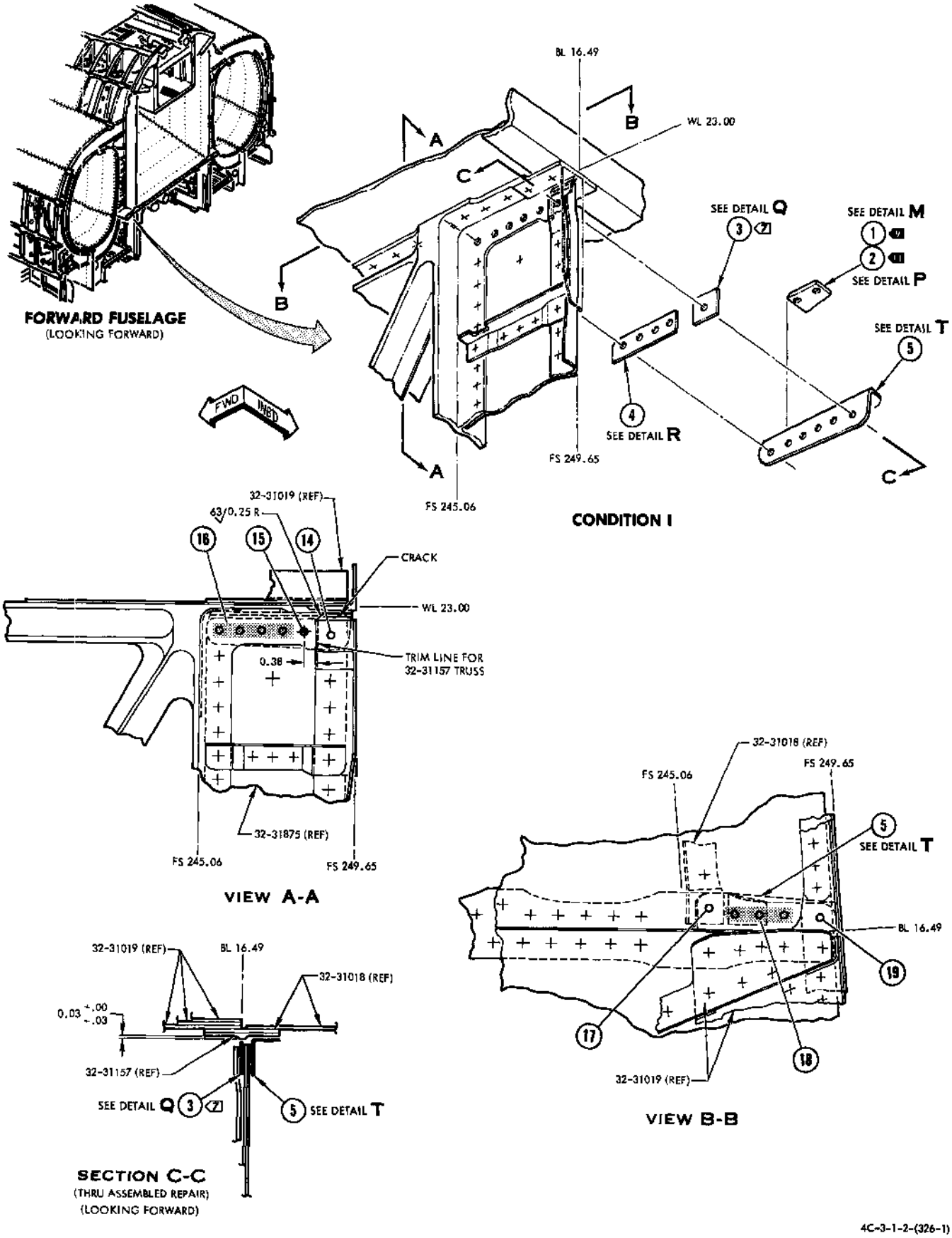
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-34063-1	TRUNNION	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
2	32-31156-307	FITTING ASSY	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31156-311	FITTING ASSY	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31156-315	FITTING ASSY	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31156-325	FITTING ASSY	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
3	53-34076-469	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34076-877	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-31878-12	CAP	AND10136	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-31157-18	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31157-30	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31157-45	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31157-54	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
6	32-31875-1507	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	53-34076-5	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34076-807	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34976-823	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	53-34014-5	LONGERON	1M57339	7178-T6 AL ALY	QQ-A-200/13 (T6)
9	53-34076-275	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34076-841	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	53-34012-3	LONGERON	1M7592	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	32-31184-15	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/12 (T6)
	32-31184-23	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31184-35	CAP	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
12	53-34076-413	WEB	0.040	8Mn TITANIUM ALLOY	[3]
	53-34076-813	WEB	0.040	8Mn TITANIUM ALLOY	[3]
13	53-34010-11	LONGERON	MACHINED	4340 STEEL	MIL-S-5000 [4]
14	32-31183-13	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31183-21	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31183-29	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-31183-37	CAP	1M5495	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	32-31144-311	FITTING ASSY	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31144-313	FITTING ASSY	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	32-31144-315	FITTING ASSY	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
16	32-31878-11	CAP	AND 10136	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	53-34062-1	TRUNNION	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
18	32-31157-17	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31157-29	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31157-35	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-31157-53	TRUSS	MACHINED	7075-T6 AL ALY	QQ-A-250/12 (T6)
19	53-34075-9	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34075-783	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	53-34075-279	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-34075-497	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	53-34013-5	LONGERON	1M57339	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	53-34075-5	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	53-34011-5	LONGERON	1M57337	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	53-34075-701	WEB	0.028	8Mn TITANIUM ALLOY	[3]
25	53-34009-5	LONGERON	MACHINED	4340 STEEL	MIL-S-5000 [2]
	53-34009-7	LONGERON	MACHINED	4340 STEEL	MIL-S-5000 [2]
26	53-34075-439	DOUBLER [1]	0.025	6Al-4V TITANIUM ALLOY	[4]
27	53-34075-443	DOUBLER [1]	0.025	6Al-4V TITANIUM ALLOY	[4]
28	53-34075-441	DOUBLER [1]	0.025	6Al-4V TITANIUM ALLOY	[4]
29	53-34087-3 [34]	HINGE	1M7594	2024-T4 AL ALY	QQ-A-200/3 (T4)
30	53-34087-5 [34]	HINGE	1M7594	2024-T4 AL ALY	QQ-A-200/3 (T4)
31	53G34076-103	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	53G973105-3	DOUBLER	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
33	53-34076-1103	PLATE	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
34	53-34076-1101	HAT	0.050	2024-T4 ALCLAD	QQ-A-250/4 (T4)
35	53-34076-875	ANGLE	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
36	53G973105-29	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
37	53-34076-1107	HAT	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
38	53-34076-1109	PLATE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39	53-34076-853	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40	53-34076-847	TEE	IM5157	7178-T6 AL ALY	QQ-A-200/13 (T851)

Notes

[1] HOLES FOR ACCESS TO ANTENNA MOUNTING BOLTS.
[2] FORGED AND MACHINED IN THE C CONDITION THEN HEAT TREATED TO 150 TO 180 KSI.
[3] MIL-T-9046, TYPE III, COMP. A, ANNEALED.
[4] MIL-T-9046, TYPE III, COMP. C, ANNEALED.
[5] RF-4C 63-7742 THRU 65-944.
[6] RF-4C 63-7742 THRU 66-386 AND 66-388.
[7] RF-4C 63-7742 THRU 66-390.
[8] RF-4C 64-1014 THRU 72-156.
[9] RF-4C 64-1062 THRU 65-864.
[10] RF-4C 65-865 THRU 66-386 AND 66-388.
[11] RF-4C 65-865 THRU 66-390.
[12] RF-4C 65-865 THRU 72-156.
[13] RF-4C 65-945 THRU 68-576.
[14] RF-4C 66-387 AND 66-389 THRU 72-156.
[15] RF-4C 66-391 THRU 67-467.
[16] RF-4C 66-391 THRU 67-466.
[17] RF-4C 67-467 THRU 72-156.
[18] RF-4C 63-7742 THRU 64-1013.
[19] RF-4C 63-7742 THRU 64-1061.
[20] RF-4C 63-7742 THRU 65-864.
[21] RF-4C 68-577 THRU 72-156.
[22] RF-4C 68-548 THRU 72-156.
[23] RF-4C 63-7742 THRU 67-453.
[24] RF-4C 67-454 THRU 67-469.
[25] DELETED.
[26] RF-4C 68-548 THRU 69-366.
[27] DELETED.
[28] RF-4C 64-1062 THRU 72-156.
[29] RF-4C 63-7742 THRU 69-357.
[30] RF-4C 69-358 THRU 72-156.
[31] RF-4C 67-454 THRU 68-561.
[32] RF-4C 68-562 THRU 69-366.
[33] RF-4C 69-367 THRU 72-156.
[34] RF-4C 63-7742 THRU 69-383.
[35] RF-4C 69-384 THRU 72-156.
[36] FOR REPLACEMENT SEE FIGURE 3-49A.
[37] RF-4C 67-451, 67-453, 68-549, 68-577, 68-587, 68-593, 69-360, 69-361, 69-364 THRU 69-368, 69-371 THRU 69-375, AFTER TO 1F-4(R)C-671.

4C-3-1-2-(196-2)F

Figure 3-45. Keel Index - RF-4 (Sheet 2 of 2)



4C-3-1-2-(326-1)

Figure 3-46. Truss, 32-31157, Crack Repair (Sheet 1 of 7)

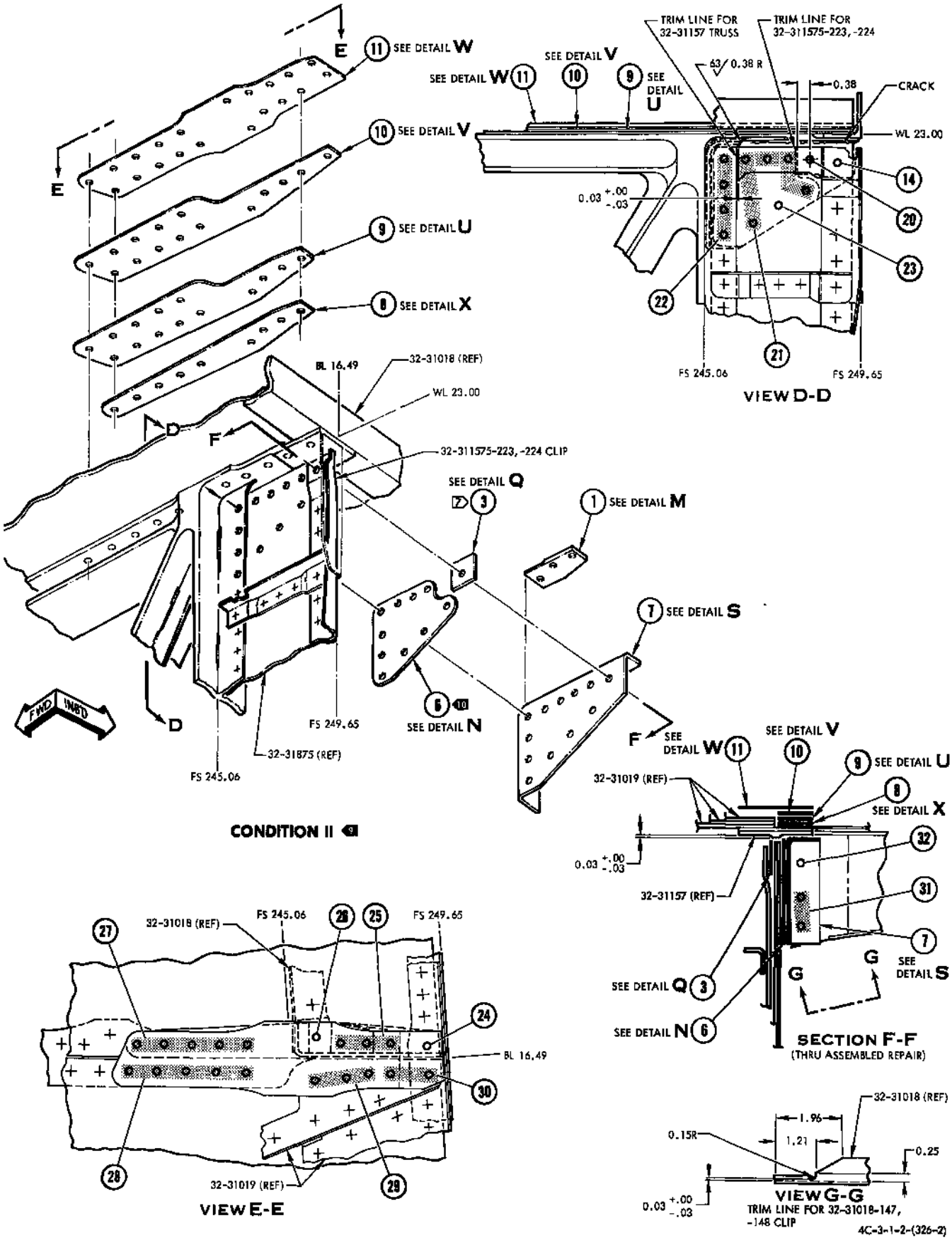


Figure 3-46. Truss, 32-31157, Crack Repair (Sheet 2 of 7)

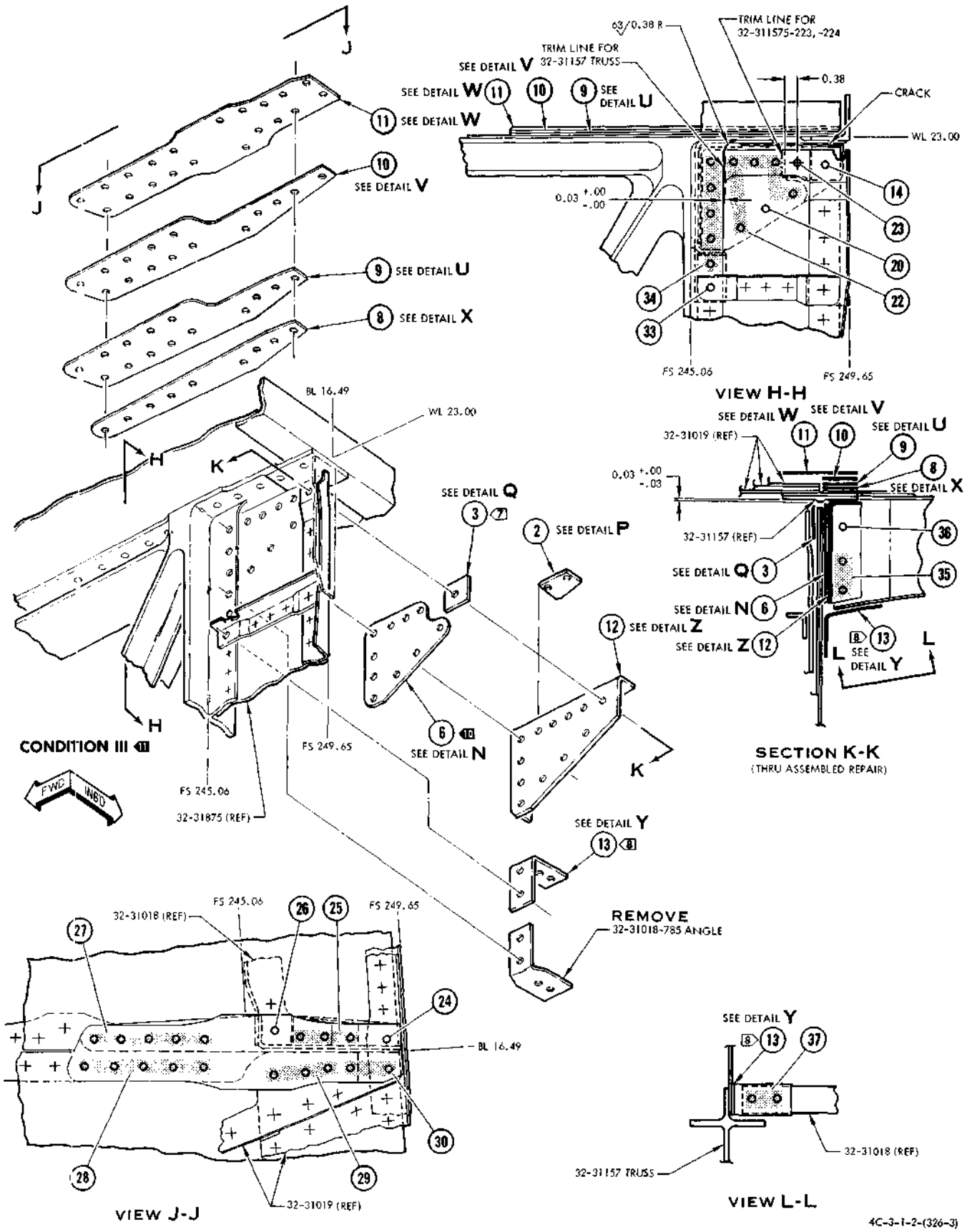
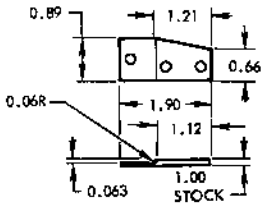
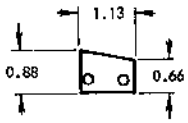


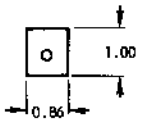
Figure 3-46. Truss, 32-31157, Crack Repair (Sheet 3 of 7)



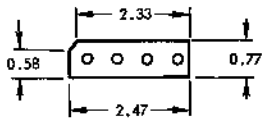
DETAIL M
53G010022-11 FILLER



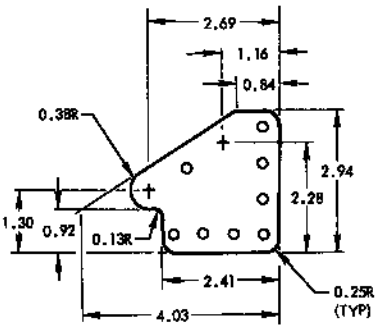
DETAIL P
53G010022-27 FILLER



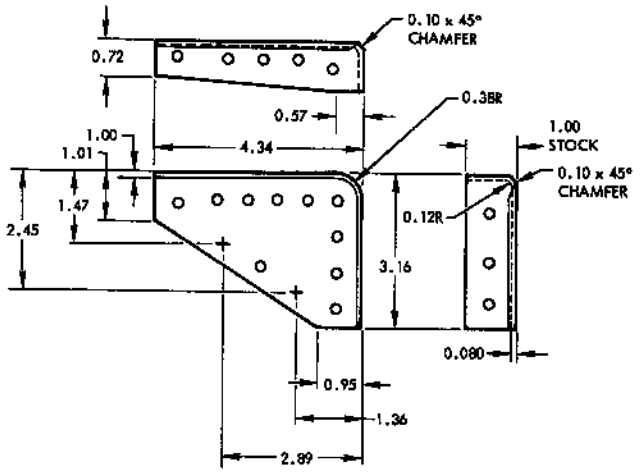
DETAIL Q
53G010022-7 FILLER



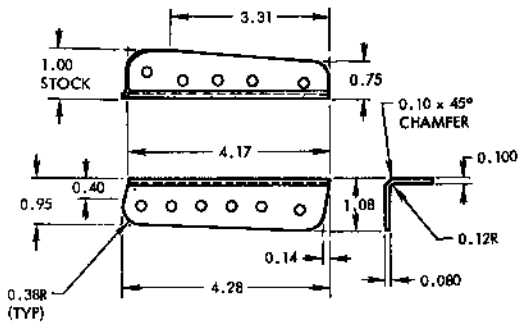
DETAIL R
53G01022-9 FILLER



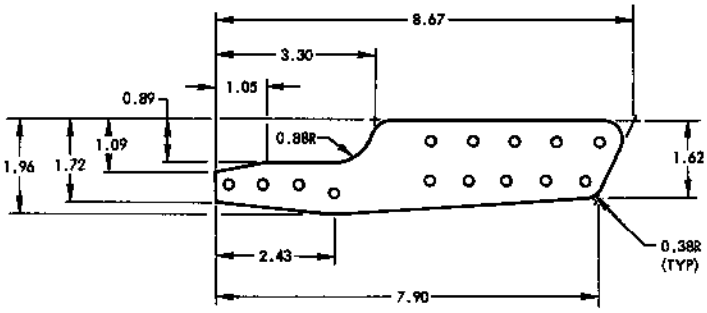
DETAIL N
53G010022-23 FILLER



DETAIL S
53G010022-13 FITTING



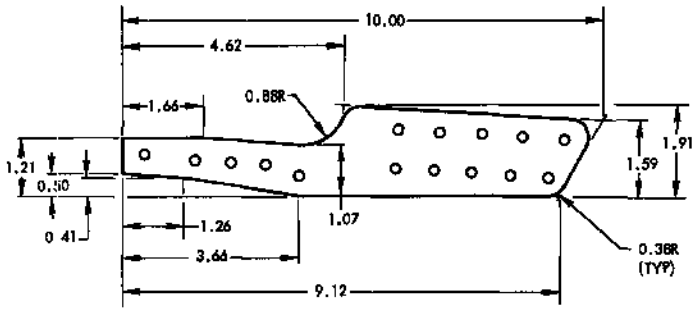
DETAIL T
53G010022-5 ANGLE



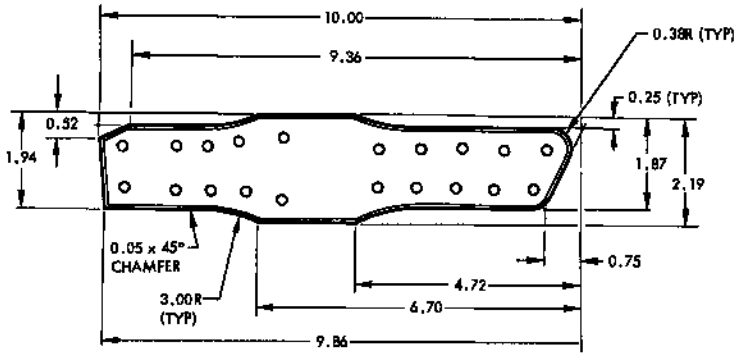
DETAIL U

4C-3-1-2-(326-4)

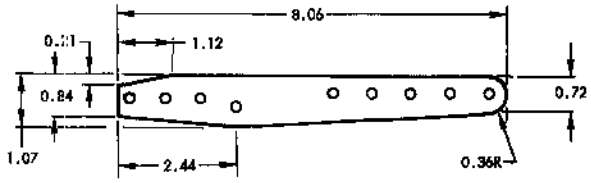
Figure 3-46. Truss, 32-31157, Crack Repair (Sheet 4 of 7)



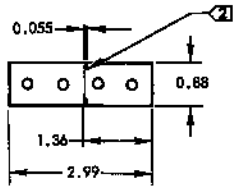
DETAIL V
53G010022-19 FILLER



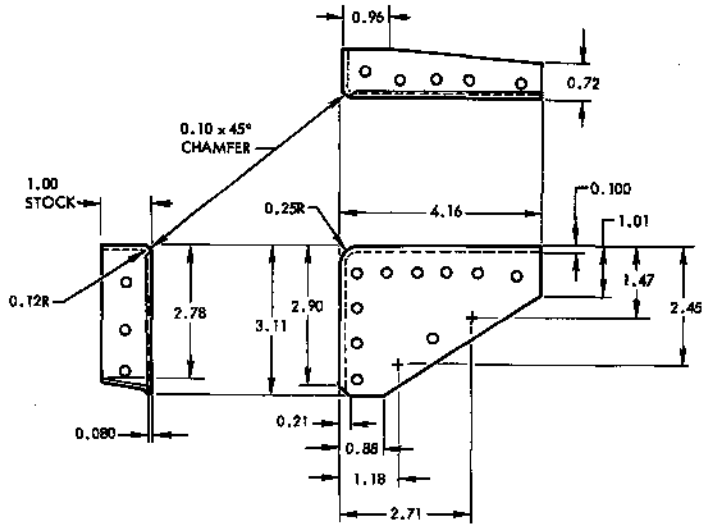
DETAIL W
53G010022-15 PLATE



DETAIL X
53G010022-21 FILLER



DETAIL Y
53G010022-31 ANGLE 1



DETAIL Z
53G01022-29 FITTING

4C-3-1-2-(326-5)

Figure 3-46. Truss, 32-31157, Crack Repair (Sheet 5 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 ⑨	53G010022-11,-12	FILLER	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
2 ⑨	53G010022-27	FILLER	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
3	53G010022-7 ⟨7⟩	SHIM	0.126	5052-H39 AL ALY	MIL-S-22499 CLASS II TYPE I
4 ⑱	53G010022-9	FILLER	0.032	7075-T6 AL ALY	QQ-A-250/12 (T6)
5	53G010022-5,-6	ANGLE	MACHINED	7075-T651 AL ALY	QQ-A-250/12 (T651)
6 ⑩	53G010022-23	FILLER	0.32	7075-T6 AL ALY	QQ-A-250/12 (T6)
7	53G010022-13,-14	FITTING	MACHINED	7075-T651 AL ALY	QQ-A-250/12 (T651)
8	53G010022-21	FILLER	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
9	53G010022-17	FILLER	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
10	53G010022-19	FILLER	0.050	7075-T6 AL ALY	QQ-A-250/12 (T6)
11	53G010022-15,-16	PLATE	0.100	7075-T6 AL ALY	QQ-A-250/12 (T6)
12	53G010022-29,-30	FITTING	MACHINED	7075-T651 AL ALY	QQ-A-250/12 (T651)
13	53G010022-31 ⟨1⟩	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)

REF NO.	FASTENER	NUT OR COLLAR	WASHER		HOLE SIZE
			UNDER HEAD	UNDER NUT	
14	HL550-6-6	HL579-6			0.189 +.006 -.000
15	NAS464P3A5 ⟨3⟩	MS21042-3	AN960D10L	AN960D10	0.191 +.006 -.000
	NAS1054-5-5 ⟨4⟩	NAS528A5			0.156 +.006 -.000
16	NAS1054-5-5	NAS528A5			0.156 +.006 -.000
17	NAS1054-6-7	NAS528A6			0.189 +.006 -.000
18	HS40PB5-7	HS32-5			0.173 +.006 -.000
19	HL550-6-8	HL579-6			0.189 +.006 -.000
20	NAS464P3A3 ⟨3⟩	MS21042-3	AN960D10L	AN960D10	0.191 +.006 -.000
	NAS1054-5-3 ⟨4⟩	NAS528A5			0.156 +.006 -.000
21	NAS1054-5-3	NAS528A5			0.156 +.006 -.000
22	HL550-5-5	HL579-5			0.1635 +.0022 -.0000
23	NAS1054-6-3	NAS528A6			0.189 +.006 -.000
24	HL550-6-10	HL579-6			0.189 +.006 -.000
25	HS40PB5-10	HS32-5			0.173 +.006 -.000
26	NAS1054-6-10	NAS528A6			0.189 +.006 -.000
27	HS40PB5-8	HS32-5			0.173 +.006 -.000
28	HS40PB6-8	HS32-6			0.205 +.006 -.000
29	NAS464P3A7	MS21042-3	AN960D10L ⟨5⟩	AN960D10 ⟨5⟩	0.191 +.006 -.000
30	NAS464P3A8	MS21042-3	AN960D10L ⟨6⟩	AN960D10 ⟨6⟩	0.191 +.006 -.000
31	NAS1054-6-6	NAS528A6			0.189 +.006 -.000
32	NAS1054-6-16	NAS528A6			0.189 +.006 -.000
33	AN3-6A	MS21042-3	AN960D10L	AN960D10	0.191 +.006 -.000
34	HL550-5-4	HL579-5			0.1635 +.0022 -.0000
35	HL550-6-9	HL579-6			0.189 +.006 -.000
36	HL550-6-18	HL579-6			0.189 +.006 -.000
37	MS20470AD5				0.156 +.006 -.000

4C-3-1-2-(326-6)A

Figure 3-46. Truss, 32-31157, Crack Repair (Sheet 6 of 7)

INSPECTION PROCEDURE

A. VISUALLY INSPECT FOR CRACKS IN RADIUS OF UPPER AFT TEE OF 32-31157 TRUSS.
B. IF CRACKS EXIST, CLASSIFY PER FOLLOWING CONDITIONS:
CONDITION I: CRACK 1 INCH OR LESS IN LENGTH. SEE SHEET 1.
CONDITION II OR III: CRACKS EXTENDING 1 INCH TO 3.25 INCHES. SEE SHEET 2 OR 3.
C. FOR CRACKS OUTSIDE INDICATED AREA, SEE PDM ENGINEERS FOR DISPOSITION.

REPAIR PROCEDURE

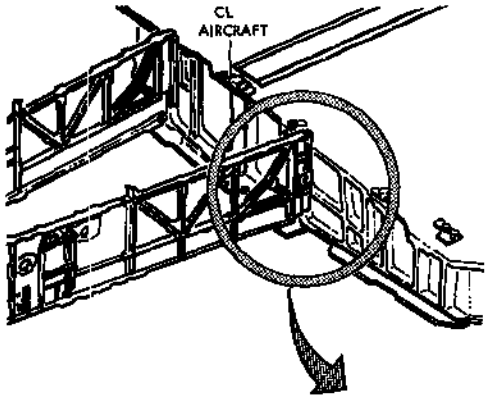
A. MACHINE FLANGE OF TRUSS TO REMOVE CRACK. SEE VIEWS A-A, D-D, AND H-H FOR TRIM LINE.
B. FLUORESCENT PENETRANT INSPECT AREA PER TO 33B-1-1.
C. FABRICATE REPAIR PARTS PER DETAILS M THRU Z. SURFACE ROUGHNESS OF REPAIR PARTS 125 MICROINCH OR BETTER.
D. LOCATE REPAIR PARTS AND MATCH DRILL FASTENER HOLES TO SIZE SHOWN IN FASTENER CHART.
E. LOCATE HOLES PER TO 1F-4C-3-1-1.
F. REMOVE REPAIR PARTS AND DEBURR HOLES IN STRUCTURE AND REPAIR PARTS.
G. REFINISH REWORKED AREA, HOLES, AND EDGES OF PART PER TO 1F-4C-3-1-6.
H. INSTALL REPAIR PARTS AND FASTENERS SHOWN IN FASTENER CHART.

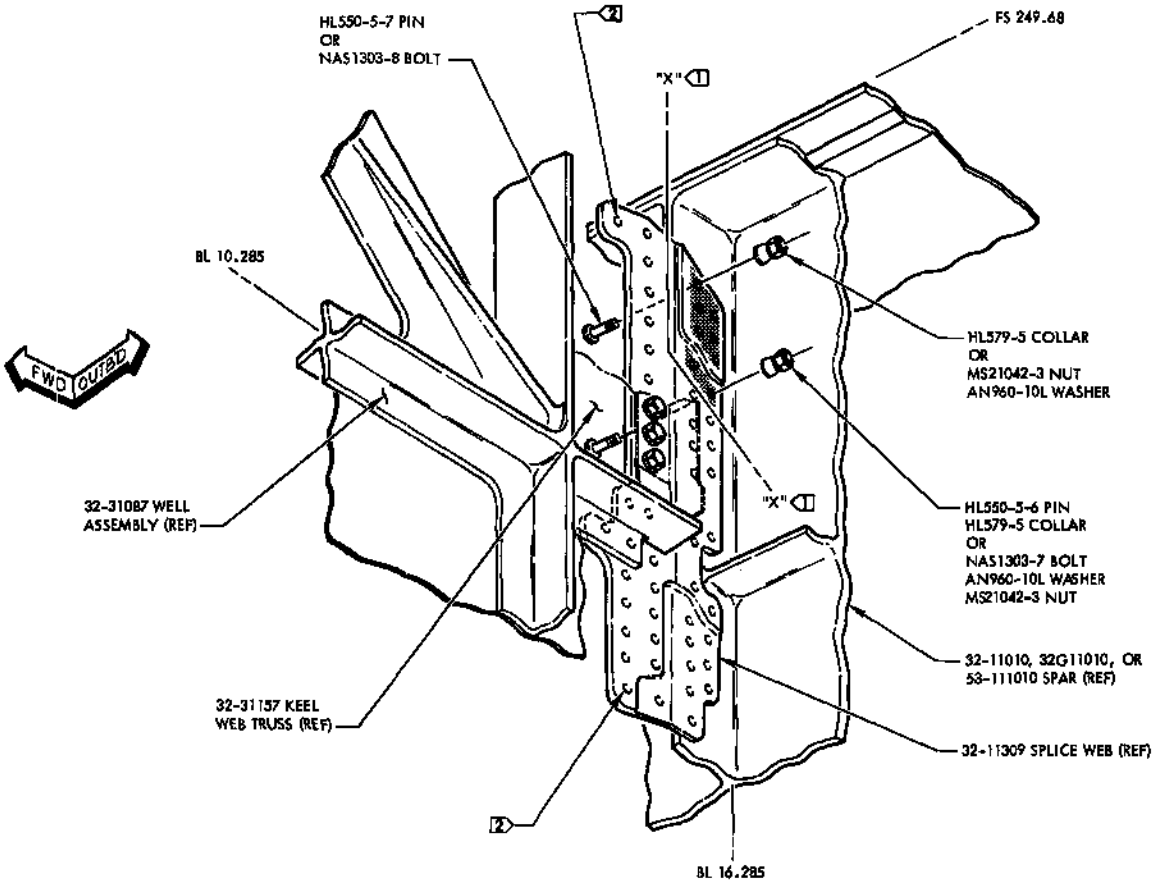
Notes

1. FORM IN THE 0 CONDITION AND HEAT TREAT TO 7178-T6.
2. BEND RADIUS 0.13
3. LEFT SIDE ONLY.
4. RIGHT SIDE ONLY.
5. THREE REQUIRED.
6. TWO REQUIRED.
7. AS REQUIRED.
8. REMOVE 32-31018-785 ANGLE AND REPLACE WITH 32G010022-31 ANGLE. TYPICAL LEFT AND RIGHT SIDES.
- F-4C, F-4D, F-4E 66-284 THRU 67-219, AND RF-4C 63-7742 THRU 67-442.
- F-4E AND F-4G.
- F-4E 67-220 AND UP, F-4G, AND RF-4C 67-443 THRU 72-156.

4C-3-1-2-(326-7) B

Figure 3-46. Truss, 32-31157, Crack Repair (Sheet 7 of 7)





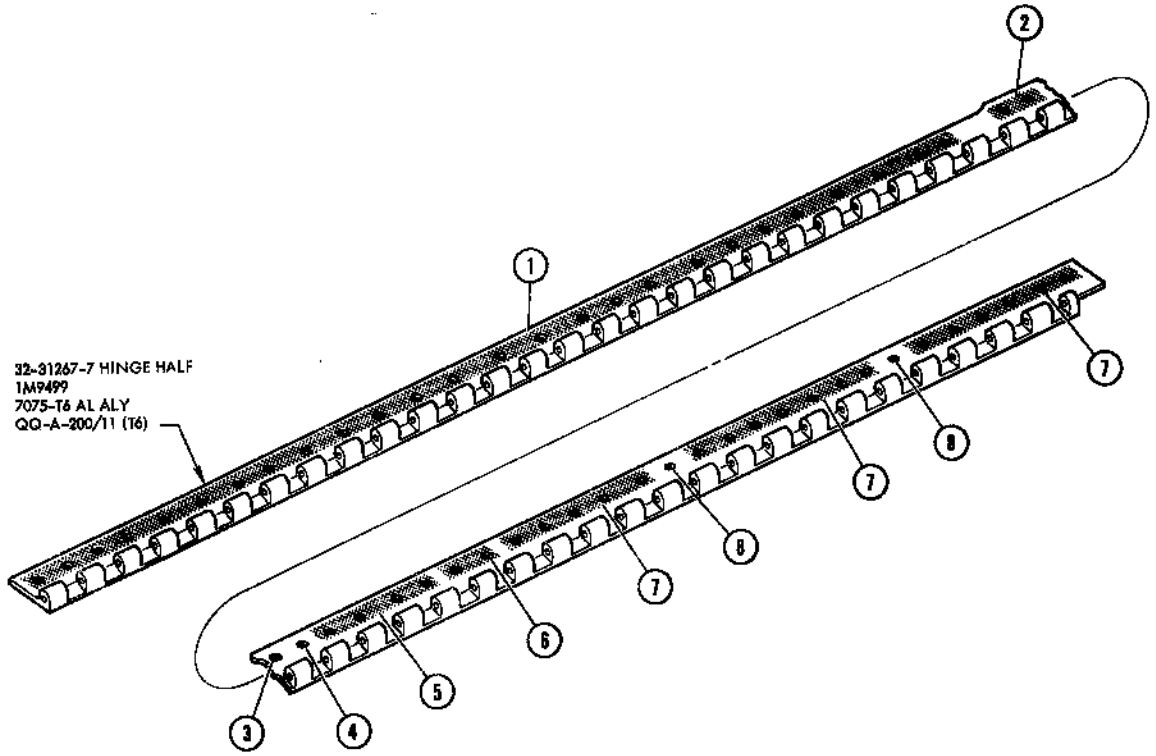
VIEW LOOKING AFT AND UP AT BL 16.285, FS 249.65
KEEL WEB ASSEMBLY TO FRONT SPAR SPLICE

Notes

1. REPLACE ALL FASTENERS ABOVE AND AFT OF LINE "X" UPON FIRST EVIDENCE OF FASTENER FAILURE.
2. OTHER LIKE FASTENERS IN SPLICE PLATE AREA MAY BE REPLACED USING THE HI-LOK OR BOLTS IF FOUND LOOSE OR OTHERWISE UNSERVICEABLE.

4C-3-1-2-(379)

Figure 3-46A. Fastener Replacement In Keel Web To Front Spar Splice Plate, FS249.65



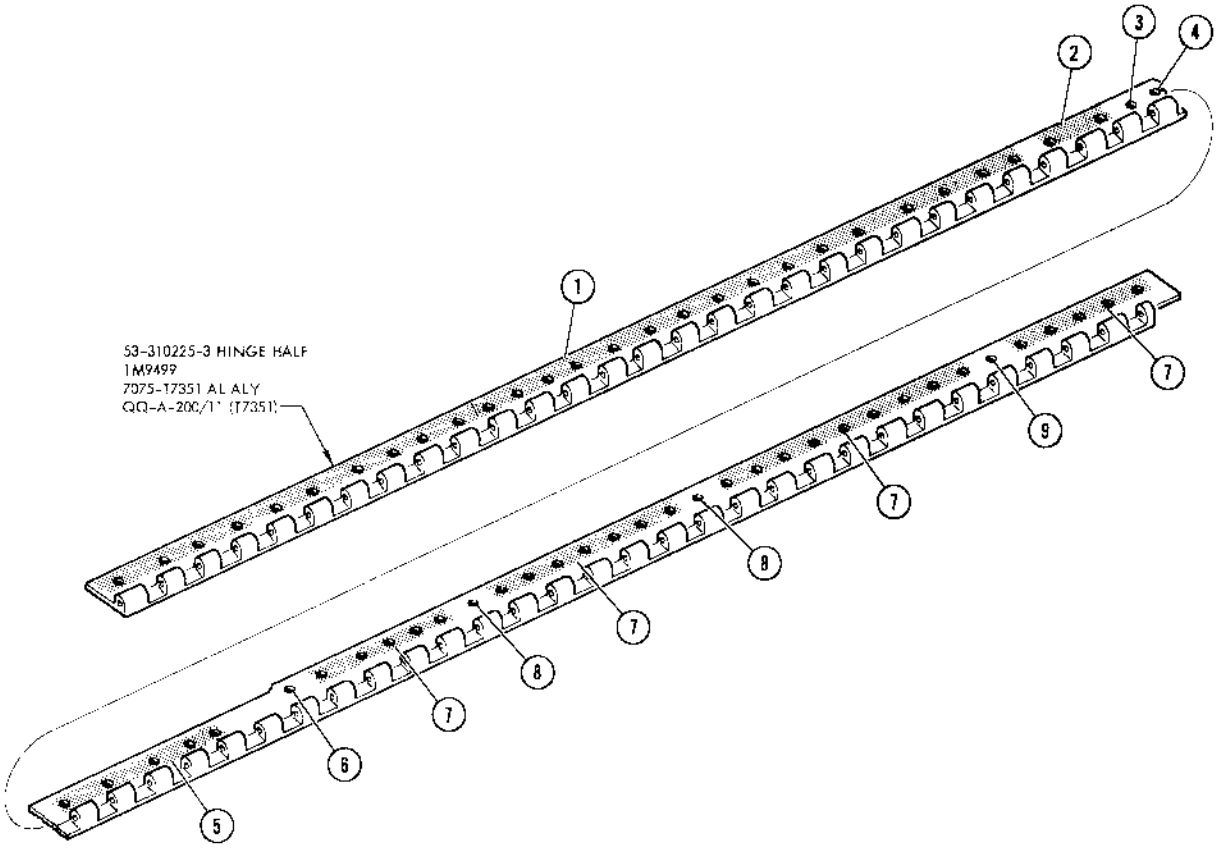
REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	AN3-6A	MS21042-3	AN960D10	0.191 +.006 -.000
2	NAS464P3A14	MS21042-3	AN960D10L (UNDER HEAD) AN960D10	0.191 +.006 -.000
3	NAS464P3A10	MS21042-3	AN960D10L (UNDER HEAD) AN960D10	0.191 +.006 -.000
4	NAS464P3A10	67992N1032 67992W1032 <1>	AN960D10L (UNDER HEAD)	0.191 +.006 -.000
5	NAS464P3A17	MS21042-3	AN960D10L (UNDER HEAD)	0.191 +.006 -.000
6	AN3-6A	MS21042-3	AN960D10L	0.191 +.006 -.000
7	AN3-5A	MS21059L3	AN960D10L	0.191 +.006 -.000
8	AN3-5A	MS21061L3	AN960D10L	0.191 +.006 -.000

Note

<1> NUT BASE.

4C-3-1-2-(257)B

Figure 3-47. Aft Nose Landing Gear Door Structural Hinge - F-4C AND F-4D



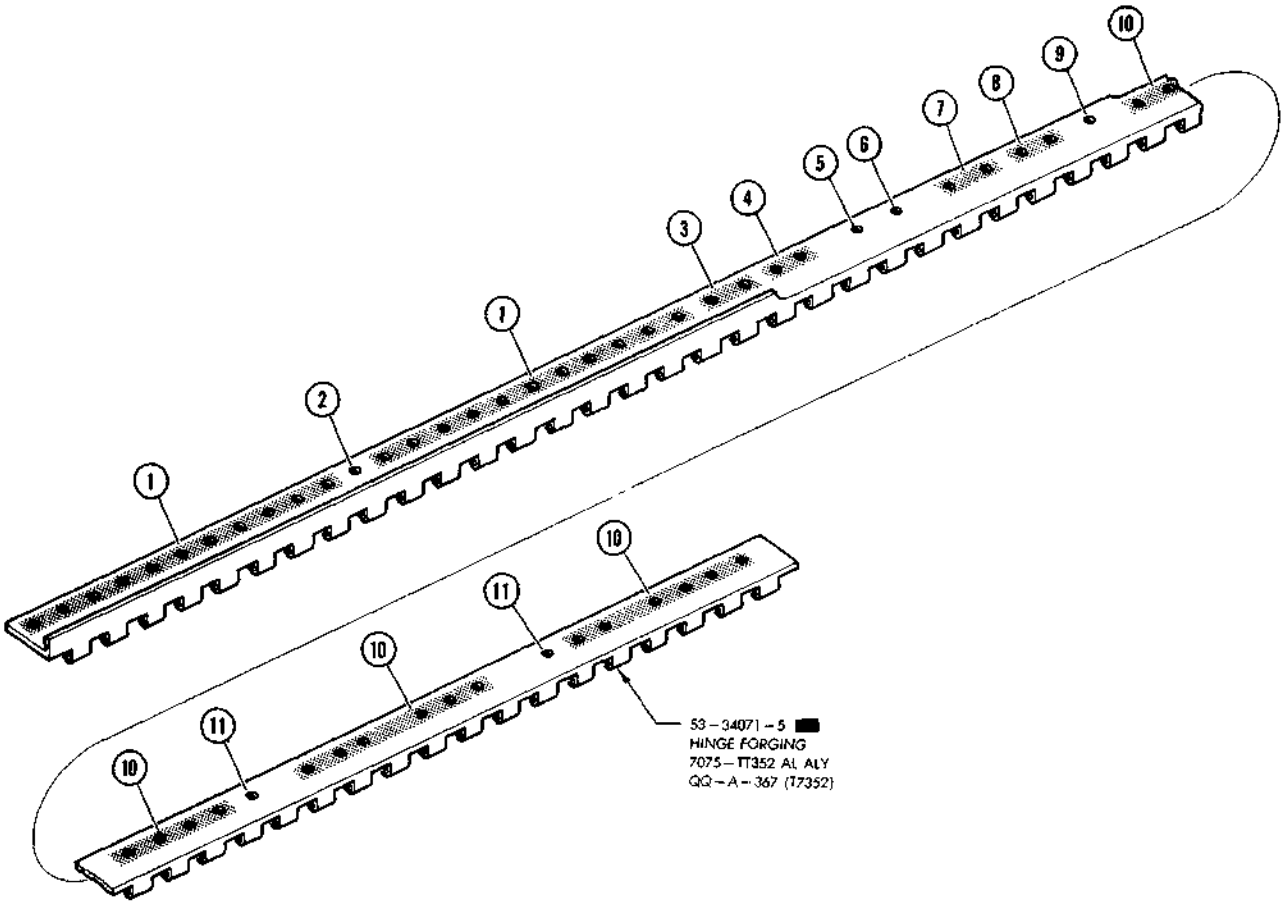
REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	AN3-6A	MS21042-3	AN960D10	0.191 +.006 -.000
2	NAS464P3A14	MS21042-3	AN960D10L (UNDER HEAD) AN960D10	0.191 +.006 -.000
3	NAS464P3A10	MS21042-3	AN960D10L (UNDER HEAD) AN960D10	0.191 +.006 -.000
4	NAS464P3A10	67992N1032 67992W1032 <1>	AN960D10L (UNDER HEAD)	0.191 +.006 -.000
5	NAS464P3A14	MS21042-3	AN960D10L (UNDER HEAD)	0.191 +.006 -.000
6	AN3-6A	MS21042-3	AN960D10L (UNDER HEAD)	0.191 +.006 -.000
7	AN3-5A	MS21059L3	AN960D10L	0.191 +.006 -.000
8	AN3-5A	MS21061L3	AN960D10L	0.191 +.006 -.000
9	AN3-5A	MS21061L3	AN960-10	0.191 +.006 -.000

Note

<1> NUT BASE.

4C-3-1-2-(258)B

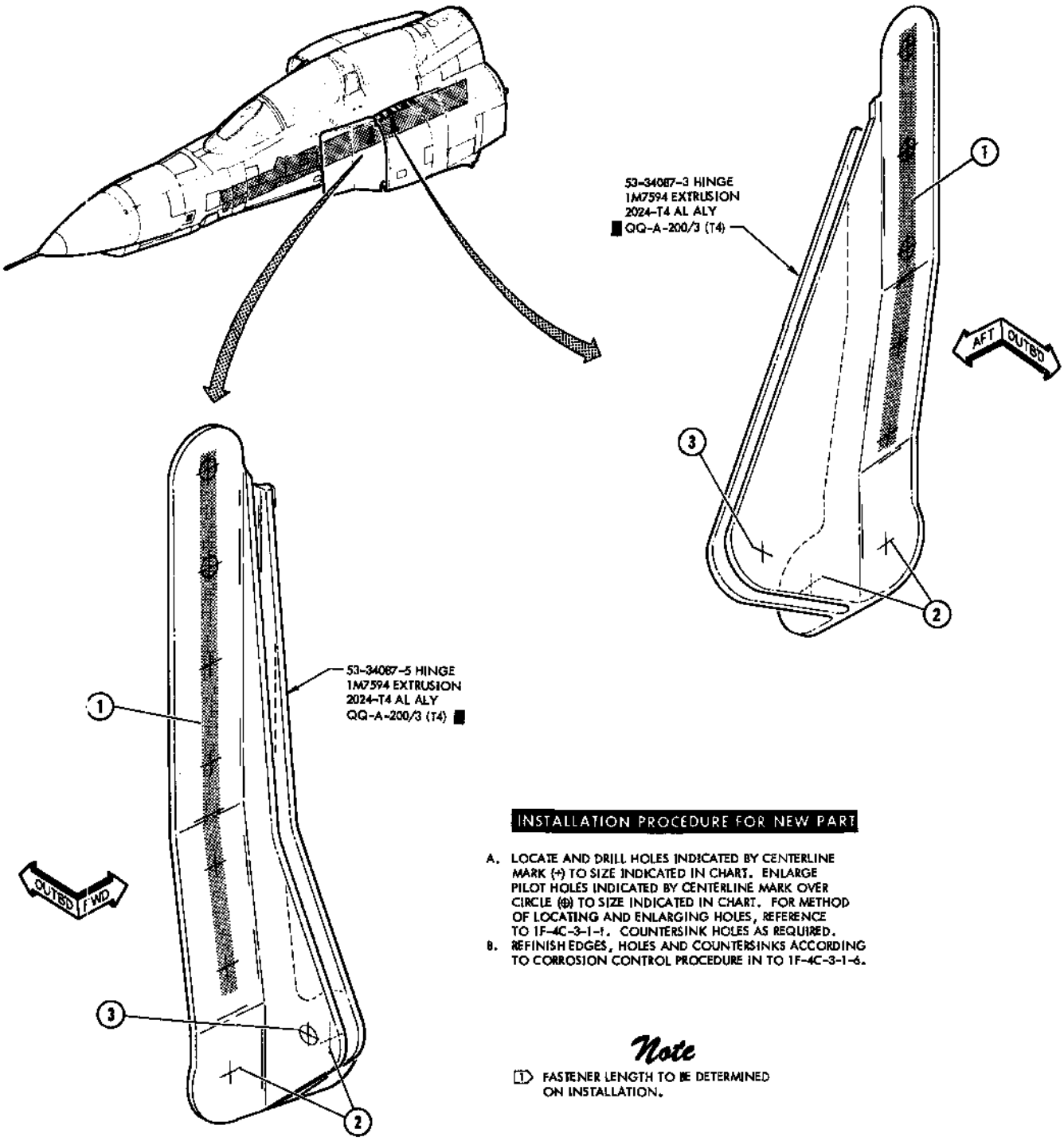
Figure 3-48. Aft Nose Landing Gear Door Structural Hinge - F-4E AND F-4G



REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1	AN3-6A	MS21042-3	AN960D10	0.191 +.006 -.000
2	MS24694S55	MS21042-3	AN960D10	0.191 +.006 -.000
3	AN3-7A	MS21042-3	AN960D10	0.196 +.006 -.000
4	NAS464P3A9	MS21042-3	AN960D10	0.191 +.006 -.000
5	NAS464P3A10	MS21042-3	AN960D10L (UNDER HEAD) AN960D10 (UNDER NUT)	0.191 +.006 -.000
6	NAS464P3A10	MS21042-3	AN960D10	0.191 +.006 -.000
7	NAS464P3A18	MS21042-3	AN960D10L (UNDER HEAD) AN960D10 (UNDER NUT)	0.191 +.006 -.000
8	NAS464P3A17	MS21042-3	AN960D10L (UNDER HEAD) AN960D10 (UNDER NUT)	0.191 +.006 -.000
9	AN3-6A	MS21042-3	AN960D10L (UNDER HEAD) AN960D10 (UNDER NUT)	0.191 +.006 -.000
10	AN3-5A	MS21059L3	AN960D10L	0.191 +.006 -.000
11	AN3-6A	MS21061L3	AN960D10L	0.191 +.006 -.000

4C-3-1-2-(259)C

Figure 3-49. Aft Nose Landing Gear Door Structural Hinge - RF-4



INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING AND ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

B. REFINISH EDGES, HOLES AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

[1] FASTENER LENGTH TO BE DETERMINED ON INSTALLATION.

REF NO.	FASTENER	BUSHING	WASHER		PIN	TORQUE (INCH-LB)	NUT OR COLLAR	HOLE SIZE
			UNDER HEAD	UNDER NUT				
1	MS20470AD5 [1]							0.156 +.006 -.000
2	AN3-6A		AN960D10L	AN960D10		15-25	MS21042-3	0.196 +.006 -.000
3	AN4-7	4M46-4-10	AN960-416	AN960-416	MS24665-210	30-40	AN320-4	0.375 +.007 -.000

4C-3-1-2-(332)A

Figure 3-49A. Hinge, 53-34087, Replacement Index

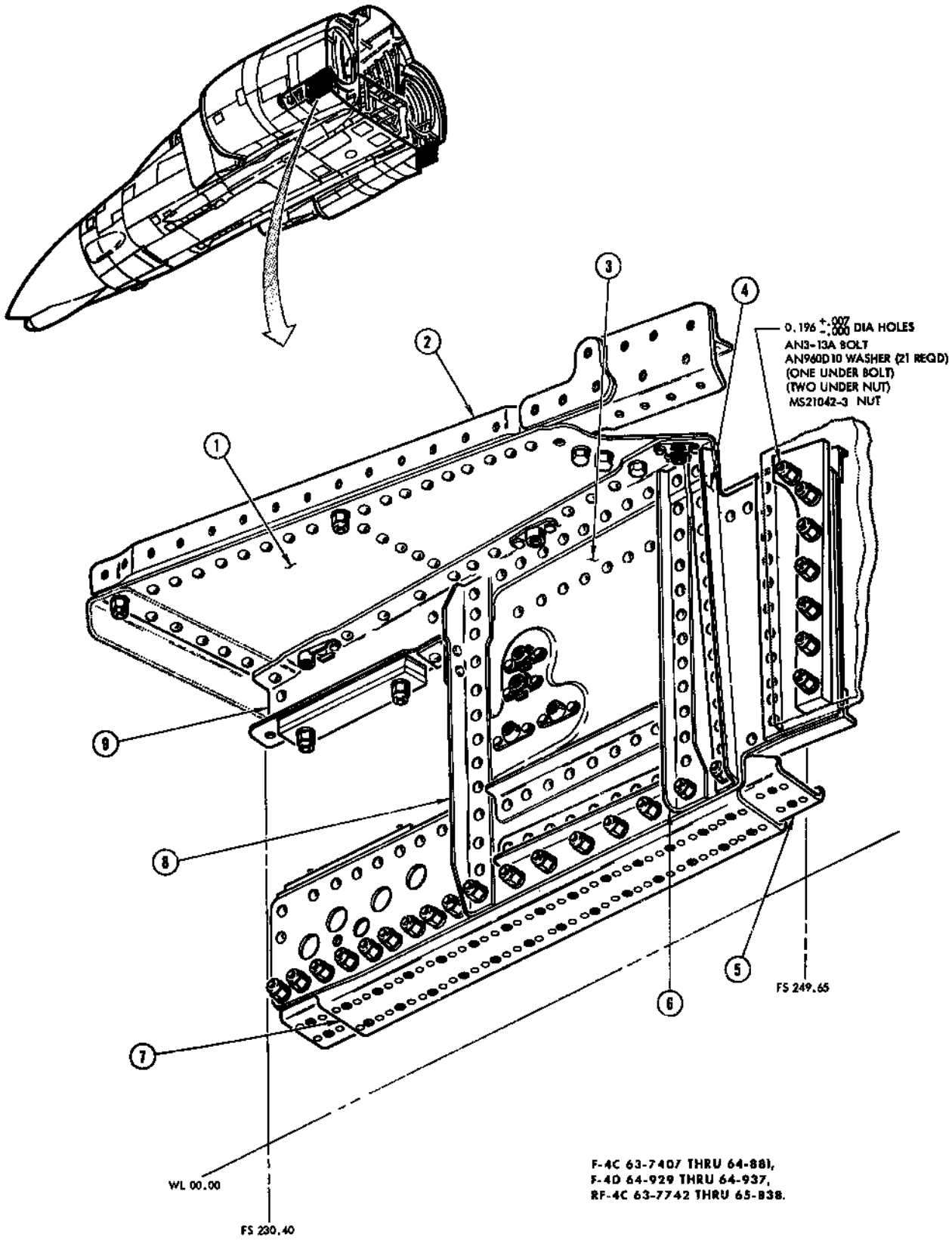


Figure 3-50. Wing Closure Web (Sheet 1 of 3)

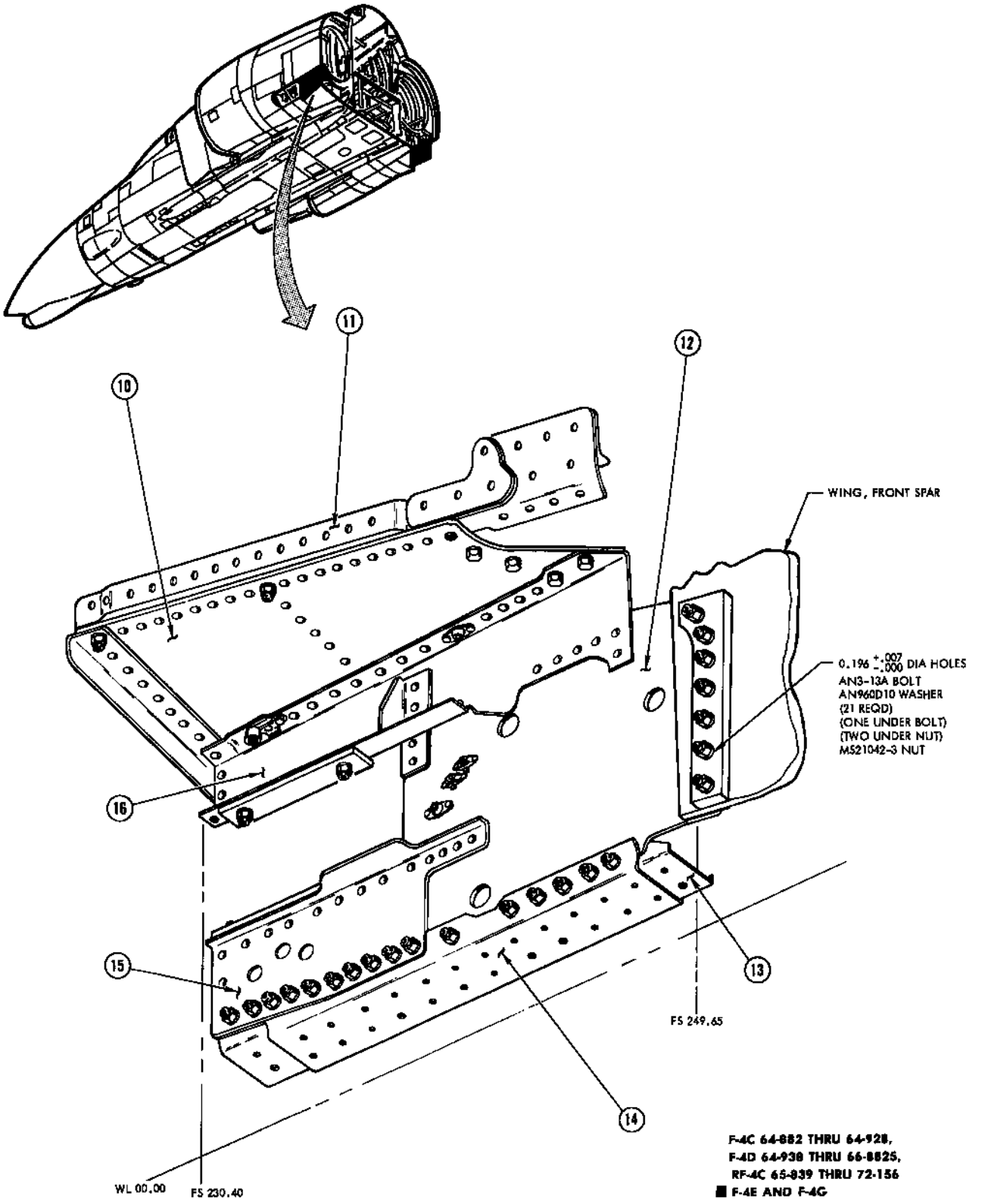


Figure 3-50. Wing Closure Web (Sheet 2 of 3)

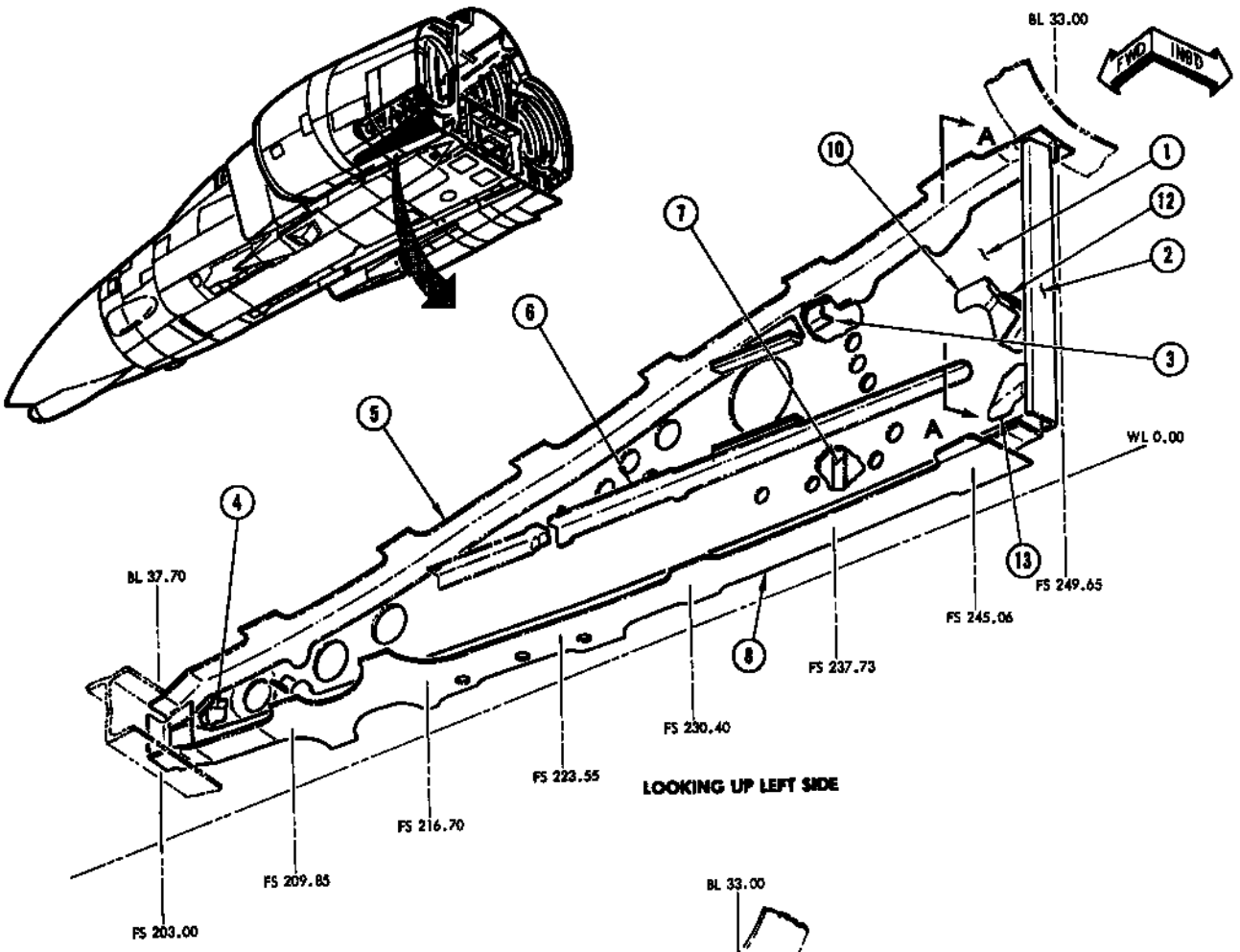
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31095-145	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-31095-197, -198	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-31095-225, -226	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	32-31095-21, -22	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-31095-185, -186	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-31095-19, -20	STIFFENER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7 [2]	32-31095-179, -180	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[3]	32-31095-231, -232	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31095-223, -224	ANGLE	1M2376	7178-T6 ALCLAD	QQ-A-200/13 (T6)
9	32-31095-189, -190	SUPPORT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31095-249	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-31095-197, -198	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-30350-1, -3	SUPPORT ASSY	FORGING	7075-T73 AL ALY	QQ-A-367 (T73)
13	32-31095-235, -236	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-31095-273, -274	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31095-275, -276	ANGLE	0.100	2024-T6 AL ALY	QQ-A-250/4 (T6)
16 [1]	32-31095-271, -272	SUPPORT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[3]	32-31095-291, -292	SUPPORT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

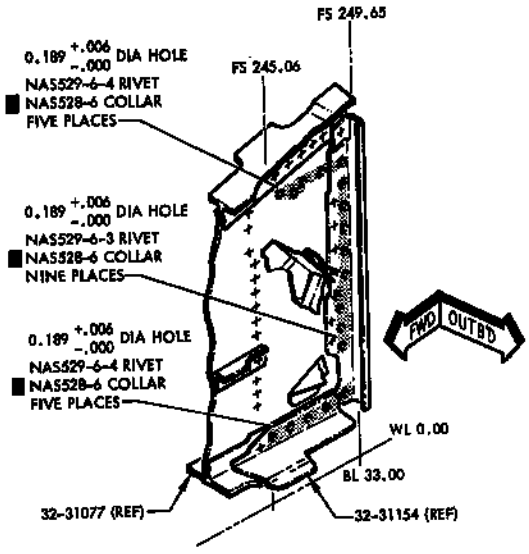
Notes

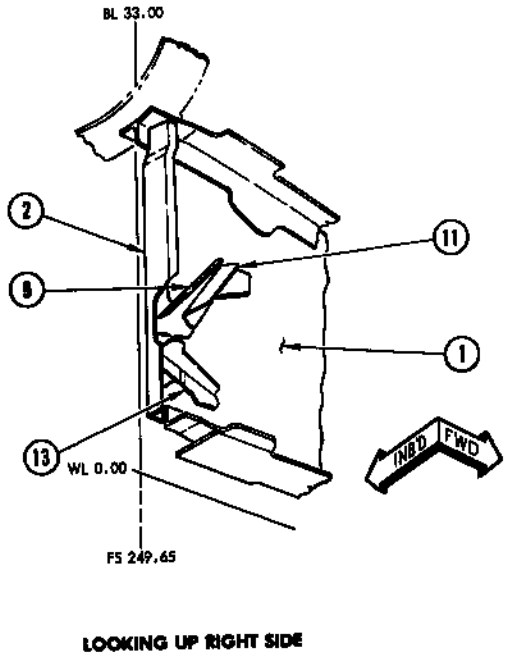
1. DRAWING NUMBER FOR THIS WEB IS 32-31095.
[2] F-4C 63-7407 THRU 63-7468 AND RF-4 63-7742.
[3] F-4C 63-7469 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7743 THRU 65-838.
[4] F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, AND RF-4 65-839 THRU 72-156.
[5] F-4E AND F-4G.

4C-3-1-2-(215-3)C

Figure 3-50. Wing Closure Web (Sheet 3 of 3)







4C-3-1-2-(251-1)C

Figure 3-51. Web Assembly, Lower Shear (Sheet 1 of 2)

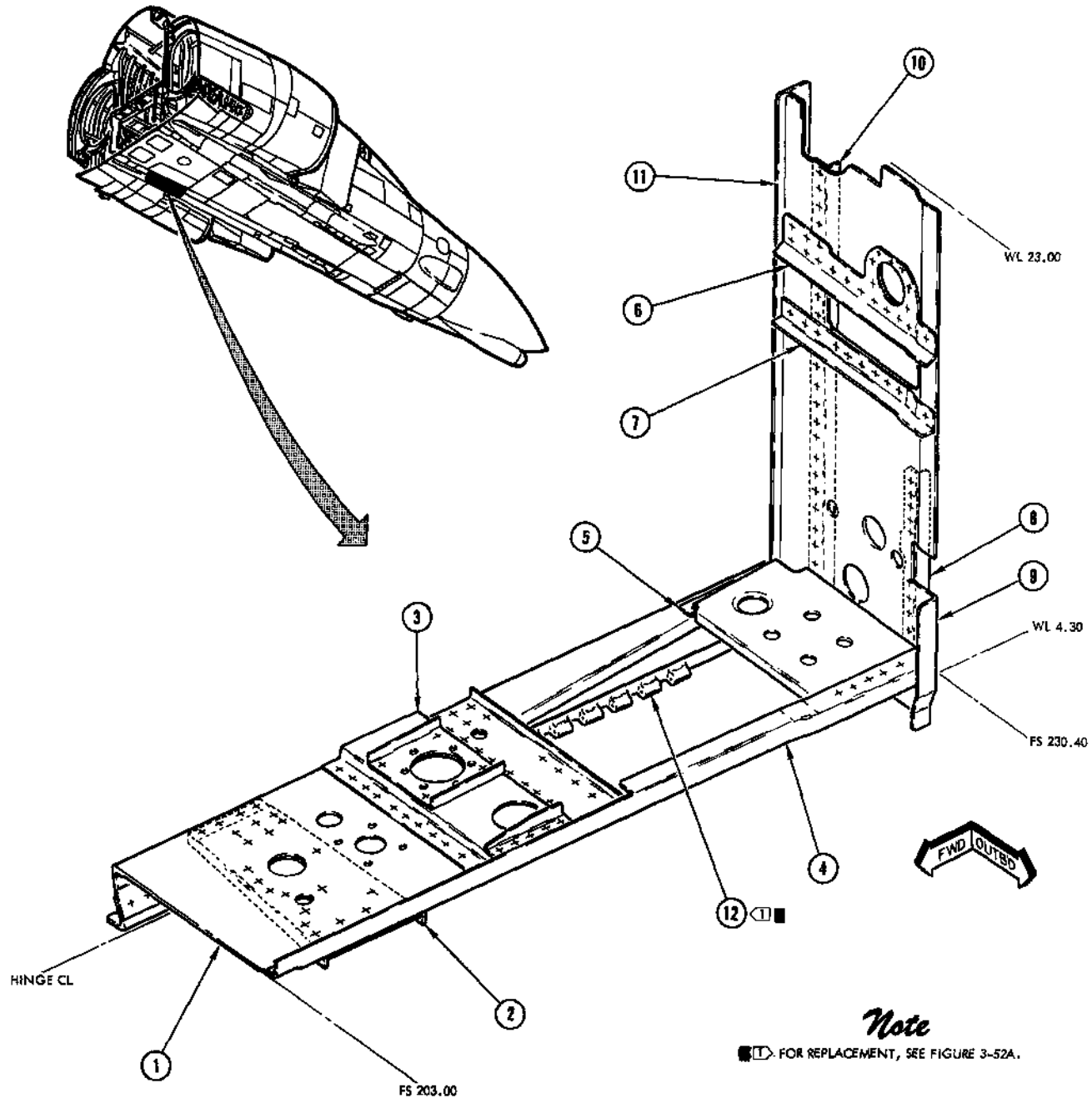
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [1]	32-31186-161, -163	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[2]	32-31186-165, -167	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[3]	32-31186-189, -191	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[4]	32-31186-247, -191	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[5]	32-31186-233, -234	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[10]	32-31186-251, -234	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[11]	32-31186-257, -234	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[12]	32-31186-263, -264	WEB	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2 [5]	32-31186-113, -121	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[6]	32-31186-195, -121	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[12]	32-31186-259, -260	CHANNEL	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
[15]	32G31186-165, -166	ANGLE	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
[16]	32G31186-167, -168	ANGLE	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
3	32-31186-141, -142	STIFFENER	1M218	7178-T651 AL ALY	QQ-A-200/13 (T651)
4	32-31186-159, -160	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5 [7]	32-31186-131, -147	CAP	1M5784	7178-T651 AL ALY	QQ-A-200/13 (T651)
[8]	32-31186-177, -178	CAP	1M5784	7178-T651 AL ALY	QQ-A-200/13 (T651)
6 [13]	32-31186-129, -137	ANGLE	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
[14]	32-31186-129, -261	ANGLE	0.063	2024-T6 ALCLAD	QQ-A-250/5 (T6)
7 [11]	32-31186-61, -62	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[15]	32-31186-61, -267	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31186-13, -15	LONGERON	1M5384	7178-T6 AL ALY	QQ-A-200/13 (T6)
9 [17]	32-31186-123	ANGLE	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
10 [17]	32-31996-9	ANGLE	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
11 [18]	32-31604-77	ANGLE	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
[19]	53G31045-3	ANGLE	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
12 [18]	32-31186-111	ANGLE	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
[19]	32G31186-65	ANGLE	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
13 [18]	32-31996-11 [21]	ANGLE	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
[18]	32-31604-79 [20]	ANGLE	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
[19]	32G31996-5 [21]	ANGLE	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
[19]	53G31045-7 [20]	ANGLE	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)

Notes

[1] F-4C 63-7407 THRU 63-7526 AND RF-4 63-7742 THRU 63-7749.
[2] F-4C 63-7527 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7750 THRU 65-838.
[3] F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, AND RF-4 65-839 THRU 68-593.
[4] RF-4 68-594 THRU 72-156.
[5] F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, RF-4C 63-7742 THRU 65-838 BEFORE TO 1F-4E-991.
[6] F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, RF-4 65-839 THRU 71-252, AND F-4E 66-287 AND 66-296 THRU 69-7589 BEFORE TO 1F-4E-991; ALSO on F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND 71-224 THRU 71-236.
[7] F-4C 63-7407 THRU 63-7468, AND RF-4 63-7742.
[8] F-4C 63-7469 THRU 64-928, RF-4C 63-7743 THRU 72-156, F-4D, F-4E, AND F-4G.
[9] F-4E 66-284 THRU 68-451.
[10] F-4E 68-452 THRU 71-236 AND F-4G.
[11] F-4E 71-237 THRU 71-1402.
[12] F-4E 71-237 AND UP AND RF-4 71-253 THRU 72-156.
[13] F-4E 72-121 AND UP.
[14] F-4C, F-4D, F-4E 66-284 THRU 71-1402, RF-4C, AND F-4G.
[15] F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4C 63-7742 THRU 65-838 AFTER TO 1F-4E-991.
[16] F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, RF-4 65-839 THRU 71-252, AND F-4E 66-287 AND 66-296 THRU 69-7589 AFTER TO 1F-4E-991 AND F-4G.
[17] F-4C, F-4D, AND RF-4.
[18] F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7742 THRU 65-838 BEFORE TO 1F-4-991; ALSO ON F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, AND RF-4 65-839 THRU 72-156.
[19] F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7742 THRU 65-838 AFTER TO 1F-4-991.
[20] RIGHT SIDE.
[21] LEFT SIDE.

4C-3-1-2-1251-2)E

Figure 3-51. Web Assembly, Lower Shear (Sheet 2 of 2)



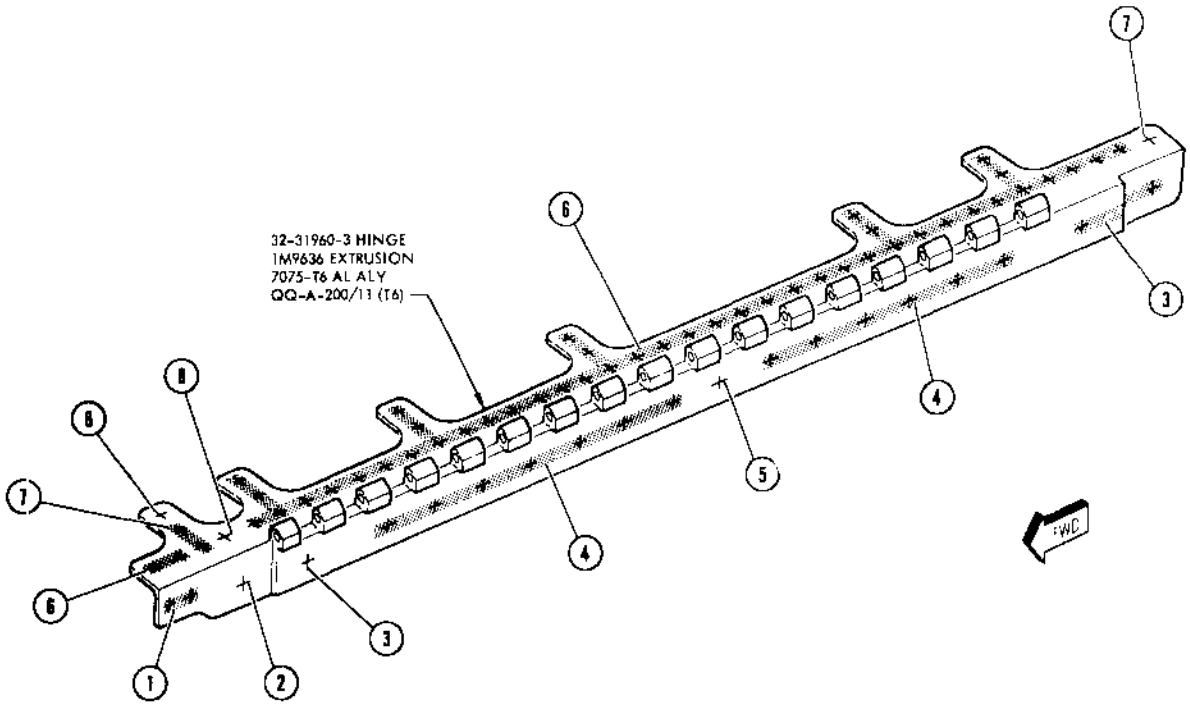
Note

■ ◁T▷ FOR REPLACEMENT, SEE FIGURE 3-52A.

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31275-427	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	32-31275-291	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-31275-443	HAT	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-31275-289	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-31275-287	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-31275-451	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-31275-219	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-31275-247	ANGLE	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-31275-453	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31275-457	ANGLE	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-31275-723	SUPPORT	1M5716	7178-T651 AL ALY	QQ-A-200/13 (T651)
■ 12	32-31960-3 ◁T▷	HINGE	1M9636	7075-T6 AL ALY	QQ-A-200/11 (T6)

4C-3-1-2-(260)B

Figure 3-52. Well Assembly, 32-31275 External Hydraulic Power



REF NO.	FASTENER	BUSHING	SHIM OR SPACER	NUT OR COLLAR	HOLE SIZE
1	NAS1055-4-3			HS234-4	$0.125^{+.007}_{-.001}$
2	MS246945101	4M98-4-2-18	32-30267	F1934-4-2	$0.3125^{+.0005}_{-.0000}$
3	MS246945101			F1934-4-2	$0.257^{+.007}_{-.000}$
4	MS246945101			RMG1584-048-10-14	$0.257^{+.007}_{-.000}$
5	MS246945101	4M98-4-2-8		RMG1584-048-10-14	$0.3125^{+.0005}_{-.0000}$
6	MS20470AD5				$0.156^{+.006}_{-.000}$
7	NAS1054-5-4			NAS528A5	$0.156^{+.006}_{-.000}$
8	NAS1054-5-3			NAS528A5	$0.156^{+.006}_{-.000}$

Note

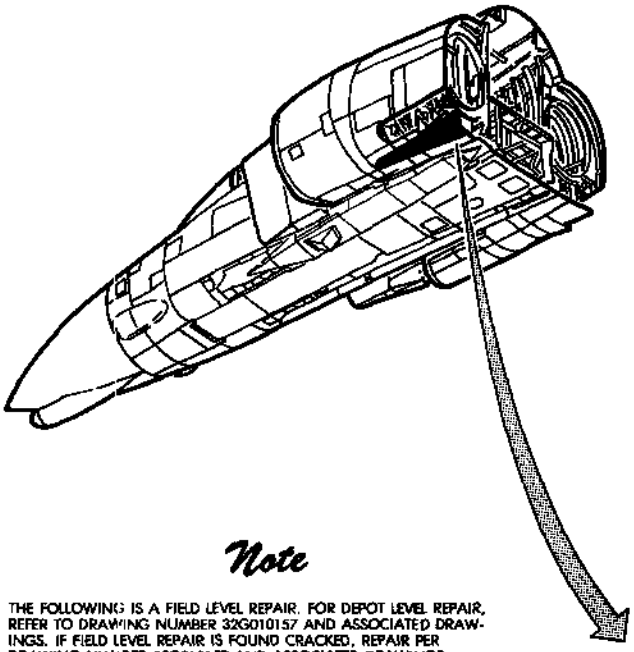
FASTENER LENGTH NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

4C-3-1-2-(334)

Figure 3-52A. Hinge, 32-31960, Replacement Index



INSPECTION PROCEDURE

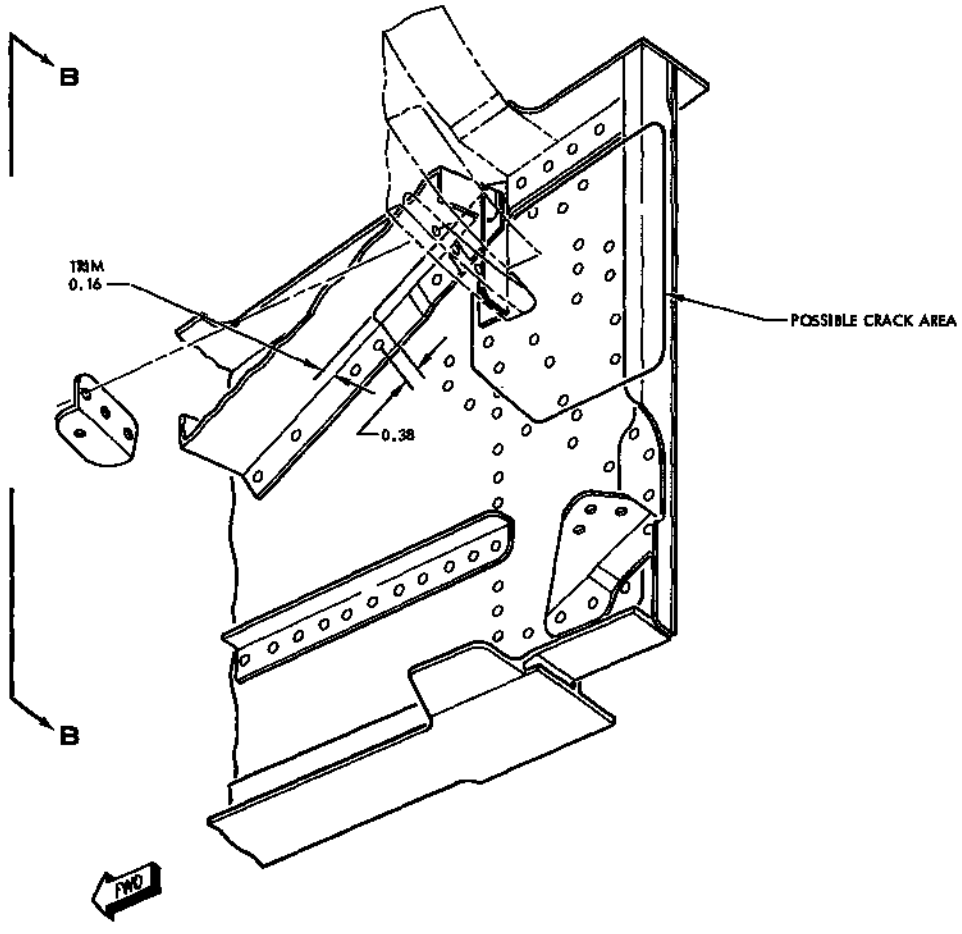
A. VISUAL INSPECT ENCIRCLED AREA FOR CRACKS, SEE DETAIL A.
B. IF CRACKS EXIST IN NOTED AREA, PERFORM REWORK PER REPAIR PROCEDURE.
C. IF CRACKS EXTEND BEYOND ENCIRCLED AREA, CONSULT DEPOT ENGINFERING FOR DISPOSITION.

REPAIR PROCEDURE

A. REMOVE STRUCTURAL PART AS REQUIRED TO PERFORM REWORK.
B. STOP DRILL CRACK WITH 0.250 DIAMETER DRILL.
C. CLEAN OUT CRACK TO 125 MICROINCH FINISH 0.06 WIDE.
D. FABRICATE REPAIR PARTS, SEE DETAILS H THRU Y.
E. LOCATE REPAIR PARTS AND MATCH DRILL FASTENER HOLES. USE HOLE SIZE SHOWN IN FASTENER CHART, SEE VIEW B-B.
F. FOR METHOD OF LOCATING HOLES, REFER TO TO 1F-4C-3-1-1.
G. REMOVE REPAIR PARTS AND DEBURR HOLES IN STRUCTURE AND REPAIR PARTS.
H. REFINISH REWORKED AREA, HOLES, AND EDGES OF PART, PER TO 1F-4C-3-1-6.
I. INSTALL REPAIR PARTS AND REINSTALL STRUCTURAL PARTS REMOVE IN IN STEP A, SEE VIEW B-B.
J. INSTALL FASTENERS SHOWN IN FASTENER CHART, SEE VIEW C-C AND D-D.

Note

THE FOLLOWING IS A FIELD LEVEL REPAIR. FOR DEPOT LEVEL REPAIR, REFER TO DRAWING NUMBER 32G010157 AND ASSOCIATED DRAWINGS. IF FIELD LEVEL REPAIR IS FOUND CRACKED, REPAIR PER DRAWING NUMBER 32G010157 AND ASSOCIATED DRAWINGS.



DETAIL A

4C-3-1-2-(302-1186

Figure 3-53. Web, 32-31186, Repair (Sheet 1 of 8)

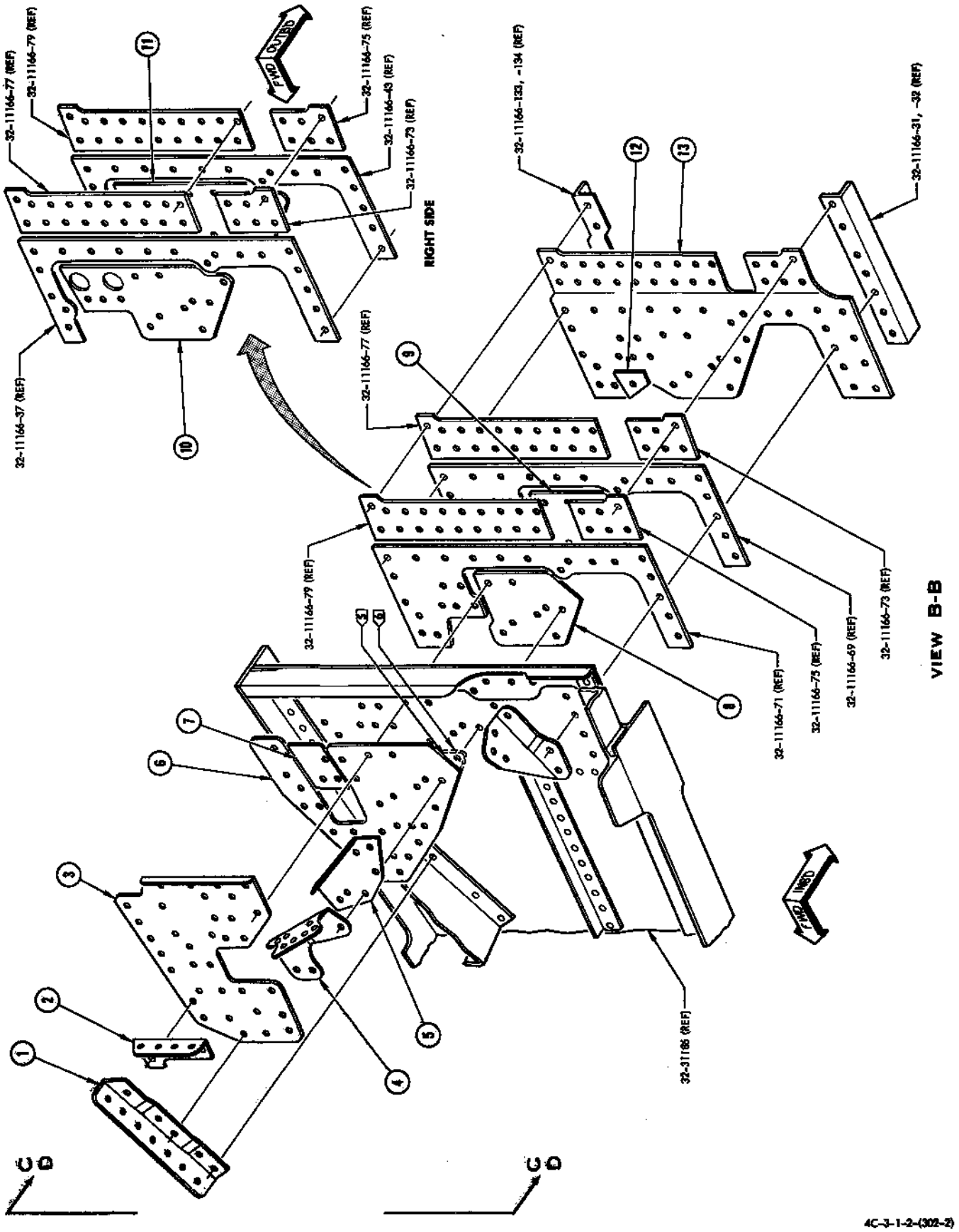


Figure 3-53. Web, 32-31186, Repair (Sheet 2 of 8)

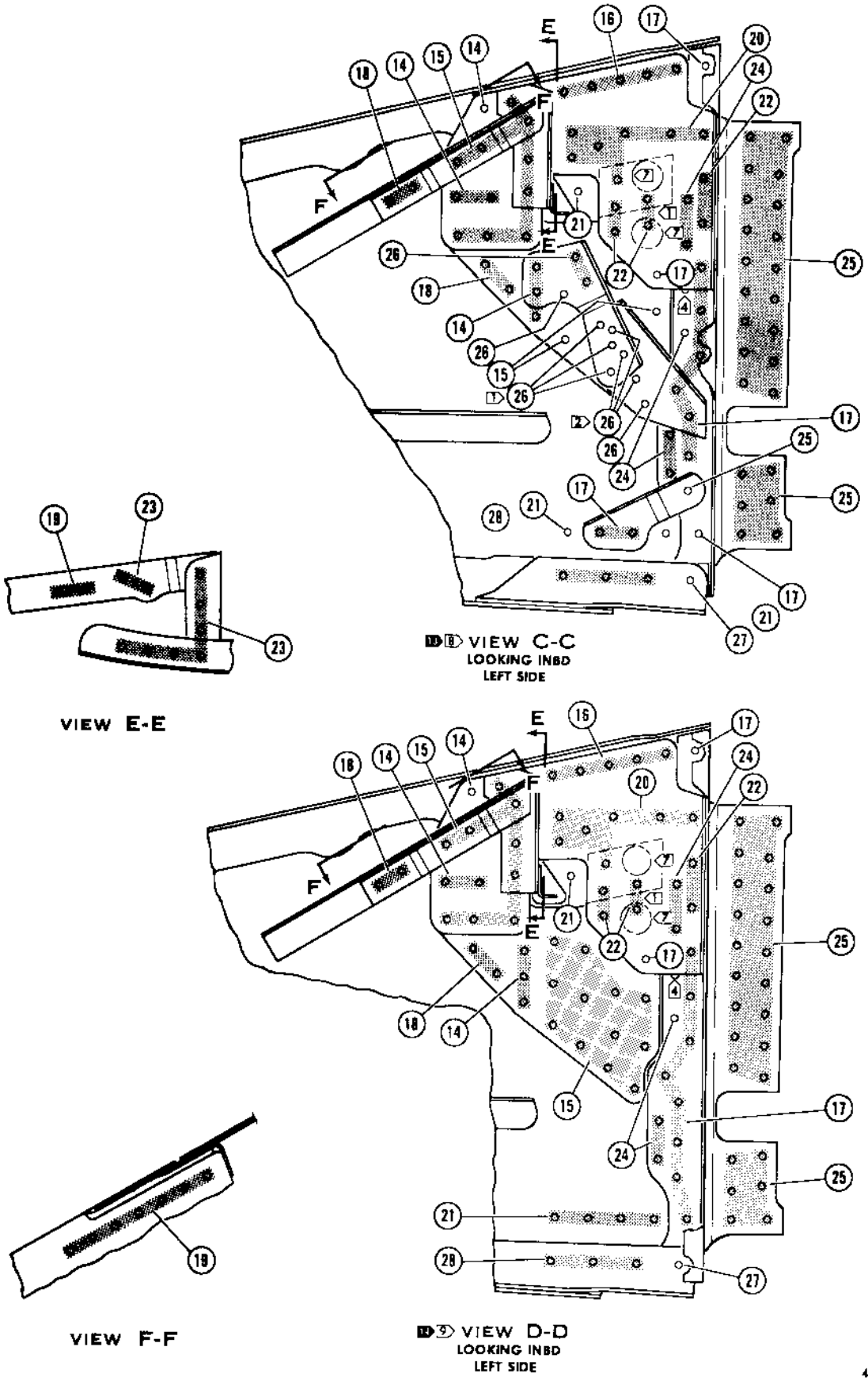
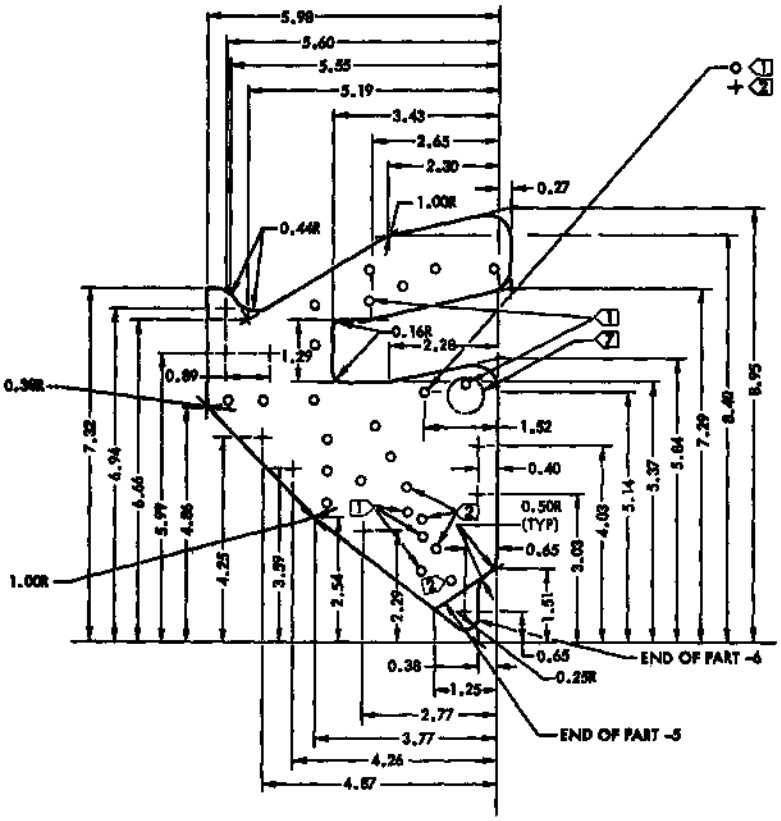
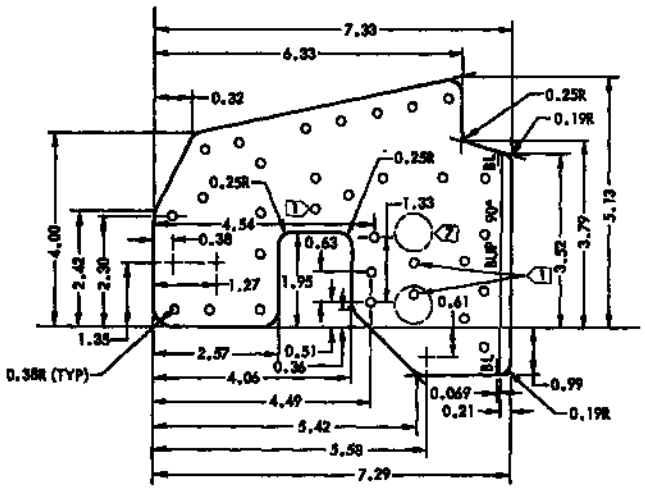


Figure 3-53. Web, 32-31186, Repair (Sheet 3 of 8)



53G010019-5, -6

DETAIL G

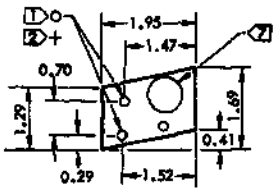


53G010019-7, -8

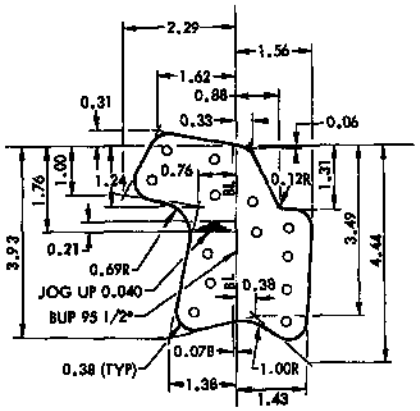
DETAIL H

4C-3-1-2-(302-4)

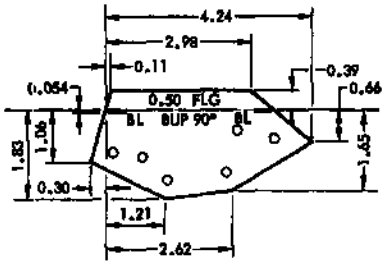
Figure 3-53. Web, 32-31186, Repair (Sheet 4 of 8)



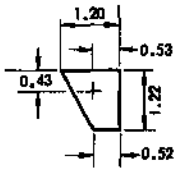
53G010019-9
DETAIL J



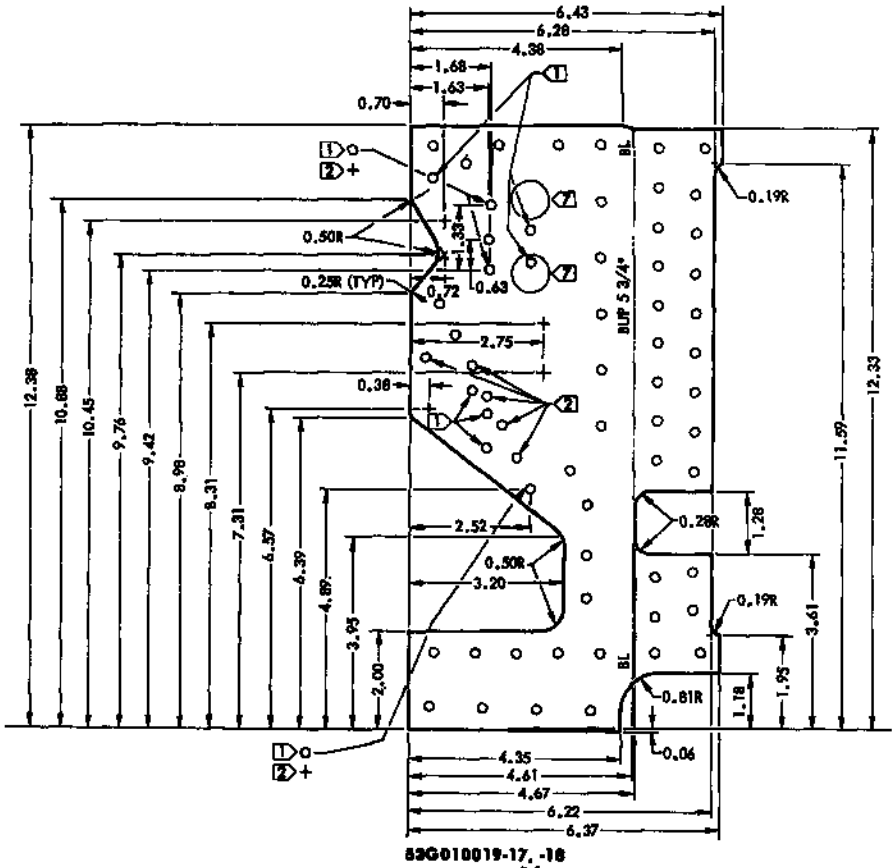
53G010019-11
DETAIL K



53G010019-13
DETAIL L



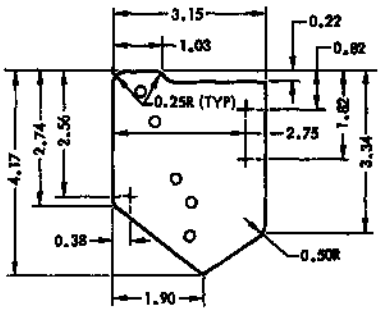
53G010019-15
DETAIL M



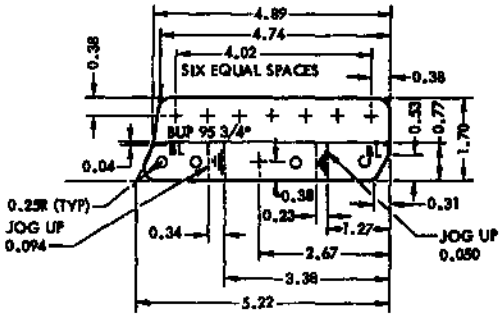
53G010019-17, -18
DETAIL N

4C-3-1-2-(302-5)

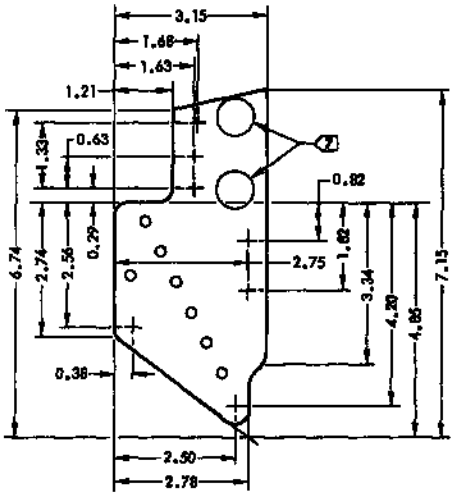
Figure 3-53. Web, 32-31186, Repair (Sheet 5 of 8)



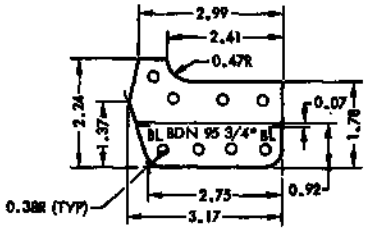
DETAIL P
53G010019-19, -21



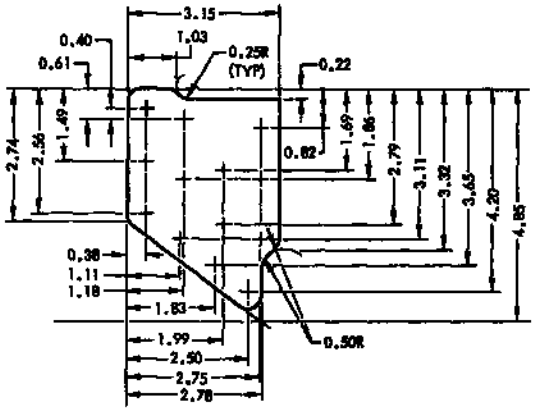
DETAIL Q
53G010019-23, -24



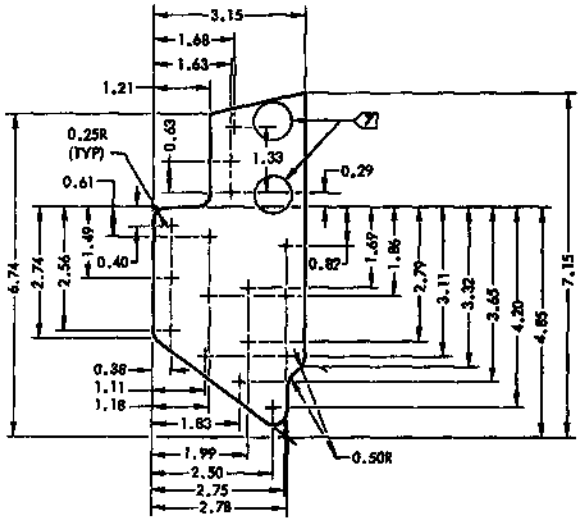
DETAIL R
53G010019-20, -22



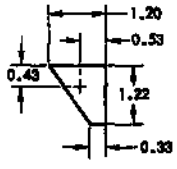
DETAIL S
53G010019-23, -24



DETAIL U
53G010019-29, -31



DETAIL T
53G010019-30, -32



DETAIL V
53G010019-35

4C-3-1-2-(302-6)

Figure 3-53. Web, 32-31186, Repair (Sheet 6 of 8)

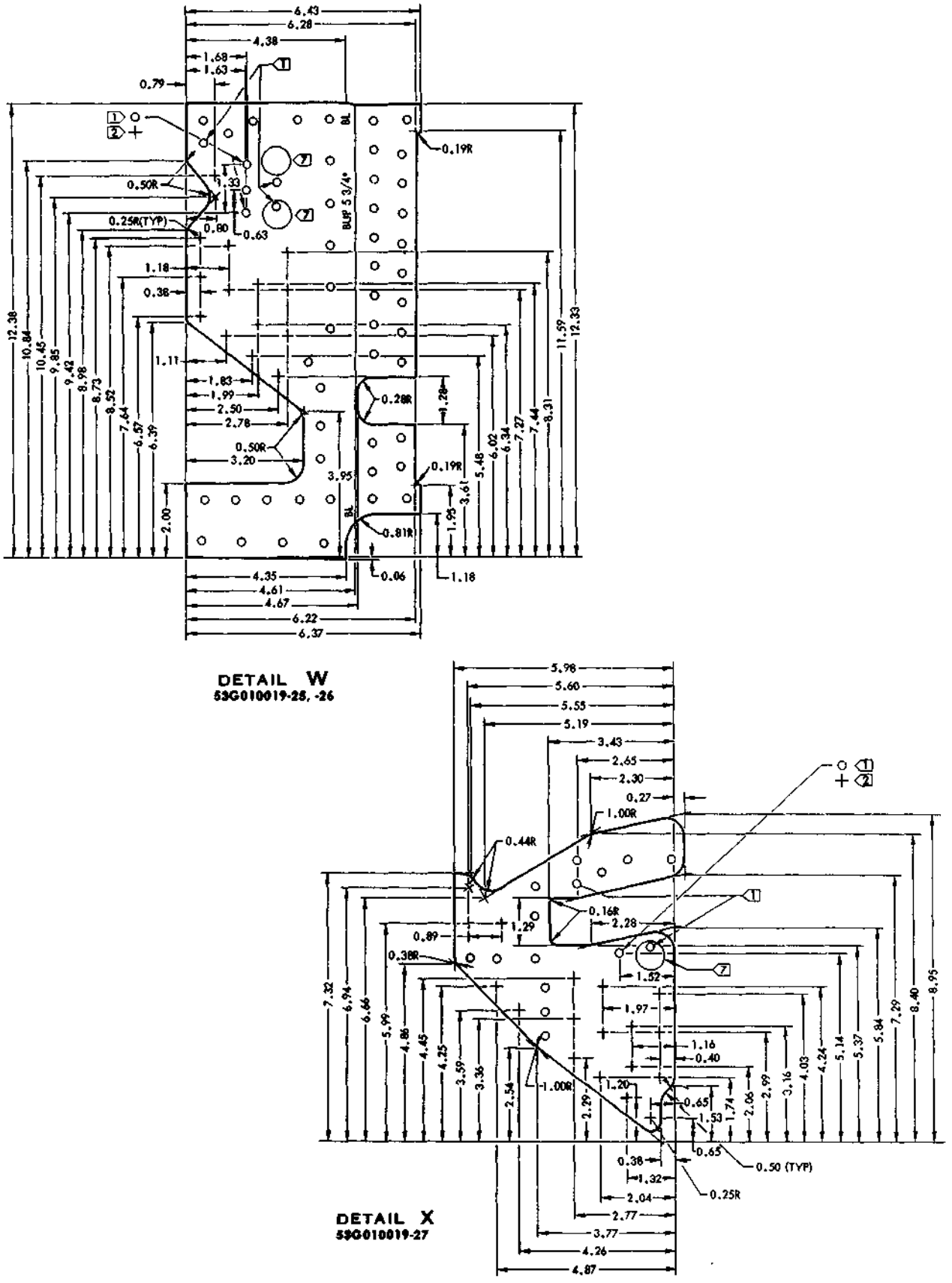


Figure 3-53. Web, 32-31186, Repair (Sheet 7 of 8)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53G010019-23, -24	ANGLE (10)	0.032	2024-T42 AL ALY (8)	QQ-A-250/4 (T42)
2	53G010019-33, -34	ANGLE (12)	0.050	7075-T6 AL ALY (9)	QQ-A-250/12 (T6)
3	53G010019-7, -8	DOUBLER (12)	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
4	53G010010-11 (1)	ANGLE (11)	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
5	53G010019-13 (1)	ANGLE (10)	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
6	53G010019-5, -6	FILLER	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
	53G010019-27	FILLER	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
7	53G010019-9	FILLER	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
8	53G010019-19	FILLER	0.032	7075-T6 AL ALY	QQ-A-250/12 (T6)
	53G010019-29	FILLER	0.032	7075-T6 AL ALY	QQ-A-250/12 (T6)
9	53G010019-21	SHIM	0.032	5052-H39 AL ALY	QQ-A-250/8 (H39)
	53G010019-31	SHIM	0.032	5052-H39 AL ALY	QQ-A-250/8 (H39)
10	53G010019-20	FILLER	0.032	7075-T6 AL ALY	QQ-A-250/12 (T6)
	53G010019-30	FILLER	0.032	7075-T6 AL ALY	QQ-A-250/12 (T6)
11	53G010019-22	SHIM	0.032	5052-H39 AL ALY	QQ-A-250/8 (H39)
	53G010019-32	SHIM	0.032	5052-H39 AL ALY	QQ-A-250/8 (H39)
12	53G010019-15	SHIM	0.125	5052-H39 AL ALY	QQ-A-250/8 (H39)
	53G010019-35	SHIM	0.062	5052-H39 AL ALY	QQ-A-250/8 (H39)
13	53G010019-17, -18	WEB (12)	0.080	2024-T3 AL ALY	QQ-A-250/4 (T3)
	53G010019-25, -26	WEB (12)	0.080	2024-T3 AL ALY	QQ-A-250/4 (T3)

REF NO.	FASTENER	NUT OR COLLAR	WASHER		TORQUE (INCH-LB)	HOLE SIZE
			UNDER HEAD	UNDER NUT		
14	NAS1469-08L3					0.165 +.003 -.000
15	NAS1469-08L4					0.165 +.003 -.000
16	NAS464P3A3	MS21042-3	AN960D10L	AN960D10 (3)	15-25	0.191 +.006 -.000
17	NAS464P3A5	MS21042-3	AN960D10L	AN960D10 (3)	15-25	0.191 +.006 -.000
18	NAS146908L2					0.165 +.003 -.000
19	MS20470AD5					0.156 +.013 -.000
20	MB61-3-7	H49817-3	AN960D10L	AN960D10 (3)	15-25	0.191 +.006 -.000
21	NAS464P3A4	MS21042-3	AN960D10L	AN960D10 (3)	15-25	0.191 +.006 -.000
22	NAS464P3A7	MS21042-3	AN960D10L	AN960D10 (3)	15-25	0.191 +.006 -.000
23	NAS1054-5-3	NAS528A5				0.156 +.006 -.000
24	MS20426AD4					0.128 +.013 -.000
25	NAS464P3A6	MS21042-3	AN960D10L	AN960D10 (3)	15-25	0.191 +.003 -.000
26	NAS1469-08L5					0.165 +.003 -.000
27	NAS464P3A10	MS21042-3			15-25	0.1895 +.0015 -.0000
28	NAS464P3A9	MS21042-3			15-25	0.1895 +.0015 -.0000

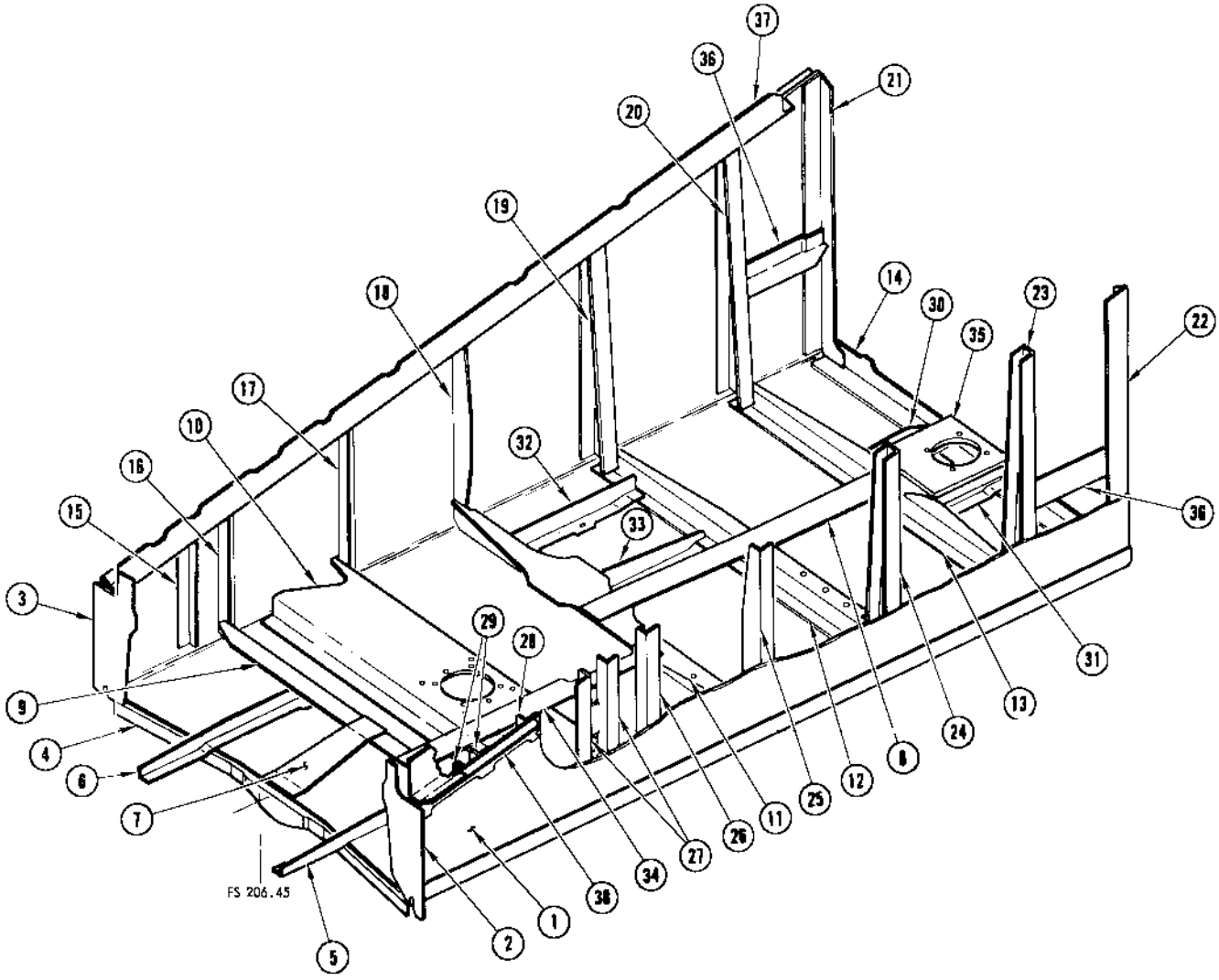
LEGEND	
O	NEW FASTENER, EXISTING LOCATION
+	NEW FASTENER, NEW LOCATION

Notes

(1) LEFT SIDE.
(2) RIGHT SIDE.
(3) TWO REQUIRED.
(4) ACCEPTABLE TO LEAVE 0.125 DIAMETER HOLE OPEN.
(5) END OF PART FOR 53G010019-5 FILLER.
(6) END OF PART FOR 53G010019-6 AND -27 FILLER.
(7) DRILL 0.563 ±.010 OR 0.750 ±.010 DIAMETER HOLES TO MATE HOLES IN AIRCRAFT.
(8) FORM IN 2024-O CONDITION AND HEAT TREAT TO 2024-T42, REFERENCE TO 1F-4C-3-1-1.
(9) FORM IN 7075-O CONDITION AND HEAT TREAT TO 7075-T6, REFERENCE TO 1F-4C-3-1-1.
(10) 0.06 BEND RADIUS.
(11) 0.09 BEND RADIUS.
(12) 0.13 BEND RADIUS.
(13) F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7742 THRU 65-838.
(14) F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, RF-4 65-839 THRU 72-156, F-4E, AND F-4G.

4C-3-1-2-(302-8)B

Figure 3-53. Web, 32-31186, Repair (Sheet 8 of 8)



4C-3-1-2-(196-1)A

Figure 3-54. Number One Fuel Cell Electronic Compartment - F-4C (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53G970009-21	WEB ◁1	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	53G970009-39	TEE	1M57403	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-31205-11	TEE	1M57403	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	53G970009-29	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-31205-73	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	53-31205-75	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	53G970009-43	STRAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	53G31205-25	STRAP	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
9	53G970009-37	ZEE	1M481	7178-T651 AL ALY	QQ-A-200/13 (T651)
10	53G970009-31	CHANNEL	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	53G970009-35	ZEE	1M7677	7178-T651 AL ALY	QQ-A-200/13 (T651)
12	53G970009-41	ZEE	1M481	7178-T651 AL ALY	QQ-A-200/13 (T651)
13	53G31205-55	ZEE	1M481	7178-T651 AL ALY	QQ-A-200/13 (T651)
14	53-31205-39	ANGLE	1M2252	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	53-31205-45	ANGLE	1M2378	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	53G970009-4	ANGLE	1M2374	7178-T651 AL ALY	QQ-A-200/13 (T651)
17	53G970009-6	ANGLE	1M2374	7178-T651 AL ALY	QQ-A-200/13 (T651)
18	53G970009-8	ANGLE	1M2374	7178-T651 AL ALY	QQ-A-200/13 (T651)
19	53G970009-10	CHANNEL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
20	53G970009-12	CHANNEL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
21	53G970009-13	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-31205-37	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	53G970009-11	CHANNEL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	53G970009-9	CHANNEL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	53G970009-7	ANGLE	1M2374	7178-T651 AL ALY	QQ-A-200/13 (T651)
26	53G970009-5	ANGLE	1M2374	7178-T651 AL ALY	QQ-A-200/13 (T651)
27	53-31205-43	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	53G970009-3	ANGLE	1M2374	7178-T651 AL ALY	QQ-A-200/13 (T651)
29	53-31205-43	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	53-31205-64	TEE	1M5496	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	53G31205-11	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)
32	53-31205-107	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)
33	53-31205-57	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	53G970009-33	STRAP	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
35	53G31205-49	DOUBLER	0.150	7178-T651 AL ALY	QQ-A-250/14 (T651)
36	53-31205-59	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)
37	53G970009-20, -19	CHANNEL	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
38	53G970009-15, -16	ANGLE	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)

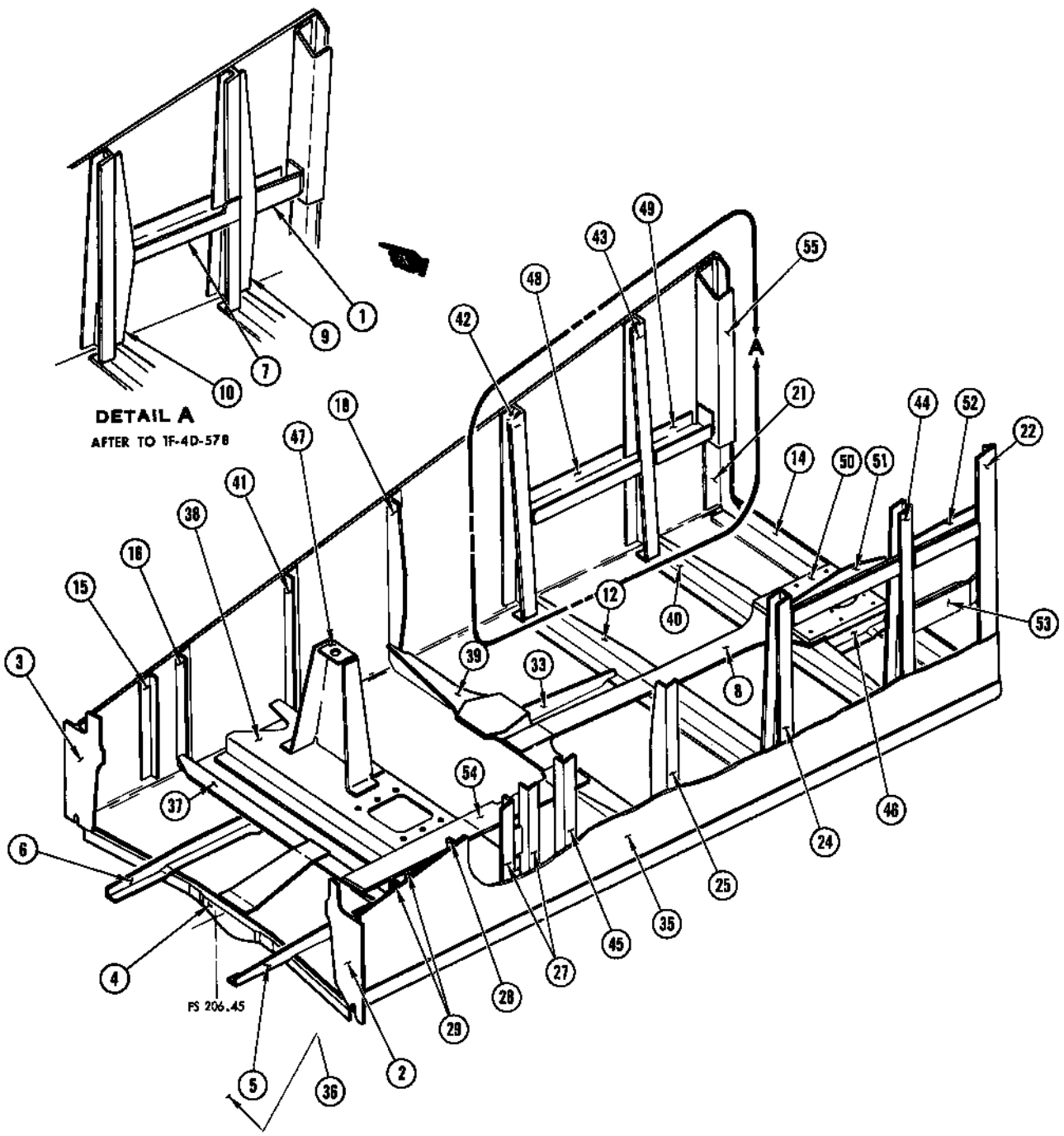
Note

◁1 THIS WEB IS CHEMICALLY MILLED TO 0.032 ABOVE WL 50.00.

4C-3-1-2-(196-2)B

Figure 3-54. Number One Fuel Cell Electronic Compartment - F-4C (Sheet 2 of 2)

"All data on page 3-145 deleted."



4C-3-1-2-(216-1)C

Figure 3-55. Number One Fuel Cell Electronic Compartment - F-4D (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [2]	53G973079-35	ANGLE	0.063	2024-T42 AL ALY	QQ-A-250/4 (T42)
2 [10]	53-31205-9	TEE	1M57403	7178-T6 AL ALY	QQ-A-200/13 (T6)
[11]	53-31205-81	TEE	1M57403	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	53-31205-11	TEE	1M57403	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	53-31205-79	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-31205-73	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	53-31205-75	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7 [2]	53G973079-33	ANGLE	0.063	2024-T42 AL ALY	QQ-A-250/4 (T42)
8	53G31205-25	STRAP	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
9 [2]	53G973079-31	ANGLE	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
10 [2]	53G973079-29	ANGLE	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
11	DELETED				
12	53-31205-27	ZEE	1M481	7178-T651 AL ALY	QQ-A-200/13 (T651)
13	DELETED				
14	53-31203-39	ANGLE	1M2252	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	53-31205-45	ANGLE	1M2378	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	53-31205-14	ANGLE	1M2374	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	DELETED				
18	53-31205-18	ANGLE	1M2374	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	DELETED				
	DELETED				
20	DELETED				
21	53-31205-38	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-31205-37	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	DELETED				
24 [12]	53-31205-19	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[13]	53-31205-115	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	53-31205-17	ANGLE	1M2374	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	DELETED				
27	53-31205-43	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	53-31205-13	ANGLE	1M2374	7178-T6 AL ALY	QQ-A-200/13 (T6)
29	53-31205-43	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	DELETED				
31	DELETED				
32	DELETED				
	DELETED				
33	53-31205-57	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	DELETED				
35 [3]	53G31205-67	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
[4]	53G31205-69	WEB	0.063 [1]	7178-T6 AL ALY	QQ-A-250/14 (T6)
[5]	53G32105-71	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
36	53G31205-57	STRAP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37	53G31205-59	ZEE	1M481	7178-T651 AL ALY	QQ-A-200/13 (T651)
38	53G31205-5	CHANNEL	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
39	53G31205-77	ZEE	1M7677	7178-T651 AL ALY	QQ-A-200/13 (T651)
40	53G31205-55	ZEE	1M481	7178-T651 AL ALY	QQ-A-200/13 (T651)
41	53G31205-87	ANGLE	1M2374	7178-T6 AL ALY	QQ-A-200/13 (T6)
42 [2]	53G31205-73	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[7]	53G31205-75	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
43	53G31205-63	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	53G31205-85	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
45	53G31205-89	ANGLE	1M2374	7178-T6 AL ALY	QQ-A-200/13 (T6)
46	53G31205-11	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)
47	53G31205-43	POST	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
48	53-09786-221	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	53-09786-219	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	53G31205-49	DOUBLER	0.250	7178-T651 AL ALY	QQ-A-250/14 (T651)
51	53G31205-35	CHANNEL	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
52	53G31205-31	CHANNEL	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
53	53G31205-65	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)
54	53G31205-27	STRAP	0.063	7178-T651 AL ALY	QQ-A-250/14 (T651)
55	53G31205-39	CHANNEL	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)

Notes

[1] THIS WEB HAS BEEN MACHINED TO 0.032 ABOVE WL 50.00.
[2] F-4D AFTER TO 1F-4D-578
[3] F-4D 64-929 THRU 65-665.
[4] DELETED
[5] F-4D 65-666 THRU 66-8698.
[7] DELETED
[7] F-4D 66-8699 THRU 66-8825.
[8] DELETED
[9] F-4D 64-929 THRU 66-8698.
[10] F-4D 64-929 THRU 65-665.
[11] F-4D 65-666 THRU 66-8825.
[12] F-4D 64-929 THRU 66-8786.
[13] F-4D 66-8787 THRU 66-8825.

4C-3-1-2-(216-2)C

Figure 3-55. Number One Fuel Cell Electronic Compartment - F-4D (Sheet 2 of 2)

"Figure 3-55 sheet 3 deleted."

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53G970326-3	FITTING	MACHINED	7075-T651 AL ALY	QQ-A-200/11 (1651)
2	53G970009-115	ZEE	0.050	2024-T42 AL ALY	QQ-A-250/4 (T42)
3	53G970009-135	CHANNEL	0.050	2024-T42 AL ALY	QQ-A-250/4 (T42)
4	53G970009-117	ANGLE	0.050	2024-T42 AL ALY	QQ-A-250/4 (T42)
5	53G970009-127	RAIL	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
6	53-34160-4	MOUNT	1M57371	2024-T4 AL ALY	QQ-A-200/3 (T4)
7	32-31135-781 (2)	SPACER	0.071	2024-T3 AL ALY	QQ-A-250/4 (T3)
8	32-31135-770	RAIL	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
9	53G970009-133	TEE	1M57283	7178-T651 AL ALY	QQ-A-200/13 (T651)
10	32-31135-772	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

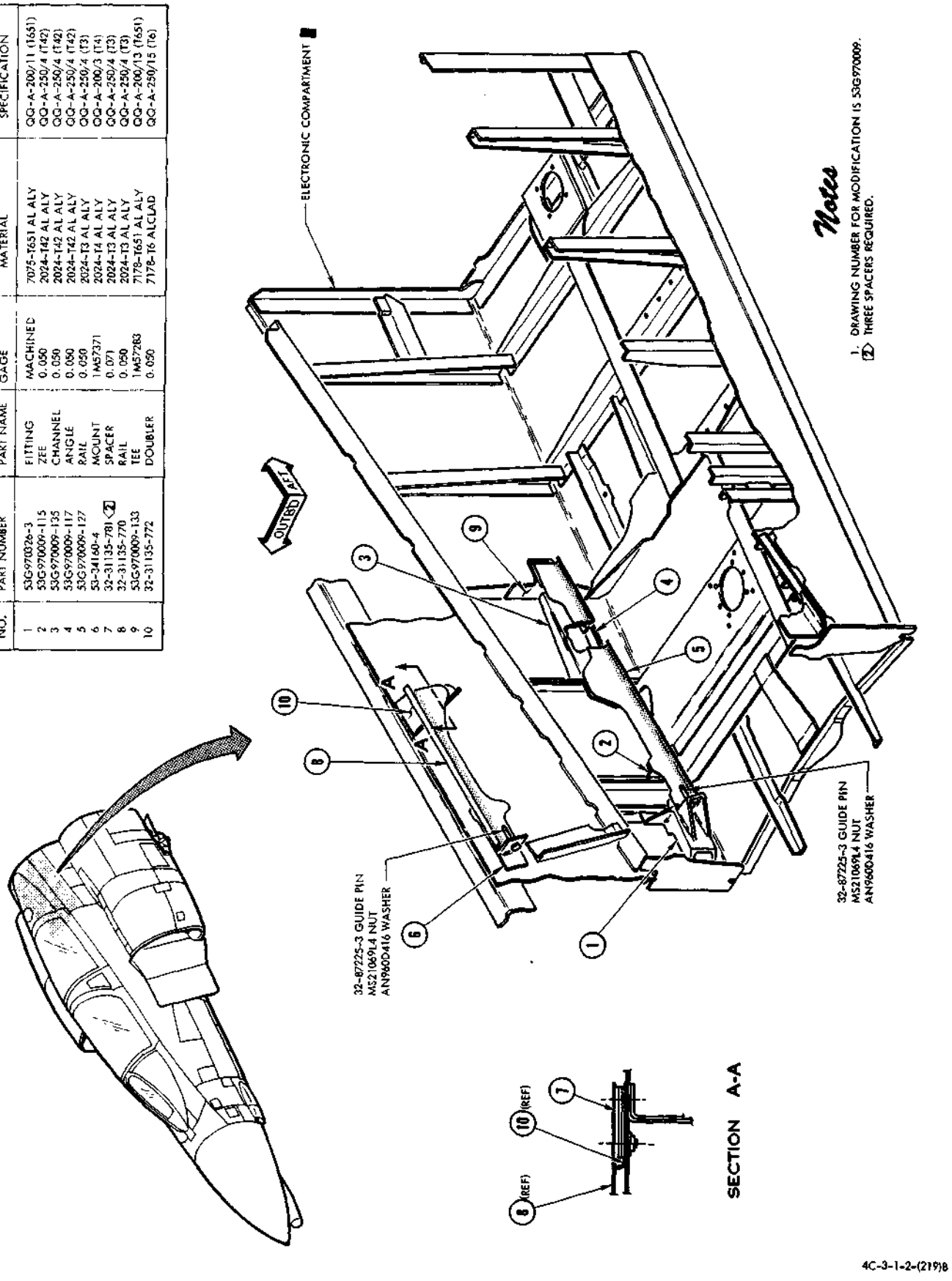
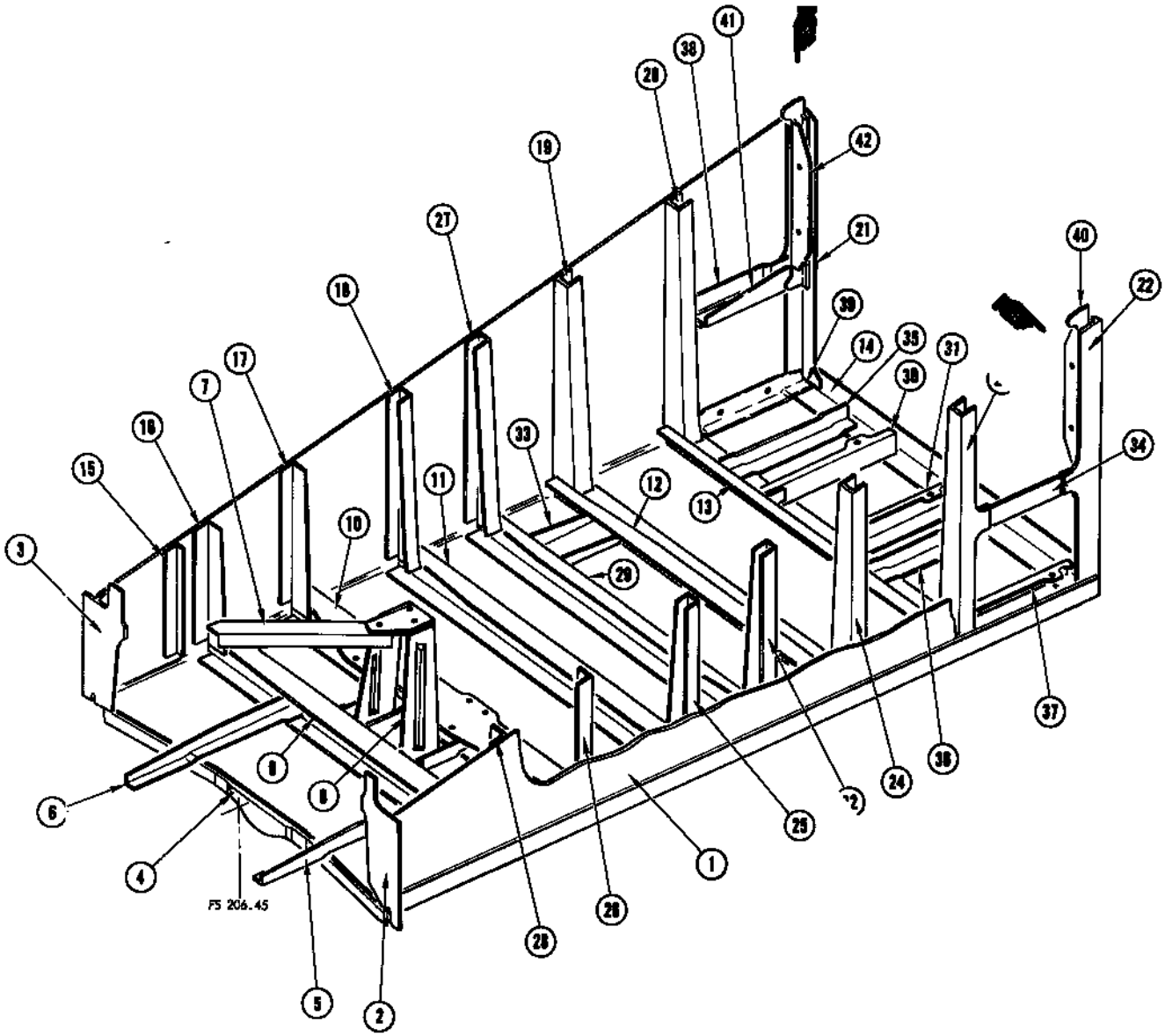


Figure 3-56. Generator Exciter Regulator Mount, Upper Equipment Bay AFTER TO 1F-4C-603



4C-3-1-2-(217-1)A

Figure 3-57. Number One Fuel Cell Electronic Compartment - F-4E AND F-4G (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [1]	53-310005-3	WEB	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
[10]	53-310005-107	WEB	0.063 <1>	7178-T6 AL ALY	QQ-A-250/14 (T6)
[7]	53-32011-113	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	53-310005-69	TEE	1MS7403	7178-T651 AL ALY	QQ-A-200/13 (T651)
3	53-310005-91	TEE	1MS7403	7178-T651 AL ALY	QQ-A-200/13 (T651)
4	53-31205-79	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-310005-57	TEE	1MS441	7178-T651 AL ALY	QQ-A-200/13 (T651)
6	53-310005-59	TEE	1M5441	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	53-310005-85	STIFFENER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8 [4]	53-310005-83	POST	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[5]	53-310005-99	POST	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	53-310005-87	TEE	1M482	7178-T651 AL ALY	QQ-A-200/13 (T651)
10	53-310005-7	TEE	1M7738	7178-T651 AL ALY	QQ-A-200/13 (T651)
11 [2]	53-310005-9	TEE	1M482	7178-T651 AL ALY	QQ-A-200/13 (T651)
[9]	53-310005-129	TEE	1M482	7178-T651 AL ALY	QQ-A-200/13 (T651)
12 [3]	53-310005-13	TEE	1M482	7178-T651 AL ALY	QQ-A-200/13 (T651)
[9]	53-310005-115	TEE	1M482	7178-T651 AL ALY	QQ-A-200/13 (T651)
13 [6]	53-310005-15	ZEE	1M494	7178-T651 AL ALY	QQ-A-200/13 (T651)
[8]	53-310005-105	ZEE	1M494	7178-T651 AL ALY	QQ-A-200/13 (T651)
14 [6]	53-32011-173	ANGLE	1M2252	7178-T651 AL ALY	QQ-A-200/13 (T651)
[7]	53-32011-229	ANGLE	1M2252	7178-T651 AL ALY	QQ-A-200/13 (T651)
15	53-310005-55	ANGLE	AND10133-0601	7178-T651 AL ALY	QQ-A-200/13 (T651)
16	53-310005-18	ANGLE	1M2325	7178-T651 AL ALY	QQ-A-200/13 (T651)
17	53-310005-20	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18 [3]	53-310005-24	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[9]	53-310005-125	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	53-310005-28	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	53-310005-30	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[9]	53-310005-127	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	53-310005-32	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-310005-31	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	53-310005-29	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[9]	53-310005-127	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-310005-27	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	53-310005-23	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[9]	53-310005-125	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	53-310005-89	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	53-310005-26	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	53-310005-17	ANGLE	1M2325	7178-T651 AL ALY	QQ-A-200/13 (T651)
29	53-310005-11	TEE	1M482	7178-T651 AL ALY	QQ-A-200/13 (T651)
30 [2]	53-310005-46	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[3]	53-310005-95	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	53-310005-45	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	53-310005-25	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	53-310005-43	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34 [2]	53-310005-53	ANGLE	AND10133-0601	7178-T651 AL ALY	QQ-A-200/13 (T651)
[3]	53-310005-97	ANGLE	AND10133-0601	7178-T651 AL ALY	QQ-A-200/13 (T651)
35	53-310005-33	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	53-310005-79	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
37 [2]	53-310005-81	ZEE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[10]	53-310005-93	ZEE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
38 [6]	53-310005-54	ANGLE	AND10133-0601	7178-T651 AL ALY	QQ-A-200/13 (T651)
[7]	53-310005-111	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39 [7]	53-310005-109	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
40 [11]	53G310005-45	CHANNEL	1MA122D03	7075-T6511 AL ALY	QQ-A-200/11 (T6511)
41 [11]	53G310005-53	ANGLE	1M2234	7075-T6511 AL ALY	QQ-A-200/11 (T6511)
42 [11]	53G310005-57	CHANNEL	1MA122D03	7075-T6511 AL ALY	QQ-A-200/11 (T6511)

Notes

<1> THIS WEB HAS BEEN MACHINED TO 0.032 INCH THICK IN AREAS BETWEEN ROWS OF FASTENERS.

[2] F-4E 66-284 THRU 66-367.

[3] F-4E 66-368 AND UP AND F-4G.

[4] F-4E 66-284 THRU 68-365.

[5] F-4E 68-366 AND UP AND F-4G.

[6] F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-303.

[7] F-4E/G 69-304 THRU 69-7588 AND F-4E 69-7589 AND UP.

[8] F-4E/G 69-304 THRU 69-7588; F-4E 69-7589 THRU 73-01164, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201, 73-01202.

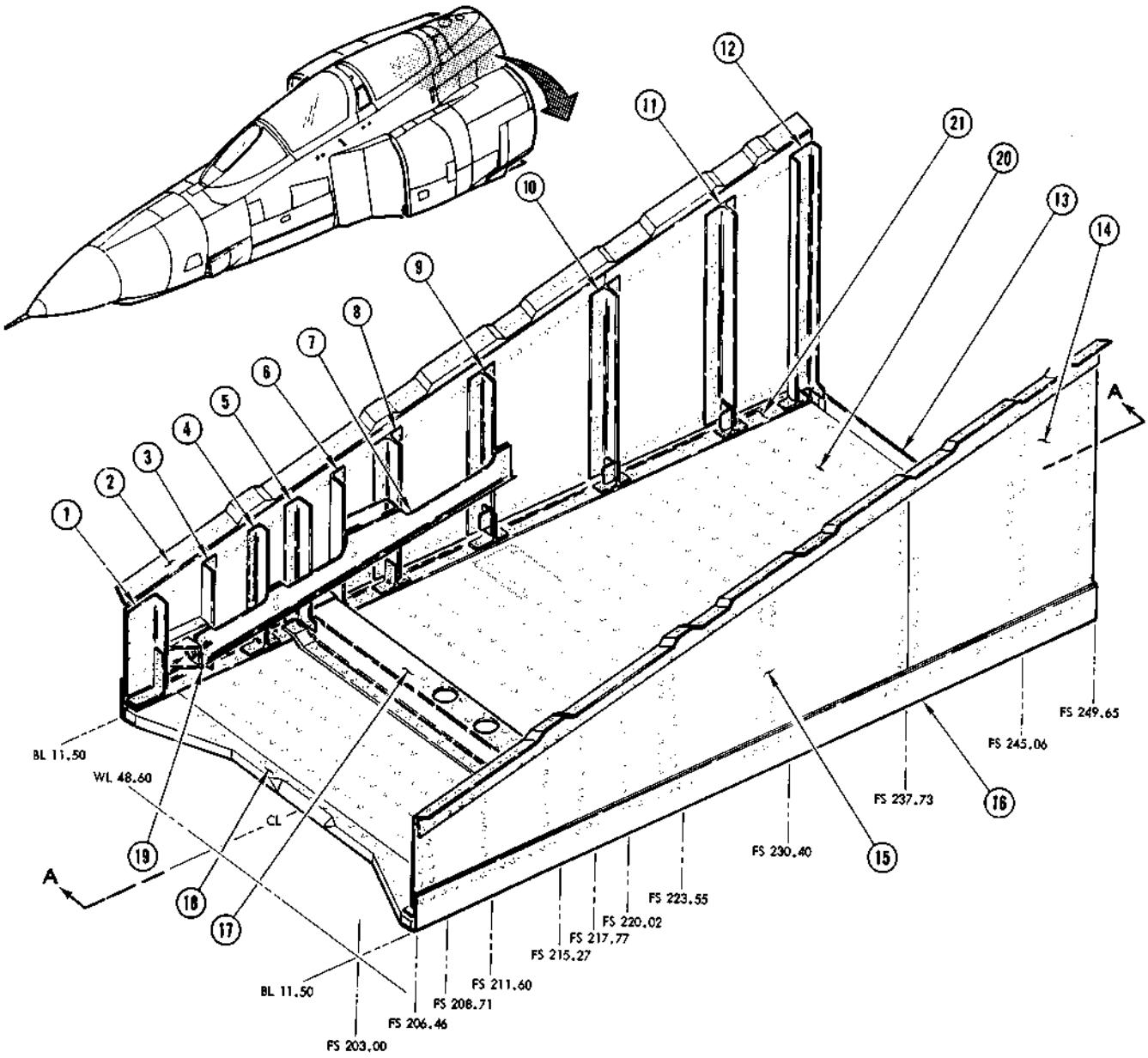
[9] F-4E 73-01165 THRU 72-01168, 73-01171 THRU 73-01177, 73-01180 THRU 73-101189, 73-01192 THRU 73-01200, AND 73-01203 AND UP.

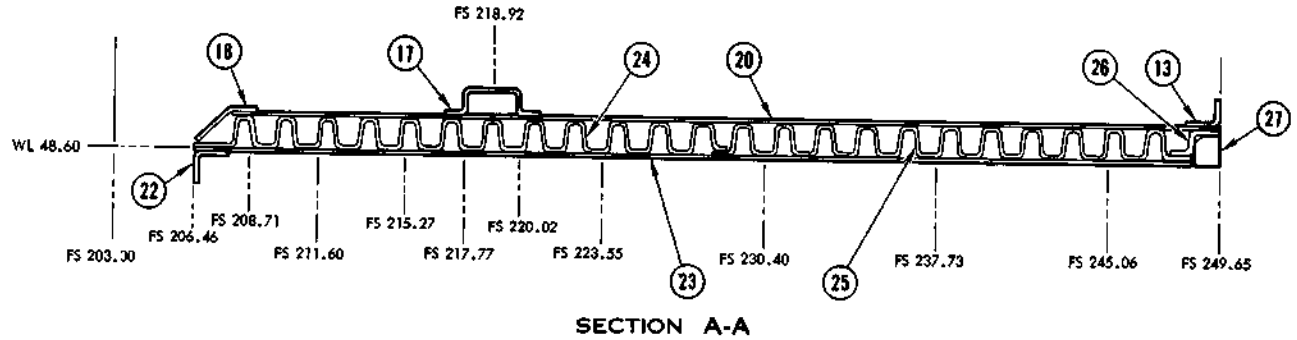
[10] F-4E 66-368 THRU 73-01164, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201, AND 73-01202, AND F-4G.

[11] F-4E 66-284 THRU 73-01164.

4C-3-1-2-(217-2)D

Figure 3-57 Number One Fuel Cell Electronic Compartment - F-4E AND F-4G (Sheet 2 of 2)





SECTION A-A

4C-3-1-2-(218-1)A

Figure 3-58. Upper Equipment Compartment - RF-4 (Sheet 1 of 2)

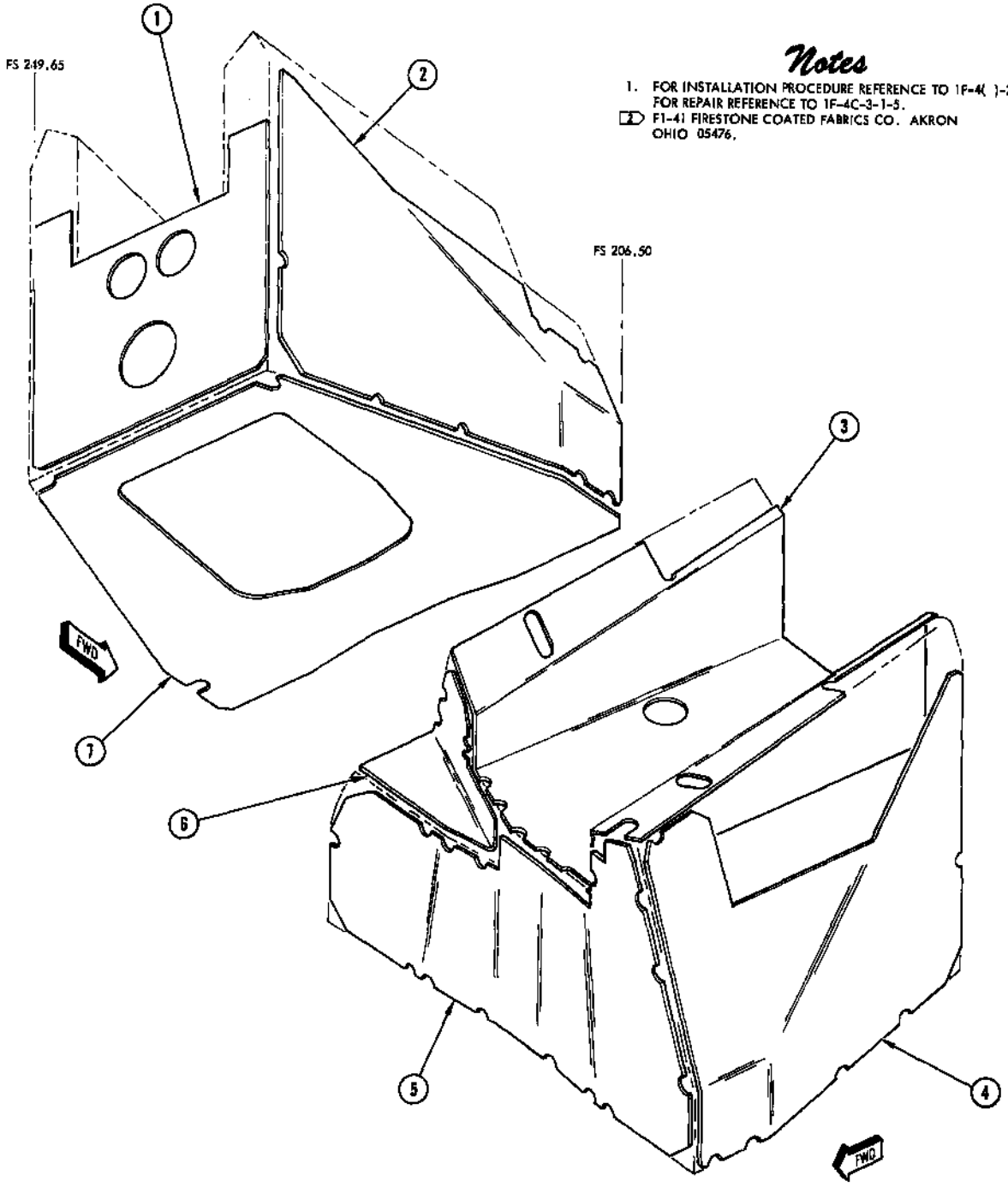
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-34058-13, -14	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-34058-7, -8	UPPER CAP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	53-34058-15, -16	STIFFENER	1M2379	7178-T651 AL ALY	QQ-A-200/13 (T651)
4	53-34058-17, -18	STIFFENER	1M2379	7178-T651 AL ALY	QQ-A-200/13 (T651)
5	53-34058-19, -20	STIFFENER	1M2337	7178-T651 AL ALY	QQ-A-200/13 (T651)
6	53-34058-21, -22	STIFFENER	1M2337	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	53-34058-129, -130	TRACK	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
8	53-34058-23, -24	STIFFENER	1M5654	7178-T651 AL ALY	QQ-A-200/13 (T651)
9	53-34058-25, -26	STIFFENER	1M5469	7178-T651 AL ALY	QQ-A-200/13 (T651)
10	53-34058-27, -28	STIFFENER	1M5469	7178-T651 AL ALY	QQ-A-200/13 (T651)
11	53-34058-29, -30	STIFFENER	1M5469	7178-T651 AL ALY	QQ-A-200/13 (T651)
12	53-34058-31, -32	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13 [1]	53-34058-133	ANGLE	1M2422	7178-T651 AL ALY	QQ-A-200/13 (T651)
[2]	53-34058-137	ANGLE	1M2422	7178-T651 AL ALY	QQ-A-200/13 (T651)
14	53-34058-121	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	53-34058-5	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	53-34058-71, -72	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	53-34058-85	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-34058-79	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	53-34119-3, -4	MOUNT	2.00	7075-T6 AL ALY	QQ-A-250/12 (T6)
20	53-34058-63	UPPER FLOOR PANEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	53-34058-9, -10	ANGLE	1M2166	7178-T651 AL ALY	QQ-A-200/13 (T651)
22	53-34058-81	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23 [3]	53-34058-65	LOWER FLOOR PANEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[4]	53-34058-141	LOWER FLOOR PANEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-34058-67	FWD CORRUGATION	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
25	53-34058-69	AFT CORRUGATION	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
26	53-34058-75	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	53-34058-83	FILLER		PHENOLIC	MIL-P-3115 TYPE PBG

Notes

[1] RF-4C 63-7742 THRU 64-1077.
[2] RF-4C 64-1078 THRU 72-156.
[3] RF-4C 63-7742 THRU 65-932.
[4] RF-4C 65-933 THRU 72-156.

4C-3-1-2-(218-2)A

Figure 3-58. Upper Equipment Compartment - RF-4 (Sheet 2 of 2)



Notes

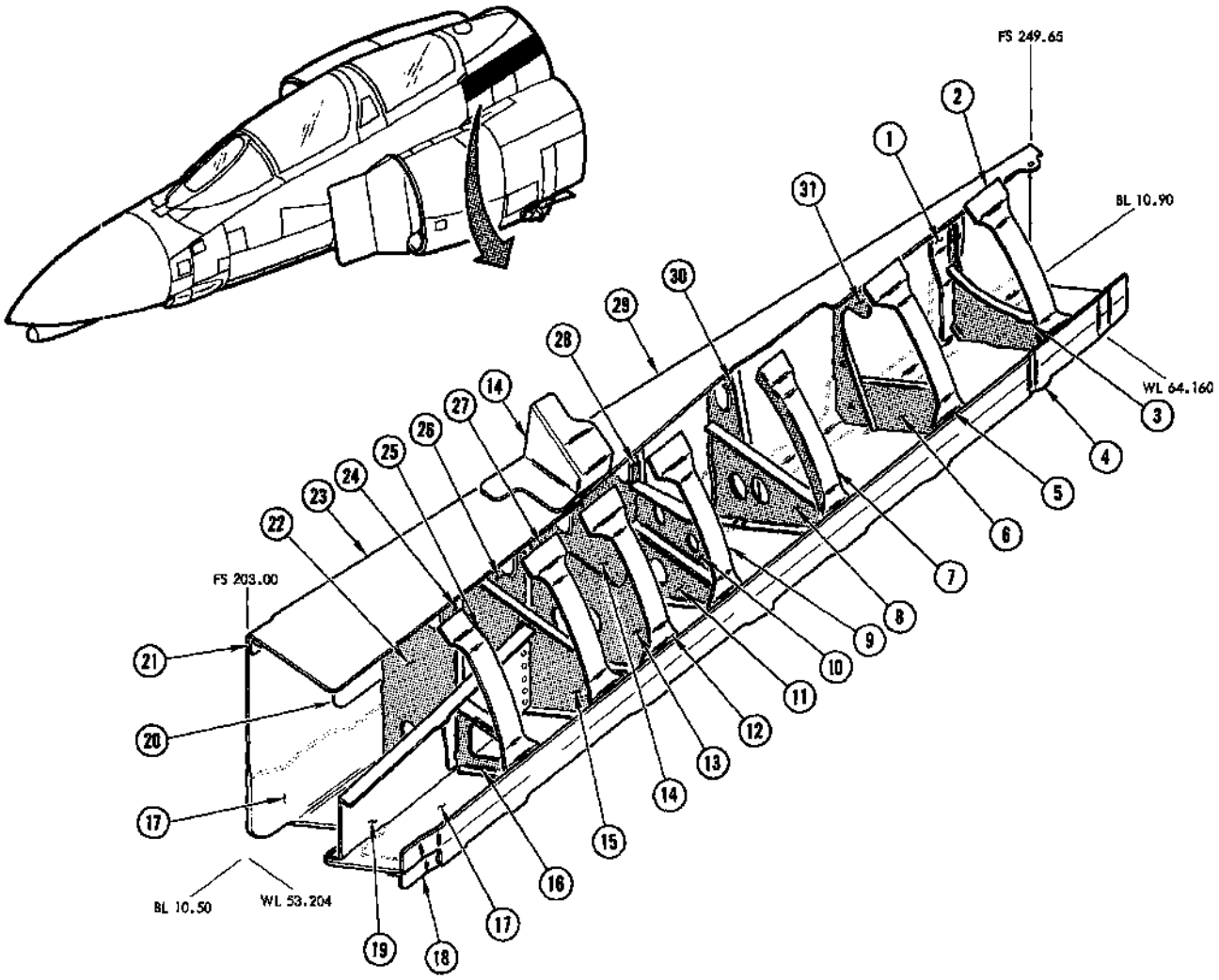
1. FOR INSTALLATION PROCEDURE REFERENCE TO 1F-4( )-2-10, FOR REPAIR REFERENCE TO 1F-4C-3-1-5.
2. F1-41 FIRESTONE COATED FABRICS CO. AKRON OHIO 05476.

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL
1	53-310349-3	BACKING BOARD	0.070	2
2	53-310349-9	BACKING BOARD	0.070	
3	53-310349-11	BACKING BOARD	0.070	
4	53-310349-7	BACKING BOARD	0.070	
5	53-310349-5	BACKING BOARD	0.070	
6	53-310349-15	BACKING BOARD	0.070	
7	53-310349-13	BACKING BOARD	0.070	

F-4E 68-495 AND UP, F-4G, AND RF-4C 69-349 THRU 72-156

4C-3-1-2-(361)A

Figure 3-58A. Backing Boards, Number One Fuselage Fuel Cell



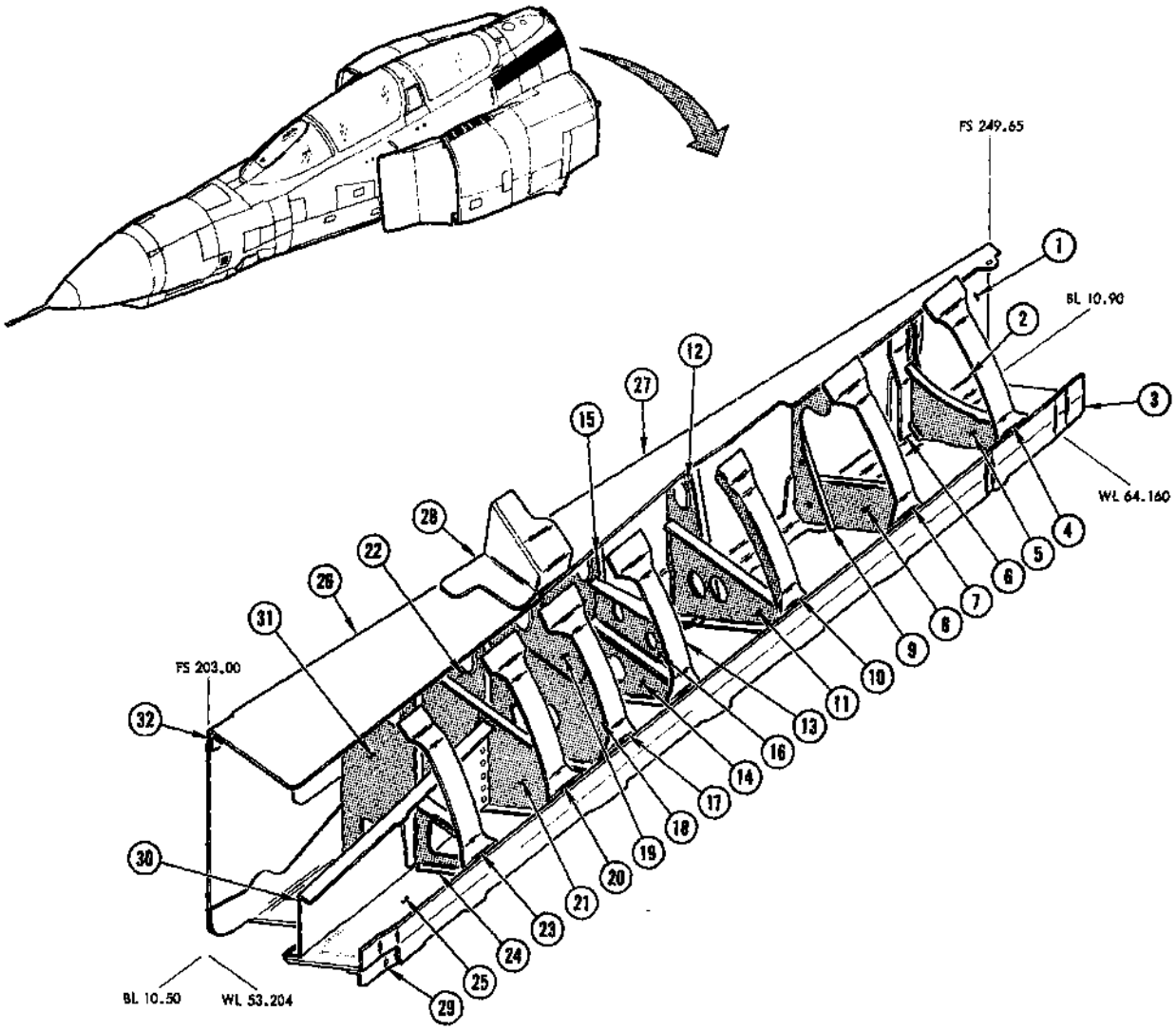
REF NO	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-31135-495,-496	TEE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	32-31135-833,-834	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	32-31135-297,-298	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-31135-289,-733	CAP	1M57291	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-31135-839,-840	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	32-31135-15,-16	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-31135-843,-844	CAP	1M2166	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	32-31135-419,-749	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-31135-845,-846	CAP	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
10	32-31135-703,-755	CHANNEL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
11	32-31135-727,-753	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-31135-835,-836	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	32-31135-1015,-431	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-30055-5,-6	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
15	32-31135-443,-747	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-31135-709,-710	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-31135-715,-716	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
18	32-31135-713,-735	SPLICE ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-31135-705,-706	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20 [1]	32-31234-7	BRACKET	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
[2]	32-31235-7	BRACKET	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
21	32-31135-413,-414	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31135-459,-460	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-31135-1049,-288	CAP ANGLE	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	32-31135-457,-458	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-31135-441,-442	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	32-31135-445,-446	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
27	32-31135-463,-464	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-31135-483,-484	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-31135-1051,-488	CAP ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31135-485,-486	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-31135-17,-18	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

[1] LEFT SIDE.
[2] RIGHT SIDE.

4C-3-1-2-(249)A

Figure 3-59. Control Trough, FS 203.00 thru FS 249.65, F-4C



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-31206-3, -4	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31206-3, -459	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31206-743, -487	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-31206-7, -8	CHANNEL	1M97154	2024-T851 AL ALY	QQ-A-200/3 (T851)
	53-31206-251, -252	CHANNEL	1M97134	2024-T851 AL ALY	QQ-A-200/3 (T851)
3	32-31135-269, -733	CAP	1M5729I	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-31135-833, -834	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-31135-297, -298	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-31135-297 <1>	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31206-703 <2>	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31206-1027, -1028	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	53-31206-9, -10	ANGLE	1M2167	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	32-31135-839, -840	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-31206-257, -840	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	53-31206-11, -12	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31206-253-12	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-31135-17, -18	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-31135-843, -844	CAP	1M2166	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	32-31135-419 <1>	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-31206-719 <2>	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-31135-485, -486	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-31135-845, -846	CAP	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-31135-727, -881	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-31135-483, -484	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(248-1)D

Figure 3-60. Control Trough, FS 203.00 thru FS 249.65 - F-4D, F-4E, AND F-4G (Sheet 1 of 2)

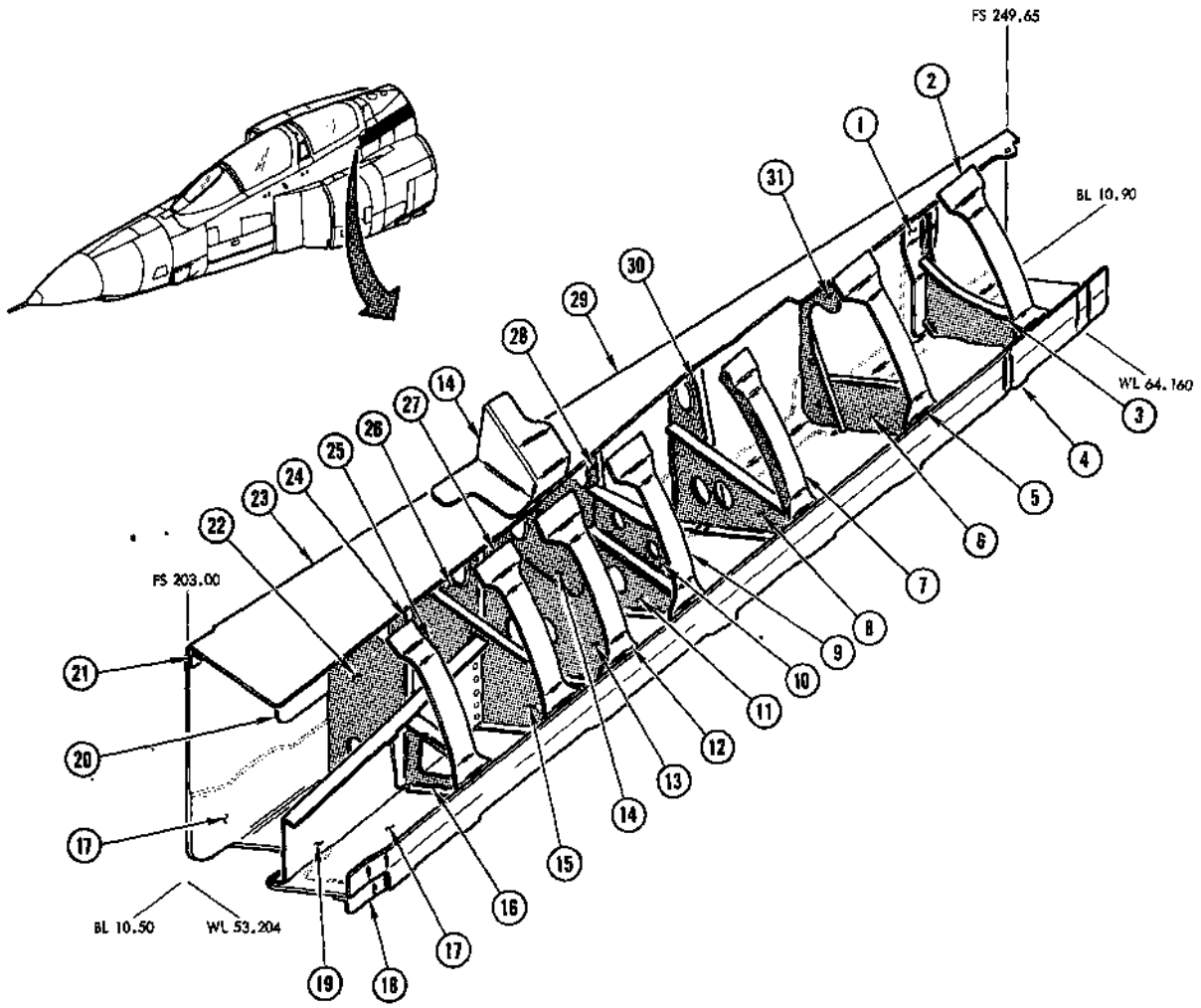
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
16 (28)	32-31135-703,-755	CHANNEL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
(37)	32-31135-703 (1)	CHANNEL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
(38)	53-31206-833 (2)	CHANNEL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
17 (28)	32-31135-835,-336	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
18 (14)	53-31206-831,-417	DOUBLER	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
(35)	53-070185-283, -417	DOUBLER	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
19 (2)	53-31206-105,-18	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(5)	53-31206-477,-415	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	53-31206-477,-847	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-31135-841,-842	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	53-31206-103,-16	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22 (13)	53-31206-101,-14	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(12)	53-31206-851,-852	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-31135-837,-838	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-31135-709,-710	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25 (2)	53-31206-5,-6	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(5)	53-31206-281,-6	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(9)	53-31206-429,-232	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(9)	53-31206-429 (1)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(14)	53-31206-419,-232	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(14)	53-31206-419 (1)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(2)	53-31206-827,-232	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(5)	53-31206-827 (1)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	53-31206-889,-232	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(13)	53-31206-889 (1)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(2)	53-31206-1013,-232	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(5)	53-31206-1013 (1)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(17)	53-31206-1017,-232	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(18)	53-31206-1017 (1)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(19)	53-31206-1019,-232	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(21)	53-31206-1019 (1)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(1)	53G31206-209 (2)	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26 (20)	32-31135-287,-288	CAP ANGLE	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
(21)	32-31135-1077,-1078	CAP ANGLE	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
(22)	32-31135-1097,-1098	CAP ANGLE	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
27	32-31135-797,-798	CAP ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28 (20)	32-30055-5,-6	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(21)	32-30055-11,-12	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(22)	32-30055-19,-20	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
(23)	32-30055-21,-22	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
29 (33)	32-31135-713,-735	SPLICE ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(34)	32-31135-1103,-735	SPLICE ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
30	32-31135-1071,-706	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31 (26)	32-31135-459,-460	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(27)	32-31135-1083,-1084	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
32	32-31135-413,-414	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

(1) LEFT SIDE.
(2) RIGHT SIDE.
(3) F-4D.
(4) F-4E.
(5) F-4D 64-929 THRU 66-8698.
(6) F-4D 66-8699 THRU 66-8825.
(7) F-4D.
(8) F-4E AND MODIFIED ON F-4G.
(9) F-4E 66-284 THRU 67-257.
(10) F-4E 67-258 AND UP AND MODIFIED ON F-4G.
(11) F-4D, F-4E 66-284 THRU 67-398.
(12) F-4E 68-303 AND UP AND F-4G.
(13) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, 66-287, 66-297 AND 66-300 BEFORE TO 1F-4E-566.
(14) F-4E 66-296, 66-298, 66-299 AND 66-301 THRU 66-367 BEFORE TO 1F-4E-566.
(15) F-4E 66-368 THRU 67-341 BEFORE TO 1F-4E-566.
(16) F-4E 67-342 THRU 68-409 BEFORE TO 1F-4E-566.
(17) F-4E 68-410 THRU 68-451 BEFORE TO 1F-4E-566.
(18) F-4E 68-452 THRU 68-538 BEFORE TO 1F-4E-566.
(19) F-4E 69-236 AND UP BEFORE TO 1F-4E-566.
(20) F-4D, F-4E 66-284 THRU 67-219.
(21) F-4E 67-220 THRU 68-494.
(22) F-4E 68-495 AND UP AND F-4G.
(23) F-4E 67-220 THRU 67-266.
(24) F-4E 67-267 THRU 68-365.
(25) F-4E 68-366 AND UP AND F-4G.
(26) F-4D, F-4E 66-284 THRU 67-216.
(27) F-4E 67-217 AND UP AND F-4G.
(28) F-4D, F-4E 66-284 THRU 67-282.
(29) F-4E 67-283 THRU 71-1402 AND F-4G.
(30) F-4E 72-121 AND UP.
(31) F-4D, F-4E 66-284 THRU 66-367.
(32) F-4E 66-368 AND UP AND MODIFIED ON F-4G.
(33) F-4D, F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7239.
(34) F-4E/G 69-7240 THRU 69-7588; F-4E 69-7589 AND UP.
(35) F-4E 66-287 AND 66-296 THRU 66-300 AFTER TO 1F-4E-566.
(36) F-4E 66-296, 66-298, 66-299 AND 66-301 AFTER TO 1F-4E-566.
(37) F-4E 66-368 THRU 67-341 AFTER TO 1F-4E-566.
(38) F-4E 67-342 THRU 68-409 AFTER TO 1F-4E-566.
(39) F-4E 68-410 THRU 68-451 AFTER TO 1F-4E-566.
(40) F-4E 68-452 THRU 68-538 AFTER TO 1F-4E-566.
(41) F-4E 69-236 AND UP AFTER TO 1F-4E-566 AND F-4G.
(42) F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(43) F-4D, F-4E, AND MODIFIED ON F-4G.
(44) F-4D AND F-4E.
(45) F-4G.

4C-3-1-2-(248-2)D

Figure 3-60. Control Trough, FS 203.00 thru FS 249.65 - F-4D, F-4E, AND F-4G (Sheet 2 of 2)



REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1		32-31135-791,-792	ANGLE	1M2167	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	▶1◀	32-31135-401,-402	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
	▶12◀	32-31135-833,-834	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	▶5◀	32-31135-297,-298	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	▶6◀	32-31135-297 ◁1	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	▶7◀	53-31206-703 ◁2	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	▶8◀	53-31206-1021 ◁2	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4		32-31135-289,-733	CAP	1M57291	7178-T6 AL ALY	QQ-A-200/13 (T6)
5		32-31135-839,-840	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	▶3◀	32-31135-811,-812	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	▶4◀	32-31135-811,-1079	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7		32-31135-843,-844	CAP	1M2166	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	▶9◀	32-31135-419,-749	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	▶10◀	32-31135-419,-1073	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9		32-31135-845,-846	CAP	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
10		32-31135-703,-755	CHANNEL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
11		32-31135-727,-881	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12		32-31135-835,-836	TEE	1M5214	7178-T6 AL ALY	QQ-A-200/13 (T6)
13		32-31135-1015,-1016	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	▶9◀	32-30055-5,-6	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	▶10◀	32-30055-11,-12	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	▶11◀	32-30055-19,-20	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
	▶12◀	32-30055-21,-22	FITTING	FORGING	7079-T6 AL ALY	QQ-A-367 (T6)
15		32-31135-803,-747	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16		32-31135-709,-710	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(247-1)A

Figure 3-61. Control Trough, FS 203.00 thru FS 249.65 , RF-4 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
17	(13) 32-31135-875, -825	SKIN	0.125	7178-T6 ALALY	QQ-A-250/14 (T6)
	(14) 32-31135-1025, -1026	SKIN	0.125	7178-T6 ALALY	QQ-A-250/14 (T6)
	(15) 32-31135-1025, -1031	SKIN	0.125	7178-T6 ALALY	QQ-A-250/14 (T6)
	(16) 32-31135-1041, -1031	SKIN	0.125	7178-T6 ALALY	QQ-A-250/14 (T6)
	(17) 32-31135-1067, -1031	SKIN	0.125	7178-T6 ALALY	QQ-A-250/14 (T6)
18	(18) 32-31135-713, -735	SPLICE ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(19) 32-31135-1103, -735	SPLICE ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	(20) 32-31135-705, -706	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(17) 32-31135-1071, -706	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	(21) 32-31214-7 (1)	BRACKET	FORGING	7075-T6 ALALY	QQ-A-367 (T6)
	(22) 32-31214-9 (2)	BRACKET	FORGING	7075-T6 ALALY	QQ-A-367 (T6)
	(21) 32-31215-7 (1)	BRACKET	FORGING	7075-T6 ALALY	QQ-A-367 (T6)
	(22) 32-31215-9 (2)	BRACKET	FORGING	7075-T6 ALALY	QQ-A-367 (T6)
21	32-31135-413, -414	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-31135-1083, -1084	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	(9) 32-31135-777, -778	CAP ANGLE	0.090	7178-T6 ALALY	QQ-A-250-14 (T6)
	(23) 32-31135-1075, -1076	CAP ANGLE	0.090	7178-T6 ALALY	QQ-A-250/14 (T6)
	(24) 32-31135-1095, -1096	CAP ANGLE	0.090	7178-T6 ALALY	QQ-A-250/14 (T6)
24	(25) 32-31135-879, -880	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(26) 32-31135-1021, -1022	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-31135-837, -838	TEE	1M5214	7178-T6 ALALY	QQ-A-200/13 (T6)
26	(27) 32-31135-805, -446	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(28) 32-31135-1091, -1092	WEB	0.032	7178-T6 ALALY	QQ-A-250/14 (T6)
27	(29) 32-31135-463, -464	TEE	1M5214	7178-T6 ALALY	QQ-A-200/13 (T6)
	(76) 32-31135-841, -842	TEE	1M5214	7178-T6 ALALY	QQ-A-200/13 (T6)
28	32-31135-483, -484	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	(30) 32-31135-797, -798	CAP ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	(30) 32-31135-797, -1019	CAP ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	32-31135-877, -794	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-31135-17, -18	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

(1) LEFT SIDE.
(2) RIGHT SIDE.
(3) RF-4C 63-7743 THRU 67-442.
(4) RF-4C 67-443 THRU 72-156.
(5) RF-4C 67-443 THRU 69-366.
(6) RF-4C 69-367 THRU 72-156.
(7) RF-4C 63-7743 THRU 66-386, 66-388.
(8) RF-4C 66-387, 66-389 THRU 72-156.
(9) RF-4C 63-7743 THRU 67-444.
(10) RF-4C 67-445 THRU 67-451.
(11) RF-4C 67-452 THRU 68-561.
(12) RF-4C 68-562 THRU 72-156.
(13) RF-4C 63-7743 THRU 64-1041.
(14) RF-4C 64-1042 THRU 64-1045.
(15) RF-4C 64-1046 THRU 65-838.
(16) RF-4C 65-839 THRU 66-450.
(17) RF-4C 66-451 THRU 72-156.
(18) RF-4C 63-7743 THRU 69-371.
(19) RF-4C 69-372 THRU 72-156.
(20) RF-4C 63-7743 THRU 66-450.
(21) RF-4C 63-7743 THRU 65-932.
(22) RF-4C 65-933 THRU 72-156.
(23) RF-4C 67-445 THRU 69-357.
(24) RF-4C 69-358 THRU 72-156.
(25) RF-4C 63-7743 THRU 65-838.
(26) RF-4C 65-839 THRU 72-156.
(27) RF-4C 63-7743 THRU 67-469.
(28) RF-4C 68-548 THRU 72-156.
(29) RF-4C 63-7743 THRU 63-7763.
(30) RF-4C 64-997 THRU 72-156.
(31) RF-4C 63-7743 THRU 64-1017.
(32) RF-4C 64-1018 THRU 72-156.

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Figure 3-61. Control Trough, FS 203.00 through FS 249.65, RF-4 (Sheet 2 of 2)

3-105. NOSE LANDING GEAR DRAG BRACE FITTING. See figure 3-62. The nose gear drag brace fitting is a 7075 aluminum alloy forging, Federal Specification QQ-A-367, heat treated to condition T6. The fitting supports the nose gear drag brace cylinder and shuttle valve assembly for the nose gear uplock cylinder. Extending into the forward cockpit, the fitting also forms the aft bearing plate for the forward control stick torque tube. When installed, the fitting is pressure sealed per T.O. 1F-4C-3-1-6 because of the pressurization of the forward cockpit.

3-106. Access for Inspection and Repairs. Visual and fluorescent-penetrant inspection of the nose gear drag brace fitting is possible by removing the stabilator bellcrank cover, 32-31994-5, and I.R. coolant bottle access shield, 32-31800-093. Refer to T.O. 1F-4C-3-1-3. Rework which involves only grinding and polishing may be accomplished provided exposed equipment and linkage are covered and a small protective piece of corrosion-resistant steel is inserted between the fitting and web. To install the repair shown in figure 3-63 or 3-64, remove the forward canopy and forward ejection seat per T.O. 1F-4( )-2-3. Remove the forward cockpit insulation blankets in the area of fitting per T.O. 1F-4C-3-2. Inspections should be performed after each landing considered a hard landing or of such a nature as to be considered abnormal in terms of nose landing gear loads, blown tires or wheel damage.

3-106A. Negligible Damage and Corrosion Removal Limits. Any small, smooth, isolated dent no deeper than 0.040 is negligible. Nicks, scratches, gouges, and corrosion with a depth less than 10 percent of thickness of part, not to exceed 0.040 are negligible if they can be blended. Any damage, when blended, that does not reduce edge distance for rivets or fasteners to less than one and one half times fastener diameter is negligible. Any damage that causes interference with mechanisms or tubing shall not be considered negligible. Blending of deeper damage must be approved by depot engineering. When paint is removed surface must be treated, primed, and top coated per T.O. 1F-4C-3-1-6.

3-107. Rework of Fittings. See figures 3-63, 3-64 or 3-65. Cracks, as shown in figure 3-63, up to 0.25 long may be removed as shown with a one inch diameter cutter. Polish the radius with a small emery drum to remove rough surfaces at least 1.25 in each direction along the edge. Hand polish to a smooth finish using a fine grit cloth. Clean and repaint per T.O. 1F-4C-3-1-6. If the plate and filler are not added, this area should be inspected at each calendar inspection. Cracks up to 0.38 should be removed as shown with a one-inch diameter cutter maintaining 0.35 edge distance on rivets. Polish the radius with a small emery drum to remove rough surfaces at least 1.25 in each direction along the edge. Hand polish to a smooth finish using a fine grit cloth. Clean, metal treat, and repaint per T.O. 1F-4C-3-1-6. Continue to inspect the area at each calendar inspection. Adding the plate and filler will eliminate the need for this continued inspection. Cracks longer than 0.38 but less than 0.75 require polishing the edges in crack area and stop drilling the end of the crack with a 0.189 drill. Install a plate and filler reinforcement as follows:

a. Remove eight Hi-Shear rivets in drag brace fitting which mates with the 32-31145 web and tee on right side.

b. Remove seven Hi-Shear rivets in right side 32-31156 control fitting which mates with the 32-31145 web including bottom one which also mates with drag brace fitting.

c. Remove Hi-Shear rivet in the 32-31145 web and tee between drag brace fitting and control fitting.

d. Remove excess sealer such as fillets, etc., on cockpit side and clean area of repair thoroughly. Examine vicinity of repair for corrosion and other damage.

e. Clean out crack or drill stop hole as noted above. Hand polish rough surfaces at least 1-1/2 inches in each direction. These operations are worked from the nose gear well side. Refer to paragraph 3-106 for access instructions.

f. Make plate and filler per figure 3-63. Install temporarily and drill holes picking up existing holes from which rivets were removed in steps a., b., and c.

g. Add five holes for Hi-Shear rivets as shown in figure 3-63.

h. Ream holes to finished sizes as shown in figure 3-63. HS40P-5, -6, and -8 oversize (1/64) Hi-Shear rivets are used to install plate and filler so that holes may be reamed accurately to new tolerances.

i. Remove plate and filler, clean area thoroughly of dirt, chips, loose hardware, etc. Thoroughly clean per T.O. 1-1-691. Touch up bare metal with epoxy primer per T.O. 1F-4C-3-1-6.

j. Seal per T.O. 1F-4C-3-1-6 and install plate and filler as shown. Install rivets in repair per callouts in figure 3-63. Apply final pressure sealer per T.O. 1F-4C-3-1-6 to cockpit and refinish with white epoxy enamel in nose wheel well. Refer to T.O. 1F-4C-3-1-6.

k. Inspect crack and stop hole from nose wheel well at each calendar inspection. If crack continues to grow longer, fitting should be reinforced. Fittings which have cracks longer than 0.75 may be reworked the same as those which have cracks less than 0.75 provided:

(1) The crack does not extend closer than 0.25 to another flange.

(2) The fitting, after repair, is inspected at periods not to exceed 20 landings. See paragraph 3-106 for other inspection requirements and access instructions.

Fittings which have cracks extending closer to another flange than above or extending into the flange, may be repaired per figure 3-65 provided the crack can be completely removed by cutting per figure 3-65. The drag brace fitting will then be reinforced per figure 3-65. Before reinforcement, damaged area is removed by grinding and the area thoroughly cleaned and refinished per T.O. 1F-4C-3-1-6. Fabricate the parts and install per repair figure. The area will be sealed per T.O. 1F-4C-3-1-6. Prime and refinish after sealing, per T.O. 1F-4C-3-1-6.

3-108. Replacement. See figure 3-62. The nose drag brace fitting may be replaced as follows, using fastener index in the above noted figure.

a. Preliminary work:

(1) Jack aircraft. Refer to T.O. 1F-4( )-2-2.

WARNING

When applying electrical and hydraulic power to the aircraft, electrical power must be connected first and disconnected last.

NOTE

Refer to T.O. 1F-4C-3-1-3 for door location and fasteners.

(2) Apply external electrical power (access door 26L).

(3) Apply external hydraulic power to the utility system (access door 23).

(4) Retract strut approximately 30 degrees to unlock actuator.

(5) Block gear in this position.

(6) Remove electrical and hydraulic power from aircraft.

(7) Remove NLG drag brace actuator. Refer to T.O. 1F-4( )-2-5.

(8) Remove the 32-21800 covers in nose landing gear well; remove the 32-31955 zee in this same area. Retain for reinstallation.

(9) Remove forward canopy and open aft canopy. Refer to T.O. 1F-4( )-2-3. Store forward canopy for reinstallation.

(10) Remove ejection seat from forward cockpit and remove ejection seat bucket from aft cockpit. Refer to T.O. 1F-4( )-2-3. Retain for reinstallation.

(11) Remove forward control stick and torque tube installation. Refer to T.O. 1F-4( )-2-4. Retain for reinstallation.

(12) Remove foot ramp assemblies from aft cockpit. Retain for reinstallation.

(13) Remove line assemblies and other parts as required for access.

b. On F-4C and F-4D, perform the following sequence.

(1) Remove 32-31143 fitting assembly. Retain for reinstallation.

(2) Remove bobweights aft of drag brace fitting.

(3) Remove 32-31142 drag brace fitting. Retain for reference.

(4) Position new drag brace fitting. Use MDE32693-1 to help secure fittings.

(5) Check positioning of drag brace fitting in relation to adjacent parts in wheel well area as well as cockpit floor and seat track assembly.

(6) When all major parts are positioned in correct location in relation to each other, select easily accessible holes to be drilled and install temporary fasteners to structurally locate these components.

(7) Caution must be used in preparation of fastener holes. Many of the fastener holes are common to other structure and are already full size, in adjacent structure. Exacting techniques must be employed to avoid enlarging existing holes.

(8) Drill out fastener holes in drag brace fitting. Install temporary fasteners as required to maintain location of parts as drilling progresses.

(9) Remove temporary fastener and clean parts and cockpit areas of chips, shavings, and other debris. Fay seal parts as they are sealed and install permanent fasteners per figure 3-62.

(10) Seal forward and aft cockpits, as required, per T.O. 1F-4C-3-1-6.

(11) Refinish cockpit interior as required. Refer to T.O. 1F-4C-3-1-6.

(12) Install 32-80005-79 insulation blanket per T.O. 1F-4C-3-2. Use adhesive, Federal Specification MMM-A-1617, as required.

(13) Install 32-80005-833 insulation board per T.O. 1F-4C-3-2.

(14) Reinstall 32-31143 fitting.

(15) Install 32-36207 bobweights.

(16) Refinish nose landing gear area, as required, per T.O. 1F-4C-3-1-6.

c. On RF-4, replace drag brace fitting in following sequence.

(1) Remove 32-31143 fitting assembly. Retain for reinstallation.

(2) Remove bobweights which are located aft of the drag brace fitting.

(3) Remove 32-31142 drag brace fitting. Fasteners must be removed with caution so holes will not be enlarged. Retain fitting for reference.

(4) Position new drag brace fitting. Use MDE32693-1 to help secure fitting in its correct location.

(5) Check positioning of drag brace fitting in relation to adjacent parts in wheel well area, cockpit floor, and seat track assembly.

(6) When all major parts are positioned in correct location in relation to each other, select several easily accessible holes to be drilled, and install temporary fasteners to structurally locate fitting.

(7) Caution must be used in preparation of fastener holes. Many of the holes are common to other parts and are already full size in adjacent structure. Exacting techniques must be employed to avoid enlarging existing holes.

(8) Drill out fastener holes in drag brace fitting. Install temporary fasteners as required to maintain location of parts as drilling progresses.

(9) Remove temporary fasteners and clean parts and cockpit areas of chips, shavings, and other debris. Fay seal parts as required per T.O. 1F-4C-3-1-6. Reassemble parts as they are sealed and install permanent fasteners.

(10) Seal forward and aft cockpits per T.O. 1F-4C-3-1-6.

(11) Refinish cockpit interior as required. Refer to T.O. 1F-4C-3-1-6.

(12) Install 32-80005-79 insulation blanket per T.O. 1F-4C-3-2. Use adhesive, Federal Specification MMM-A-1617, as required.

(13) Install 32-80005-463 insulation board per T.O. 1F-4C-3-2. Use resin, Specification MIL-R-21931, to cement insulation board in place.

d. Component reinstallation.

(1) Reinstall forward control stick and torque tube assembly. Refer to T.O. 1F-4( )-2-4.

(2) Reinstall foot ramp assemblies in aft cockpit.

e. Following completion of replacement, the following system functional check must be performed:

(1) Lateral control system and stabilator control system per T.O. 1F-4( )-2-4.

(2) Landing gear system per T.O. 1F-4( )-2-5.

(3) Canopy normal system, canopy manual unlock handle and canopy seal inflation. Check per T.O. 1F-4( )-2-3.

3-109. **NOSE LANDING GEAR TRUNNION FITTING.** See figures 3-66 and 3-67. Trunnion fittings, for the nose landing gear, are 7075 aluminum alloy forgings. The fittings are attached to the keel assembly on each side of nose wheel well. Maximum allowable wear tolerances between the nose landing gear trunnion bushings 32-31208-5 and 32-31211-5, and trunnion pins 32-45613 and 32-45614 should not exceed 0.0047. Maximum ID for worn bushings should not exceed 1.1895 for the left side and 1.4395 for the right side.

CAUTION

Removal and replacement of trunnion bushings will be accomplished by Depot level maintenance only.

3-110. Access for Inspection and Repair. The fittings may be reached directly through the nose landing gear opening. Access to the outboard side is through door 6 and the refrigeration compartment floor.

3-111. Rework of Fittings. Rework of fittings is limited to blending of nicks, scratches, and gouges less than 0.040 deep. Blending of deeper gouges must be approved by local engineering. When paint is removed, surface must be treated, primed, and top coated per T.O. 1F-4C-3-1-6.

3-112. Replacement. Replacement of the trunnion fitting requires borematic or similar equipment to duplicate holes in the old fitting. Duplicated holes should be center drilled only on the boremetic and brought to size on assembly. See figures 3-66 and 3-67. Tooling must be designed locally to establish location of the hole and counterbore for the bushing.

Design of this tooling will depend on type of automatic feed or manual feed drill motors available.

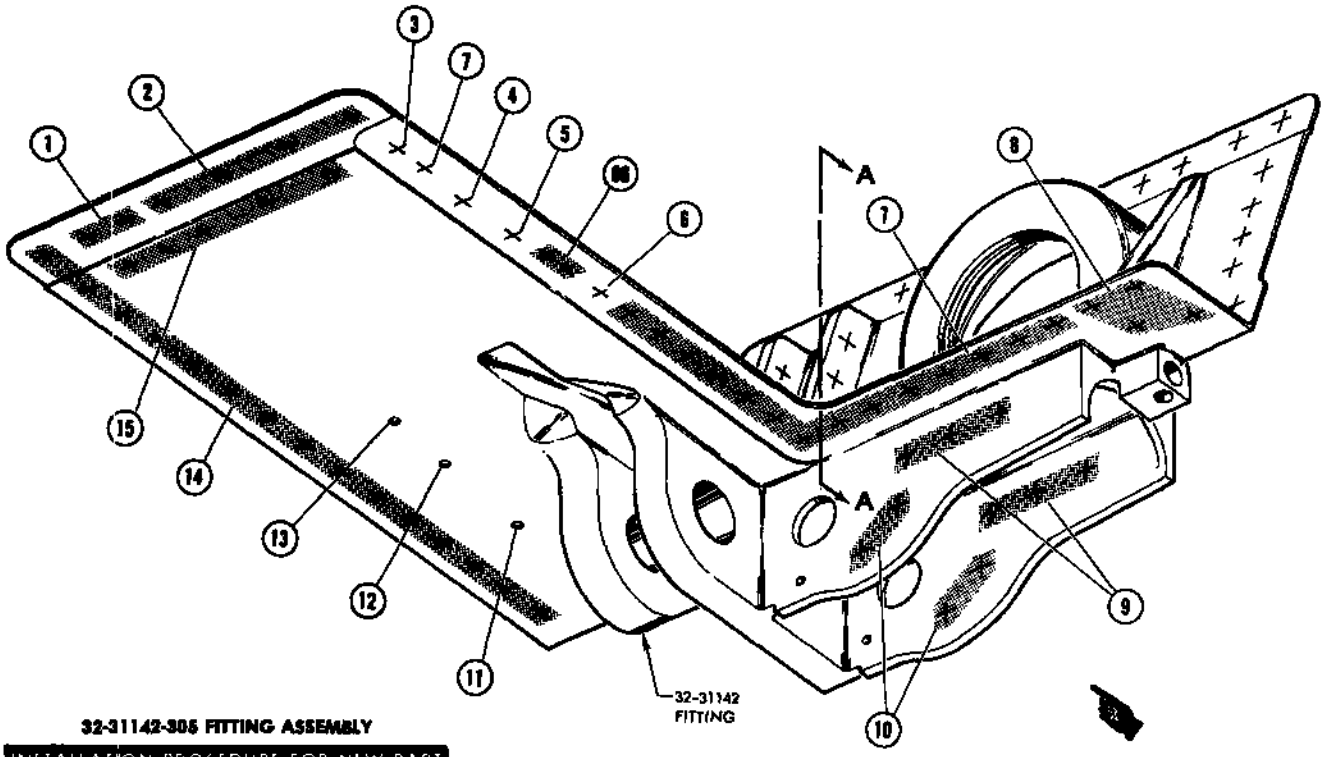
3-113. NOSE LANDING GEAR UPLOCK FITTING. See figures 3-68 and 3-69. The forward and aft nose landing gear uplock fittings at FS 132.50 and FS 134.50 are 7075 aluminum alloy forgings. The uplock mechanism attaches to these fittings.

3-114. Access for Inspection and Repair. Access to the nose landing gear uplock fittings is gained through the nose wheel well by removing 32-31800 covers shown in T.O. 1F-4C-3-1-3.

3-115. Rework of Fittings. Rework of fittings is limited to blending of nicks, scratches, and gouges less than 0.040 deep. Blending of deeper gouges must be approved by local engineering. When paint is removed, the surface must be treated, primed, and top coated per T.O. 1F-4C-3-1-6. If misalignment occurs between nose landing gear uplock cylinder bolt, 32-46047-3, and the aft fitting assembly access hole, the hole may be elongated sufficiently to eliminate interference provided the elongation does not exceed the diameter of the access hole in width nor 0.250 in length. In aft fitting assembly, 32-31143-301, the elongation should not extend any higher than the existing hole. See figure 3-69.

3-116. Replacement. Spare fittings are supplied already painted with hardware bagged and attached. Attach holes are located and pilot drilled. Holes for bushings and mechanical linkage are also pilot size to allow line reaming both fittings to each other after they are installed in the aircraft. Figures 3-68 and 3-69 show hole sizes for attaching fasteners and hole sizes for installing bushings, for mechanical linkage, after line reaming. Installation procedures are included in each figure.

3-116A. Aft Nose Landing Gear Uplock Fitting Repair. For repair of the aft nose landing gear uplock fitting, see figure 3-69A.

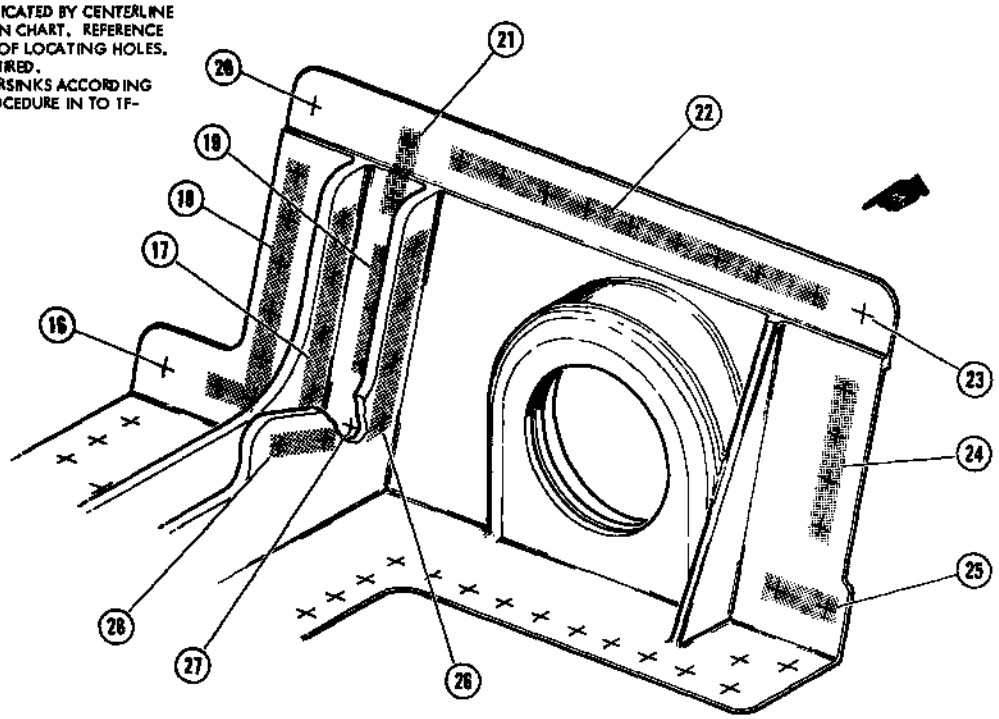


32-31142-305 FITTING ASSEMBLY

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES AS REQUIRED.

B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

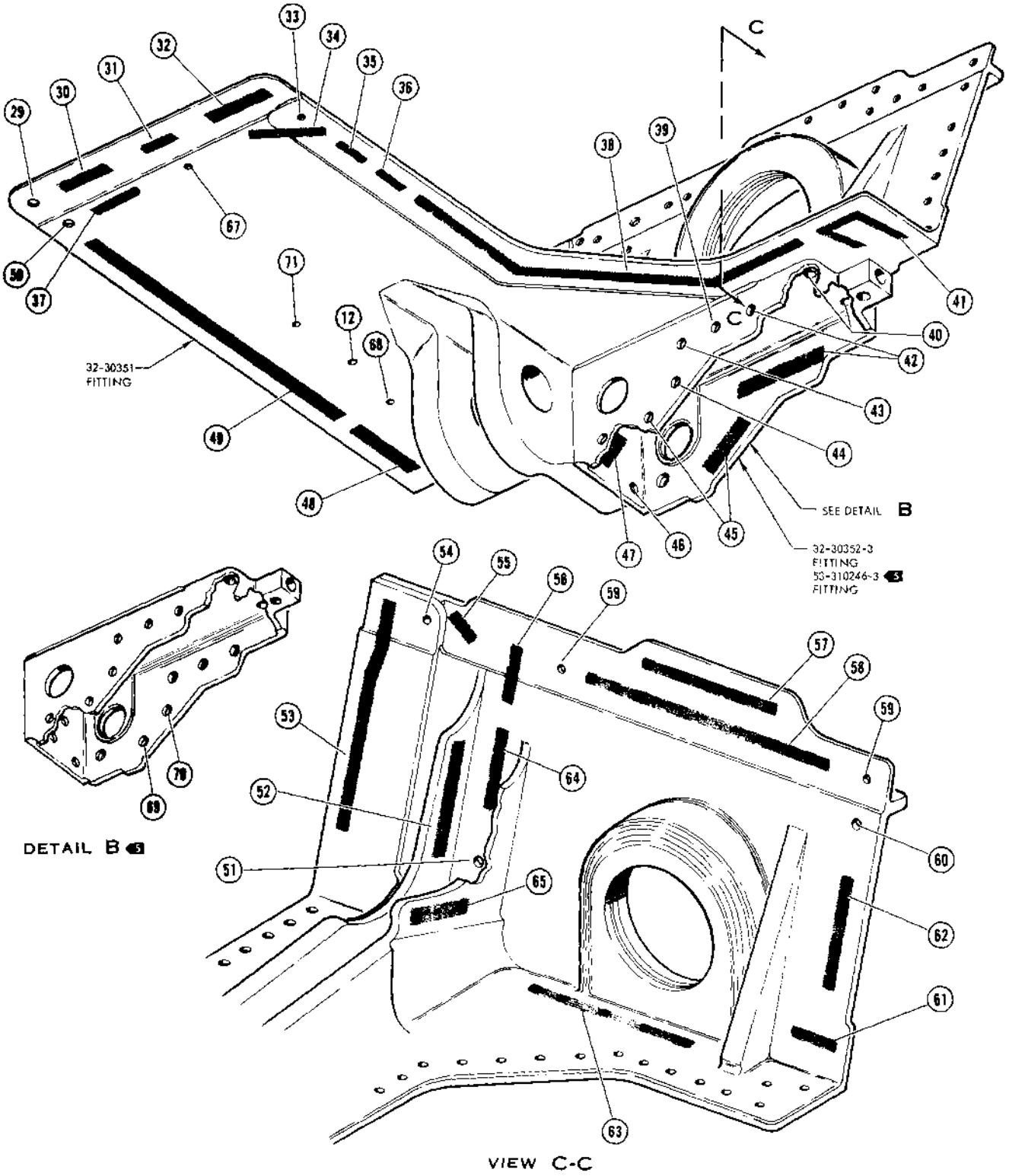


VIEW A-A

F-4C, F-4D 64-929 THRU 64-963, AND RF-4C 63-7742 THRU 65-897.

4C-3-1-2-(197-1)B

Figure 3-62. Nose Landing Gear Drag Brace Fitting Fastener Index (Sheet 1 of 4)



■ F-4D 64-964 THRU 66-8825, F-4E, F-4G, AND RF-4C 65-888 THRU 72-156.

4C-3-1-2-(197-2)C

Figure 3-62. Nose Landing Gear Drag Brace Fitting Fastener Index (Sheet 2 of 4)

REF NO.	FASTENER	NUT OR COLLAR	COTTER PIN	WASHER	HOLE SIZE
1	NAS1054-6-6	NAS528A6			0.189 +.006 -.000
2	NAS1054-8-6	NAS528A8			0.250 +.007 -.000
3	NAS1054-6-6	NAS528A6			0.189 +.006 -.000
4	NAS464P4A8	MS21042-4		AN960D416L (UNDER BOLT HEAD) AN960D416 (UNDER NUT)	0.250 +.007 -.000
5	NAS464P4A7	MS21042-4		AN960D416L (UNDER BOLT HEAD) AN960D416 (UNDER NUT)	0.250 +.007 -.000
6	NAS1054-6-4	NAS528A6			0.189 +.006 -.000
7	HS26A6-3	HS24-6			0.189 +.006 -.000
8	NAS1054-6-4	NAS528A6			0.189 +.006 -.000
9	MS24694S103	MS21042-4		AN960D416L	0.250 +.007 -.000
10	MS24694S107	MS21042-4		AN960D416L	0.250 +.007 -.000
11	AN3-6A	MS21059L3		AN960-10	0.189 +.006 -.000
12	AN428-5	MS21042-3		AN960D10	0.191 +.006 -.000
13	(6)	MS21047L3			0.189 +.006 -.000
14	NAS1054-8-6	NAS528A8			0.250 +.007 -.000
15	NAS1054-6-5	NAS528A6			0.189 +.006 -.000
16 ▶1◀	NAS1054-8-6	NAS528A8			0.250 +.007 -.000
17	NAS1304-27	MS21042-4		AN960D416L AN960D416	0.250 +.001 -.000
18	NAS1054-6-3	NAS528A6			0.188 +.003 -.000
19	NAS1305-18	MS21042-5		AN960D516L AN960D516	0.313 +.001 -.000
20	NAS1054-6-5	NAS528A6			0.188 +.003 -.000
21	NAS1304-18	MS21042-4		AN960D416L AN960D416	0.250 +.001 -.000
22	NAS1054-6-5	NAS528A6			0.189 +.006 -.000
23	NAS584-7T	MS21042-4		AN960D416	0.248 +.003 -.000
24	NAS1304-7	MS21042-4		AN960D416 (2 EA)	0.250 +.001 -.000
25	NAS1054-6-5	NAS528A6			0.189 +.006 -.000
26	NAS1304-27	MS21042-4		AN960D416L AN960D416	0.250 +.001 -.000
27	NAS1305-20	MS21042-5		AN960D516L AN960D516	0.313 +.001 -.000
28	NAS1304-9	MS21042-4		AN960D416L AN960D416	0.250 +.001 -.000
29	NAS464P4A7	MS21042-4		AN960D416	0.250 +.001 -.000
30	NAS1054-8-7	NAS528A8			0.248 +.003 -.000
31	NAS1054-6-7	NAS528A6			0.189 +.006 -.000
32	NAS1054-8-7	NAS528A8			0.248 +.003 -.000
33	NAS1054-6-7	NAS528A6			0.188 +.003 -.000
34	NAS1054-6-6	NAS528A6			0.188 +.003 -.000
35	NAS1054-6-5	NAS528A6			0.188 +.003 -.000
36	NAS1054-6-4	NAS528A6			0.188 +.003 -.000
37	NAS1054-6-7	NAS528A6			0.188 +.003 -.000
38	NAS1054-6-5	NAS528A6			0.188 +.003 -.000
39 ▶3◀	MS24694S100	MS21042-4		AN960D416L	0.250 +.006 -.000
▶5◀	NAS1504-5T	MS21042-4		AN960D416L	0.250 +.006 -.000
40	NAS1304-10	2452-048 2452-048 RET		MS20002 AN960D416 (2 EA)	0.257 +.007 -.000
41	NAS1054-6-7	NAS528A6			0.189 +.003 -.000

4C-3-1-2-(197-3)B

Figure 3-62. Nose Landing Gear Drag Brace Fitting Fastener Index (Sheet 3 of 4)

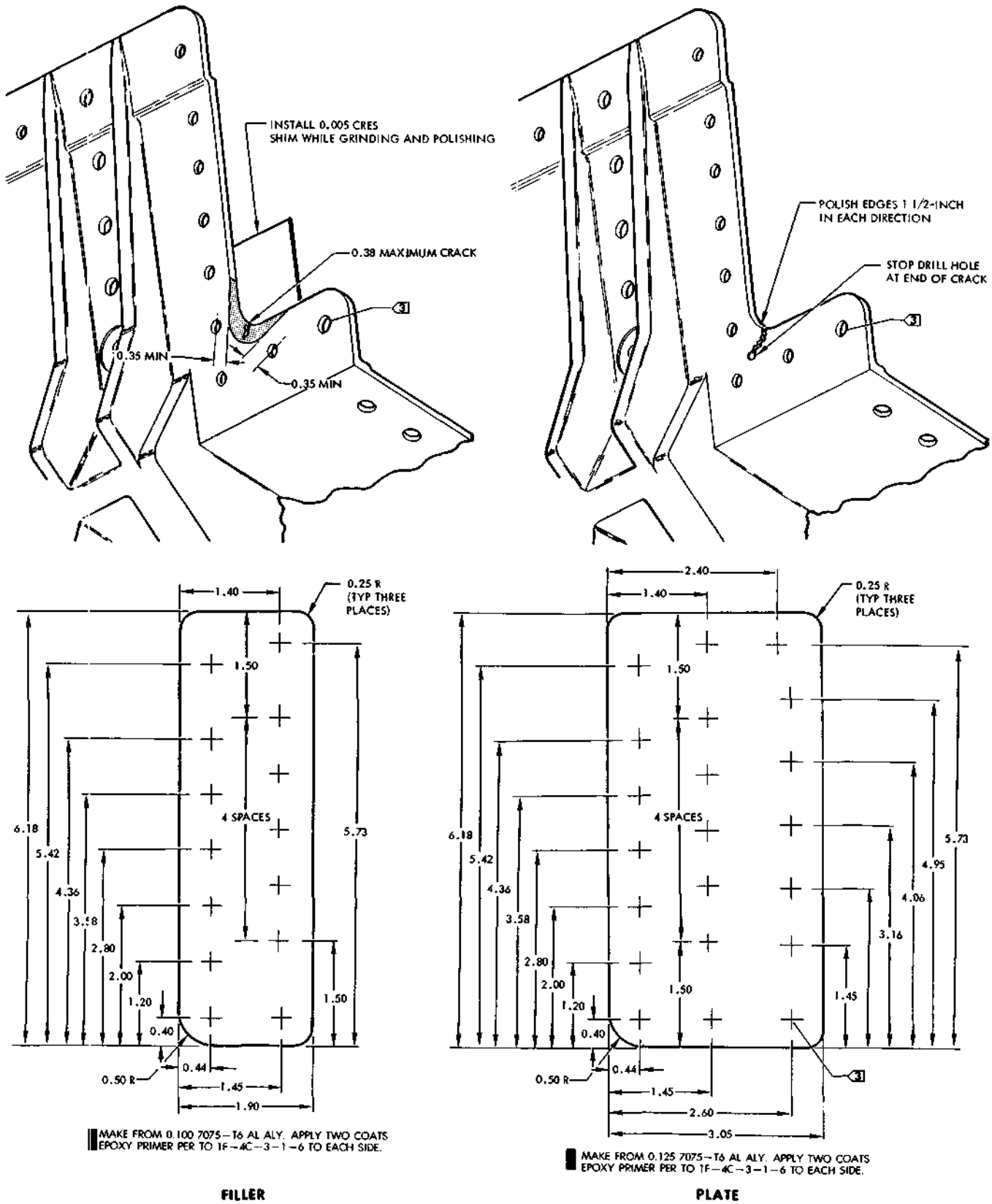
REF NO.	FASTENER	NUT OR COLLAR	COTTER PIN	WASHER	HOLE SIZE
42 [1]	MS24694S103	MS21042-4		AN960D416L	0.250 +.006 -.000
[2]	MS24694S102	MS21042-4		AN960D416L	0.250 +.006 -.000
[3]	NAS1504-7T	MS21042-4		AN960D416L	0.250 +.006 -.000
43 [3]	NAS1055-8-8	NAS528A8			0.250 +.006 -.000
[5]	NAS1055-8-5	NAS528A8			0.250 +.006 -.000
44 [3]	HL553-6-5	65957-3			0.189 +.006 -.000
[5]	NAS1055-6-5	NAS528A6			0.188 +.003 -.000
45 [3]	MS24694S107	MS21042-4		AN960D416L	0.250 +.006 -.000
[2]	MS24694S109	MS21042-4		AN960D416L	0.250 +.006 -.000
46	NAS1054-5-14	NAS528A6			0.156 +.006 -.000
47	NAS1055-5-16	NAS528A5			0.156 +.006 -.000
48	NAS464P4A9	MS21042-4		AN960-416 (HEAD) AN960-416 (NUT)	0.250 +.001 -.000
49	NAS464P4A7	MS21042-4		AN960-416 (HEAD) AN960-416 (NUT)	0.250 +.001 -.000
50	NAS464P4A8	MS21042-4		AN960-416 (HEAD) AN960-416 (NUT)	0.250 +.001 -.000
51	NAS1305-20	MS21042-5		AN960D516L (HEAD) AN960D516 (NUT)	0.313 +.001 -.000
52	NAS1304-34	MS21042-4		AN960D416L (HEAD) AN960D416 (NUT)	0.250 +.001 -.000
53	NAS1054-8-8	NAS528A8			0.248 +.003 -.000
54	NAS1054-6-7	NAS528A6			0.188 +.003 -.000
55	NAS1054-5-4	NAS528A5			0.156 +.006 -.000
56	NAS1304-18	MS21042-4		AN960D416L (HEAD) AN960D416 (NUT)	0.248 +.003 -.000
57	NAS1054-6-4	NAS528A6			0.189 +.006 -.000
58	NAS1054-6-8	NAS528A6			0.189 +.006 -.000
59	NAS1054-6-3	NAS528A6			0.189 +.006 -.000
60	NAS584-7T	MS21042-4		AN960D416	0.248 +.003 -.000
61	NAS1054-6-5	NAS528A6			0.188 +.003 -.000
62	NAS1304-7	MS21042-4		AN960D416 (2 UNDER HEAD) AN960D416 (NUT)	0.248 +.003 -.000
63	NAS1415-5	NAS1080C5			0.156 +.006 -.000
64	NAS1305-18	MS21042-5		AN960D516L (HEAD) AN960D516 (NUT)	0.313 +.001 -.000
65	NAS334CF10	AN310-4	MS24665-208	AN960D416	0.250 ±.001
66	NAS1054-5-3	NAS528A5			0.156 +.006 -.000
67	NAS1054-8-6	NAS528A8			0.248 +.003 -.000
68	AN3-6A	MS21059L3		AN960-10	0.196 +.006 -.000
69 [3]	NAS1505-14T	MS21042-5		AN960D516	0.313 +.001 -.000
70 [5]	NAS1504-14T	MS21042-4		AN960D416	0.250 +.006 -.000
71	[6]	MS21059L3			0.196 +.006 -.000

Notes

[1] F-4C 63-7407 THRU 63-7662 AND RF-4C 63-7742 THRU 64-1017.
[2] RF-4C 65-888 THRU 72-156.
[3] F-4D 64-964 THRU 66-8825 AND RF-4C 65-888 THRU 72-156.
[5] F-4D 64-964 THRU 66-8825.
[5] F-4E AND F-4G.
[6] FOR HYDRAULIC INSTALLATION.

4C-3-1-2-(197-4)C

Figure 3-62. Nose Landing Gear Drag Brace Fitting Fastener Index (Sheet 4 of 4)



THIS REPAIR IS FOR FITTINGS ON F-4C
F-4D 64-929 THRU 64-963 AND RF-4C 63-7742 THRU 65-887

4C-3-1-2-(198-1)96

Figure 3-63. Nose Landing Gear Drag Brace Fitting Repair (Sheet 1 of 2)

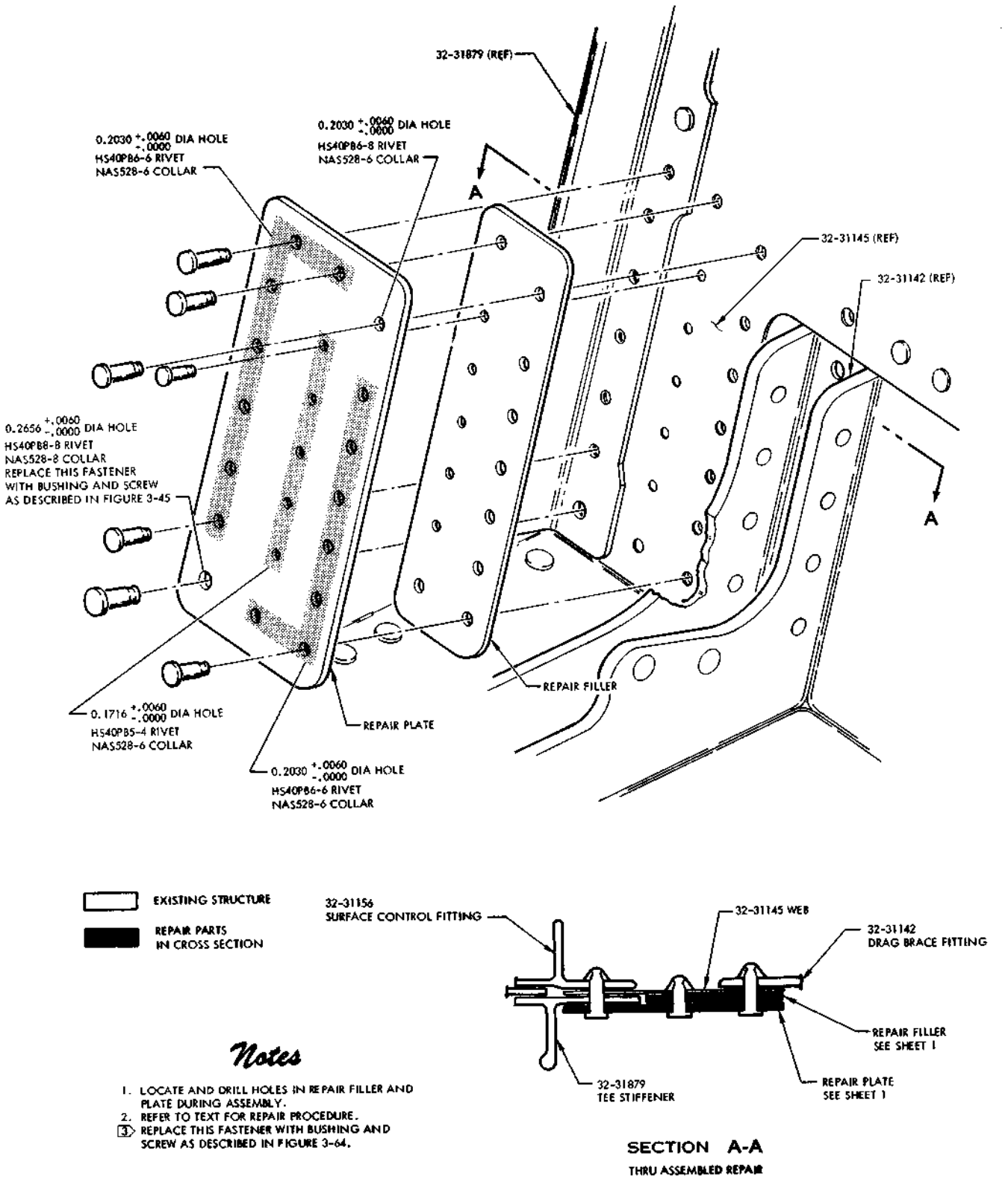
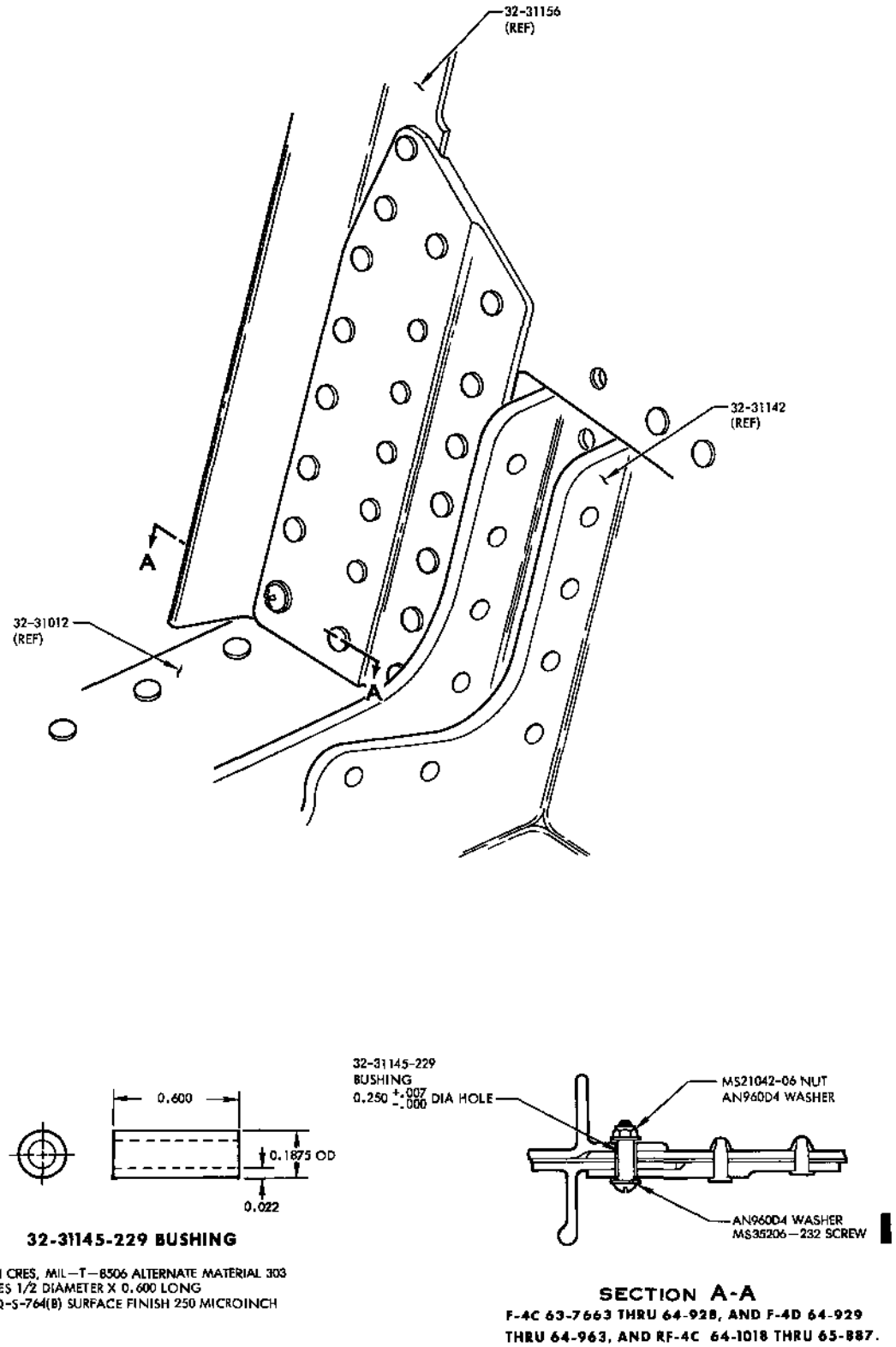
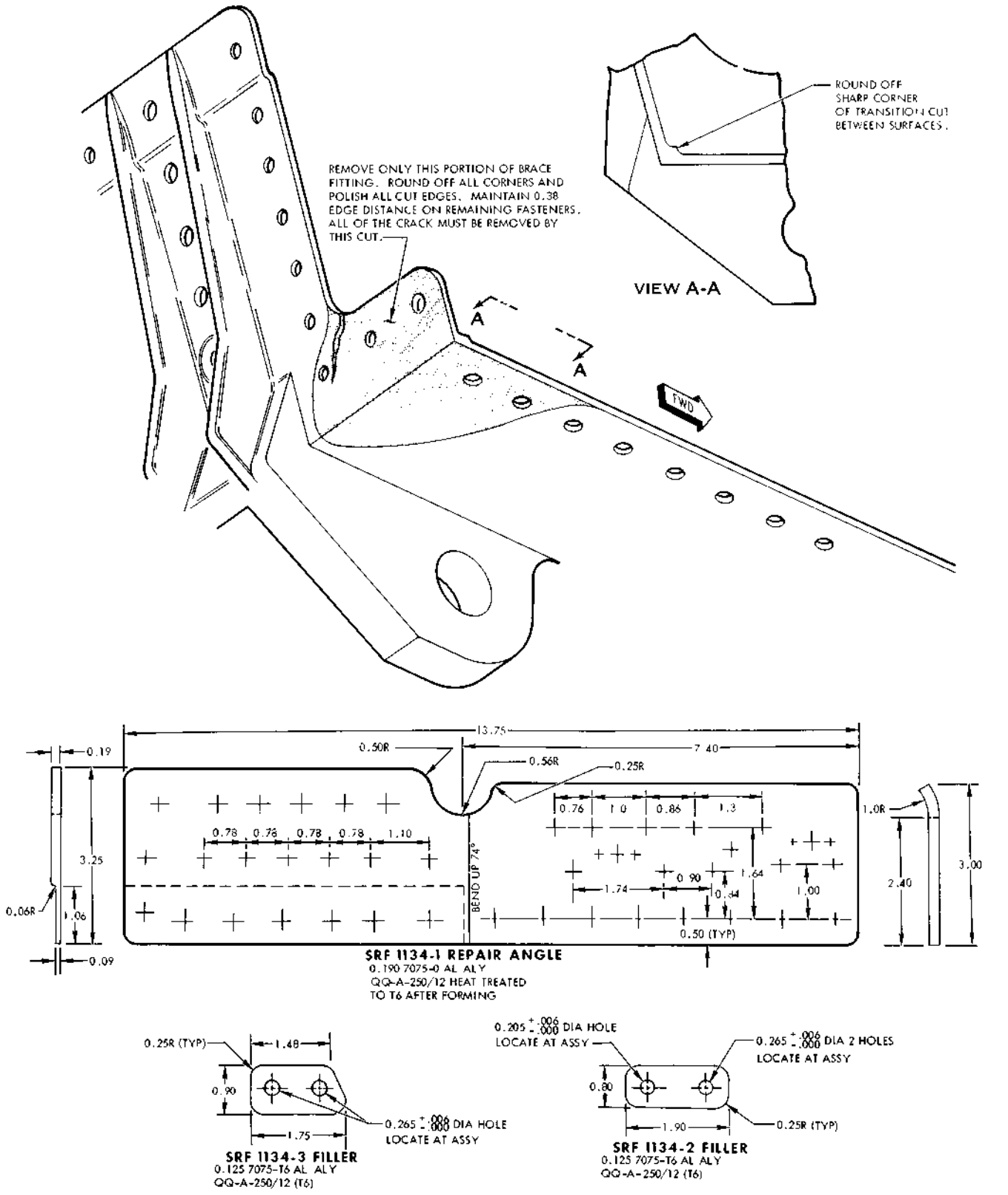


Figure 3-63. Nose Landing Gear Drag Brace Fitting Repair (Sheet 2 of 2)



4C-3-1-2-(199)81

Figure 3-64. Revised Fastener on Nose Landing Gear Drag Brace



4C-3-1-2-(200-1)A

Figure 3-65. Nose Landing Gear Drag Brace Reinforcement (Sheet 1 of 2)

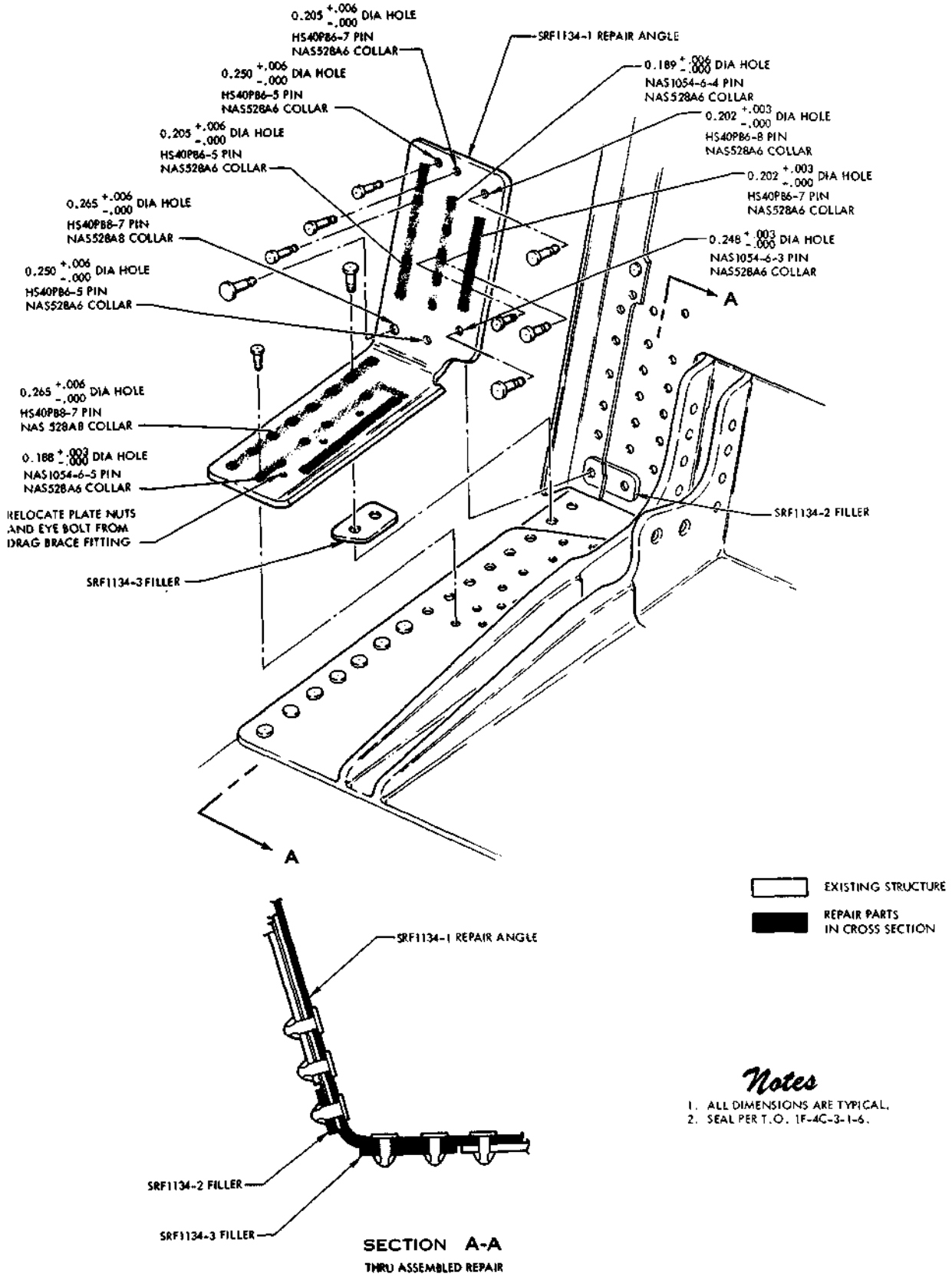


Figure 3-65. Nose Landing Gear Drag Brace Reinforcement (Sheet 2 of 2)

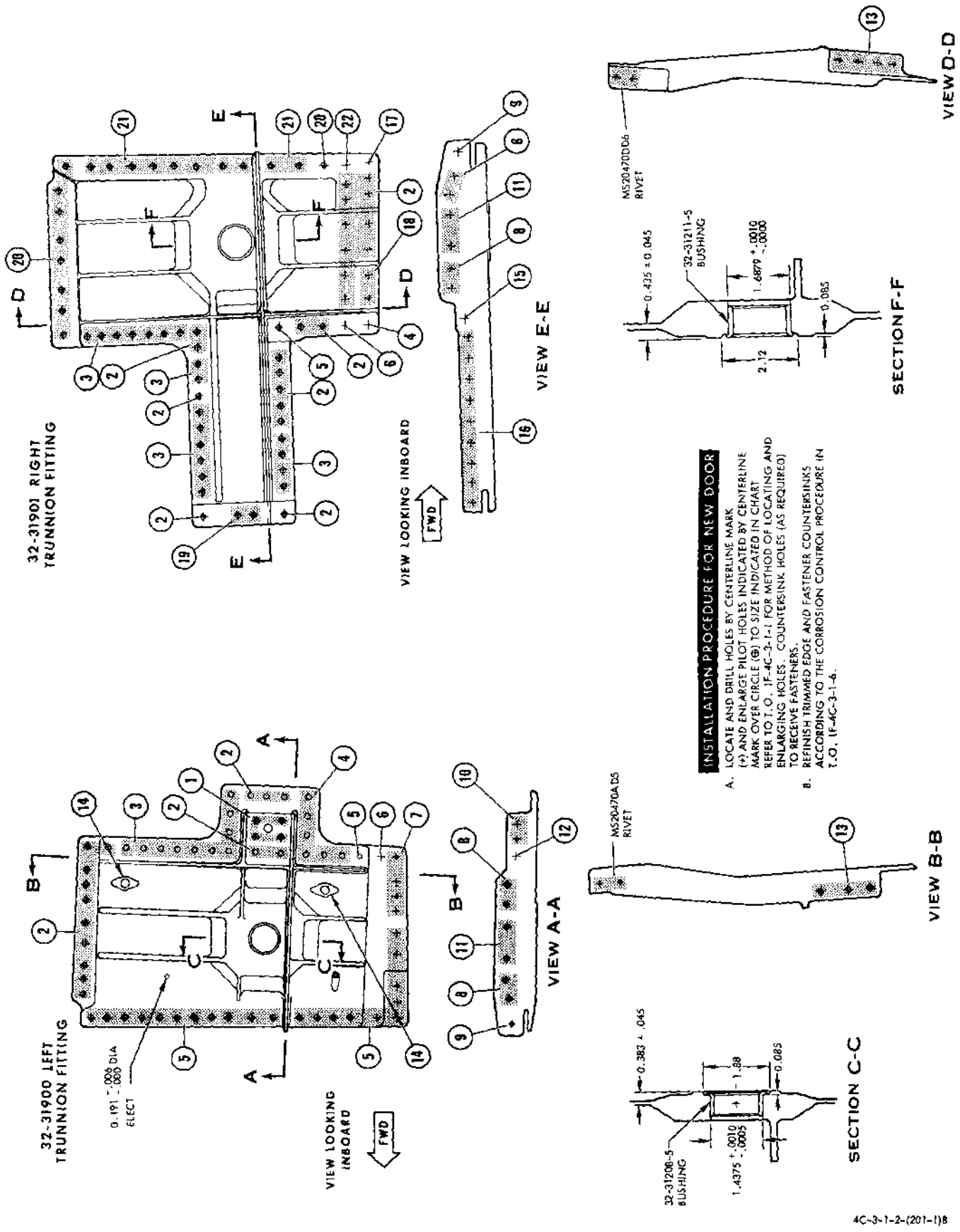


Figure 3-66. Nose Landing Gear Trunnion Fittings - F-4C, F-4D AND RF-4C (Sheet 1 of 3)

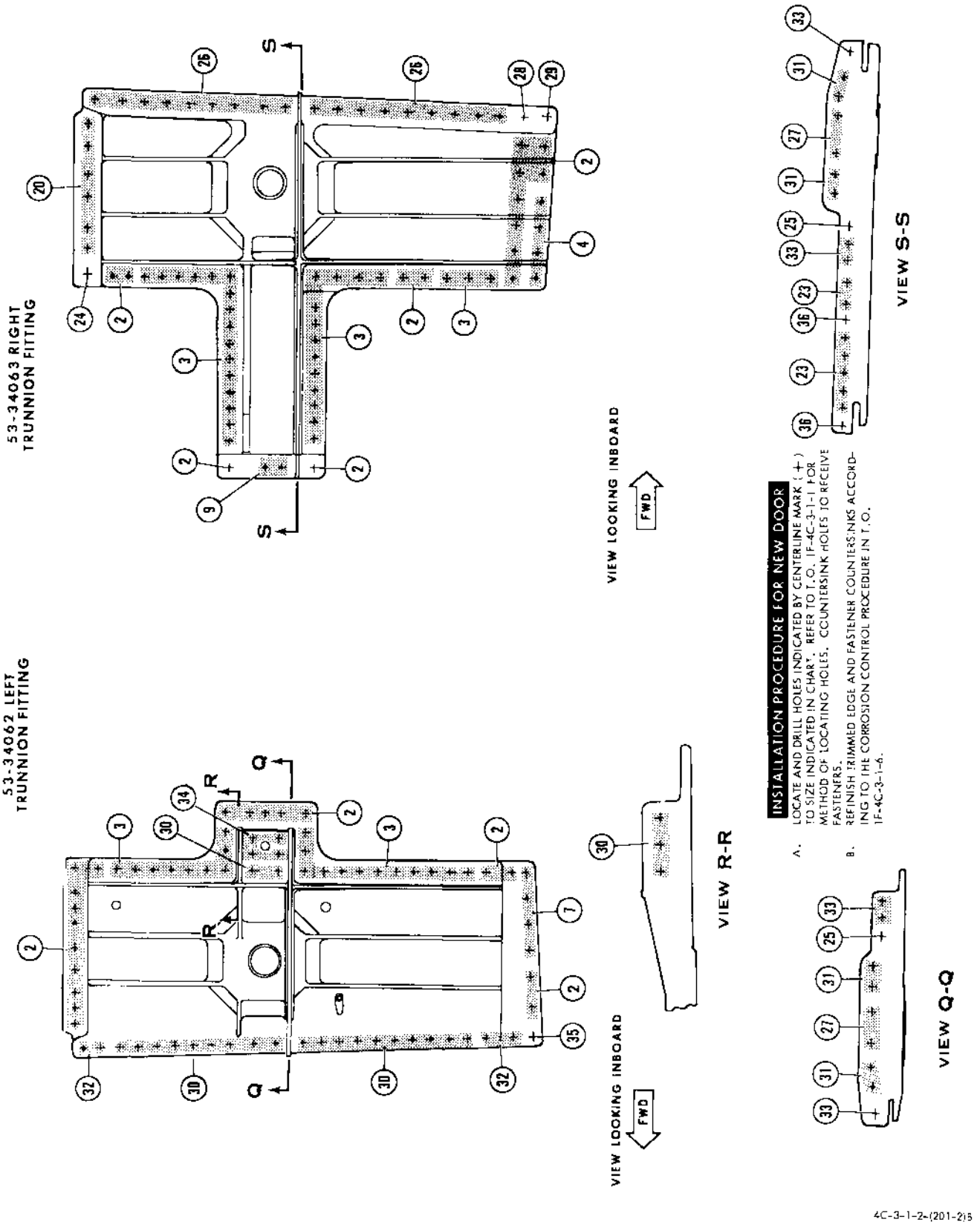
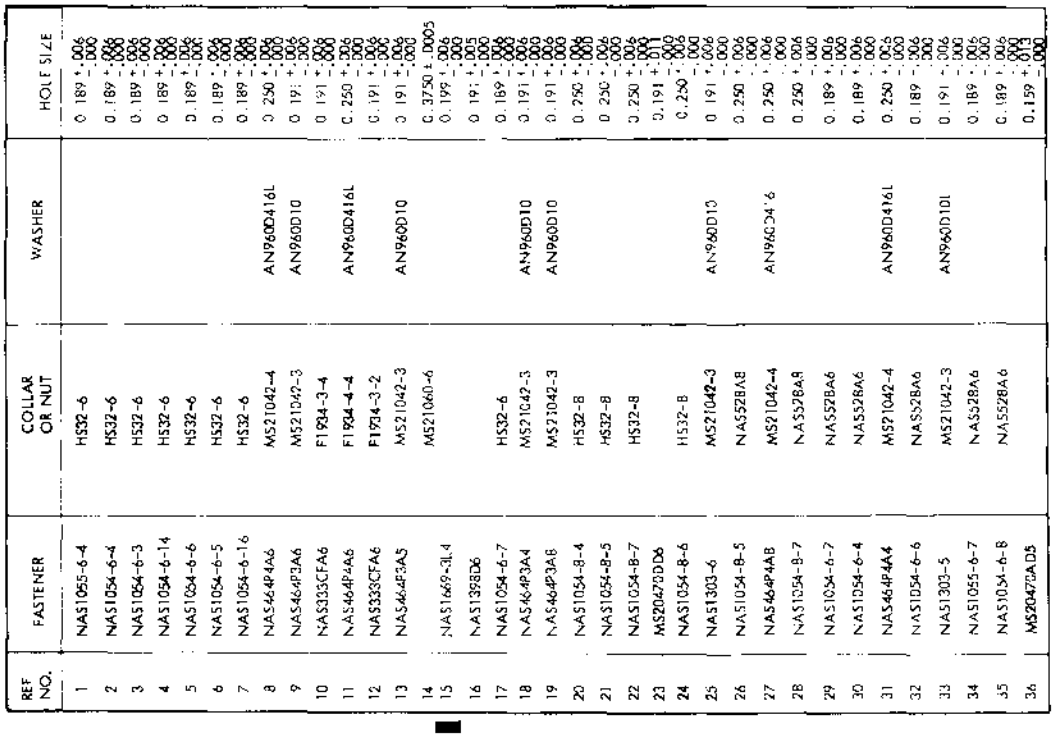


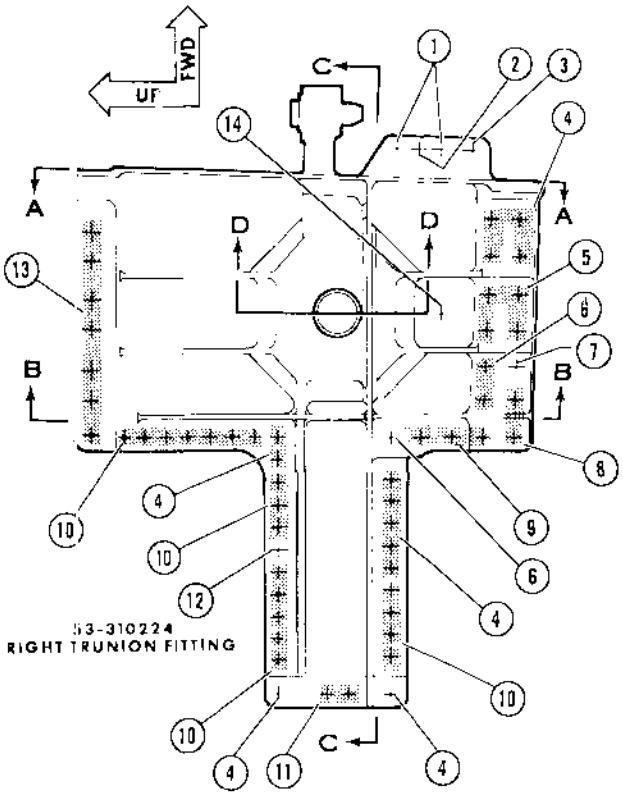
Figure 3 66. Nose Landing Gear Trunnion Fittings - F-4C, F-4D AND RF-4C (Sheet 2 of 3)

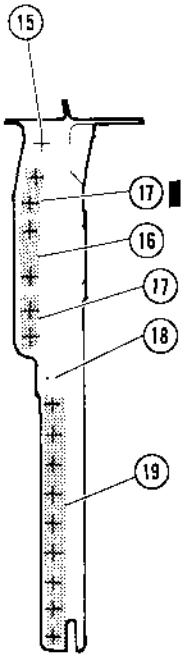


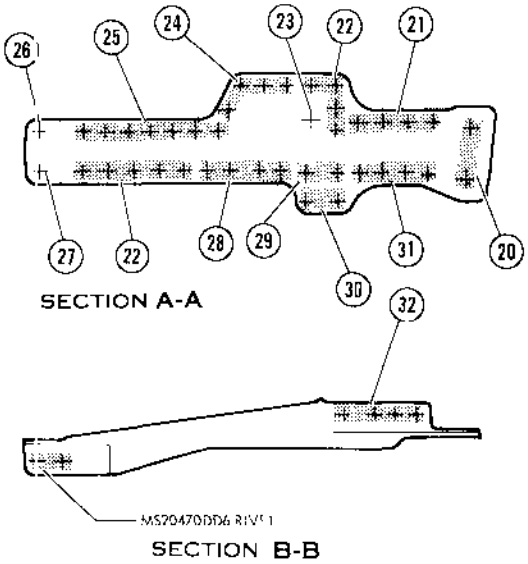
REF NO.	FASTENER	COLLAR OR NUT	WASHER	HOLE SIZE
1	NAS1055-6-4	HS32-6		0.189 +.006 -.000
2	NAS1054-6-4	HS32-6		0.189 +.006 -.000
3	NAS1054-6-3	HS32-6		0.189 +.006 -.000
4	NAS1054-6-14	HS32-6		0.189 +.006 -.000
5	NAS1054-6-6	HS32-6		0.189 +.006 -.000
6	NAS1054-6-5	HS32-6		0.189 +.006 -.000
7	NAS1054-6-16	HS32-6		0.189 +.006 -.000
8	NAS464P4A6	MS21042-4	AN960D416L	0.250 +.006 -.000
9	NAS464P3A6	MS21042-3	AN960D10	0.191 +.006 -.000
10	NAS333CFA6	F1934-3-4	AN960D416L	0.191 +.006 -.000
11	NAS464P4A6	F1934-4-4	AN960D416L	0.250 +.006 -.000
12	NAS333CFA6	F1934-3-2		0.191 +.006 -.000
13	NAS464P3A5	MS21042-3	AN960D10	0.191 +.006 -.000
14		MS21060-6		0.3750 +.0005 -.0000
15	NAS1669-3L4			0.199 +.006 -.000
16	NAS1398D6			0.191 +.005 -.000
17	NAS1054-6-7	HS32-6		0.189 +.006 -.000
18	NAS464P3A4	MS21042-3	AN960D10	0.191 +.006 -.000
19	NAS464P3A8	MS21042-3	AN960D10	0.191 +.006 -.000
20	NAS1054-8-4	HS32-8		0.250 +.006 -.000
21	NAS1054-8-5	HS32-8		0.250 +.006 -.000
22	NAS1054-8-7	HS32-8		0.250 +.006 -.000
23	MS20470D06			0.191 +.011 -.000
24	NAS1054-8-6	HS32-8		0.250 +.006 -.000
25	NAS1303-6	MS21042-3	AN960D10	0.191 +.006 -.000
26	NAS1054-8-5	NAS528A8		0.250 +.006 -.000
27	NAS464P4A8	MS21042-4	AN960D416	0.250 +.006 -.000
28	NAS1054-8-7	NAS528A8		0.250 +.006 -.000
29	NAS1054-6-7	NAS528A6		0.189 +.006 -.000
30	NAS1054-6-4	NAS528A6		0.189 +.006 -.000
31	NAS464P4A4	MS21042-4	AN960D416L	0.250 +.006 -.000
32	NAS1054-6-6	NAS528A6		0.189 +.006 -.000
33	NAS1303-5	MS21042-3	AN960D10L	0.191 +.006 -.000
34	NAS1055-6-7	NAS528A6		0.189 +.006 -.000
35	NAS1054-6-8	NAS528A6		0.189 +.006 -.000
36	MS20470AD5			0.159 +.013 -.000

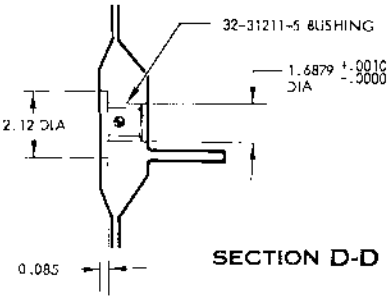
4C-3-1-2-(201-3)C

Figure 3 66. Nose Landing Gear Trunnion Fittings - F-4C, F-4D AND RF-4C (Sheet 3 of 3)



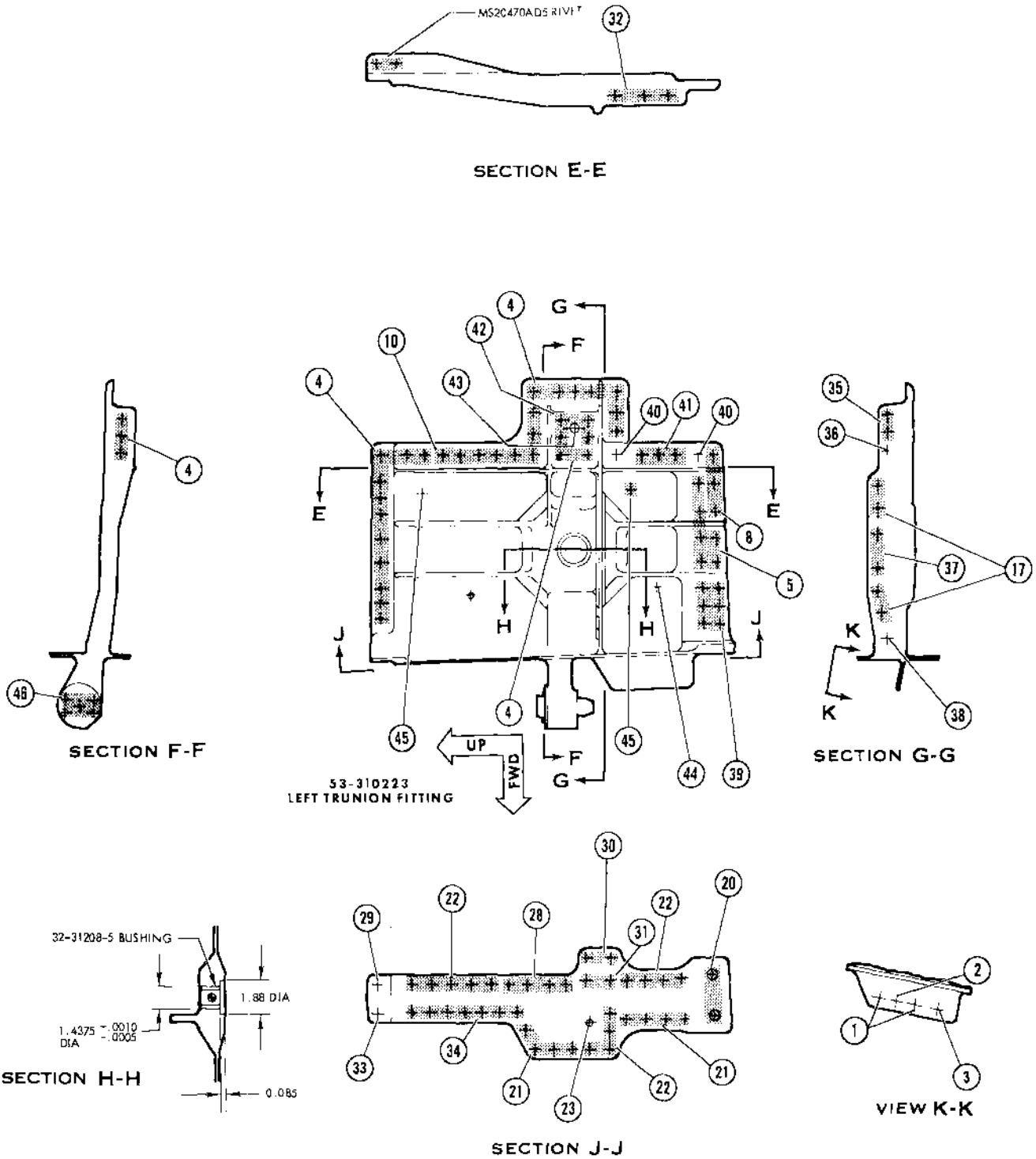






4C-3-1-2-(202-1) B

Figure 3-67. Nose Landing Gear Trunnion Fittings - F-4E AND F-4G (Sheet 1 of 3)



4C-3-1-2-(202-2)B

Figure 3-67. Nose Landing Gear Trunnion Fittings - F-4E AND F-4G (Sheet 2 of 3)

REF NO.	FASTENER	COLLAR OR NUT	WASHER	HOLE SIZE
1	NAS1055-6-5	NAS528A-6		0.189 +.006 -.000
2	NAS1303-6	F1934-3-2		0.191 +.006 -.000
3	NAS1303-6	NS103074-02-3		0.191 +.006 -.000
4	NAS1054-6-4	HS234-6		0.189 +.006 -.000
5	NAS1054-6-7	HS234-6		0.189 +.006 -.000
6	NAS1054-6-6	HS234-6		0.189 +.006 -.000
7	NAS464P3A4	MS21042-3	AN960D10	0.191 +.006 -.000
8	NAS1054-6-13	HS234-6		0.189 +.006 -.000
9	NAS1054-6-7	HS234-6		0.189 +.006 -.000
10	NAS1054-6-3	HS234-6		0.189 +.006 -.000
11	NAS464P3A5	MS21042-3	AN910D10	0.191 +.006 -.000
12	NAS1054-5-3	HS234-5		0.156 +.006 -.000
13	NAS1054-8-4	HS234-8		0.250 +.006 -.000
14	①	MS21059L-3		0.196 +.006 -.000
15	NAS464P3A6	MS21042-3	AN960D10	0.191 +.006 -.000
16	NAS464P4A6	F1934-4-4	AN960D416L	0.250 +.006 -.000
17	NAS464P4A6	MS21042-4	AN960D416	0.250 +.006 -.000
18	NAS1669-3L4			0.199 +.006 -.000
19	NAS1398D6			0.189 +.006 -.000
20	MS20006-18	LH3393-064	MS20002C6 AN960-616(2)	0.375 +.007 -.000
21	NAS1054-6-4	NAS528A6		0.189 +.006 -.000
22	NAS1054-6-6	NAS528A6		0.189 +.006 -.000
23	①	MS21059L4		0.250 +.006 -.000
24	NAS1054-6-4	NAS528A6		0.189 +.006 -.000
25	HS62-6-7	NAS528A6		0.189 +.006 -.000
26	HS62-6-9	NAS528A6		0.189 +.006 -.000
27	NAS1054-5-8	NAS528A5		0.156 +.006 -.000
28	NAS464P3A8	MS21042-3	AN960D10	0.191 +.006 -.000
29	NAS1054-6-8	NAS528A6		0.189 +.006 -.000
30	NAS1054-6-5	NAS528A6		0.189 +.006 -.000
31	NAS1054-6-7	NAS528A6		0.189 +.006 -.000
32	NAS464P3-5	MS21042-3	AN960D10	0.191 +.006 -.000
33	HS62-5-8	NAS528A5		0.156 +.006 -.000
34	HS62-6-6	NAS528A6		0.189 +.006 -.000
35	NAS464P3A7	F1934-3-4	AN960D10L	0.191 +.006 -.000
36	NAS464P3A7	F1934-3-2	AN960D10L	0.191 +.006 -.000
37	NAS464P4A4	MS21042-4	AN960D416L	0.250 +.006 -.000
38	NAS464P3A-6	MS21042-3	AN960D10	0.191 +.006 -.000
39	NAS1054-6-10	HS234-6		0.189 +.006 -.000
40	NAS1054-6-5	HS234-6		0.189 +.006 -.000
41	①	MS21060-3		0.196 +.006 -.000
42	NAS1055-6-4	HS234-6		0.189 +.006 -.000
43	①	MS21060-6		0.375 ±.0005
44	①	MS21051L3		0.196 +.007 -.000
45	①	MS21060-6		0.375 ±.0005
46	NAS1055-4	NAS528A4		0.125 +.005 -.000

INSTALLATION PROCEDURE FOR NEW PART

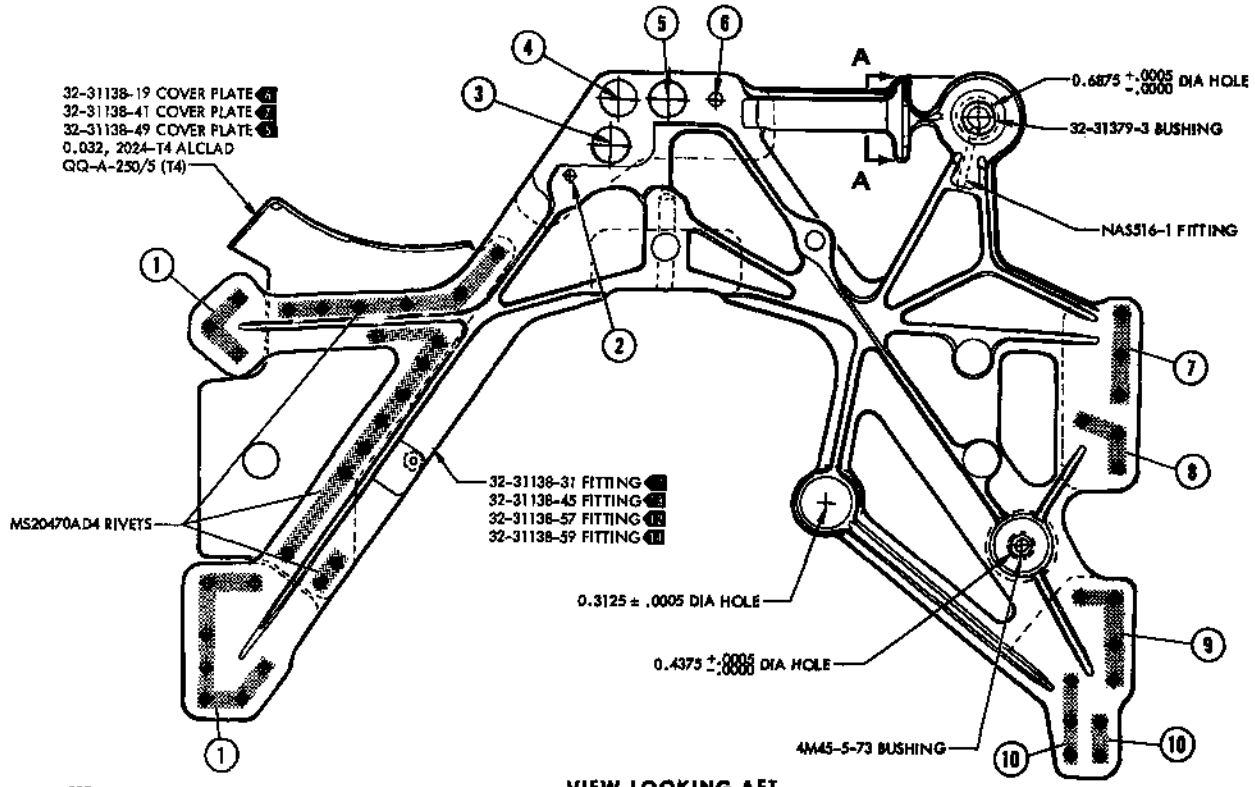
A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING AND ENLARGING HOLES. COUNTERSINK HOLES (AS REQUIRED) TO RECEIVE FASTENERS.
B. REFINISH FASTENERS HOLES AND COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

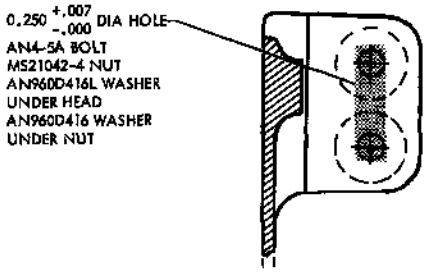
① NON-STRUCTURAL FASTENER.

4C-3-1-2-(202-3)C

Figure 3-67. Nose Landing Gear Trunnion Fittings - F-4E AND F-4G (Sheet 3 of 3)



VIEW LOOKING AFT



SECTION A-A

REF NO.	FASTENER	NUT OR COLLAR	WASHER	HOLE SIZE
1 [B]	NAS1054-5-7	NAS528A5		0.156 +.006 -.000
[D]	HL552-5-7	HL587-5		0.164 +.004 -.000
2 [B]	MS24694S107	MS21042-4	AN960-416L	0.250 +.006 -.000
[B]	NAS1504-14T	MS21042-4	AN960-416L	0.312 +.007 -.000
3 [B]	MS24694S107	MS21042-4	AN960-416L	0.250 +.006 -.000
[B]	HL553-6-5	HL587-6		0.189 +.006 -.000
[D]	NAS1055-6-5	NAS528A6		0.189 +.006 -.000
4 [B]	MS24694S103	MS21042-4	AN960-416L	0.250 +.006 -.000
[B]	NAS1055-8-8	NAS528A8		0.250 +.006 -.000
[D]	NAS1055-8-5	NAS528A8		0.250 +.006 -.000
5 [B]	MS24694S103	MS21042-4	AN960-416L	0.250 +.006 -.000
[B]	MS24694S100	MS21042-4	AN960D416L	0.250 +.006 -.000
[B]	NAS1504-5T	MS21042-4	AN960D416L	0.250 +.006 -.000
6 [D]	MS24694S103	MS21042-4	AN960D416L	0.250 +.006 -.000
[B]	NAS1504-7T	MS21042-4	AN960D416L	0.250 +.006 -.000
[B]	MS24694S102	MS21042-4	AN960D416L	0.250 +.006 -.000
7 [D]	NAS1054-5-8	NAS528A5		0.156 +.006 -.000
[B]	NAS1054-5-7	NAS528A5		0.156 +.006 -.000
8	HL553-6-7	HL587-6		0.189 +.006 -.000
9 [D]	HL552-6-5	HL587-6		0.189 +.006 -.000
[D]	HL552-6-6	HL587-6		0.189 +.006 -.000
10 [D]	HL552-5-5	HL587-5		0.164 +.004 -.000
[B]	HL552-5-6	HL587-5		0.164 +.004 -.000

4C-3-1-2-(203)E

INSTALLATION PROCEDURE FOR NEW PART

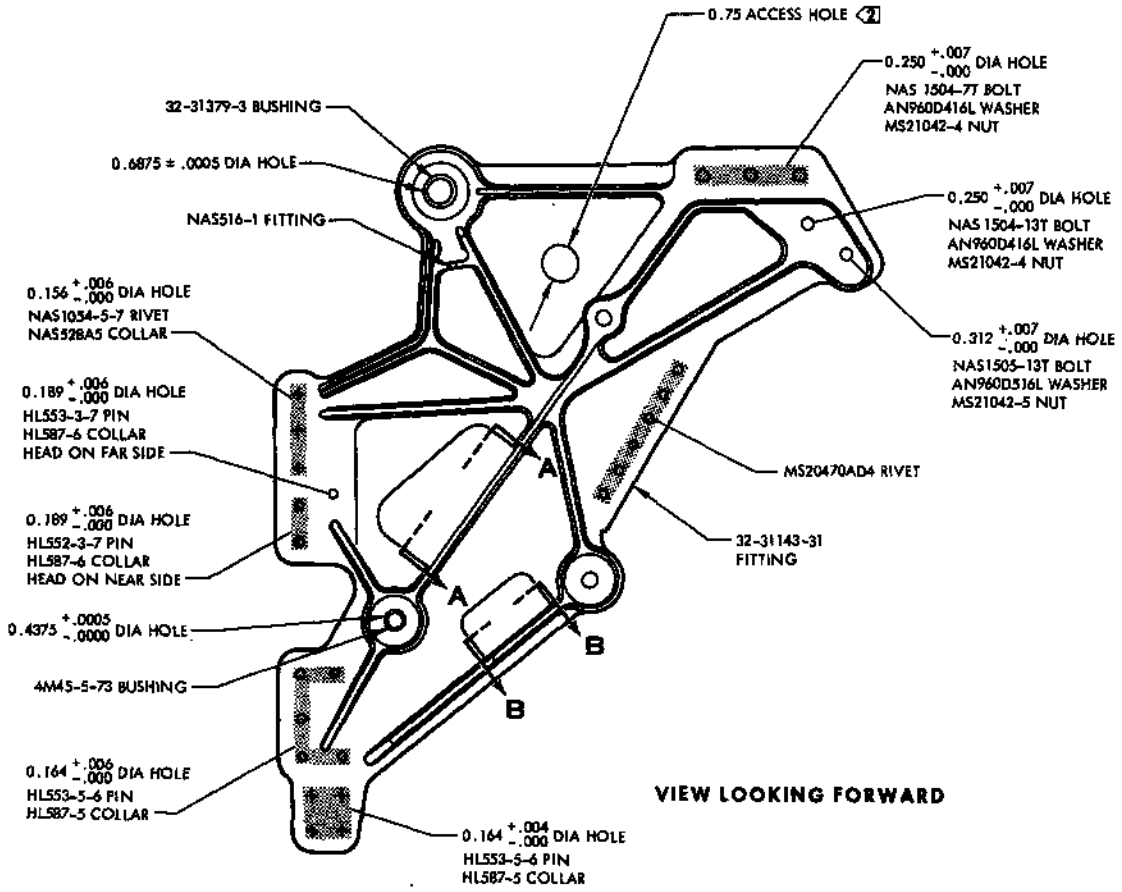
A. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF ENLARGING PILOT HOLES TO MATCH HOLES IN SUB-STRUCTURE. COUNTERSINK HOLES TO RECEIVE FASTENERS.
B. REFINISH COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
C. LOOSE PARTS BAGGED AND ATTACHED TO FITTING.

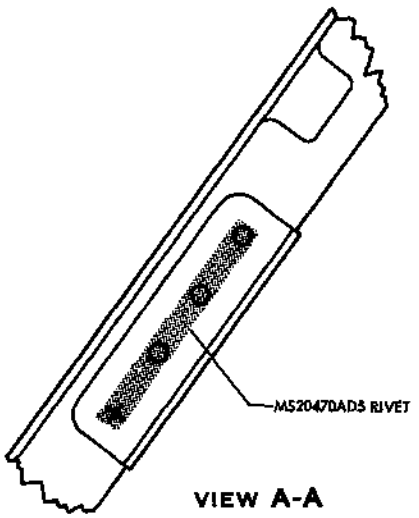
Notes

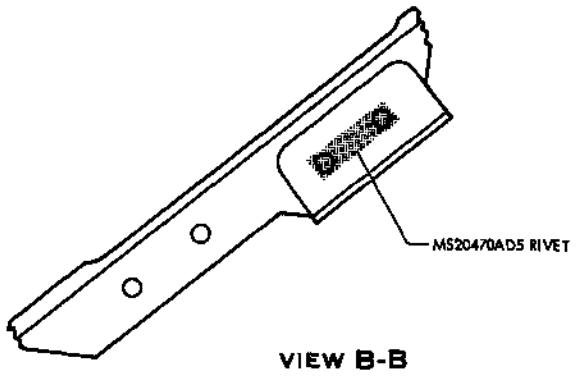
1. REFERENCE TO 1F-4C-3-1-1 FOR IDENTIFICATION AND INSTALLATION OF FASTENERS.

[B] F-4C.
[C] F-4D, F-4E, F-4G, AND RF-4.
[D] F-4D AND RF-4.
[E] F-4E AND F-4G.
[F] F-4C AND F-4D.
[G] RF-4.
[H] F-4C AND RF-4.
[J] F-4D, F-4E, AND F-4G.
[K] F-4C, F-4D AND RF-4.
[L] F-4C, F-4D, AND RF-4 63-7742 THRU 68-368.
[M] RF-4 69-369 THRU 72-156.
[N] F-4E 66-284 THRU 68-538; F-4E/G 69-236 THRU 69-7217.
[P] F-4E/G 69-7218 THRU 69-7586; F-4E 69-7589 AND UP.
[Q] F-4C, F-4D, RF-4 63-7742 THRU 68-368 AND F-4E 66-284 THRU 68-538; F-4E/G 69-236 THRU 69-7217.
[R] RF-4 69-369 THRU 72-156; F-4E/G 69-7218 THRU 69-7586; F-4E 69-7589 AND UP.

Figure 3-68. Forward Nose Landing Gear Uplock Fitting





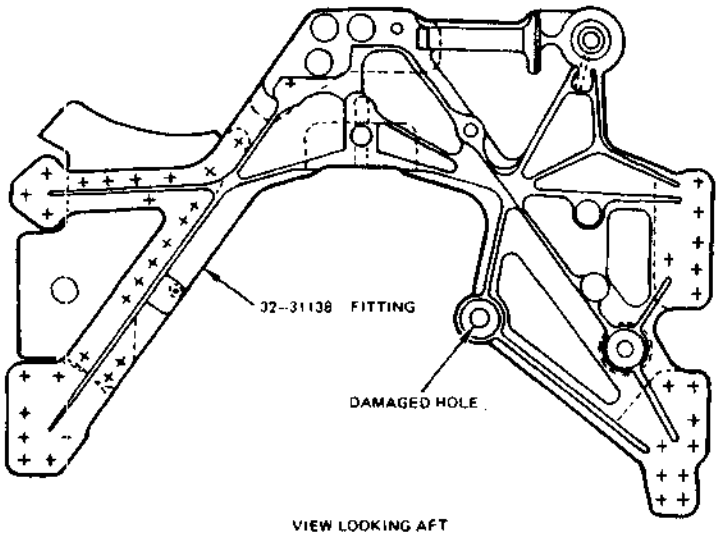


Notes

1. REFERENCE TO 1F-4C-3-1-1 FOR IDENTIFICATION AND INSTALLATION OF FASTENERS.
2. THIS HOLE PROVIDES ACCESS TO NOSE LANDING GEAR UPLOCK CYLINDER BOLT.

4C-3-1-2-(204)B

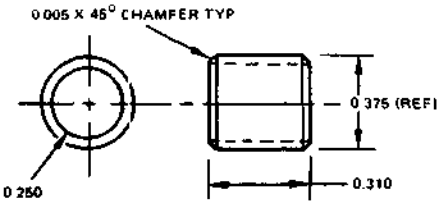
Figure 3-69. Aft Nose Landing Gear Uplock Fitting



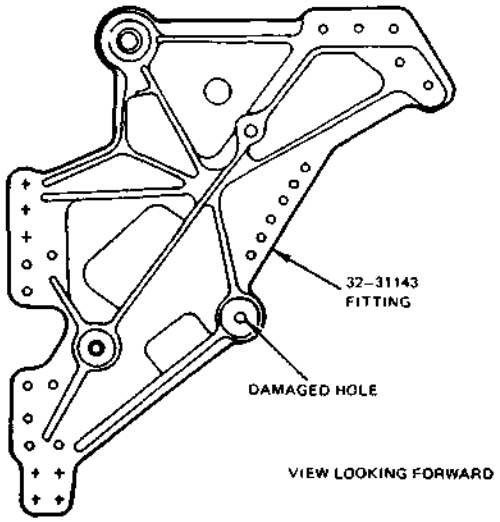
VIEW LOOKING AFT

REPAIR PROCEDURE

A REAM DAMAGED HOLE TO REMOVE ALL DAMAGE (NOT TO EXCEED 0.400 DIA)
B FABRICATE REPAIR BUSHING (0.0002 TO 0.0007 DIA LARGER THAN REAMED HOLE) FROM 301 CRES OR 17-4PH CRES PER DETAIL A
C INSTALL REPAIR BUSHING WITH INSIDE END FLUSH FACE OF FITTING
D LINE REAM BOTH BUSHINGS TO 0.3125 ± 0.0005 DIA



REPAIR BUSHING
301 CRES OR 17-4PH CRES
DETAIL A



VIEW LOOKING FORWARD

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Figure 3-69A. Aft Nose Landing Gear Uplock Fitting Repair

3-117. REFRIGERATION TURBINE INLET AND EXHAUST. See figures 3-70 and 3-71A.

3-118. The castings for exhausting the refrigeration turbine air are EZ33A magnesium alloy, Federal Specification QQ-M-56 (T5) and the castings for the air inlets are AZ91C magnesium alloy, Federal Specification QQ-M-56 (T6). Access to the casting is accomplished by removing the panels which make up the refrigeration compartment floor. See figures 3-41 and 3-42.

3-119. REPAIR OF CORROSION DAMAGE ADJACENT TO FASTENERS ON REFRIGERATION TURBINE EXHAUST.

a. Remove all traces of corrosion with rotary file or other acceptable method to determine extent of damage to duct.

b. If corroded material which has been removed does not exceed 0.080 from edge of original hole in any direction, the following repair is applicable:

(1) Drill or mill damaged hole so that an insert can be placed inside hole. For ease of manufacture a round insert is recommended. See figure 3-71 for shape of reworked hole.

(2) Manufacture insert the same size as the width of reworked hole and same thickness as duct material.

(3) Drill fastener hole through insert so that original fastener location remains unchanged. The fastener hole does not have to be in center of insert. However, a 0.020 minimum wall thickness must be maintained on insert.

c. When corrosion damage exceeds material removed of more than 0.080 but less than 0.25 from edge of original fastener hole, the following repair is applicable:

(1) The general information in steps b1. through b3. of above repair is applicable.

(2) The insert shall be made in one piece with an integral washer as shown in figure 3-71.

(3) The insert shall be shaped so that an excessive amount of noncorroded material will not have to be removed from duct. Do not make the one piece insert round so it can turn inside reworked fastener hole.

(4) The fastener hole through the one piece insert shall be same size and shape as original hole, and in the same location.

3-120. CORROSION RESISTANCE TREATMENT. The following treatment is required to provide corrosion resistance for repairs to refrigeration turbine exhaust:

WARNING

Provide adequate ventilation when using chromic acid, epoxy primer, sealant, and conversion coating. Avoid skin and eye contact. Spray apply primer in an approved exhaust ventilated booth.

a. Treat all bare magnesium per T.O. 1-1-691.Brush on treatment in accordance with T.O. 1F-4C-3-1-6 after mechanical corrosion removal.

b. Touch up repaired areas with epoxy primer per T.O. 1F-4C-3-1-6.

c. Anodize aluminum spacer, washer, and shouldered insert in accordance with Specification MIL-A-8625, Type II, prior to insertion into magnesium casting. If field maintenance activities performing repair do not have anodizing facilities, aluminum parts should be treated with conversion coating, Specification MIL-C-5541, Class I.

d. That portion of the aluminum spacer, washer, and/or shoulder insert which comes in contact with magnesium should be covered with sealant, Specification MIL-S-81733.

e. Apply sealant, Specification MIL-S-81733, to aircraft structure where exhaust housing will touch structure. Install housing while sealant is wet.

3-121. REPLACEMENT. The turbine exhaust casting is installed in figure 3-70. When the fasteners are installed as shown, there will be a duct sill relative movement established to compensate for the expansion and contraction of the casting. Gap, installation, and torque of fasteners must be per figure 3-70 since the sill is made of glass fabric laminate and will be damaged if clearance to permit expansion is not allowed. When removing turbine exhaust the following sequence shall be used.

NOTE

All dash numbers do not apply to all aircraft but are reference numbers. Refer to drawing 53-34020.

a. Remove 53-34020-103 angle.

b. Remove 53-34020-33 stiffener at FS 113.320.

c. Remove 53-34020-175 tee at FS 103.800.

d. Remove 53-34020-193 bracket.

e. Remove four fasteners from 53-34020-129 tee at FS 95.500.

f. Remove all fasteners from 53-34020-127 tee between FS 95.500 and FS 121.000 leaving the 53-34020-125 floor free on the inboard edge.

g. Remove four fasteners through forward end of 53-34020-65 tee at FS 95.500.

h. Remove 53-34020-59 angle at FS 89.200.

i. Remove 53-34020-63 angle at FS 85.500.

j. Remove 53-34020-249 flange.

k. Remove all fasteners from 53-34020-17 beam from FS 82.000 to FS 95.500.

l. Remove four fasteners on forward lip and two fasteners on outboard lip of 53-83655-3 duct.

CAUTION

Do not cut or grind on bulkhead to assist in removal of duct.

m. After all fasteners have been removed and 53-34020-17 beam and both floors have been separated, pull beam outboard for added clearance for removal of -3 duct.

n. Secure beam in outboard position with safety wire to prevent beam from returning to original position.

o. Disconnect 53-34114-302 sill at bottom lip of duct, using care as sill is made of laminated fiberglass.

p. When all parts have been removed, slide duct slightly forward and up, carefully guiding tabs on duct past other obstacles.

q. Reverse procedure to reinstall duct.

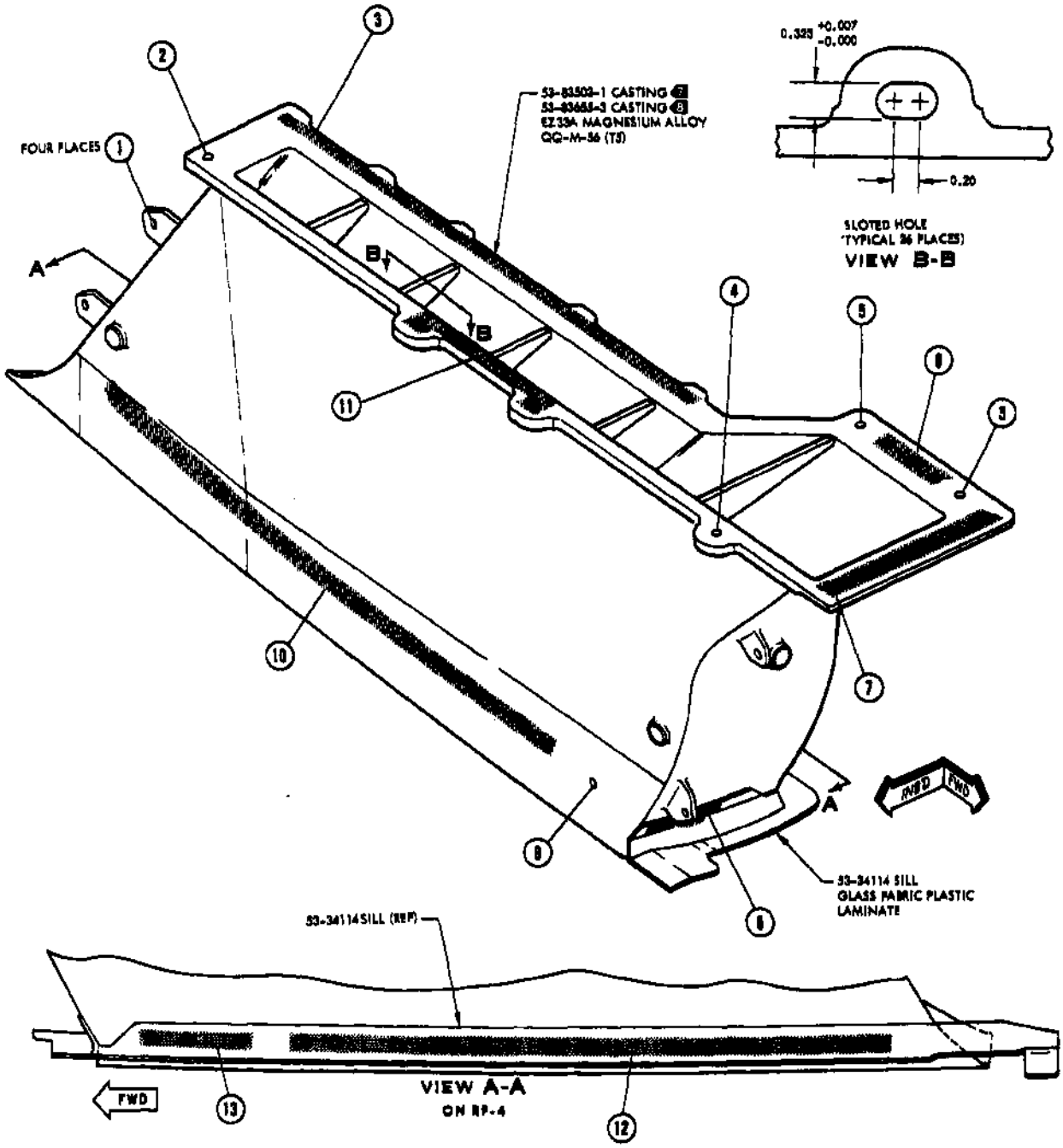
3-121A. **REPAIR OF CORROSION DAMAGE ADJACENT TO FASTENERS ON REFRIGERATION TURBINE AIR INLET RF-4.** For repair of corrosion around the door fastener holes on the 53-83501-3, 53-83502-3 upper inlet duct and under door 504 L & R, see figure 3-71A.

3-121B. **DAMAGE TO FORWARD MISSILE LAUNCHER FORWARD AND AFT FITTINGS.** If any cracks are found in the forward or aft missile launcher fitting, the fitting must be replaced.

3-121C. Deleted

3-121D. Deleted

3-121E. **NUTPLATE AND SPACER ASSEMBLY.** See figure 3-71D for hardware installation procedures on missile launcher attach fittings in forward missile well stations 4 and 6.

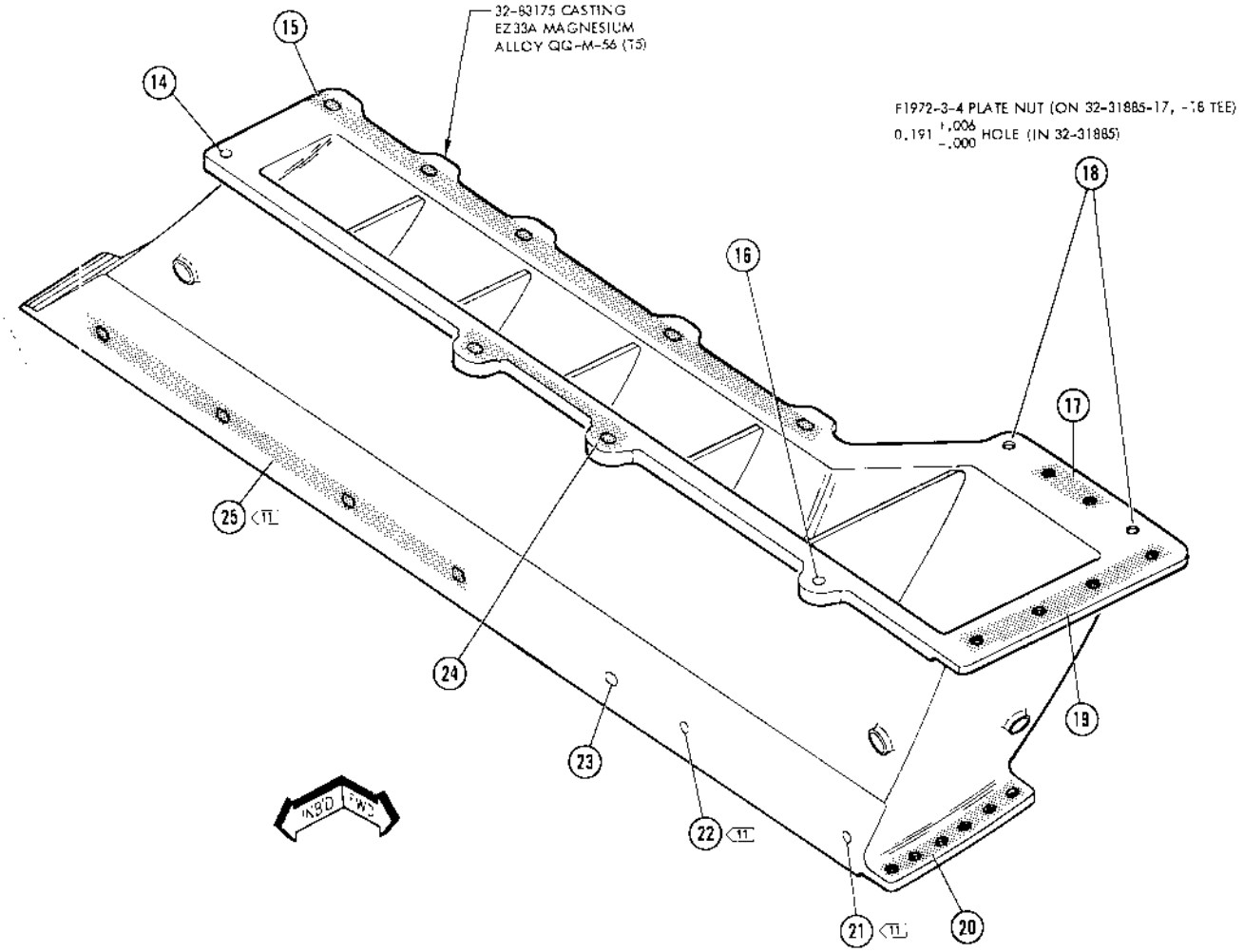


Notes

1. THESE SLOTTED HOLES ARE MADE BY DRILLING TWO 0.323 +0.007 -0.000 HOLES 0.20 BETWEEN CENTERS AND REMOVING THE MATERIAL BETWEEN THEM. SEE DETAIL B.
2. A 0.010 TO 0.036 GAP IS REQUIRED BETWEEN THE NAS1197-10 WASHERS AND THE NAS1197-616 OR NAS1197-616L WASHERS, ON THE OUTBOARD SIDE, AFTER THE 3M33-3-(XX) BOLTS AND MS20500-1032 NUTS HAVE BEEN TORQUED 13 TO 15 INCH POUNDS.
3. A 0.10 TO 0.020 GAP IS REQUIRED BETWEEN THE NAS1197-616 OR NAS1197-616L WASHERS AND THE 32-83080-3 WASHERS ON THE INBOARD SIDE AFTER THE 3M33-3-(XX) BOLTS HAVE BEEN TORQUED TO 13 TO 15 POUNDS.
4. HOLES IN PACKAGE FLANGE.
5. HOLE IN CASTING.
6. HOLE IN LONGERON.
7. RF-4 63-7742 THRU 64-1061.
8. RF-4 64-1062 THRU 72-156.
9. RF-4 63-7742 THRU 66-406.
10. RF-4 66-407 THRU 72-156.
11. SELECT A NAS43003 SPACER OF A LENGTH THAT WILL PROVIDE A 0.010 TO 0.030 GAP BETWEEN THE WASHER AND CASTING.

G9104364

Figure 3-70. Refrigeration Turbine Exhaust (Sheet 1 of 3)



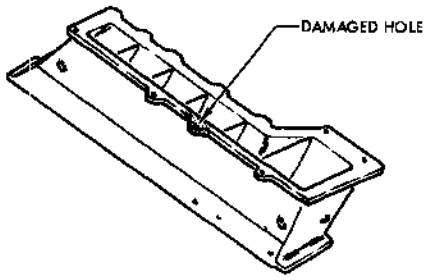
4C-3-1-2-(209-2)D

Figure 3-70. Refrigeration Turbine Exhaust (Sheet 2 of 3)

REF NO.	FASTENER	NUT OR COLLAR	TORQUE (INCH-LB)	WASHER	SHIM	SPACER	HOLE SIZE
1	AN3-5A	MS21043-3		AN960C10			0.205 +.007 -.000
2	3M33-3-6A	MS21043-3		4M36-01042 32-83080-7 4M36-01016		NAS43DD3-19	0.323 +.007 -.000
3	3M33-3-6A	MS21043-3		AN960C10L 32-83080-7 4M36-01016		NAS43DD3-12	0.323 +.007 -.000 ◁1
4	3M33-3-8A ⑨			AN960C10L		NAS43DD3-19	0.323 +.007 -.000
	3M33-3-7A ⑩	MS21043-3		32-83080-7 4M36-01016		NAS43DD3-12	0.323 +.007 -.000
5	3M33-3-8A	MS21043-3		AN960C10L (AS REQUIRED) AN960D10		NAS43DD3-12	0.323 +.007 -.000
6	NAS1674-08L(X)						0.1650 +.0030 -.0000
7	MS20426B5						0.159 +.013 -.000
8	3M33-3-7A	MS20500-1032		32-83080-3 NAS1197-616 ◁2 (AS REQUIRED) NAS1197-616L ◁2 (AS REQUIRED) NAS1197-10		NAS43DD3-23	0.323 +.007 -.000
9	3M33-3-8A	MS21048-3		NAS1197-616 ◁3 (AS REQUIRED) NAS1197-616L ◁3 (AS REQUIRED) 32-83080-3		NAS43DD3-14	0.323 +.007 -.000
10	3M33-3-8A	MS21048-3		32-83080-3 NAS1197-616 ◁2 (AS REQUIRED) NAS1197-616L ◁3 (AS REQUIRED)		NAS43DD3-14	0.323 +.007 -.000
11	3M33-3-8A ⑨	MS21043-3		AN960C10L		NAS43DD3-19	0.323 +.007 -.000 ◁1
	3M33-3-7A ⑩			32-83080-7 4M36-01016		NAS43DD3-12	0.323 +.007 -.000
12	3M33-3-7A	MS20500-1032	13-15	32-83080-3 NAS1197-616 ◁2 (AS REQUIRED) NAS1197-616L ◁2 (AS REQUIRED) NAS1197-10		NAS43DD3-23	0.323 +.007 -.000 ◁1
13	3M33-3-8A	MS20500-1032	13-15	32-83080-3 NAS1197-616 ◁2 (AS REQUIRED) NAS1197-616L ◁2 (AS REQUIRED) NAS1197-10		NAS43DD3-23	0.323 +.007 -.000
14	AN3-6A	MS21061L-3		AN960C10L (AS REQUIRED)	NAS463Y D10N	NAS43DD3-19	0.323 +.007 -.000 ◁5 0.201 +.006 -.000 ◁4
15	AN3-6A	MS21042-3		AN960C10L (AS REQUIRED) 32-83080-7 4M36-01016		NAS43DD3-12	0.323 +.007 -.000 ◁1 0.201 +.006 -.000 ◁4
16	AN3-7A	MS21061L-3		AN960C10L (AS REQUIRED)	NAS463X D10H	NAS43DD3-19	0.323 +.007 -.000 ◁5 0.201 +.006 -.000 ◁4
17	MS20426B3						0.159 +.013 -.000
18	AN3-11A	F1972-3-4		AN960C10L (AS REQUIRED)		NAS43DD3-12	0.323 +.007 -.000 ◁5 0.201 +.006 -.000 ◁4
19	MS20426B5						0.159 +.013 -.000
20	MS20426AD5	MS21048-3					0.159 +.013 -.000
21	AN3-6A	MS21048-3		32-83080-7		NAS43DD3◁11	0.323 +.007 -.000 ◁5 0.196 +.007 -.000 ◁6
22	AN3-6A	MS21048-3		32-83080-7		NAS43DD3◁13	0.323 +.007 -.000 ◁5 0.196 +.007 -.000 ◁6
23	AN3-6A	MS21048-3		32-83080-7		NAS43DD3-15	0.323 +.007 -.000 ◁1 ◁5 0.196 +.007 -.000 ◁6
24	AN3-7A	MS21042-3		AN960C10L (AS REQUIRED) 32-83080-7 4M36-01016		NAS43DD3-19	0.201 +.007 -.000 ◁1 ◁4 0.323 +.007 -.000 ◁5
25	AN3-6A	MS21048-3		32-83080-7		NAS43DD3◁11	0.323 +.007 -.000 ◁1 ◁5 0.196 +.007 -.000 ◁6

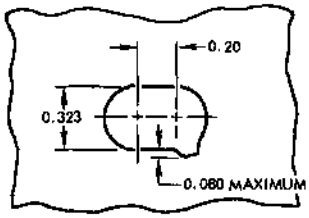
4C-3-1-2-(209-3)C

Figure 3-70. Refrigeration Turbine Exhaust (Sheet 3 of 3)



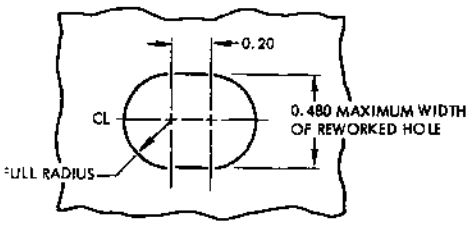
I. REPAIR PROCEDURES FOR CORROSION TO SLOTTED HOLES IN LOWER PORTION OF DUCT

A. CORROSION LESS THAN 0.080 FROM ORIGINAL HOLE SIZE.



B. REPAIRS.

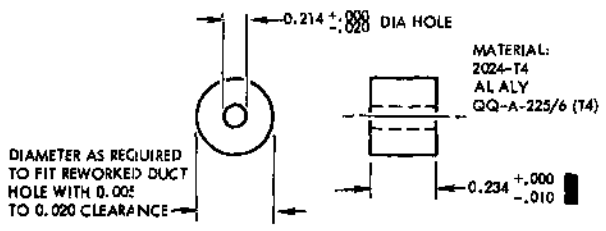
1. REMOVE CORROSION. HOLE MAY BE ENLARGED TO DIMENSIONS SHOWN BUT DO NOT REMOVE MORE NON-CORRODED MATERIAL THAN REQUIRED.



NOTE

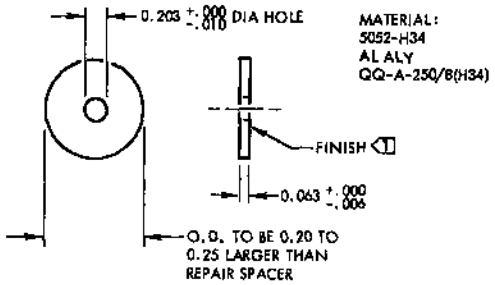
THE 0.20 AND CL OF ORIGINAL HOLES MUST REMAIN UNDAMAGED FOR THE REWORKED HOLES

C. REPAIR PARTS.



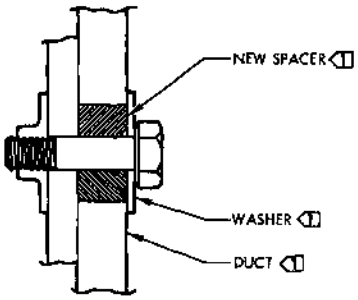
SPACER
SAME AS NAS43DD3-15 EXCEPT FOR LARGER OUTSIDE DIAMETER

2. REPAIR PARTS (CONTINUED)

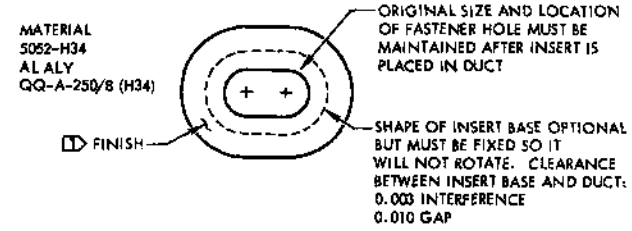


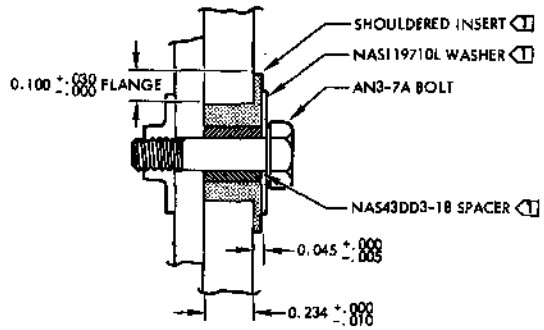
WASHER
SAME AS NAS1197 EXCEPT FOR LARGER OUTSIDE DIAMETER

C. REPAIR ASSEMBLY.



2. A SHOULDERED INSERT MAY BE USED TO REPAIR CORROSION DAMAGE FROM 0.080 TO 0.250 AS MEASURED FROM EDGE OF ORIGINAL FASTENER HOLE.





Note

(1) REFER TO TEXT FOR CORROSION CONTROL PROCEDURES.

4C-3-1-2-(110)A

Figure 3-71. Repair for Corrosion Adjacent to Fasteners on Refrigeration Turbine Exhaust

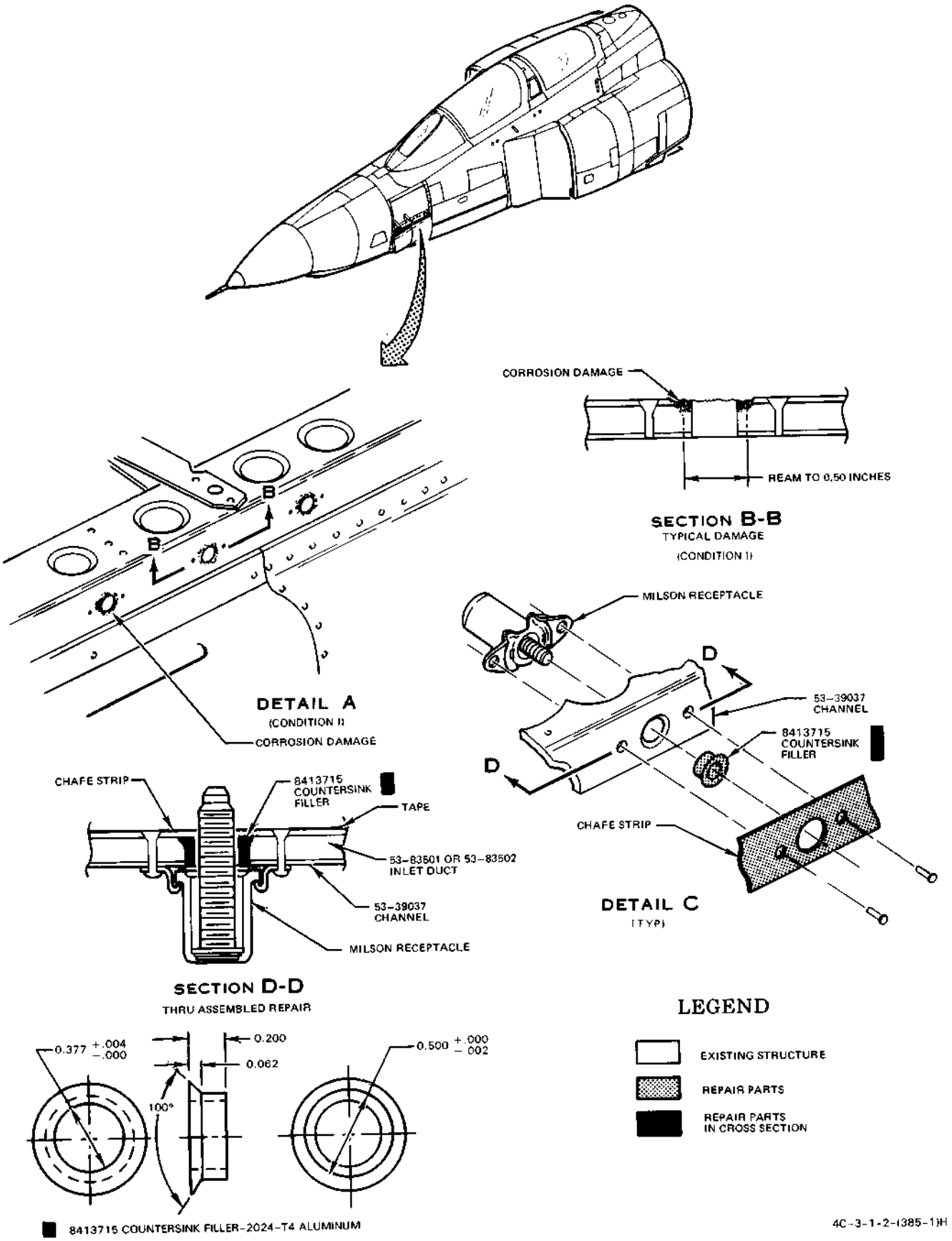
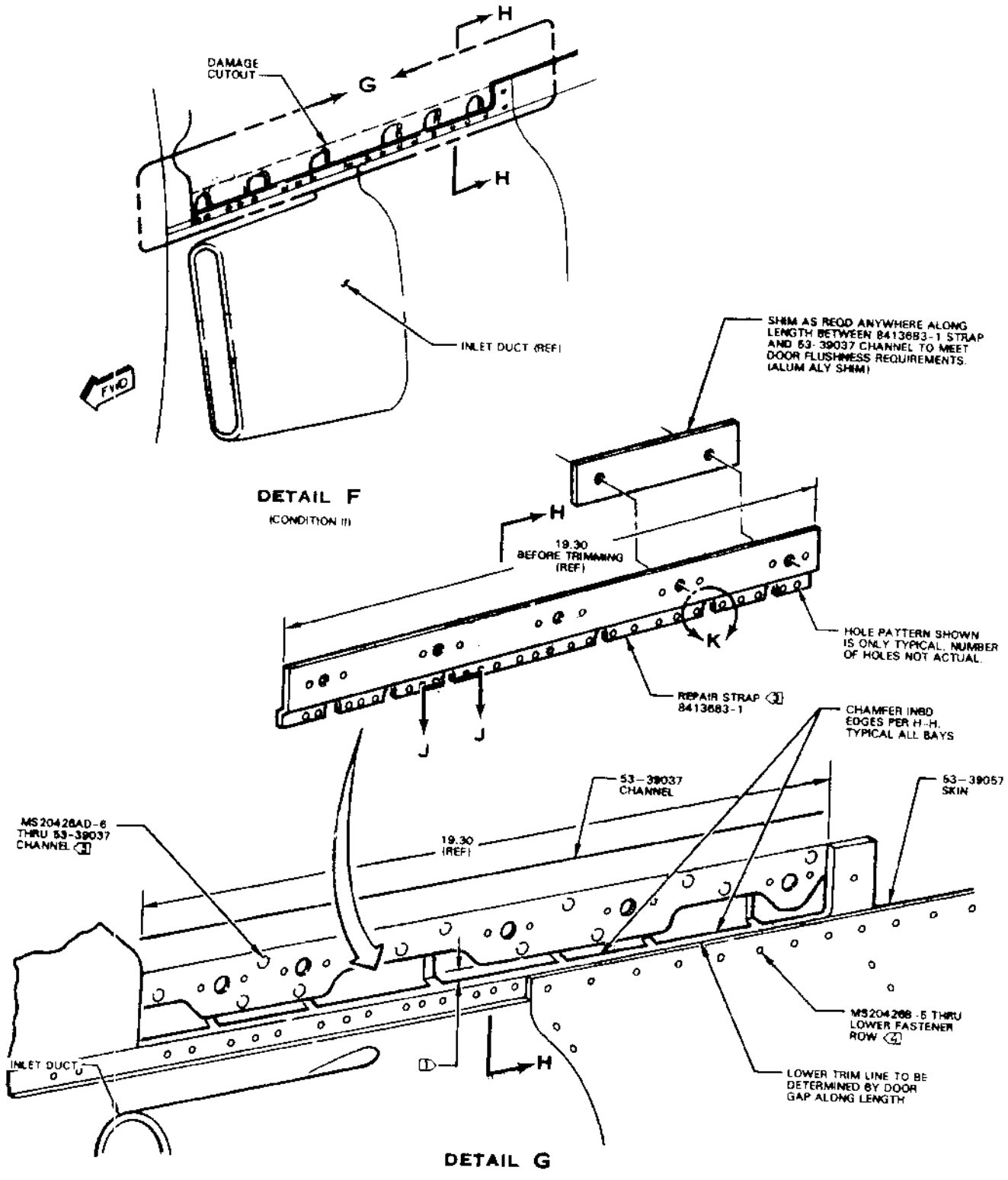
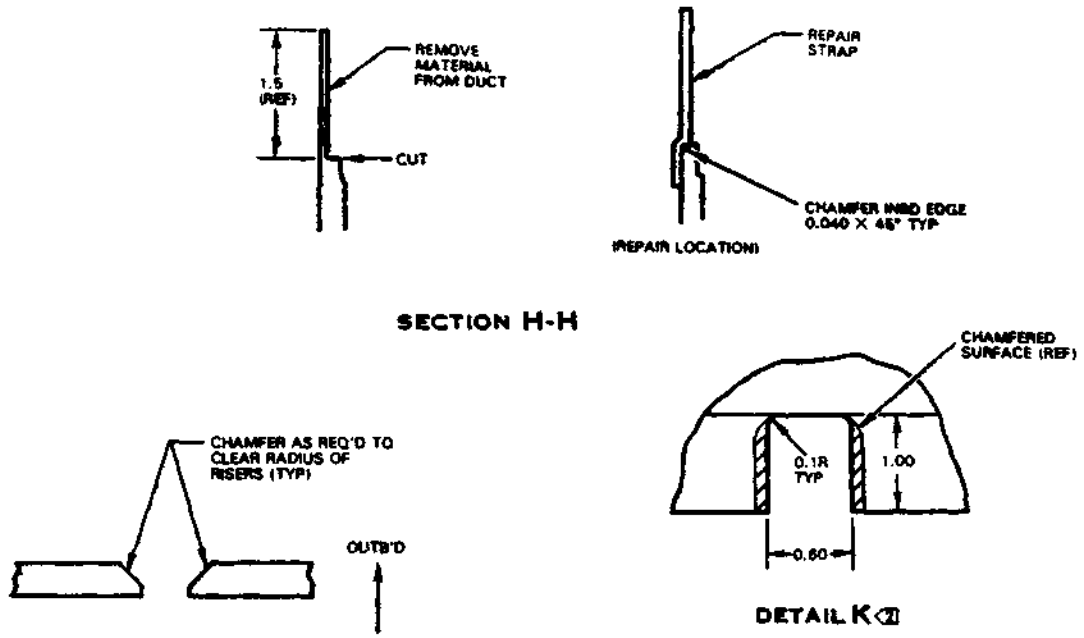


Figure 3-71A. Refrigeration Inlet Duct Repair (Sheet 1 of 3)



G9104104

Figure 3-71A. Refrigeration Inlet Duct Repair (Sheet 2 of 3)



REPAIR PROCEDURE

CONDITION I DEALS WITH REPAIR OF MINOR CORROSION AROUND MILSON FASTENER HOLES.

CONDITION II DEALS WITH REPAIR OF DAMAGE THAT EXCEEDS THAT WHICH CAN BE REPAIRED UNDER CONDITION I.

CONDITION I

1. REMOVE SEALER AND CORROSION FROM FLANGE AND DO FLUORESCENT PENETRANT INSPECTION PER TO 1F-4C-38. SEE DETAIL A.
   A. IF CORROSION IS PRESENT, REMOVE AND TREAT CORROSION PER TO 1F-4C-3-1-6. IF MATERIAL REMOVED IS LESS THAN 0.025 DEEP, NO REPAIR IS REQUIRED.
   B. IF CORROSION IS AROUND MILSON FASTENER HOLES, REPAIR PER STEP 2 THRU STEP 10.
   C. IF CORROSION IS GREATER THAN 0.025 OR CANNOT BE REPAIRED PER STEP 2 THRU STEP 10, REPAIR PER CONDITION II.
2. REAM DAMAGED HOLES TO 0.050 INCHES. SEE SECTION B-B.
3. COUNTERSINK HOLES TO A MAXIMUM DEPTH OF 0.0625. SEE DETAIL C.
4. DELETED.
5. CORROSION TREAT MAGNESIUM PER T.O. 1-1-691.
6. BOND COUNTERSINK FILLERS TO STRUCTURE USING MIL-S-81733.
7. MANUFACTURE CHAFE STRIP USING 0.010-0.020 CORROSION RESISTANT STEEL. SEE DETAIL C.
8. APPLY MIL-S-81733 1/2 TO THE CHAFE STRIP AND SECURE TO STRUCTURE USING MILSON RECEPTACLE FASTENERS.
9. MATCH DRILL FASTENER HOLES.
10. FINISH REWORKED AREA PER CORROSION CONTROL PROCEDURES AS OUTLINED IN T.O. 1F-4C-3-1-6.

CONDITION II

1. REMOVE FASTENERS FROM 53-39037 CHANNEL AND UPPER FLANGE OF INLET DUCT.
2. REMOVE FILLER.
3. CUT OUT DAMAGED SECTION OF FLANGE PER DETAIL F.
4. CUT LOWER EDGE OF CHANNEL 53-39037 PER (1).
5. MATCH-DRILL REPAIR STRAPS, P/N 8413683-1 TO EXISTING HOLES OR IF STRAP IS NOT AVAILABLE, THEN FABRICATE (SEE SECTION J-J). REPAIR STRAP IS TO FIT BEHIND INLET DUCT FLANGE (SEE SECTION H-H, REPAIR LOCATION).
6. CORROSION TREAT PER T.O.1F-4C-3-1-6.
7. DELETED.
8. APPLY MIL-S-81733 1/2 TO MATING SURFACES AND ASSEMBLE WHILE SEALANT IS WET. INSTALL REPAIR STRAP AND FILLER WITH MS20426 RIVETS (SEE DETAIL G).
10. INSTALL NEW MILSON RECEPTACLES, 1970-6.

Notes

(1) GAP TO BE 0.150 + 0.050, - 0.000.

(2) CUT SLOTS IN LOCATIONS AS REQUIRED TO CLEAR STIFFENERS.

(3) CLEAN SEALANT FROM BACKSIDE OF UPPER EDGE OF INLET DUCT TO ALLOW FIT OF REPAIR STRAP.

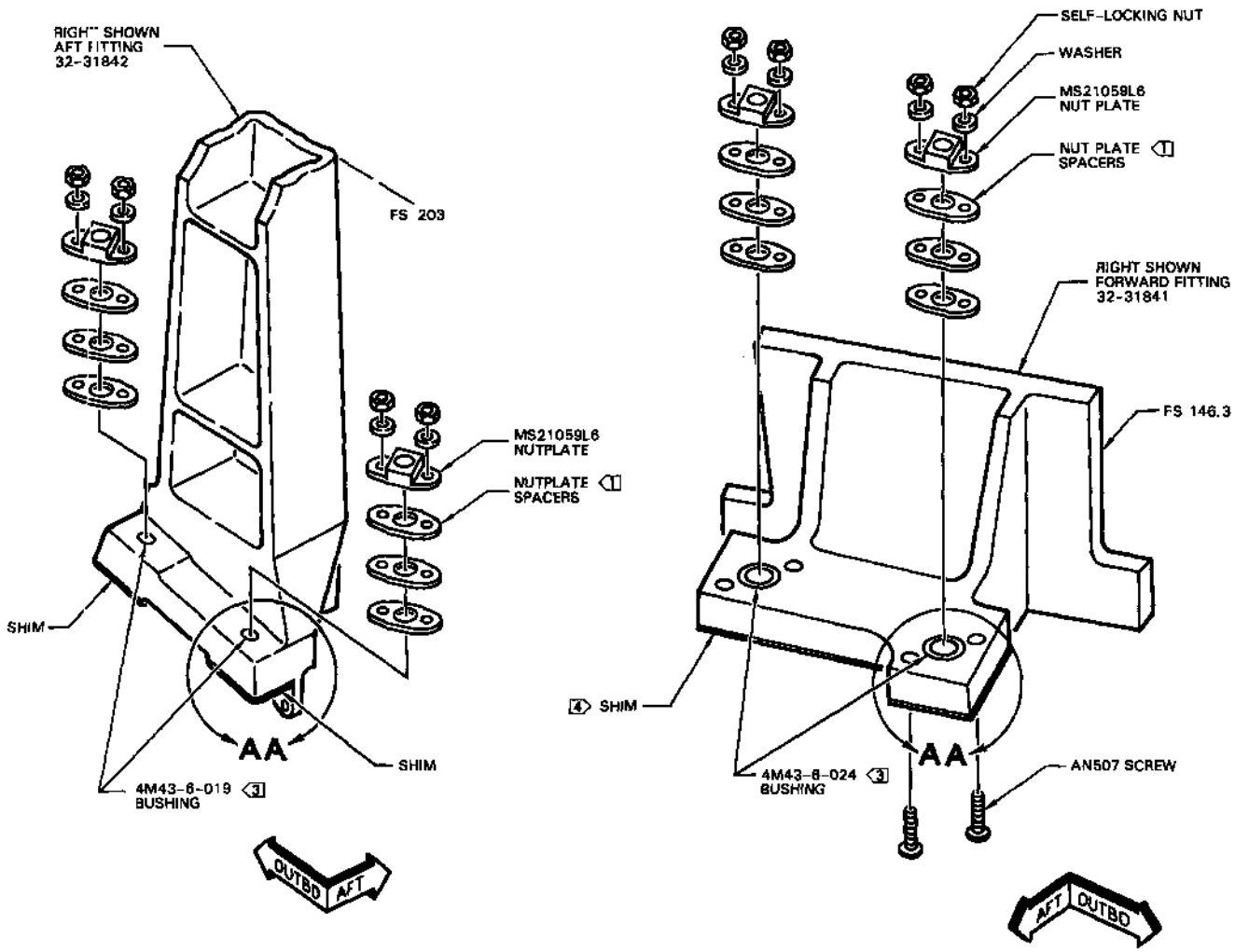
(4) ONE FASTENER LOCATION PER BAY AREA (BETWEEN RISERS) MAY BE OMITTED FROM 8413683-1 STRAP WHEN MIN. EDGE DISTANCE CANNOT BE MET.

(5) RELOCATE FASTENER HOLES IN 53-39037 CHANNEL THAT CANNOT MEET MIN. EDGE DISTANCE AFTER TRIMMING. ONE FASTENER LOCATION MAY BE OMITTED PROVIDED IT IS NOT AN END FASTENER.

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Figure 3-71A. Refrigeration Inlet Duct Repair (Sheet 3 of 3)

Page 3-182C and 3-182D and figures 3-71B and 3-71C are deleted in their entirety.



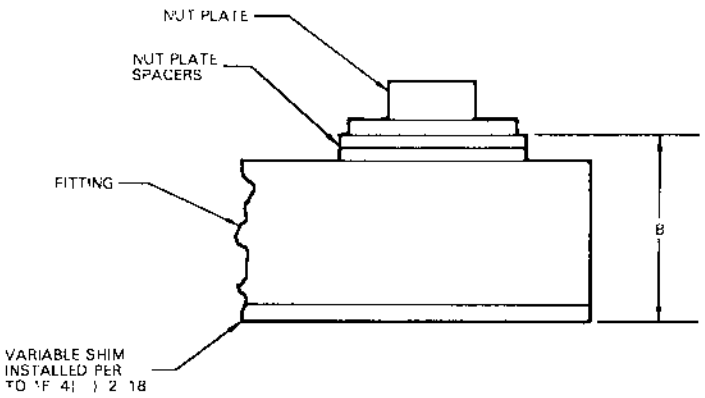
SPACER SIZES	
SPACER PART NO.	THICKNESS
NAS463XDD616L	0.016
NAS463XDD616M	0.032
NAS463XDD616	0.062
NAS463XDD616H	0.090

Notes

1. USE A COMBINATION OF NAS463XDD616( ) SPACERS TO OBTAIN DIMENSION B SHOWN IN DETAIL A–A. THE CORRECT DIMENSION MUST BE OBTAINED AT ALL HOLES.
2. INSTALL NUT PLATES, SHIMS, AND NUT PLATE SPACERS WITH AN507 SCREWS, WASHER, AND SELF-LOCKING NUT.
3. BUSHINGS MUST BE FLUSH +0.000/–0.010 TO LOWER SURFACE.
4. SOME F-4C AIRCRAFT MAY HAVE A 0.300 SPACER RIVETED TO THE LOWER SURFACE OF THE FORWARD FITTING. THIS SPACER IS IN ADDITION TO SHIM STOCK. THIS SPACER MUST BE REINSTALLED.

4C-3-1-2-(453-1)

Figure 3-71D. Forward Missile Launcher Fitting (Station 4 and 6) Attaching Hardware (FS 146.3 and 203) (Sheet 1 of 2)



DETAIL A-A

PART NO.	INBOARD HOLE		OUTBOARD HOLE	
32-31841 (FWD)	1.160MAX	1.090 MIN	1.250 MAX	1.180 MIN
32 31842 (AFT)	1.000MAX	0.938 MIN	1.090 MAX	1.028 MIN

NOTE

DIMENSION B

TO OBTAIN DIMENSION B, INDIVIDUALLY MEASURE THICKNESS OF SHIM, FITTING, AND NUT PLATE SPACERS WITH A ZERO TO ONE INCH MICROMETER. IF THE TOTAL THICKNESS OF THESE COMPONENTS IS WITHIN TOLERANCE FOR DIMENSION B, ASSEMBLE WITH NEW NUT PLATE. IF THE SUM FALLS OUTSIDE OF TOLERANCE, ADD OR REMOVE NUT PLATE SPACERS AS REQUIRED UNTIL IT FALLS INTO TOLERANCE AND THEN ASSEMBLE WITH NEW NUT PLATE.

4C-3-1 2 (453 2)

Figure 3-71D. Forward Missile Launcher Fitting (Station 4 and 6) Attaching Hardware (FS 146.3 and 203) (Sheet 2 of 2)

3-122. INSULATION.

3-123. Various compartments of the forward fuselage are insulated against temperature changes and extremes and/or aerodynamic vibration. Different materials and cements are used according to the function of the insulation and the compartment. Both cockpits on F-4 and RF-4 are insulated with blankets cemented to the skin, frames and bulkheads at CFS 77.00 and FS 203.00. The cockpit floors are also insulated by blankets, except areas where scuffing is likely. The forward center portion of the cockpit floors are covered with insulation boards. The RF-4 camera compartment is insulated with neoprene coated glass fabric blankets one and two inches thick. A similar blanket is used on the radar mapping compartment FS 146.3 to FS 164.5 left side. Hi-temperature insulation is required in the lower left equipment compartment CFS 134.50 thru FS 146.3. When making structural repairs in these areas, replace damaged insulation and insulation removed to gain access to damaged area.

3-124. COCKPIT INSULATION BLANKETS. The insulation blankets are Flight Insulation 56505 blanket material, Flight Insulation, Inc., vendor number 23788. The 56505 blanket consists of number 300, fiberglass batt (superfine P.F. insulation code A-81) covered with number 3615 gray vinyl and backed with fireproof cotton muslin. The blankets are stitched with four or five ply, hard finish, gray cotton thread, five or six stitches per inch. Seams should be cemented in place with adhesive, Specification MMM-A-1617, Type III, Minnesota Mining and Manufacturing Co., vendor number 04633. Temporary repairs may be made using blanket material bound with fiberglass tape and cemented in place. Fiberglass tape may also be used to splice or repair the surface material. Touch up with gray Coro Gard to match the surrounding cockpit. Effective immediately, the blankets will be made of insulation material, MMS-582, Type II. This material consists of silicone coated fiberglass batt sandwiched between two layers of fiberglass cloth impregnated with silicone rubber. The blankets are cemented in place with adhesive, Specification MMM-A-1617 or equivalent. Repair is a remove or replacement process.

WARNING

Epoxy cements and sealants/adhesives contain toxic chemicals. Avoid prolonged or repeated skin contact. Wear a NOISH approved organic vapor respirator when using these materials in cockpits and other confined spaces.

3-125. INSULATION BOARDS. The insulation board assemblies are made of 1/2-inch thick polystyrene foam, HH-I-524, Type II or Type III (preferred). A 3/64-inch phenolic sheet, Specification MIL-P-15035, Type FBG is cemented to the foam board using epoxy, Specification MMM-A-134, Type I. The insulation boards are cemented to the cockpit floors with epoxy, Specification MMM-A-134, or sealant, Specification MIL-S-81733.

NOTE

Insulation blanket installed in side looking radar bays may be permanently removed. After removal, corrosion shall be treated and area covered with primer per T.O. 1F-4C-3-1-6.

3-126. INSULATION BLANKETS, NOSE CAMERA COMPARTMENT AND SIDE LOOKING RADAR BAYS, RF-4. Insulation blankets in the nose camera compartment are cut and formed to fit between structural sections of the compartment. Blankets are 56505 layered to one to two inches thick. Each layer is approximately 0.25. This area is susceptible to corrosion and must be treated for corrosion control per T.O. 1F-4C-3-1-6.

NOTE

Insulation blankets removed from camera bay need not be replaced; however, proper corrosion control procedures must be followed in area where blankets were removed.

NOTE

63201 is substitute for 56505 and EC-847 is substitute for Specification MMM-A-1617.

a. Cement layers of K-335 or K-311 together, using adhesive, Specification MMM-A-1617, Type III, to form pads of approximately 1.25 thickness of desired shape. Several six to eight inch widths are required.

b. Wrap cheesecloth, CCC-C-440, over top, bottom, and edges of pad. Use Specification MMM-A-1617, Type III to hold cheesecloth in place while wrapping.

c. Brush entire pad with Specification MMM-A-1617, Type III.

d. Paint entire pad using dull black, Federal Specification TT-E-527, color number 37038.

e. If finished pad requires cutting to fit, recoat cut edges with Specification MMM-A-1617 and repaint edges.

f. Cement blankets to structure using Specification MMM-A-1617, Type III.

3-127. Deleted

3-128. Deleted

ENGINE AIR DUCTS

3-129. **DESCRIPTION.** See figure 3-72.

3-130. The forward engine air ducts are outboard and forward on the aft cockpit. They are fastened to the main forward fuselage structure by manufacturing type splices. It is not practical to remove and replace the air ducts at organizational/field maintenance. The ducts have inner and outer chemically machined aluminum alloy skins stiffened by aluminum alloy stringers and frames. A variable ramp which controls airflow into the duct projects forward of the main air duct structure.

3-131. **SKIN PANELS.**

3-132. The fixed skin panels on the engine air duct are divided into two groups. The outer skin panels form the mold line of the aft section of the forward fuselage. The inner skin panels form a passage for air to the engine. Repairs to each group are peculiar to that group.

3-133. **OUTER SKIN PANELS.** See figure 3-72. The outer skin panels are mainly 2024 aluminum alloy with most of the skins chemically machined to provide a thin center area while leaving thicker areas in vicinity of fasteners.

3-134. Negligible Damage and Corrosion Removal Limits. Nicks, gouges or scratches on the skin panels should be blended to the skin surface. For rework procedure, refer to T.O. 1F-4C-3-1-5. The allowable depth of damaged area after blending is as follows: Skins 0.040 or thicker may be blended to a maximum depth of 0.010. Skins under 0.040 may be blended to maximum depth of 0.005. After blending, clean, treat, and refinish the surface according to T.O. 1F-4C-3-1-6. Dents that do not exceed 0.060 in depth are negligible provided the radius of the dent is greater than two inches, the dent does not create an oilcan tendency, and the dent does not interfere with any internal tubing or mechanisms. Refer to T.O. 1F-4C-3-1-5 for repair of oilcan damage. A nick or gouge in the edge of a panel which can be blended and not reduce fastener edge distance to less than one and one half fastener diameter is negligible. A nick or small gouge which can be removed by drilling a hole larger than the area of damage and installing a rivet is negligible. If cracked or chipped paint exists around a rivet head, the paint should be removed and rivet measured for tilt according to the procedure in T.O. 1F-4C-3-1-5. Allowable limits of rivet tilt and replacement requirements are as follows:

a. Rivets tilted less than four percent of rivet shank diameter need not be replaced.

b. For rivets tilted between four to eight percent of rivet shank diameter, the following requirements apply:

(1) When less than 5 percent of rivets in a row or pattern are tilted, none of the rivets need replacing.

(2) When 5 to 20 percent of rivets in a row or pattern are tilted, only those rivets which are tilted need to be replaced.

NOTE

If access for bucking rivets is not available, NAS1399 monel rivets may be used provided less than 10 percent of the rivets are tilted.

(3) If over 20 percent of rivets in a row or pattern are tilted, the entire row or pattern should be replaced.

c. For rivets tilted more than eight percent of rivet shank diameter, the following requirements apply:

(1) When less than 10 percent of rivets in a row or pattern are tilted only those rivets which are tilted need to be replaced.

NOTE

If access for bucking rivets is not available, NAS1399 monel rivets may be used.

(2) When more than 10 percent of rivets in a row or pattern are tilted, entire row or pattern should be replaced.

Refinish areas of bare metal resulting from negligible damage according to procedure in T.O. 1F-4C-3-1-6. Corrosion shall be removed regardless of depth. If corrosion removal exceeds negligible damage limits, area shall be repaired by patching. For corrosion removal procedures, refer to T.O. 1F-4C-3-1-6.

CAUTION

Every effort must be made to remove chips, rivets, shavings, and other debris which could cause engine foreign object damage when replacing skin, 32-30016-3 and -4. If unable to remove all debris, remove the two forward louvered screen assemblies and be sure crevices and holes around this structural member and stringers are sealed. If not sealed, seal with sealant as required in T.O. 1F-4C-3-1-6 prior to reinstalling louvers. The opening under and up the aft side of variable ramp will be taped to prevent debris from entering this access. When performing maintenance inside air inlet, personnel will be sure that all loose objects are removed from pockets before entering air inlet.

NOTE

Disregard all internal FOD created by removal of fasteners in area of FS 203.00 to FS 245.06 on inboard side of intake ducts in 12 to 3 o'clock position. This FOD is completely enclosed and cannot migrate.

3-135. Patch Repair. Refer to T.O. 1F-4C-3-1-5. Skin damage which exceeds negligible damage, but is small enough not to require replacement of the skin panel, may be repaired by patching. A lap patch may be used provided damage may be cut out without removing any of the thicker material in the vicinity of the fasteners. The following procedure may be used for a lap repair.

3-136. Tools and Equipment.

Motor, drill, pneumatic
Bit, drill, number 20
Reamer, 0.165 diameter
Bit, router, number 2 (nominal)
File, rotary, 1/2-inch (nominal)
Countersink, 100°
Tool, installation, Jo-Bolt
Shaver, rivet, pneumatic

3-137. Materials.

Sheet stock, 0.071, 2024-T3 alclad, QQ-A-250/5 (T3)
Jo-Bolt, NAS1674-08L
Materials, corrosion control and sealing, refer to TO 1F-4C-3-1-6

3-138. Procedure.

a. Cut out damaged area. Do not extend cut into thicker area in vicinity of fasteners. If a rectangular cutout is required, a minimum corner radius of 1/2-inch shall be used.

b. Inspect as much of the interior structure as possible for corrosion or damage to substructure and repair according to applicable procedure.

c. Polish edges of cutout to a smooth finish.

d. Cut patch from 0.071 2024-T3 alclad.

e. Drill out existing fasteners in substructure adjacent to damage. Fill existing countersunk holes in skin with a rivet head. Refer to TO 1F-4C-3-1-5.

f. Lay out and pilot drill fastener pattern in patch and existing skin.

g. Bevel edges of patch 45°.

h. Drill, countersink, and ream holes to size for NAS1674-08L Jo-Bolts.

i. Clean, treat, and prime repair parts and repair areas according to TO 1F-4C-3-1-6.

CAUTION

When repairs are made in the engine air ducts between CFS 167.50 and CFS 192.80, the lower louver assemblies will be removed and openings such as joggles, fillets, etc. outboard of louver cavity (BL 37.70) and between the inner and outer skins will be sealed against foreign objects per TO 1F-4C-3-1-6.

j. Refer to TO 1F-4C-3-1-6 for areas that require sealing and procedure for application.

k. Jo-Bolts and other permanent type fasteners shall be sealed with wet primer or sealer at time of installation. Refer to TO 1F-4C-3-1-6 for method of application and materials. Shave Jo-Bolt heads.

l. Remove zinc chromate primer and sealer from outside surface and refinish to match surrounding area using materials and procedure outlined in TO 1F-4C-3-1-6.

3-139. **Insertion Repair.** Repairs should not be made to the outer skin.

3-140. **Replacement.** Outer skin should be replaced at depot maintenance except, 32-30016-13, -14 skins. For replacement of 32-30016-13, -14 skin, see figure 3-74A.

3-140A. **Splitter Vane Dent Repair.** Dents which exceed maximum damage but are small enough not to require replacment of skin, may be repaired by the procedure on figure 3-72A.

3-141. Splitter Vane Leading Edge Repair. See figure 3-73.

3-141A. Nutplates In Vari-Ramp Area. Nutplates in vari-ramp area do not have to meet the locking action test specified in TO 1F-4C-3-1-1, as long as the fasteners installed in them are properly safety wired. All fasteners must meet the minimum torque requirements of TO 1F-4C-2-36 before being safety wired.

3-141B. B100T Rivets in Vari-Ramp Area. When permanent type fasteners in the vari-ramp area require replacement and access is not available to install original fastener, Huck B100T blind fasteners may be installed.

3-142. Trimming the Fixed Ramp Skin. See figure 3-74. The fixed ramp skin, 32-30017-85, -86, of the engine air duct is forward of 32-30042-303, -304 louver assembly. When necessary, aft edge of the ramp skin should be trimmed if clearance between it and leading edge of the forward outboard missile fin is less than 0.10. The following procedure may be used.

3-143. Tools and Equipment.

Motor, drill pneumatic
File, rotary 1/4-inch diameter

3-144. Procedure.

a. Grind lower portion of ramp skin aft end using pneumatic motor and rotary file until proper missile fin clearance is attained. If, after grinding, the rivet edge distance is too small, less than 0.235, stagger a row of 1/8-inch monel or Hi-Shear rivets behind the edge row. Refinish the area according to TO 1F-4C-3-1-6.

3-145. INNER SKIN PANELS. See figure 3-75. The forward engine air duct skin panels are formed 2024 aluminum alloy sheet; the aft air duct skin panels are 2024 aluminum alloy sheet. All of the skin panels have been chemically machined to provide a thin area in the center of the panel and a thicker area in the vicinity of fasteners.

3-146. Negligible Damage and Corrosion Removal Limits. All nicks, cuts, and scratches on the inner skin panels should be blended to the skin surface. The allowable depth of damaged area after blending is 0.010. Refer to TO 1F-4C-3-1-5 for rework procedure. After blending, clean, treat, and refinish the surface according to TO 1F-4C-3-1-6. Dents that do not exceed 0.060 in depth are negligible provided the radius of the dent is greater than 2 inches, dent does not create an oil-can

tendency, and dent does not interfere with any internal tubing or mechanism. Refer to TO 1F-4C-3-1-5 for repair of oil-can damage. A nick or gouge in the edge of the panel which can be blended and not reduce the fastener edge distance to less than one and one half times fastener diameter is negligible.

3-147. Allowable Missing and/or Loose Fasteners. Inspect installed Hi-Shear rivets for looseness by rotating a pencil eraser on the rivet head. All rivets which will rotate with the eraser will be considered loose. Loose fasteners will only be accepted if no more than one in every four fasteners is shown to be loose with the additional provision that no two adjacent fasteners may be loose. If two adjacent fasteners are loose, replacement of one is required.

a. No more than 10 percent of rivets in any row may be loose. Corner rivets and rivets next to corner must be installed. The third and fourth rivets in each row may be missing and up to 5 percent of the remaining rivets, not larger than 3/16 diameter in each row may be missing, providing five rivets on each side of missing rivets are installed and tight. Holes larger than 3/16 diameter will not be left open and will be filled with the original type fastener, 4B100T6, B100T8 or 4B100T8. For access for installation of some of these fasteners, see paragraph 3-148. Minimum edge distance of 0.375 must be maintained. This edge distance is required on both skin and back up structure. Remove sharp edge of knife edge countersunk holes. A minimum of 0.015 flat is required.

b. Check for loose threaded fasteners by rotating a pencil eraser or finger on threaded fastener head. If loose threaded fasteners are found, replace fasteners. Use original type fasteners, 4B100T6, 4B100T8 or B100T8.

c. If threaded fasteners are found, contact OO-ALC/LACE.

3-148. Repair Consideration. The inner duct skins are not readily accessible for repairs, skin replacement, or fastener replacement. Access to outboard inner skin is gained by cutting or removing outer fuselage skins. Refer to paragraph 3-149 for repairs. Access to inboard skins is gained through hydraulic area, by removing fuel cell and fuel compartment liner. If access to inner skins require cutting outer fuselage skins, entry through fuel compartment liner, or otherwise requires excessive expenditure of man hours, blind fasteners may be substituted, but must be installed as follows:

a. 1/8-inch NAS1055 Hi-Shear rivets can be replaced with 5/32-inch Huck B100T blind rivets provided the rivet head is countersunk flush with the skin and there is not a knife edge on the skin at the bottom of the countersink. All other replacements shall be made with equivalent sized rivets.

b. Hi-Shear HS-23, 7075-T6 aluminum rivets can be replaced in order of preference with Cherry Max, CR 3522P, NAS 1399C(A286), or B100T Huck Blind rivets.

c. The use of threaded fasteners, regardless of cotter pin installation, is not authorized. If threaded fasteners are found, contact OO-ALC/LACE.

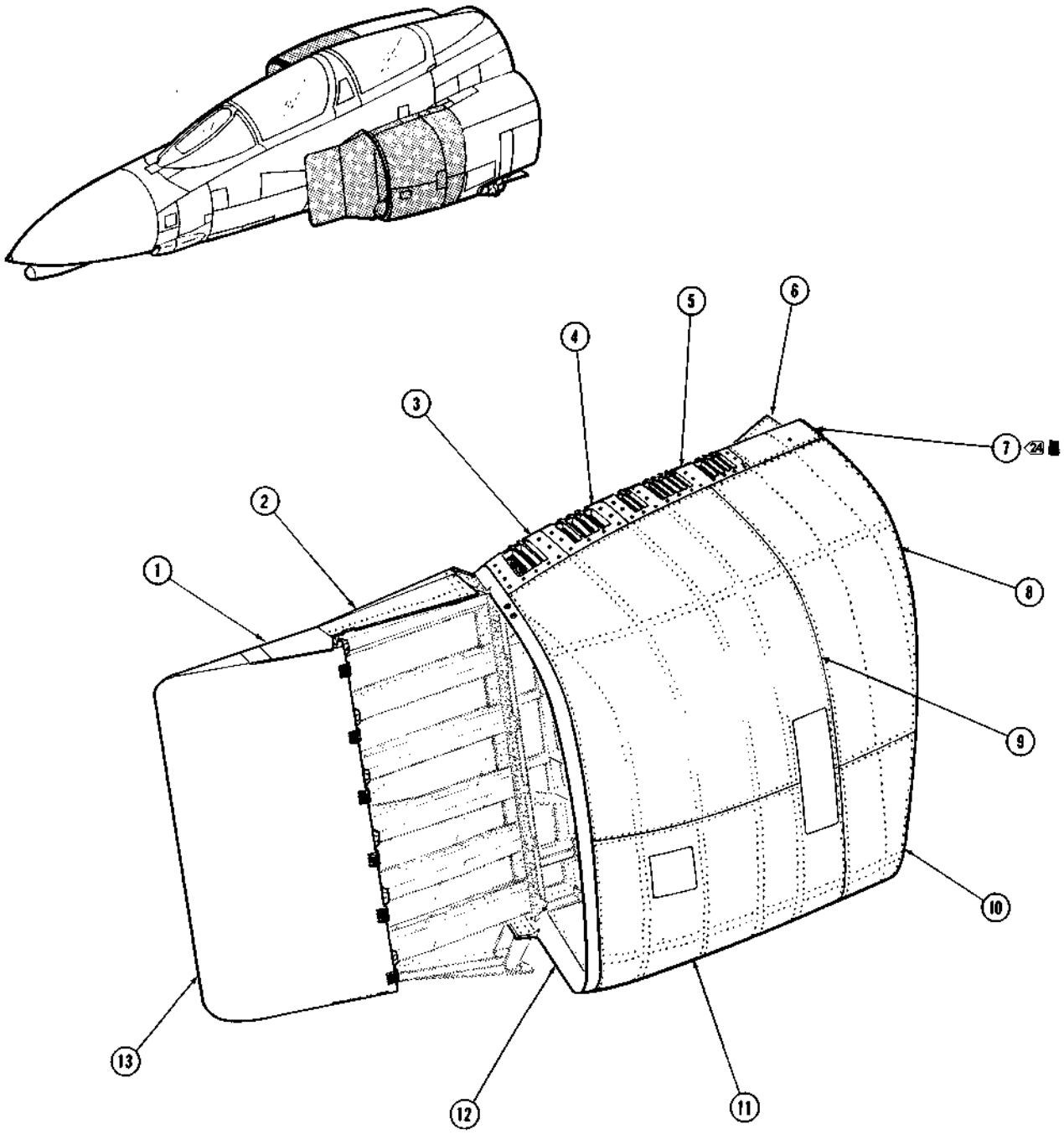
3-149. Repairs. Skin damage which exceeds negligible damage but is small enough not to require replacement of the skin panel may be repaired by flush insertion or flush patch per TO 1F-4C-3-1-5.

3-150 thru 3-153. Deleted.

3-154. Replacement. It is not practical to replace the forward engine air duct inner skins at organizational/field maintenance because of extensive disassembly required and the equipment needed for making replacement skins, except for 32-30015-11, -12, and 32-31006-23, -24 skins. For replacement of 32-30015-11, -12 skin, see figure 3-75A. For replacement of 32-31006-23, -24 skin, see figure 3-75B.

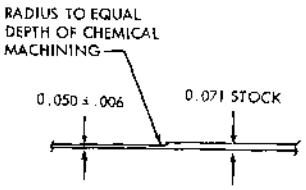
3-155 thru 3-158. Deleted.

"All data on page 3-187 deleted."

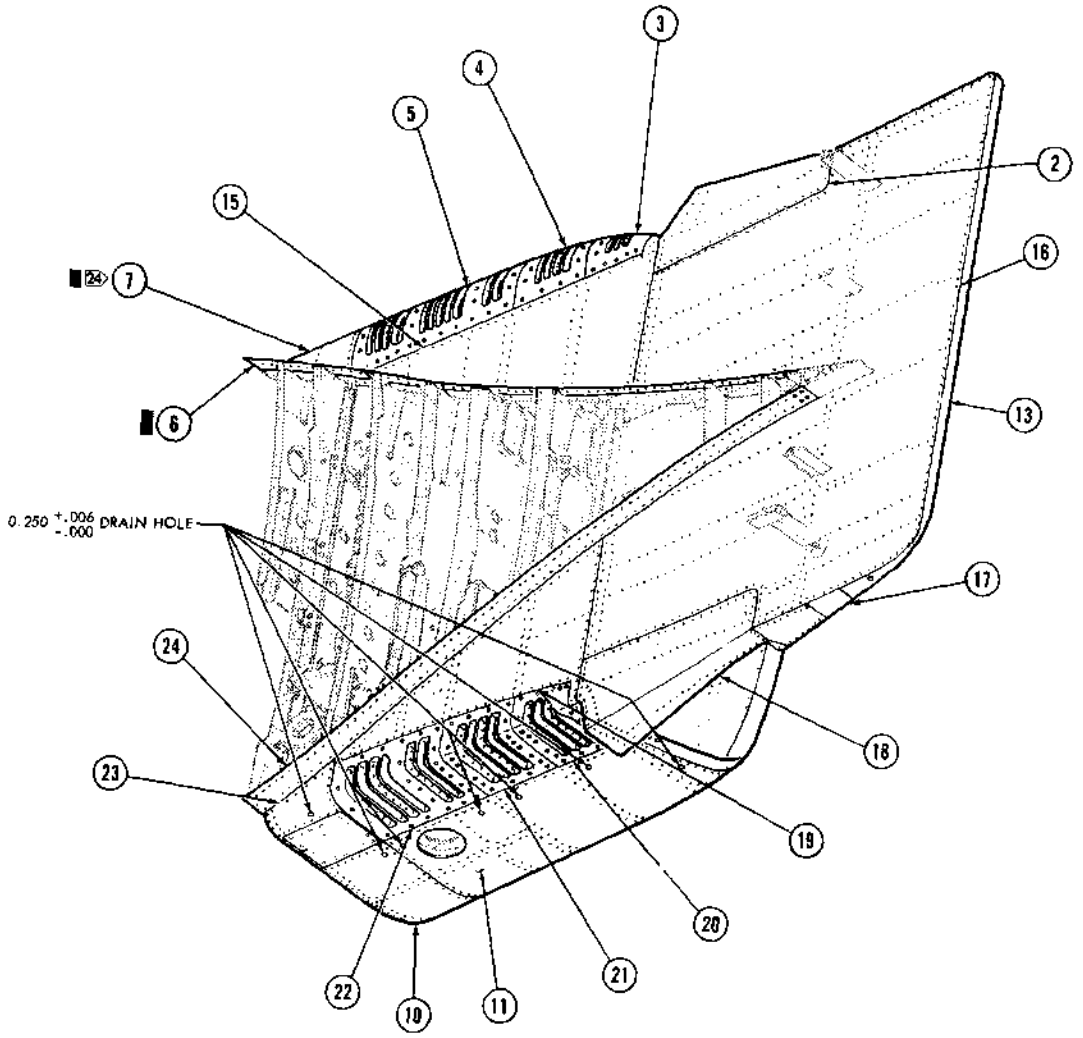


4C-3-1-2-(205-1)B

Figure 3-72. Forward Fuselage Air Duct Outer Skin Index (Sheet 1 of 3)



TYPICAL CHEMICALLY MACHINED SKIN ◇2
CROSS SECTION



4C-3-1-2-(205-2)B

Figure 3-72. Forward Fuselage Air Duct Outer Skin Index (Sheet 2 of 3)

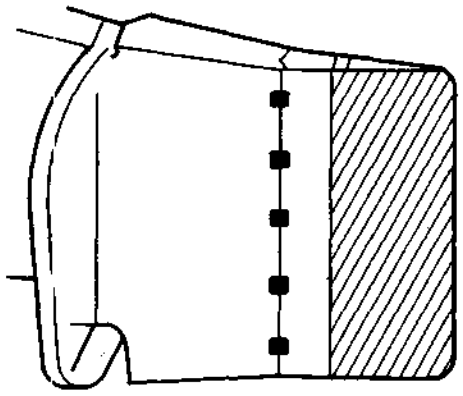
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 (21)	32-30017-47, -48	PLATE	0.071	2024-T81 ALCLAD	QQ-A-250/5 (T81)
(22)	32-311627-45, -46	CLOSURE	1M2568	2024-T351 AL ALY	QQ-A-200/3 (T351)
(23)	32-311627-61, -62	CLOSURE	1M2568	2024-T351 AL ALY	QQ-A-200/3 (T351)
2	32-30017-83, -84	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
3	32-30041-301, -302	LOUVER ASSY (3)	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
4	32-30041-303, -304	LOUVER ASSY (3)	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
5	32-30041-17, -18	LOUVER ASSY (3)	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
6 (6)	32-30001-9, -10	SKIN	0.050	2024-T81 ALCLAD	QQ-A-250/5 (T81)
(7)	32-30001-149, -150	SKIN	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
7	32-30016-13, -14 (24)	SKIN (2)	0.071	2024-T81 AL ALY	QQ-A-250/4 (T81)
8 (8)	32-30016-9, -10	SKIN (2)	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
(9)	32-30016-21, -22	SKIN (2)	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
9 (15)	32-30016-5, -6	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
(16)	32-30016-23, -24	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
10 (8)	32-30016-7, -8	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
(9)	32-30016-19, -20	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
11 (15)	32-30016-3, -4	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
(19)	32-30016-29, -4	SKIN	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
12 (4)	32-30226-3, -4	LIP		2014-T652 AL ALY	QQ-A-367 (T652)
(5)	32-30226-5, -6	LIP		2014-T652 AL ALY	QQ-A-367 (T652)
(17)	32-311633-3, -4	LIP		2014-T652 AL ALY	QQ-A-367 (T652)
13 (10)	32-30018-7, -8	BLADE		2014-T652 AL ALY	QQ-A-367 (T652)
(11)	32-30018-9, -10	BLADE		2014-T652 AL ALY	QQ-A-367 (T652)
(12)	32-30018-11, -12	BLADE		2014-T652 AL ALY	QQ-A-367 (T652)
(20)	32-311628-3, -4	BLADE		7050-T7351 AL ALY	MMS159 (T7351)
14	DELETED				
15	32-30016-17, -18	SKIN	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16 (21)	32-30017-113, -114	SKIN (2)	0.071	2024-T81 AL ALY	QQ-A-250/4 (T81)
	32-311630-3, -4	SKIN	0.071 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
17 (21)	32-30017-49, -50	PLATE	0.071	2024-T81 ALCLAD	QQ-A-250/5 (T81)
(20)	32-311627-47, -48	CLOSURE	1M2568	2024-T351 AL ALY	QQ-A-200/3 (T351)
18	32-30017-85, -86	SKIN (2)	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
19	32-30016-15, -16	SKIN (2)	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
20	32-30042-303, -304	LOUVER ASSY (3)	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
21	32-30042-301, -302	LOUVER ASSY (3)	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
22	32-30042-17, -18	LOUVER ASSY (3)	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
23	32-30016-11, -12	SKIN (2)	0.071	2024-T81 AL ALY	QQ-A-250/4 (T81)
24 (13)	32-30001-7, -8	SKIN	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)
(14)	32-30001-145, -146	SKIN	0.050	2024-T6 ALCLAD	QQ-A-250/5 (T6)

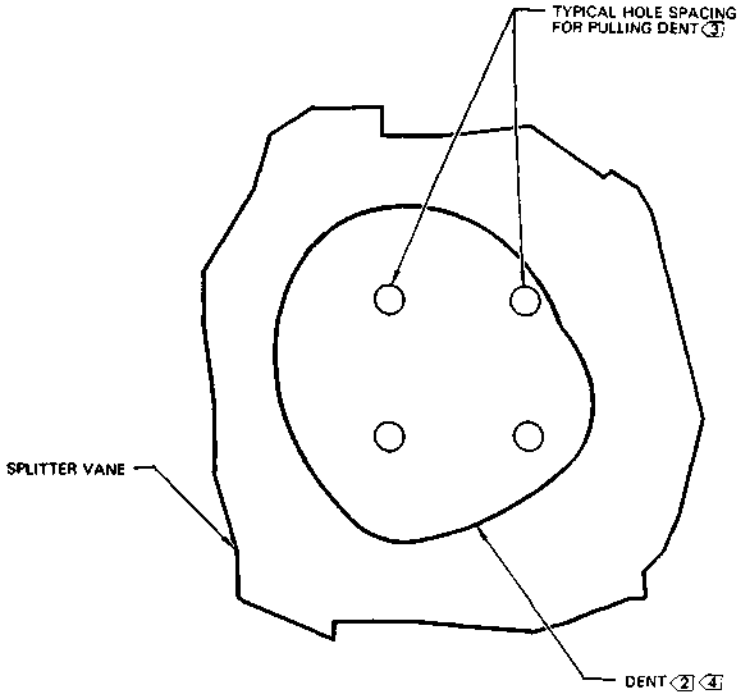
Notes

1. DRAWING NUMBER OF THIS ASSEMBLY IS 32-30001.
(2) THIS SKIN IS CHEMICALLY MILLED TO 0.052 FROM THE STOCK GAGE LISTED. THE LANDS REMAIN STOCK THICKNESS.
(3) THE SCREEN IS 8 MESH X 0.025 DIAMETER, 304 CRES. IT IS LACED TO THE CASTING WITH MS20995NC20 LOCKWIRE THRU 0.09 HOLES IN THE CASTING.
■ REFER TO TO 1F-4C-3-1-4 FOR REPAIR OF CRACKED OR BROKEN LOUVERS.
(6) F-4C 63-7407 THRU 63-7468 AND RF-4 63-7742.
(7) F-4C 63-7469 THRU 64-928, F-4D 64-929 THRU 66-8815, F-4E 66-284 THRU 67-208 AND RF-4 63-7743 THRU 67-435.
(8) F-4C 63-7407 THRU 63-7544 AND RF-4 63-7742 THRU 63-7743.
(9) F-4C 63-7545 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 63-7754 THRU 72-156.
(10) F-4C 63-7407 THRU 63-7662 AND RF-4 63-7742 THRU 64-1017.
(11) F-4C 63-7663 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 64-1018 THRU 72-156.
(12) F-4C 63-7407 THRU 63-7442.
(13) F-4C 63-7443 THRU 63-7673 AND RF-4 63-7742 THRU 64-1019.
(14) F-4C 63-7674 THRU 64-928, F-4D 64-929 THRU 66-7676, F-4E 66-284 THRU 66-286, AND RF-4 64-1020 THRU 66-432.
(15) F-4C, F-4D, F-4E, AND F-4G.
(16) RF-4.
(17) F-4C, F-4D 64-929 THRU 64-770, AND RF-4 63-7742 THRU 66-386 AND 66-388.
(18) F-4D 65-771 THRU 66-8825, F-4E, F-4G, AND RF-4 66-387 AND 66-389 THRU 72-156.
(19) F-4D 66-8816 THRU 66-8825, F-4E 67-209 AND UP, F-4G, AND RF-4 67-436 THRU 72-156.
(20) F-4C, F-4D 64-928 THRU 66-8799, F-4E 66-284 THRU 66-348, AND RF-4 63-7742 THRU 67-434.
(21) F-4D 66-8800 THRU 66-8825, F-4E 66-349 AND UP, F-4G, AND RF-4 67-435 THRU 72-156.
(22) F-4D 66-7677 THRU 66-8825, F-4E 66-287 AND UP, F-4G, AND RF-4 66-433 THRU 72-156.
(23) F-4C, F-4D 64-928 THRU 66-7676, F-4E 66-284 THRU 66-286, AND RF-4 63-7742 THRU 66-432.
(24) F-4D 66-7677 THRU 66-8825, F-4E 66-287 THRU 67-282, AND RF-4 66-432 THRU 67-453.
(25) F-4E 67-283 AND UP, F-4G, AND RF-4 67-454 THRU 72-156.
(24) FOR REPLACEMENT, SEE FIGURE 3-74A.

4C-3-1-2-(205-3)E

Figure 3-72. Forward Fuselage Air Duct Outer Skin Index (Sheet 3 of 3)





REGION WHERE REPAIR IS APPLICABLE

REPAIR PROCEDURE

A. USE NUMBER 40 DRILL TO DRILL SUFFICIENT NUMBER OF HOLES FOR PULLING DENT. MAINTAIN RIVET SPACING.
B. FOR EACH HOLE USE A DENT PULLER WITH A SLIDE HAMMER ACTION. THE DENT MUST CONFORM TO CONTOUR SMOOTHNESS REQUIREMENTS AFTER REMOVING DENT. REFER TO TEXT. IF REQUIREMENTS ARE NOT MET. REPLACE THE SPLITTER VANE. CHECK REPAIR FOR OIL-CANNING. REFER TO TO 1F-4C-3-1-6 FOR LIMITATIONS.

CAUTION

CARE MUST BE TAKEN NOT TO CRACK OR VOLCANO HOLES.

C. NDI OUTBOARD SIDE OF SPLITTER VANE USING DYE PENETRANT INSPECTION PROCEDURES. REFER TO TO 33B-1-1. IF PART IS CRACKED - REPLACE THE PART. X-RAY SPLITTER VANE TO ASSESS INTERNAL DAMAGE. IF PART IS CRACKED - REPLACE THE PART.
D. REAM HOLES TO 1/8' DIAMETER INSPECT HOLES FOR COMPLETE REMOVAL OF DENT PULLER SCREW THREADS.

WARNING

MIL-S-81733 IS FLAMMABLE AND TOXIC TO EYES, SKIN, AND RESPIRATORY TRACT. SKIN/EYE PROTECTION REQUIRED. AVOID REPEATED/PROLONGED CONTACT. USE ONLY IN WELL VENTILATED AREAS. KEEP AWAY FROM OPEN FLAMES OR OTHER SOURCES OF IGNITION.

E. COUNTERSINK HOLES FOR FLUSH HEAD CHERRY MAX FASTENERS, CR3522. COAT FASTENERS WITH MIL-S-81733 SEALANT AND INSTALL WET. FASTENER HEADS SHOULD BE SMOOTH AND FLUSH WITH SURFACE.
F. TREAT REWORKED AREA FOR CORROSION CONTROL PROCEDURES PER TO 1F-4C-3-1-6.
G. ENTER IN AIRCRAFT RECORDS FORM 781A.
H. VISUALLY INSPECT REPAIR AREA FOR CRACKS AT 100 HOUR PHASE INSPECTION. REPORT CRACKS TO OGDEN OO-ALC/MMSRA.

Notes

1. DRAWING NUMBER FOR SPLINTER VANE ASSEMBLY IS 32-30016.

2 IF A DENT PULLER IS NOT AVAILABLE. LOCAL MANUFACTURE PER TO 1F-4C-3-1-1.

3 MAINTAIN 4D RIVET SPACING.

4 REFER TO TEXT.

4C-3-1-2-(454)

Figure 3-72A. Outboard Splitter Vane Dent Repair.

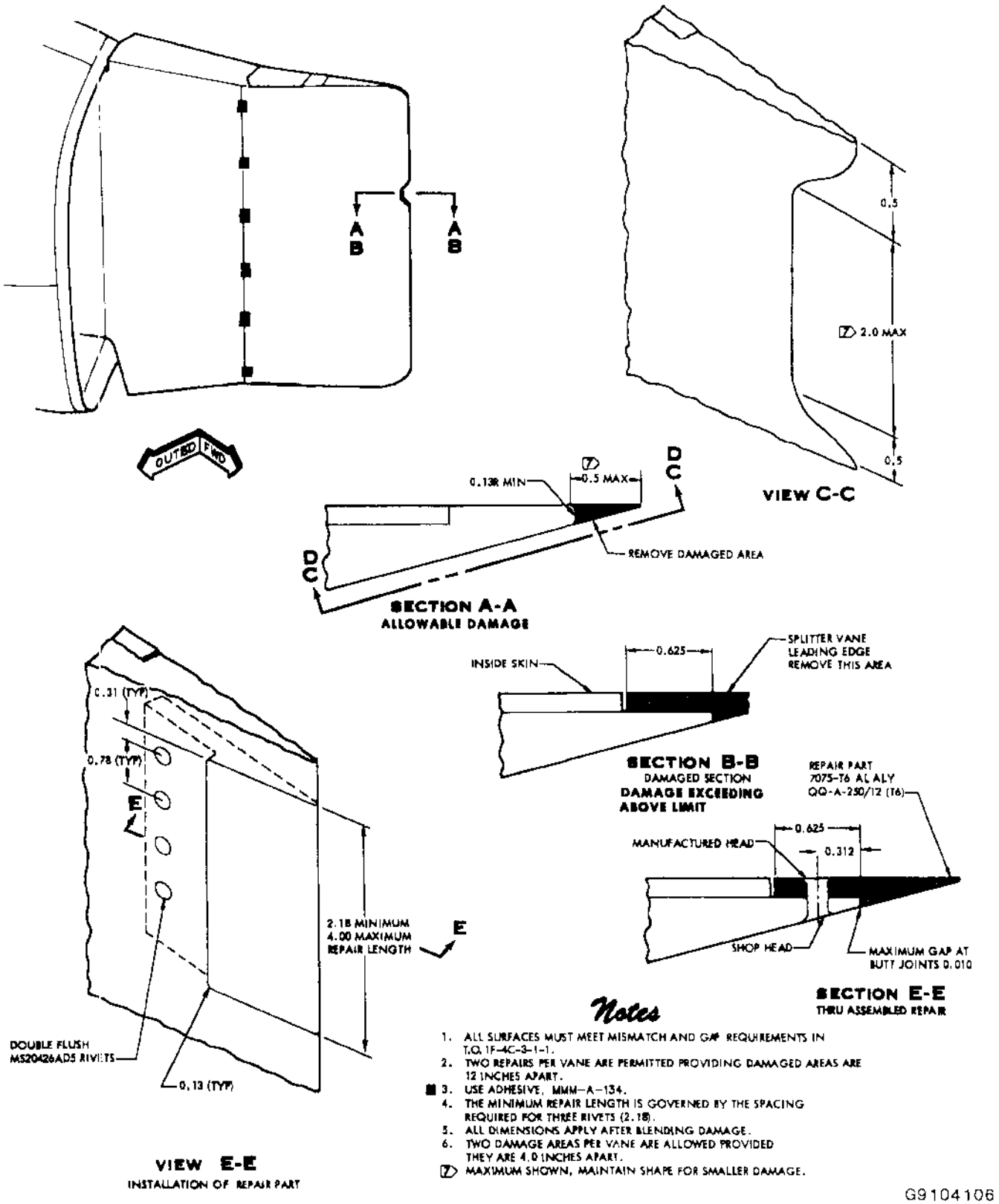


Figure 3-73. Splitter Vane Leading Edge Repair

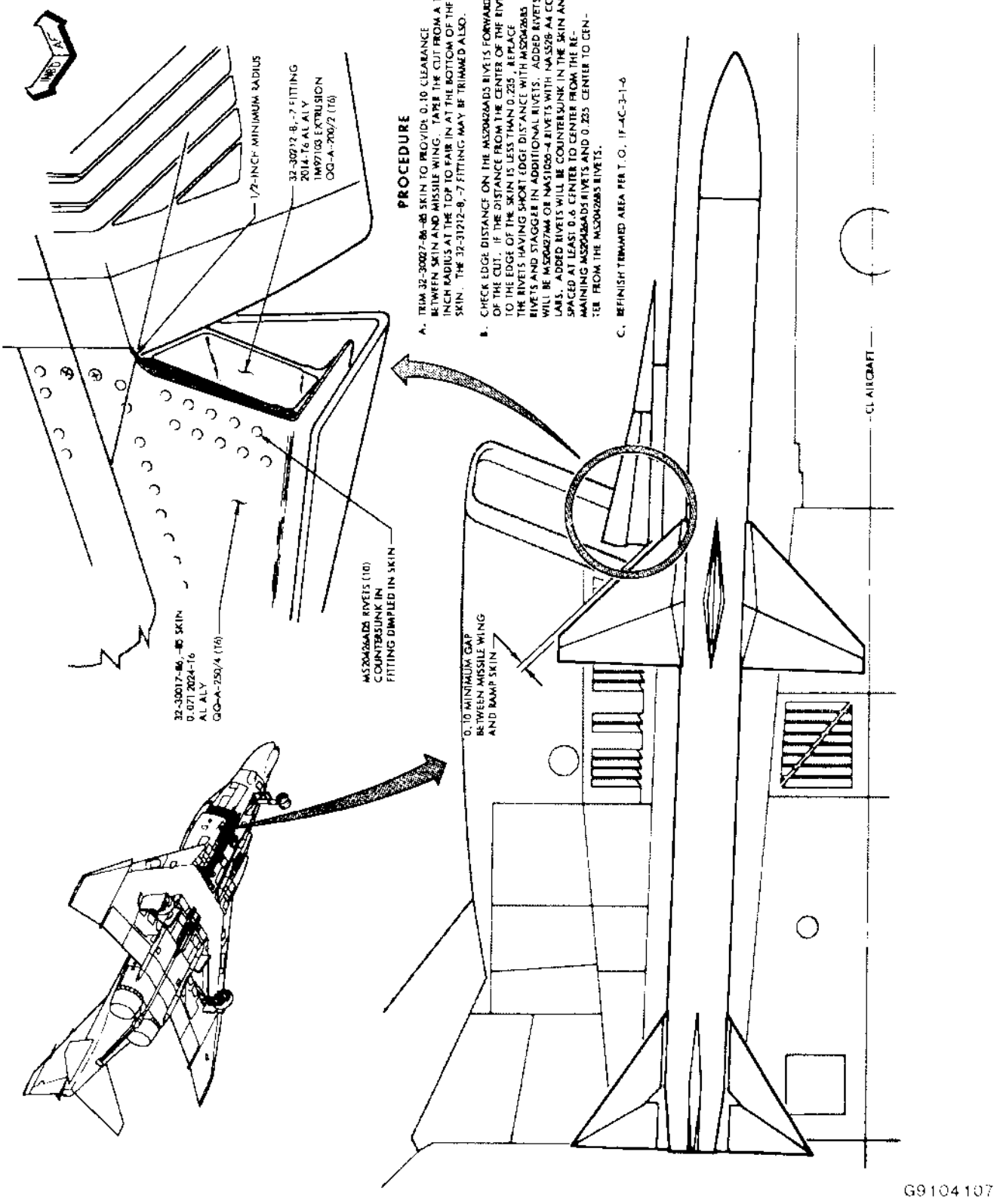
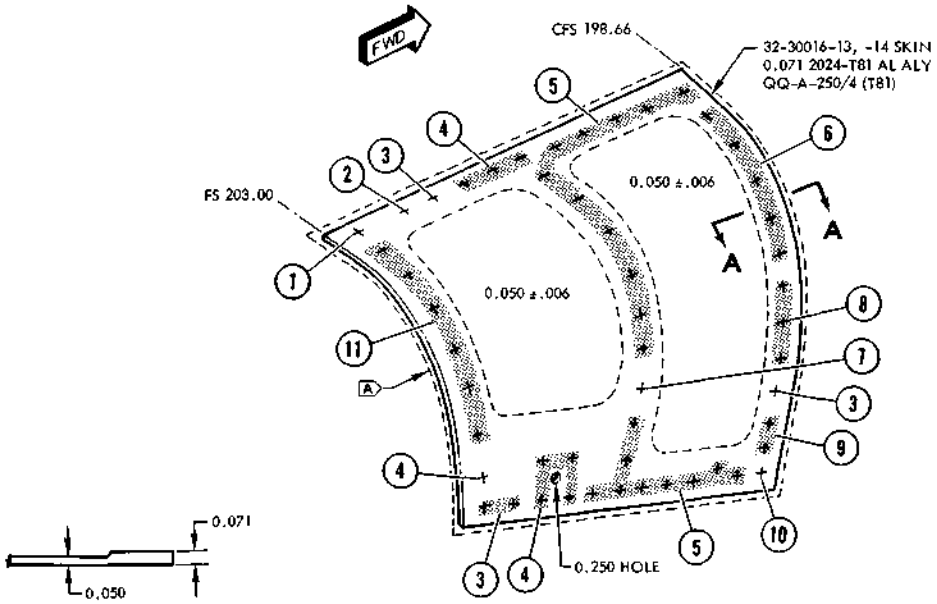


Figure 3-74. Trimming Aft Edge of Fixed Ramp Skin



SECTION A-A

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	MS24694S54	NS103072-02	0.191 +.006 -.000
2	NAS333CFA6	NS103072-02	0.191 +.006 -.000
3	NAS1670-08L5		0.165 +.003 -.000
4	NAS1670-08L4		0.165 +.003 -.000
5	NAS1670-08L3		0.165 +.003 -.000
6	NAS1674-08L2		0.165 +.003 -.000
7	NAS1674-08L3		0.165 +.003 -.000
8	NAS1670-08L2		0.165 +.003 -.000
9	NAS1674-08L5		0.165 +.003 -.000
10	NAS1670-3L6		0.189 +.006 -.000
11	NAS1674-08L4		0.165 +.003 -.000

INSTALLATION PROCEDURE FOR NEW PART

(A) TRIM EDGE TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS, REFERENCE TO 1F-4C-3-1-1.

B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

C. REFINISH EDGES, HOLES, AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

4C-3-1-2-(347)

Figure 3-74A. Skin, 32-30016, Replacement Index

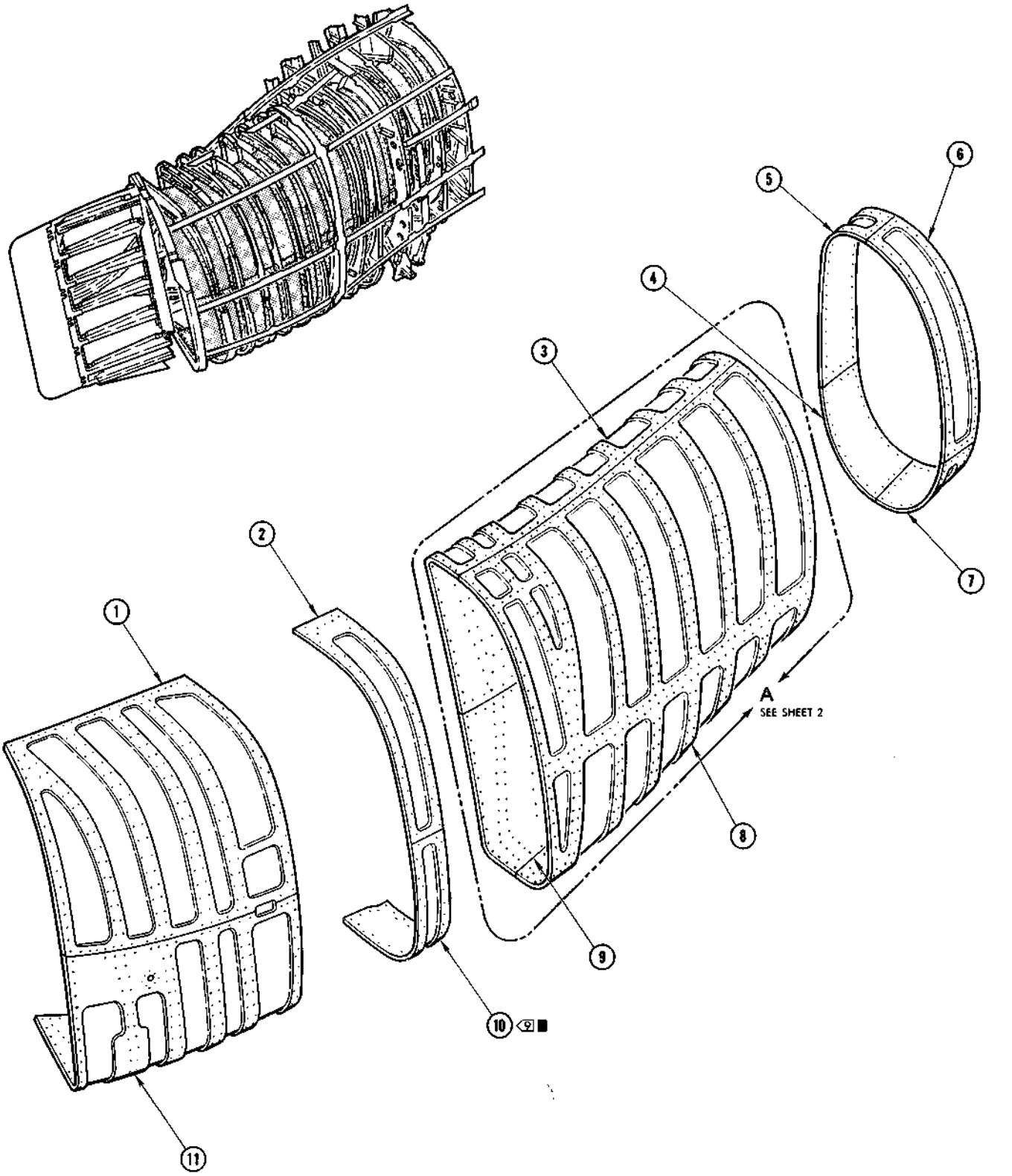
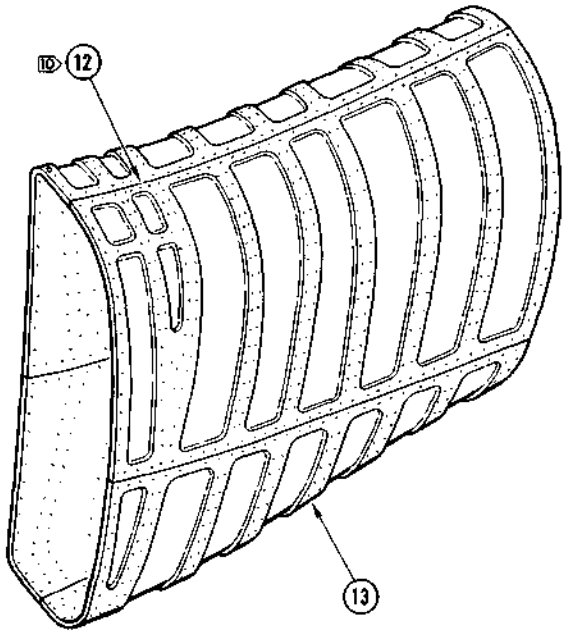


Figure 3-75. Forward Fuselage Air Duct Inner Skin Index (Sheet 1 of 2)



DETAIL A
F-4C AND RF-4 63-7742 THRU 65-838

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-30015-5, -6	SKIN	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
2 7	32-30015-9, -10	SKIN	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
8	32-30015-13, -14	SKIN	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
3 7	32-31006-3, -4	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
8	32-31006-53, -54	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
4	32-31006-29, -30	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
5	32-31006-33, -34	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
6	32-31006-31, -32	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
7	32-31006-27, -28	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
8 4	32-31006-37, -38	SKIN	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
5	32-31006-37, -47	SKIN	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
9 4	32-31006-9, -10	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
5	32-31006-43, -44	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
10 7	32-30015-7, -8	SKIN	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
8	32-30015-11, -12 ⟨9⟩	SKIN	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
11	32-30015-3, -4	SKIN	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
12 3	32-31006-23, -24	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)
13 3	32-31006-7, -8	SKIN	0.080	2024-T4 AL ALY	QQ-A-250/4 (T4)

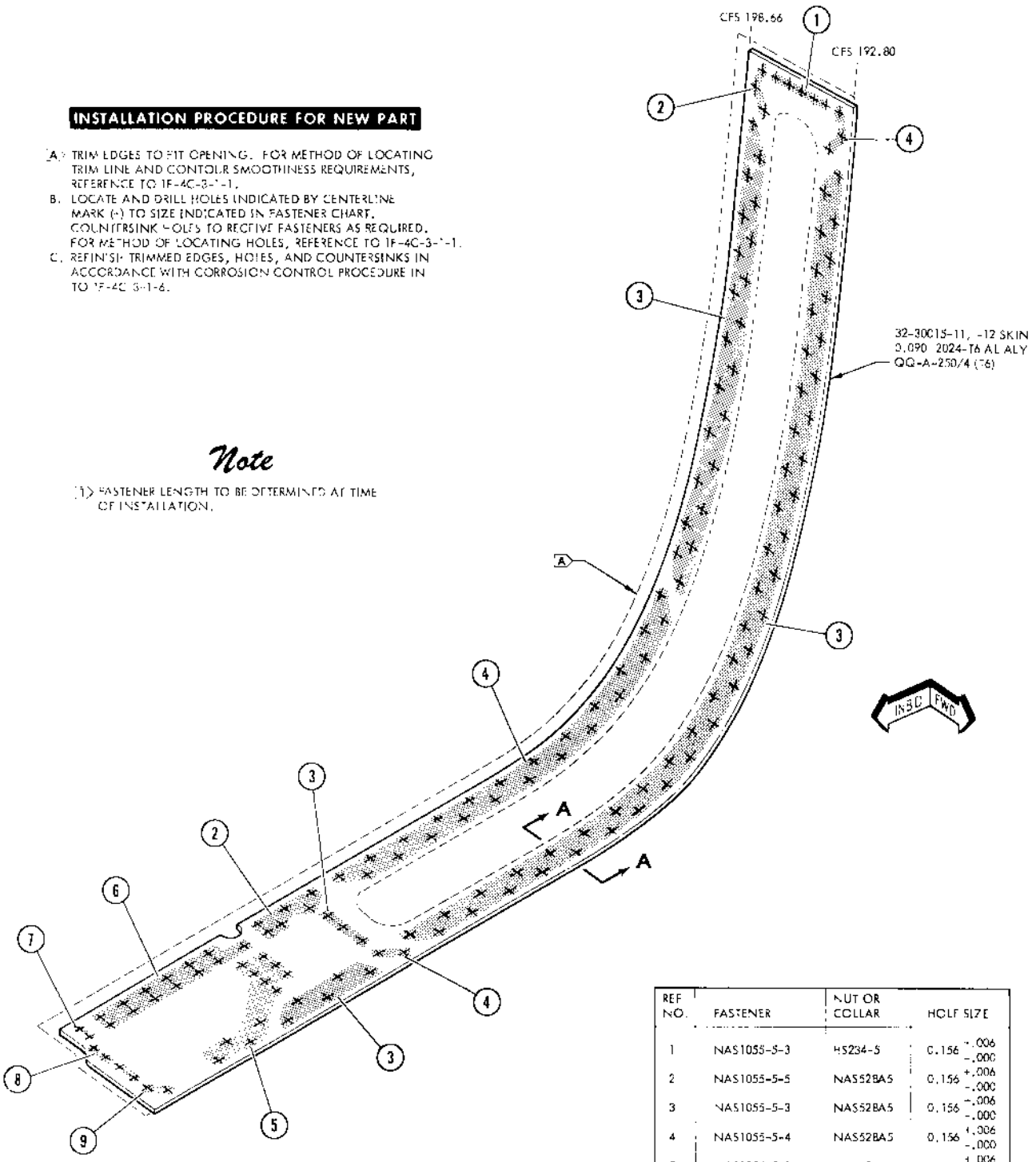
Notes

1. THIS SKIN IS CHEMICALLY MILLED TO 0.050 FROM THE STOCK GAGE LISTED. THE LANDS REMAIN STOCK THICKNESS.
2. SEAL ALL REPAIRS PER TO 1F-4C-3-1-6.

3 F-4C 64-938, RF-4 63-7742 THRU 65-838 AND F-4D 64-929 THRU 64-937.
4 F-4D 64-938 THRU 65-770 AND RF-4 65-839 THRU 66-386 AND 66-388.
5 F-4D 65-771 THRU 66-8825 AND RF-4 66-287 AND 66-389 THRU 72-156.
6 F-4E AND F-4G.
7 F-4C, F-4D, F-4E 66-284 THRU 67-282, AND RF-4 64-7742 THRU 67-453.
8 F-4E 67-283 AND UP, F-4G, AND RF-4 67-454 THRU 72-156.
⟨9⟩ FOR REPLACEMENT SEE FIGURE 3-75A.
⟨10⟩ FOR REPLACEMENT SEE FIGURE 3-75B.

4C-3-1-2-(210-2)D

Figure 3-75. Forward Fuselage Air Duct Inner Skin Index (Sheet 2 of 2)



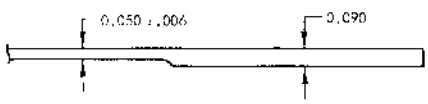
INSTALLATION PROCEDURE FOR NEW PART

A. TRIM EDGES TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS, REFERENCE TO 1F-4C-3-1-1.
B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN FASTENER CHART. COUNTERSINK HOLES TO RECEIVE FASTENERS AS REQUIRED. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1.
C. REFINISH TRIMMED EDGES, HOLES, AND COUNTERSINKS IN ACCORDANCE WITH CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

(1) FASTENER LENGTH TO BE DETERMINED AT TIME OF INSTALLATION.

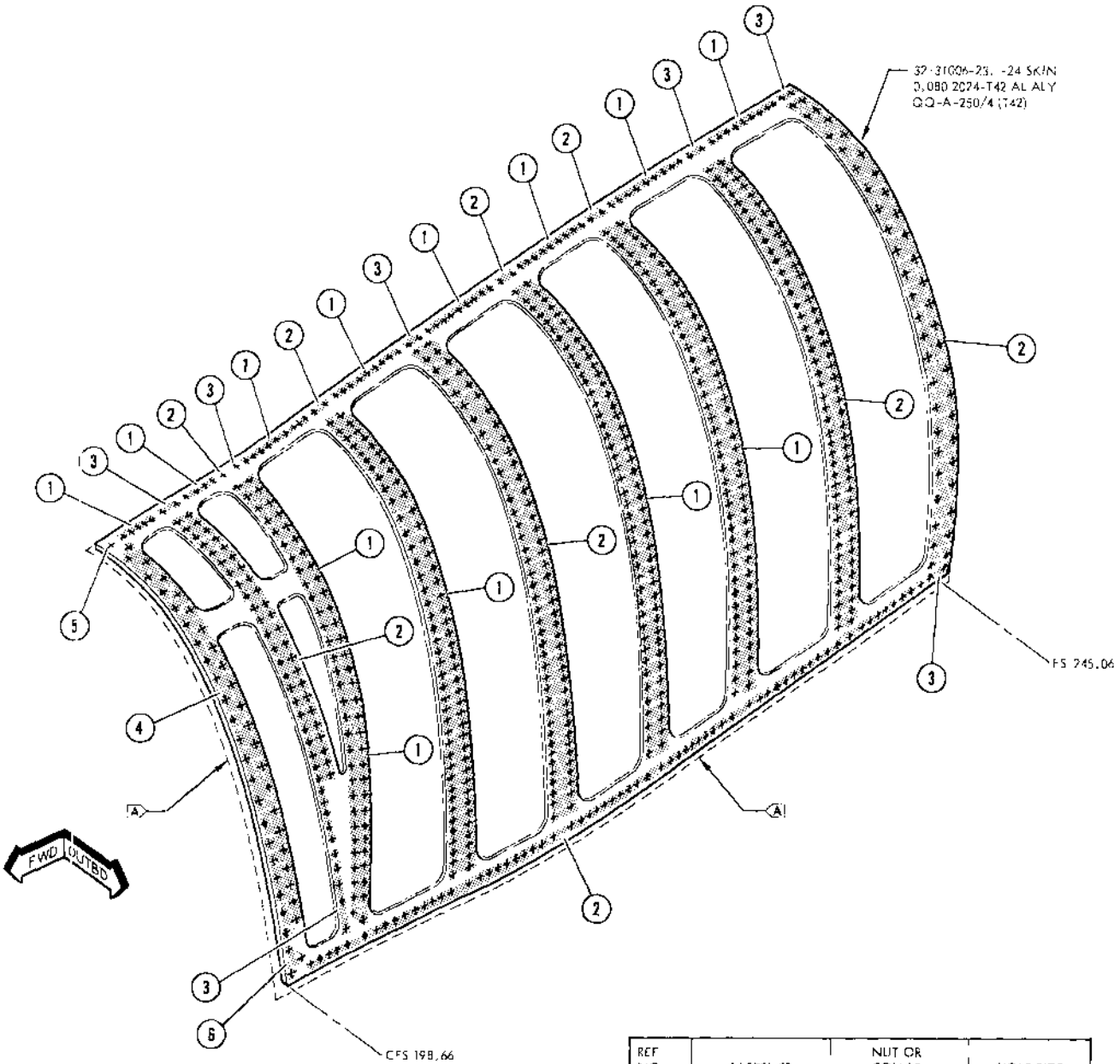
REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	NAS1055-5-3	HS234-5	0.156 +.006 -.000
2	NAS1055-5-5	NAS528A5	0.156 +.006 -.000
3	NAS1055-5-3	NAS528A5	0.156 +.006 -.000
4	NAS1055-5-4	NAS528A5	0.156 +.006 -.000
5	NAS1054-5-3	NAS528A5	0.156 +.006 -.000
6	NAS1054-5-4	NAS528A5	0.156 +.006 -.000
7	NAS1054-5-( )(1)	NAS528A5	0.156 +.006 -.000
8	NAS1054-6-4	NAS528A6	0.189 +.006 -.000
9	NAS1054-5-6	NAS528A5	0.156 +.006 -.000



SECTION A-A

4C-3 1 2-(343)

Figure 3-75A. Skin, 32-30015, Replacement Index



REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	HS23-5-2	HS24-5	0.156 +.006 -.000
2	HS23-5-3	HS24-5	0.156 +.006 -.000
3	HS23-5-4	HS24-5	0.156 +.006 -.000
4	NAS1055-5-3	NAS528A5	0.156 +.006 -.000
5	NAS1055-5-4	NAS528A5	0.156 +.006 -.000
6	NAS1055-5-5	NAS528A5	0.156 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

(A) TRIM EDGE TO FIT OPENING. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS.

B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (-) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLE. COUNTERSINK HOLE TO RECEIVE FASTENER.

C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

4C-3-1-2-(362)

Figure 3-75B. Skin, 32-31006-23, -24, Replacement Index

3-159. STRUCTURE.

3-160. The internal structure of the forward engine air duct consists of stringers which stiffen the skin panels and frames which support the stringers. The stringers are 7178 aluminum alloy extrusions. Typical frame construction is a 7178 alclad web fastened to a tee-shaped cap which is formed from 7178 aluminum alloy extrusion.

3-161. STRINGERS. See figure 3-76. Stringers in the structure of the engine air duct are 7178 aluminum alloy extrusions. Sheet metal equivalents of the extrusions are in TO 1F-4C-3-1-5. The basic shape of the extrusions have been altered in most cases to fit the contour of the fuselage and for ease of attachment.

3-162. Negligible Damage and Corrosion Removal Limits. Corrosion damage, nicks, scratches, and gouges parallel to the edges of the stringer that do not exceed 0.010 in depth and 6 inches in length are negligible if they are blended to the surface. Refer to TO 1F-4C-3-1-5. Fluorescent penetrant check more severe damage to determine if any cracks exist at the base of the damage. If a crack shows, the part shall be repaired. Nicks on the outer edge of the extrusion legs are negligible if they are no deeper than 1/8-inch after blending and do not decrease fastener edge distance to less than one and one half times fastener diameter. Refinish damaged area according to the corrosion control procedure in TO 1F-4C-3-1-6

3-163. Patch Repair. Stringers are normally not accessible for patch repair at organizational/field maintenance. Exceptions may be repaired similar to those in TO 1F-4C-3-1-5

3-164. Insertion Repair. Because of size, shape, and inaccessibility of the stringers, it is not practical to make a repair at organizational/field maintenance.

3-165. Replacement. Because of size, shape, and inaccessibility of the complete stringers it is not practical to replace them at organizational/field maintenance.

3-166. FRAMES. See figure 3-77. The typical construction of the engine air duct frames is a 7178 alclad web fastened to extruded 7178 aluminum alloy tees at the web edges. Some of the ligher frames are formed channel shaped 7178 alclad sheet.

3-167. Negligible Damage and Corrosion Removal Limits. Corrosion damage, nicks, and scratches with a depth of less than 10 percent of the thickness of the part are negligible if they can be blended. Damage which, when blended, does not reduce edge distance for rivets or fasteners to less than one and one half times rivet diameter is negligible. Small, smooth, isolated dents which are no deeper than 0.062 are negligible. Damage that causes interference with mechanisms or tubing shall not be considered negligible.

3-168. Patch Repair. Refer to TO 1F-4C-3-1-5.

3-169. Insertion Repair. No repair is practical at organizational/field maintenance because of extensive forming and heat treating required and the inaccessibility of frames.

3-170. Replacement. Replacement of parts at organizational/field maintenance is limited to angles, shims, stiffeners, and doublers which do not require extensive forming. Replacement of an entire frame is impractical because of the equipment required and the inaccessibility of frames.

3-171. Duct Lip Angle Replacement. See figure 3—78. Frame angles which attach the duct assembly to the fuselage may be inspected when the variable ramp is removed. Access to fasteners above WL 23.00 may be gained through the aft cockpit. Fasteners below WL 23.00 may be reached through the missile bay of the F—4C, F—4D, F—4E, or F—4G or through doors 507L/R and 508 on the RF—4C. Replacement angles and webs for the 32—30001 angles shown in figure 3—78 should be made of thicker material. The replacement parts are easier to install if each of the angles is riveted to its web and then installed in place. Refer to paragraph 3—147 for fastener substitution.

3-172. Air Duct Lower Shear Web Repair. The following method may be used for repairing cracks which develop where air pressure and hydraulic lines pass through web 32--31186, of longeron 32—31077—13; stop drill or rout out the cracks to prevent propagation. If cracking is extensive, the damaged area may be cut out an a filler installed. Install a doubler in accordance with the instructions outlined in TO 1F—4C—3—1—5 and figure 3—79.

NOTE

The washers may be trimmed to clear existing structure.

Replace the AN 960-716 washers on all fittings which pass through the web with washers as shown on figure 3-79.

3-172A. FS 198.66 Frame Ramp Hinge Pin Hole Repair. For repair of cracks, see figure 3-79A.

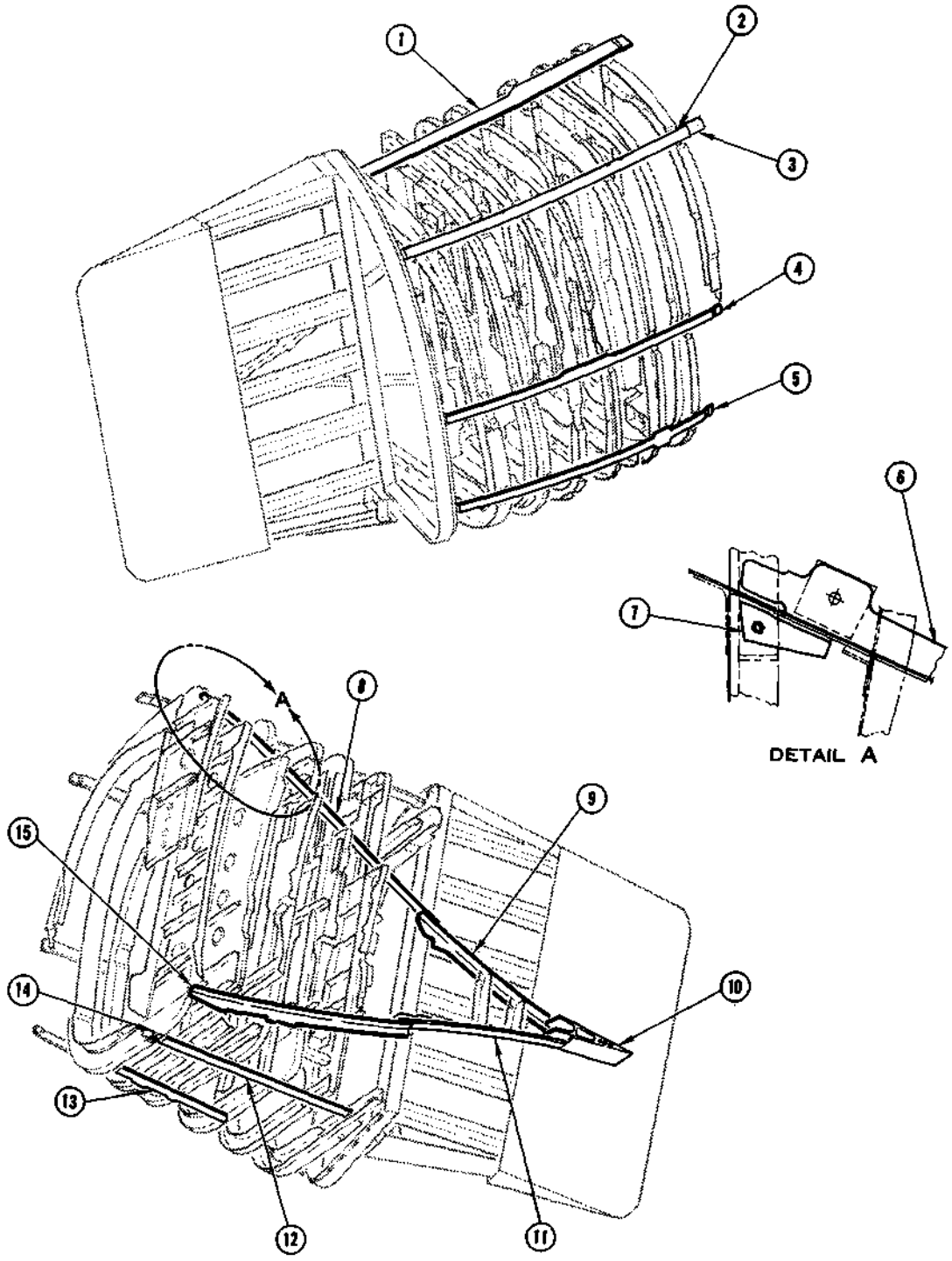


Figure 3-76. Forward Fuselage Air Duct Stringer Index (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 (2)	32-30010-69, -70	STRINGER	1M7555	7178-T6 AL ALY	QQ-A-200/13 (T6)
(3)	32-30010-89, -90	STRINGER	1M7555	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	32-30011-27, -28	TEE	1M57298	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	32-30011-29, -30	TEE	1M57298	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-30012-3, -4	TEE	1M57292	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-30013-3, -4	CAP	1M5194	7178-T6 AL ALY	QQ-A-200/13 (T6)
6 (5)	32-30001-151, -152	ANGLE	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
7 (5)	32-30001-153, -154	ANGLE	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
8 (4)	32-30001-3, -4	ANGLE	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
(5)	32-30001-151, -152	ANGLE	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
9	32-30017-21, -22	ANGLE	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
10 (6)	32-31442-5, -6	FITTING	1M9704	6061-T6 AL ALY	QQ-A-200/8 (T6)
(7)	32-31442-7, -8	FITTING	1M97138	6061-T6 AL ALY	QQ-A-200/8 (T6)
11	32-30017-109, -110	ANGLE	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
12	32-30014-41, -42	STRINGER	1M57299	7178-T6 AL ALY	QQ-A-200/13 (T6)
13 (8)	32-30001-55, -56	STRINGER	1M5639	7178-T6 AL ALY	QQ-A-200/13 (T6)
(9)	32-30001-169, -56	STRINGER	1M5639	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-30014-43, -44	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-30001-5, -6	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

1. DRAWING NUMBER OF THIS ASSEMBLY IS 32-30001.
2. F-4C 63-7407 THRU 63-7442.
3. F-4C 63-7443 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4.
4. F-4C 63-7407 THRU 73-7544 AND RF-4 63-7742 THRU 63-7753.
5. F-4C 63-7545 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 63-7754 THRU 72-156.
6. F-4C 63-7407 THRU 63-7662 AND RF-4 63-7742 THRU 64-1017.
7. F-4C 63-7663 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 64-1018 THRU 72-156.
8. F-4C, F-4D 64-929 THRU 66-7765, F-4E 66-284 THRU 66-295, AND RF-4 65-7742 THRU 66-446.
9. F-4D 66-7766 THRU 66-8825, F-4E 66-296 AND UP, F-4G, AND RF-4 66-447 THRU 72-156.

4C-3-1-2-(207-2)93

Figure 3-76. Forward Fuselage Air Duct Stringer Index (Sheet 2 of 2)

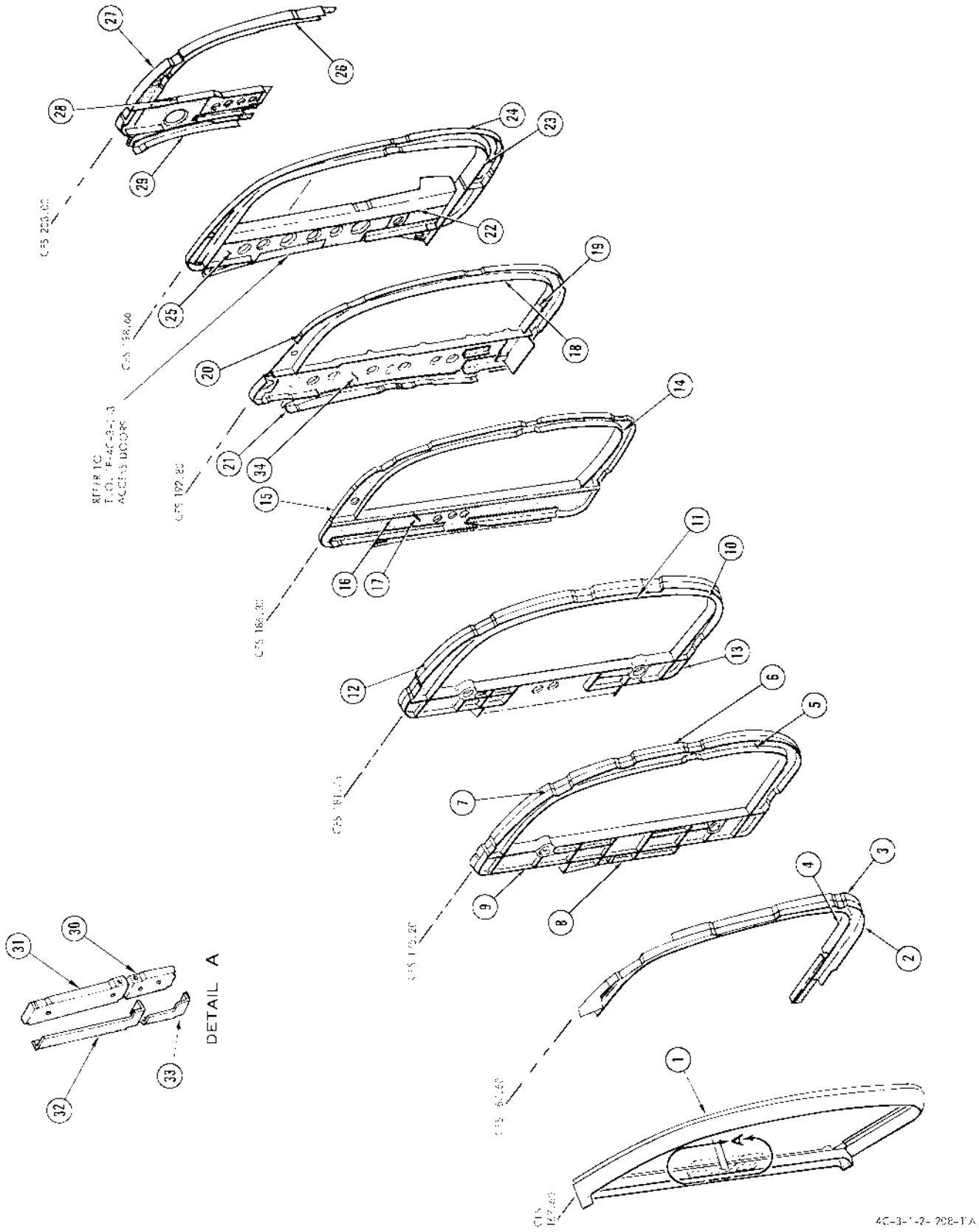


Figure 3-77. Forward Fuselage Air Duct Frames (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1 (3)	32-30226-3, -4	LIP	(1)	2014-T652 AL ALY	QQ-A-367 (T652)
(3)	32-30226-5, -6	LIP	(1)	2014-T652 AL ALY	QQ-A-367 (T652)
(35)	32-311633-3, -4	LIP	(1)	2014-T652 AL ALY	QQ-A-367 (T652)
2	32-30008-5, -6	FRAME	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	32-30008-9, -10	ANGLE	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	32-30008-3, -4	CAP	1M52785	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-30007-3, -4	CAP	1M52782	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	32-30007-7, -8	WEB	0.100 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	32-30007-5, -6	WEB	0.100 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
8 (24)	32-30007-17, -18	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(25)	32-30007-31, -32	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9 (3)	32-30038-3, -4	FITTING	(1)	2014-T652 AL ALY	QQ-A-367 (T652)
(4)	32-30038-5, -6	FITTING	(1)	2024-T852 AL ALY	MMS135 (T852)
(27)	32-30038-7, -8	FITTING	(1)	7075-T7352 AL ALY	QQ-A-367 (T7352)
10	32-30006-19, -20	CAP	1M5782	7178-T6 AL ALY	QQ-A-200/13 (T6)
11 (15)	32-30006-21, -22	FRAME	0.100 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
(18)	32-30006-33, -34	FRAME	0.100 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
12 (15)	32-30006-23, -24	FRAME	0.100 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
(18)	32-30006-35, -36	FRAME	0.100 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
13 (15)	32-30039-7, -8	FITTING	(1)	2014-T652 AL ALY	QQ-A-367 (T652)
(16)	32-30039-11, -12	FITTING	(1)	2024-T852 AL ALY	MMS135 (T852)
(26)	32-30039-15, -16	FITTING	(1)	7075-T7352 AL ALY	QQ-A-367 (T7352)
14	32-30005-91, -92	CAP	1M57238	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	32-30005-67, -68	FRAME	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-30005-17, -18	CAP	1M57286	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	32-30005-103, -104	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-30004-57, -58	CAP	1M57289	7178-T6 AL ALY	QQ-A-200/13 (T6)
19 (19)	32-30004-87, -88	CAP	1M57281	7178-T6 AL ALY	QQ-A-200/13 (T6)
(20)	32-30004-121, -122	CAP	1M57281	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-30004-51, -52	ANGLE	0.090	7178-T6 AL ALY	QQ-A-250/14 (T6)
21 (21)	32-30004-59, -60	ANGLE	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
(22)	32-30004-113, -114	ANGLE	1M2251	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	32-30003-45, -46	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-30003-3, -4	TEE	1M57281	7178-T6 AL ALY	QQ-A-200/13 (T6)
24 (23)	32-30003-153, -154	WEB	0.090 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
(25)	32-30003-217, -218	WEB	0.090 (2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
25 (11)	32-30003-55, -56	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(12)	32-30003-189, -190	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(13)	32-30003-193, -194	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26 (9)	32-30002-3, -4	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
(10)	32-30002-45, -46	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
27 (9)	32-30002-5, 6	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	32-30002-47, -48	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28 (9)	32-30002-7, -8	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
(10)	32-30002-49, -50	CAP	1M5511	2024-T4 AL ALY	QQ-A-200/3 (T4)
29 (5)	32-30002-13, -14	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(6)	32-30002-43, -14	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30 (8)	32-30001-111, -112	WEB	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(8)	32-30001-157, -158	WEB	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
31 (8)	32-30001-113, -114	WEB	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(8)	32-30001-159, -160	WEB	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
32 (5)	32-30001-41, -42	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(13)	32-30001-163, -164	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
33 (5)	32-30001-39, -40	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(12)	32-30001-161-162	ANGLE	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
34 (7)	32-30004-95, -96	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
(9)	32-30004-117, -118	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)

Notes

(1) THIS PART IS A MACHINED FORGING.
(2) THIS PART HAS BEEN CHEMICALLY MACHINED FROM THE STOCK GAGE LISTED.
(3) F-4C 63-7469 THRU 64-928, F-4D 64-929 THRU 66-8815, F-4E 66-284 THRU 67-208, AND RF-4C 63-7747 THRU 67-435.
(4) F-4C 63-7407 THRU 63-7468 AND RF-4C 63-7742.
(5) F-4C 63-7469 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C 63-7743 THRU 72-156.
(6) F-4C 63-7407 THRU 64-817 AND RF-4C 63-7742 THRU 64-1077. SEE FIGURE 3-78 FOR REPLACEMENT WEBS AND ANGLES.
(7) F-4C, F-4D 64-929 THRU 65-665, AND RF-4C 63-7742 THRU 64-1061.
(8) RF-4C 64-1062 THRU 65-932.
(9) F-4C, F-4D 64-929 THRU 65-665, AND RF-4C.
(10) F-4D 65-666 THRU 66-8825, F-4E, AND F-4G.
(11) F-4C 63-7407 THRU 63-7601 AND RF-4C 63-7742 THRU 64-1006.
(12) F-4C 63-7602 THRU 64-928, F-4D, F-4E, AND F-4G.
(13) RF-4C 64-1007 THRU 72-156.
(14) F-4C 64-818 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C 64-1078 THRU 72-156.
(15) F-4C, F-4D 64-929 THRU 65-770, RF-4C 63-7742 THRU 66-386, AND 66-388.
(16) F-4D 65-771 THRU 66-8825, F-4E 66-284 THRU 67-282, AND RF-4C 66-387, 66-389 THRU 67-453.
(17) F-4C 63-7407 THRU 63-7442.
(18) F-4C 63-7743 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C.
(19) F-4C 63-7407 THRU 64-672 AND RF-4C.
(20) F-4C 64-673 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C 64-1038 THRU 72-156.
(21) F-4C, F-4D, F-4E, AND F-4G.
(22) RF-4C.
(23) F-4C, F-4D 64-929 THRU 66-8698, AND RF-4C 63-7742 THRU 66-450.
(24) F-4D 66-8699 THRU 66-8825, F-4E, F-4G, AND RF-4C 66-451 THRU 72-156.
(25) F-4D 66-8816 THRU 66-8825, F-4E 67-209 AND UP, F-4G, AND RF-4C 67-436 THRU 72-156.
(26) F-4E 67-283 AND UP, F-4G, AND RF-4C 67-454 THRU 72-156.
(27) F-4C, F-4D 64-929 THRU 66-8825, F-4E 66-284 THRU 67-282, AND RF-4C 63-7742 THRU 67-453.

4C-3-1-2-(208-2)C

Figure 3-77. Forward Fuselage Air Duct Frames (Sheet 2 of 2)

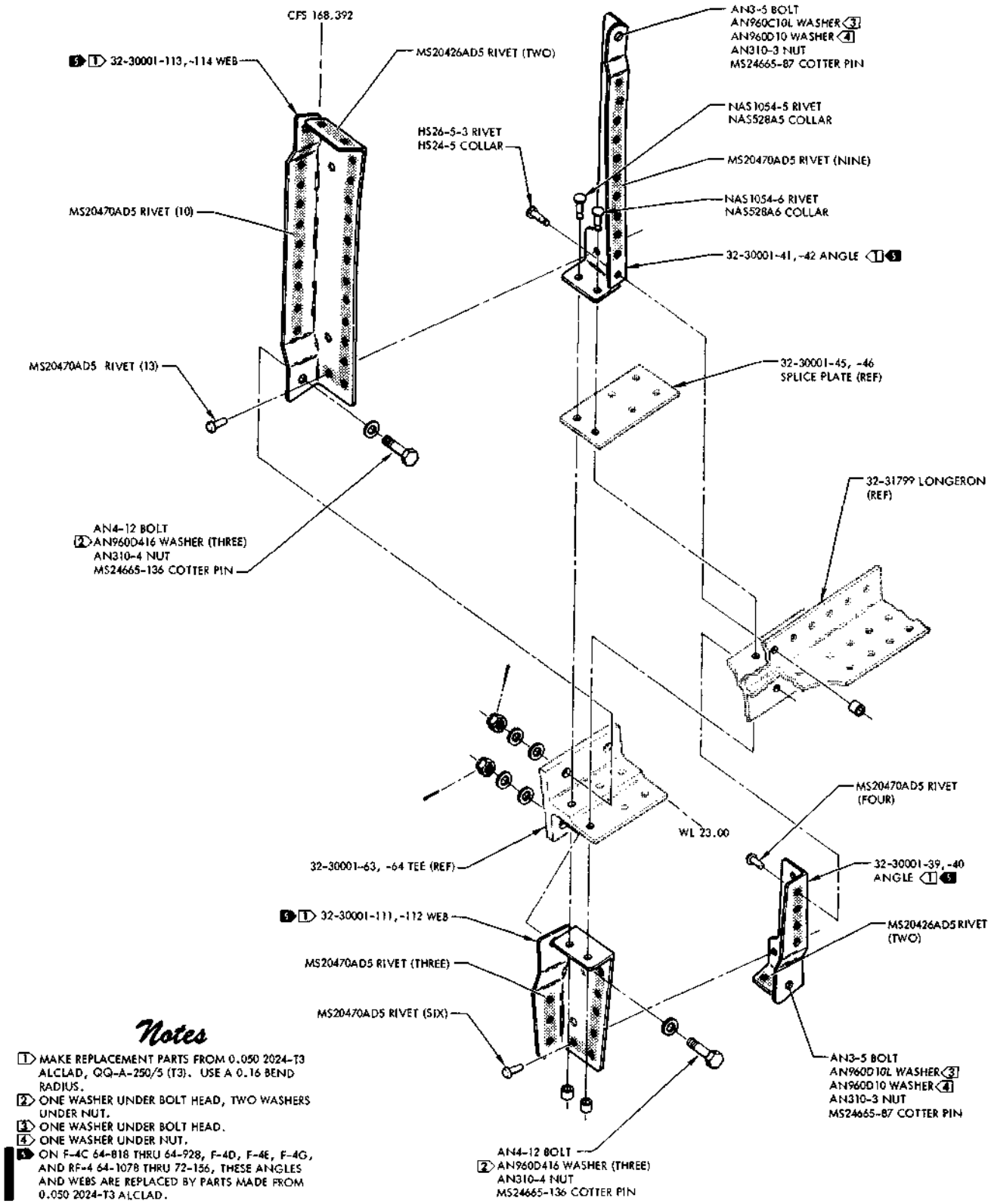
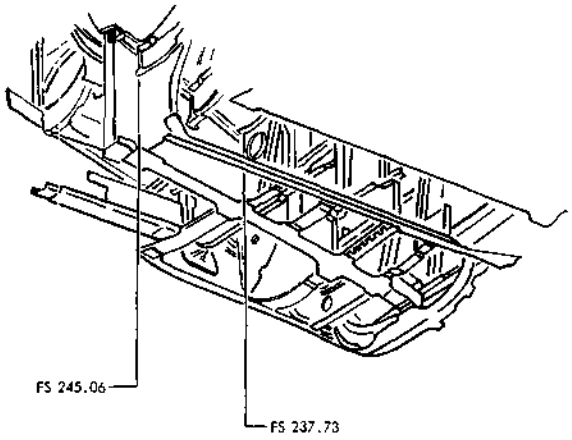
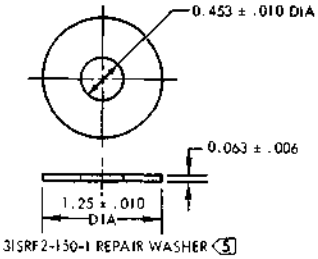
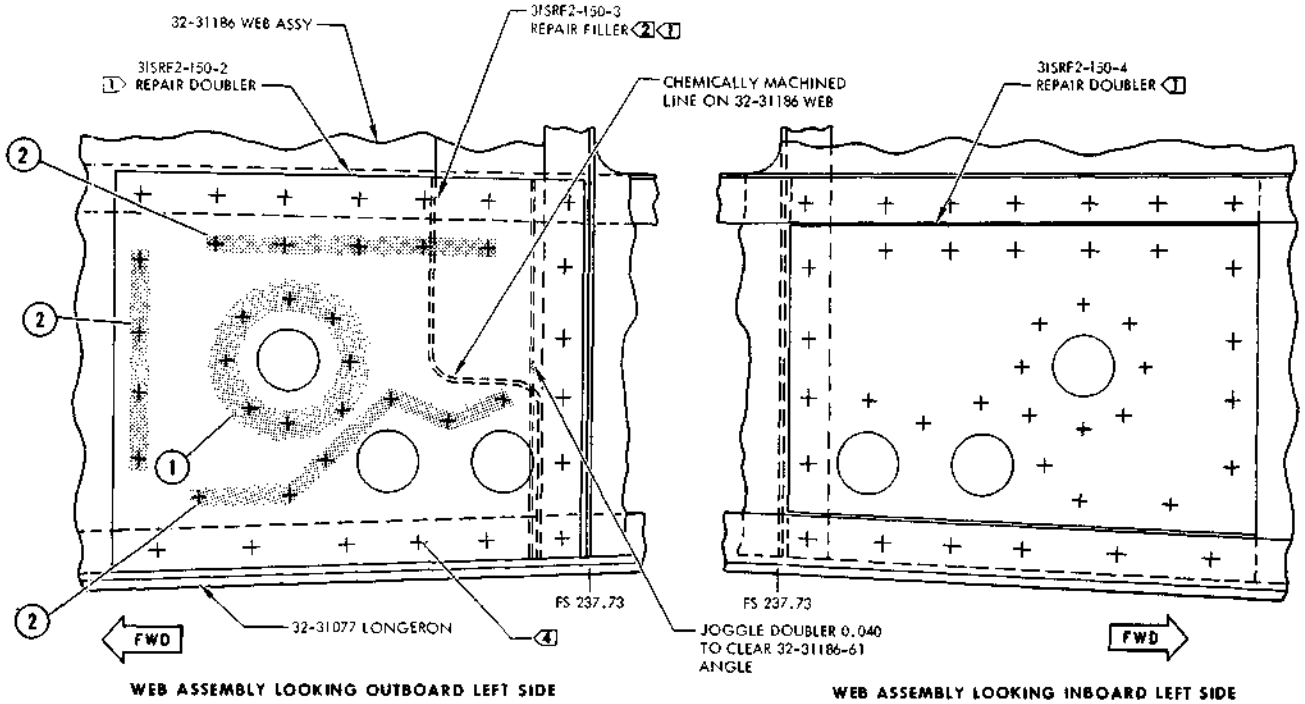


Figure 3-78. Forward Fuselage Air Duct Lip Angle Replacement







WEB ASSEMBLY LOOKING OUTBOARD LEFT SIDE

WEB ASSEMBLY LOOKING INBOARD LEFT SIDE

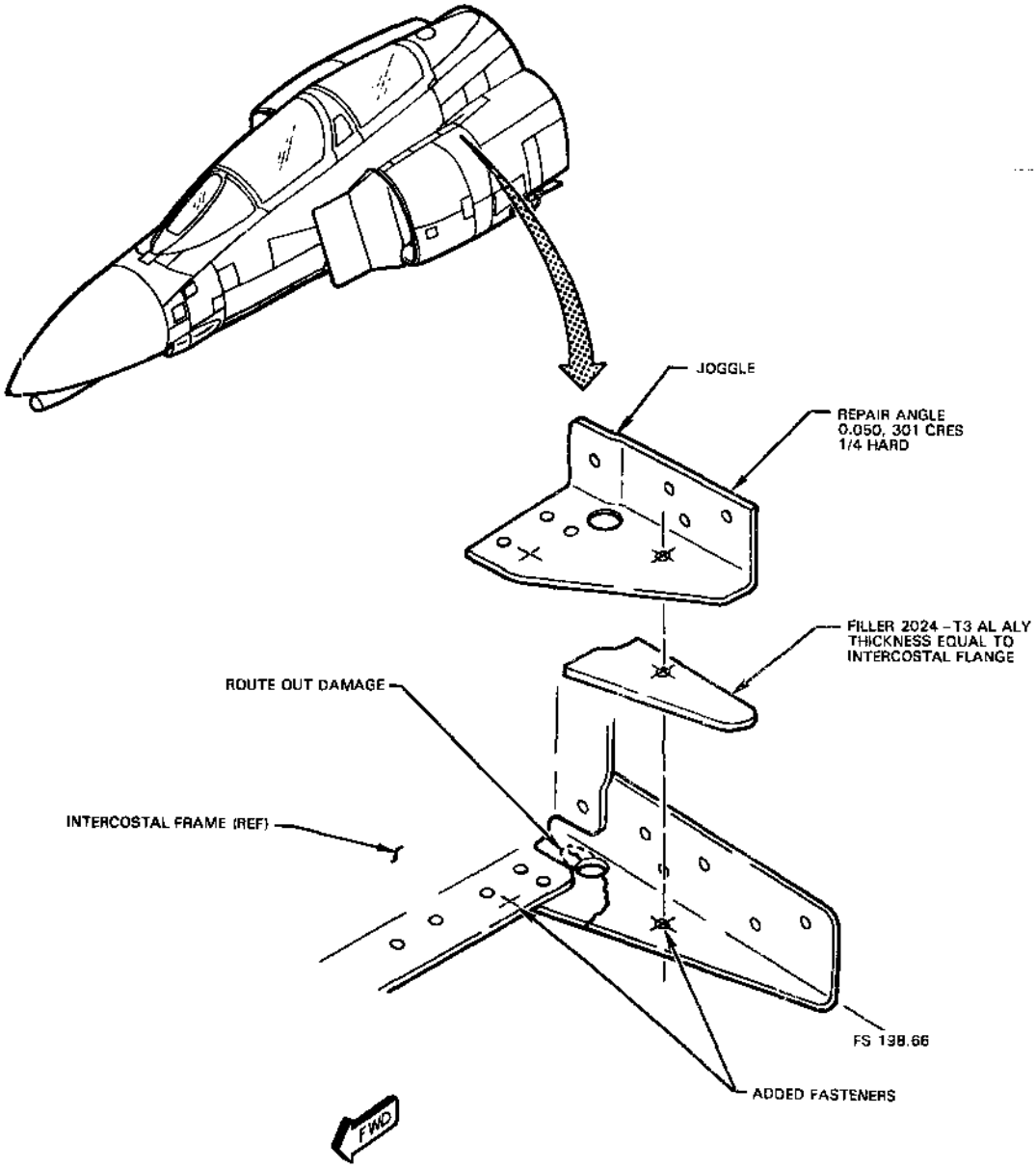
REF NO.	ADDED FASTENERS
1 3	MS20470AD4
2 3	MS20470AD5

Notes

1. DOUBLERS AND FILLER ARE MADE FROM 0.032 7178-T6 AL ALY, QQ-A-250/14 OR 7075-T6 AL ALY, QQ-A-250/12 (T6). MIL-P-23377 EPOXY PRIMER FINISH.
2. TRIM FILLER TO MATCH CHEMICAL MACHINING IN WEB.
3. RIVET SPACING 4D MINIMUM FOR ADDED RIVETS, INSTALL TO CLEAR WASHERS.
4. REMOVE AND REPLACE THESE RIVETS WITH FASTENERS OF THE SAME DIAMETER AND TYPE (MS20470AD5).
5. WASHER IS SAME AS AN960D716 EXCEPT AS SHOWN. MATERIAL 2024-T3 OR T4 ALCLAD, QQ-A-250/5. ANODIZE PER MIL-A-8625.

4C-3-1-2-(150)B

Figure 3-79. Air Duct Lower Shear Web Repair



REPAIR PROCEDURE

A. REMOVE FASTENERS AS REQUIRED FROM REPAIR AREA.
B. FABRICATE REPAIR ANGLE AND FILLER AS SHOWN. SIZE TO PICK UP FASTENERS SHOWN. MAINTAIN 2 DIAMETER EDGE DISTANCE, 3 DIAMETER MINIMUM SPACING.
C. ROUTE DAMAGE AS SHOWN. IF CRACK CONTINUES OUTBOARD UNDER INTERCOSTAL FRAME AND CANNOT BE COMPLETELY REMOVED, CONTACT DEPOT ENGINEERING FOR DISPOSITION.
D. TREAT REWORK AREA PER TO 1F-4C-3-1-6.
E. FASTENERS THRU UPRIGHT LEG OF REPAIR ANGLE TO BE NAS 1398-6 OR MS90354-6. FASTENERS THRU LOWER LEG OF REPAIR ANGLE TO BE THE SAME TYPE AND SIZE AS ORIGINAL FASTENERS INCLUDING NEW LOCATIONS. INSTALL REPAIR ANGLE AND FILLER WITH WET LAYER OF MIL-S-81733 PER TO 1F-4C-3-1-6.

4C-3-1-2-I433IA

Figure 3-79A. FS 198.66 Frame, Ramp Hinge Pin Hole

FORWARD FUSELAGE AND COMPONENTS HINGE TOLERANCES

3-173. GENERAL.

3-174. Hinge halves on the forward fuselage are aluminum alloy extrusion which has been metal treated and dry film lubricated prior to assembly as part of the structure of the airframe or the door. Hinge pins are 302 corrosion-resistant steel wire which has been cadmium plated to reduce corrosion because of dissimilar metal contact.

3-175. **WEAR TOLERANCE.** Figure 3-80 shows the normal maximum wear tolerance between holes in the hinge half tangs and the hinge pin. Hinge tang holes may be missing, not to exceed 10 percent, per paragraph 3-178 and an additional 10 percent may be oversize.

3-176. **NEGLIGIBLE DAMAGE.** Nicks, gouges, corrosion, and scratches are negligible if they can be blended per TO 1F-4C-3-1-5 without removing material in excess of the tolerances in paragraphs 3-177 and 3-178. Corrosion or other damage must be removed by blending. Dry film lubricant and paint must be replaced, after blending, per TO 1F-4C-3-1-6.

3-177. **Negligible Damage for Hinge Legs.** Nicks, gouges, corrosion, and scratches in the hinge legs, that do not exceed 0.005 in depth, are negligible.

3-178. **Negligible Damage for Hinge Tangs.** Tangs may have nicks, scratches, and gouges up to 0.010 in depth and not to exceed 10 percent of the total tangs and still be considered negligible. The hinge may have. a maximum of 10 percent of the total number of tangs broken or missing. No two adjacent tangs may be broken. If a tang has damage exceeding 0.010 in depth, that tang shall be considered as a broken tang. If more than 0.010 of material is removed, that tang shall be considered as a broken tang.

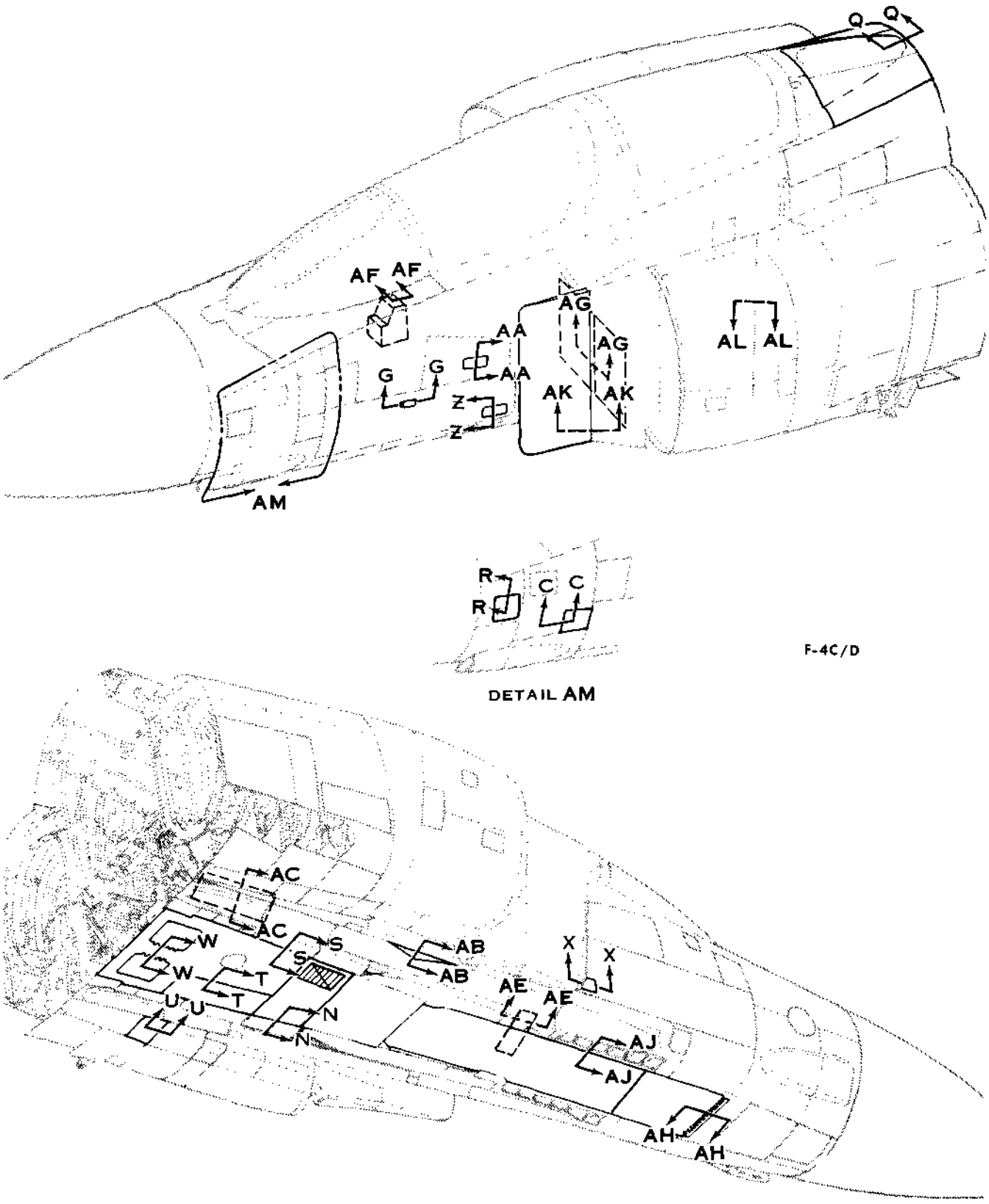


Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 1 of 8)

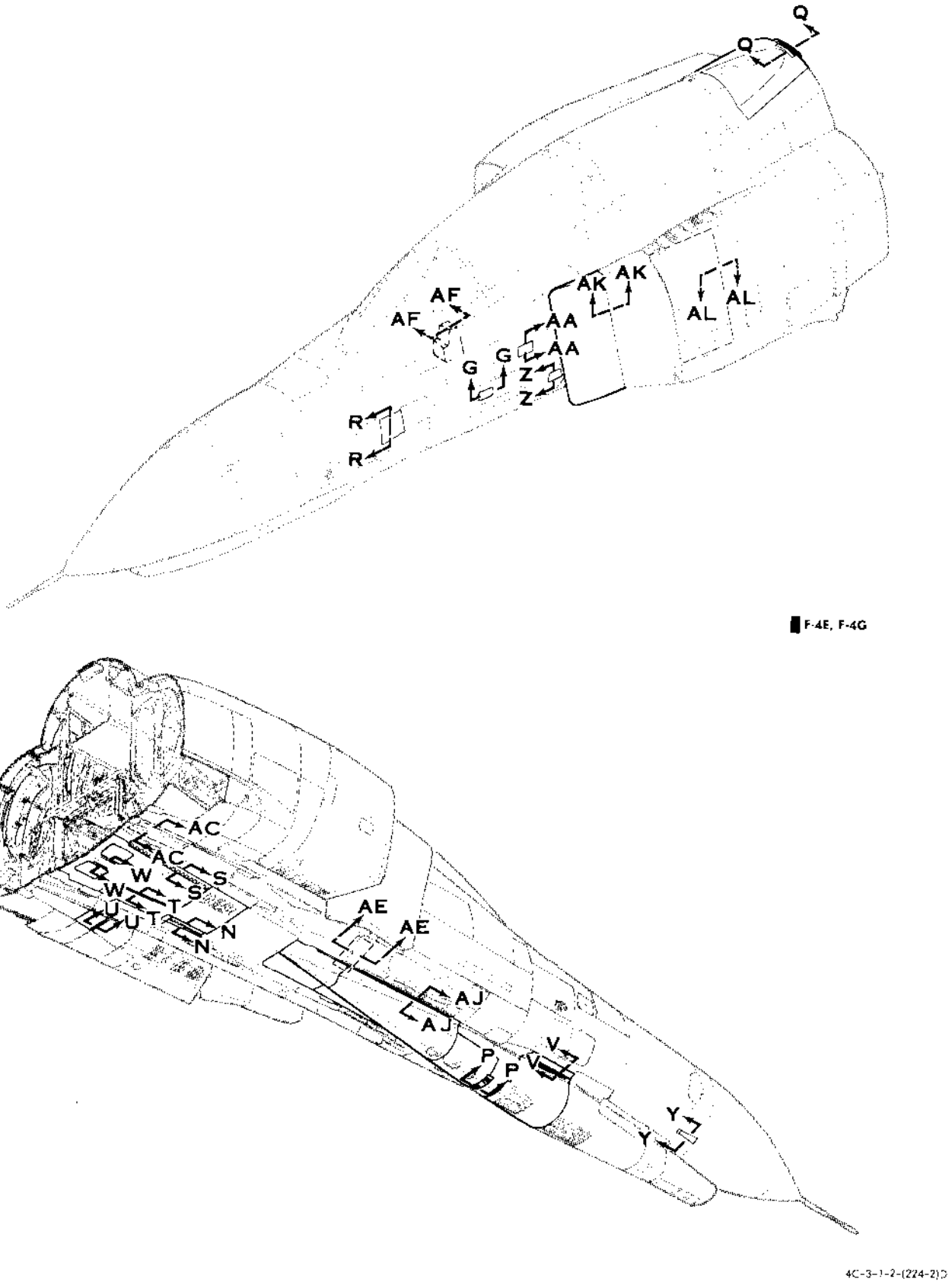
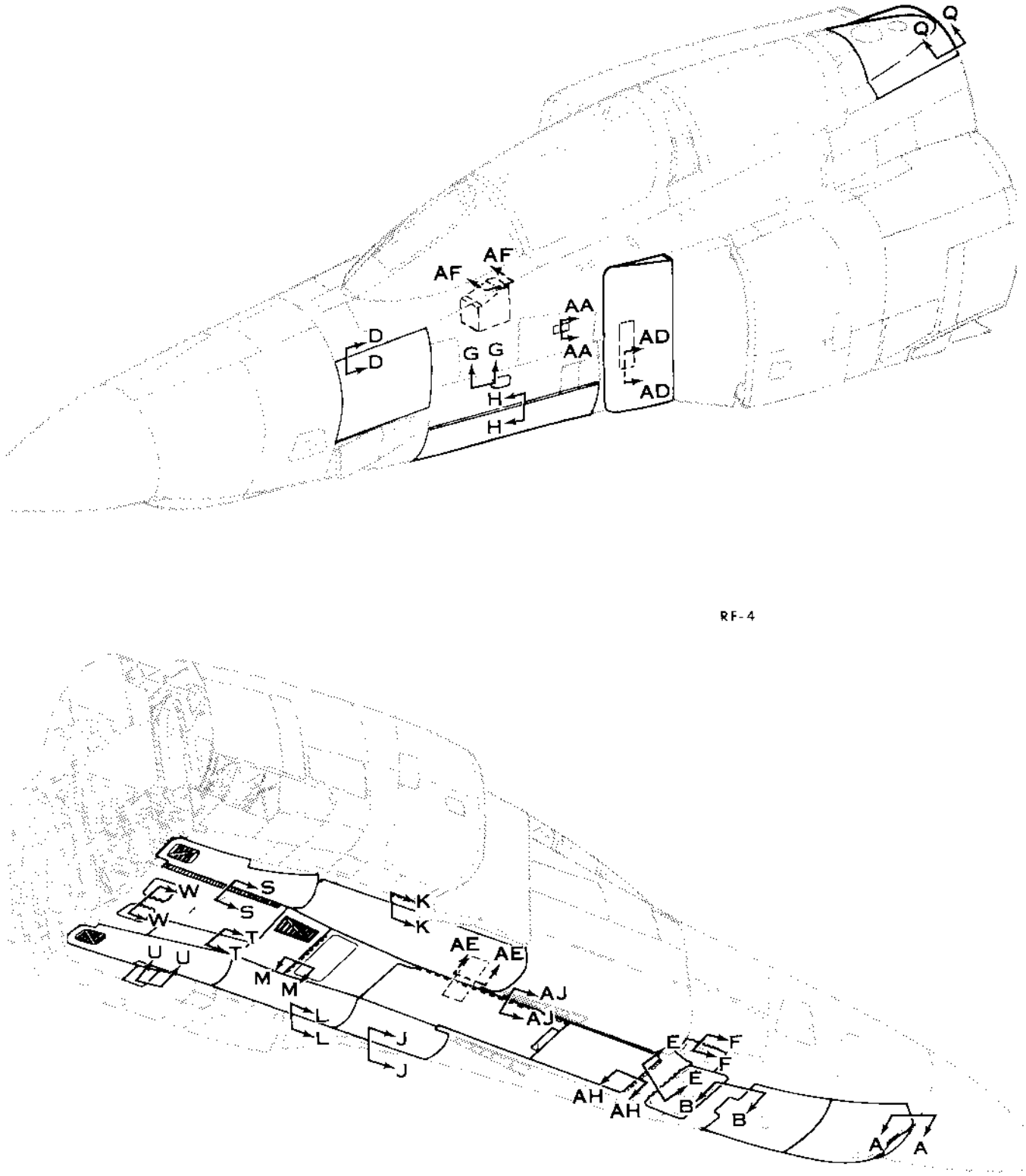


Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 2 of 8)



4C-3-1-2-(224-3)

Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 3 of 8)

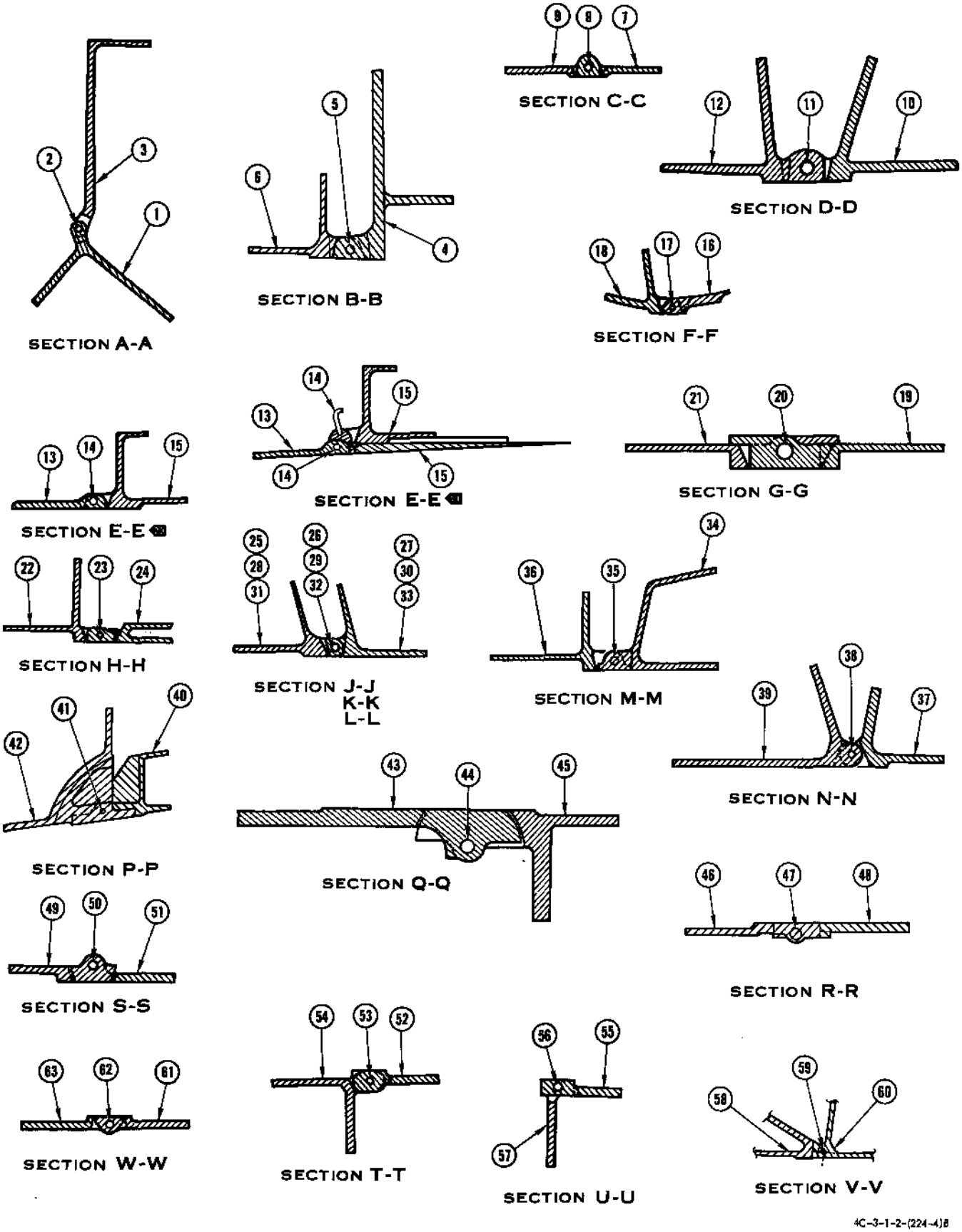


Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 4 of 8)

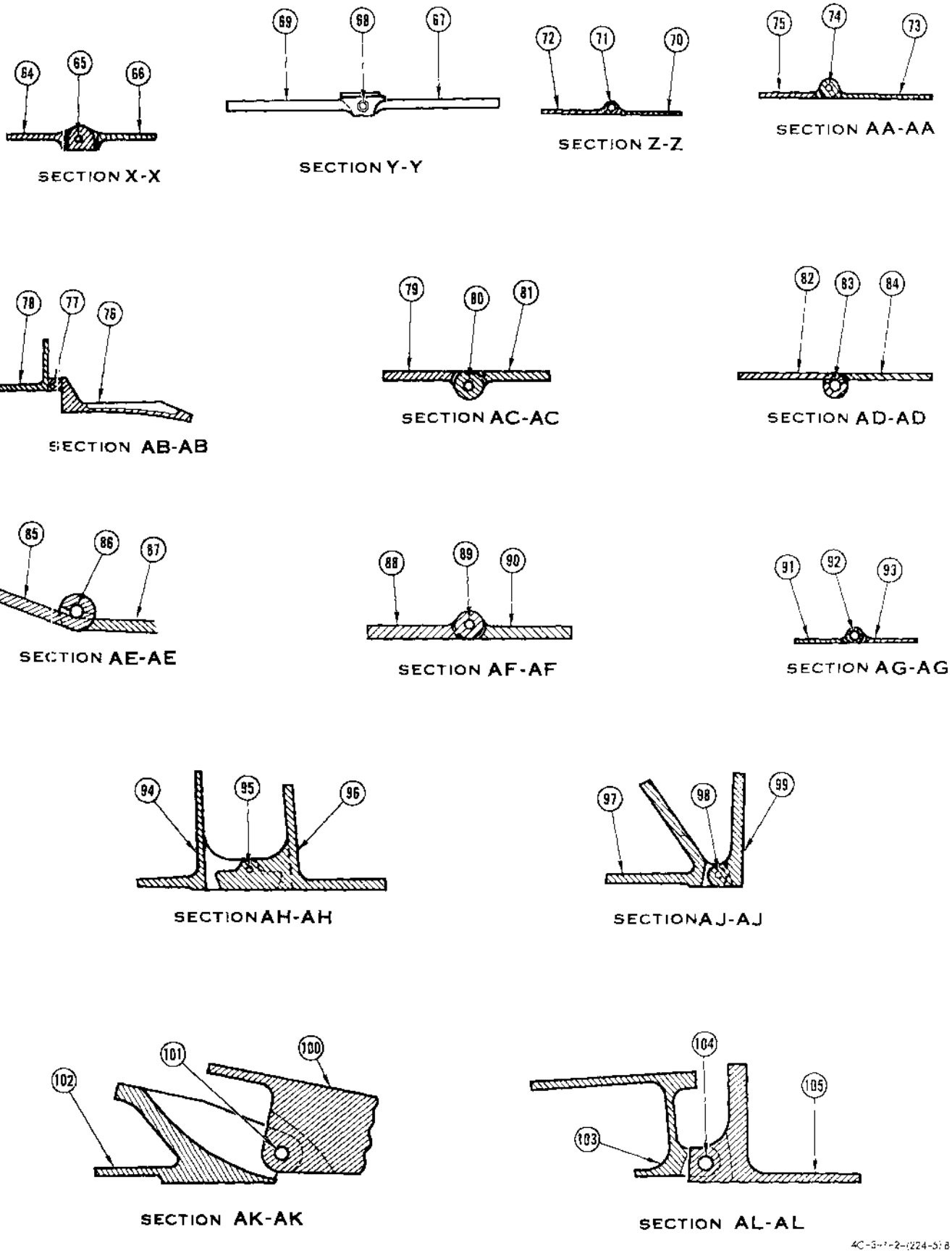


Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 5 of 8)

SECT	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE HOLE OR PIN SIZE ALL HOLES	10% OF HOLES	CLEARANCE, MAXIMUM ALL HOLES	10% OF HOLES
A-A	1	53-39077 ◇1	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 1 AND 2 0.013	BETWEEN 1 AND 2 0.015
	2	53-39140 ◇2	PIN (2)	0.089 ± .001			
	3	53-39021 ◇1	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 3 AND 2 0.013	BETWEEN 3 AND 2 0.015
B-B	4	53-39175 ◇1	HINGE HALF (2) (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 4 AND 5 0.013	BETWEEN 4 AND 5 0.015
	5	53-39140 ◇2	PIN (2)	0.089 ± .001			
	6	53-39068 ◇1	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 6 AND 5 0.013	BETWEEN 6 AND 5 0.015
C-C	7	32-31944 ◇7	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 7 AND 8 0.013	BETWEEN 7 AND 8 0.015
	8	MS20253-2	PIN	0.089 ± .001			
	9	32-31944 ◇7	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 9 AND 8 0.013	BETWEEN 9 AND 8 0.015
D-D	10	53-39079 ◇1	HINGE HALF (DOOR)	0.121 +.008 -.000	0.121 +.010 -.000	BETWEEN 10 AND 11 0.013	BETWEEN 10 AND 11 0.015
	11	53-39140 ◇3	PIN (AFT) PIN (FWD)	0.117 ± .001			
	12	53-39099 ◇1	HINGE HALF (STRUCTURE)	0.121 +.008 -.000	0.121 +.010 -.000	BETWEEN 12 AND 11 0.013	BETWEEN 12 AND 11 0.015
E-E	13 10 2	53-39105-5 ◇1 53-39105-7	HINGE HALF (DOOR)	0.065 +.006 -.000	0.065 +.010 -.000	BETWEEN 13 AND 14 0.012	BETWEEN 13 AND 14 0.014
	14 10	53-39140-7 ◇4 53-39140-25 ◇4	PIN (LEFT) PIN (RIGHT)	0.062 ± .001			
	15 10 2	53-39106-3 ◇1 53-39317-7 ◇1	HINGE HALF (STRUCTURE)	0.065 +.008 -.000	0.065 +.010 -.000	BETWEEN 15 AND 14 0.0125	BETWEEN 15 AND 14 0.015
F-F	16	32-37003 ◇1	HINGE HALF (DOOR)	0.066 +.006 -.000	0.066 +.010 -.000	BETWEEN 16 AND 17 0.013	BETWEEN 16 AND 17 0.015
	17	53-39140 ◇5	PIN	0.062 ± .001			
	18	32-37005 ◇6	HINGE HALF (STRUCTURE)	0.066 +.008 -.000	0.066 +.010 -.000	BETWEEN 18 AND 17 0.013	BETWEEN 18 AND 17 0.015
G-G	19	32-31595 ◇7	HINGE HALF (DOOR)	0.133 +.008 -.000		BETWEEN 19 AND 20 0.013	
	20	MS20253-5	PIN	0.129 ± .001			
H-H	21	32-31595 ◇7	HINGE HALF (STRUCTURE)	0.133 +.008 -.000		BETWEEN 21 AND 20 0.013	
	22	53-34049 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 22 AND 23 0.013	BETWEEN 22 AND 23 0.015
	23	53-34144 ◇8	PIN(AFT) PIN (FWD)	0.089 ± .001			
	24	53-34051 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 24 AND 23 0.0125	BETWEEN 24 AND 23 0.015
J-J	25	53-34039 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 25 AND 26 0.013	BETWEEN 25 AND 26 0.015
	26	53-34144 ◇8	PIN	0.089 ± .001			
	27	53-34053 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 27 AND 26 0.013	BETWEEN 27 AND 26 0.015
K-K	28	53-34039-19 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 28 AND 29 0.013	BETWEEN 28 AND 29 0.015
	29	53-34144 ◇8	PIN	0.089 ± .001			
	30	53-34053 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 30 AND 29 0.013	BETWEEN 30 AND 29 0.015
L-L	31	53-34039 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 31 AND 32 0.013	BETWEEN 31 AND 32 0.015
	32	53-34144 ◇8	PIN	0.089 ± .001			
	33	53-34053 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 33 AND 32 0.013	BETWEEN 33 AND 32 0.015
M-M	34	53-34072 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 34 AND 35 0.013	BETWEEN 34 AND 35 0.015
	35	53-34144 ◇8	PIN	0.089 ± .001			
	36	53-34073 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 36 AND 37 0.013	BETWEEN 36 AND 37 0.015
N-N	37	32-65019 ◇7	HINGE HALF (DOOR	0.133 +.008 -.000	0.133 +.010 -.000	BETWEEN 37 AND 38 0.013	BETWEEN 37 AND 38 0.015
	38	MS20253-5	PIN	0.129 +.008 -.000			
	39	32-65019 ◇7	HINGE HALF (STRUCTURE)	0.133 +.008 -.000	0.133 +.010 -.000	BETWEEN 39 AND 38 0.013	BETWEEN 39 AND 38 0.015

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Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 6 of 8)

SECT	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE: HOLE OR PIN SIZE: ALL HOLES	HOLE OR PIN SIZE: 10% OF HOLES	CLEARANCE, MAXIMUM: ALL HOLES	CLEARANCE, MAXIMUM: 10% OF HOLES
P-P	40	53-310226 ◇18	HINGE (STRUCTURE)	0.121 +.005 -.000		BETWEEN 40 AND 41 0.008	
	41	53-460066-7 ◇23	PIN		0.117 ±.001		
	42	53-460054 ◇18 ◇25	HINGE (DOOR)	0.121 +.005 -.000		BETWEEN 42 AND 41 0.008	
Q-Q	43	32-30112 ◇9	HINGE HALF (DOOR)	0.183 +.008 -.000	0.183 +.010 -.000	BETWEEN 43 AND 44 0.013	BETWEEN 43 AND 44 0.015
	44	MS20253-4	PIN	0.179 ± .001			
	45	32-30113 ◇9	HINGE HALF (STRUCTURE)	0.183 +.008 -.000	0.183 +.010 -.000	BETWEEN 45 AND 44 0.013	BETWEEN 45 AND 44 0.015
R-R	46 ◇9 ◇15	32-30110 ◇9 ◇15 53-310155 ◇9 ◇15	HINGE HALF (STRUCTURE)	0.133 +.008 -.000	0.133 +.010 -.000	BETWEEN 46 AND 47 0.013	BETWEEN 46 AND 47 0.015
	47	MS20253-5	PIN	0.129 ± .001			
	48 ◇9 ◇15	32-30111 ◇9 ◇15 53-310156 ◇9 ◇15	HINGE HALF (DOOR)	0.133 +.008 -.000	0.133 +.010 -.000	BETWEEN 48 AND 47 0.013	BETWEEN 48 AND 47 0.015
S-S	49	32-31540 ◇9	HINGE HALF (DOOR)	0.133 +.008 -.000	0.133 +.010 -.000	BETWEEN 49 AND 50 0.013	BETWEEN 49 AND 50 0.015
	50	MS20253-5	PIN	0.127 ± .001			
T-T	51	32-31429-3 ◇9	HINGE HALF (STRUCTURE)	0.133 +.008 -.000	0.133 +.010 -.000	BETWEEN 51 AND 50 0.013	BETWEEN 51 AND 50 0.015
	52	32-30219-3 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 52 AND 53 0.013	BETWEEN 52 AND 53 0.015
	53	MS20253-2	PIN	0.089 ± .001			
	54	32-31960 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 54 AND 53 0.013	BETWEEN 54 AND 53 0.015
U-U	55	32-31219 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 55 AND 56 0.013	BETWEEN 55 AND 56 0.015
	56	MS20253-2	PIN	0.089 ± .001			
	57	32-31044 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 57 AND 56 0.013	BETWEEN 57 AND 56 0.015
V-V	58	53-310189 ◇7	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 58 AND 59 0.013	BETWEEN 58 AND 59 0.015
	59	53-310279 ◇8	PIN	0.089 ± .001			

SECT	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE: HOLE OR PIN SIZE: ALL HOLES	HOLE OR PIN SIZE: 10% OF HOLES	CLEARANCE, MAXIMUM: ALL HOLES	CLEARANCE, MAXIMUM: 10% OF HOLES
Y-Y	60	53-310189 ◇11	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 60 AND 59 0.013	BETWEEN 60 AND 59 0.015
W-W	61	32-31541 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 61 AND 62 0.013	BETWEEN 61 AND 62 0.015
	62	MS20253-2	PIN	0.089 ± .001			
	63	32-31541 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 63 AND 62 0.0125	BETWEEN 63 AND 62 0.015
X-X	64	32-31915 ◇7	HINGE HALF (DOOR)	0.093 +.008 -.000		BETWEEN 64 AND 65 0.013	
	65	MS20253-2	PIN	0.089 ± .001			
	66	32-31915 ◇7	HINGE HALF (STRUCTURE)	0.093 +.008 -.000		BETWEEN 66 AND 65 0.013	
Y-Y	67 ◇22 ◇23	53-310078 ◇11 53-310079	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 67 AND 68 0.013	BETWEEN 67 AND 68 0.015
	68	MS20253-P2	PIN	0.089 ± .001			
	69 ◇22 ◇23	53-310078 ◇7 53-310079	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 69 AND 68 0.013	BETWEEN 69 AND 68 0.015
Z-Z	70	32-31995 ◇12	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 70 AND 71 0.013	BETWEEN 70 AND 71 0.015
	71	MS20253-2	PIN	0.089 ± .001			
	72	32-31995 ◇12	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 72 AND 71 0.013	BETWEEN 72 AND 71 0.015
AA-AA	73	32-31464 ◇9	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 73 AND 74 0.013	BETWEEN 73 AND 74 0.015
	74	MS20253-2	PIN	0.089 ± .001			
	75	32-31464 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 75 AND 74 0.013	BETWEEN 75 AND 74 0.015
AB-AB	76	32-31749 ◇13	DOOR	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 76 AND 77 0.013	BETWEEN 76 AND 77 0.015
	77	MS20253-2	PIN	0.089 ± .001			
	78	32-31851 ◇9	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 78 AND 77 0.013	BETWEEN 78 AND 77 0.015
AC-AC	79 ◇14 ◇16	32-31087 ◇14 53-34032 ◇16	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 79 AND 80 0.013	BETWEEN 79 AND 80 0.015

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Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 7 of 8)

SECT	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE: HOLE OR PIN SIZE ALL HOLES	HOLE OR PIN SIZE 10% OF HOLES	CLEARANCE, MAXIMUM: ALL HOLES	CLEARANCE, MAXIMUM 10% OF HOLES
AC-AC	80	MS20253-2	PIN	0.089 ± .001			
	81	32-31087 53-34032	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 81 AND 80 0.013	BETWEEN 81 AND 80 0.015
AD-AD	82	53-88158 (MS20257HA3)	HINGE DOOR (DOOR)	0.093 +.008 -.000		BETWEEN 82 AND 83 0.013	
	83	MS20253-P2 ⟨8⟩	PIN	0.089 ± .001			
	84	53-34075 (MS20257HA3)	HINGE HALF (STRUCTURE)	0.093 +.008 -.000		BETWEEN 84 AND 83 0.013	
AE-AE	85	MS20257XP4	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 85 AND 86 0.013	BETWEEN 85 AND 86 0.015
	86	MS20253-2	PIN	0.089 +.008			
	87	MS20257YP4	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 87 AND 86 0.013	BETWEEN 87 AND 86 0.015
AF-AF	88	MS20001PY4	HINGE HALF (HOOD)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 88 AND 89 0.023	BETWEEN 88 AND 89 0.025
	89	AN415-1-7	PIN	0.080 +.000 -.000			
	90	32-31261 (MS20001PX4)	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 90 AND 89 0.023	BETWEEN 90 AND 89 0.025
AG-AG	91	32-31128 (MS20001-P5) ⟨7⟩	HINGE HALF	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 91 AND 92 0.013	BETWEEN 91 AND 92 0.015
	92	MS20253-2	PIN	0.089 ± .001			
	93	32-31128 (MS20001-P5) ⟨7⟩	HINGE HALF	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 93 AND 92 0.013	BETWEEN 93 AND 92 0.015
AH-AH	94	53-46011 ⟨11⟩	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 94 AND 95 0.013	BETWEEN 94 AND 95 0.015
	95	32-46114 ⟨2⟩	PIN	0.089 ± .001			
	96	32-31804 ⟨7⟩	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 96 AND 95 0.013	BETWEEN 96 AND 95 0.015
	97	32-46112 ⟨7⟩	HINGE HALF (DOOR)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 97 AND 98 0.013	BETWEEN 97 AND 98 0.015
AJ-AJ	98	32-45409 53-460066-11 ⟨8⟩	PIN	0.089 ± .001			
	99 ⟨29⟩ ⟨30⟩	32-31267 53-310225 ⟨9⟩	HINGE HALF (STRUCTURE)	0.093 +.008 -.000	0.093 +.010 -.000	BETWEEN 99 AND 98 0.013	BETWEEN 99 AND 98 0.015

SECT	REF NO.	PART NUMBER	PART NAME	IN SERVICE TOLERANCE: HOLE OR PIN SIZE ALL HOLES	HOLE OR PIN SIZE 10% OF HOLES	CLEARANCE, MAXIMUM: ALL HOLES	CLEARANCE, MAXIMUM 10% OF HOLES
AK-AK	100	32-30018 ⟨16⟩	FIXED BLADE RAMP	0.182 +.008 -.000	⟨29⟩	BETWEEN 100 AND 101 0.013	⟨29⟩
	101	32-30045 ⟨17⟩	PIN	0.177 +.001 -.001			
	102	32-30022 ⟨7⟩	HINGE HALF (FORWARD RAMP)	0.182 +.008 -.000	⟨29⟩	BETWEEN 102 AND 101 0.013	⟨29⟩
AL-AL	103	32-30023 ⟨7⟩	HINGE HALF (AFT RAMP)	0.182 +.008 -.000	⟨29⟩	BETWEEN 103 AND 104 0.013	⟨29⟩
	104	32-30045 ⟨17⟩	PIN	0.177 ± .001			
	105	32-30043 ⟨7⟩	HINGE HALF (STRUCTURE)	0.182 +.008 -.000	⟨29⟩	BETWEEN 105 AND 104 0.013	⟨29⟩

Notes

1. 7178-T6 ALUMINUM ALLOY EXTRUSION, QQ-A-200/13 (T6).
2. MS20253-2 HINGE PIN, 302 STEEL, QQ-W-423, FORM 1 (B).
3. MS20253-3 HINGE PIN, 302 STEEL, QQ-W-423, FORM 1 (B).
4. MS20253-1 HINGE PIN, 302 STEEL, QQ-W-423, FORM 1 (B).
5. MS20253-P1 HINGE PIN, 302 STEEL, QQ-W-423, FORM 1 (B).
6. 7075-T6 ALUMINUM ALLOY PRESSING, QQ-A-367 (T6).
7. 2024-T4 ALUMINUM ALLOY EXTRUSION, QQ-A-200/3 (T4).
8. MS20253-P2 HINGE PIN, 302 STEEL, QQ-W-423, FORM 1 (B).
9. 7075-T6 ALUMINUM ALLOY EXTRUSION, QQ-A-200/11 (T6).
10. 7075-T6 ALUMINUM ALLOY, QQ-A-250/12 (T6).
11. 7075-T73 ALUMINUM ALLOY EXTRUSION, QQ-A-200/11 (T73).
12. MS20001PY-6 HINGE, 2024-T4 ALUMINUM ALLOY, QQ-A-200/3 (T4).
13. 2014-T6 ALUMINUM ALLOY EXTRUSION, QQ-A-200/2 (T6).
14. 7075-T651 ALUMINUM ALLOY EXTRUSION, QQ-A-200/11 (T651).
15. 7075-T73 ALUMINUM ALLOY EXTRUSION, QQ-A-200/11 (T73).
16. 2014-T652 ALUMINUM ALLOY FORGING, QQ-A-367 (T652).
17. 0.177 PIN STOCK, 302 STEEL, QQ-W-423, FORM 1.
18. 7075-T7352 ALUMINUM ALLOY FORGING QQ-A-367 (T7352).
19. HOLE IN ONE TANG IN EACH GROUP MAY BE OVERSIZE UP TO 0.225. HOLE IN ONE ADDITIONAL TANG IN EACH GROUP MAY BE OVERSIZE UP TO 0.197. HOLES IN ALL OTHER TANGS IN THE GROUP MUST NOT EXCEED 0.008 OVERSIZE. (TYPICAL TO ALL GROUPS OF HINGE TANGS.)
20. RF-4 63-7742 THRU 69-375.
21. RF-4 69-376 THRU 72-156.
22. LEFT SIDE.
23. RIGHT SIDE.
24. F-4C AND F-4D.
25. F-4E AND F-4G.
26. F-4C, F-4D, F-4E, AND F-4G.
27. RF-4.
28. F-4C, F-4D, AND RF-4.
29. FOR REPAIR PROCEDURE REFERENCE TO 1F-4C-3-1-3
30. MS20253-P3 HINGE PIN, 302 STEEL, QQ-W-423 FORM 1(B).

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Figure 3-80. Forward Fuselage and Components Hinge Tolerances (Sheet 8 of 8)

SECTION IV

CENTER FUSELAGE

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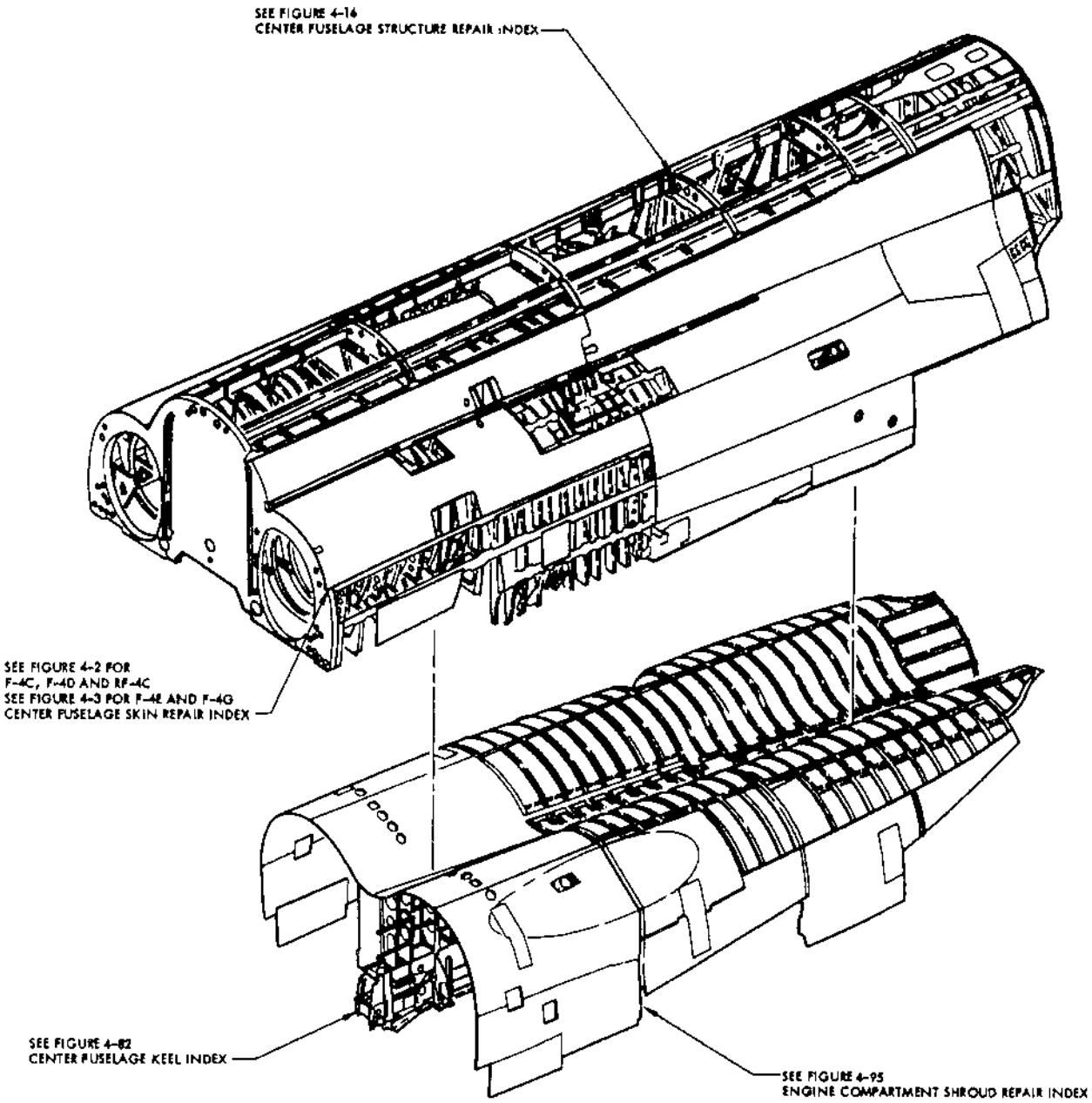


Figure 4-1. Center Fuselage Index

INTRODUCTION

4-1. GENERAL. See figure 4-1.

4-2. The center fuselage section begins at Fuselage Station (FS) 249.65 and ends at Fuselage Station (FS) 515.00. For ease of reference, the forward edges of doors 34L/R, 36L/R and 37 are at FS 249.65. On F-4C, F-4D and RF-4C, the aft edge of door 60 is at FS 515.00. On F-4E and F-4G, FS 515.00 is at the aft edge of doors 57 and 154. The center fuselage section contains the engines, number two through seven fuel cells, aft missile wells and launch mechanisms, arresting hook supporting structure and a portion of the engine air intake ducts. The forward and center fuselage sections are spliced together at FS 249.65 by an overlap type splice. Stringers of the forward fuselage section overlap the mating stringers of the center fuselage section and are fastened together. This type of splice is also used to join the center fuselage and center wing sections. The aft and center fuselage sections are mated at FS 515.00 by a butt splice and are bolted together. Both splices are of a manufacturing type and cannot be accomplished at organizational/field maintenance. The center fuselage construction is stressed skin over aluminum and titanium frames and bulkheads. Extruded stringers and longerons act as load carrying members and skin stiffeners. In high temperature areas of the engine compartments, titanium and corrosion-resistant steel parts are used. The engine compartments are pressurized to keep cooling air flowing through the compartments. Repairs in the engine compartments and on the engine access doors are critical and require special attention and sealing to prevent leakage of pressurized air. For repair purposes, the center fuselage has been divided into the following areas: skin panels, structure, engine compartment, and hinge tolerances. See figure 4-1.

4-2A. STRUCTURAL INFORMATION DATA CHANGES.

4-2B. Personnel should be familiar with the following data changes, contained in this manual:

a. When alodine is specified in this manual, change to chemical conversion coating, Specification MIL-C-5541.

b. When sealant, Specification MIL-S-8802, is specified in this manual, change to sealant, Specification MIL-C-81733, except in the integral fuel cell areas.

4-2C. SAFETY SUMMARY.

4-2D. Personnel should be familiar with the following warnings before using chemical conversion coating, sealants, cements, solvents, and primers.

WARNING

- When using chemical conversion coating, Specification MIL-S-8802/81733 sealants, cements, solvents, and primers, ensure adequate ventilation. Avoid skin and eye contact. Approved respirators will be worn when applying these substances. The local bioenvironmental engineer will furnish information concerning specific respiratory requirements and protective clothing.
- When involved with vac-cadmium operations, the local bioenvironmental engineer will provide specific requirements concerning protective equipment.

4-3. REPAIR CONSIDERATIONS.

4-4. When making repairs on the structural assembly, repair must be as strong or stronger than the original condition. Forming and heat treating of repair parts will be required in some areas. Since the majority of the skins are 7178 aluminum alloy, repairs will be of the same material. Some forming and heat treating may be required in areas where the skin has a formed contour. The bulkheads and frames may be repaired with aluminum, corrosion-resistant steel or titanium repair parts. The aluminum repair parts shall be used only on aluminum frames or bulkheads. Corrosion-resistant steel or titanium repair parts shall be used on titanium frames and bulkheads. Repairs for the longerons and stringers at organizational/field maintenance are not practical because of excessive amount of forming and heat treating required and inaccessibility of the parts. Repairs for the keel require the repair part to be made from the same material as the existing part being repaired. Some heat treating of angles, channels or other formed parts may be required. Refer to T.O. 1F-4C-3-1-1 for heat treating requirements.

MAIN STRUCTURAL ASSEMBLY

4-5. DESCRIPTION.

4-6. The main structural assembly of the center fuselage consists of skin panels, bulkheads and frames, longerons and stringers, keels and floors.

4-7. ACCESS FOR REPAIR.

4-8. When making a repair on the center fuselage, careful attention to the accessibility of the back side shall be taken. The majority of skin repairs will be blind repairs because of inaccessibility of the back side. Access for structural repairs may be gained by

internal and external access openings, refer to T.O. 1F-4C-3-1-3, removing or collapsing fuel tanks, removing the engines or by cutting out portions of the skin. Doors 34, 48, 57, 134, and 135 provide access to the top of the center fuselage and the fuel cells. The engine access doors provide access to the engine compartment. Any time a cutout is made, a thorough inspection of the surrounding structure shall be made for damage or corrosion. Refer to T.O. 1F-4C-3-1-6 for areas of dissimilar metal contact.

4-9. **SKIN PANELS.** See figures 4-2 thru 4-12.

4-10. Fixed skin panels are attached to structure with permanent type fasteners and are load carrying members. The majority of the fixed skins are chemically machined 7178 aluminum alloy. The constant gage fixed skin panels are small panels used primarily as a fairing and are 2024 aluminum alloy, 7178 alclad, A286 corrosion-resistant steel and titanium alloy. **See figure 4-3A for allowable loose and missing fasteners in doors and panels during flight.**

4-10A. SKINS, 53-32023 and 53-32027, FASTENER REPLACEMENT. For skins 53-32023 and 53-32027, only damaged, worn, loose, or unauthorized fasteners will be replaced with a like next size Hi-Shear fasteners if accessable without removing aircraft parts. If area is inaccessable, use B100T blind bolts. NAS1672 Jo-Bolts are no longer authorized for new installation and will be replaced when they are loose or skin is replaced. Fasteners are to be fay sealed and covered with MIL-S-81733 sealant. See TO 1F-4C-3-1-6.

4-11. **NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS.** Negligible damage and corrosion limits for the center fuselage exterior skin panels are divided into two groups. Group I for all skin panels and Group II special.

4-12. **Group I.** Damage or corrosion on skin panels shall be blended. Refer to TO 1F-4C-3-1-5 for rework procedure. The allowable depth of the damaged area after blending is: skin 0.040 or thicker may be blended a maximum depth of 0.010, and skin less than 0.040 may be blended a maximum depth of 0.005. If a crack cannot be blended within limits, skin is to be repaired per paragraph 4-14. Dents not exceeding 0.060 in depth are negligible provided the radius of the dent is greater than 2 inches, the dent does not create an oil-can tendency and does not interfere with internal tubing or mechanisms. Refer to TO 1F-4C-3-1-5 for repair of oil-can conditions. A fluorescent penetrant check will be performed to determine if dent is free of cracks. If a crack exists that cannot be blended within limits, skins are to be repaired per paragraph 4-14, or replaced per paragraph 4-27. A nick or gouge in the edge of a panel which can be blended and not reduce the fastener edge distance to less than one and one half fastener diameter is negligible. A nick or small gouge which can be removed by drilling a hole larger than the area of damage and installing a rivet is negligible. If cracked or chipped paint exists around a rivet head, paint should be removed and rivet measured for tilt. Refer to TO 1F-4C-3-1-5 for tilt limits and procedure of measuring rivet tilt.

4-13. **Group II.** See figure 4-9 for negligible damage and corrosion removal limits of following skins:

32-32161
32-32162
32-32163
32-32164
32-32165
32-32166

Dents that do not exceed 0.060 in depth are negligible, provided the radius of the dent is greater than 2 inches, does not create an oil-can tendency and does not interfere with internal tubing or mechanisms. Refer to TO 1F-4C-3-1-5 for repair of oil-can condition. Perform a fluorescent penetrant check to determine if dent is free of cracks. If a crack cannot be blended within limits, repair skins per paragraph 4-14, or replace per paragraph 4-27. A nick or gouge in the edge of a panel which can be blended and not reduce fastener edge distance to less than one and one-half times fastener diameter is negligible. Refer to TO 1F-4C-3-1-5 for rework procedure. A nick or small gouge which can be removed by drilling a hole larger than the area of damage and installing a rivet, is negligible. If cracked or shipped paint exists around a rivet head, the paint should be removed and rivet measured for tilt. Refer to TO 1F-4C-3-1-5 for tilt limits and procedure of measuring rivet tilt.

Negligible damage and corrosion are reworked per TO 1F-4C-3-1-5. Make a fluorescent penetrant check of dents or other negligible damage per TO 1F-4C-3-1-1 to determine if a crack exists.

4-14. **PATCH REPAIRS.** Skin damage that exceeds negligible damage but is not great enough to require a replacement of the entire panel or a portion of the panel shall be repaired by patching. Refer to TO 1F-4C-3-1-5. The type of patch to be made depends on the location and size of damage. The area being repaired will be sealed per TO 1F-4C-3-1-6.

4-15. **Tools and Equipment.**

Motor, drill, pneumatic
Bits, drill
Reamer
Tool, installation, Jo-Bolt
File, rotary
Bits, router
Countersink, high speed 100°

4-16. **Materials.**

Sheet stock, 7178-T6 alclad, QQ-A-250/15 (T6), for gage refer to TO 1F-4C-3-1-5
Jo-Bolts NAS1670
Primer and paint, finishing. Refer to TO 1F-4C-3-1-6.

4-17. **Procedure.** Refer to TO 1F-4C-3-1-5 for type of repairs.

a. Cut out damaged area according to type of damage.

b. Inspect as much of interior as possible for signs of corrosion and damage to substructure.

c. Polish edges of cutout.

d. Cut required fillers from same gage and material as existing skin. See figure 4-4 for land thickness and chemically machined thicknesses.

e. Cut patch from 7178-T6 alclad.

f. Lay out fastener pattern. Where existing holes are used, existing countersink shall be filled with a rivet head. Refer to TO 1F-4C-3-1-5 for method of installing filler.

g. Bevel edge of patch 45°.

h. Drill, countersink and ream holes to size for NAS1670 Jo-Bolts.

i. Polish edges of patch. Deburr fastener holes.

j. Prime bare metal not to be painted, including countersink and fastener holes, per TO 1F-4C-3-1-6.

NOTE

Seal area as required per TO 1F-4C-3-1-6.

k. Refinish repaired area in accordance with corrosion control procedures in TO 1F-4C-3-1-6.

4-18. **INSERTION REPAIR.** When a damage is near the edge of a skin panel, an insertion repair shall be made. Refer to TO 1F-4C-3-1-5. For an insertion type repair, damaged skin is cut out leaving a hole that extends to one, two or three sides of the skin panel. The area being repaired will be sealed per TO 1F-4C-3-1-6.

4-19. **Tools and Equipment.**

Motor, drill, pneumatic
Bits, drill
Reamer
Tool, installation, Jo-Bolt
File, rotary
Bits, router
Countersink, high speed 100°

4-20. **Materials.**

Sheet stock, 7178-T6 alclad, QQ-A-250/15 (T6)
Jo-bolts, NAS1670
Paint, finishing. Refer to TO 1F-4C-3-1-6

4-21. **Procedure.** Refer to TO 1F-4C-3-1-5 for types of repairs.

a. Cut out damaged area.

b. Inspect as much of interior as possible for signs of corrosion and damage to substructure.

c. Polish edges of cutout.

d. Cut fillers as required from same gage and material as existing skin. See figure 4-4 for land thicknesses and chemically machined thicknesses.

e. Cut patch from 0.071 7178-T6 alclad.

f. Lay out fastener pattern. Where existing holes are used, existing countersink shall be filled with a rivet head. Refer to TO 1F-4C-3-1-5 for method of installing filler.

g. Drill, ream, and countersink holes for Jo-Bolts.

h. Polish edges of patch. Deburr fastener holes.

i. Prime bare metal not to be painted, including countersinks and fastener holes per TO 1F-4C-3-1-6.

NOTE

Seal area as required per TO 1F-4C-3-1-6.

j. Refinish repaired area in accordance with TO 1F-4C-3-1-6.

4-22. **FAIRING REPAIR FS 400.40.** See figure 4-7 for repair of 32-32270-181, -182 angles that are cracked or have a broken flange. Stop drill cracks that have developed in the angle. For angles that are broken, fabricate a reinforcing angle from 1M2446 extrusion.

4-23. **Tools and Equipment.**

Motor, drill, pneumatic
File, rotary
Bit drill, number 21

4-24. **Materials.**

Sheet stock, 0.045 7075-T6 aluminum alloy, QQ-A-250/12(T6)
Extrusion, 1M2446

4-25. **Procedure.**

a. Position flaps to full down per TO 1F-4( )-2-4.

b. Remove boundary layer control access door 32-32270-185 or -186.

c. Remove boundary layer control valve, if necessary, for access to rework area.

d. Remove one MS21059L3 and four MS21061L3 plate nuts. Retain for reinstallation if plate nuts are serviceable.

e. Remove two NAS1055-6 Hi-Shear rivets and one NAS464P3 bolt from lower flange of 32-32270-181, -182 angle.

f. Stop drill cracks that develop in angle.

g. Angles with broken flange: trim out broken area and smooth edges and treat for corrosion control per TO 1F-4C-3-1-6.

h. Using 1M2446 extrusion, form a reinforcing support angle to match 32-32270-181, -182 angle.

i. Trim repair support angle to match 32-32270-181, -182 angle.

j. Make filler from 0.045 7075-T6 aluminum alloy.

k. Apply corrosion control coating on bare aluminum surfaces per TO 1F-4C-3-1-6.

l. Clamp repair angle in place. Using the existing rivet hole as guide, mate drill holes in lower flange of repair angle. Deburr holes after drilling.

m. Install repair angle with NAS464P3-11 bolts.

CAUTION

Exercise care not to enlarge fastener holes in access cover.

n. Using the boundary layer control access door as a template, mate drill holes in filler and repair angle flange. Deburr holes after drilling.

o. Install one MS21059L3 and four MS21061L3 plate nuts on repair angle.

p. Reinstall boundary layer control valve, if removed, and access door.

4-26. **Angle Replacement.** See figure 4-8 for replacement of 32-32270-181, -182 angles.

4-27. **REPLACEMENT.** Skin damage that exceeds negligible, but cannot be repaired by patching or insertion repair, shall be replaced. Small skins should be replaced since they are impractical to repair. Refer to TO 1F-4C-3-1-1 for heat damage evaluation and TO 1F-4C-3-1-6 for sealing requirements.

4-28. **Flap-Up Stop, FS 414.00, Repair.** Cracks that develop in the flare area of the flap-up stop web can be repaired as shown in figure 4-13.

4-29. **Flap-Up Stop, FS 414.00, Replacement.** If the flap-up stop is damaged in excess of limits in figure 4-13, it should be replaced. See figure 4-14 for replacement procedure.

4-30. **Engine Air Duct Inner Skin.** See figure 4-15. The engine air intake duct skin panels are formed 2024 aluminum alloy, chemically machined sheets. Refer to paragraphs 4-33 thru 4-37 for intake duct skin repairs. Refer to paragraph 4-31 for allowable missing and/or loose fasteners within the duct area. Refer to paragraph 4-57 for bellmouth, bellmouth ring, and seal description.

4-31. **Allowable Missing and/or Loose Fasteners Within Duct.** Inspect installed Hi-Shear rivets for looseness by rotating a pencil eraser on the rivet head. All rivets which will rotate with the eraser will be considered loose. Loose fasteners are acceptable only under the following conditions:

a. Not over two such rivets are together.

b. At least three tight rivets are between each pair of loose rivets.

c. Not over 10 percent of rivets in any row are loose. Corner rivets and rivets next to corner rivets must be installed. The third or fourth rivet may be missing, and up to 5 percent of the remaining rivets in each row may be missing, provided five rivets on each side of missing rivets are installed and tight. Marginally acceptable and missing rivets will be replaced as soon as possible but not later than next phase inspection.

NOTE

If aircraft has exceeded the allowable missing or loose fasteners it will be repaired in accordance with USAF drawing 7653375. However, number 2 fuel cell should not be removed just to perform this repair. Install excess B100T fasteners until the next instance that number 2 fuel tank is removed, then perform the repair in accordance with USAF drawing 7653375.

This repair may be installed anytime number 2 fuel cell is removed as preventive maintenance.

4-31A. Repair Consideration. The engine intake duct inner skins are not readily accessible for repairs, skin replacement, or fastener replacement. If access to inner skins for installation of original or substitute fasteners would require an excessive expenditure of man-hours, blind fasteners may be substituted, but must be installed as follows:

a. Hi-Shear, HS-23, 7075-T6 aluminum rivets can be replaced in order of preference with Cherry Max CR 3522P, NAS-1399C (A286), or B100T Huck blind rivets.

CAUTION

For blind rivet installation instructions, reference TO 1F-4C-3-1-1. Only qualified personnel familiar with the installation procedures of the used blind fasteners shall be allowed to install them. In addition to the blind rivets inspection requirements in TO 1F-4C-3-1-1, the Huck blind rivet installed in the air ducts will be inspected by lightly tapping with a hammer and punch. A loose stem will be evident by skin movement or by a characteristically dull sound as contrasted to the sharp, solid sound from a properly installed rivet. Acceptable Huck blind rivets are generally found with flush or high stems; unacceptable Huck blind rivets generally have a low stem height. A Huck blind rivet installed in an oversized hole or with the wrong grip length, generally has inadequate stem locking although it meets the stem height criteria. Therefore, it is mandatory that the Huck rivets installed in the air intake ducts be inspected and replaced if any doubt exists as to their proper installation.

b. Wing nut type wedge locks must be used extensively with Huck B100T blind rivets to achieve proper clamp up. Use the following, or equivalent, wing nut fasteners: MM439WNX-2 for 1/8 diameter and MM439WNX-3 for 5/32 diameter.

c. The use of threaded fasteners, regardless of cotter pin installation, is not authorized. If threaded fasteners are found, contact OO-ALC/LACE for instructions.

4-32. Negligible Damage and Corrosion Removal Limits. Nicks, gouges, corrosion, and scratches on the inner skin panels should be blended per TO 1F-4C-3-1-5. The allowable depth of the damage area after blending is 0.010. Dents that do not exceed 0.060 in depth are negligible provided the radius of the dent is greater than 2 inches, does not create an oil-can tendency and does not interfere with internal tubing or mechanism. Refer to TO 1F-4C-3-1-5 for repair of oil-can damage. A nick or gouge in the edge of a panel which can be blended and not reduce fastener edge distance to less than one and one half times fastener diameter is negligible.

4-33. Repairs. Skin damage which exceeds negligible damage but small enough not to require replacement of the skin panel may be repaired by flush insertion or flush patch per TO 1F-4C-3-1-5.

4-34 thru 4-37. Deleted.

4-38. Replacement. It is not practical to replace engine air duct inner skins at organizational/field maintenance because of extensive disassembly required and equipment needed for making replacement skins.

"All data on pages 4-6A thru 4-6B deleted."

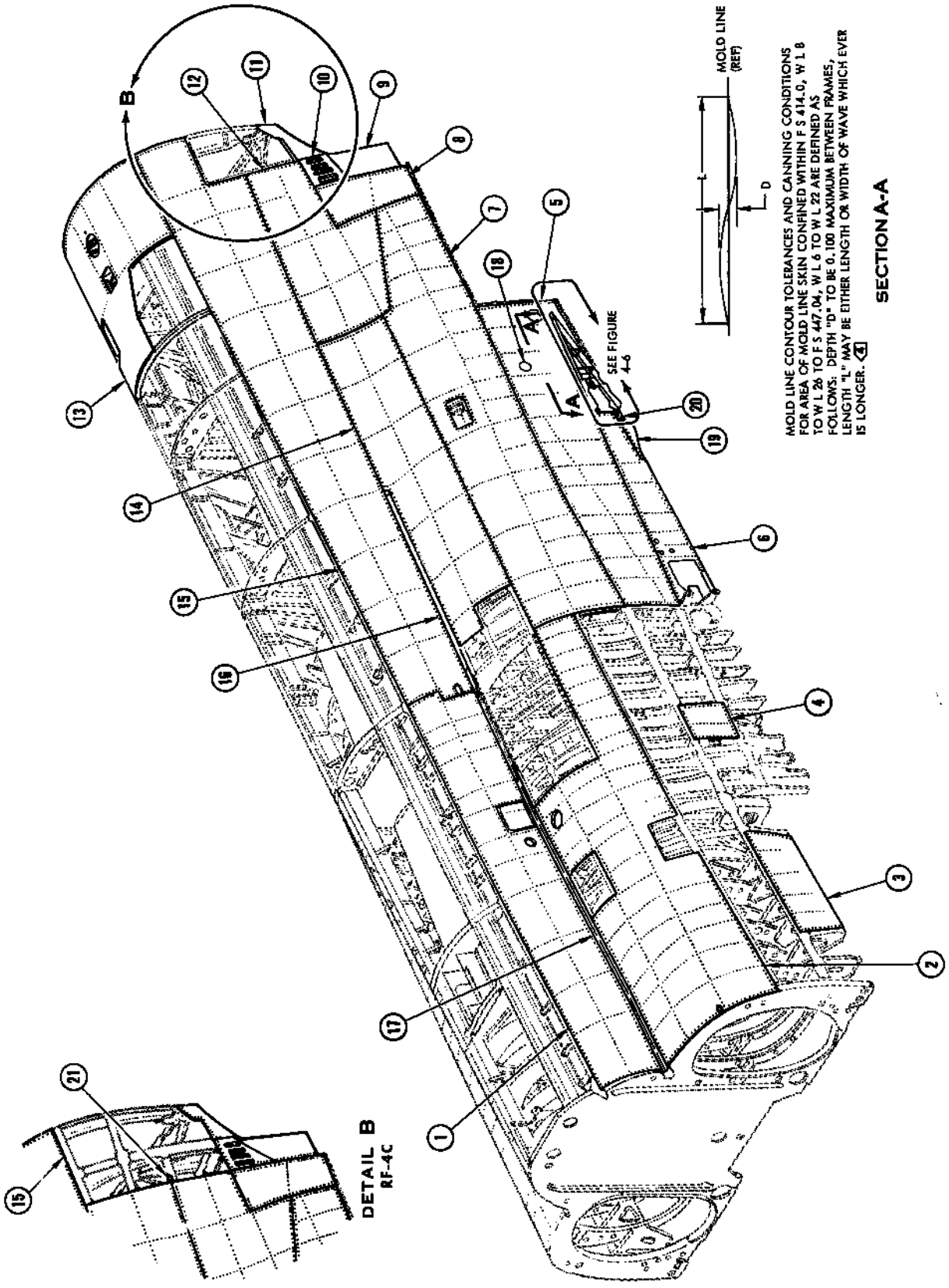


Figure 4-2. Skin Repair Index - F-4C, F-4D, and RF-4C (Sheet 1 of 6)

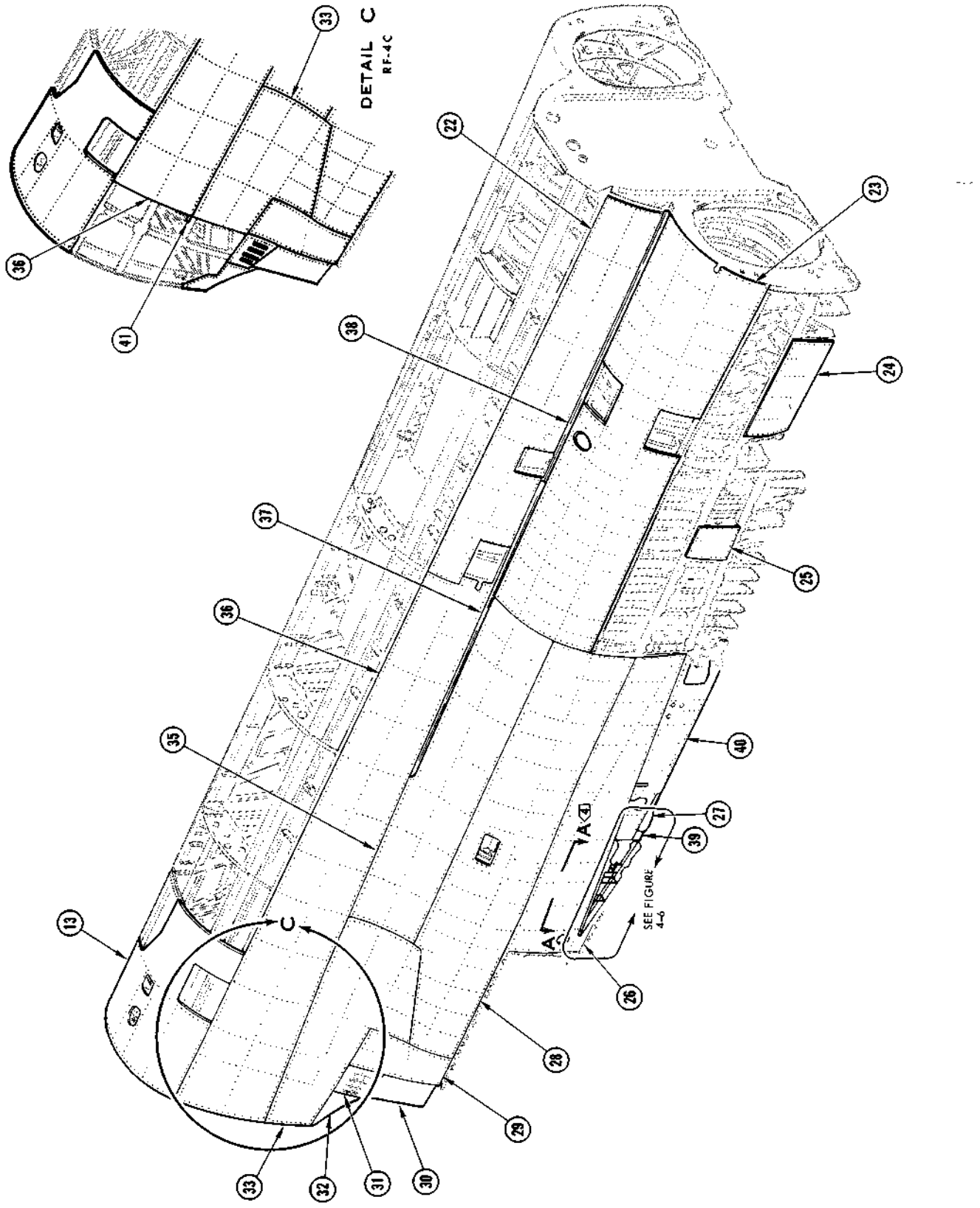


Figure 4-2. Skin Repair Index - F-4C, F-4D, and RF-4C (Sheet 2 of 6)

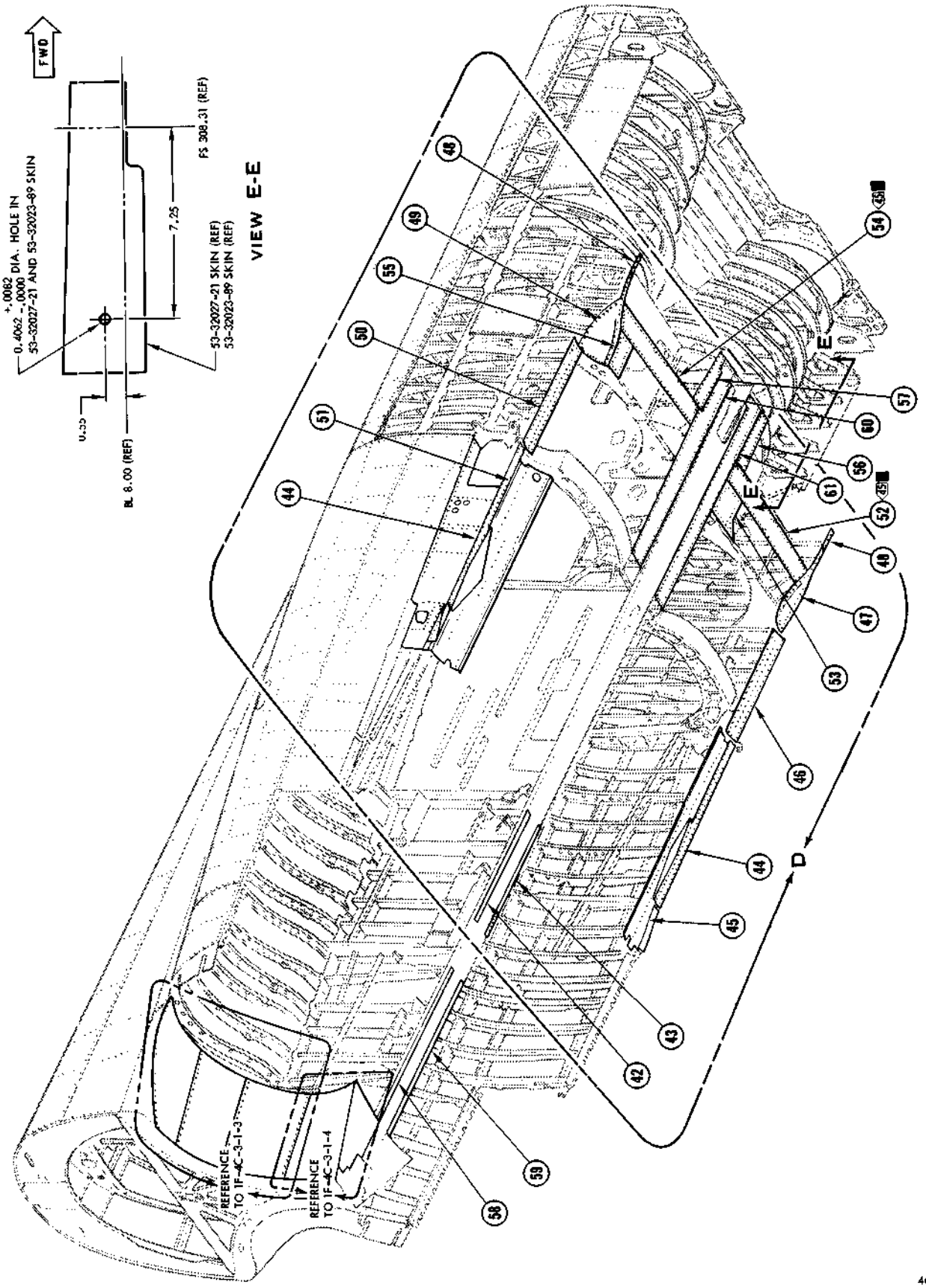
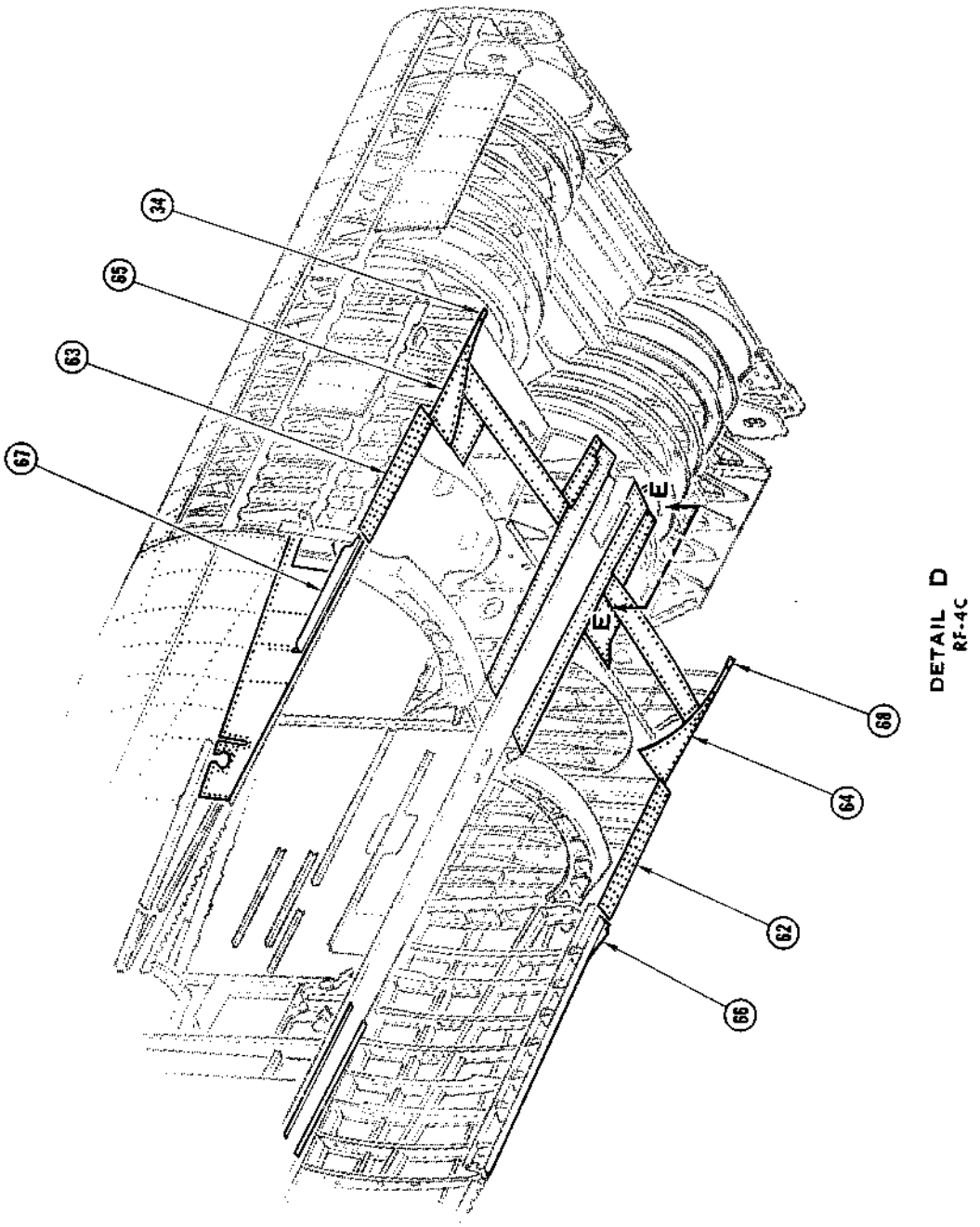


Figure 4-2. Skin Repair Index - F-4C, F-4D, and RF-4C (Sheet 3 of 6)



4C-3-1-2-(79-4)C

Figure 4-2. Skin Repair Index - F-4C, F-4D, and RF-4C (Sheet 4 of 6)

REF NO		PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	43	32-32161-5	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	44	32G32161-5	SKIN		7178-T6 AL ALY	QQ-A-250/14 T6
	38	32-32161-7	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
2	35	32-32163-15	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	30	32-32163-27	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	36	32-32163-31	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
3		32-32166-3	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
4		32-32166-23	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
5	5	32-32166-29	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	34	32-32166-35	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
6	5	32-32270-265	WEB		7178-T6 AL ALY	QQ-A-250/14 (T6)
	6	32-32270-285	WEB		7178-T6 AL ALY	QQ-A-250/14 (T6)
	11	53-32536-3	WEB		7178-T6 AL ALY	QQ-A-250/14 (T6)
	12	53-32536-55	WEB		7178-T6 AL ALY	QQ-A-250/14 (T6)
7		32-32165-13	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
8		32-32165-5	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED
9		32-32347-57	FINGER PLATE	0.020	A286 CRES	AMS5525
10	5	32-32347-11	SKIN	0.032	UNALLOYED TITANIUM	MIL-T-9046 TYPE I, COMPOSITION B, ANNEALED
	11	32-32347-63	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED
11	15	32-32347-3	SKIN	0.020	A286 CRES	AMS5525
	26	32-32347-71	SKIN	0.020	A286 CRES	AMS5525
	19	32-32347-135	SKIN	0.020	A286 CRES	AMS5525
12	35	32-32164-13	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	6	32-32164-17	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
13	5	32-32298-5	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	6	32-32298-15	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	16	53-32586-3	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
14	15	32-32164-15	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	14	32-32164-19	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
15	15	32-32162-7	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	17	32-32162-11	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	17	32-32162-13	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	18	32-32162-25	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
16		32-32175-135	FILLER	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
17		32-32175-195	FILLER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	9	53-32004-3	SKIN	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
	10	53-32504-3	SKIN	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19		32-32270-279	FAIRING	0.032	2024-T4 ALCLAD	QQ-A-250/5 (T4)
20		32-32270-277	FAIRING	0.071	2024-T3 ALCLAD	QQ-A-250/5 (T3)
21	18	32-32162-15	SKIN	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
22	43	32-32161-4	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	44	32G32161-7	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	38	32-32161-8	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
23	37	32-32163-17	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	28	32-32163-34	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
24		32-32166-4	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
25		32-32166-24	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
26	15	32-32166-30	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	16	32-32166-36	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
27	19	32-32270-280	FAIRING	0.032	2024-T4 ALCLAD	QQ-A-250/5 (T4)
28		32-32165-15	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
29		32-32165-6	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III, COMPOSITION A, ANNEALED
30		32-32347-58	FINGER PLATE	0.020	A286 CRES	AMS5525
31	13	32-32347-12	SKIN	0.032	UNALLOYED TITANIUM	MIL-T-9046, TYPE I, COMPOSITION B, ANNEALED
	11	32-32347-64	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED
32	15	32-32347-4	SKIN	0.020	A286 CRES	AMS5525
	20	32-32347-72	SKIN	0.020	A286 CRES	AMS5525
	19	32-32347-136	SKIN	0.020	A286 CRES	AMS5525
33	15	32-32164-14	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	28	32-32164-18	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
34	16	53-32514-18	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	21	32-32164-9	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	29	32-32164-29	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
36	15	32-32162-8	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	7	32-32162-12	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	17	32-32162-14	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
	18	32-32162-26	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
37		32-32175-133	FILLER	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
38		32-32175-196	FILLER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
39	19	32-32270-278	FAIRING	0.071	2024-T3 ALCLAD	QQ-A-250/5 (T3)
40	5	32-32270-266	WEB		7178-T6 AL ALY	QQ-A-250/14 (T6)
	6	32-32270-286	WEB	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	11	53-32536-4	WEB		7178-T6 AL ALY	QQ-A-250/14 (T6)
	12	53-32536-56	WEB		7178-T6 AL ALY	QQ-A-250/14 (T6)
41	18	32-32162-15	SKIN	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)

4C-3-1-2-(79-5)C

Figure 4-2. Skin Repair Index - F-4C, F-4D, and RF-4C (Sheet 5 of 6)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
42	25	32-32481-8	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	24	32-32481-10	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	23	32-32481-16	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
43	28	32-32481-7	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	26	32-32481-9	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	27	32-32481-15	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
44	29	32-32270-233	SKIN	0.250	PHONOLIC SHEET	MIL-P-15035
45	12	32-94641-31	FAIRING ASSY	0.090	2024-T3 ALCLAD	QQ-A-250/5 (T3)
46	11	32-32536-9	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47	30	32-32274-63	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	31	32-32274-113	SKIN	0.051	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48	19	32-32274-91	SKIN	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49	32	32-32274-64	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	33	32-32274-114	SKIN	0.051	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	10	32-32536-10	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	9	32-94641-32	FAIRING ASSY	0.090	2024-T3 ALCLAD	QQ-A-250/5 (T3)
52	37	53-32027-3 } 45	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	38	53-32027-139 } 45	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
53		53-32027-85	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
54	39	53-32023-5 } 45	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	40	53-32023-75 } 45	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
55		53-32023-3	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
56	34	53-32027-21	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	35	53-32027-147	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6
57	36	53-32023-13	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	41	53-32023-89	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	17	32-32481-6	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	20	32-32481-12	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
59	21	32-32481-5	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	22	32-32481-11	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
60	42	32-32198-33	HINGE PLATE	1M5577	7178-T6 AL ALY	QQ-A-200/13 (T6)
	43	32-32198-43	HINGE PLATE	1M5577	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
61	44	32-32198-34	HINGE PLATE	1M5577	7178-T6 AL ALY	QQ-A-200/13 (T6)
	45	32-32198-44	HINGE PLATE	1M5577	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
62	5	53-32512-41	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	13	53-32512-87	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
63	14	53-32512-42	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
64	6	53-32514-5	SKIN	0.040 25	7178-T6 ALCLAD	QQ-A-250/15 (T6)
				0.051 26	7178-T6 ALCLAD	QQ-A-250/15 (T6)
65	46	53-32514-6	SKIN	0.040 25	7178-T6 ALCLAD	QQ-A-250/15 (T6)
				0.051 26	7178-T6 ALCLAD	QQ-A-200/13 (T6)
66	47	53-32536-9	ANGLE	1M2324	7178-T6 AL ALY	QQ-A-200/13 (T6)
67	48	53-32536-10	ANGLE	1M2324	7178-T6 AL ALY	QQ-A-250/15 (T6)
68	49	53-32514-17	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)

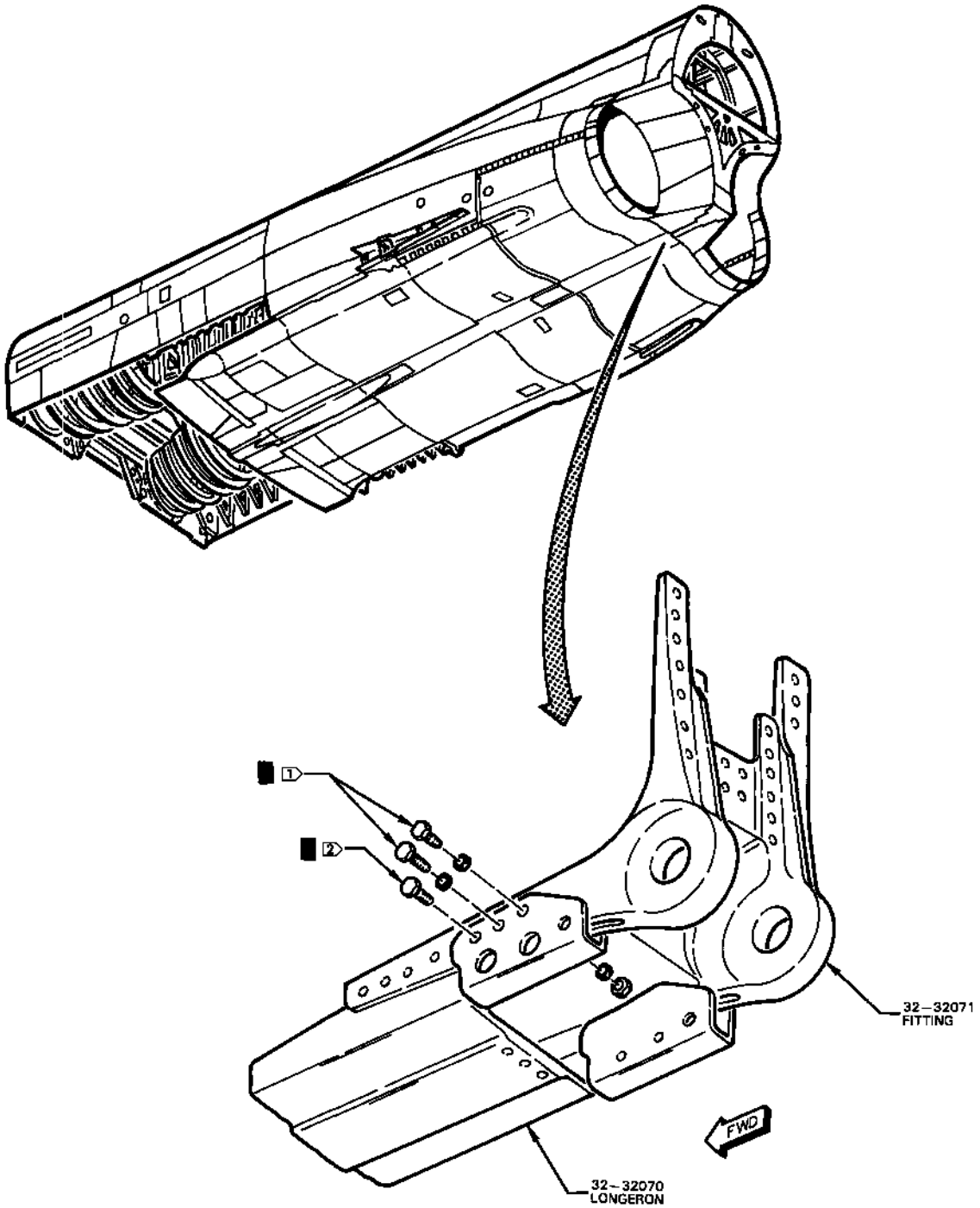
Notes

1. REFERENCE T O 1F-4C-3-1-6 FOR SEALING REQUIREMENTS.
2. FOR STOCK SIZE AND CHEMICALLY MACHINED DIMENSIONS. SEE FIGURE 4-4.
3. THIS PART IS CHEMICALLY MACHINED FROM 0.100 INCH THICK ALUMINUM ALLOY STOCK.
4. CONTOUR REQUIREMENTS MAY DEVIATE FROM LIMITS SHOWN IN T O 1F-4C-3-1-1 AS SHOWN IN SECTION A-A OF SHEET 1.

5. F-4C 63-7407 THRU 63-7524.
6. F-4C 63-7528 THRU 64-928; F-4D.
7. RF-4C 63-7742 THRU 64-1001.
8. RF-4C 64-1002 THRU 72-156.
9. F-4C 63-7407 THRU 63-7468.
10. F-4C 63-7470 THRU 64-928; RF-4C.
11. RF-4C 63-7742 THRU 64-1017.
12. RF-4C 64-1018 THRU 72-156.
13. F-4C, F-4D 64-929 THRU 64-976, RF-4C 63-7742 THRU 65-876.
14. F-4D 64-977 THRU 66-8825; RF-4C 65-877 THRU 72-156.
15. F-4C, F-4D.
16. RF-4C.
17. RF-4C 64-1002 THRU 67-464.
18. RF-4C 67-465 THRU 72-156.
19. RF-4C 68-548 THRU 72-156.
20. RF-4C 63-7742 THRU 67-469.
21. F-4C, F-4D, RF-4C 63-7742 THRU 67-427.
22. RF-4C 67-428 THRU 72-156.
23. F-4C 63-7407 THRU 63-7596, RF-4C 63-7742 THRU 63-7763.
24. F-4C 63-7598 THRU 64-881, F-4D 64-929 THRU 64-937, RF-4C 64-997 THRU 65-838.
25. RF-4C 63-7742 THRU 64-1037.
26. RF-4C 64-1038 THRU 72-156.
27. F-4C, F-4D 64-929 THRU 65-770, RF-4C 63-7742 THRU 66-388.
28. F-4D 65-771 THRU 66-8825; RF-4C 66-387 THRU 72-156.
29. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, RF-4C 65-839 THRU 72-156.
30. F-4C 63-7407 THRU 63-7688.
31. F-4C 63-7689 THRU 64-928; F-4D.
32. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, RF-4C 63-7742 THRU 65-838.
33. F-4C, F-4D, AND RF-4C 63-7742 THRU 69-384.
34. RF-4C 71-248 THRU 72-156.
35. F-4C, F-4D, RF-4C 63-7742 THRU 69-366.
36. RF-4C 69-367 THRU 71-252.
37. F-4C, F-4D, RF-4C 63-7742 THRU 71-252.
38. RF-4C 71-253 THRU 72-156.
39. F-4C, F-4D 64-929 THRU 66-7760, RF-4C 63-7742 THRU 66-448
40. F-4D 66-7761 THRU 66-8825, RF-4C 66-449 THRU 72-156.
41. RF-4C 63-7742 THRU 68-561.
42. RF-4C 68-562 THRU 72-156.
43. F-4C, F-4D, AND RF-4C 63-7742 THRU 71-252 BEFORE T.O.1F-4-991.
44. F-4C, F-4D, AND RF-4C 63-7742 THRU 71-252 AFTER T.O.1F-4-991.
45. IF FASTENERS BECOME LOOSE IN THIS AREA REPLACE WITH OVER SIZE HIGH SHEAR FASTENERS OR B-100T FASTENERS. IF B-100T FASTENERS ARE USED, BREAK KNIFE EDGE TO 0.015.

4C-3-1-2-(79-6)E

Figure 4-2. Skin Repair Index - F-4C, F-4D, and RF-4C (Sheet 6 of 6)



Notes

1. FOR REPLACEMENT INSTALL:

3M33–6–16 BOLT	6 PLACES		NAS6706U16 BOLT	6 PLACES
MS21043–6 NUT	6 PLACES	OR	MS21043–6 NUT	6 PLACES
AN960C616L WASHER	4 PLACES 3		AN960C616L WASHER	4 PLACES
AN960C616 WASHER	6 PLACES		AN960C616 WASHER	6 PLACES

2. MACHINE OR GRIND HEAD OF FORWARD BOLT AS REQUIRED TO CLEAR FAIRING.
3. WASHER NOT REQUIRED UNDER HEAD OF FORWARD BOLT. (REF 2 I. 3–BOLTS NOT SHOWN FOR FAR SIDE OF FITTING.

4C–3–1–2–(427)A

Figure 4-86A. Fastener Replacement, Arresting Gear Fitting 32-32071

All data on pages 4-212B thru 4-212F, including figures 4-86B and 4-86C deleted.

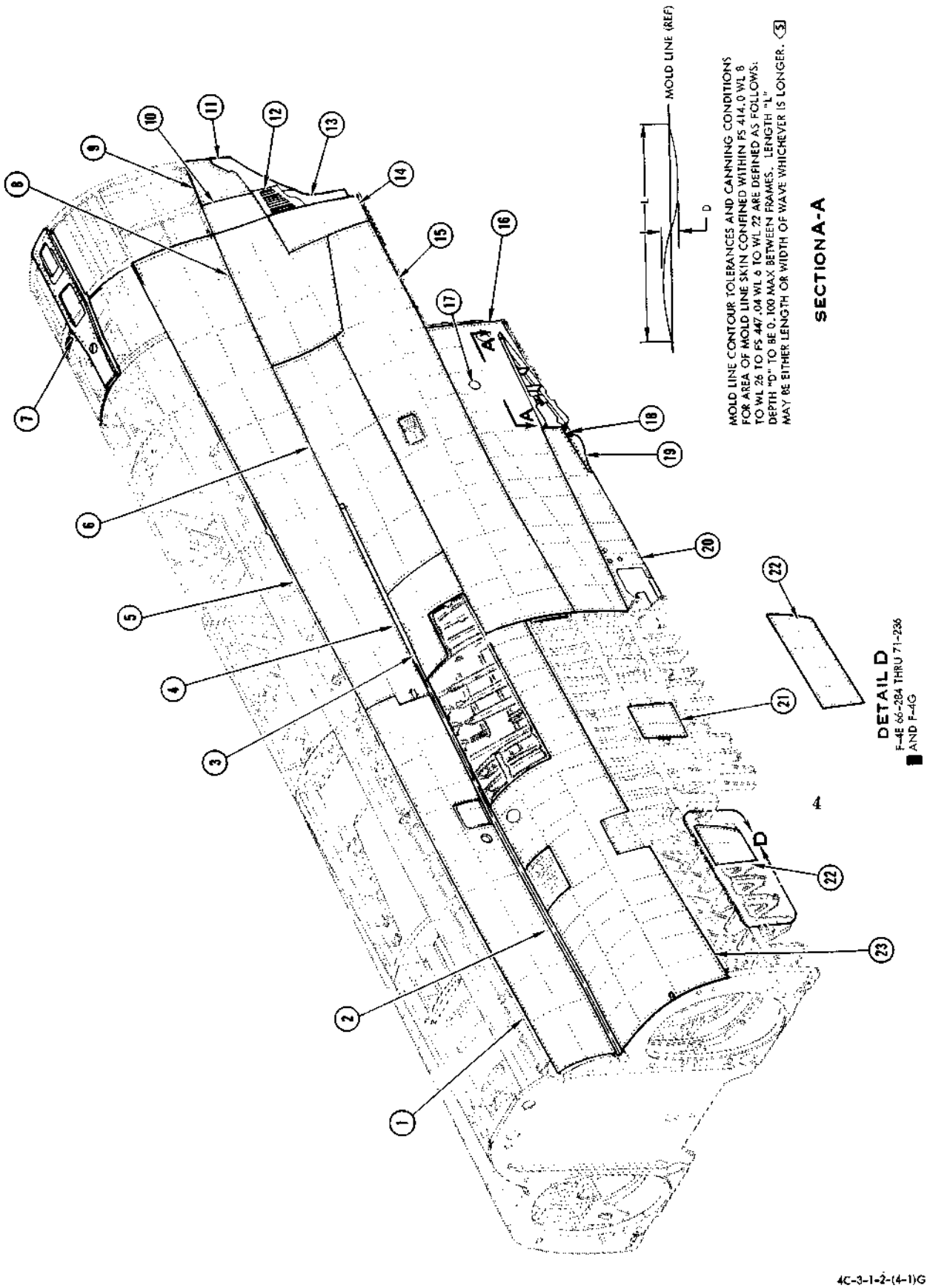
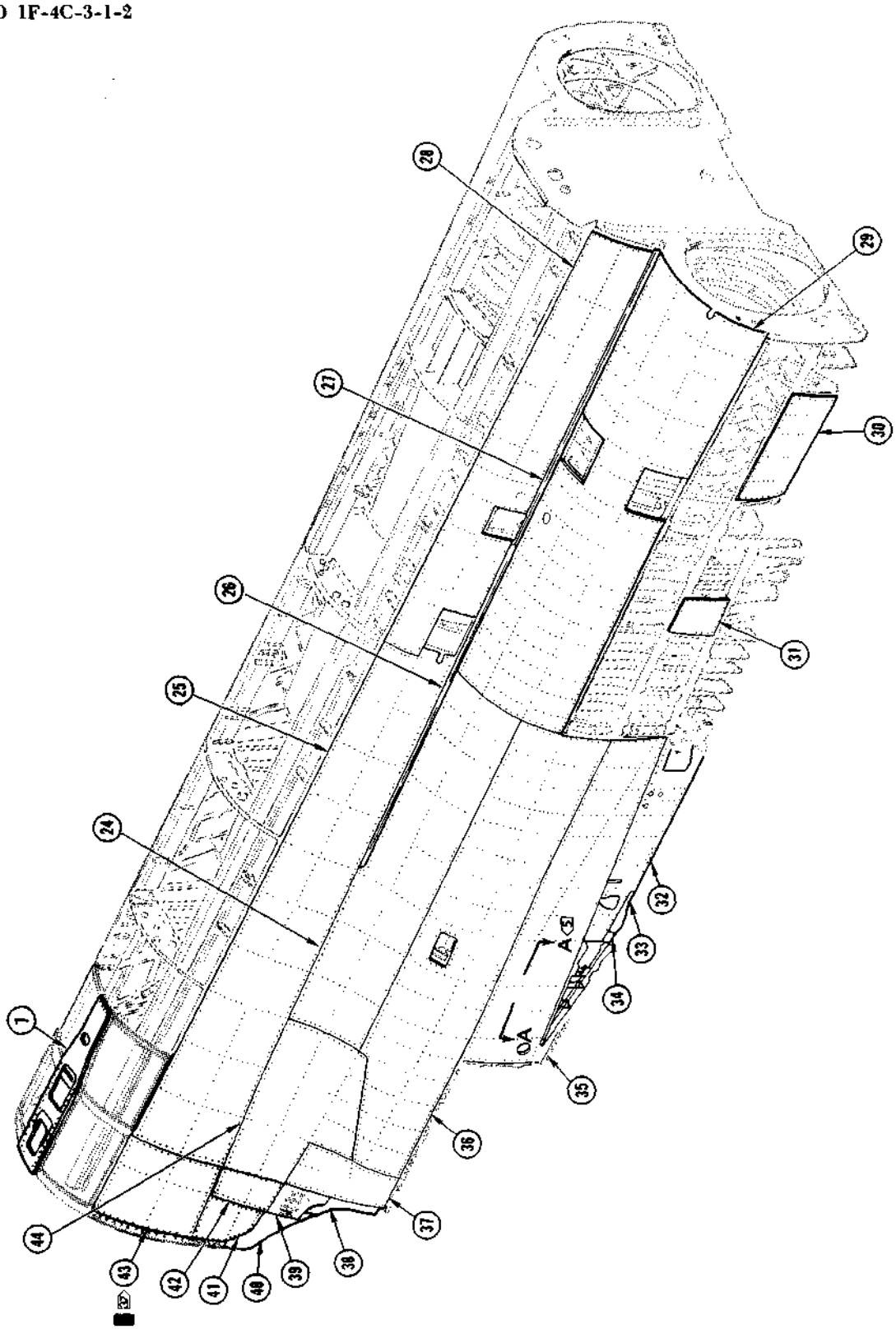


Figure 4-3. Skin Repair Index - F-4E AND F-4G (Sheet 1 of 5)



4C-3-1-2-(4-2)F

Figure 4-3. Skin Repair Index - F-4E AND F-4G (Sheet 2 of 5)

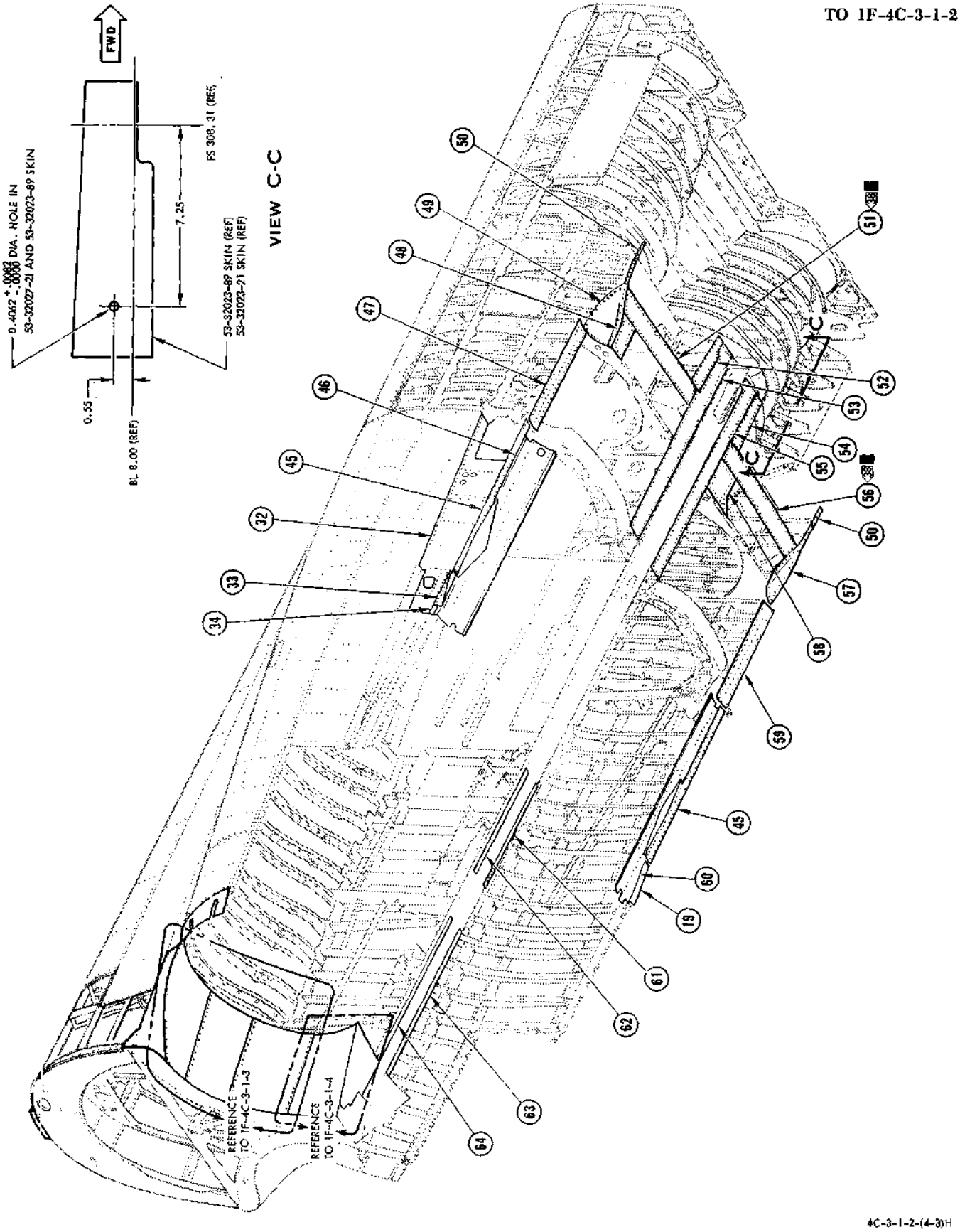


Figure 4-3. Skin Repair Index - F-4E AND F-4G (Sheet 3 of 5)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32161-9	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
1A	32-32161-7	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
1B	32-32161-11	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
2	32-32175-491	FILLER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2A	32-32175-721	FILLER	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	32G32164-5	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	32-32175-483	FILLER	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
4A	32-32175-135	FILLER	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
5	32-32162-17	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
5A	32-32162-27	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
6	32G32164-3	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
6A	32-32164-39	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
7	32-321563-9	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
8	32-32164-25	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
9	32-32564-3	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
9A	32-32564-7	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
9B	32-32564-9	SKIN		7178-T76 AL ALY	QQ-A-250/21 (T76)
10	32-32164-23	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
11	32-32347-119	SKIN	0.020	A286 CRES	AMS 5525
11A	32-32347-137	SKIN	0.020	A286 CRES	AMS 5525
12	32-32347-93	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046; TYPE III, COMPOSITION A, ANNEALED
13	32-3247-109	FINGER PLATE	0.020	A286 CRES	AMS 5525
13A	32-32347-139	FINGER PLATE	0.020	A286 CRES	AMS 5525
14	32-32165-5	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED
15	32-32165-23	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
15A	32-32165-29	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
16	32-32166-29	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
16A	32-32166-43	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
17	53-32504-3	SKIN	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-32270-277	FAIRING	0.071	2024-T3 ALCLAD	QQ-A-250/5 (T3)
19	32-32270-279	FAIRING	0.032	2024-T4 ALCLAD	QQ-A-250/5 (T4)
20	32-32270-285	WEB	(4)	7178-T6 AL ALY	QQ-A-250/14 (T6)
20A	32-32270-419	WEB	(4)	7178-T6 AL ALY	QQ-A-250/14 (T6)
21	32-32166-23	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
22	32-32166-3	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
22A	32-32166-41	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
23	32-32163-23	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
23A	32-32163-25	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
23B	32-32163-29	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
23C	32-32163-33	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
24	32-32164-9	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
24A	32-32164-29	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
25	32-32162-18	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
25A	32-32162-26	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
26	32-32175-133	FILLER	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
27	32-32175-196	FILLER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-32161-8	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
28A	32-32161-12	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
29	32-32163-17	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
29A	32-32163-34	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
30	32-32166-4	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
31	32-32166-24	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
32	32-32270-286	WEB	(4)	7178-T6 AL ALY	QQ-A-250/14 (T6)
32A	32-32270-420	WEB	(4)	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	32-32270-280	FAIRING	0.032	2024-T4 ALCLAD	QQ-A-250/5 (T4)
34	32-32270-278	FAIRING	0.071	2024-T3 ALCLAD	QQ-A-250/5 (T3)
35	32-32166-30	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
36	32-32165-15	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
37	32-32165-6	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED
38	32-32347-110	FINGER PLATE	0.020	A286 CRES	AMS 5525
38A	32-32347-140	FINGER PLATE	0.020	A286 CRES	AMS 5525
39	32-32347-94	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED
40	32-32347-120	SKIN	0.020	A286 CRES	AMS 5525
40A	32-32347-138	SKIN	0.020	A286 CRES	AMS 5525
41	32-321564-4	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
41A	32-321564-8	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
41B	32-321564-10	SKIN	(2)	7178-T76 AL ALY	QQ-A-250/21 (T76)
42	32-32164-24	SKIN		7178-T6 AL ALY	QQ-A-250/14 (T6)
43	32-321592-7 (47)	SKIN	(3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
44	32-32164-26	SKIN	(2)	7178-T6 AL ALY	QQ-A-250/14 (T6)
45	32-32270-233	SKIN	0.250	PHENOLIC SHEET	MIL-P-15035
45A	32-32270-415	SKIN	0.200	PHENOLIC SHEET	MIL-P-15035
46	32-94641-30	PLATE	0.090	2024-T3 ALCLAD	QQ-A-250/5 (T3)
47	32-32536-10	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47A	32-32536-14	SKIN	0.051	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(4-4)G

Figure 4-3. Skin Repair Index - F-4E AND F-4G (Sheet 4 of 5)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
48	53-32023-3	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
49	32-32274-114	SKIN	0.051	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	32-32274-91	SKIN	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
51	53-32023-75 <38>	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
52 [32]	53-32023-13	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[31]	53-32023-89	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53 [29]	32-32198-49	HINGE PLATE	1M5577	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
[31]	32-32198-53	HINGE PLATE	1M5577	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
54 [32]	53-32027-21	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[31]	53-32027-147	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
55 [29]	32-32198-50	HINGE PLATE	1M5577	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
[31]	32-32198-54	HINGE PLATE	1M5577	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
56	53-32027-139 <38>	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
57	32-32274-113	SKIN	0.051	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	53-32027-85	SKIN	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
59 [28]	32-32536-9	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[27]	32-32536-13	SKIN	0.051	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60	32-94641-29	PLATE	0.090	2024-T3 ALCLAD	QQ-A-250/5 (T3)
61	32-32481-15	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
62	32-32481-16	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
63	32-32481-11	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)
64	32-32481-12	STRIP	0.100	2024-T3 ALCLAD	QQ-A-250/5 (T3)

Notes

1. FOR SEALING REQUIREMENTS, REFERENCE TO 1F-4C-3-1-6.
2. FOR STOCK SIZE AND CHEMICALLY MILLED DIMENSIONS, SEE FIGURE 4-5.
3. THIS PART IS CHEMICALLY MILLED FROM 0.100 ALUMINUM ALLOY.
4. STOCK SIZE IS 0.071. LANDS IN FASTENER AREA ARE 0.071. THE BAY AREAS ARE CHEMICALLY MILLED TO 0.032 ±.005 WITH THE EXCEPTION OF THE AFT AREA WHICH IS 0.040 ±.005.
5. CONTOUR REQUIREMENTS MAY DEVIATE FROM LIMITS OF TO 1F-4C-3-1-1 AS SHOWN IN SECTION A-A OF SHEET 1.

[29] F-4E 66-368 AND UP AND F-4G.
[30] F-4E 66-368 THRU 67-298.
[31] F-4E 66-284 THRU 66-367 AND 66-299 THRU 68-538; F-4E/G 69-236 THRU 69-7298.
[32] F-4E 66-284 THRU 67-323.
[33] F-4E 67-324 AND UP AND F-4G.
[34] F-4E 66-284 THRU 66-352.
[35] F-4E 66-353 AND UP AND F-4G.
[36] F-4E 66-284 THRU 67-398.
[37] F-4E 68-303 AND UP AND F-4G.
[38] F-4E 66-284 THRU 67-282.
[39] F-4E 67-283 THRU 68-451.
[40] F-4E 68-452 AND UP AND F-4G.
[41] F-4E 66-284 THRU 66-367.
[42] F-4E/G 69-7299 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
[43] F-4E 66-284 THRU 71-236 AND F-4G.
[44] F-4E 71-237 AND UP.
[45] F-4E 66-284 THRU 71-1402 AND F-4G.
[46] F-4E 72-121 AND UP.
[47] F-4E 66-284 THRU 66-382.
[48] F-4E 67-208 AND UP AND F-4G.
[49] F-4E 66-284 THRU 67-219.
[50] F-4E 67-220 AND UP AND F-4G.
[51] F-4E 66-284 THRU 68-451.
[52] DELETED.
[53] F-4E 66-284 THRU 66-289.
[54] F-4E 66-290 AND UP AND F-4G.
[55] F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
[56] F-4E/G 69-7579 THRU 69-7588; F-4E 69-7589 AND UP.
[57] F-4E 66-284 THRU 73-01164 AND F-4G.
[58] F-4E 73-01165 AND UP.
[59] F-4E 66-368 THRU 71-1402 AND F-4G.
[60] FOR REPLACEMENT SEE FIGURE 4-11.
[61] IF FASTENERS BECOME LOOSE IN THIS AREA REPLACE WITH OVER SIZE HIGH SHEAR FASTENERS OR B-100T FASTENERS. IF B-100T FASTENERS ARE USED, BREAK KNIFE EDGE TO 0.015.

4C-3-1-2-(4-5) K

Figure 4-3. Skin Repair Index - F-4E AND F-4G (Sheet 5 of 5)

EXTERNAL DOORS AND PANELS					
DOOR NUMBER	PART NUMBER	F-4C	F-4D	RF-4C	F-4E/G
22	32-31130	X	X	X	X
34	53-32019	X	X	X	X
35L	32-32040	X	X	X	X
35R	32-32040	X	X	X	X
37L	32-32043	X	X	X	X
37R	32-32043	X	X	X	X
38L	32-32048	X	X	X	X
38R	32-32048	X	X	X	X
45L	32-32435	X	X	X	
45R	53-320052				X
47L	32-32044	X	X	X	X
47R	32-32044	X	X	X	X
48	32-32062	X	X	X	X
57	32-32063	X	X		
57	53-32596			X	
67	32-321957				X
130L	32-32529	X	X	X	X
130R	32-32529	X	X	X	X
132L	32-32040	X	X	X	X
132R	32-32040	X	X	X	X
134	53-32017	X	X	X	X
135	53-32038	X	X	X	X
141L	32-11009				X
141R	32-11009				X
153	32-321557				X
175	53-23252		X		X
186	53-310335				X
188	53-320052				X
196L/647L	53G970831				X
196R/647R	53G970831				X
199L/648L	53G970832				X
199R/648R	53G970832				X
508	53-34052			X	
510L	53-34054			X	
510R	53-34054			X	
511L	53-32555			X	
511R	53-32555			X	
513L	53-23505			X	
513R	53-23505			X	
609L	53-310715	X			
609R	53-30472		X		X
621	53-30472		X		

Notes

1. DOORS LISTED ABOVE CAN HAVE LOOSE OR MISSING FASTENERS IN FLIGHT SUBJECT TO THE FOLLOWING LIMITATIONS:
   A. LOOSE FASTENERS ARE CONSIDERED MISSING FASTENERS.
   B. NO CORNER FASTENERS CAN BE MISSING.
   C. WHERE MISSING FASTENERS ARE ALLOWED, ONE IN TEN FASTENERS IN A STRAIGHT LINE PATTERN CAN BE MISSING, BUT MUST HAVE MINIMUM OF TEN FASTENER SEPARATION.
   D. REPLACE ALL MISSING FASTENERS AT NEXT DOOR REMOVAL.
2. NO LOOSE OR MISSING FASTENERS ARE ALLOWED IN DOORS WITH LESS THAN 30 FASTENERS OR FUEL CONTAINMENT CAVITY DOORS.

4C-3-1-2-14191

Figure 4-3A. Allowable Loose and Missing Fasteners in Flight

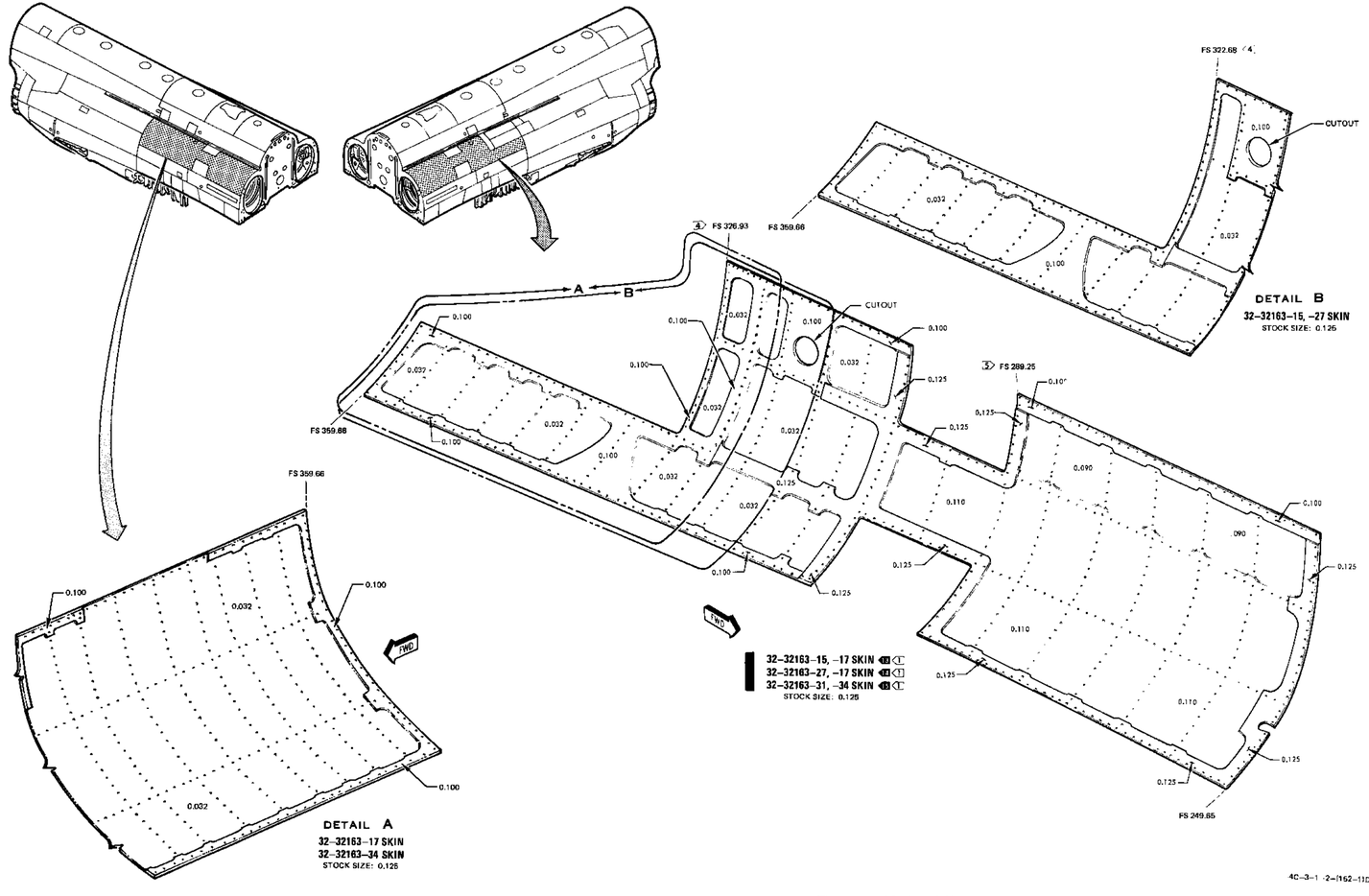


Figure 4-4. Machined Skin Dimension - F-4C, F-4D, and RF-4C (Sheet 1 of 9)

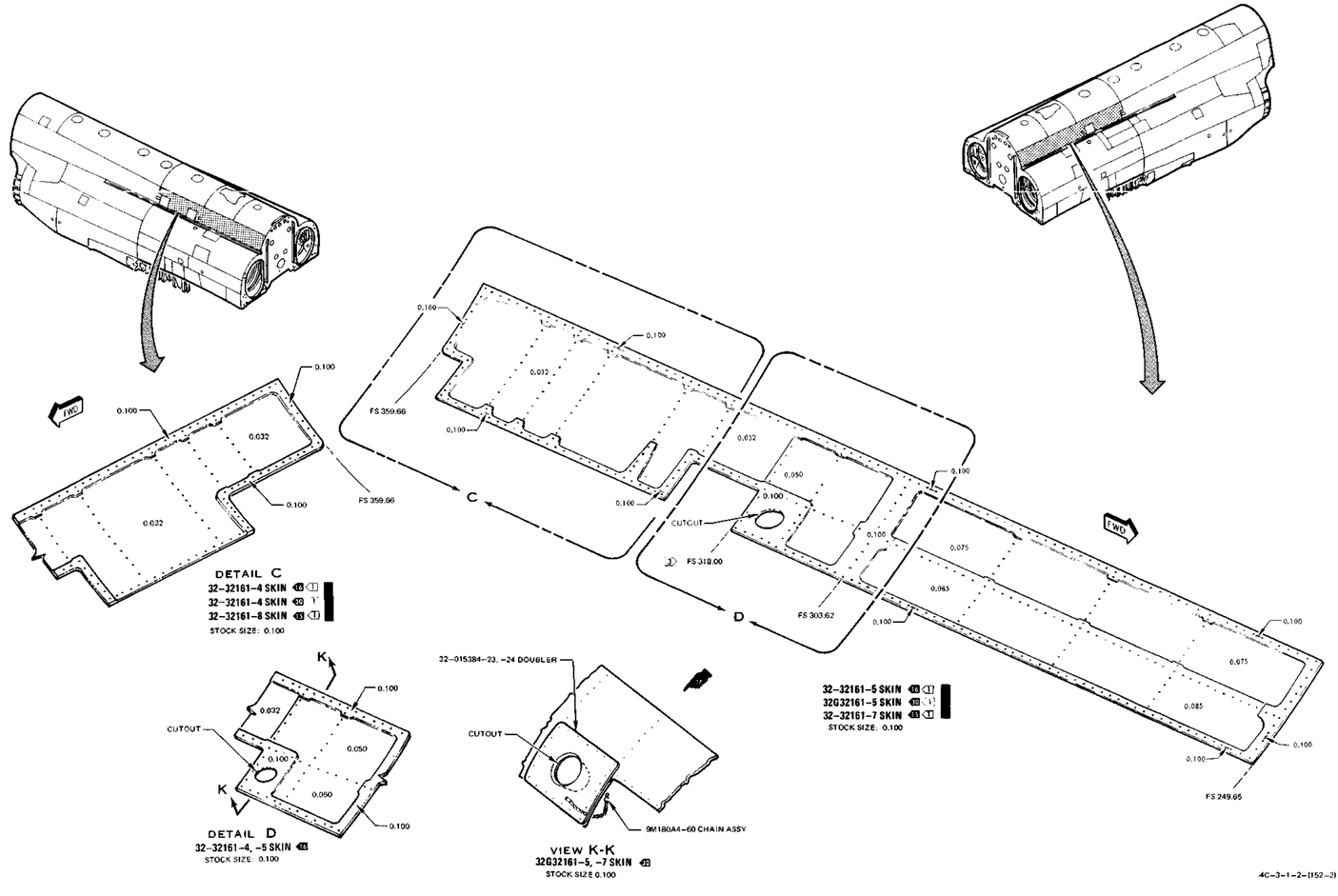


Figure 4-4. Machined Skin Dimension - F-4C, F-4D, and RF-4C (Sheet 2 of 9)

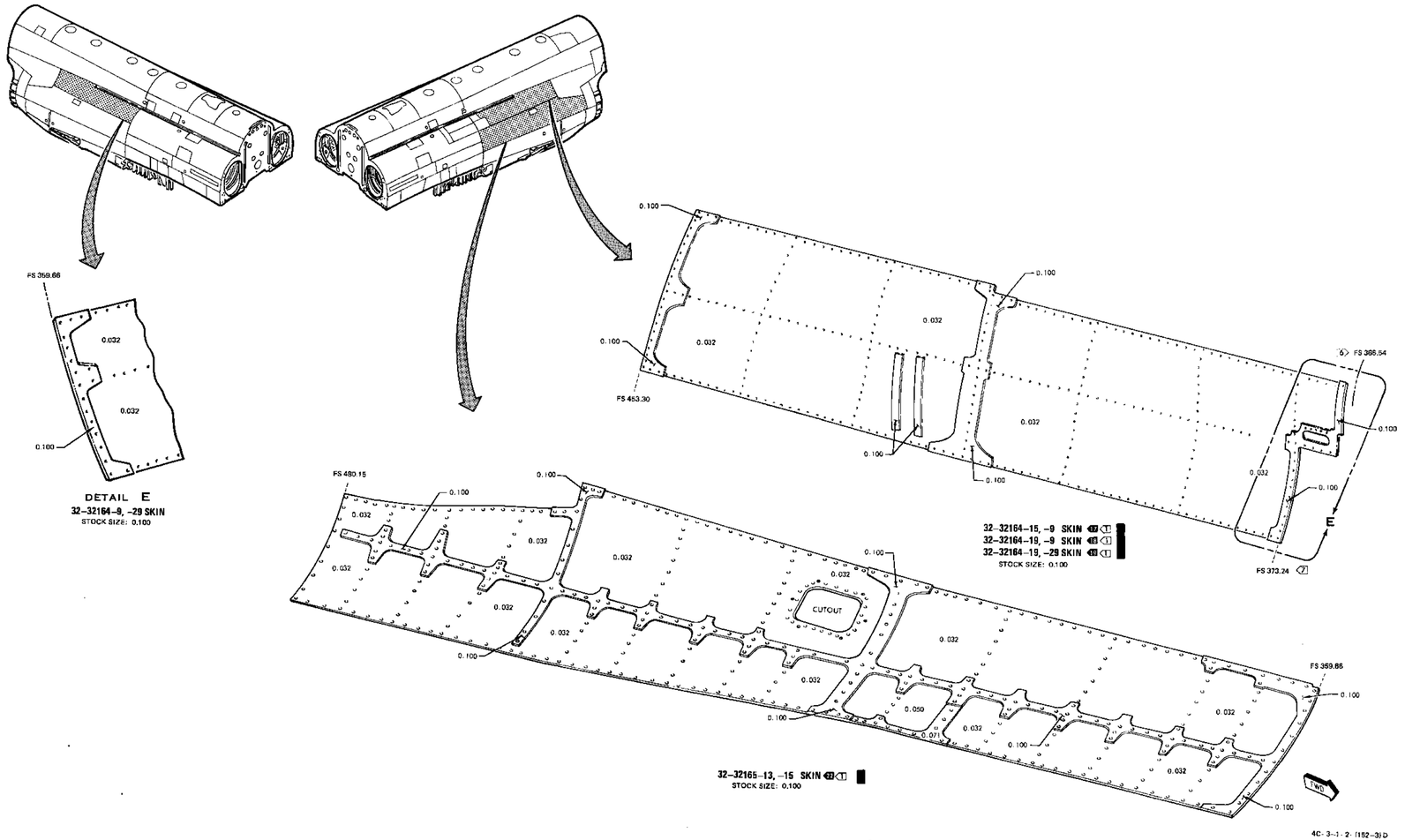
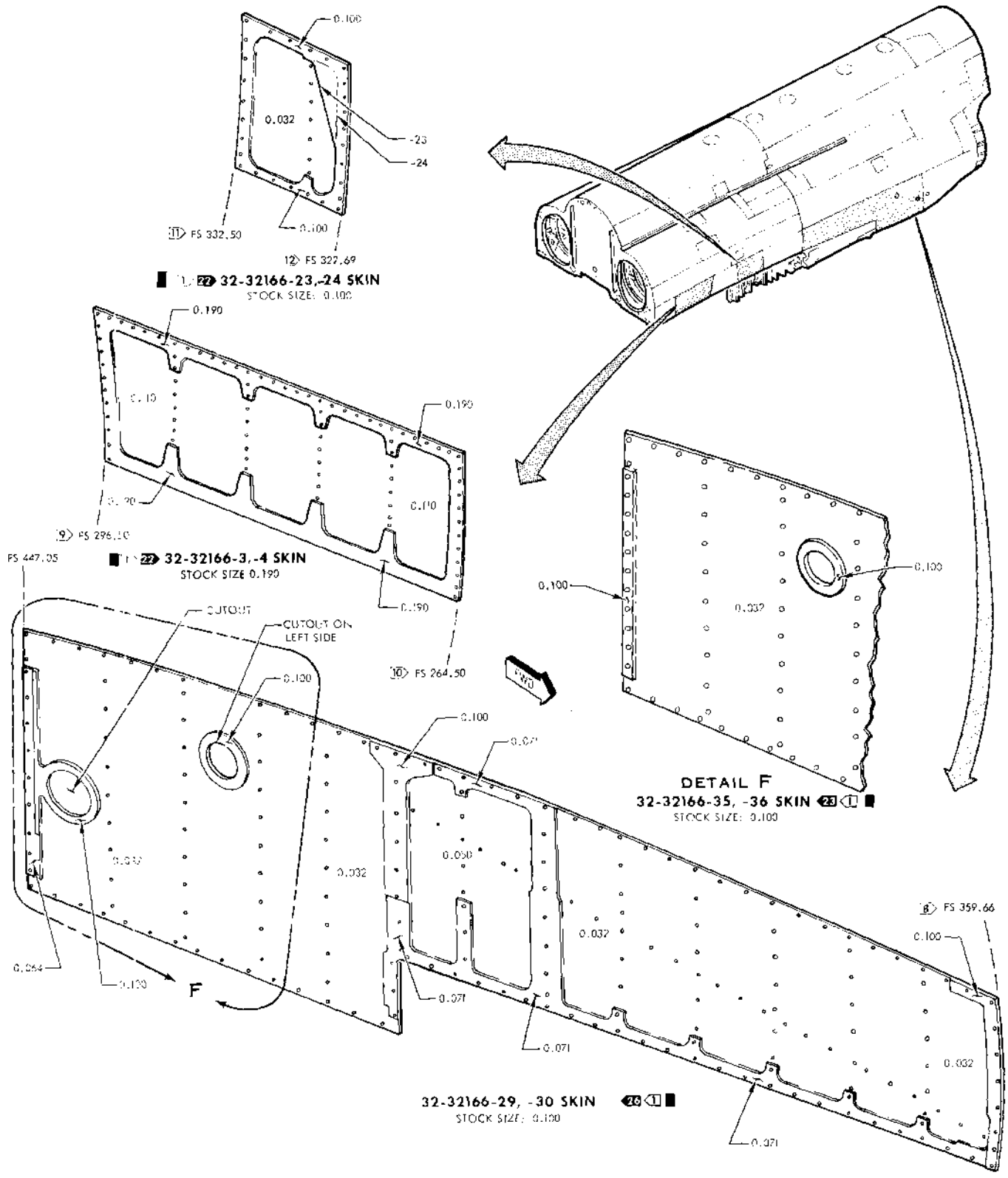


Figure 4-4. Machined Skin Dimension – F-4C, F-4D, and RF-4C (Sheet 3 of 9)



4C-3-1-2-(152-4)D

Figure 4-4. Machined Skin Dimension - F-4C, F-4D, and RF-4C (Sheet 4 of 9)

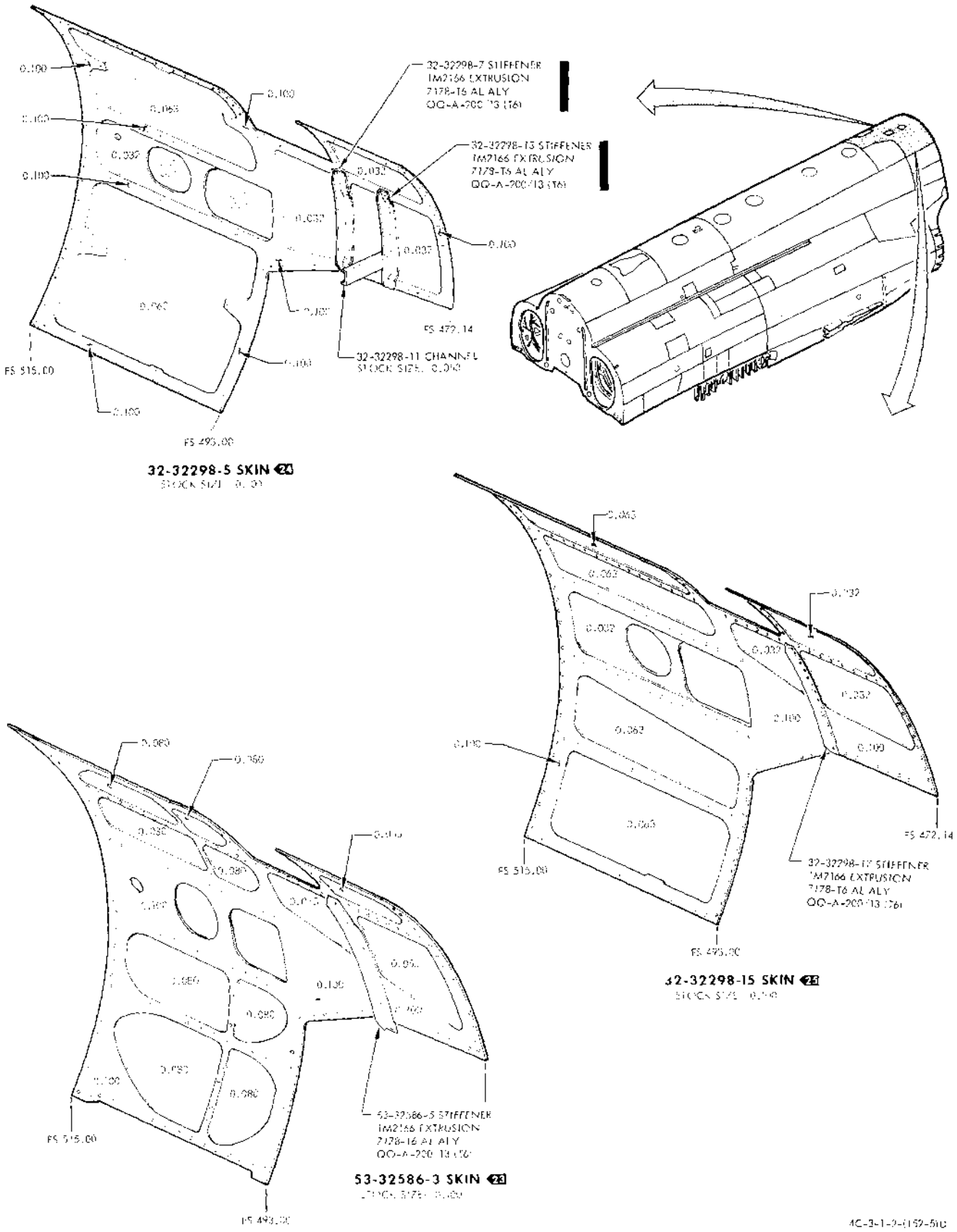


Figure 4-4. Machined Skin Dimension - F-4C, F-4D, and RF-4C (Sheet 5 of 9)

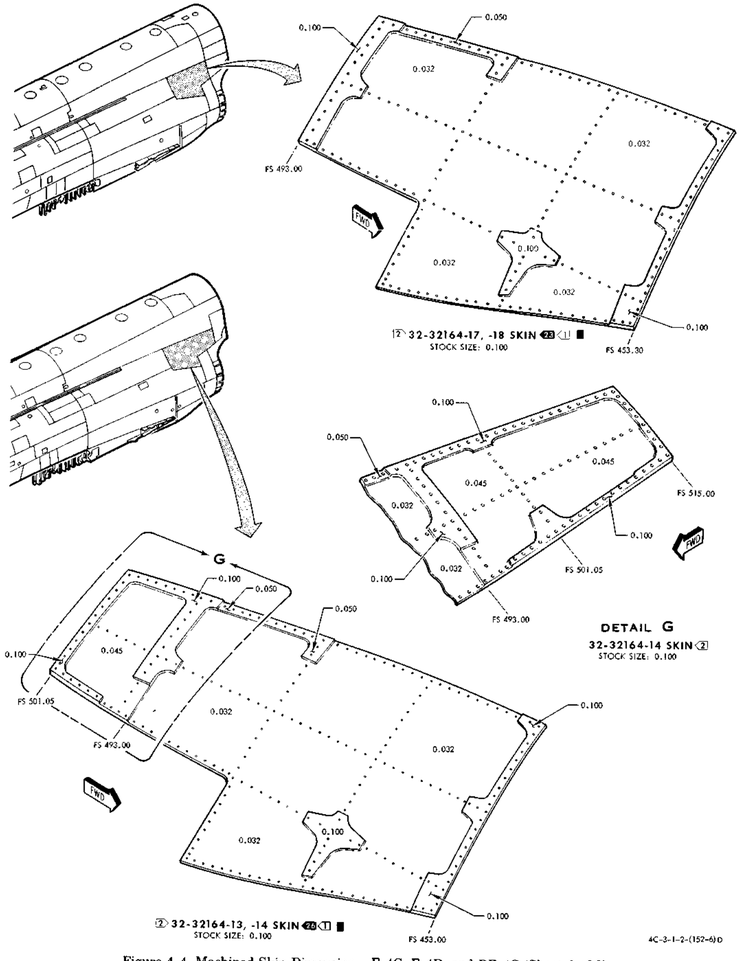
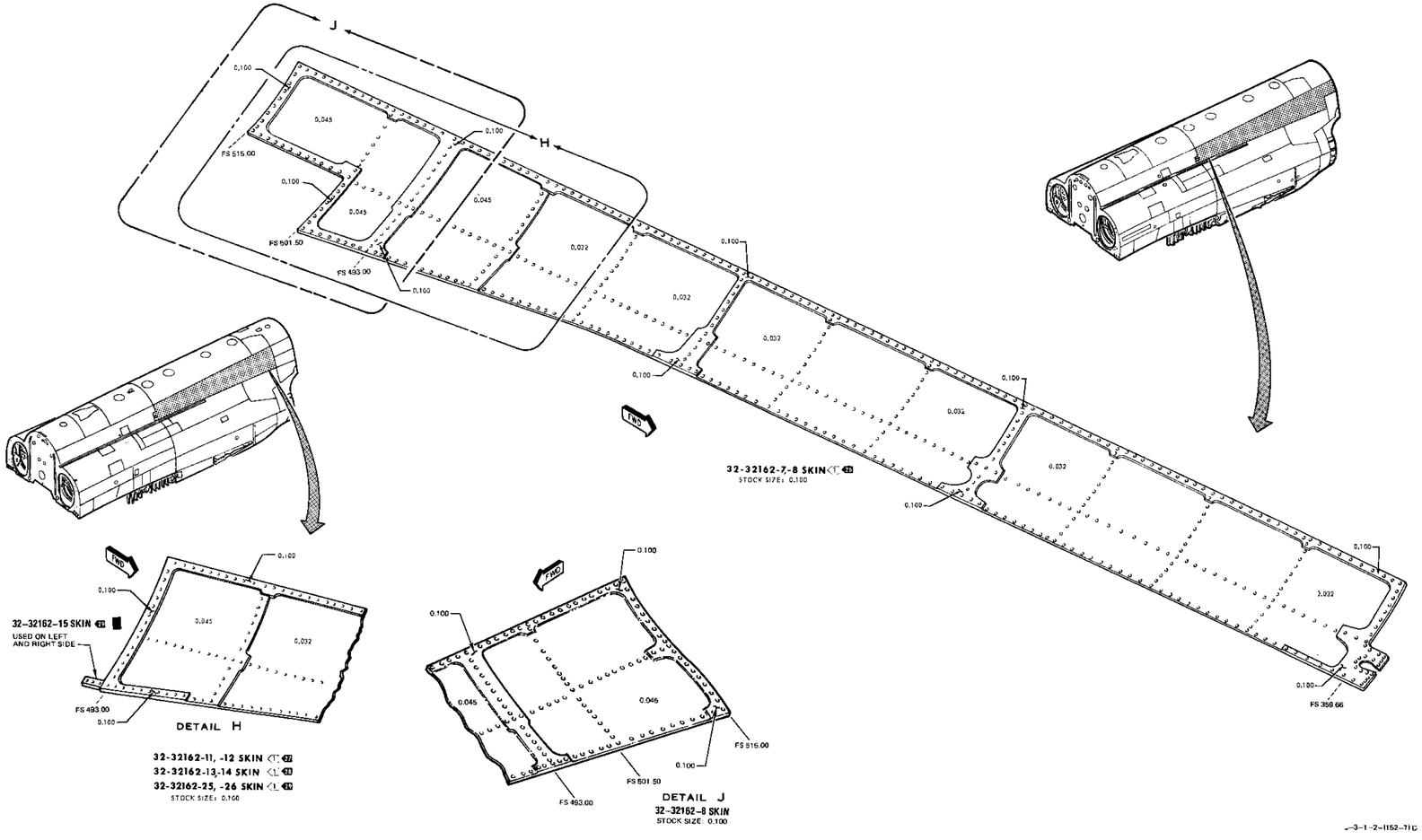
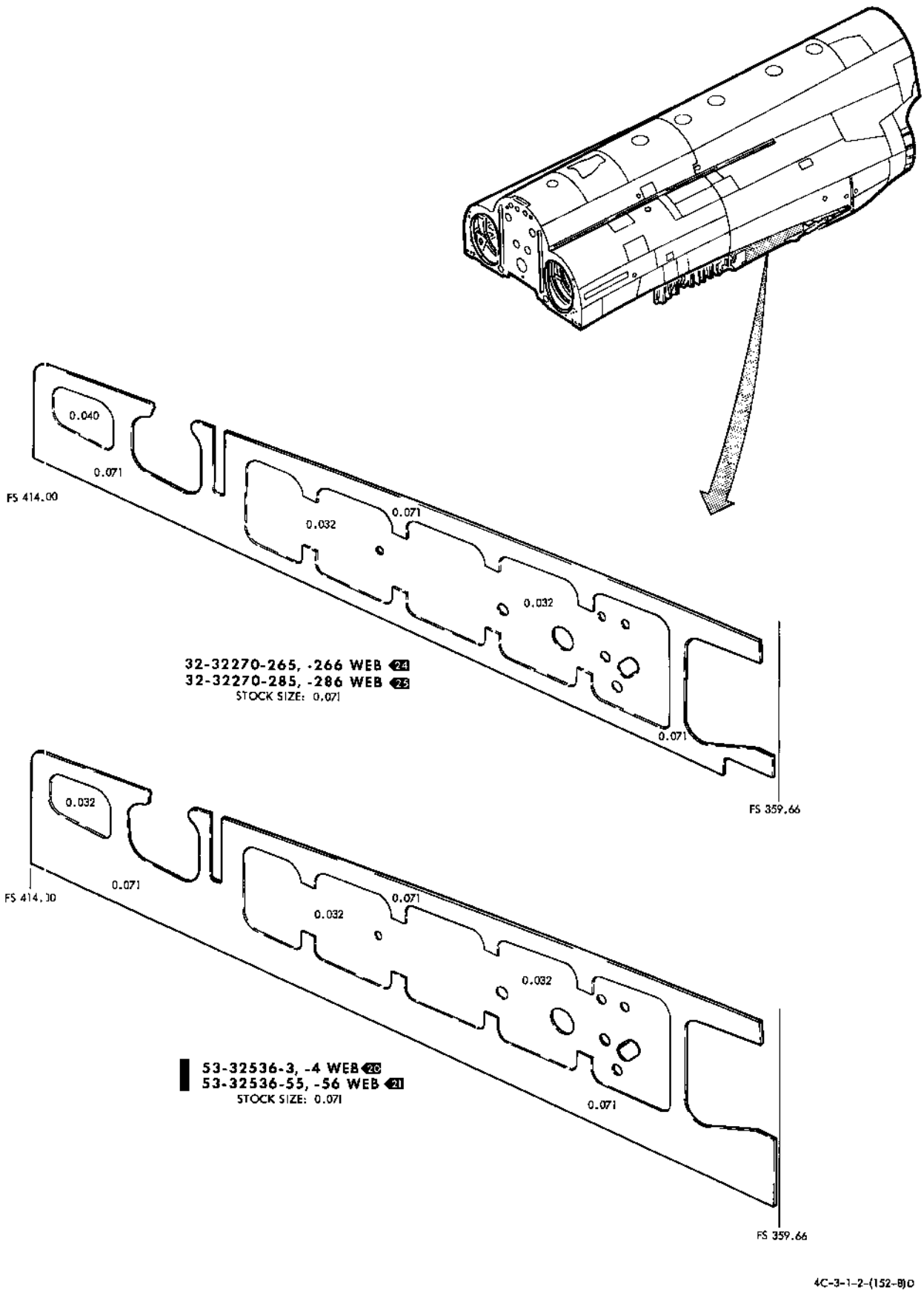


Figure 4-4. Machined Skin Dimension - F-4C, F-4D, and RF-4C (Sheet 6 of 9)



-3-1-2-1152-71C

Figure 4-4. Machined Skin Dimension – F-4C, F-4D, and RF-4C (Sheet 7 of 9)



4C-3-1-2-(152-8)0

Figure 4-4. Machined Skin Dimension - F-4C, F-4D, and RF-4C (Sheet 8 of 9)

Notes

1. SEE FIGURE 4-9 FOR NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS.
2. THESE SKINS AND REPAIRS TO THESE SKINS WILL BE SEALED. REFER TO T.O. 1F-4C-3-1-6 FOR SEALING.
3. LEADING EDGE OF DOOR 43.
4. LEADING EDGE OF DOOR 45.
5. LEADING EDGE OF DOORS 38 AND 121.
6. TRAILING EDGE OF DOOR 50.
7. TRAILING EDGE OF DOOR 51.
8. TRAILING EDGE OF DOOR 47.
9. TRAILING EDGE OF DOOR 37.
10. LEADING EDGE OF DOOR 39.
11. LEADING EDGE OF DOOR 47.
12. TRAILING EDGE OF DOOR 130.
13. F-4C, F-4D AND RF-4C 63-7742 THRU 69-366.
14. RF-4C 69-367 THRU 71-252.
15. RF-4C 71-253 THRU 72-156.
16. F-4C, F-4D AND RF-4C 63-7742 THRU 71-252 BEFORE T.O. 1F-4-991.
17. F-4C, F-4D 64-929 THRU 64-976 AND RF-4C 63-7742 THRU 65-876.
18. F-4D 64-977 THRU 66-8825 AND RF-4C 65-877 THRU 67-427.
19. RF-4C 67-428 THRU 72-156.
20. RF-4C 63-7742 THRU 64-1017.
21. RF-4C 64-1018 THRU 72-156.
22. F-4C, F-4D AND RF-4C.
23. RF-4C.
24. F-4C 63-7407 THRU 63-7524.
25. F-4C 63-7528 THRU 64-928 AND F-4D.
26. F-4C AND F-4D.
27. RF-4C 63-7742 THRU 64-1001.
28. RF-4C 64-1002 THRU 67-464.
29. RF-4C 67-465 THRU 72-156.
30. F-4C, F-4D, RF-4C 63-7742 THRU 71-252 AFTER T.O. 1F-4-991.

4C-3-1-2-(152-9)D

Figure 4-4. Machined Skin Dimension - F-4C, F-4D, and RF-4C (Sheet 9 of 9)

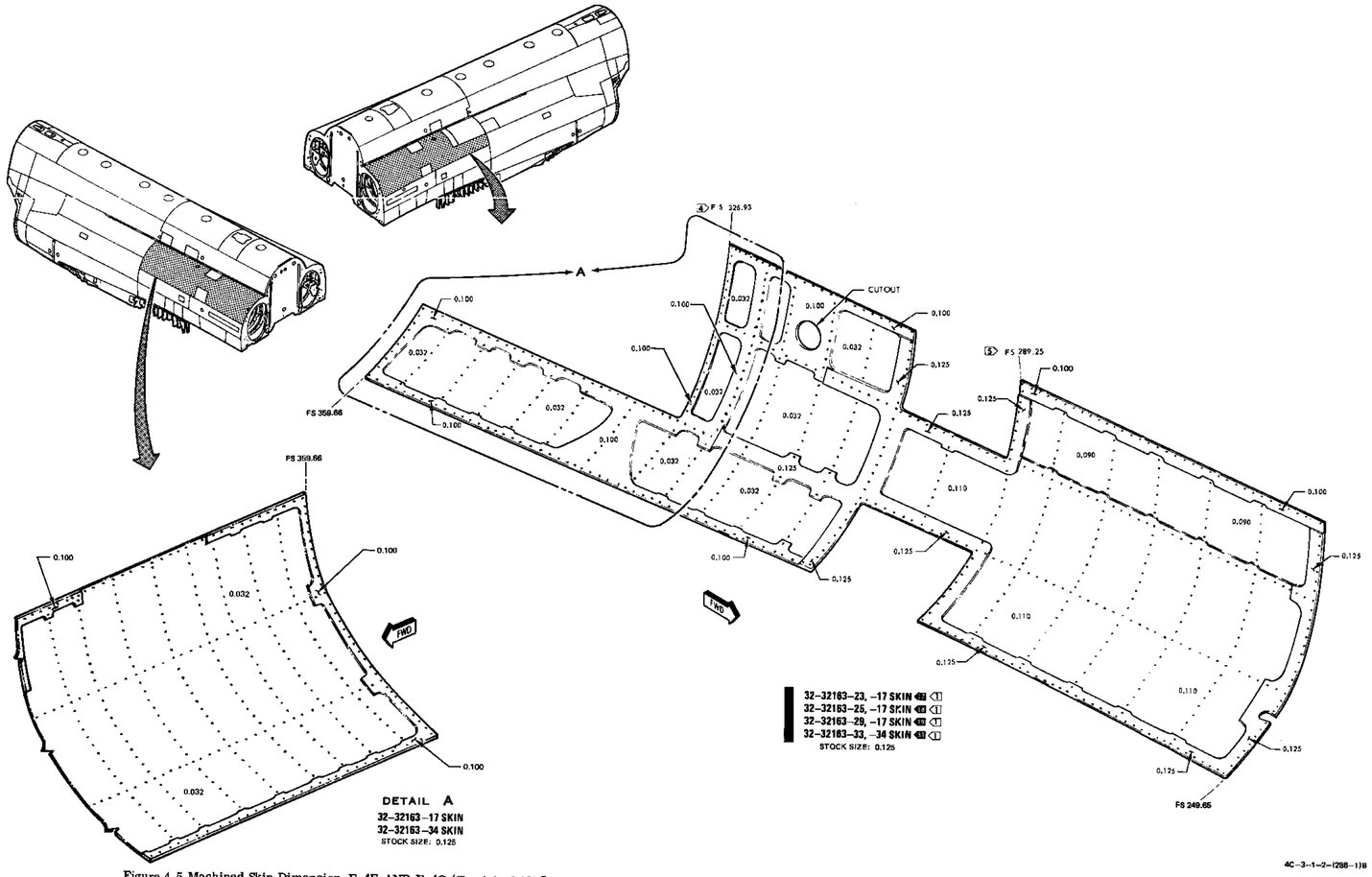


Figure 4-5. Machined Skin Dimension-F-4E AND F-4G (Sheet 1 of 10)

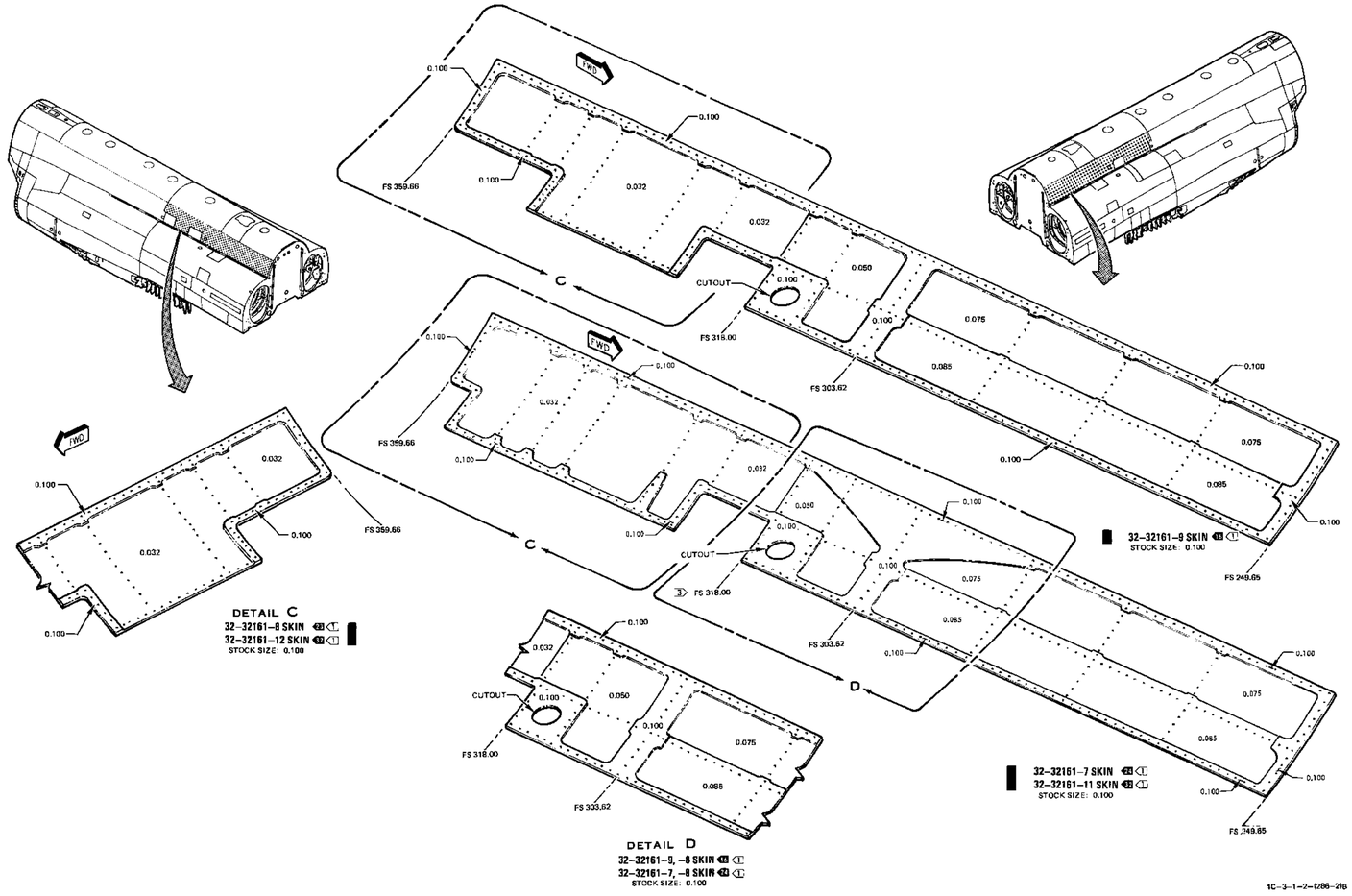


Figure 4-5. Machined Skin Dimension-F-4E AND F-4G (Sheet 2 of 10)

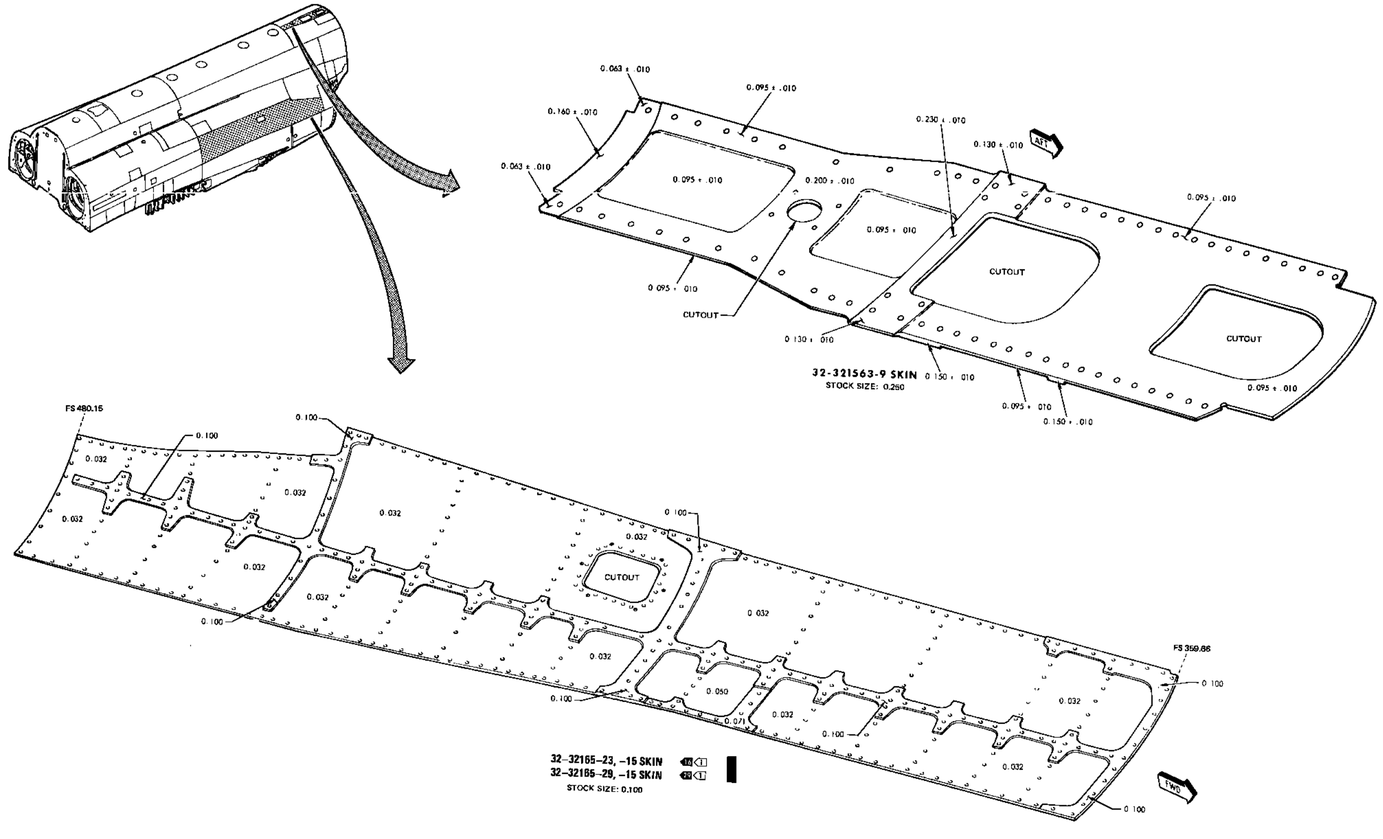


Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 3 of 10)

4C-3-1-2 (266-318

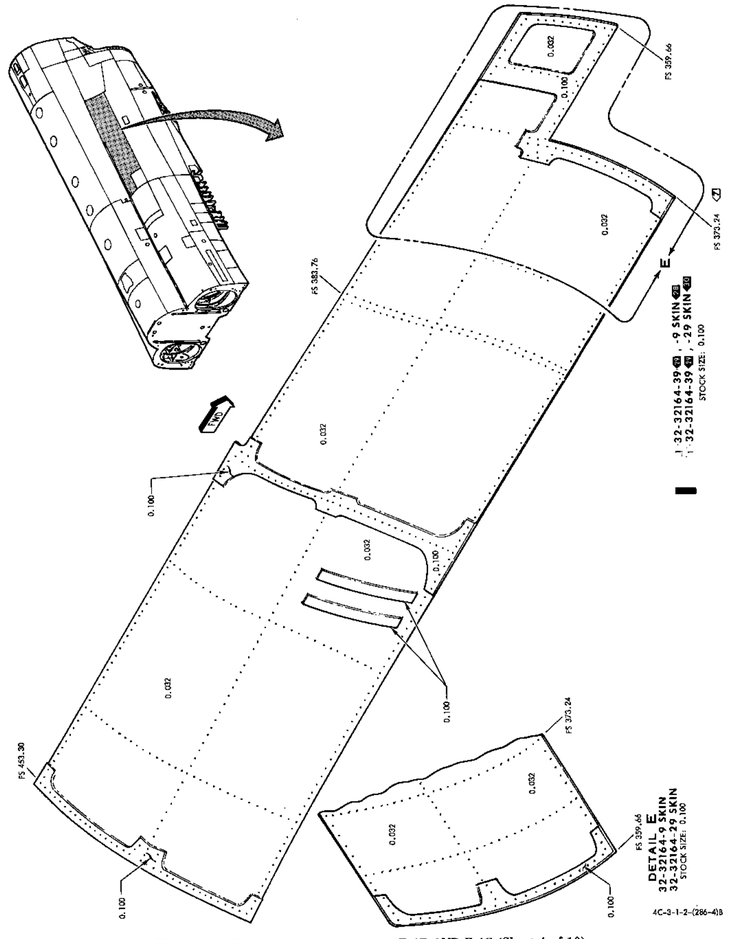


Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 4 of 10)

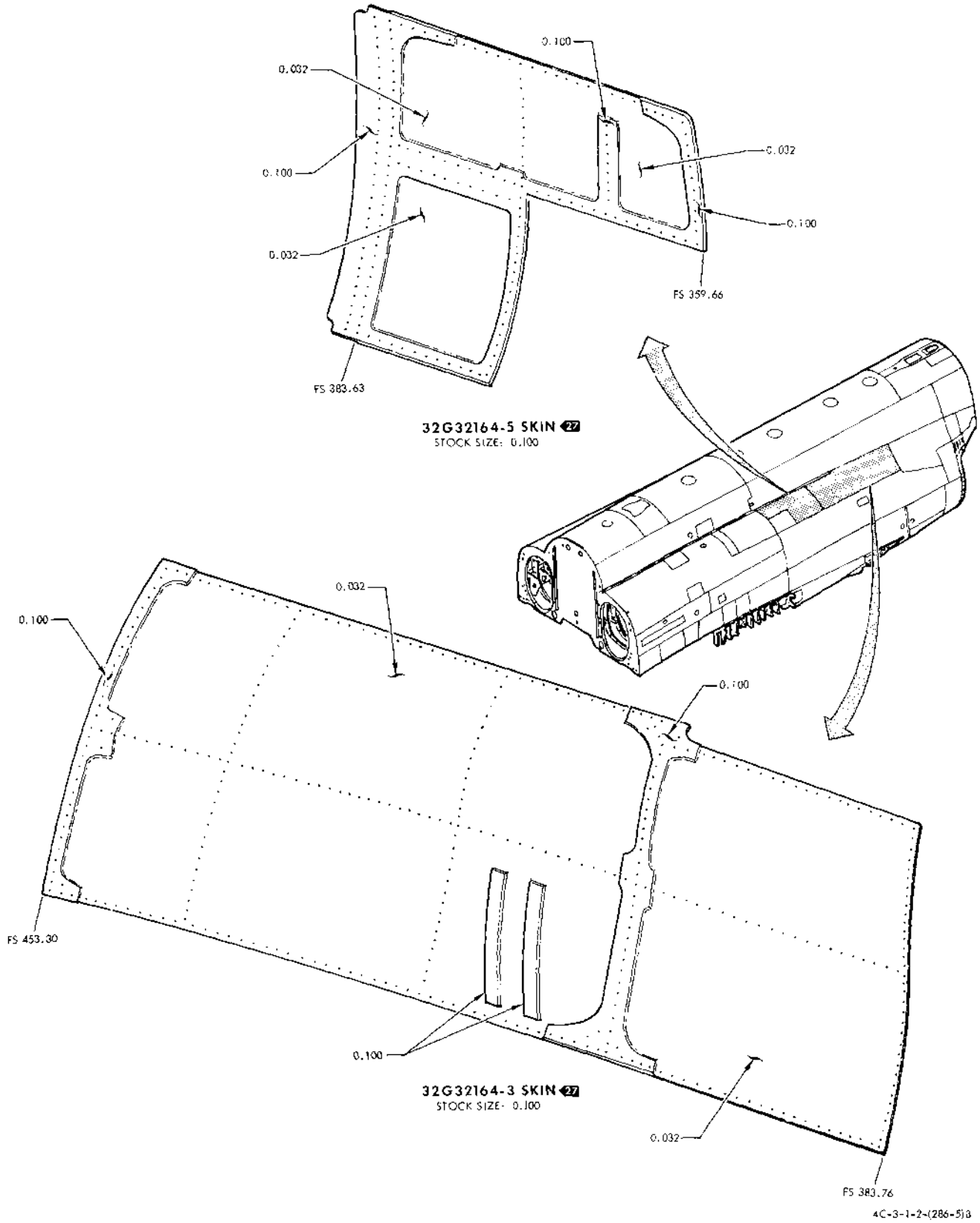


Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 5 of 10)

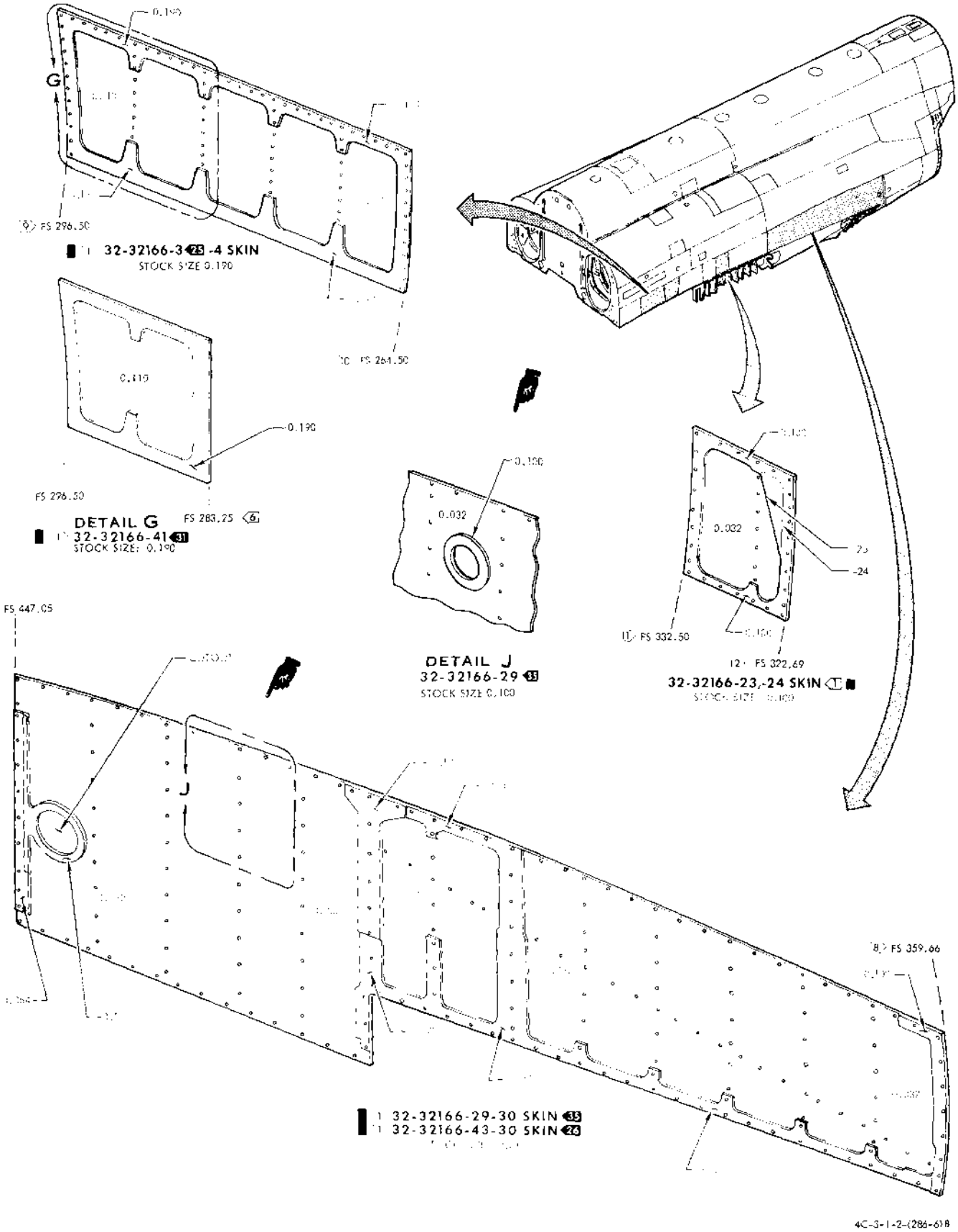


Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 6 of 10)

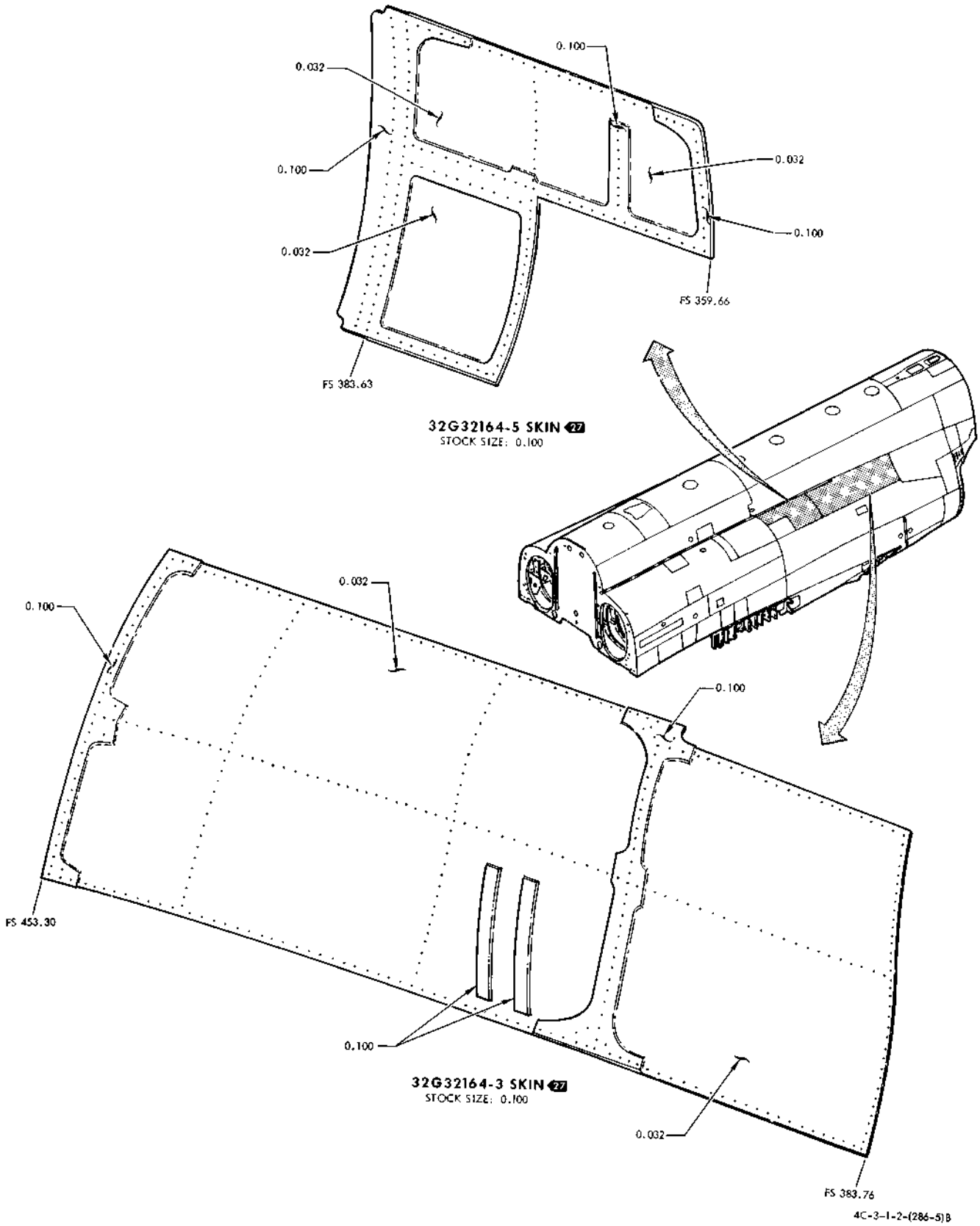


Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 5 of 10)

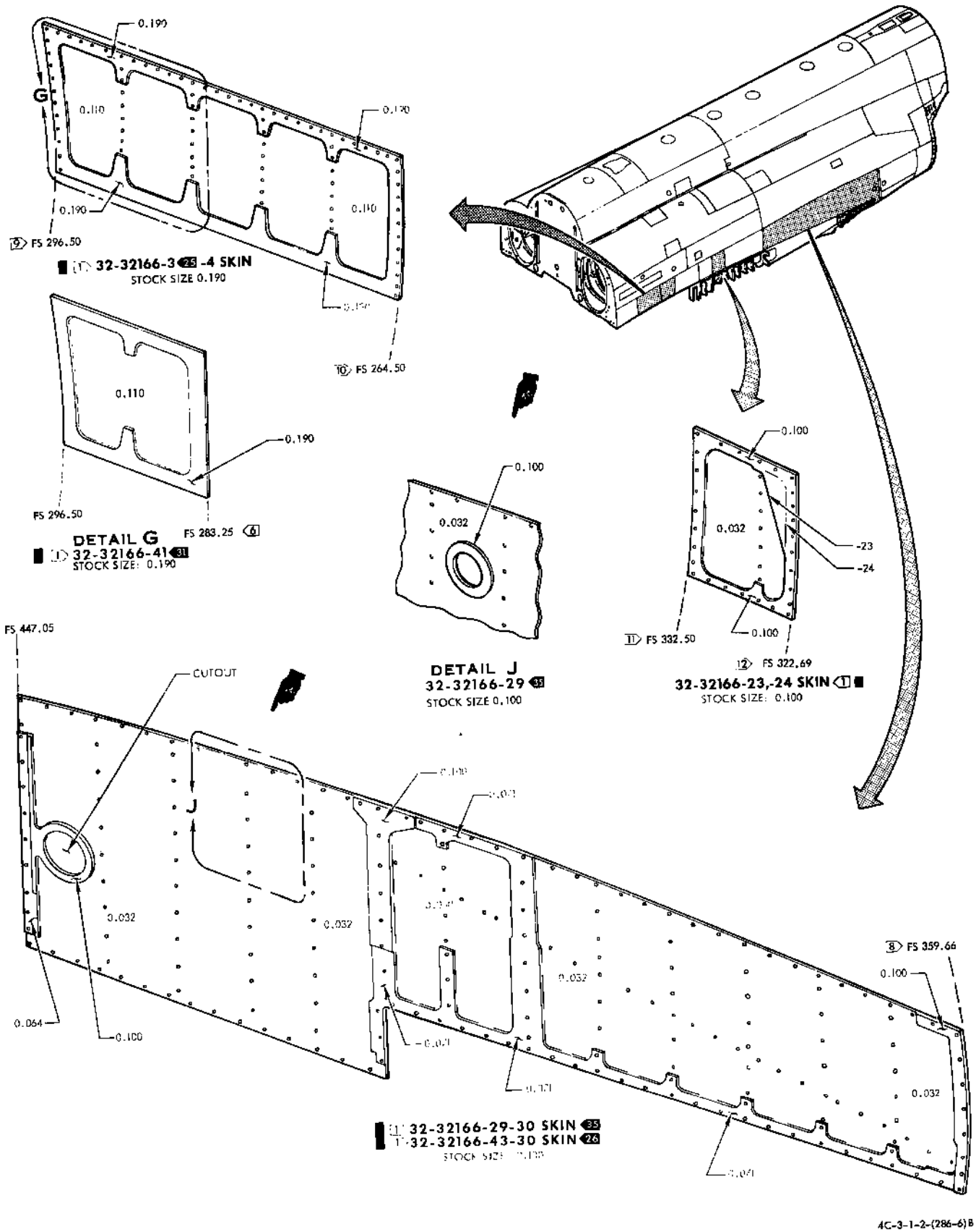
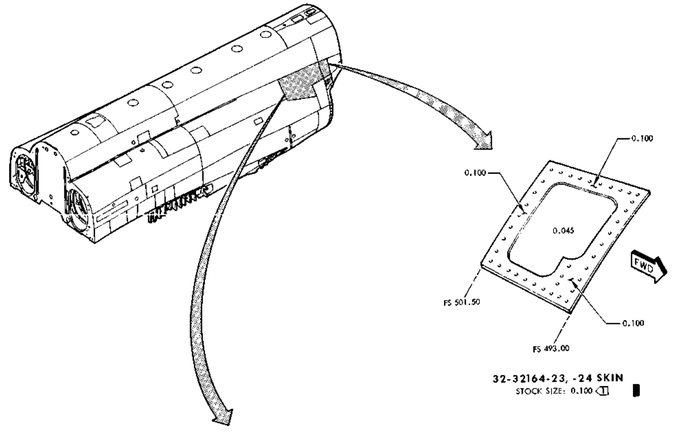
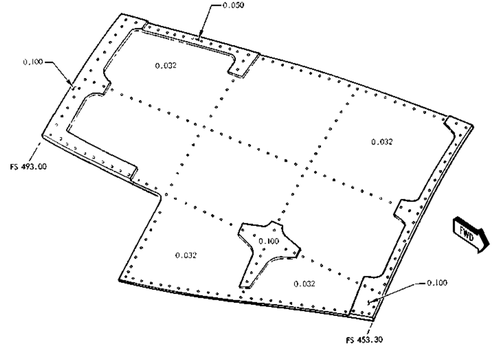


Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 6 of 10)



32-32164-23, -24 SKIN
STOCK SIZE: 0.100 (T)



32-32164-25, -26 SKIN
STOCK SIZE: 0.100 (T)

4C-3-1-2-(286-7)B

Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 7 of 10)

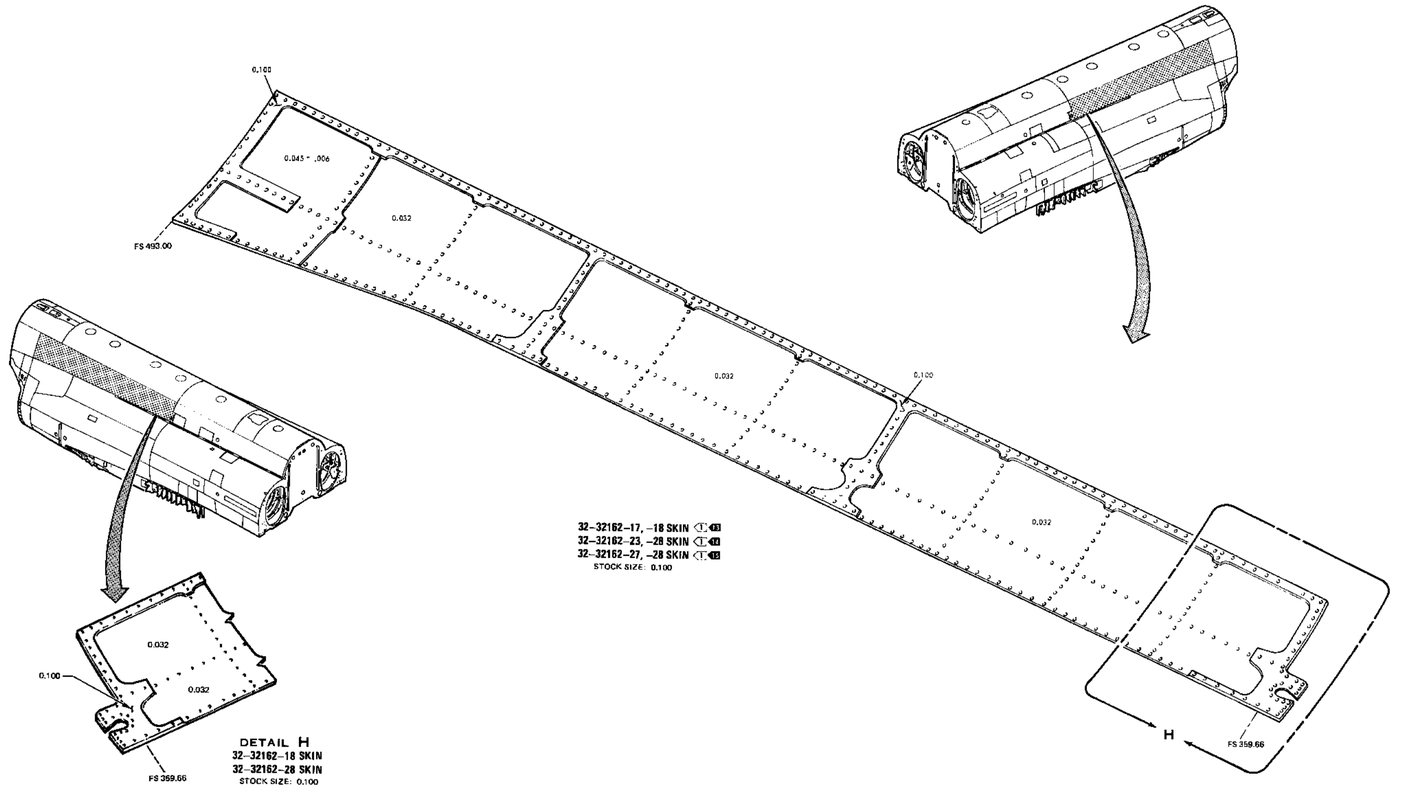
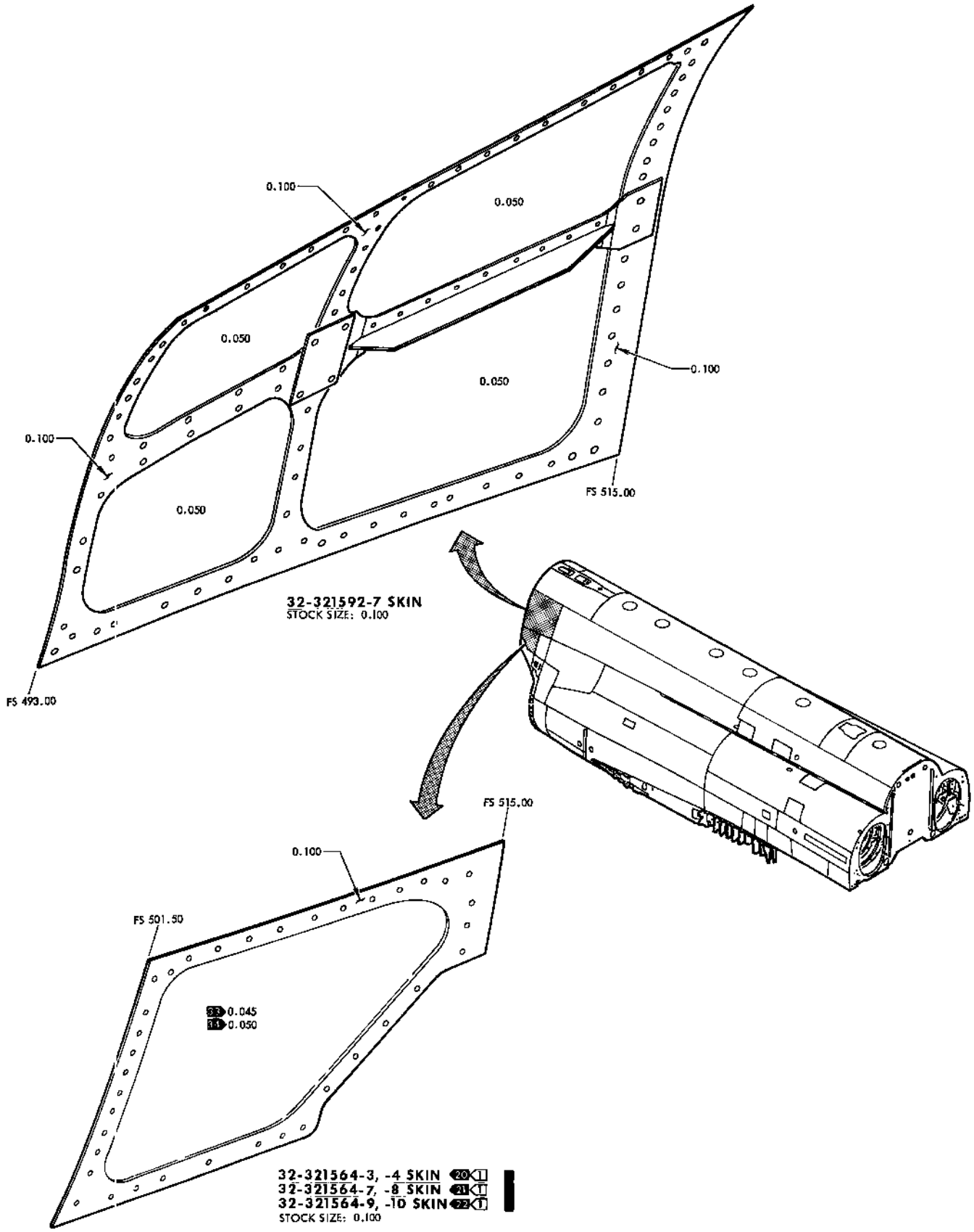
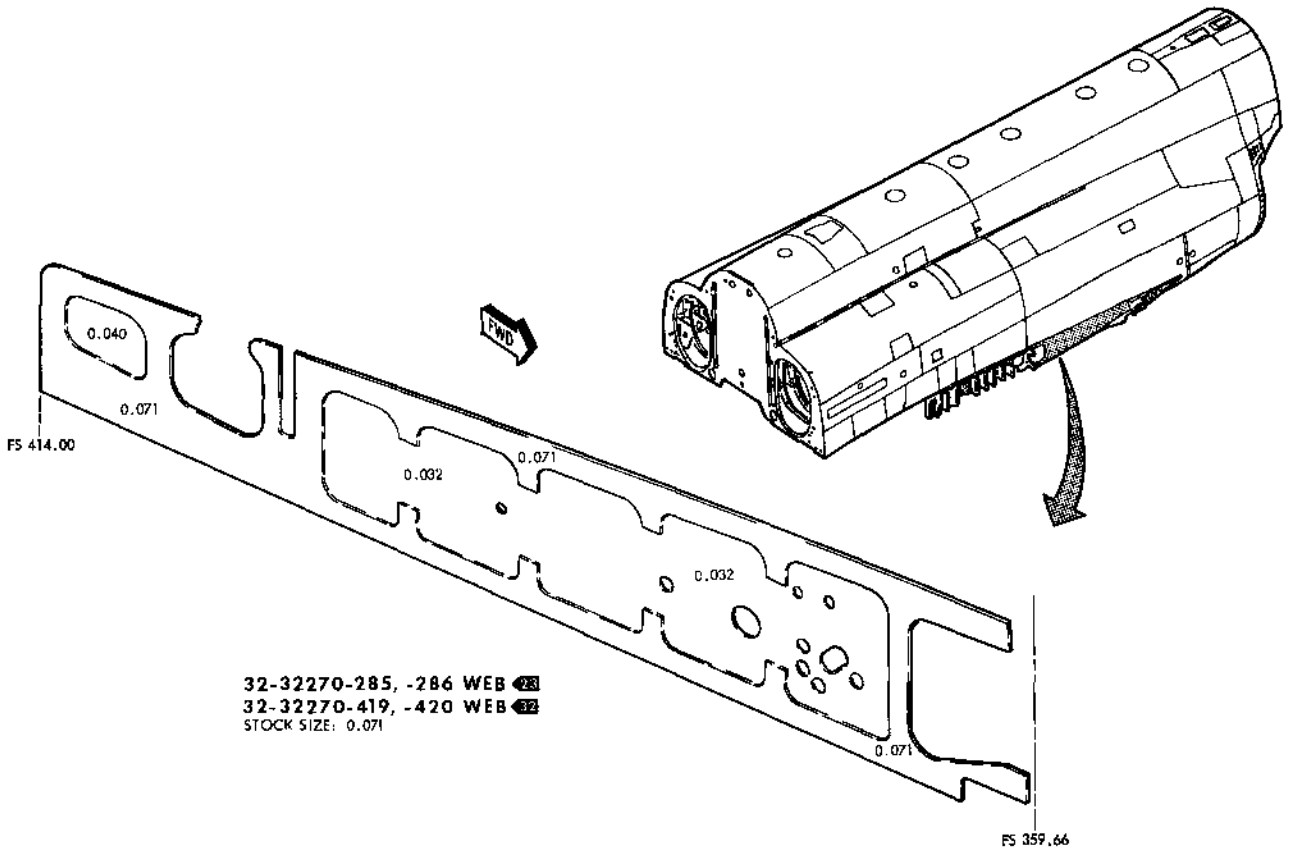


Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 8 of 10)



4C-3-1-2-(286-9)B

Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 9 of 10)

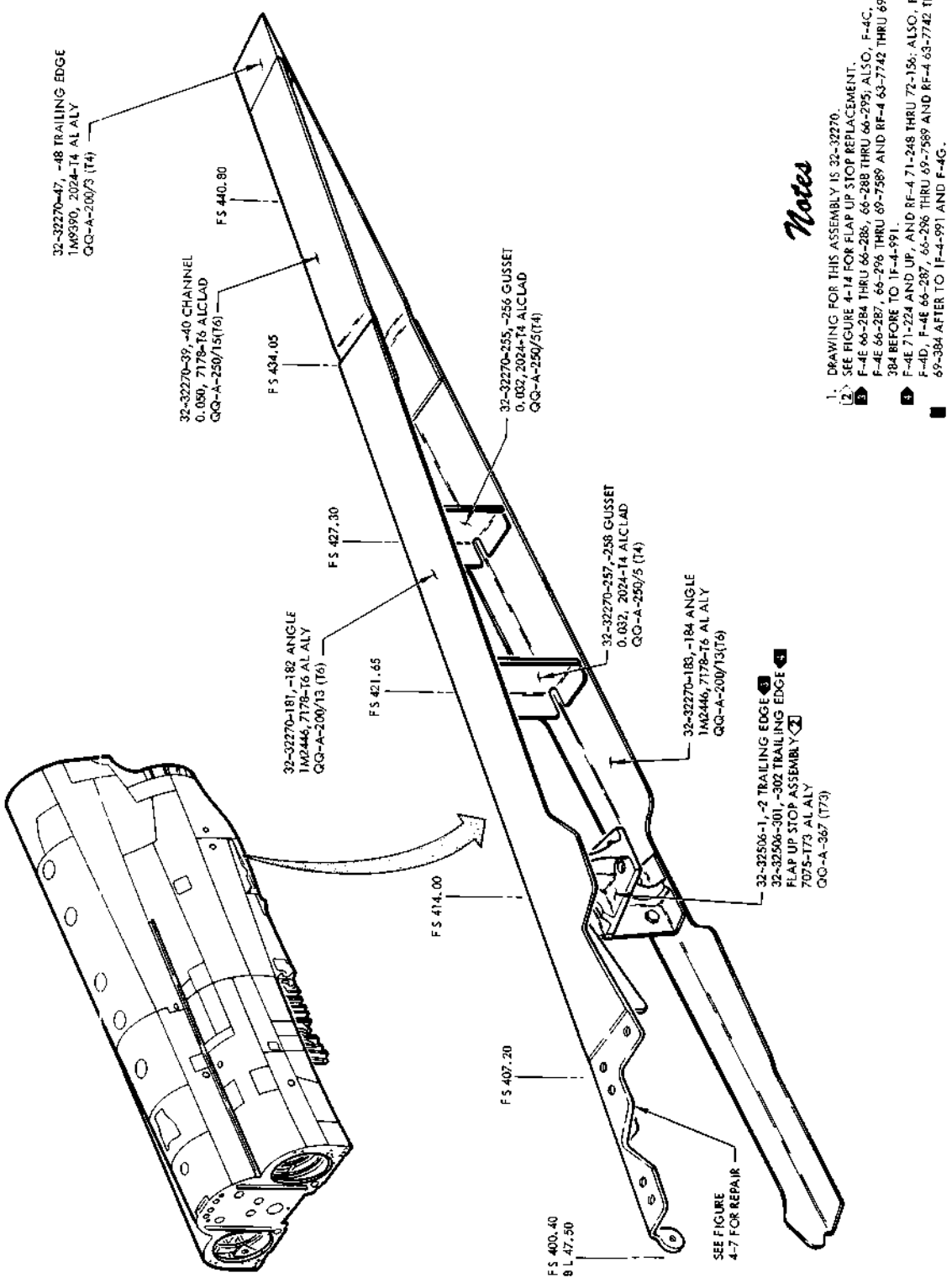


Notes

1. SEE FIGURE 4-9 FOR NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS.
2. THESE SKINS AND REPAIRS TO THESE SKIN WILL BE SEALED. REFERENCE TO 1F-4C-3-1-6 FOR SEALING.
3. LEADING EDGE OF DOOR 43.
4. LEADING EDGE OF DOOR 45.
5. LEADING EDGE OF DOORS 38 AND 121.
6. TRAILING EDGE OF DOOR 188.
7. TRAILING EDGE OF DOOR 51.
8. TRAILING EDGE OF DOOR 47.
9. TRAILING EDGE OF DOOR 37.
10. LEADING EDGE OF DOOR 39.
11. LEADING EDGE OF DOOR 47.
12. TRAILING EDGE OF DOOR 130.
13. F-4E 66-284 THRU 66-352.
14. F-4E 66-353 THRU 67-239.
15. F-4E 67-240 AND UP AND F-4G.
16. F-4E 66-284 THRU 66-367.
17. F-4E 66-368 THRU 67-298.
18. F-4E 66-284 THRU 66-367, 67-299 THRU 68-538, AND F-4E/G 69-236 THRU 69-7298.
19. F-4E/G 69-7299 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
20. F-4E 66-284 THRU 67-282.
21. F-4E 67-283 THRU 68-451.
22. F-4E 68-452 AND UP AND F-4G.
23. F-4E 66-284 THRU 71-1402 AND F-4G.
24. F-4E 66-368 THRU 71-1402 AND F-4G.
25. F-4E 66-284 THRU 71-236 AND F-4G.
26. F-4E 73-01165 AND UP.
27. F-4E 66-284 THRU 66-367.
28. F-4E 66-284 THRU 66-382.
29. F-4E 66-368 AND UP AND F-4G.
30. F-4E 67-208 AND UP AND F-4G.
31. F-4E 71-237 AND UP.
32. F-4E 72-121 AND UP.
33. F-4E 66-284 THRU 68-409.
34. F-4E 68-410 AND UP AND F-4G.
35. F-4E 66-284 THRU 73-01164 AND F-4G.

4C-3-1-2-(286-10)C

Figure 4-5. Machined Skin Dimension - F-4E AND F-4G (Sheet 10 of 10)



4C-3-1-2-(5)E

Figure 4-6. Fairing Index - FS 400.40 to FS 445.00

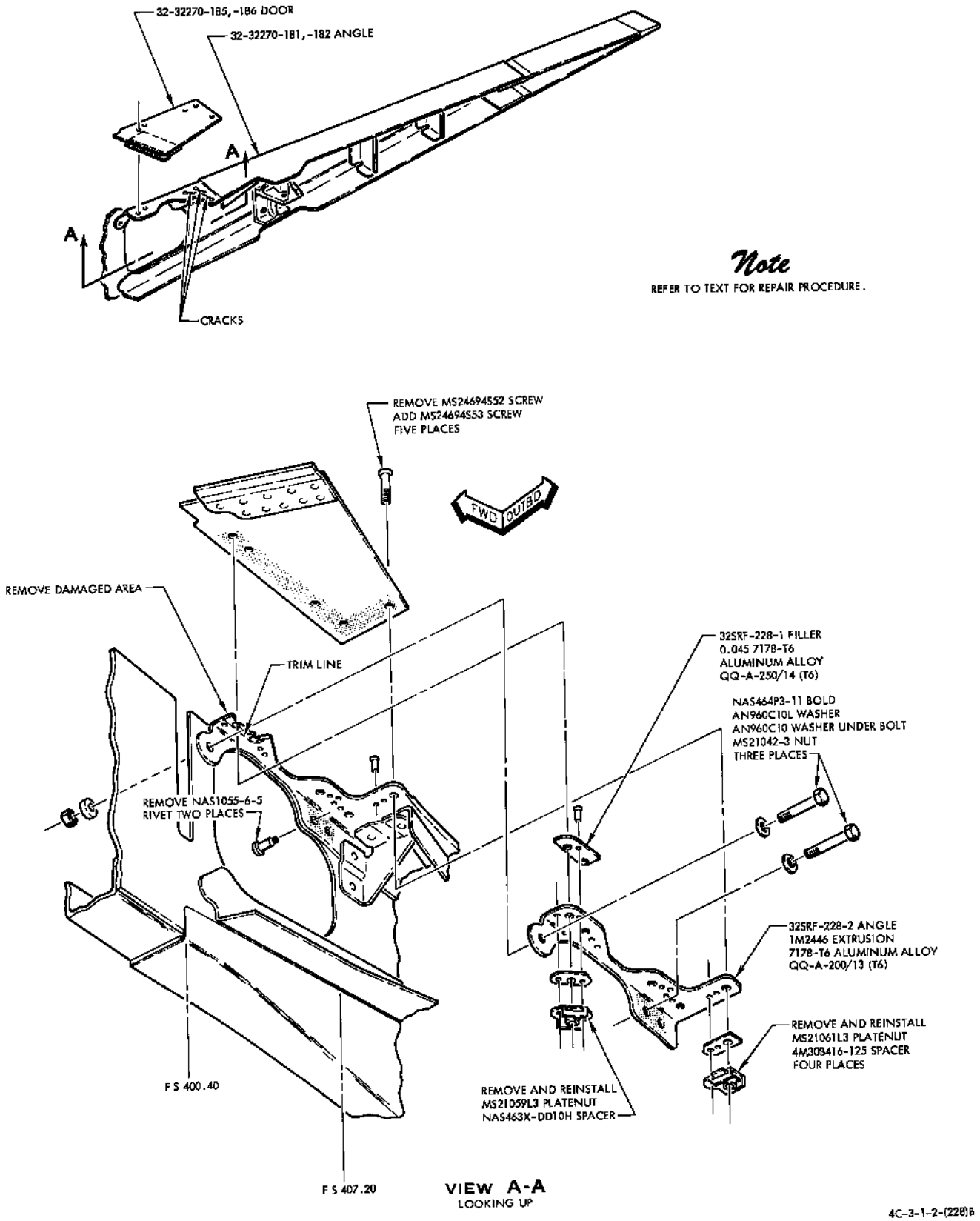
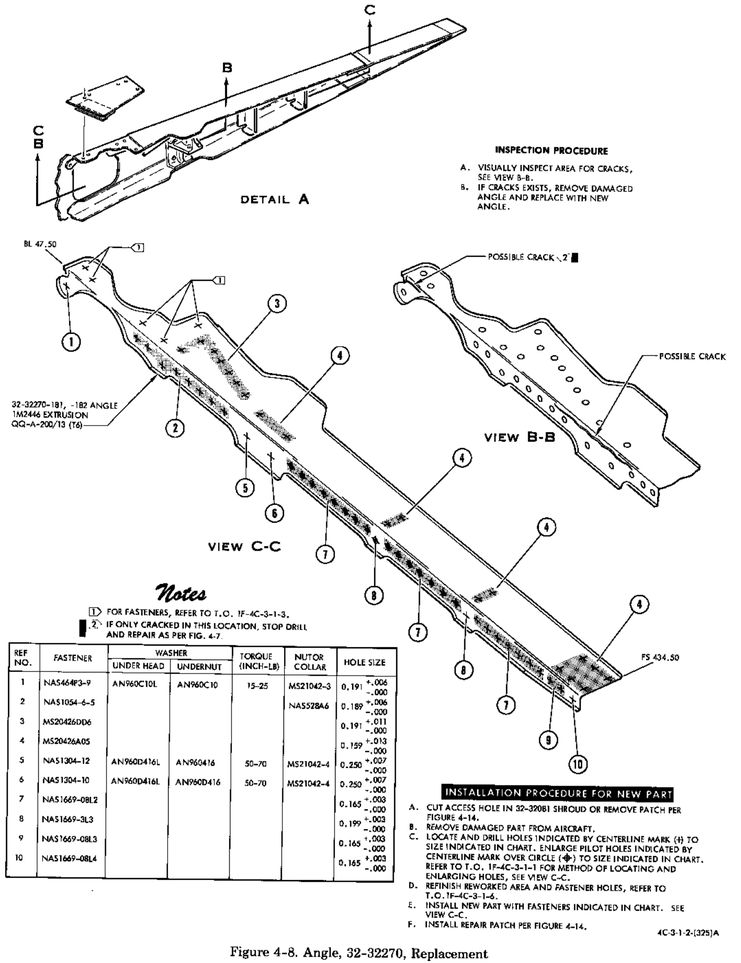


Figure 4-7. Fairing Repair - FS 400.40



Notes

1. FOR FASTENERS, REFER TO T.O. 1F-4C-3-1-3.
2. IF ONLY CRACKED IN THIS LOCATION, STOP DRILL AND REPAIR AS PER FIG. 4-7.

REF NO.	FASTENER	WASHER		TORQUE (INCH-LB)	NUTOR COLLAR	HOLE SIZE
		UNDER HEAD	UNDERNUT			
1	NAS464P3-9	AN960C10L	AN960C10	15-25	MS21042-3	0.191 +.006 -.000
2	NAS1054-6-5				NAS528A6	0.189 +.006 -.000
3	MS20426DD6					0.191 +.011 -.000
4	MS20426A05					0.159 +.013 -.000
5	NAS1304-12	AN960D416L	AN960416	50-70	MS21042-4	0.250 +.007 -.000
6	NAS1304-10	AN960D416L	AN960D416	50-70	MS21042-4	0.250 +.007 -.000
7	NAS1669-08L2					0.165 +.003 -.000
8	NAS1669-3L3					0.199 +.003 -.000
9	NAS1669-08L3					0.165 +.003 -.000
10	NAS1669-08L4					0.165 +.003 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. CUT ACCESS HOLE IN 32-32081 SHROUD OR REMOVE PATCH PER FIGURE 4-14.
B. REMOVE DAMAGED PART FROM AIRCRAFT.
C. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (⊕) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING AND ENLARGING HOLES, SEE VIEW C-C.
D. REFINISH REWORKED AREA AND FASTENER HOLES, REFER TO T.O. 1F-4C-3-1-6.
E. INSTALL NEW PART WITH FASTENERS INDICATED IN CHART. SEE VIEW C-C.
F. INSTALL REPAIR PATCH PER FIGURE 4-14.

4C-3-1-2-(325)A

Figure 4-8. Angle, 32-32270, Replacement

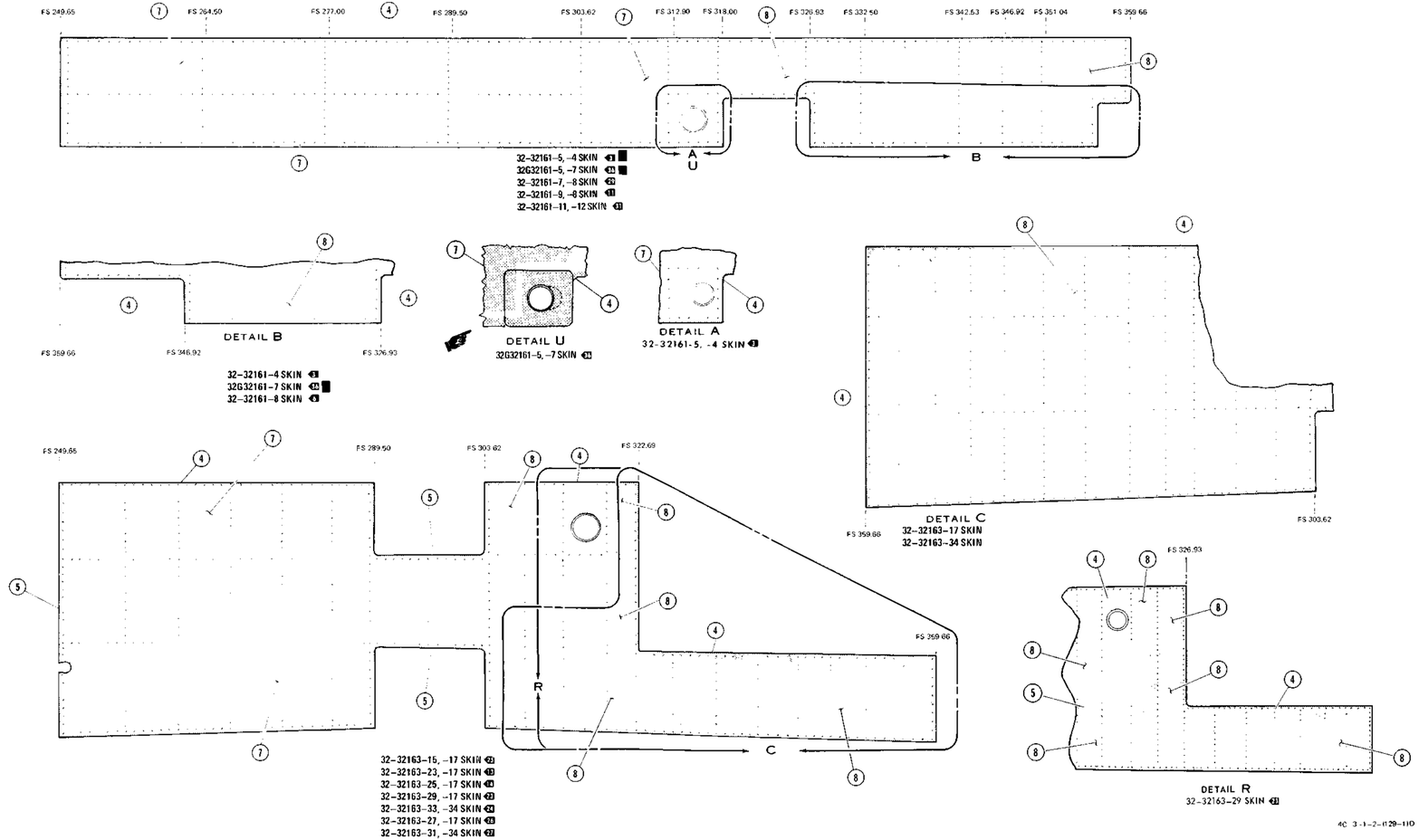


Figure 4-9. Negligible Damage and Corrosion Removal Limits (Sheet 1 of 4)

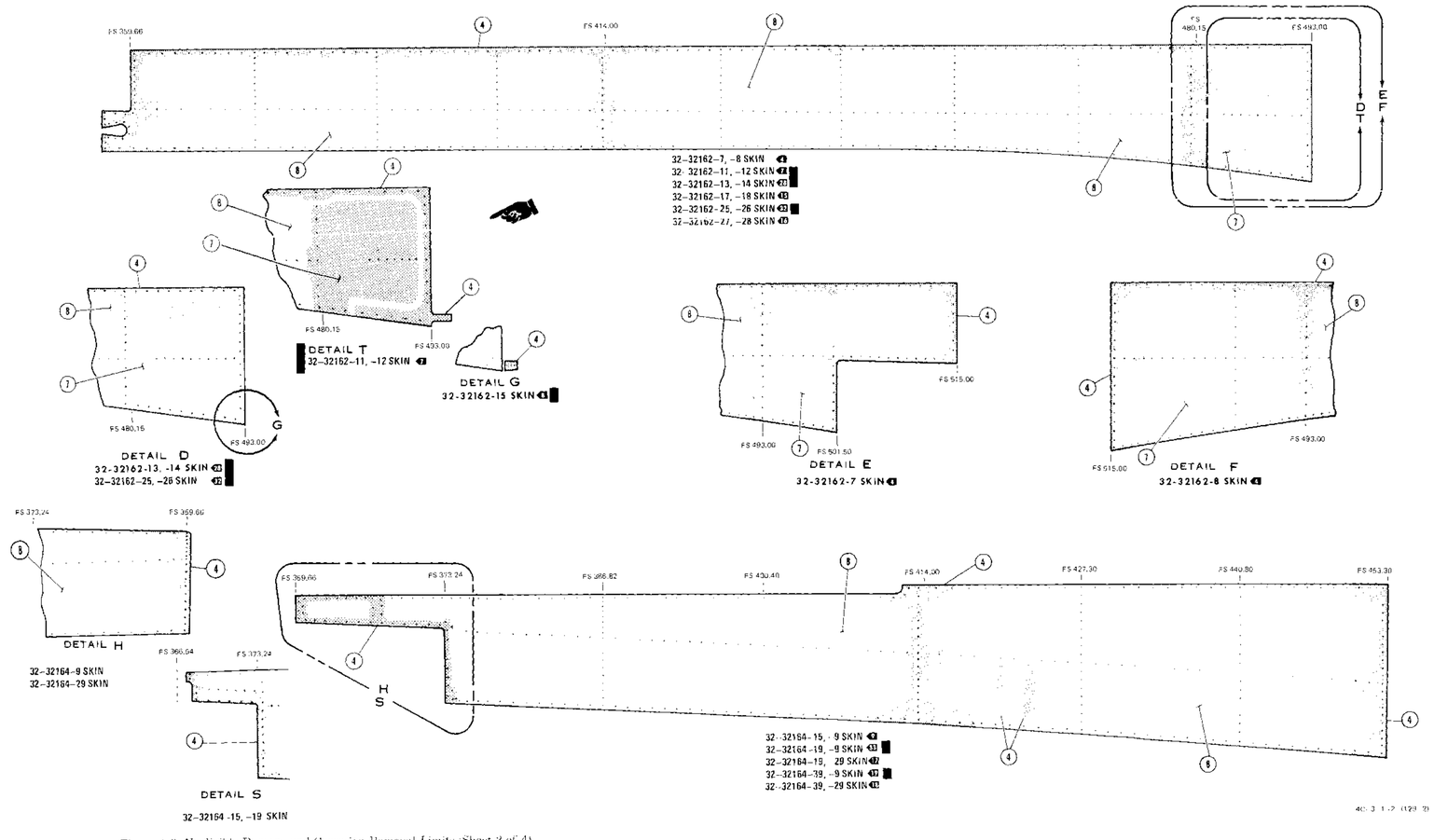


Figure 4-9. Negligible Damage and Corrosion Removal Limits (Sheet 2 of 4)

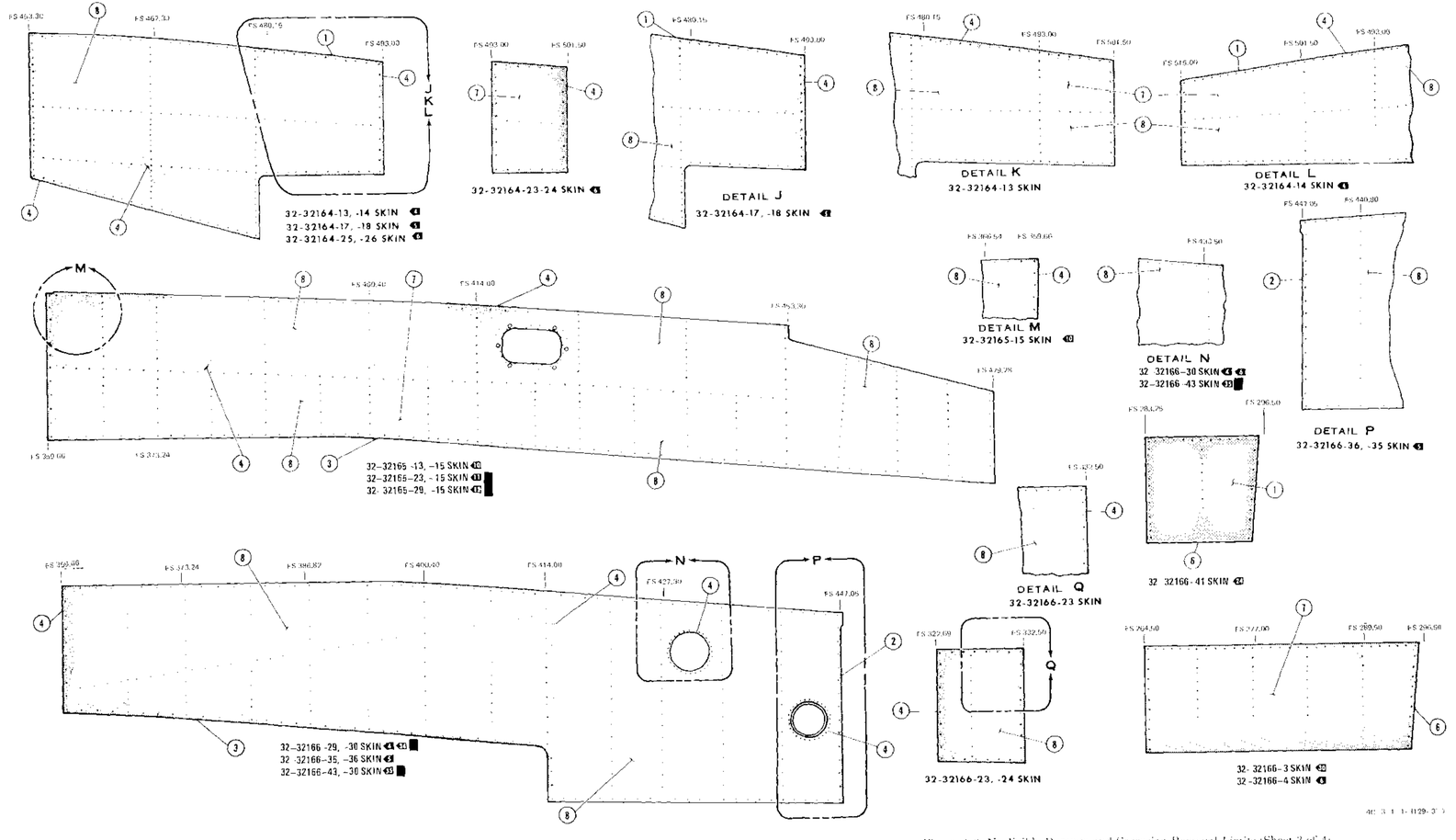
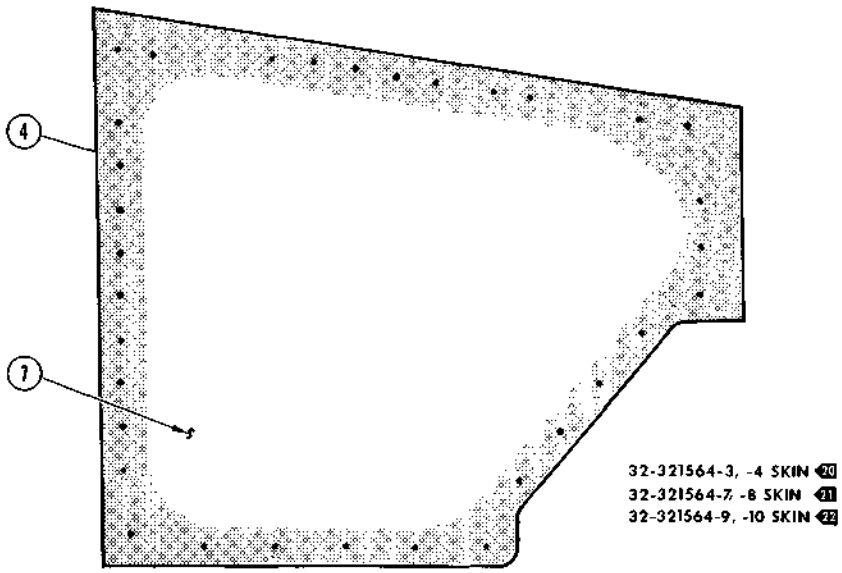


Figure 4-9. Negligible Damage and Corrosion Removal Limits (Sheet 3 of 4)



LEGEND

1 0.010 AT 40 PERCENT OF FASTENERS, PLUS 0.016 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
2 0.012 AT 40 PERCENT OF FASTENERS, PLUS 0.021 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW.
3 0.014 AT 40 PERCENT OF FASTENERS, PLUS 0.023 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.023 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
4 0.020 AT 40 PERCENT OF FASTENERS, PLUS 0.033 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.033 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
5 0.025 AT 40 PERCENT OF FASTENERS, PLUS 0.041 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.041 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
6 0.038 AT 40 PERCENT OF FASTENERS, PLUS 0.063 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. ALTERNATE: 0.063 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.
7 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS-UNBLENDED. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. 0.010 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS-BLENDED.
8 0.002 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS-UNBLENDED. CORROSION MUST BE BLENDED REGARDLESS OF DEPTH. 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS-BLENDED.

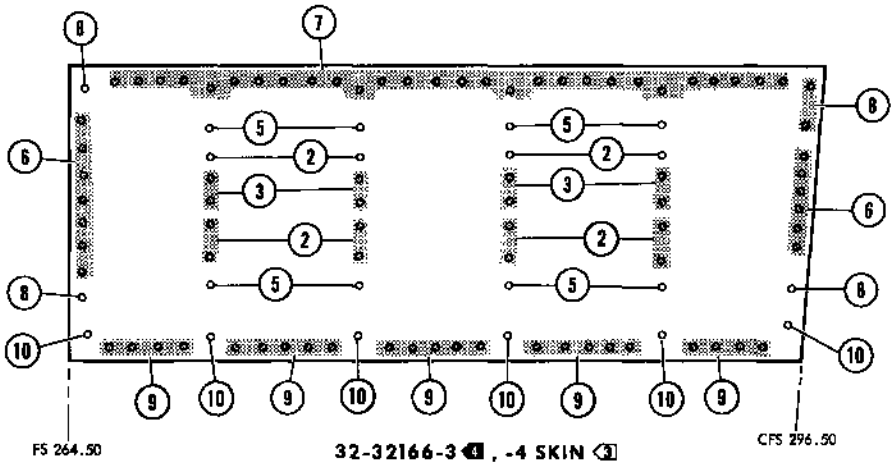
Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. NEGLIGIBLE AND CORROSION METAL REMOVAL LIMITS SHALL COMPLY WITH THE FOLLOWING RESTRICTIONS:
   A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS.
      (1) THREE TIMES FASTENER DIAMETER IN THE DIRECTION PARALLEL TO THE ROW OF FASTENERS.
      (2) ONE AND ONE-HALF TIMES FASTENER DIAMETER IN THE DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   B. IN NO CASE SHALL REMOVAL LIMITS APPLICABLE TO LAND AREAS BE EXTENDED INTO THE BAY AREA.
   C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   D. METAL REMOVAL SHALL BE FOLLOWED BY PROTECTIVE TREATMENT IN ACCORDANCE WITH TO 1F-4C-3-1-6.
   E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS FOR EASE OF REWORK IS NOT PERMISSIBLE.

3 F-4C, F-4D, RF-4C 63-7742 THRU 71-252, BEFORE T.O. 1F-4-991.
4 F-4C; F-4D.
5 RF-4C.
6 F-4E AND F-4G.
7 RF-4C 63-7742 THRU 64-1001.
8 RF-4C 64-1002 THRU 72-156.
9 F-4C, F-4D 64-929 THRU 64-976, RF-4C 63-7742 THRU 65-876.
10 F-4C, F-4D, RF-4C 64-1062 THRU 67-427.
11 F-4E 66-284 THRU 66-367.
12 F-4E 66-368 AND UP AND F-4G.
13 F-4E 66-368 THRU 67-298.
14 F-4E 66-284 THRU 66-367, 67-299 THRU 68-538, AND F-4E/G 69-236 THRU 69-7298.
15 F-4E 66-284 THRU 66-352.
16 F-4E 66-353 AND UP AND F-4G.
17 RF-4C 67-428 THRU 72-156.
18 F-4E 67-208 AND UP AND F-4G.
19 F-4E 66-368 THRU 66-382.
20 F-4E 66-284 THRU 67-282.
21 F-4E 67-283 THRU 68-451.
22 F-4E 68-452 AND UP AND F-4G.
23 F-4E/G 69-7299 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
24 F-4E 71-237 AND UP.
25 F-4C, F-4D, RF-4C 63-7742 THRU 69-366.
26 RF-4C 69-367 THRU 71-252.
27 RF-4C 71-253 THRU 72-156.
28 RF-4C 64-1002 THRU 67-464.
29 F-4E 66-368 THRU 71-1402, RF-4C 71-253 THRU 72-156, AND F-4G.
30 F-4E 66-284 THRU 71-236 AND F-4G.
31 F-4E 71-121 AND UP.
32 RF-4C 67-465 THRU 72-156.
33 F-4D 64-977 THRU 66-8825, RF-4C 65-877 THRU 67-427.
34 F-4E 66-284 THRU 73-01164 AND F-4G.
35 F-4E 73-01165 AND UP.
36 F-4C, F-4D, AND RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991.

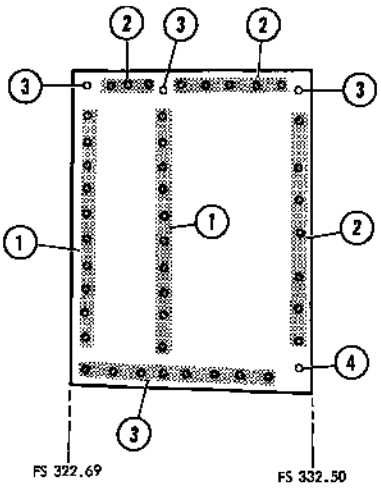
4C-3-1-2-(129-4)E

Figure 4-9. Negligible Damage and Corrosion Removal Limits (Sheet 4 of 4)

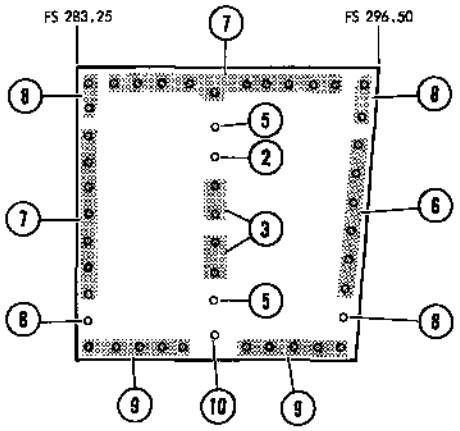


32-32166-3 [4], -4 SKIN [5]

FWD



32-32166-23, -24 SKIN [2]



32-32166-41 SKIN [5]

REF NO.	FASTENER	COLLAR	NUT	WASHER	HOLE SIZE
1	MS20426AD5				$0.159^{+.013}_{-.000}$
2	NAS1055-6-3	NAS528A6			$0.191^{+.006}_{-.000}$
3	NAS1055-6-4	NAS528A6			$0.191^{+.006}_{-.000}$
4	NAS1055-6-5	NAS528A6			$0.191^{+.006}_{-.000}$
5	NAS1055-8-4	NAS528A8			$0.250^{+.006}_{-.000}$
6	NAS1055-8-5	NAS528A8			$0.250^{+.006}_{-.000}$
7	NAS1055-8-6	NAS528A8			$0.250^{+.006}_{-.000}$
8	NAS1055-8-8	NAS528A8			$0.250^{+.006}_{-.000}$
9	NAS334CFA6		MS21042-4	AN960D416	$0.2495^{+.0017}_{-.0000}$
10	NAS335CFA7		MS21042-5	AN960D516	$0.3120^{+.0017}_{-.0000}$

Notes

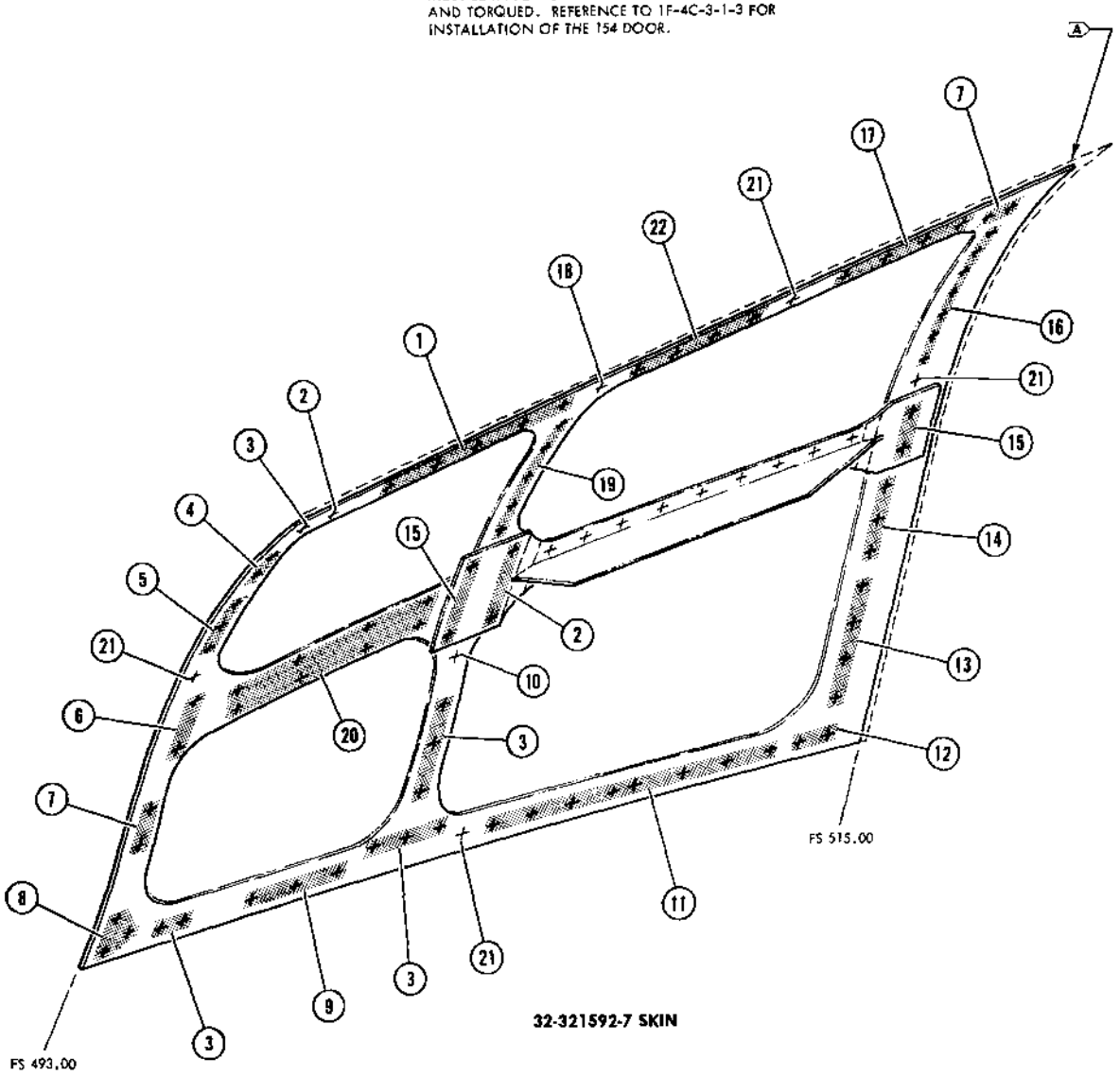
1. INSTALL SKIN AND FASTENERS PER T O 1F-4C-3-1-6 CORROSION CONTROL.
2. THIS SKIN HAS BEEN CHEMICALLY MACHINED FROM 0.100 7178-T6 ALUMINUM ALLOY QQ-A-250/14 (T6). THE LANDS ARE 0.100. THE REST OF THE SKIN IS 0.032.
3. THIS SKIN HAS BEEN CHEMICALLY MACHINED FROM 0.190 7178-T6 ALUMINUM ALLOY QQ-A-250/14 (T6). THE LANDS ARE 0.190. THE REST OF THE SKIN IS 0.110.
4. F-4C, F-4D, F-4E 66-284 THRU 71-236, AND F-4G.
5. F-4E 71-237 AND UP.
6. MS21075L OR MS21059L PLATENUTS ATTACHED TO 0.040 7075-T6 ALUMINUM BACKING PLATES MAY BE SUBSTITUTED FOR MS21042 NUTS AND AN960D WASHERS. BACKING PLATES TO BE SHAPED AS REQUIRED TO MAINTAIN AT LEAST TWO DIAMETERS EDGE DISTANCE FOR FASTENERS. ATTACH BACKING PLATES TO STRUCTURE WITH SEALANT, MIL-S-81733.
7. NAS334 AND NAS335 SCREWS WITH 67992N NUTS (428 OR 524) AND 67992W NUTBASES (428 OR 524), OR EQUIVALENT, ARE ACCEPTABLE SUBSTITUTES FOR NAS1055 FASTENERS AND NAS528 COLLARS.

4C-3-1 2-20190

Figure 4-10. Skin Fastener Index

CAUTION

PRIOR TO REMOVAL OF THIS SKIN, THE 154 DOOR MUST BE IN PLACE AND ALL FASTENERS INSTALLED AND TORQUED. REFERENCE TO 1F-4C-3-1-3 FOR INSTALLATION OF THE 154 DOOR.



32-321592-7 SKIN

INSTALLATION PROCEDURE FOR NEW PART

(A) TRIM EDGE TO FIT OPENING. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS.

B. LOCATE AND DRILL HOLE INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1, FOR METHOD OF LOCATING HOLE. COUNTERSINK HOLE TO RECEIVE FASTENER.

C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINK ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

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4C-3-1-2-(21-1)D

Figure 4-11. Skin, 32-321592, Fastener Index (Sheet 1 of 2)

REF NO.	FASTENER	NUT	SPACER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS334CFA6	G19179-4-4-8-5		40-60	$0.257^{+.007}_{-.000}$
2	NAS334CFA6	A8256-2-048		40-60	$0.257^{+.007}_{-.000}$
3	NAS333CFA6	F1934-3-4		15-25	$0.196^{+.006}_{-.000}$
4	NAS333CFA6	F29339-3	4M30C10-064	15-25	$0.196^{+.006}_{-.000}$
5	NAS333CFA6	G19179-3-4-6-3		15-25	$0.196^{+.006}_{-.000}$
6	NAS334CFA6	F1972-4-2L		40-60	$0.257^{+.007}_{-.000}$
7 [2]	NAS334CFA6	A8256-2-048		40-60	$0.257^{+.007}_{-.000}$
[3]	NAS334CFA6	G19179-4-2-8		40-60	$0.257^{+.007}_{-.000}$
8	NAS333CFA6	F29339-3		15-25	$0.196^{+.006}_{-.000}$
9	NAS333CFA6	G19179-3-4-8-3		15-25	$0.196^{+.006}_{-.000}$
10	NAS333CFA6	F1972-3-4		15-25	$0.196^{+.006}_{-.000}$
11	NAS333CFA6	G19179-3-4-8-4		15-25	$0.196^{+.006}_{-.000}$
12	NAS334CFA6	NS102937-048		40-60	$0.257^{+.007}_{-.000}$
13	NAS334CFA6	G19179-4-2-8-4		40-60	$0.257^{+.007}_{-.000}$
14	NAS334CFA6	G19179-4-2-8-3		40-60	$0.257^{+.007}_{-.000}$
15	NAS334CFA6	F1934-4-2		40-60	$0.257^{+.007}_{-.000}$
16	NAS334CFA6	G19179-4-2-7-7		40-60	$0.257^{+.007}_{-.000}$
17	NAS334CFA6	G19179-4-4-7-4		40-60	$0.257^{+.007}_{-.000}$
18	NAS333CFA6	MS21055-3		15-25	$0.196^{+.006}_{-.000}$
19	NAS333CFA6	G19179-3-4-10-5		15-25	$0.196^{+.006}_{-.000}$
20	NAS333CFA6	G19179-3-10-4		15-25	$0.196^{+.006}_{-.000}$
21	NAS1670-4L4				$0.260^{+.003}_{-.000}$
22	NAS334CFA6	G19179-4-4-7-4		40-60	$0.257^{+.007}_{-.000}$

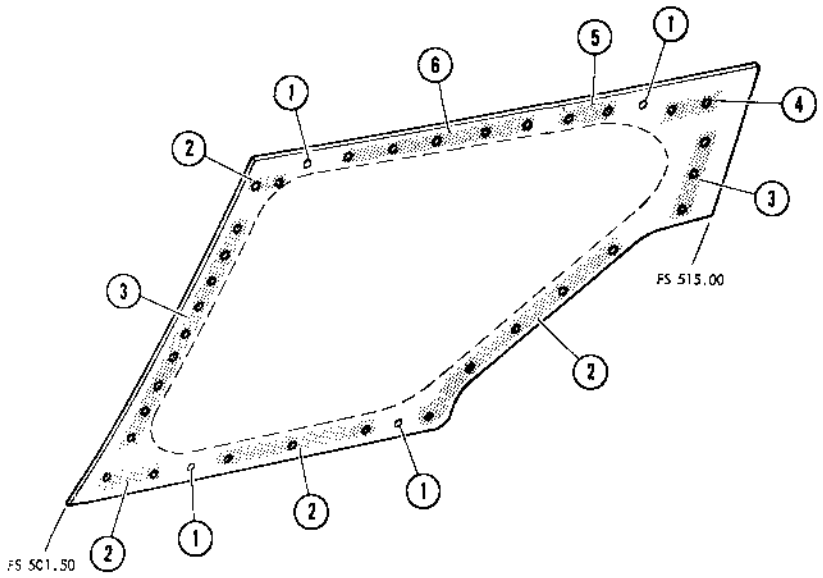
Notes

1. THIS SKIN IS MILLED FROM 0.100 7178-T6 ALUMINUM ALLOY, QQ-A-250/15(T6) BAYS ARE 0.050.

[2] F-4E 66-284 THRU 68-538.
[3] F-4E 69-236 AND UP AND F-4G.

4C-3-1-2-(21-2)E

Figure 4-11. Skin, 32-321592, *Fastener* Index (Sheet 2 of 2)



REF NO.	FASTENER	NUT	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1670-3L3			$0.191^{-.003}_{-.000}$
2	NAS333CFA6	F1934-3-4	15-25	$0.191^{+.006}_{-.000}$
3	NAS333CFA6	G19179-3-4-8	15-25	$0.191^{+.006}_{-.000}$
4	NAS334CFA6	MS21064L4-8-2L	40-60	$0.250^{+.007}_{-.000}$
5 ◧	NAS333CFA6	F1934-3-4	15-25	$0.191^{+.006}_{-.000}$
◨	NAS333CFA6	NS103072-02	15-25	$0.191^{+.006}_{-.000}$
6	NAS333CFA6	G19179-3-4-7	15-25	$0.191^{+.006}_{-.000}$

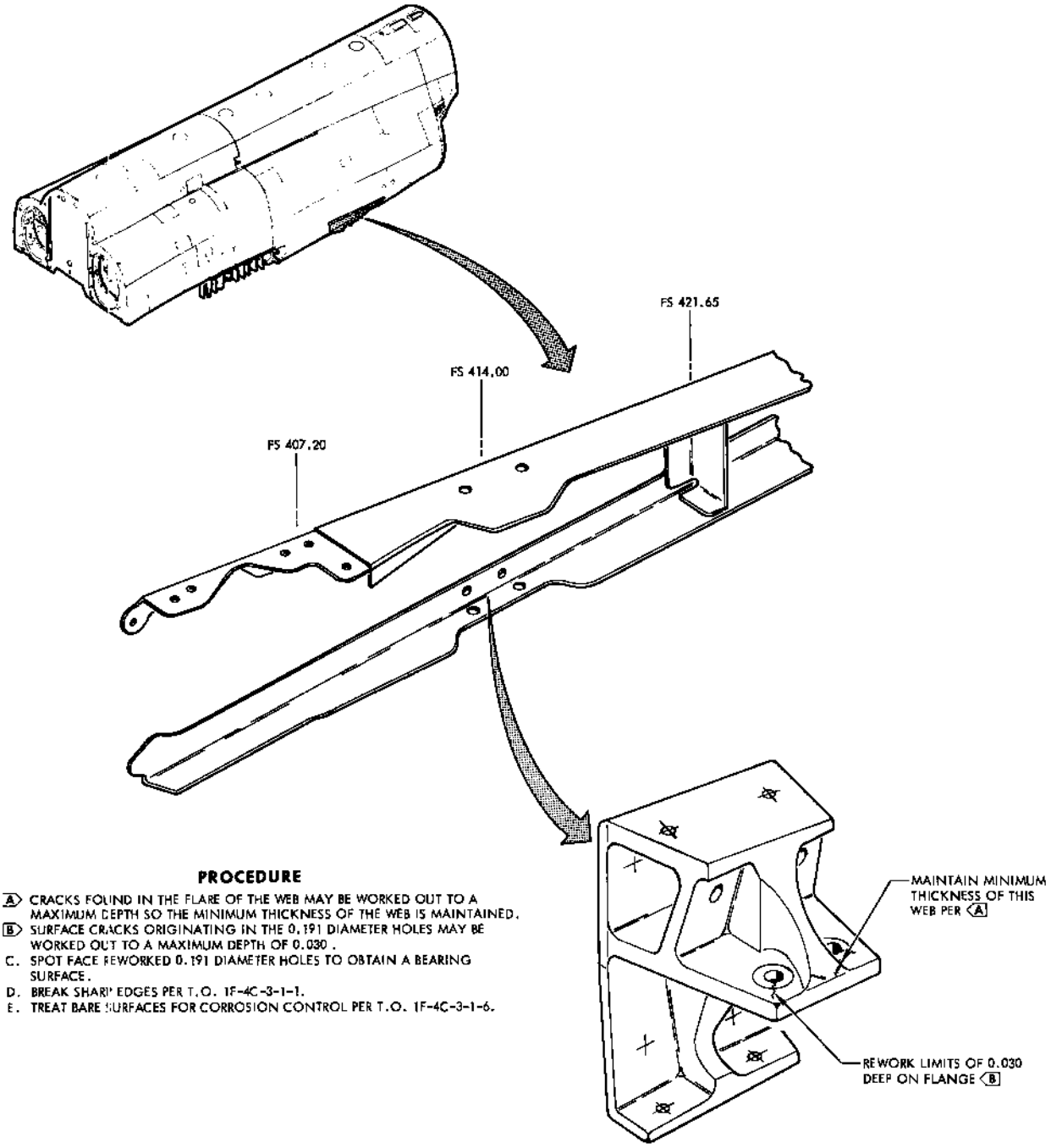
Notes

1. THIS SKIN IS MACHINED FROM 0.100,7178-T6 ALUMINUM ALLOY, QQ-A-250/14 (T6). THE BAY IS 0.045, THE LAND 0.100.
2. INSTALL SKIN AND FASTENERS FOR CORROSION CONTROL PROCEDURE PER TO 1F-4C-3-1-6.
3. THIS SKIN HAS FORM IN PLACE SEAL. REFERENCE TO 1F-4C-3-1-6 FOR REPAIR OR REPLACEMENT OF SEAL.

◧ F-4E 66-284 THRU 67-326.
◨ F-4E 67-327 AND UP AND F-4G.

4C-3-1-2-(22)D

Figure 4-12. Skin, 32-321564, Fastener Index

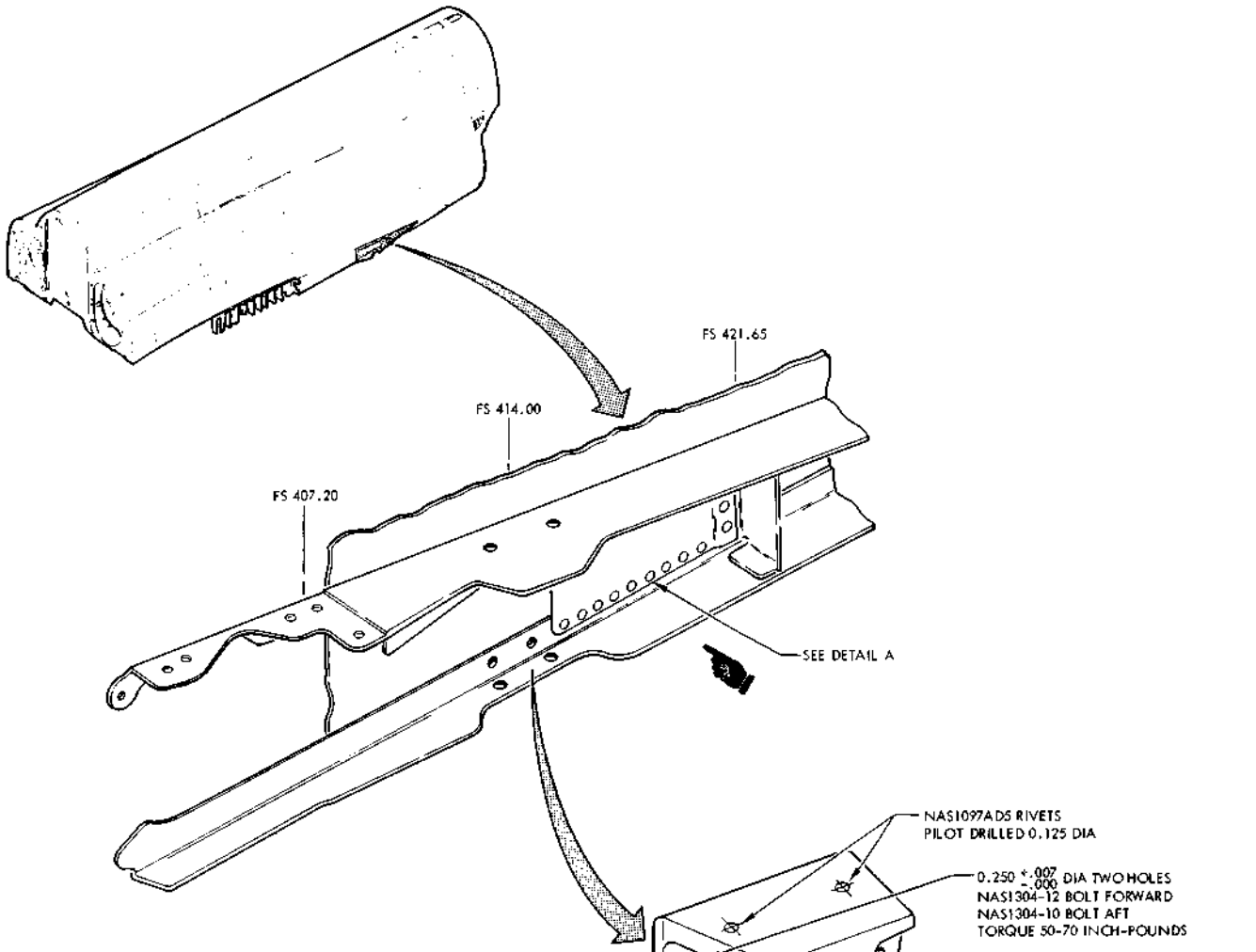


PROCEDURE

(A) CRACKS FOUND IN THE FLARE OF THE WEB MAY BE WORKED OUT TO A MAXIMUM DEPTH SO THE MINIMUM THICKNESS OF THE WEB IS MAINTAINED.
(B) SURFACE CRACKS ORIGINATING IN THE 0.191 DIAMETER HOLES MAY BE WORKED OUT TO A MAXIMUM DEPTH OF 0.030 .
C. SPOT FACE REWORKED 0.191 DIAMETER HOLES TO OBTAIN A BEARING SURFACE.
D. BREAK SHARP EDGES PER T.O. 1F-4C-3-1-1.
E. TREAT BARE SURFACES FOR CORROSION CONTROL PER T.O. 1F-4C-3-1-6.

4C-3-1-2-(288)A

Figure 4-13. Flap Up Stop Repair

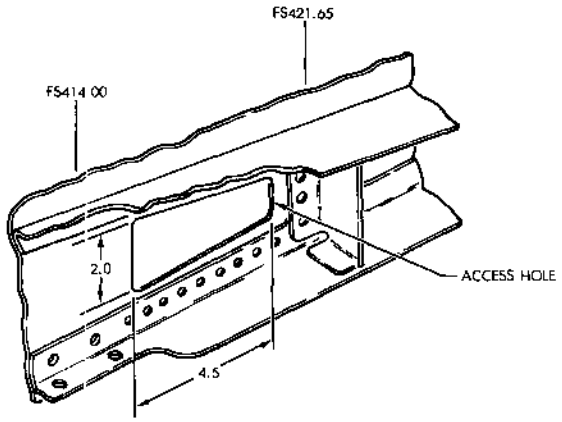


PROCEDURE

A. CUT ACCESS HOLE PER SHEET 2.
B. REMOVE DAMAGED PART FROM AIRCRAFT, RETAIN THE FOLLOWING PARTS FOR REINSTALLATION.
   1. 32-32506-5, -7, -15 SHIM
   2. NAS1305-12 BOLT (TWO)
   3. AN960D516 WASHER (TWO)
   4. MS21042-5 NUT (TWO)
   5. MS24694S57 SCREW (TWO)
   6. MS21042-3 NUT (TWO)
   7. AN960D10 WASHER (TWO)
   8. NAS1304-12 BOLT (FORWARD)
   9. NAS1304-10 BOLT (AFT)
   10. MS21042-4 NUT (TWO)
   11. AN960D416 (TWO) (UNDER NUT)
   12. AN960D416L (TWO) (UNDER BOLT)
C. INSTALL STOP ASSEMBLY USING ITEMS LISTED IN STEP B FOR SUPPORT.
D. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE (+) TO SIZE INDICATED. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED. REFERENCE TO 1F-4C-3-1-1 FOR METHODS OF LOCATING AND ENLARGING HOLES.
E. REFINISH REWORKED AREA, REPAIR PATCH, AND FASTENER HOLES PER TO 1F-4C-3-1-6.
F. REINSTALL STOP ASSEMBLY AND TORQUE ALL ATTACH BOLTS PER TO 1F-4C-3-1-1.
G. INSTALL FOUR NAS1097AD5 RIVETS.
H. CHECK RIGGING AT SPLICE LINE ALONG 32-32270 WEB ASSEMBLY AND INBOARD EDGE OF TRAILING EDGE FLAP PER TO 1F-4( )-2-4.
J. FABRICATE REPAIR PATCH PER SHEET 2.
K. DRILL FASTENER HOLES IN REPAIR PATCH AND WEB PER HOLE SIZE IN VIEW A-A. MAINTAIN FOUR DIAMETER SPACING AND TWO DIAMETER EDGE DISTANCE.
L. SEAL REPAIR PATCH PER TO 1F-4C-3-1-6.
M. INSTALL REPAIR PATCH PER SHEET 2.

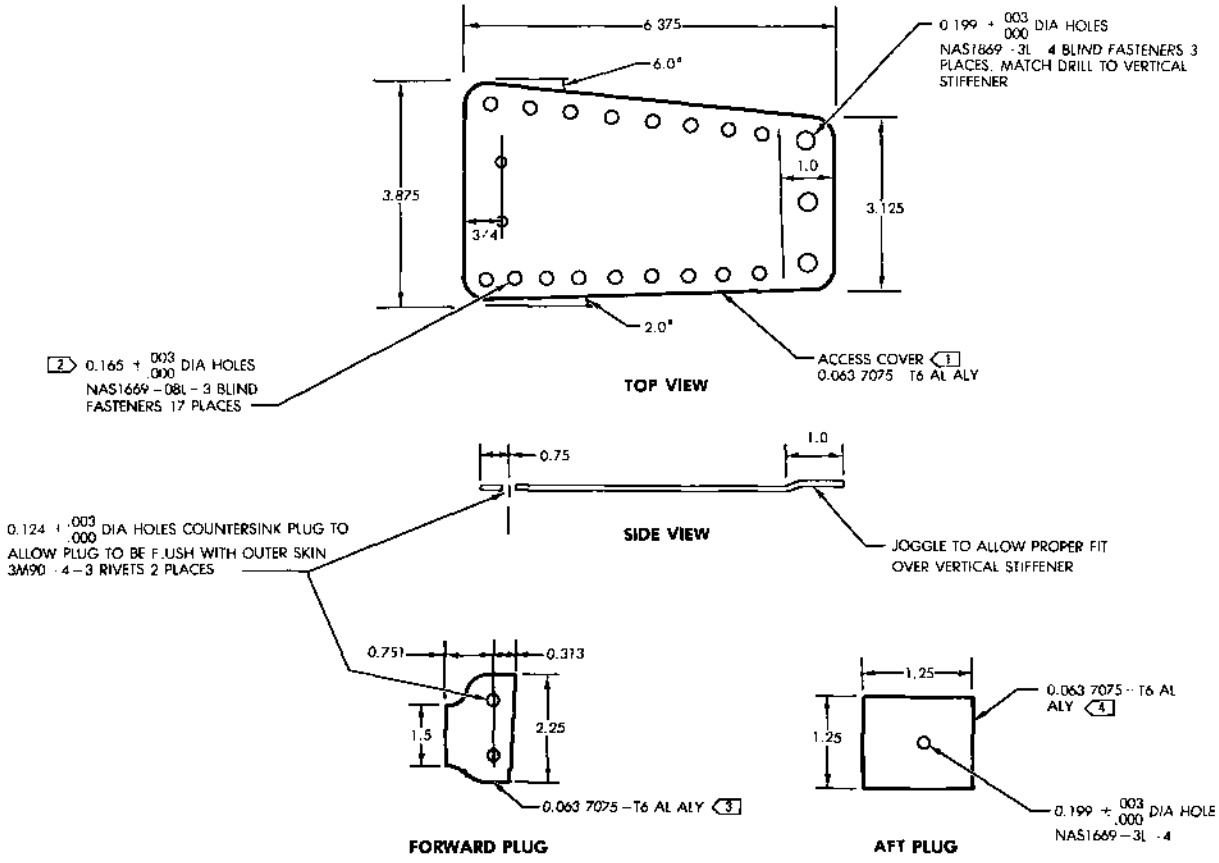
4C-3-1-2-(126-1)B91

Figure 4-14. Flap Up Stop, FS 414.00, Replacement (Sheet 1 of 2)



Notes

1. TRIM ACCESS COVER TO FIT FAIRING.
2. DRILL FASTENER HOLES ON INSTALLATION BY SLIDING COVER UNDER FAIRING AND MATCHING TO EXISTING HOLES.
3. TRIM PLUG TO FIT FAIRING THEN DRILL FASTENER HOLES TO MATCH WITH ACCESS COVER. ATTACH DIRECTLY TO INSIDE OF ACCESS COVER.
4. TRIM PLUG TO FIT FAIRING THEN DRILL FASTENER HOLE TO MATCH WITH VERTICAL STIFFENER. INSERT BETWEEN VERTICAL STIFFENER AND SKIN



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DETAIL A

4C 3-1 2-(126-2)89

Figure 4-14. Flap Up Stop, FS 414.00 Replacement (Sheet 2 of 2)

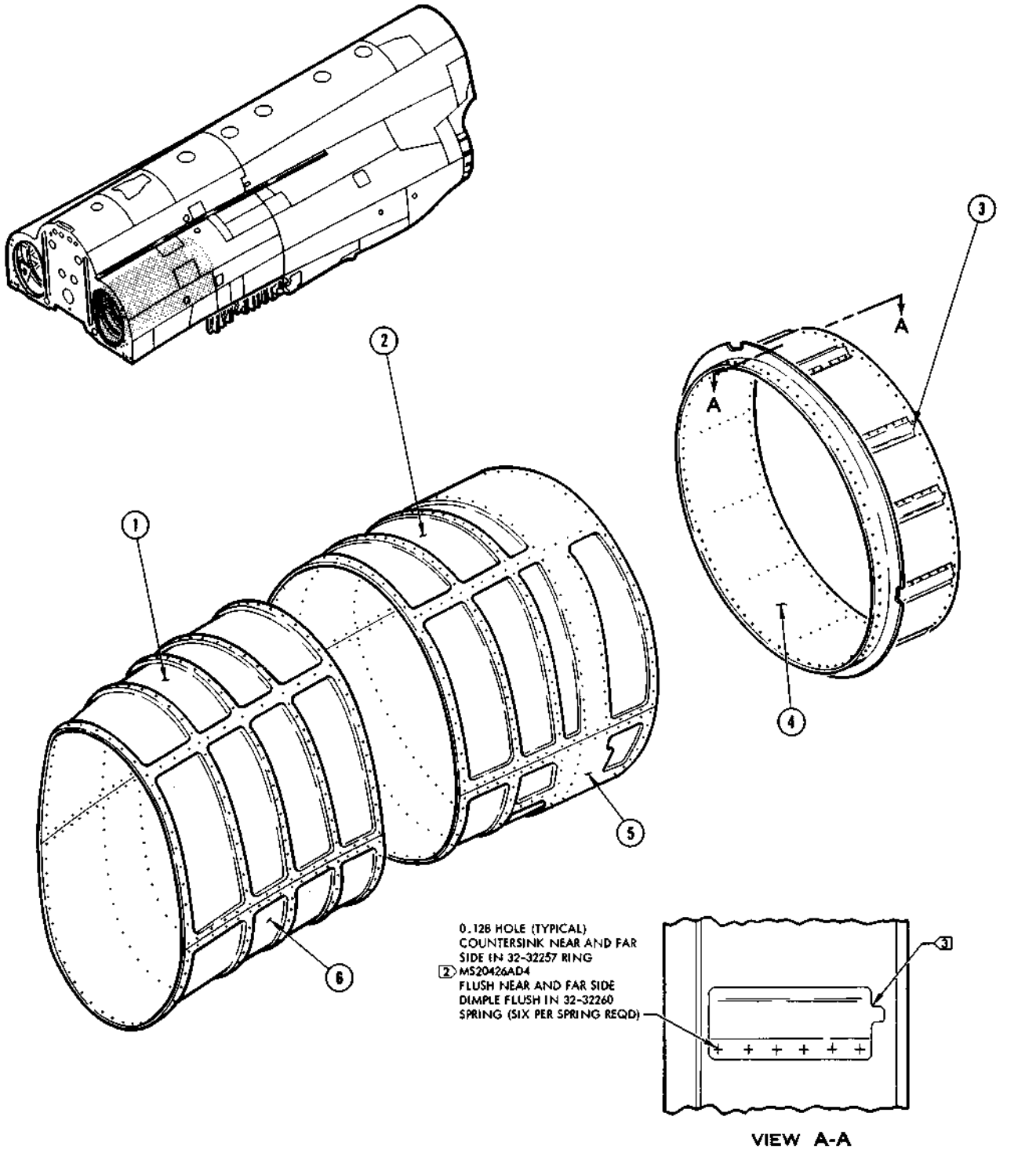


Figure 4-15. Engine Air Duct Inner Skin Repair Index (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32003-31,-32	SKIN	0.071	2024-T4 AL ALY	QQ-A-250/4 (T4)
2	32-32003-25,-26	SKIN	0.071	2024-T4 AL ALY	QQ-A-250/4 (T4)
3	32-32260-5,-6	SPRING	0.020	301 CRES	MIL-S-5059 (1/4 H)
	32-32260-7,-8	SPRING	0.020	301 CRES	MIL-S-5059 (1/4 H)
	32-32260-9,-10	SPRING	0.020	301 CRES	MIL-S-5059 (1/4 H)
	32-32260-11,-12	SPRING	0.020	301 CRES	MIL-S-5059 (1/4 H)
4	32-32257-5	RING	FORGING	2014-T652 AL ALY	QQ-A-367 (T652)
	32-32257-7	RING	FORGING	2014-T652 AL ALY	QQ-A-367 (T652)
	32-32257-9,-10	RING	FORGING	2014-T652 AL ALY	QQ-A-367 (T652)
5	32-32003-27,-28	SKIN	0.071	2024-T4 AL ALY	QQ-A-250/4 (T4)
6	32-32003-33,-34	SKIN	0.071	2024-T4 AL ALY	QQ-A-250/4 (T4)

Notes

1. THE SKIN HAS BEEN CHEMICALLY MILLED TO INCORPORATE LANDS IN THE FASTENER AREA. THE LANDS ARE 0.071 WITH THE REST OF THE SKIN 0.050.
2. DIMPLE HOLES IN 32-32260 SPRING PER TO 1F-4C-3-1-1.
3. REFER TO FIGURE 4-56 FOR REWORK OF CENTERING SPRINGS.
4. F-4C 63-7407 THRU 63-7420.
5. F-4C 63-7421 THRU 63-7662 AND RF-4 63-7742 THRU 64-1017.
6. F-4C 63-7663 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 64-1018 THRU 72-156.
7. F-4C 63-7407 THRU 64-906, F-4D 64-929 THRU 64-937, AND RF-4 63-7742 THRU 65-846.
8. F-4C 64-907 THRU 64-928, F-4D 64-938 THRU 66-8786, F-4E 66-284 THRU 66-338, AND RF-4 65-847 THRU 66-472.
9. F-4D 66-8787 THRU 66-8825, F-4E 66-339 THRU 71-231, F-4G, AND RF-4 66-973 THRU 71-249.
10. DELETED.
11. DELETED.
12. F-4E 71-242 AND UP AND RF-4 71-250 THRU 72-156.

4C-3-1-2-(23-2)D

Figure 4-15. Engine Air Duct Inner Skin Repair Index (Sheet 2 of 2)

4-39. **STRUCTURE.** See figures 4-16 thru 4-47.

4-40. Center fuselage structure consists of bulkheads, frames, longerons and stringers. The keel and floors also are considered as a portion of the center fuselage structure.

4-41. **LONGERONS AND STRINGERS.** See figures 4-17 and 4-18. Center fuselage longerons and stringers are primarily extrusions of 7178-T6 aluminum alloy. Some hinge extrusions and smaller stringers are made from 7075-T6 aluminum alloy, 2024-T4 aluminum alloy and titanium alloy. The lower longeron is an extrusion of 4330 steel. Refer to TO 1F-4C-3-1-5 for die numbers of extrusions used to make longerons and stringers.

4-42. **Negligible Damage and Corrosion Removal Limits.** Nicks, gouges, corrosion and scratches parallel to the edges of longeron or stringer that do not exceed 0.010 in depth and 6 inches in length are negligible if blended to the surface. Nicks, scratches, corrosion and gouges across the longeron or stringer that do not exceed 0.010 in depth and 1 inch in length are negligible if blended to the surface. Refer to TO 1F-4C-3-1-5 for rework procedure. Nicks on the outer edge of the extrusion legs are negligible if no deeper than one-eighth inch after blending. Damage that decreases fastener edge distance to less than one and one half times rivet diameter shall not be considered negligible. For negligible damage to hinges that form an integral part of longerons and stringers refer to paragraph 4-150.

4-43. **Repairs.** Small extruded stringers, angles and stiffeners may be repaired by making a sheet metal equivalent. Refer to TO 1F-4C-3-1-5 for extruded sheet metal equivalents. The extrusion number of stringers may be found in figure 4-17. See figure 4-25 for intercostal repair at FS 312.90 and FS 318.00. See figure 4-25B for angle 32-32274 repair at FS 322.50. See figure 4-25A for Intercostal Repair at FS 312.90 thru FS 318. Refer to TO 1F-4C-3-1-6 for sealing requirements.

4-44. **Replacement.** When small stiffeners or stringers are damaged beyond negligible damage, they should be replaced since it is impractical to repair them. On the center fuselage, some small stiffeners and angles are formed from alclad sheet metal. These parts can be replaced by forming and heat treating the replacement parts. Refer to TO 1F-4C-3-1-1 for heat treating process, and heat damage evaluation.

4-44A. Boresight Alignment Pad. See figure 4-16A.

4-45. **BULKHEADS, FRAMES, AND BEAMS.** See figures 4-19 thru 4-47 for F-4C, F-4D, F-4E, F-4G, AND RF-4C. For F-4E AND F-4G structure configuration, FS 337.75 thru FS 366.54, see figures 4-26, 4-27, and 4-28. These aircraft do not utilize the ram air turbine. F-4E 66-368 AND UP AND F-4G utilize this area for an electronic equipment bay. Major bulkheads located at FS 249.65, FS 493.00, and FS 359.66 are stretcher-leveled type made from 7075-T651 aluminum alloy. These major bulkheads distribute major loads carried by the structure and separate the fuel cells. The remaining bulkheads are built-up cap and web type. The frames are between these major bulkheads at approximately 6-inch intervals. The frames are of formed sheet metal type with a channel type cross section. In the engine area, titanium sheet metal is used, while in areas not subject to high heat, 7178-T6 alclad and 7075-T6 alclad are used. These frames support the fuel cells, carry some loads, and stiffen the fuselage skin. Lug assembly, 32-32528, located on frame at FS 400.40 attaches fuselage frame to center wing, see figure 4-32. For replacement of lug assembly refer to paragraph 4-54.

4-46. **Negligible Damage and Corrosion Removal Limits.** A small, smooth and isolated dent which is no deeper than 0.062 is negligible if the damage does not cause interference with movement of parts, internal mechanisms or tubing. Nicks, corrosion, and scratches with a depth of less than 10 percent of the metal thickness are negligible if blended. Refer to TO 1F-4C-3-1-5 for rework procedure. Damage when trimmed or blended that does not reduce the rivet edge distance to less than one and one half times rivet diameter is negligible. After blending, clean, treat, and refinish the area in accordance with corrosion control procedure in TO 1F-4C-3-1-6.

4-46A. Gange Channel Repair. For repair to broken or damage gang channel, see figure 4-22A.

4-46B. Bulkhead Repair — FS 303.62. Repair cracked bulkhead per figure 4-22B.

4-46C. **Bulkhead Chafing - FS 249.65.** Chafing between BLC ducts and clearance holes at FS 249.65 bulkhead is negligible and requires no repair. No typical repairs are outlined for the bulkhead per this TO. For damage exceeding limits of paragraph 4-46, consult a qualified structural engineer.

4-47. **Bulkhead Repair - FS 359.66.** For bulkhead repair at FS 359.66, see figure 4-30. Consult a qualified structural engineer for other damage exceeding limits in paragraph 4-46.

4-48 thru 4-50. Deleted.

4-51. **Insertion Repair.** For repair to frames at FS 308.31, see figure 4-23, FS 366.54, see figure 4-29, and FS 407.70, see figure 4-35. For bulkhead repair at FS 414.00, see figure 4-37.

4-52. **Replacement.** Frame and bulkhead damage that exceeds negligible damage, but cannot be repaired by patching or insertion, shall be repaired by replacement. Small parts, such as angles, shims, and doublers, should be replaced since repair is impractical. Replacement of parts at organizational/field maintenance shall be limited to parts that do not require extensive forming and heat treating. Refer to TO 1F-4C-3-1-1 for heat damage evaluation.

4-52A. **Hinge.** See figure 4-19. The structural half of hinge for door 19, 32-30113-5, is a detail part of 32-32011 former.

4-52B. Negligible Damage and Wear Tolerances. For negligible damage and wear tolerance limits, refer to paragraphs 3-176 and 3-175 respectively.

4-52C. Repair. Repair is not practical at organizational/field maintenance.

4-52D. Replacement. For replacement of hinge, see figure 4-19A.

4-52D1. Repair For Chafed 53-58062-501 Fuel Line at FS 264.50. Trim 32-32121-143 clip as shown in figure 4-19B to eliminate chafing of 53-58062-501 fuel line.

4-52D2. Fitting, 32-32246-307, Replacement. Damaged fittings should be replaced as shown in figure 4-26A. Access to fasteners mating 32-32046 keel web is gained by removing 32-58006-71 fuel line assembly and utilizing lightening hole in 32-32046-2161 web.

4-52E. Fitting, 32-32546, Replacement. For replacement, see figure 4-30A.

4-53. Beam, 32-32020, Removal. To repair or replace the engine bleed air ducting or engine fuel supply lines located below No. 2 fuel tank floor, it may be required to remove the 32-32020 beam. Refer to paragraph 4-87 for removal of No. 2 fuel tank floor. To prevent damage to beam or components in this area, removal and installation of beam will be as shown in figure 4-70.

4-54. Lug Assembly Wing to Fuselage Replacement, FS 400.40. See figures 4-33 and 4-33A. The 32-32528 lug assembly having displaced bushing, should be replaced With new lug assembly that has new roller staked bushing installed. If bushings in 32-11593 fitting are displaced, replace per figure 4-34.

4-55. Tools and Equipment.

Motor, drill, pneumatic
Drill bushing
Reamer
Jacks
C-clamp

4-56. Procedure.

a. Lower flaps. Refer to T.O. 1F-4( )-2-4.

b. Jack aircraft high enough to stabilize fuselage and wing.

c. Open doors 89L/R and 83L/R. Refer to T.O. 1F-4C-3-1-3.

CAUTION

Doors 92L/R and engine drop out links L/R must be securely in place.

d. Remove 32-32431 engine shroud L/R.

NOTE

It may be necessary to install a jack under 53-11019 trailing edge flap closure beam to unload attaching hardware for 32-32528 lug assembly.

e. Remove 32-32528 lug assembly.

f. Install new 32-32528 lug assembly. Install lug to wing structure first. Check tooling holes at FS 387.00 for alignment before drilling lug attaching holes.

g. Drill and ream three 0.4375 (+0.0012/-0.0005) diameter holes.

h. Remove lug and deburr holes in structure and lug.

i. Install lug assembly with attaching hardware. Install lug assembly with attaching hardware.

4-57. **BELLMOUTH, BELLMOUTH RING AND SEAL.** See figure 4-48. The bellmouth consists of a fixed bellmouth barrel forging, a metal seal assembly, and a variable bellmouth assembly. The barrel forging is 2024-T651 aluminum alloy, the metal seal assembly is 0.040 7178-T6 alclad, and the variable bellmouth assembly consists of a fabric seal assembly attached to a perforated metal ring and hat section. See figure 4-57. The variable bellmouth rides on centering springs riveted to the periphery of the barrel forging. For controls installation for the variable bellmouth, refer to TO 1F-4( )-2-9.

4-58. **Negligible Damage and Corrosion Removal Limits.** Negligible damage limits are as follows:

a. Bellmouth Barrel Forging. Nicks, gouges and scratches on inner surface of fixed bellmouth shall be blended. Maximum depth of damage shall not exceed 0.010. Refer to TO 1F-4C-3-1-5 for blending procedures. After blending, clean, treat and refinish the surface per TO 1F-4C-3-1-6.

b. Centering Springs, Replacement Criteria.

(1) Rough or gouged metal.

(2) Free side of spring in contact with outer periphery of fixed duct.

(3) Anti-chafe coating worn from wear surface of spring.

(4) Cracks along bend area near rivet line.

c. Metal Seal. Damage and rework limits will be as stated for bellmouth barrel forging. When interference exists between variable bellmouth and metal seal, the area will be reworked per figures 4-50, 4-53, 4-53A, 4-54 and 4-55.

d. Variable Bellmouth Assembly. Damage and rework limits will be as stated in figures 4-56 and 4-57.

4-59. **Patch Repair.** Procedures for repairs are as follows:

a. Bellmouth Barrel Forging. Not allowed.

b. Metal Seal Assembly. To repair cracks in lower section of seal that extends over wing torque box skin, see figure 4-54.

c. Variable Bellmouth. Not allowed.

d. Centering Springs. See figure 4-56.

4-60. **Insertion Repair.** Procedures for repairs are as follows:

a. Bellmouth Barrel Forging. None.

b. Metal Seal Assembly. None.

c. Variable Bellmouth. When a repair is required to the fabric portion or lip, a new section will be installed to remove damaged area. No repairs are acceptable on the metal portion of the assembly. See figure 4-56.

4-61. **Replacement.** The bellmouth barrel forging and metal seal assembly will be replaced only at depot. The variable bellmouth assembly shall be replaced per TO 1F-4( )-2-9.

4-62. **Fixed Bellmouth Barrel Trailing Edge Repair.** See figure 4-52. Damage to aft 3 inches of fixed bellmouth trailing edge will be repaired per figure 4-52. Access to fixed bellmouth will require removal of engines and variable bellmouth.

4-63. Tools and Equipment.

Motor, drill, pneumatic
Gun, rivet
Countersink, 100°
File, rotary
Bar, bucking

4-64. Materials.

Sheet stock, 0.080 301 corrosion-resistant steel 1/4 hard
Sheet stock, 0.130 2024-T3 aluminum alloy QQ-A-250/4 (T3)
Rivets, MS20426AD5
Gloss epoxy enamel, 17875 insignia white

4-65. Procedure.

a. Remove variable bellmouth per TO 1F-4( )-2-9 for access.

b. Trim damaged area using 0.50 minimum inside radius and 0.25 minimum outside radius. Maintain 125 microinch surface finish.

c. Treat trimmed edges for corrosion control per TO 1F-4C-3-1-6.

d. Make filler from 2024-T3 aluminum alloy, QQ-A-250/4(T3), to fit cutout. Form to contour of bellmouth ring and chamfer to match existing bellmouth ring thickness.

e. Refinish surfaces on filler for corrosion control per TO 1F-4C-3-1-6 and prime with zinc chromate.

f. Make 0.080 thick doubler from type 301, 1/4 hard corrosion-resistant steel. Form to contour of bellmouth ring and chamfer forward and side edges 0.060 by 45°.

g. Locate, drill and countersink barrel, filler and doubler for MS20426AD5 double flush rivets.

h. Treat countersinks in aluminum filler for corrosion control per TO 1F-4C-3-1-6.

i. Apply dissimilar metal tape between filler and doubler per TO 1F-4C-3-1-6.

j. Assemble repair parts as shown in figure 4-52.

k. Refinish repaired area inside duct to original finish.

4-66. Bellmouth Upper Idler Arm Support Repair. See figure 4-51. Supports that have a cracked or broken flange shall be repaired by removing the damaged area and adding a filler and angle. Removal of the engine, access door 38L/R and variable bellmouth will be required for access.

4-67. Tools and Equipment.

Motor, drill, pneumatic
Bits, drill, No. 23 and 3/16 inch
Gun, rivet
Set, rivet, Hi-Shear, 5/32 and 3/16 inch
Bar, bucking

4-68. Materials.

Sheet stock, 0.063 2024-T3 alclad QQ-A-250/5 (T3)
Sheet stock, 0.040 2024-T3 alclad QQ-A-250/5 (T3)
Rivets, Hi-Shear HS26-5-2
Rivets, Hi-Shear HS26-6-2
Collars, Hi-Shear HS24-5
Collars, Hi-Shear HS24-6
Rivets, Hi-Shear NAS1054-5-4
Rivets, Hi-Shear NAS1054-5-5
Collars, Hi-Shear NAS528A5

4-69. Procedure.

a. Remove engine per TO 1F-4( )-2-8.

b. Remove variable bellmouth per TO 1F-4( )-2-9.

c. Remove access door 38L/R.

d. Trim damaged area from support flanges as shown in figure 4-51.

e. Refinish trimmed edge for corrosion control per TO 1F-4C-3-1-6.

f. Locate, drill, and install angle and fillers as shown in figure 4-51. Refer to TO 1F-4C-3-1-1 for installation of Hi-Shear fasteners.

g. Reinstall variable bellmouth, and access doors.

4-70. Bellmouth Barrel Ring Flange Repair. See figure 4-49. Cracked bellmouth barrel ring flanges shall be repaired by stop drilling the crack and adding a repair angle in area of crack. Access to the bellmouth barrel ring will require removal of engine and variable bellmouth. When the wing is installed, a portion of the 53-32016 metal seal must be removed for access to the damaged bellmouth barrel flange.

4-71. Tools and Equipment.

Motor, drill, pneumatic
Countersink, 100°

4-72. Materials. See figure 4-49.

Rivets, MS90353-0504, NAS 1055-5, NAS528A collar
Plate nuts, MS21048-3
Lockwire, MS20995NC32
Bolts, AN3H4A
Washers, AN960-10
Angle, 70186-15, steel or 70186-15 aluminum
Primer, epoxy, No. 34151
Doubler, 0.040 2042-T3 alclad, QQ-A-250/5 (T3)
Rivets, MS20426AD5

4-73. Procedure.

a. Remove engine per TO 1F-4( )-2-8.

b. Remove variable bellmouth per TO 1F-4( )-2-9.

NOTE

Aircraft with the wing removed can disregard steps c, m, and n.

c. Aircraft with the wing installed will require removal of a portion of the 53-32016 metal seal for access to the damaged bellmouth barrel ring flange.

(1) Locate cut line where metal seal is to be cut per figure 4-49.

(2) Remove four Hi-Lok fasteners from aft end of seal which mate with the wing.

(3) Drill out rivets at lower outboard splice area. Metal seals which have no splice at this location will be cut in the area where the splice would normally be.

(4) Cut metal seal and retain removed portion for reinstallation.

d. Stop drill crack with 0.193 diameter drill.

e. Remove existing fasteners in horizontal and vertical flange of bellmouth barrel ring in area of crack.

f. Fabricate repair angle to length required.

g. Locate and mate drill repair angle to existing rivet pattern. Drill holes in bellmouth barrel ring and repair angle horizontal flanges to 0.161 inch diameter and holes in vertical flanges to 0.201 inch diameter.

h. Countersink aft side of vertical flange in repair angle for MCS020426AD3 plate nut rivets.

i. Install MS21048-3 plate nuts on forward side of vertical flange on repair angle.

j. Prime faying surfaces of repair angle and bellmouth flange with two coats epoxy primer per T.O. 1F-4C-3-1-6.

k. Install repair angle on bellmouth barrel flange.

l. Safety bolts with MS20995NC32 lockwire.

m. If metal seal was cut, reinstall removed portion of the metal seal and add doublers.

n. Install MS20426AD5 rivets flush on bottom of metal seal to clear wing surface.

o. Reinstall variable bellmouth and engine.

4-73A. Engine Bay Fume Seal at FS 305. See figure 4-49A.

4-74. HINGES. See figures 4-58 through 4-67. The structural half of the hinges for the ram air turbine doors, flare well doors, doors 81, 82, 83, 92, and 96 are integral parts of longeron and stringer structural members. The structural hinge half of doors 78 and 80 are integral parts of the beam assembly in the left and right engine compartments.

4-75. Negligible Damage and Wear Tolerances. Nicks, gouges, corrosion, and scratches that do not exceed 0.005 inch in depth after blending are negligible. Ten percent of the tangs may have nicks, corrosion, gouges, and scratches up to 0.010 inch depth after blending. The hinge may have a maximum of 10 percent of the total number of tangs broken or missing. Each broken or missing tang shall have eight consecutive undamaged tangs between it and the next damaged tang. The hinge will have a crack allowance on either end up to 1/2 inch long. This crack is to be stop drilled. Any cracks longer than the 1/2 inch limit will require removal of the hinge. No broken or missing tangs are allowed on the aft 8 inches of the hinge on door 83. If a tang has damage exceeding 0.010 inch in depth, that tang shall be considered as a broken tang. Areas showing signs of corrosion shall be blended. If more than 0.010 inch of material is removed, that tang shall be considered as a broken tang. If the reworked area is not on a tang and more than 6.010 inch of material is removed, the hinge shall be replaced. After rework of areas, refinish per T.O. 1F-4C-3-1-6.

4-76. Repair. Hinges that are damaged or worn beyond negligible damage or wear tolerance will be repaired or replaced.

4-76A. Doors 81 and 139 Structural Hinge Repair. See figure 4-58.

4-76B. Lower Ram Air Turbine Door Hinge Repair. See figure 4-58A.

4-77. Replacement. For replacement of hinges for doors 81, 82, 83, 92, and 96, see figures 4-59 through 4-67.

4-78. FLOORS AND PANELS. See figures 4-68 through 4-79. The floors and panels in the center fuselage extend from FS 249.65 through FS 515.00. This area includes No. 2 fuel tank FS 249.65 through FS 303.62, No. 3 fuel tank FS 303.62 through FS 359.66, No. 4 fuel tank FS 359.66 through FS 414.00, No. 5 fuel tank FS 414.00 through FS 453.30, No. 6 fuel tank FS 453.30 through FS 493.00, and No. 7 fuel tank FS 493.00 through FS 515.00. The structural floor is from FS 493.00 through FS 515.00. The No. 7 fuel compartment is installed on F-4E AND F-4G aircraft. The floors and panels for the fuel tank compartments are 7178-T6 alclad. The structural floors FS 493.00 through FS 515.00 material is titanium alloy. Numbers 3, 4, 5, and 6 fuel tank floors are reinforced with 2024-T62 aluminum alloy beaded stiffeners AFTER TO 1F-4-1071. The Nos. 5, 6, and 7 fuel tank compartment floors are insulated. The No. 5 and 6 tank floors have insulation blankets located between the skins and frames. The No. 7 tank compartment has insulation blankets installed between the tank floor and the structural subfloor FS 493.00 through FS 515.00. Floors and panels are liquid sealed; refer to T.O. 1F-4C-3-1-6. Fuel tank compartments are lined with plastic backing boards on F-4E 68-495 AND UP, RF-4 69-349 through 72-156 AND F-4G. Numbers 3, 4, 5, and 6 compartments are partially lined with backing boards on F-4C, F-4D, F-4E 66-287 through 68-494 AND RF-4 63-7740 through 68-611 AFTER T.O. 1F-4-1071. See figures 4-78A through 4-78F.

4-79. Negligible Damage and Corrosion Removal Limits. Nicks, gouges, corrosion, and scratches that do not exceed 0.015 inch in depth are negligible. Dents that do not exceed 1/32 inch in depth for every 1 inch of span are negligible if free of sharp edges and cracks. A distance of 5 inches between

rows of rivets may have a dent 5/32 inch in depth. Small holes that can be plugged and sealed with a rivet are negligible. Rivets shall be inspected for possible tilting. A sign that the rivet may be tilted is cracked primer over the rivet head. If the rivet seems to be tilted, remove paint at the rivet head and measure tilt as shown in T.O. 1F-4C-3-1-5. When less than 5 percent of the rivets in a row or pattern are tilted less than 8 percent of rivet diameter, none of the tilted rivets need replacing. When 10 percent or less of a row or pattern are tilted more than 8 percent of the rivet diameter, these rivets may be replaced with blind moneli rivets. When more than 10 percent of a row or pattern is tilted more than 8 percent or when 5 to 20 percent of a row or pattern is tilted between 4 and 8 percent of rivet diameter, whole row or pattern shall be replaced with the same size and type of rivet. Rivet tilt of less than 4 percent of rivet diameter is negligible.

NOTE

When removing existing rivets, care shall be taken not to enlarge existing rivet holes.

Rivets shall be sealed in accordance with T.O. 1F-4C-3-1-6. A nick or gouge in the edge of the panel that can be blended and not reduce fastener edge distance below one and on-half times fastener diameter is negligible. No oil can effects are allowed. After blending, clean, treat and refinish the area in accordance with corrosion control procedure in T.O. 1F-4C-3-1-6.

4-79A. Inspection Criteria.

a. When accomplishing T.O. 1F-4-1071, care must be taken to prevent damage to drain troughs.

b. When installing backing boards in fuel cells, prevent sealant from flowing into drain troughs and forming an obstruction.

c. If during water leak check, water is found to be leaking from beneath drain troughs, the troughs are to be removed and fuel cell floors checked for cracks. If cracks are found, they are to be repaired. See figures 4-77 and 4-78.

d. In no case shall floor drain fittings be covered with sealant or incur damage that will interfere with their function.

4-79B. Repair Considerations. Should damage occur to drain troughs, the following action shall be taken.

a. Sharp edges that will cause damage to fuel cell bladders shall be blended smooth.

b. If sealant should flow into troughs, remove from edges only of that portion of the trough. Sealant may be removed by nylon brush method as outlined in T.O. 1F-4C-3-1-6. Finish reworked area per corrosion control procedure in T.O. 1F-4C-3-1-6.

c. Other damage to troughs shall be considered negligible.

4-80. Patch Repairs. See figure 4-77. Damage that exceeds negligible damage but is not great enough to replace the entire floors and panels or a portion of floors and panels shall be repaired by patching.

4-81. Tools and Equipment.

Motor, drill, pneumatic

Bits, drill

Bits, router

File, rotary

Gun, monel blind rivet, pneumatic

Equipment, liquid sealing. Refer to T.O. 1F-4C-3-1-6.

4-82. Materials.

Sheet stock, 0.050 7178-T6 alclad, Federal Specification QQ-A-250/15 (T6)

Rivets, NAS1398M5

Primer, epoxy, per T.O. 1F-4C-3-1-6

Tape, fiberglass

Materials, liquid sealing, refer to T.O. 1F-4C-3-1-6.

4-83. Procedure.

a. Trim out damaged area. Corners shall have a one-inch minimum radius.

b. Polish edges of cutout.

c. Cut patch from 0.050 7178-T6 alclad. The patch shall be large enough to allow for two rows of rivets. Minimum edge distance from edge of cutout and edge of patch shall be 0.37. Minimum spacing between rivets shall be 0.62 measured from center of rivet hole. Drill rivet holes.

WARNING

Provide adequate ventilation when using epoxy primer. Avoid skin and eye contact. Spray apply primer in an approved exhaust ventilated booth.

d. Apply two coats of epoxy primer to bare aluminum.

e. If patch goes over a frame, cut filler from same gage material as existing skin. See floor diagram for skin gage. Apply fiberglass tape between aluminum filler and titanium frames.

f. Before installing patch, refer to T.O. 1F-4C-3-1-6, for sealing instructions.

g. If a patch is made on titanium floor, use 301 corrosion-resistant steel one gage heavier than existing skin.

NOTE

Extreme care shall be taken to prevent sealant material and tank material from entering the fuel tank drain.

4-84. Insertion Repair. See figure 4-78. When damage is near the edge of the floor, repair should be made. For repair, the damaged area is cut out. This cutout will extend to one, two or three sides of the floor skin. For insertion repair, the same equipment and materials needed for patch repair are required.

4-85. Procedure.

a. Trim out damaged area. Corners shall have a 1.00 minimum radius.

b. Polish edges of cutout.

c. Cut patch from 0.050 7178-T6 alclad. The patch shall be large enough to pick up existing rivet pattern.

WARNING

Provide adequate ventilation when using epoxy primer. Avoid skin and eye contact. Spray apply primer in an approved exhaust ventilated booth.

d. Apply two coats of epoxy primer to bare aluminum.

e. When patch is over a frame, cut fillers from same gage material as existing skin. See floor diagram for skin thickness. Apply fiberglass tape between aluminum and titanium frames.

f. Access to drive the MS20470AD rivets shall be made by cutting a hole in engine compartment insulation blanket. Rivets that pick up existing pattern shall be replaced with same type fasteners that were originally installed.

g. Before installing patch, refer to T.O. 1F-4C-3-1-6, for sealing instructions.

h. If a patch is made on titanium floor, use 301 corrosion-resistant steel one gage heavier than existing skin.

NOTE

Extreme care shall be taken to prevent sealant material and metal chips from entering fuel tank drain.

4-86. Replacement. Damage that exceeds negligible damage, but cannot be repaired by patching or insertion, shall be repaired by replacement of the part. Small parts shall be replaced since repair is impractical. Refer to T.O. 1F-4C-3-1-1 for heat damage evaluation.

4-86A. Boundary Layer Control Duct Assembly Removal. To remove duct assembly for repair or replacement, see figure 4-70A.

4-87. **NUMBER TWO FUEL TANK FLOOR REMOVAL.** See figure 4-70. When removing the number two fuel tank floor subassemblies, the tank and fiberglass blanket must be removed, refer to T.O. 1F-4( )-2-10. After the door has been removed, clean off tape and sealant. Care should be exercised so remaining tape and sealant is not damaged while working in the area.

4-88. **NUMBER TWO FUEL TANK FLOOR REPLACEMENT.** See figure 4-70. Before installing subassemblies, the seal shall be checked. If the seal is broken, loose or badly scratched, it shall be replaced.

4-89. Tools and Equipment.

Brush, paint, 2-inch

Cheesecloth, Federal Specification CCC-C-440

Roller or similar tool

Lamps, heat, infrared

4-90. Materials.

Adhesive, Specification MIL-S-4383

Materials, liquid sealing, refer to T.O. 1F-4C-3-1-6.

Gasket, Buna-N rubber, AMS3215

4-91. Procedure. The following procedure should be used to install floor subassemblies:

a. The structure shall be thoroughly cleaned per T.O. 1-1-691 so no oil, old sealant, grease, dirt, chips, and foreign materials are present. Wipe dry before fluids have evaporated.

b. Fabricate new seal, as required, to periphery of cover plate. The Buna-N seal will be wide enough to overlap the joint by 1/4-inch minimum on inboard side of cover. Fastener holes will be picked up from cover plate and punched with standard gasket punch.

c. Place seal on cover plate and apply a firm, even pressure. Make sure trapped air is worked out by rolling with a metal roller or similar tool.

d. Place door on structure, installing corner fasteners and every third fastener in remaining attach points. Do not apply full torque to fasteners, but install finger tight only.

e. Weights or clamps shall be applied to entire surface of door during curing period. The door and seal shall be allowed to air dry at room temperature for a minimum of 24 hours. The curing time may be reduced to 12 hours by using infrared heat lamps. If heat lamps are used, temperature shall be held between 100 and 130°.

f. After curing time, remove clamps or weights and install door.

g. After fasteners are torqued, see figure 4-70, reseal fuselage fuel cell compartment.

h. Seal the fuel cell per liquid sealing instructions in T.O. 1F-4C-3-1-6.

i. After sealant is air cured for 24 hours (12 hours if heat lamps are used) another coat of sealant may be applied. This coat of sealant must air dry for 24 hours or, if heat lamps are used, curing time may be reduced to 12 hours. When heat lamps are used, temperature shall be held between 100 to 130°.

j. Apply antichafing tape per T.O. 1F-4C-3-1-6.

NOTE

Extreme care shall be taken to prevent sealant material and tank material from entering fuel tank drain.

4-92. **FIBERGLASS INSULATION BLANKET REPAIR.** For blanket repair procedure, see figure 4-69.

4-93. **ELECTRONIC EQUIPMENT COMPARTMENT RF-4.** See figure 4-79. Reconnaissance aircraft have an equipment shelf located between FS 493.00 and FS 515.00. Channel and intercostals are attached to the compartment floor to provide a mounting base for electronic equipment. The compartment floor is made of titanium alloy and the support channels and intercostals are alclad aluminum. P211 tape must be installed between titanium and aluminum parts. When the compartment floor is repaired, repairs must be liquid sealed per T.O. 1F-4C-3-1-6.

4-94. **CHAFF/FLARE WELL - RF-4.** See figure 4-80. The chaff/flare well assemblies are located between FS 493.00 and FS 515.00 above the electronic equipment compartment. The well assembly webs, angles, and channels are 7178 alclad and aluminum alloy that provides a compartment for the chaff/flare ejector.

4-95. **INFLIGHT REFUELING CAVITY.** See figure 4-71. The inflight refueling well is located on top of number two fuel cell between FS 281.32 and FS 303.62. The 53-32025 bulkhead forms the forward end of the cavity and the 53-32016 bulkhead forms the aft end of the cavity. The cavity webs, former, and angles are 7178 aluminum alloy. The cavity is liquid sealed to prevent fuel spillage from entering the aircraft. When repairing or replacing structural components in this area, repairs or replaced parts will be liquid sealed in accordance with T.O. 1F-4C-3-1-6.

4-96. Negligible Damage and Corrosion Removal Limits. Nicks, gouges, corrosion, and scratches that do not exceed 0.015 depth are negligible. Dents that do not exceed 1/32-inch in depth for every inch of span are negligible, if free of sharp edges and cracks. A distance of five inches between rows of rivets may have a dent 5/32-inch in depth.

4-97. Patch Repairs. Damage that exceeds negligible damage, but is not great enough to replace the entire part or a portion of the part, shall be repaired by patching. Refer to T.O. 1F-4C-3-1-5 for typical repair procedure. See figure 4-72 for 53-32010 web repair.

4-98. Insertion Repair. When the damage is near the edge of the part, an insertion type repair should be made. For an insertion type repair, the damaged area is cut out. This cut out will extend to one, two or three sides of the web. Refer to T.O. 1F-4C-3-1-5 for typical repair procedures.

4-99. Replacement. Damage that exceeds negligible damage, but cannot be repaired, shall require replacement of the part. Small parts, such as angles, shims, and doublers, should be replaced since repair is impractical. Replacement of parts at organizational/field maintenance shall be limited to the parts that do not require extensive forming and heat treating. Refer to T.O. 1F-4C-3-1-1 for heat damage evaluation.

4-100. **FUEL CELL WEBS.** See figure 4-81. The webs in center fuselage extend from FS 249.65 through FS 493.00. These webs include number two fuel tank web from FS 249.65 through FS 303.62, number three fuel tank web from FS 303.62 through FS 359.66, number four fuel tank web from FS 359.66 through FS 414.00, number five fuel tank web from FS 414.00 through FS 453.30, and number six fuel tank web from FS 453.30 through FS 493.00. On F-4E and F-4G aircraft this web extends from FS 453.30 through FS 515.00 and includes number seven fuel tank. The skins for the fuel tank webs are 7178-T6 alclad, 7178-T6 aluminum alloy, and 2024-T3 aluminum alloy. Fairleads, 32-61009, 32-61027, and 32-61204 are installed from FS 249.65 through FS 493 on 32-32121 web and 53-310021 web assemblies.

4-101. Negligible Damage and Corrosion Removal Limits. Nicks, gouges, corrosion, and scratches that do not exceed 0.015 in depth are negligible except in webs where skin thickness is only 0.016. In these areas, nicks, scratches, and gouges that do not exceed 0.006 in depth is negligible. Dents that do not exceed 1/32 inch in depth for every inch of span are negligible if free of sharp edges and cracks. A distance span of five inches between rows of rivets may have a dent 5/32 inch in depth. Small holes that can be plugged and sealed with a rivet are negligible. Rivets shall be inspected for possible tilting. A sign that the rivet may be tilted is cracked primer over the rivet head. If the rivet seems to be tilted, remove paint at rivet head and measure tilt as shown in T.O. 1F-4C-3-1-5. When less than 5 percent of rivets in a row or pattern are tilted less than 8 percent of the rivet diameter, none of the tilted rivets need replacing. When 10 percent or less of a row or pattern are tilted more than 8 percent of the rivet diameter, these rivets may be replaced with blind cherry monel rivets. When more than 10 percent of a row or pattern is tilted more than 8 percent or when 5 to 20 percent of a row or pattern is tilted between 4 and 8 percent of the rivet diameter, the whole row or pattern shall be replaced with the same size and type of rivet. Rivet tilt of less than 4 percent of rivet diameter is negligible.

NOTE

When removing existing rivets, care shall be taken not to enlarge existing rivet holes.

A nick or gouge in the edge of the panel that can be blended and not reduce fastener edge distance below one and one-half times fastener diameter is negligible. No oil can effects are allowed. After blending, clean, treat, and refinish the area in accordance with corrosion control procedure in T.O. 1F-4C-3-1-6.

4-102. Patch Repairs. Refer to T.O. 1F-4C-3-1-5. Damage that exceeds negligible damage but is not great enough to replace the entire web or a portion of the web shall be repaired by patching.

4-103. Tools and Equipment.

Motor, drill, pneumatic

Bits, drill

Bits, router

File, rotary

Gun, rivet, pneumatic

4-104. Materials.

Sheet stock, 0.016, 7178-T6 alclad,
Federal Specification QQ-A-250/15 (T6)
or
Sheet stock, 0.040, 2024-T3 aluminum alloy,
Federal Specification QQ-A-250/4 (T3)
or
Sheet stock, 0.040, 7178-T6 aluminum alloy,
Federal Specification QQ-A-250/14 (T6)
or
Sheet stock, 0.063, 7178-T6 aluminum alloy,
Federal Specification QQ-A-250/14 (T6)
or
Sheet stock, 0.071, 7178-T6 alclad,
Federal Specification QQ-A-250/15 (T6)
or
Sheet stock, 0.071, 7178-T6 aluminum alloy,
Federal Specification QQ-A-250/14 (T6)

Rivets, solid MS20470AD4

Primer, epoxy, per T.O. 1F-4C-3-1-6

4-105. Procedure.

a. Trim out damaged area. Corners shall have a 1.00 minimum radius.

b. Polish edges of cutout.

c. Cut patch from sheet stock same gage and material as part. The patch shall be large enough to allow for two rows of rivets. Minimum edge distance from edge of cutout and edge of patch shall be 1.00. Minimum spacing between rivets shall be 0.50 measured from center of rivet hole. Drill rivet holes.

WARNING

Provide adequate ventilation when using epoxy primer. Avoid skin and eye contact. Spray apply primer in an approved exhaust ventilated booth.

d. Apply two coats of epoxy primer to bare aluminum.

e. If patch goes over a frame, cut filler from same gage material as existing skin. See figure 4-81 for skin gage.

NOTE

Extreme care shall be taken to prevent metal chips from entering fuel tank drain.

4-106. Insertion Repair. When damage is near the edge of the web, an insertion repair should be made. For an insertion repair, damaged area is cut out. This cutout will extend to one, two or three sides of the web skin. For insertion repair, the same equipment and materials for patch repair are required. The following should be used to make repair.

a. Trim out damaged area. Corners shall have a minimum radius of one inch.

b. Polish edges of cutout.

c. Cut patch from sheet stock same gage and material as part. The patch shall be large enough to pick up existing rivet pattern.

WARNING

Provide adequate ventilation when using epoxy primer. Avoid skin and eye contact. Spray apply primer in an approved exhaust ventilated booth.

d. Apply two coats of epoxy primer to bare aluminum.

e. When patch is over a frame, cut fillers from same gage material as existing skin. See figure 4-81 for skin thickness.

f. Rivets that pick up existing pattern shall be replaced with same type fasteners that were originally installed.

Pages 4-58A and 4-58B deleted in their entirety.

NOTE

Extreme care shall be taken to prevent metal chips from entering the fuel tank drain.

4-107. Replacement. Damage that exceeds negligible damage, but cannot be repaired by patching or insertion, shall be repaired by replacement of part. Small parts shall be replaced since repair is impractical.

4-107A. Replacement of Fairleads, 32-61009 and 32-61027. For replacement of fairleads, see figure 4-81A.

4-108. **KEEL ASSEMBLY.** See figures 4-82 through 4-86. The keel extends along the centerline of the aircraft from FS 302.00 to FS 515.00 FS 302.00 is at the forward-most end of the engine compartment and FS 515.00 is at the point where the arresting hook is attached to the keel. Hold back fitting, 32-32249, is attached to keel at FS 453.00. This fitting provides an attach point for 600 gallon fuel tank, 68A550782-1001, on F-4G after T.O. 1F-4G-502. The keel is divided into three sections. The first section runs from FS 302.00 to FS 357.66. The second section runs from FS 357.66 to FS 453.00. The third section runs from FS 453.00 to FS 515.00. Access for limited keel rework is gained through engine access doors. For extensive keel rework it will be required to remove the engine. Refer to T.O. 1F-4( )-2-8 for engine removal procedure. The entire keel is made of titanium, steel or 7178 alclad webs, channels, angles, doublers, clips, and intercostals. Refer to paragraphs 4-123 through 4-132 for special repair or rework on keel assembly.

4-109. Negligible Damage and Corrosion Removal Limits. Dents that do not exceed 0.060 depth and have a radius of two inches or less are negligible. Negligible oil can damage will not exceed the limits described in T.O. 1F-4C-3-1-5. Greater damage will be repaired as outlined in T.O. 1F-4C-3-1-5. Nicks, scratches, corrosion, and gouges that do not exceed 0.005 depth are negligible. On channels, stiffeners, angles, and intercostals, nicks, corrosion, scratches, and gouges that do not exceed 10 percent of the thickness of the part are negligible. Dents on angle, stiffener or intercostal should be straightened. Holes left open in keel assembly by rerouting of electrical wire bundle leads and/or plumbing will not be considered as negligible and will be plugged. Holes with nut plates installed will be plugged with a bolt and washer. Holes without nut plates, where accessible, will be plugged with a bolt, two washers, and self locking nut. Blind holes will be plugged with appropriate size cherry monel rivets.

4-110. Keel Web Patch Repair FS 303.62 through FS 359.66. See figure 4-87. Damage to the keel web that exceeds negligible damage but is not great enough to require replacement of the part or a portion of the part shall be repaired by patching.

4-111. Tools and Equipment.

Motor, drill pneumatic

Bits, drill

Gun, rivet pneumatic

Sets, Hi-Shear rivet

File, rotary

Bits, router

Gun, sealant with cartridges plungers and nozzles 250 Pyles or Semco

4-112. Materials.

Sheet stock, 0.063, 301 corrosion-resistant steel 1/2 hard

Rivets, Hi-Shear HS62

Collars Hi-Shear HS60M

Fluorescent-penetrant

Adhesive, Specification MIL-A-46146

Primer, Specification MIL-A-46146

Sealant, Specification MIL-A-46146

4-113. Procedure.

a. Perform a fluorescent-penetrant check on damaged area to obtain extreme limits of crack or damage. Refer to T.O. 33B-1-1 for penetrant procedure.

b. Clean entire area including patch and titanium parts per T.O. 1-1-691.

c. Polish edges of cutout.

d. Cut patch from 0.063, 301 corrosion-resistant steel 1/2 hard. Patch shall be large enough to allow for a double row of HS62 rivets. A minimum edge distance of two times rivet diameter and minimum spacing of four times rivet diameter shall be maintained.

e. If repair is being made over substructure, a filler shall be used between substructure and patch. The filler shall be of same gage as existing web and wide enough to allow proper rivet edge distance.

f. Lay out and drill fastener patterns. See figure 4-87.

g. Thoroughly clean area per T.O. 1-1-691.

h. After surface is completely cleaned and dried, apply a coat of primer, Specification MIL-A-46146. The primer may be brushed or sprayed on

both web and patch and must produce a uniform bright pink color on surface. A light pink or a dark red-pink color will result in an unsatisfactory bond. The primer shall be allowed to air dry for a minimum of one hour and longer if wet spots are visible on primer coat

i. Deleted

j. Deleted

k. Apply sealant with either a spatula or sealant gun to form a continuous seal. Voids, pin holes, trapped air, and any possible way of leakage shall be eliminated.

l. Maintain a clean and chip-free area around sealant for at least six hours after sealant has been applied.

m. The sealant should cure to a tough, rubbery nontacky seal in 24 hours. The complete cure should take about three days. After sealant has been completely cured, it shall be inspected for a satisfactory adhesion to metal. The inspection may be made by picking with fingernail at edge of sealant. The adhesion of sealant to metal should be greater than the cohesive strength (toughness) of sealant.

n. Install patch with HS62 rivets. Angles, intercostals, stiffeners, channels that are cracked or damaged beyond negligible damage limits may be repaired by patching. To repair these parts, remove only damaged area, form a replacement angle from 301 corrosion-resistant steel, 1/4-hard, and rivet in place with HS62 rivets.

4-113A. Fastener Replacement, Arresting Gear Fitting 32-32071. For repair, see figure 4-86A.

4-113B. Bushing Repair, 32-32249 Fitting. For repair, see figure 4-86B.

4-113C. For pin hole diameter in 32-32070 keel (related to 53G977015 fitting) larger than 0.6270 and for pin size less than 0.6220 (53G977015 fitting), contact OO-ALC/LACE, Hill AFB, Utah 84056 for disposition.

4-114. Keel Web Insertion Repair FS 303.62 through FS 359.66. See figure 4-87. Damage near the edge of the web should be repaired with an insertion repair. For an insertion repair, damaged area is cut out leaving a hole that extends to one, two or three sides of the web.

4-115. Tools and Equipment.

Motor, drill pneumatic

Bits, drill

File, rotary

Bits, router

Gun, rivet pneumatic

Sets, Hi-Shear rivet

4-116. Materials List.

Sheet stock 0.063 301 corrosion-resistant steel 1/2 hard

Rivets, Hi-Shear HS62

Collars, Hi-Shear HS60M

Materials, fluorescent-penetrant

4-117. Procedure

a. Perform a fluorescent-penetrant check on damaged area to obtain extreme limits of cracks. Refer to T.O. 33B-1-1 for penetrant procedure.

b. Cut out damaged area. Corners shall have a minimum radius of one inch.

c. Polish edges of cutout.

d. Cut patch from 0.063, 301 corrosion-resistant steel. Patch shall be large enough to allow for a double row of rivets where existing pattern cannot be used. Minimum edge distance shall be two times rivet diameter and minimum spacing shall be four times rivet diameter.

e. Fillers shall be cut from 301 corrosion-resistant steel in same gage as existing web.

f. Lay out fastener pattern. A double row of HS62 rivets shall be used where existing pattern does not cover. Existing holes may be used where possible.

g. Refer to paragraph 4-113 steps g. through m. for sealant instructions.

h. Cleco patch in place and install HS62 rivets.

Because of size of angles, stiffeners, channels, and intercostals, no repairs are practical.

4-118. Replacement. Small angles, stiffeners, channels, and intercostals damaged beyond negligible damage limits that cannot be repaired by patching shall be replaced. A replacement angle or part may be formed from 301 corrosion-resistant steel 1/4-hard. These parts may be installed with HS62 rivets. For replacement of 32-32046-1875 and -1897 channel see figure 4-83A. For replacement of 32-32047-1879 stiffener, see figure 4-84A. Refer to T.O. 1F-4C-3-1-1 for heat damage evaluation.

4-118A. Keel Web Repair - FS 407.20 through FS 414.00. See figure 4-88 for damage limits and repair instructions. Any damage in this area exceeding negligible shall be repaired with this procedure.

4-118B. Keel Web Repair - FS 359.46 through FS 386.82. See figure 4-88A for repair procedure of keel web.

4-119. Keel Web Repair, FS 414.00 through FS 427.60. See figure 4-89 for repair of cracks that develop in the 32-32047-1571 or 1761 web. To accomplish this repair the engines must be removed.

4-120. Tools and Equipment.

Gun, rivet

Set, rivet, Hi-Shear 5/32, 3/16, and 1/4

Bar, buckir.g

4-121. Materials

Rivets, Hi-Shear HS62

Collars, Hi-Shear HS60M

4-122. Procedures. See figure 4-89.

a. Remove engines per T.O. 1F-4( )-2-8.

b. Remove 32-32047-161 angle.

c. Remove 32-32047-1571 or 1761 web and 32-32047-231 clip.

d. Assemble and install repair parts as shown in figure 4-89.

4-123. Keel Web Repair - FS 453.30 through FS 493.00. See figure 4-90 for damage limits and repair instructions. Any damage in this area exceeding negligible damage limits shall be repaired with this procedure. Removal of left and right engine is required to accomplish this repair. Refer to T.O. 1F-4( )-2-8 for engine removal and installation.

4-124. Electrical Bracket Chafing Repair. See figure 4- 84B for repair procedure of electrical bracket.

4-125. Deleted

4-126. Deleted

4-127. 32-32492-7 Expandable Seal or 32-32046-1521 Plate Assembly with 32-32593 Seal Assembly Replacement. See figure 4-91. Determine the type of engine compartment seal presently installed. For removal of the 32-32492-7 expandable seal, refer to procedure I. For removal of 32-32046-1521 plate assembly refer to procedure II. For installation of 32-32593 seal assembly, refer to procedure III. Refer to paragraph 4-130 for referenced procedures.

4-128. Tools and Equipment.

Motor, dril pneumatic

Bits, drill

Gun, rivet pneumatic

Equipment, metal treating and finishing. Refer to T.O. 1F-4C-3-1-6.

4-129. Materials.

Rubber, silicone 0.140 Specification MIL-R-5847D, Class III

Sheet stock, 0.063 and 0.080, 7178-T6 alclad, Federal Specification QQ-A-250/15 (T6)

Rivets, MS20470AD4, (10 required)

Rivets, MS20426AD3, (eight required)

Washers, 0.125 thick, steel cadmium plate, (10 required)

Spacers (10 required) NAS42DD4-19

Bolts (seven required) NAS1303-7

Bolts (four required) NAS1303-5

Washers (18 required) AN960D10

Plate nuts (four required) MS21059L3

Nuts (seven required) MS21042-3

4-130. Procedures. Use the following procedures when removing and replacing seal assembly.

a. Procedure I for removal of 32-32493-7 expandable seal.

(1) Remove rivets (11) which fasten 32-32492-7 seal and 32-32046-1149 doubler in place. Remove 32-32492-7 seal and AN960D10 washers. Leave 32-32046-1149 doubler in place.

(2) Fasten 32-32046-1149 doubler using seven holes as shown in figure 4-91. Bolt heads will be installed inboard. Attach -1149 with NAS1303-7 and MS21059L3 and AN960D10 washers.

b. Procedure II for removal of 32-32046-1521 plate assembly.

(1) Remove 32-32046-1521 plate assembly by removing four AN3-6A bolts, eight AN960D10 washers, and four MS21059L3 nuts.

c. Procedure III for installation of 32-32593 seal assembly.

(1) Fabricate parts as shown.

NOTE

Be sure 0.205 diameter hole in 32-32593-9 and -11 plate mate with holes in 32-32046-1149 doubler.

(2) Assemble 32-32593-7 plate, -5 grommet, and -9 plate using Specification MIL-A-46146 to bond mating surfaces. Assemble 32-32593-7, -5, and -11 using same procedure.

(3) Attach four platenuts to inboard side of 32-32046-1149 doubler.

(4) Place appropriate wire bundle or 32-32583-3 plug through 2.75 diameter hole in 32-32046 keel web.

(5) Attach lower seal assembly to 32-32046-1149 doubler.

(6) Attach upper seal assembly to 32-32046-1149 doubler making sure wire bundle or 32-32583-3 plug is installed in notch.

4-130A. Stiffener, 32-32048-31, Replacement. See figure 4-91A.

4-131. Keel Web Splice, FS 342.53 and FS 346.92 Repair. For instructions to provide a structural splice to permit easier removal of engine bleed air duct 32-50083-47, see figure 4-92.

4-131A. Keel Web Splice, FS 318.00 Repair. For instructions to provide a structural splice to permit easier removal of engine fuel lines, see figure 4-92A.

4-131B. Keel Web Access Door. To gain access to the auxiliary air door, actuator mount bolts, a 1.5-inch standard door may be installed in the titanium panel per T.O. 1F-4C-3-1-5.

4-132. Auxiliary Air Door Back-Up Structure Repair Keel Web WL 8.80, FS 346.92. For repair of 32-32046-1025 floor and -1471 intercostal, see figure 4-93. This repair is required for the back-up structure for the auxiliary air door on the keel web when cracks are detected in sub-structure.

4-133. Centerline Stores Support Fittings Repair. For repair of cracks that may develop in 32-32073 forward fitting or 32-32074 aft fitting, see figure 4-94. These cracks radiate from the swaybrace ball housing to the outboard edge of the fitting. If the forward fitting is cracked, the engine must be removed to accomplish this repair. Refer to T.O. 1F-4( )-2-8 for engine removal and installation.

4-133A. Gusset, 32-32431-126, -128 Interference. If lower flange interferes with door 83, cut off flange at lower end of gusset. Fabricate a new angle from 0.020 nonalloyed titanium (AMS 4401) and attach it to gusset so as not to interfere with door 83. Attach the new angle to the gusset with fasteners attaching strip, 32-32431-81 to gusset.

4-133B. Main Engine Mount Angle, 32-32047-1145, FS 414.00 Allowable Damage. Main mount angles cracked less than one-half of the visible portion of the angle radius (per side of keel) will be replaced at the next double engine removal or at the next scheduled PDM, whichever is first. The aircraft forms will he annotated to ensure this replacement. Mount angle with cracks greater than one-half of the visible length of the angle must be replaced immediately.

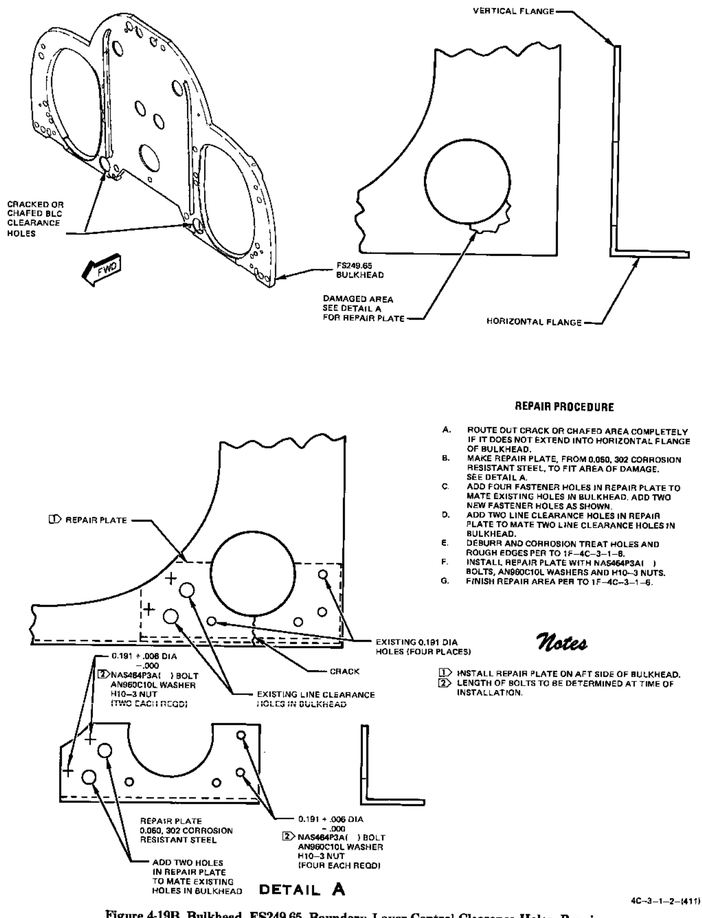
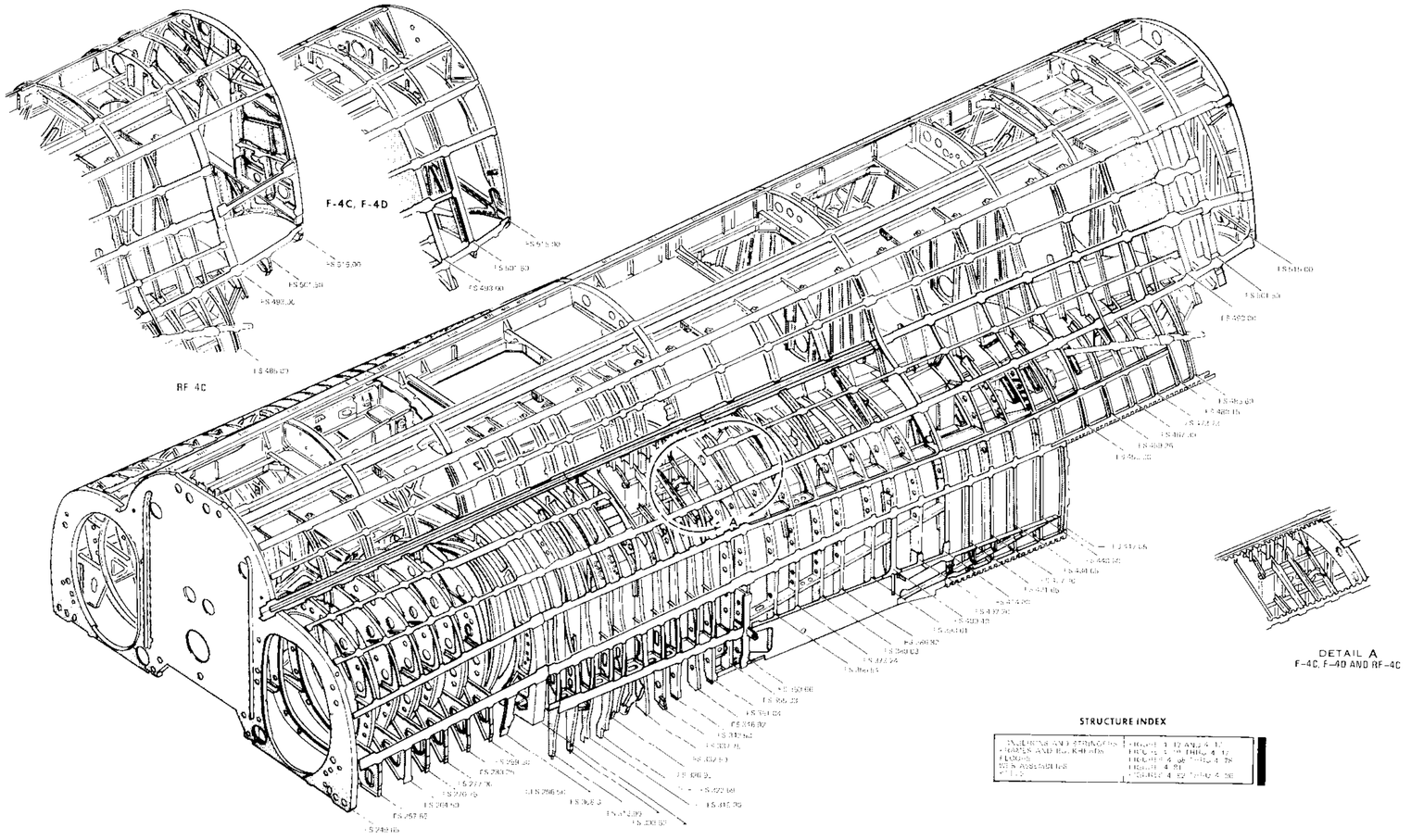


Figure 4-19B. Bulkhead, FS249.65, Boundary Layer Control Clearance Holes, Repair



DETAIL A
F-4C, F-4D AND RF-4C

Figure 4-16. Structure Repair Index (Sheet 1 of 2)

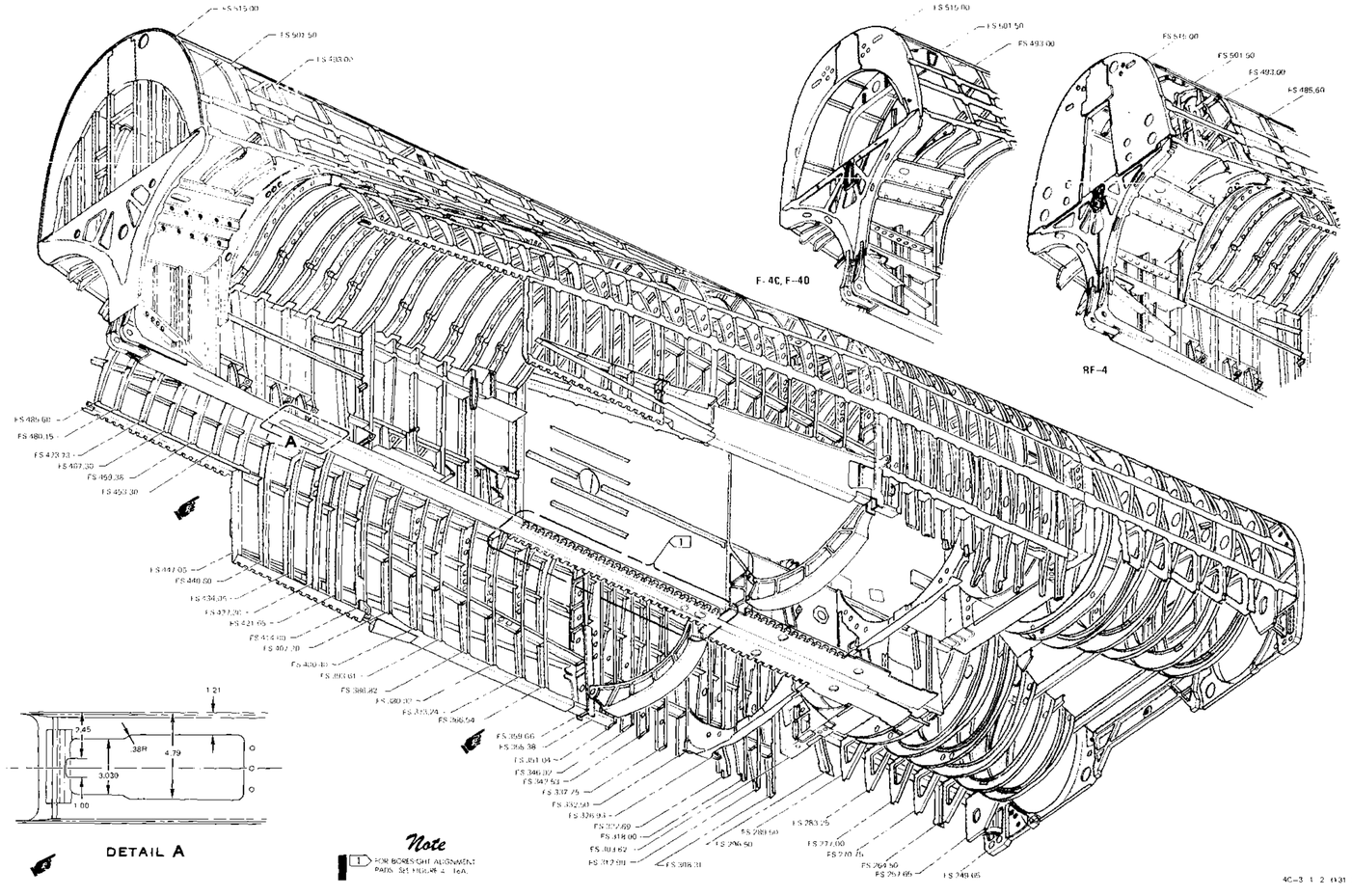
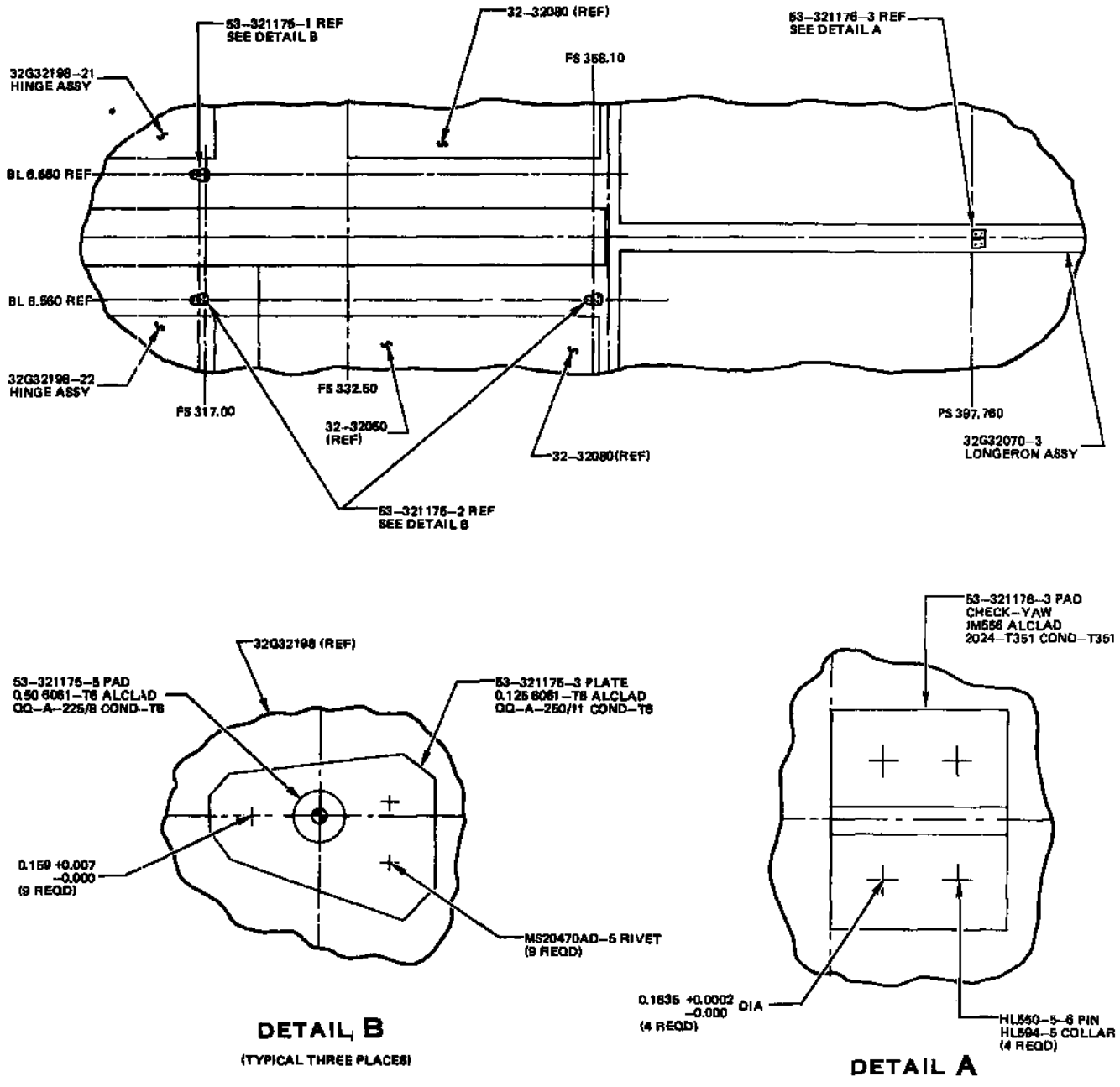
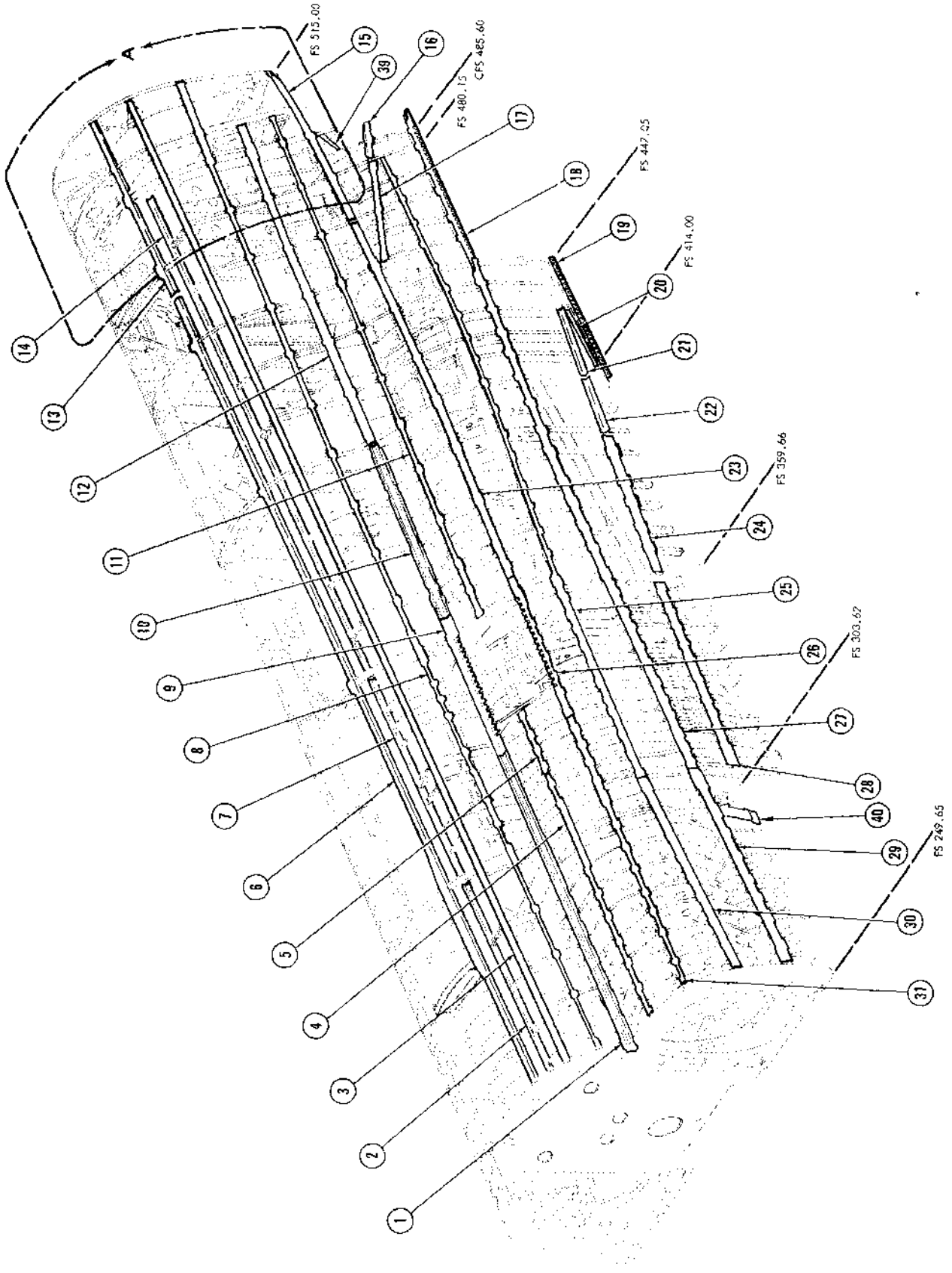


Figure 4-16. Structure Repair Index (Sheet 2 of 2)



4C–3–1–2–(421)

Figure 4-16A. Boresight Alignment Pod



4C-3-1-2-(41-1)C

Figure 4-17. Longeron and Stringer Repair Index - F-4C, F-4D, AND RF-4C (Sheet 1 of 6)

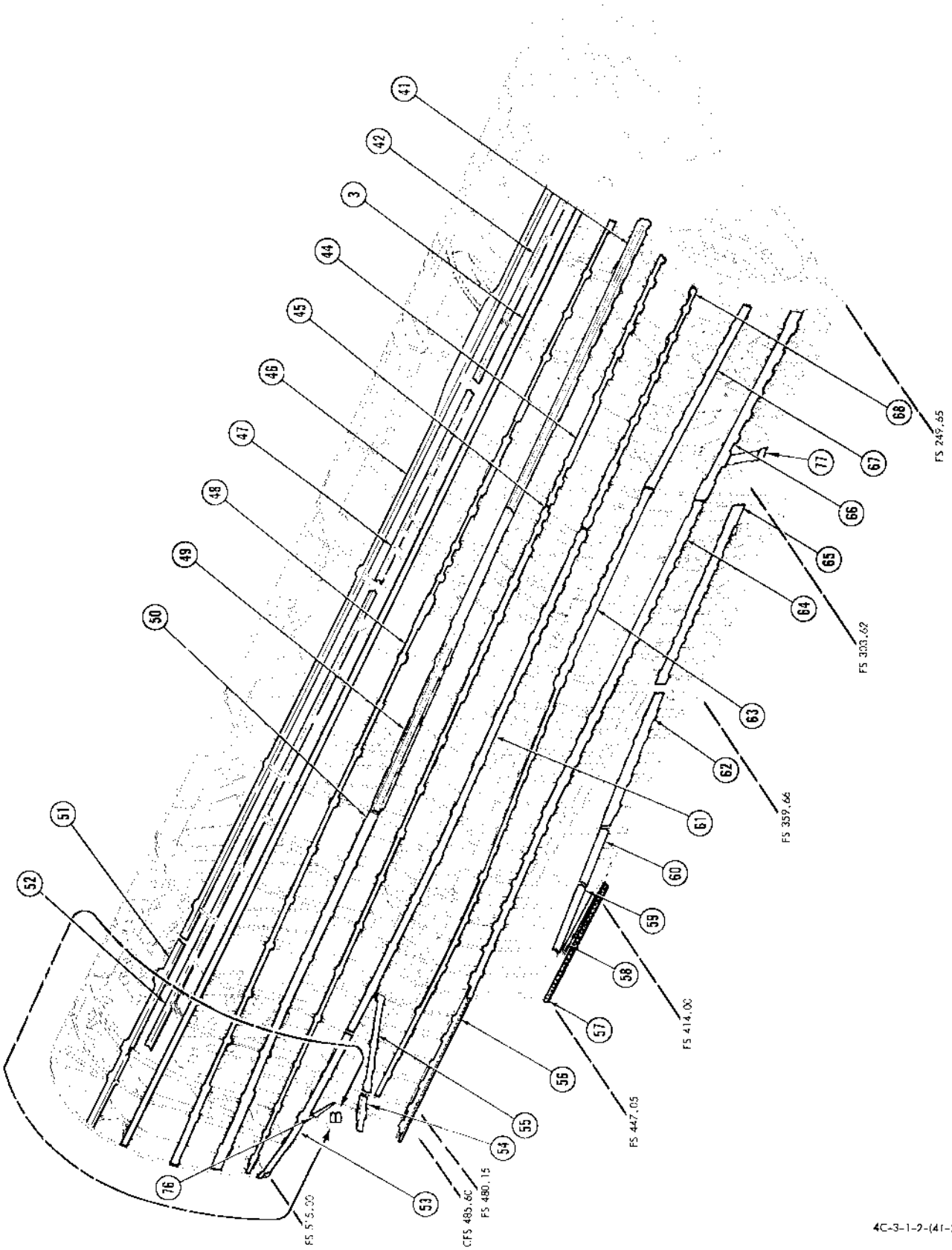
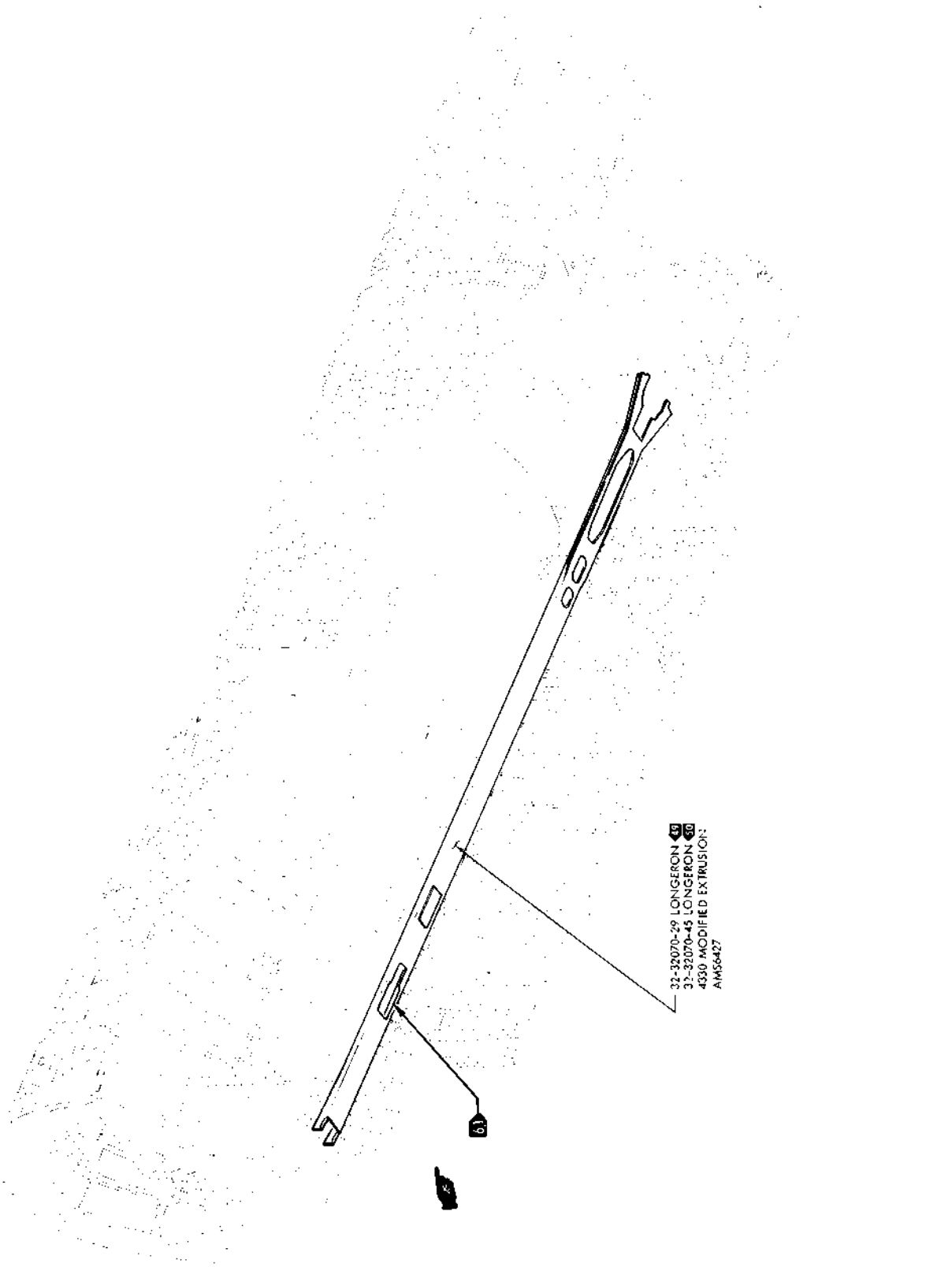
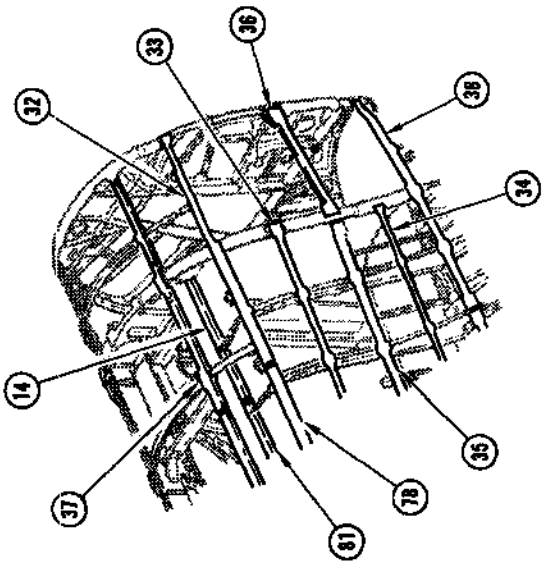


Figure 4 17. Longeron and Stringer Repair Index - F-4C, F-4D, AND RF-4C (Sheet 2 of 6)

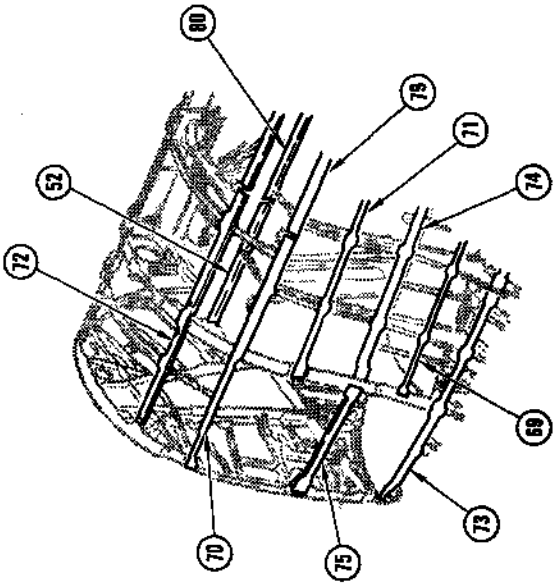


4C-3-1-2-(41-3)E

Figure 4-17. Longeron and Stringer Repair Index - F-4C, F-4D, AND RF-4C (Sheet 3 of 6)



DETAIL A
RF-4 CONFIGURATION

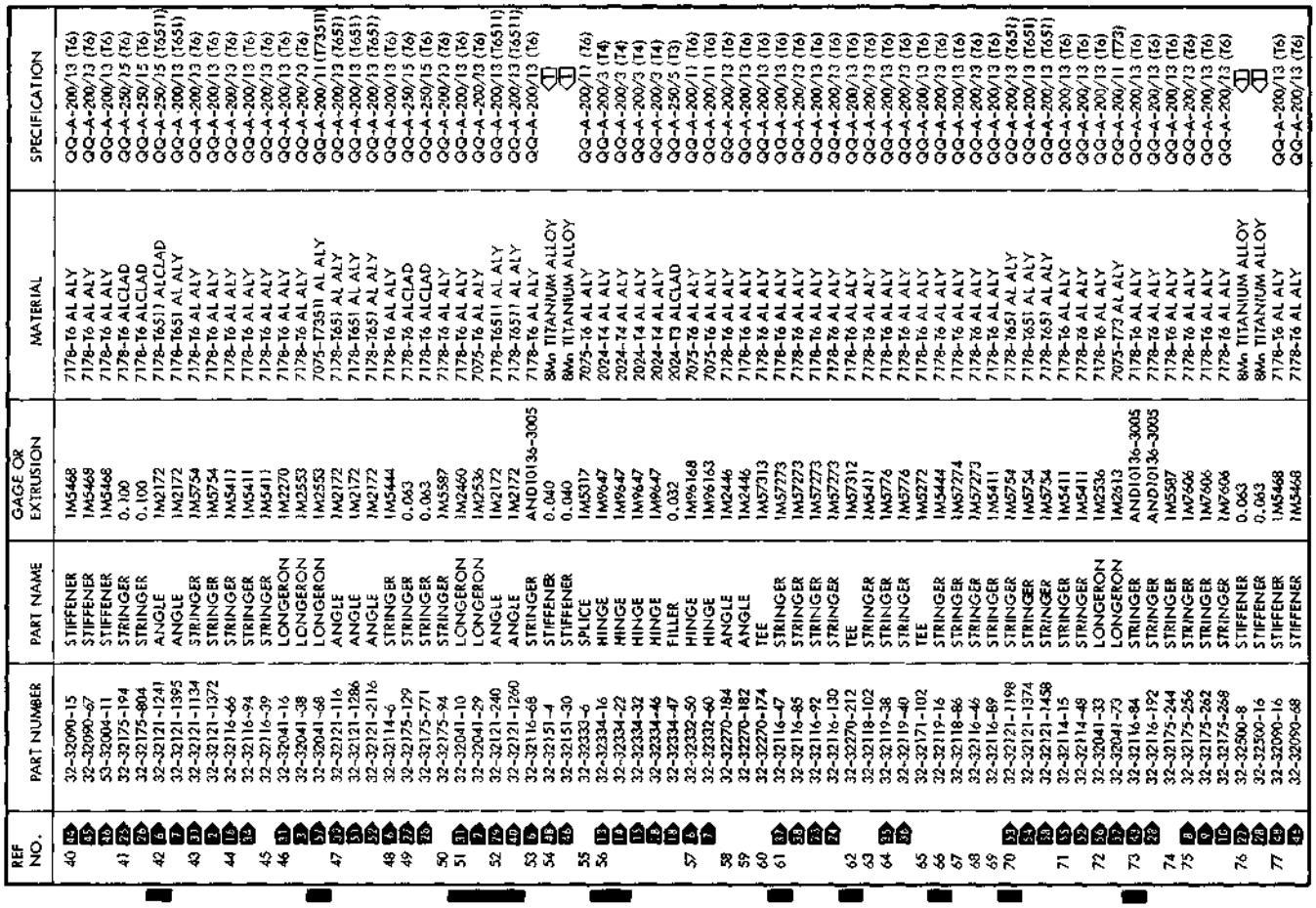


DETAIL B
RF-4 CONFIGURATION

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1	32-32175-193	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32175-803	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-32121-1103	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
3	32-32121-1133	STRINGER	1M5754	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32121-1341	STRINGER	1M5754	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32116-45	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-93	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-32116-51	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
6	32-32041-15	LONGERON	1M2270	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32041-37	LONGERON	1M2563	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-32041-67	LONGERON	1M2553	7075-T7351 AL ALY	QQ-A-200/11 (T73511)
7	32-32121-115	ANGLE	1M2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
	32-32121-1285	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-2115	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
8	32-32114-7	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
9	32-32422-5	HINGE	7M9693	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-32422-9	HINGE	1M9693	7075-T651 AL ALY	QQ-A-200/11 (T651)
	32-32422-11	HINGE	1M9693	7075-T651 AL ALY	QQ-A-200/11 (T651)
10	32-32175-131	STRINGER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-32116-23	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-77	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
12	32-32175-93	STRINGER	1M5587	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	32-32041-9	LONGERON	1M2460	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32041-19	LONGERON	1M2536	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-32121-239	ANGLE	1M2172	7178-T6511 ALCLAD	QQ-A-200/13 (T6511)
15	32-32121-1259	ANGLE	1M2172	7178-T6511 ALCLAD	QQ-A-200/13 (T6511)
16	32-32116-67	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32151-3	STIFFENER	0.040	8Mn TITANIUM ALLOY	◇1
	32-32151-29	STIFFENER	0.040	8Mn TITANIUM ALLOY	◇1
17	32-32333-5	SPLICE	1M5317	7075-T6 AL ALY	QQ-A-200/11 (T6)
18	32-32334-15	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32334-21	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
19	32-32334-31	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32334-45	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32334-47	FILLER	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	32-32332-49	HINGE	1M96168	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-32332-59	HINGE	1M96163	7075-T6 AL ALY	QQ-A-200/11 (T6)
20	32-32270-183	ANGLE	1M2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	32-32270-181	ANGLE	1M2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	32-32270-173	TEE	1M57313	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	32-32116-19	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-79	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-91	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-129	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-32270-211	TEE	1M57312	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-32118-101	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
26	32-32423-9	HINGE	1M96139	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-32423-11	HINGE	1M96139	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-32423-13	HINGE	1M96139	7075-T6 AL ALY	QQ-A-200/11 (T6)
27	32-32119-37	STRINGER	1M5776	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-32119-39	STRINGER	1M5776	7178-T6 AL ALY	QQ-A-200/13 (T6)
29	32-32171-101	TEE	1M5272	7178-T6 AL ALY	QQ-A-200/13 (T6)
30	32-32119-15	STRINGER	1M5444	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	32-32118-85	STRINGER	1M57274	7178-T6 AL ALY	QQ-A-200/13 (T6)
32	32-32121-1197	STRINGER	1M57273	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-1373	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-1457	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
33	32-32114-13	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32114-47	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
34	32-32116-61	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
35	32-32175-243	STRINGER	1M5587	7178-T6 AL ALY	QQ-A-200/13 (T6)
36	32-32175-255	STRINGER	1M7606	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32175-261	STRINGER	1M7606	7178-T6 AL ALY	QQ-A-200/13 (T6)
37	32-32175-267	STRINGER	1M7606	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32041-31	LONGERON	1M2536	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32041-71	LONGERON	1M2613	7075-T73 AL ALY	QQ-A-200/11 (T73)
38	32-32116-163	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
39	32-32116-191	STIFFENER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32500-7	STIFFENER	0.063	8Mn TITANIUM ALLOY	◇1
	32-32500-15	STIFFENER	0.063	8Mn TITANIUM ALLOY	◇1

4C-3-1-2-(41-4)D

Figure 4-17. Longeron and Stringer Repair Index - F-4C, F-4D, AND RF-4C (Sheet 4 of 6)



REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
40	32-32090-15	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32090-67	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-32004-11	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	32-32175-194	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32175-804	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
42	32-32121-1241	ANGLE	1M2172	7178-T6511 ALCLAD	QQ-A-250/15 (T6511)
	32-32121-1395	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
43	32-32121-1134	STRINGER	1M5754	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32121-1372	STRINGER	1M5754	7178-T6 AL ALY	QQ-A-200/13 (T6)
44	32-32116-66	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-94	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
45	32-32116-39	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
46	32-32041-16	LONGERON	1M2270	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32041-38	LONGERON	1M2553	7178-T6 AL ALY	QQ-A-200/13 (T6)
47	32-32041-68	LONGERON	1M2553	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
	32-32121-116	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-1286	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-2116	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
48	32-32114-6	STRINGER	1M5444	7178-T6 AL ALY	QQ-A-200/13 (T6)
49	32-32175-129	STRINGER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32175-771	STRINGER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
50	32-32175-94	STRINGER	1M5587	7178-T6 AL ALY	QQ-A-200/13 (T6)
51	32-32041-10	LONGERON	1M2460	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32041-29	LONGERON	1M2536	7075-T6 AL ALY	QQ-A-200/13 (T6)
52	32-32121-240	ANGLE	1M2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
	32-32121-1260	ANGLE	1M2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
53	32-32116-68	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
54	32-32151-4	STIFFENER	0.040	8Mn TITANIUM ALLOY	◇
	32-32151-30	STIFFENER	0.040	8Mn TITANIUM ALLOY	◇
55	32-32333-6	SPLICE	1M5317	7075-T6 AL ALY	QQ-A-200/11 (T6)
56	32-32334-16	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32334-22	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32334-32	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32334-46	HINGE	1M9647	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32334-47	FILLER	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
57	32-32332-50	HINGE	1M96168	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-32332-60	HINGE	1M96163	7075-T6 AL ALY	QQ-A-200/11 (T6)
58	32-32270-184	ANGLE	1M2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
59	32-32270-182	ANGLE	1M2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
60	32-32270-174	TEE	1M57313	7178-T6 AL ALY	QQ-A-200/13 (T6)
61	32-32116-47	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-85	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-92	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
62	32-32116-130	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32270-212	TEE	1M57312	7178-T6 AL ALY	QQ-A-200/13 (T6)
63	32-32118-102	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
64	32-32119-38	STRINGER	1M5776	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32119-40	STRINGER	1M5776	7178-T6 AL ALY	QQ-A-200/13 (T6)
65	32-32171-102	TEE	1M5272	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	32-32119-16	STRINGER	1M5444	7178-T6 AL ALY	QQ-A-200/13 (T6)
67	32-32118-86	STRINGER	1M57274	7178-T6 AL ALY	QQ-A-200/13 (T6)
68	32-32116-46	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
69	32-32116-89	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
70	32-32121-1198	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-1374	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-1458	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
71	32-32114-15	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32114-48	STRINGER	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
72	32-32041-33	LONGERON	1M2536	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32041-73	LONGERON	1M2613	7075-T73 AL ALY	QQ-A-200/11 (T73)
73	32-32116-84	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-192	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
74	32-32175-244	STRINGER	1M5587	7178-T6 AL ALY	QQ-A-200/13 (T6)
75	32-32175-256	STRINGER	1M7606	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32175-262	STRINGER	1M7606	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32175-268	STRINGER	1M7606	7178-T6 AL ALY	QQ-A-200/13 (T6)
76	32-32500-8	STIFFENER	0.063	8Mn TITANIUM ALLOY	◇
	32-32500-16	STIFFENER	0.063	8Mn TITANIUM ALLOY	◇
77	32-32090-16	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32090-68	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)

4C-3-1-2-(41-5)C

Figure 4-17. Longeron and Stringer Repair Index - F-4C, F-4D, AND RF-4C (Sheet 5 of 6)

Notes

(1) SPECIFICATION; MIL-T-9046, TYPE III COMP. A, ANNEALED.

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
78	32-32121-1455	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-2113	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
79	32-32121-1456	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-2114	STRINGER	1M5754	7178-T651 AL ALY	QQ-A-200/13 (T651)
80	32-32121-1460	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-2118	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
81	32-32121-1459	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32121-2117	ANGLE	1M2172	7178-T651 AL ALY	QQ-A-200/13 (T651)

F-4C 63-7528 THRU 64-928; F-4D.
F-4C 63-7528 THRU 64-928; F-4D, RF-4C 63-7742 THRU 67-442.
F-4C 63-7407 THRU 63-7468.
F-4C 63-7469 THRU 64-928.
F-4C; F-4D.
RF-4C.
F-4C; F-4D; RF-4C 63-7742 THRU 63-7746.
RF-4C 63-7747 THRU 64-1005.
RF-4C 64-1006 THRU 72-156.
F-4C 63-7407 THRU 64-904; RF-4C 63-7742 THRU 65-849.
F-4C 64-905 THRU 64-928; F-4D AND RF-4C 65-850 THRU 69-348.
F-4C 63-7407 THRU 63-7662; RF-4C 63-7742 THRU 63-7763.
F-4C 63-7663 THRU 63-7713.
F-4C 64-654 THRU 64-693; RF-4C 64-997 THRU 65-864.
F-4C; F-4D 64-929 THRU 64-969; RF-4C 63-7742 THRU 65-871.
DELETED.
F-4C 64-694 THRU 64-928; F-4D, RF-4C 65-865 THRU 72-156.
F-4C; F-4D 64-929 THRU 65-789 AND RF-4C 63-7742 THRU 65-879.
F-4D 65-790 THRU 66-8825; RF-4C 66-391 THRU 72-156.
F-4C 63-7407 THRU 63-7468; RF-4C 63-7742.
F-4C 63-7469 THRU 64-904; RF-4C 63-7743 THRU 65-849.
F-4C 64-905 THRU 64-928; F-4D, RF-4C 65-850 THRU 67-432.
RF-4C 67-433 THRU 72-156.
F-4C; F-4D, RF-4C 63-7742 THRU 68-593.
RF-4C 68-594 THRU 72-156.
F-4C, F-4D, RF-4C 63-7742 THRU 67-469.
RF-4C 68-548 THRU 72-156.
F-4C 63-7407 THRU 63-7524; RF-4C 63-7742 THRU 63-7743.
RF-4C 69-349 THRU 72-156.
F-4C 63-7407 THRU 63-7524.
F-4C 63-7407 THRU 63-7524; RF-4C 63-7742 THRU 63-7748.
F-4C 63-7528 THRU 64-928; F-4D; RF-4C 63-7750 THRU 72-156.
F-4D 64-970 THRU 66-8825; RF-4C 65-872 THRU 72-156.
F-4C; F-4D 64-929 THRU 65-789; RF-4C 63-7742 THRU 66-389.
F-4D 64-790 THRU 66-8825; RF-4C 66-391 THRU 72-156.
F-4C 63-7407 THRU 63-7662; RF-4C 63-7742 THRU 64-1017.
F-4C 63-7663 THRU 64-904; F-4D 64-929 THRU 64-948; RF-4C 64-1018 THRU 65-849.
F-4C 63-7528 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 71-252.
F-4C 63-7528 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 64-1027.
F-4C; F-4D, RF-4C 63-7742 THRU 67-442.
RF-4C 67-443 THRU 67-469.
RF-4C 63-7742 THRU 67-469.
F-4C; F-4D AND RF-4C 63-7742 THRU 67-461.
RF-4C 67-462 THRU 69-366.
RF-4C 69-367 THRU 72-156.
RF-4C 67-462 THRU 72-156.
F-4C, F-4D AND RF-4C 63-7742 THRU 69-366.
F-4C, F-4D, RF-4C 63-7742 THRU 68-604, FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
RF-4C 68-605 THRU 72-156, AND FUTURE PROCUREMENT FOR PRECEDING PART.
F-4C 63-7525 THRU 64-928, F-4D, AND RF-4C 63-7749 THRU 71-252.
RF-4C 71-253 THRU 72-156.
RF-4C 63-7742 THRU 63-7748.
RF-4C 63-7750 THRU 64-1026.
RF-4C 63-7742 THRU 71-252.
RF-4C 63-7742 THRU 67-442.
RF-4C 67-443 THRU 72-156.
RF-4C 64-1027 THRU 72-156.
RF-4C 64-1027 THRU 71-252.
RF-4C 64-1028 THRU 71-252.
AFTER TO 1F-4-1308.

4C-3-1-2-(41-6)E

Figure 4-17. Longeron and Stringer Repair Index - F-4C, F-4D, AND RF-4C (Sheet 6 of 6)

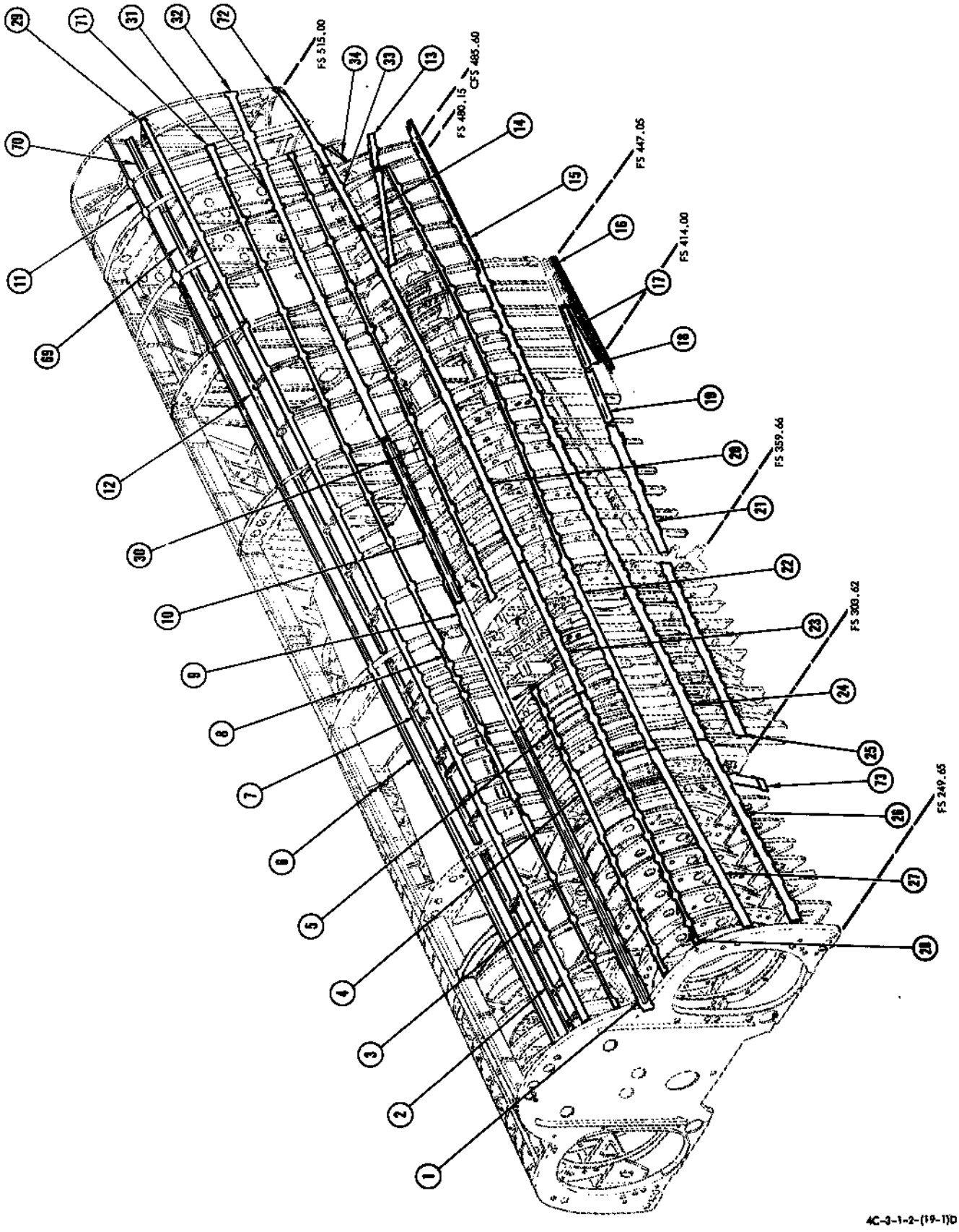


Figure 4-18. Longeron and Stringer Repair Index - F-4E AND F-4G (Sheet 1 of 4)

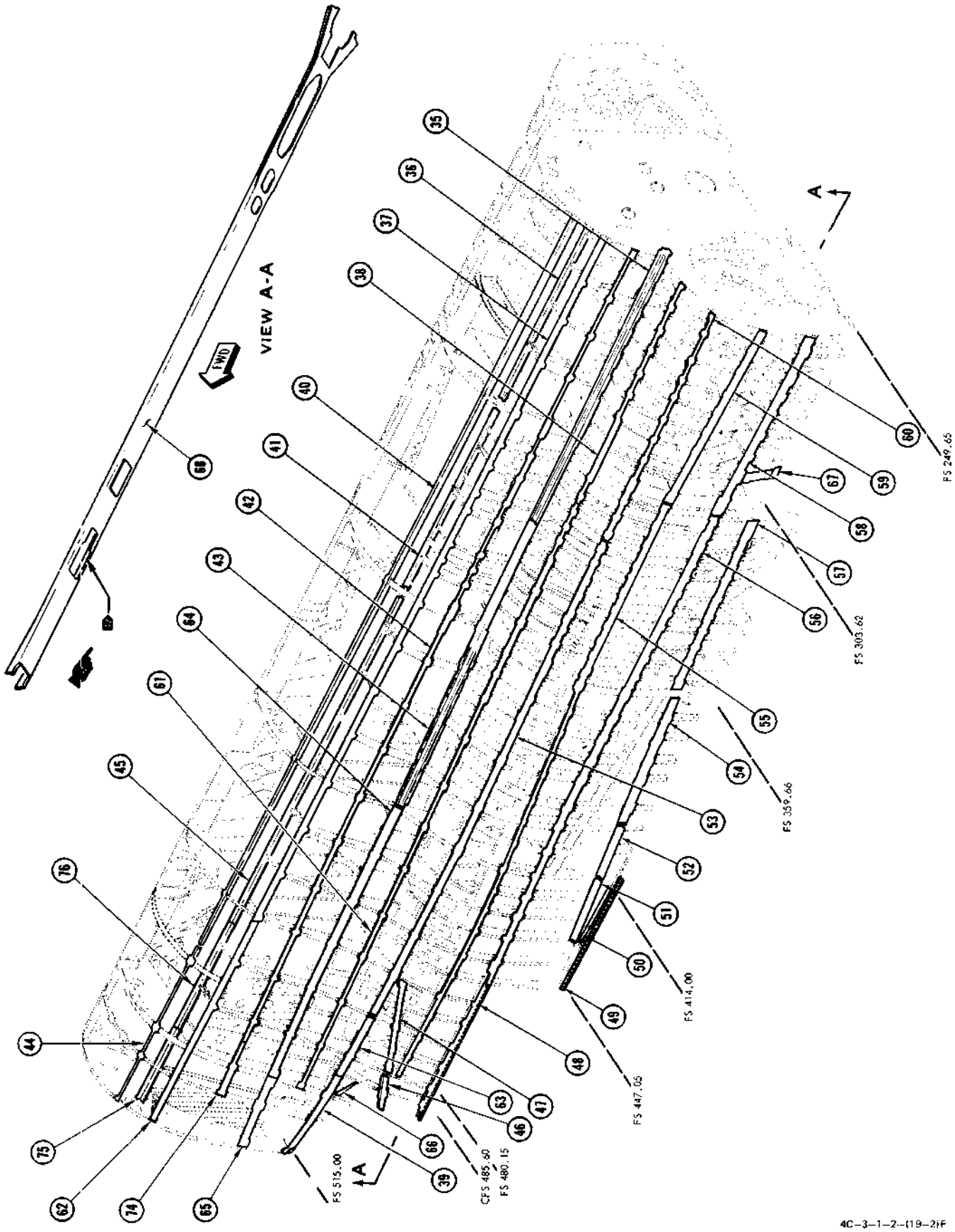


Figure 4-18. Longeron and Stringer Repair Index - F-4E AND F-4G (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32175-489	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-32175-715	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-32175-805	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-320021-17	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
3 18	53-320021-15	STRINGER	IM5754	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
20	53-320021-203	STRINGER	IM5754	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
21	53-320021-265	STRINGER	IM5754	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
4	32-32116-93	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
5 2	32-32116-155	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
6 5	32-32041-65	LONGERON	IM2553	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
1	32-32041-81	LONGERON	IM2553	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
7 18	53-320021-93	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
19	53-320021-205	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
8 2	32-32114-41	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32114-37	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
9 2	32-32175-717	STRINGER	IM57614	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	32-32175-777	STRINGER	IM57614	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32175-765	STRINGER	IM57614	7178-T6 AL ALY	QQ-A-200/13 (T6)
10 5	32-32175-481	STRINGER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-32175-131	STRINGER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-32041-61	STRINGER	IM57493	7075-T73 AL ALY	QQ-A-200/11 (T73)
12 18	53-320021-5	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
19	53-320021-207	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
13 14	32-32151-11	STIFFENER	0.040	8Mn TITANIUM ALLOY	}(1)
15	32-32151-21	STIFFENER	0.040	8Mn TITANIUM ALLOY	
14	32-32333-5	SPLICE	IM5317	7075-T6 AL ALY	QQ-A-200/11 (T6)
15	32-32334-37	HINGE	IM9647	2024-T62 AL ALY	QQ-A-200/3 (T62)
16	32-32332-63	HINGE	IM96240	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
17	32-32270-183	ANGLE	IM2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
18	32-32270-181	ANGLE	IM2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-32270-173	TEE	IM57313	7178-T6 AL ALY	QQ-A-200/13 (T6)
20 9	32-32116-127	STRINGER	IM57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32116-153	STRINGER	IM57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	32-32270-211	TEE	IM57212	7178-T6 AL ALY	QQ-A-200/13 (T6)
22	32-32118-101	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
23 2	32-32116-151	STRINGER	IM57613	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-32119-39	STRINGER	IM5776	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-32171-101	TEE	IM5272	7178-T6 AL ALY	QQ-A-200/13 (T6)
26 18	32-32119-15	STRINGER	IM5444	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-32119-51	STRINGER	IM5444	7178-T6 AL ALY	QQ-A-200/13 (T6)
27	32-32118-85	STRINGER	IM57274	7178-T6 AL ALY	QQ-A-200/13 (T6)
28 9	32-32116-97	STRINGER	IM57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32116-149	STRINGER	IM57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
29	32-321588-1	STRINGER	IM57492	7178-T6 AL ALY	QQ-A-200/13 (T6)
30 9	32-32116-125	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32116-161	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
31	32-32175-421	STRINGER	IM57402	7178-T6 AL ALY	QQ-A-200/13 (T6)
32 10	32-321151-23	STRINGER	IM57482	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	32-321151-45	STRINGER	IM57482	7178-T6 AL ALY	QQ-A-200/13 (T6)
33	32-32116-103	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
34 5	32-32500-13	STIFFENER	0.063	8Mn TITANIUM ALLOY	}(1)
6	32-32500-17	STIFFENER	0.063	8Mn TITANIUM ALLOY	
35 5	32-32175-194	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-32175-804	STRINGER	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	53-210021-18	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
37 18	53-320021-16	STRINGER	IM5754	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
20	53-320021-204	STRINGER	IM5754	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
21	53-320021-266	STRINGER	IM5754	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
38	32-32116-94	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
39 16	32-32116-114	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-32116-182	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-32116-198	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
40 26	32-32041-38	LONGERON	IM2553	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-32041-68	LONGERON	IM2553	7075-T73511 AL ALY	QQ-A-200/11 (T73511)
41 18	53-320021-94	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
20	53-320021-206	ANGLE	IM2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
21	53-320021-491	ANGLE	IM2153	7178-T6511 AL ALY	QQ-A-200/13 (T73)
42	32-32114-38	STRINGER	IM5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
43 5	32-32175-129	STRINGER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-32175-771	STRINGER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
44	32-32041-62	STRINGER	IM57493	7075-T73 AL ALY	QQ-A-200/11 (T73)

4C-3-1-2-(19-3)D

Figure 4-18. Longeron and Stringer Repair Index - F-4E AND F-4G (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
45	53-320021-6	ANGLE	1M2172	7178-T6511 ALY	QQ-A-200/13 (T6511)
	53-320021-208	ANGLE	1M2172	7178-T6511 ALY	QQ-A-200/13 (T6511)
46	32-32151-12	STIFFENER	0.040	8Mn TITANIUM ALLOY	[1]
	32-32151-22	STIFFENER	0.040	8Mn TITANIUM ALLOY	[1]
47	32-32333-6	SPLICE	1M5817	7075-T6 AL ALY	QQ-A-200/11 (T6)
48	32-32334-38	HINGE	1M9647	2024-T62 AL ALY	QQ-A-200/3 (T62)
49	32-32332-64	HINGE	1M96240	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
50	32-32270-184	ANGLE	1M2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
51	32-32270-182	ANGLE	1M2446	7178-T6 AL ALY	QQ-A-200/13 (T6)
52	32-32370-174	TEE	1M57313	7178-T6 AL ALY	QQ-A-200/13 (T6)
53	32-32116-92	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-180	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
54	32-32270-212	STRINGER	1M57312	7178-T6 AL ALY	QQ-A-200/13 (T6)
55	32-32118-102	STRINGER	1M9411	7178-T6 AL ALY	QQ-A-200/13 (T6)
56	32-32119-40	STRINGER	1M5776	7178-T6 AL ALY	QQ-A-200/13 (T6)
57	32-32171-102	TEE	1M5272	7178-T6 AL ALY	QQ-A-200/13 (T6)
58	32-32179-16	STRINGER	1M5444	7178-T6 AL ALY	QQ-A-200/13 (T6)
59	32-32138-86	STRINGER	1M57274	7178-T6 AL ALY	QQ-A-200/13 (T6)
60	32-32116-98	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-46	STRINGER	1M57273	7178-T6 AL ALY	QQ-A-200/13 (T6)
61	32-32116-39	STRINGER	1M4511	7178-T6 AL ALY	QQ-A-200/13 (T6)
62	32-321588-2	STRINGER	1M57492	7178-T6 AL ALY	QQ-A-200/13 (T6)
63	32-32116-104	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
64	32-32175-422	STRINGER	1M57482	7178-T6 AL ALY	QQ-A-200/13 (T6)
65	32-321151-24	STRINGER	1M57482	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-321151-46	STRINGER	1M57482	7178-T6 AL ALY	QQ-A-200/13 (T6)
66	32-32500-14	STIFFENER	0.063	8Mn TITANIUM ALLOY	[1]
	32-32500-18	STIFFENER	0.063	8Mn TITANIUM ALLOY	[1]
67	32-32090-16	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32090-68	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
68	32-32070-39	LONGERON	EXTRUSION	4330 (MOD) STEEL ALLOY	AMS6427
	32-32070-43	LONGERON	EXTRUSION	4330 (MOD) STEEL ALLOY	AMS6427
69	53-320021-7	ANGLE	1M2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
70	32-32121-1617	TEE	1M5507	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
71	32-32114-29	STRINGER	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
72	32-32116-113	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-181	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32116-197	STRINGER	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
73	32-32090-15	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32090-67	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
74	32-32114-30	STRINGER	1M5536	7178-T6 AL ALY	QQ-A-200/13 (T6)
75	32-32121-1619	TEE	1M5507	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
76	53-320021-8	ANGLE	1M2172	7178-T6511 AL ALY	QQ-A-200/13 (T6511)

Notes

[1] SPECIFICATION: MIL-T-9046, TYPE III COMPOSITION A; ANNEALED.

F-4E 66-368 THRU 67-218.

F-4E 67-219 THRU 67-398.

F-4E 66-368 AND UP AND F-4G.

F-4E 66-284 THRU 67-398.

F-4E 68-303 AND UP AND F-4G.

F-4E 66-284 THRU 68-451.

F-4E 68-452 AND UP AND F-4G.

F-4E 66-284 THRU 66-367.

F-4E 66-284 THRU 67-247.

F-4E 67-248 AND UP AND F-4G.

F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-303.

F-4E/G 69-304 THRU 69-7588 AND F-4E 69-7589 AND UP.

F-4E 66-284 THRU 67-341.

F-4E 67-342 AND UP AND F-4G.

F-4E 66-284 THRU 68-483, AND 68-495.

F-4E 66-284 THRU 68-494, 68-496 AND UP, AND F-4G.

F-4E 66-284 THRU 71-236 AND F-4G.

F-4E 71-237 AND UP.

F-4E 71-237 THRU 71-1402.

F-4E 72-121 AND UP.

F-4E 66-284 THRU 67-219.

F-4E 67-220 AND UP AND F-4G.

F-4E 67-248 THRU 67-398.

F-4E 66-284 THRU 66-382.

F-4E 67-208 AND UP AND F-4G.

F-4E 66-368 THRU 68-451.

F-4E 66-284 THRU 72-1497 AND F-4G.

F-4E 72-1498 AND UP.

F-4E 71-237 THRU 73-01164.

F-4E 73-01165 AND UP.

AFTER TO 1F-4-1308.

4C-3-1-2-(19-4)E

Figure 4-18. Longeron and Stringer Repair Index - F-4E AND F-4G (Sheet 4 of 4)

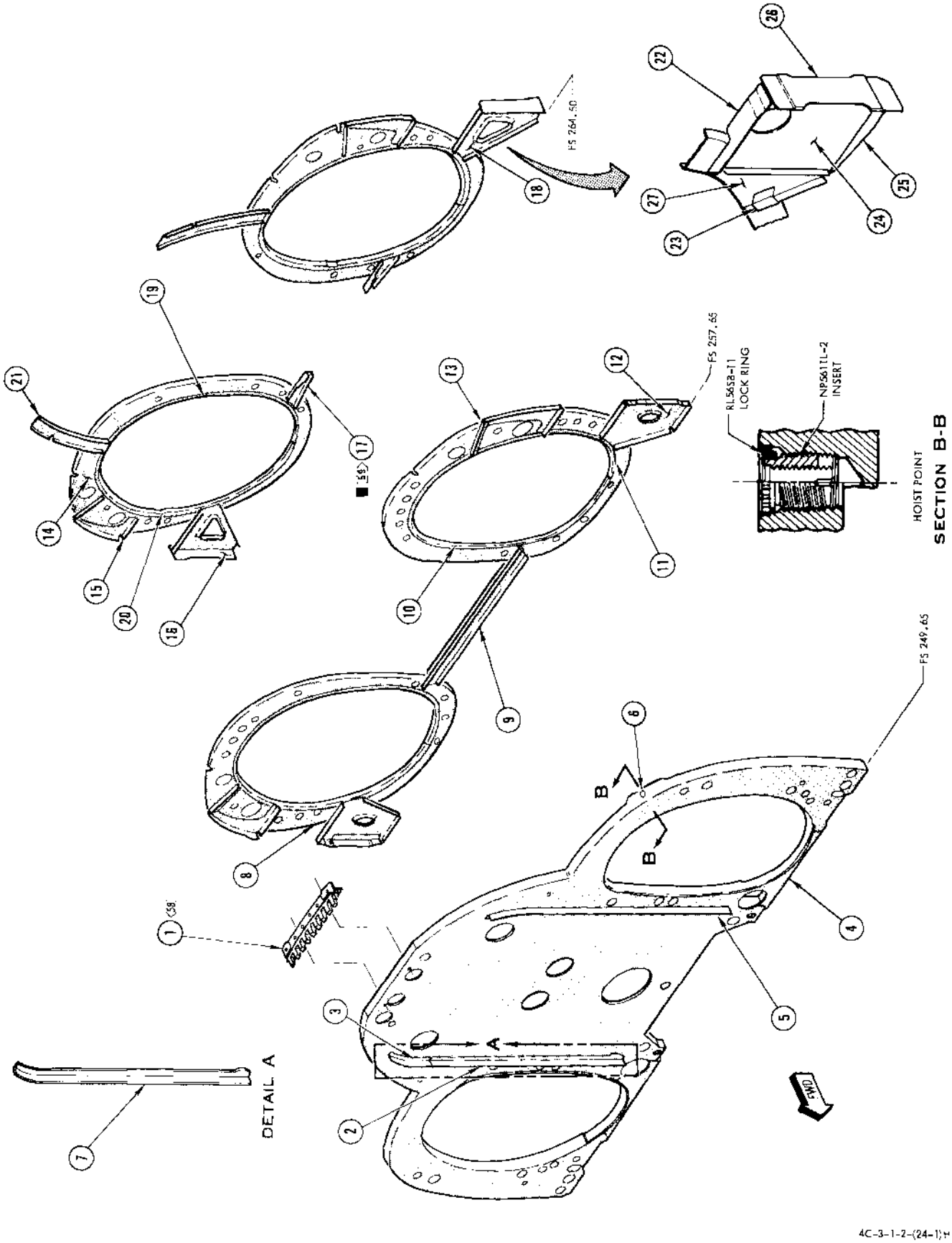


Figure 4-19. Bulkhead and Frames, FS 249.65 thru FS 264.50 (Sheet 1 of 3)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	2	32-30113-3	HINGE HALF	1M96150	7075-T6 AL ALY	QQ-A-200/11 (T6)
	3	32-30113-5 ◁58	HINGE HALF	1M96150	7075-T6 AL ALY	QQ-A-200/11 (T6)
2	24	53-32011-156-157	ANGLE	0.090	2024-T4 ALCLAD	QQ-A-250/5 (T4)
3	25	53-32011-156-155	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	6	32-32011-67-77	FORMER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	7	32-32011-109-110	FORMER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	8	32-32011-111-112	FORMER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	9	32-32011-141-112	FORMER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	10	32G32011-137,-139	FORMER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
5	11	53-32011-3	BULKHEAD	2.00	7075-T651 AL ALY	QQ-A-250/12 (T651)
	10	53-32011-41	BULKHEAD	2.00	7075-T651 AL ALY	QQ-A-250/12 (T651)
	11	53-32011-117	BULKHEAD	2.020	7075-T651 AL ALY	MMS 159 (T7351)
	12	53-32011-45	BULKHEAD	2.00	7075-T651 AL ALY	QQ-A-250/12 (T651)
	13	53-32011-123	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	14	53-32011-153	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-147	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	16	53-32011-167	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	17	53-32011-187	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	18	53-32011-185	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	19	53G32011-219	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	20	53-32011-191	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	21	53G32011-221	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	22	53-32011-213	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	23	53G32011-223	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	24	53-32011-219	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	25	53G32011-225	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	26	53-32011-225	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	27	53G32011-227	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	28	53-32011-231	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	29	53G32011-229	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	30	53G32011-231	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	31	53-32011-21	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-119	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	20	53-32011-143	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	1	53-32011-149	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	32	53-32011-163	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-195	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-209	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	19	53-32011-223	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-233	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-237	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-239	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-253	BULKHEAD	2.020	7075-T7351 AL ALY	MMS 159 (T7351)
	15	53-32011-127	BULKHEAD	2.00	7075-T651 AL ALY	QQ-A-250/12 (T651)
6		NP5611L-2	INSERT	ROSAN INC.	NEWPORT BEACH CALIF.	
		RL56SB-11	LOCK RING	ROSAN INC.	NEWPORT BEACH CALIF.	
7	23	32-32011-82-81	ANGLE	0.090	2024-T4 ALCLAD	QQ-A-250/5 (T4)
8	4	32-32018-52-51	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	5	32-32018-52-59	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	23	32-32018-52-65	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32018-52, -81	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9		32-32018-41	BEAM	1M7251	7178-T651 AL ALY	QQ-A-200/13 (T651)
10		32-32018-33-34	ANGLE	1M2296	2024-T4 AL ALY	QQ-A-200/3 (T4)
11		32-32018-5-6	ANGLE	1M2297	2024-T4 AL ALY	QQ-A-200/3 (T4)
12	26	32-32018-47-48	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	27	32-32018-63-48	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32018-77, -48	GUSSET	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
13		32-32018-11-12	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	28	32-32019-54, -79	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	29	32-32019-54-53	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	30	32-32019-54-67	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15		32-32019-14-13	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	12	32-32019-46-45	TEE	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	13	32-32019-46	TEE	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	30	32-32019-44-43	SUPPORT	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	31	32-32019-44-71	SUPPORT	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32	32-32019-49-50	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	33	32-32019-50	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19		32-32019-41-42	ANGLE	1M2454	2024-T4 AL ALY	QQ-A-200/3 (T4)
20	34	32-32019-39-40	ANGLE	1M2297	2024-T4 AL ALY	QQ-A-200/3 (T4)
	35	32-32019-77, -40	ANGLE	1M2297	2024-T4 AL ALY	QQ-A-200/3 (T6)
21	15	32-32019-36-35	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32019-90-89	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	36	53-320081-35	TEE	1M5175	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
23	37	53-320081-37	ANGLE	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	38	32-32019-85	WEB	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	39	53-320081-85	TEE	1M5507	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
26	13	32-32019-83	TEE	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
27	40	32-32019-81	GUSSET	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)

4C-3-1-2-(24-2)F

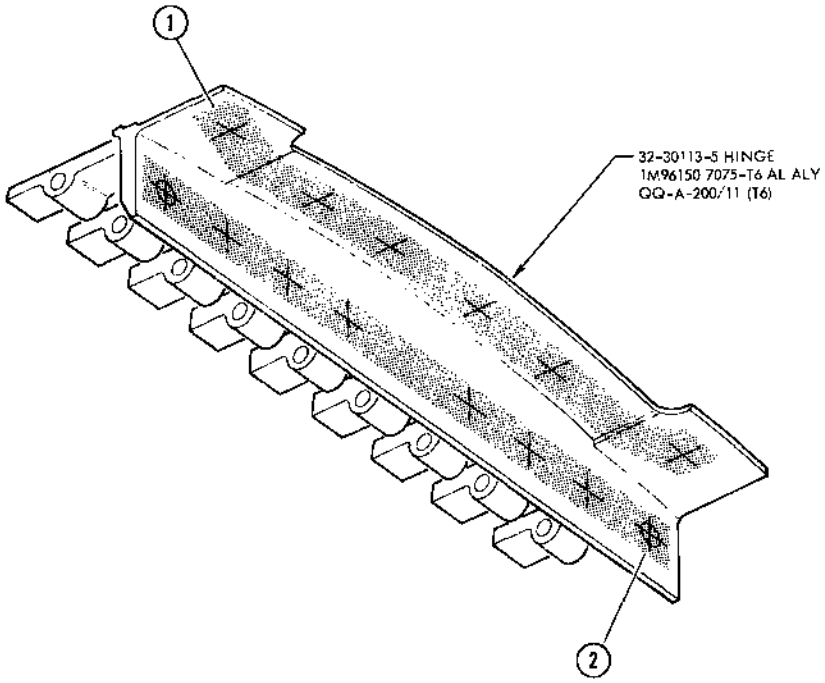
Figure 4-19. Bulkhead and Frames, FS 249.65 thru FS 264.50 (Sheet 2 of 3)

Notes

1. RF-4C 65-865 THRU 66-390.
2. F-4C 63-7407 THRU 63-7597 AND RF-4C 63-7742 THRU 63-7763.
3. F-4C 63-7598 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C 64-997 THRU 72-156.
4. F-4C 63-7407 THRU 63-7656 AND RF-4C 63-7742 THRU 64-1015.
5. F-4C 63-7657 THRU 64-928; F-4D, F-4E 66-284 THRU 66-367, AND RF-4C. 64-1016 THRU 67-453.
6. F-4C 63-7407 THRU 64-737 AND RF-4C 63-7742 THRU 64-1061.
7. F-4C 64-738 THRU 64-881 AND RF-4C 64-1061 THRU 65-838.
8. F-4C 64-928; F-4D 64-929 THRU 66-8698, F-4E 66-284 THRU 66-297, AND RF-4C 65-839 THRU 66-450.
9. F-4C 63-7407 THRU 64-735.
10. F-4C 64-736 THRU 64-881.
11. F-4C 64-882 THRU 64-928.
12. F-4D 64-936 THRU 64-963.
13. F-4D 64-964 THRU 65-793.
14. RF-4C 64-1078 THRU 65-838.
15. RF-4C 65-839 THRU 65-864.
16. F-4D 64-929 THRU 64-937.
17. F-4D 65-794 THRU 66-7478.
18. F-4D 66-7479 THRU 66-8698.
19. F-4D 66-8699 THRU 66-8825.
20. RF-4C 66-391 THRU 66-404.
21. RF-4C 66-405 THRU 67-442.
22. F-4E 66-284 THRU 71-236 AND F-4G.
23. F-4C, F-4D 64-929 THRU 65-624, AND RF-4C 63-7742 THRU 65-898.
24. RF-4C 65-889 THRU 72-156, F-4D 65-625 THRU 66-8825, F-4E, AND F-4G.
25. F-4E 68-495 AND UP, F-4G AND RF-4C 69-349 THRU 72-156.
26. F-4C, F-4D AND RF-4C.
27. F-4D 66-8699 THRU 66-8825, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND 72-121 AND UP, RF-4C 66-451 THRU 72-156; ALSO, F-4E 66-287 AND 66-296 THRU 71-236 BEFORE T.O. 1F-4E-566.
28. F-4D, F-4E 66-284 THRU 71-237, F-4G, AND RF-4C 67-454 THRU 72-156.
29. F-4C, F-4D, F-4E 66-284 THRU 66-367, AND RF-4C.
30. F-4C, F-4D, F-4E 66-284 THRU 68-494 AND RF-4C 63-7742 THRU 68-611.
31. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, AND F-4E 66-287 AND 66-296 THRU 66-367 BEFORE T.O. 1F-4E-566.
32. F-4E 66-368 THRU 67-282 BEFORE T.O. 1F-4E-566.
33. F-4E 67-283 THRU 67-398 BEFORE T.O. 1F-4E-566.
34. RF-4C 63-7740 THRU 63-7749.
35. RF-4C 67-443 THRU 67-457.
36. RF-4C 67-458 THRU 67-469.
37. F-4E 69-304 THRU 71-236 BEFORE T.O. 1F-4E-566.
38. F-4E 68-303 THRU 68-409 BEFORE T.O. 1F-4E-566.
39. RF-4C 68-548 THRU 69-366.
40. F-4E 68-410 THRU 69-303 BEFORE T.O. 1F-4E-566.
41. F-4E 66-368 THRU 71-236 AND F-4G.
42. F-4C, F-4D, RF-4C F-4E 66-284 THRU 71-236 AND F-4G.
43. F-4E 71-237 AND UP.
44. RF-4C 69-367 THRU 71-252.
45. RF-4C 71-253 THRU 72-156.
46. F-4E 71-237 THRU 71-1402.
47. F-4E 72-121 AND UP.
48. F-4C, F-4D, RF-4C, F-4E 66-284 THRU 71-1402, AND F-4G.
49. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER T.O. 1F-4E-566 AND F-4G.
50. F-4E 66-287 AND 66-296 THRU 66-367 AFTER T.O. 1F-4E-566.
51. F-4E 66-368 THRU 67-282 AFTER T.O. 1F-4E-566.
52. F-4E 67-283 THRU 67-398 AFTER T.O. 1F-4E-566.
53. F-4E 68-303 THRU 68-409 AFTER T.O. 1F-4E-566.
54. F-4E 68-410 THRU 69-303 AFTER T.O. 1F-4E-566 AND F-4G 69-236 THRU 69-303.
55. F-4E 69-304 THRU 71-236 AFTER T.O. 1F-4E-566 AND F-4G 69-304 THRU 69-7588.
56. F-4E 72-121 THRU 73-01164, 73-01166, 73-01167, 73-01169, 73-01170, 73-01178, 73-01179, 73-01190, 73-01191, 73-01201, AND 73-01202.
57. F-4E 73-01165 THRU 73-01168, 73-01171 THRU 73-01177, 73-01180 THRU 73-01189, 73-01192 THRU 73-01200 AND 73-1203 AND UP.
58. FOR REPLACEMENT, SEE FIGURE 4-19A.
59. REPAIR BRACKET USING 7829502 AND INSTALLATION DRAWING NUMBER 7829503.

4C-3-1-2-(24-3)H

Figure 4-19. Bulkhead and Frames, FS 249.65 thru FS 264.50 (Sheet 3 of 3)



REF NO.	FASTENER	NUT OR COLLAR	TORQUE (INCH-LB)	HOLE SIZE
1	NAS334CFA6	F1934-4-3	40-60	0.257 $^{-.007}_{-.000}$
2	NAS1054-6-6	NAS528A6-6		0.189 $^{-.006}_{-.000}$

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (-) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (-⊕-) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4F-3-1-1. FOR METHODS OF LOCATING AND ENLARGING HOLES. COUNTERSINK HOLES AS REQUIRED.
B. REFINISH HOLES AND COUNTERSINK ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4F-3-1-6.

4C-3-1-2-(357)

Figure 4-19A. Hinge, 32-30113-5, Replacement Index

All data on page 4-76B including figure 4-19B deleted. **Change 52** **4-76A/(4-76B blank)**

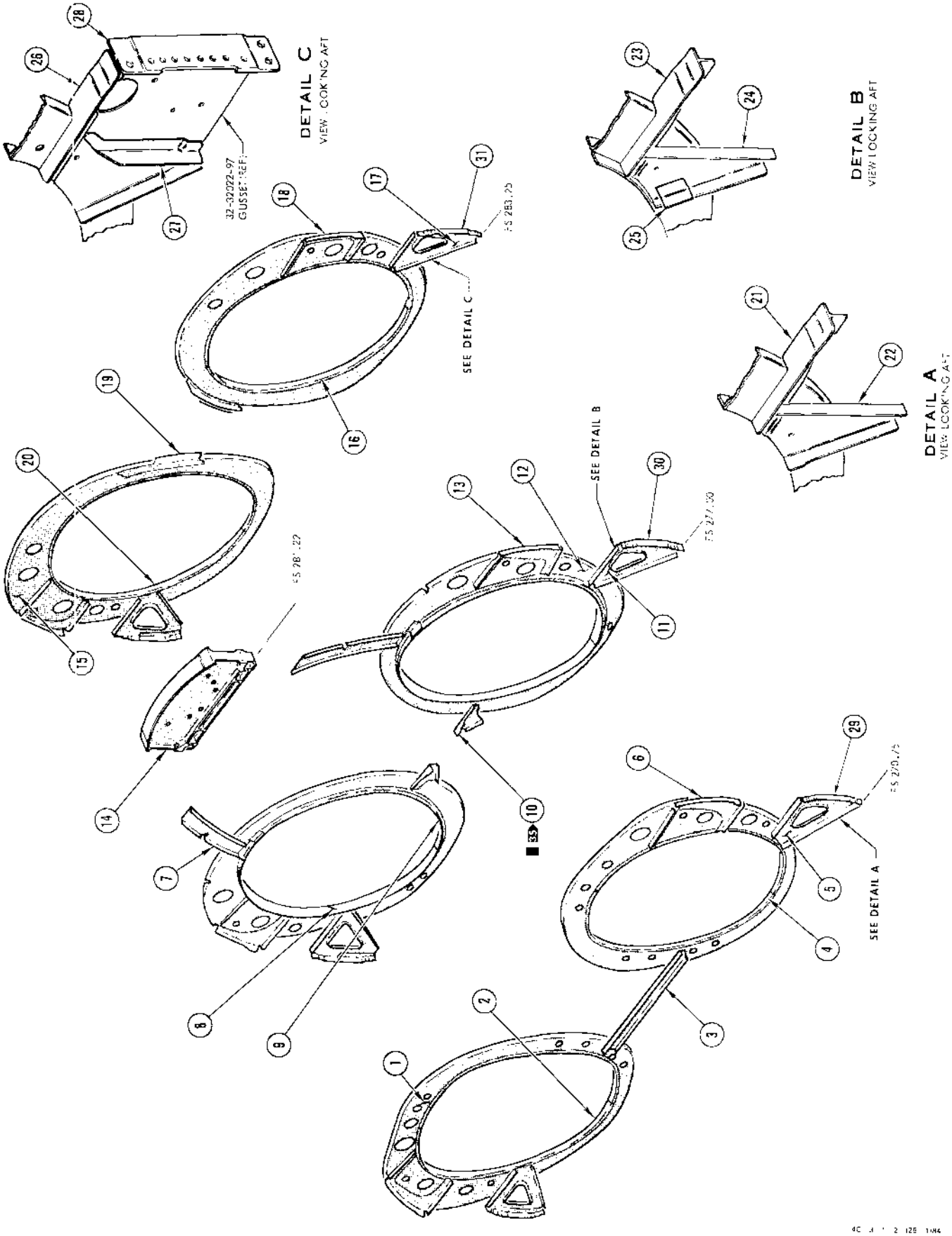


Figure 4-20. Bulkheads and Frames - FS 270.75 thru FS 283.25 (Sheet 1 of 2)

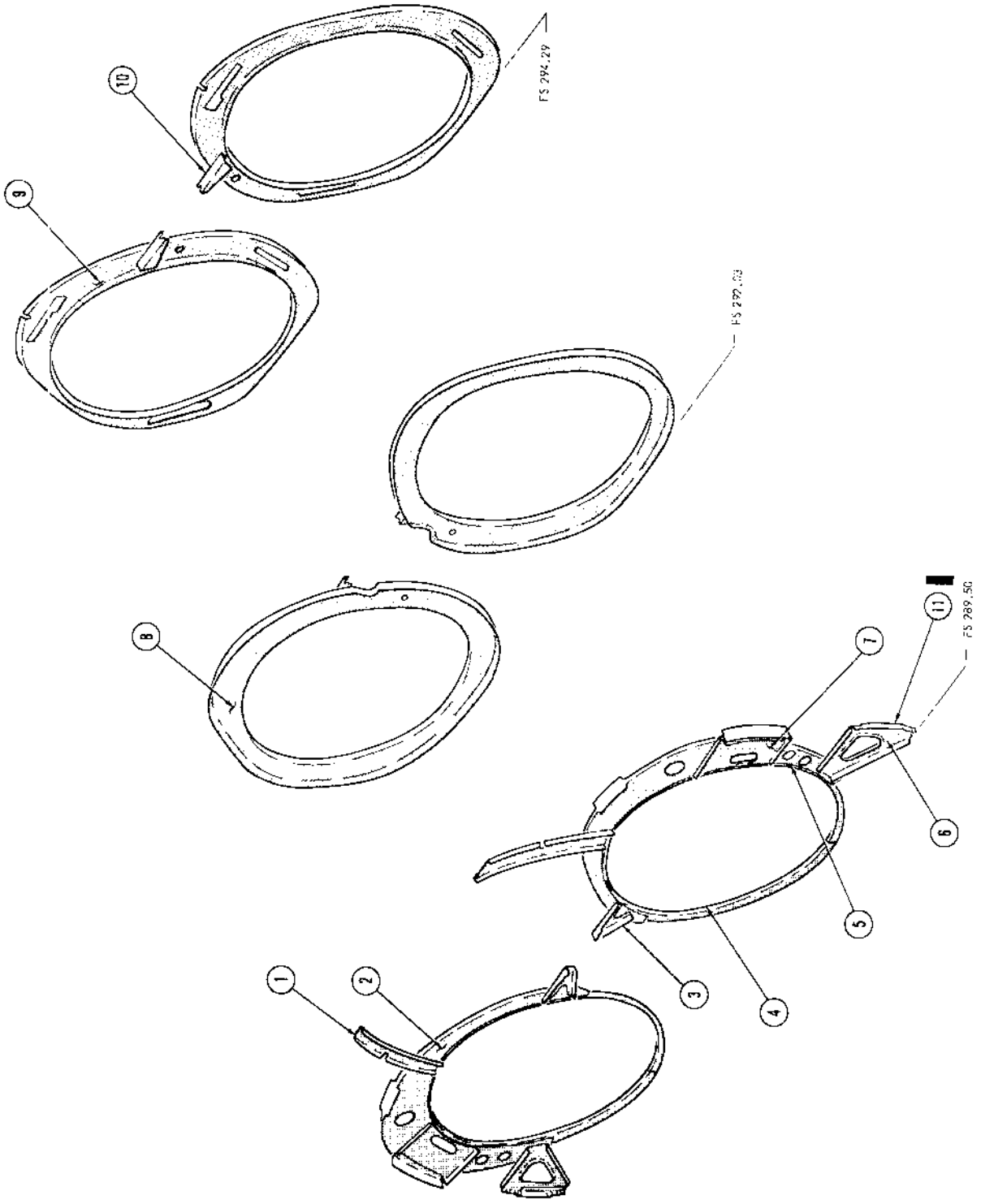
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32020-46, -45	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-50, -49	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-53, -49	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-53, -57	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-50, -57	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-53, -89	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-32020-6, -5	ANGLE	1M2297	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32020-6, -85	ANGLE	1M2297	2024-T4 AL ALY	QQ-A-200/3 (T4)
3	32-32020-47	BEAM	1M5505	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32020-91	BEAM	1M5505	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32020-7, -8	ANGLE	1M2297	2024-T4 AL ALY	QQ-A-200/3 (T4)
5	32-32020-41, -42	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-41, -55	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-59, -60	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-71, -72	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-71, -73	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-32020-73	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32020-9, -10	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-32021-36, -35	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-100, -99	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-32021-6, -5	TEE	1M5469	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32021-6, -95	TEE	1M5469	2024-T4 AL ALY	QQ-A-200/3 (T4)
9	32-32021-8, -7	TEE	1M5469	2024-T4 AL ALY	QQ-A-200/3 (T4)
10	32-32021-30, -65	SUPPORT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-29, -30	SUPPORT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-32021-43, -44	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-43, -53	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-59, -60	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-69	GUSSET	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-32021-45, -46	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-55, -46	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-72, -71	RING	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-72, -73	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32021-72, -97	RING	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-32021-19, -20	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	53-32025-3	BULKHEAD	PRESSING	7079-T6 AL ALY	QQ-A-367 (T6)
	53-32025-9	BULKHEAD	PRESSING	7079-T6 AL ALY	QQ-A-367 (T6)
	53-32025-11	BULKHEAD	PRESSING	7079-T6 AL ALY	QQ-A-367 (T6)
	53-32025-19	BULKHEAD	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
	53-32025-23	BULKHEAD	PRESSING	7075-T73 AL ALY	QQ-A-367 (T73)
	53-32025-5	BULKHEAD	PRESSING	7079-T6 AL ALY	QQ-A-367 (T6)
	53-32025-13	BULKHEAD	PRESSING	7079-T6 AL ALY	QQ-A-367 (T6)
15	32-32022-54, -53	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32022-62, -61	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32022-62, -95	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-32022-29, -30	ANGLE	1M2296	2024-T4 AL ALY	QQ-A-200/3 (T4)
17	32-32022-51, -52	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32022-97, -52	GUSSET	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
18	32-32022-15, -16	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-32022-42, -41	TEE	1M5616	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32022-64, -63	TEE	1M5639	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-32022-34, -33	ANGLE	1M2296	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32022-34, -93	ANGLE	1M2296	2024-T4 AL ALY	QQ-A-200/3 (T4)
21	53-32081-23	TEE	1M5175	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
22	53-32081-25	GUSSET	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
23	53-32081-45	TEE	1M5175	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
24	53-32081-47	GUSSET	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	53-32081-41	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
26	53-32081-53	TEE	1M5175	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
27	53-32081-57	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
28	32-32022-99	TEE	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
29	32-32020-19/20	CLIP	0.050	2024-0	QQ-A-250/4 (0)
30	32-32021-27, -28	CLIP	0.050	2024-0	QQ-A-250/4 (0)
31	32-32022-21, -22	CLIP	0.050	2024-0	QQ-A-250/4 (0)

Notes

1. F-4C 63-7407 THRU 63-7420.
2. F-4C 63-7421 THRU 63-7571.
3. F-4C 63-7572 THRU 64-928, F-4D 64-929 THRU 65-792.
4. F-4D 65-793 THRU 66-8825 AND RF-4C 66-392 THRU 72-156.
5. RF-4C 63-7740 THRU 63-7756.
6. RF-4C 63-7757 THRU 66-391.
7. F-4C, F-4D 64-929 THRU 66-8748, F-4E 66-284 THRU 66-309.
8. F-4D 66-8749 THRU 66-8825, F-4E 66-310 AND UP AND F-4G.
9. F-4E AND F-4G.
10. RF-4C 68-562 THRU 69-384.
11. F-4C, F-4D 64-929 THRU 66-7535, RF-4C 63-7742 THRU 66-410.
12. F-4D 66-7536 THRU 66-8825, RF-4C 66-411 THRU 67-442.
13. F-4E 66-284 THRU 66-367.
14. F-4E 66-368 THRU 71-236 AND F-4G.
15. F-4C, F-4D, RF-4C 63-7742 THRU 68-561.
16. F-4C, F-4D, RF-4C.
17. F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
18. F-4C, F-4D 64-929 THRU 66-7759, F-4E 66-284 THRU 66-294, RF-4C 63-7742 THRU 66-445.
19. F-4D 66-760 THRU 66-8825, F-4E 66-295 THRU 71-236, F-4G, AND RF-4C 66-446 THRU 72-156.
20. F-4E 66-284 THRU 68-365.
21. RF-4C 68-562 THRU 72-156, F-4E 68-366 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
22. RF-4C 71-248 THRU 72-156.
23. F-4C, F-4D, F-4E 66-284 THRU 68-494 AND RF-4C 63-7742 THRU 68-611
24. F-4E 68-495 AND UP, F-4G, AND RF-4C 69-349 THRU 72-156.
25. F-4E 66-284 THRU 71-236 AND F-4G.
26. F-4C, F-4D, RF-4C, F-4E 66-284 THRU 71-236, AND F-4G.
27. F-4E 71-237 AND UP.
28. F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
29. RF-4C 67-443 THRU 72-156.
30. F-4C, F-4D, F-4E 66-248 THRU 71-1402, F-4G, AND RF-4C.
31. F-4E 72-121 AND UP.
32. F-4C, F-4D, F-4E 66-284 THRU 72-159, F-4G, AND RF-4C 63-7742 THRU 72-180.
33. F-4E 72-160 AND UP AND RF-4C 72-151 THRU 72-156.
34. F4C, F4D, RF4C, F4E 65-0713 THRU 71-0236, F4G
35. FOR REPAIR, SEE FIGURE 4-70B.

4C-3-1-2-126 2084

Figure 4-20. Bulkheads and Frames - FS 270.75 thru FS 283.25 (Sheet 2 of 2)



4C-3-1-2-(25-1) E

Figure 4-21. Bulkheads and Frames - FS 289.50 thru FS 294.29 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	10 32-32025-44, -43	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	11 32-32025-110, -109	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	2 32-32025-88, -87	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	3 32-32025-88, -97	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-32025-85, -86	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-32025-61, -62	ANGLE	1M2166	2024-T4 AL ALY	QQ-A-200/3 (T4)
5	32-32025-65, -66	ANGLE	1M2296	2024-T4 AL ALY	QQ-A-200/3 (T4)
6	5 32-32025-89, -90	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	6 32-32025-89, -103	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	9 32-32025-107, -103	GUSSET	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	7 32-32025-69, -70	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	8 32-32025-95, -70	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-32238-20, -19	RING	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
9	1 32-32237-36, -35	RING	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	4 32-32237-42, -41	RING	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	5 32-32237-42, -49	RING	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
10	32 32237-39, -40	BRACKET	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
11	32-32025-29, -30	CLIP	0.050	2024-0	QQ-A-250/4 (0)

Notes

1. F-4C 63-7407 THRU 63-7420.
2. F-4C 63-7421 THRU 64-928; F-4D, AND RF-4C.
3. F-4E AND F-4G.
4. F-4C, F-4D, AND RF-4C.
5. F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-267, AND RF-4C 66-7740 THRU 69-360.
6. F-4E/G 69-268 THRU 69-7588, F-4E 69-7589 THRU 71-236, AND RF-4C 69-361 THRU 72-156.
7. F-4E 66-284 THRU 66-367.
8. F-4E 66-368 AND UP AND F-4G.
9. F-4E 71-237 AND UP.
10. F-4E 66-284 THRU 72-120, F-4C, F-4D, F-4G, AND RF-4C.
11. F-4E 72-121 AND UP.

4C-3-1-2-(25-2)87

Figure 4-21. Bulkheads and Frames - FS 289.50 thru FS 294.29 (Sheet 2 of 2)

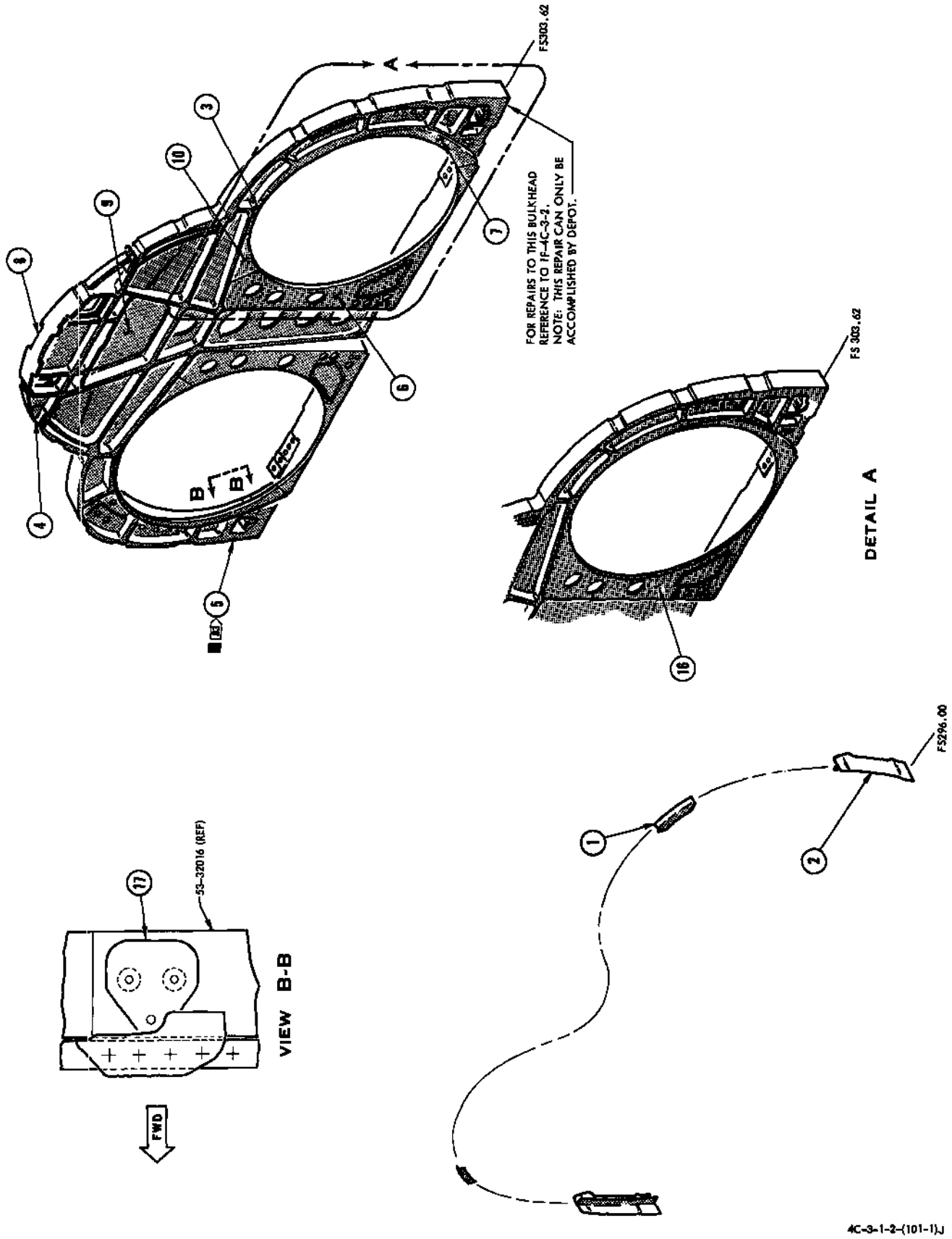


Figure 4-22. Bulkheads and Frames - FS 296.00 thru FS 308.31 (Sheet 1 of 4)

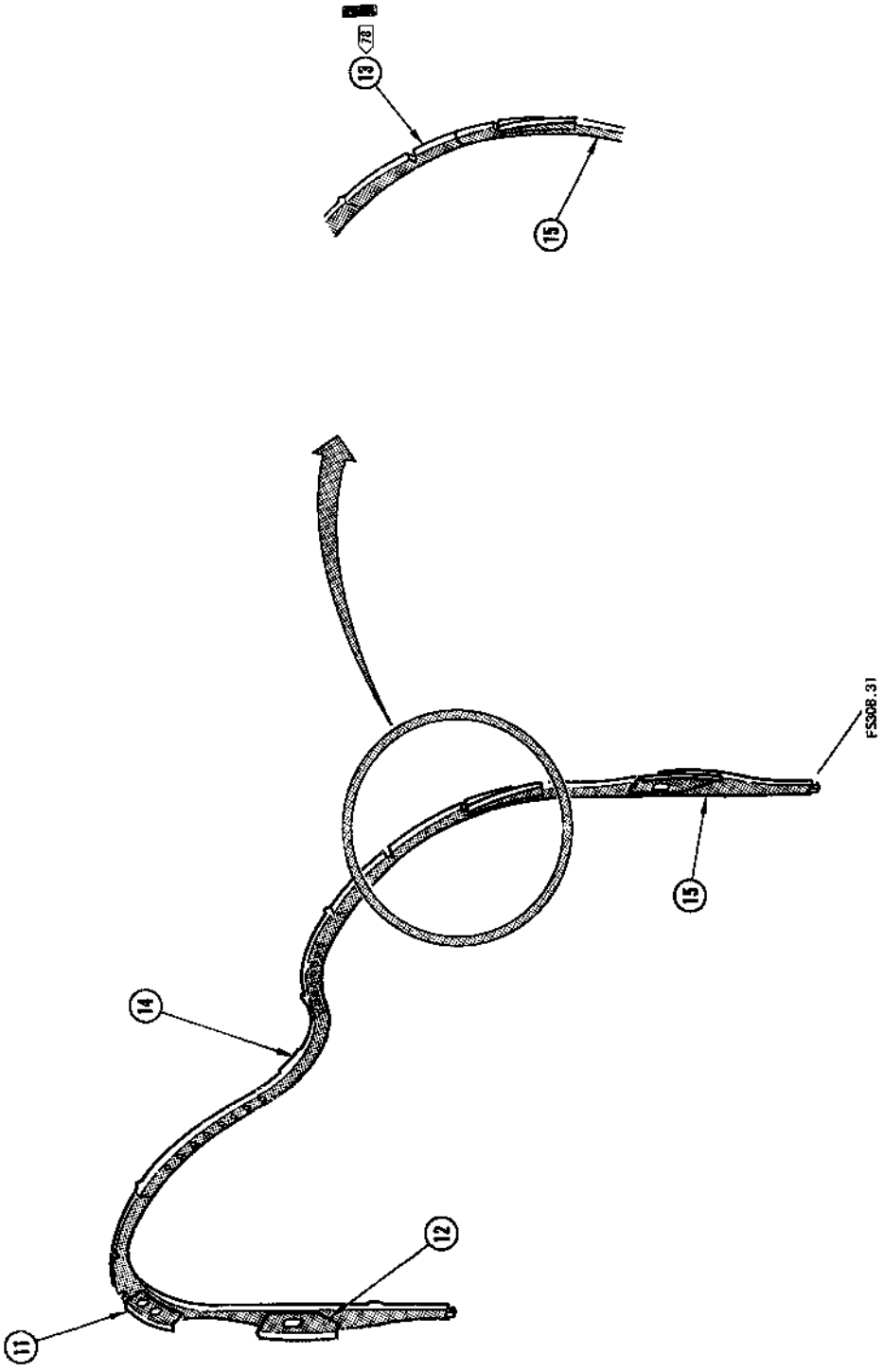


Figure 4-22. Bulkheads and Frames - FS 296.00 thru FS 308.31 (Sheet 2 of 4)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1		32-32090-33, -34	STIFFENER	1M2113	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	15	32-32090-15, -16	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	16	32-32090-67, -68	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	52	53-32004-11	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
	52	32-32090-68	STIFFENER	1M5468	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	3	32-32016-44, -43	SEAL	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	4	32-32016-125, -126	SEAL	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
4	25	53-32016-34, -33	TEE	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
	26	53-32016-102, -101	TEE	AND10136-3005	7178-T6 AL ALY	QQ-A-200/13 (T6)
	76	53G971081-108, -107	TEE	1MA160E01	7178-T6 AL ALY	QQ-A-200/13 (T6)
	54	53-32016-160, -159	TEE	1MA160E01	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	7	53-32016-39	BULKHEAD	3.125	7075-T651 AL ALY	MMS152 STRETCHED PLATE (T651)
	8	53-32016-47	BULKHEAD	3.125	7075-T651 AL ALY	MMS152 STRETCHED PLATE (T651)
	9	53-32016-41	BULKHEAD	3.125	7075-T651 AL ALY	MMS152 STRETCHED PLATE (T651)
	10	53-32016-49	BULKHEAD	3.125	7075-T651 AL ALY	MMS152 STRETCHED PLATE (T651)
	17	53-32016-65	BULKHEAD	3.125	7075-T651 AL ALY	MMS152 STRETCHED PLATE (T651)
	58	53-32016-89	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	59	53G32016-123	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	19	53-32016-91	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	20	53-32016-109	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	60	53G32016-125	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	22	53-32016-67	BULKHEAD	3.125	7075-T651 AL ALY	MMS152 STRETCHED PLATE (T651)
	23	53-32016-93	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	24	53-32016-107	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	42	53-32016-123	BULKHEAD (7)(83)	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	21	53-32016-127	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	43	53-32016-143	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	44	53-32016-125	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	61	53G32016-127	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	40	53-32016-129	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	62	53G32016-129	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	45	53-32016-141	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	63	53G32016-131	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	46	53-32016-145	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	64	53G32016-147	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	65	53-32016-165	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	53	53-32016-167	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
	47	53-32016-169	BULKHEAD	3.125	7075-T7351 AL ALY	MMS159 STRETCHED PLATE (T7351)
6	27	53-32016-53, -54	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	28	53-32016-53, -64	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	29	53-32016-53, -73	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	30	53-32016-53, -75	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	31	53-32016-53, -79	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	32	53-32016-83, -75	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	33	53-32016-83, -79	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	72	53-32016-95, -99	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	73	53-32016-95, -97	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	74	53-32016-113, -117	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	75	53-32016-113, -115	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
7	11	32-32016-137, -138	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	56	53G32016-135, -136	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	26	53G32016-137, -138	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
8	48	53-32016-31	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	49	53-32016-153	SPLICE PLATE	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	55	53-32016-5	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
10		32-32016-141, -142	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
11	12	32-32006-43, -41	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	18	32-32006-91, -107	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	31	32-32006-91, 115	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
12	12	32-32006-26, -63	GUSSET	0.040	7178-T6 AL ALY	QQ-A-250/15 (T6)
	13	32-32006-84, -83	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
13	5	32-32006-59, -61	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32006-65, -67	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	24	32-32006-75, -77	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	25	32-32006-75, -123	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	35	32-32006-125, -123	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	50	32-32006-131, -123	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	18	32-32006-109, -81	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	19	32G32006-85, -93	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	37	32-32006-113, -81 (78)	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	57	32G32006-87, -93	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	38	32-32006-113, -121	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	39	32G32006-87, -95	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	39	32-32006-127, -121	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	69	32G32006-89, -95	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	51	32-32006-135, -121	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	67	32-32006-145, -141	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	70	32G32006-91, -95	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
14	14	32-32006-31	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	36	32-32006-103	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	67	32-32006-85	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
15	14	32-32006-71, -73	FORMER	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	18	32-32006-111, -94	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	41	32-32006-117, -94	FORMER	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
16	31	53-32016-45, -36	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
17	18	32-32282-3, -4	BOSS	CASTING	356-T6 AL ALY	QQ-A-601 (T6)
	19	32-32282-5, -6	BOSS	7.50	4340 STEEL	MIL-S-5000 COND C (82)
	19	32-015514-5, -6	BOSS	1.05	4340 STEEL	MIL-S-5000 COND C (82)

4C-3-1-2-(101-3)J

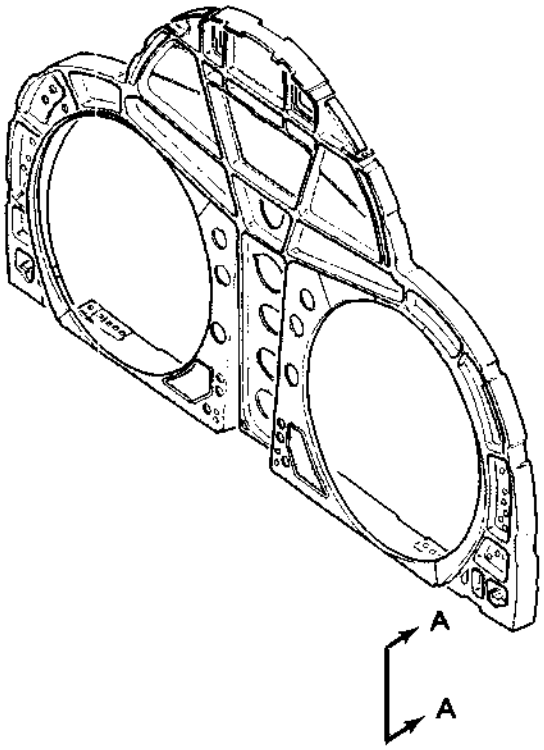
Figure 4-22. Bulkheads and Frames – FS 296.00 thru FS 308.31 (Sheet 3 of 4)

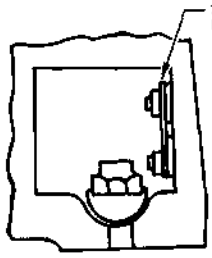
Notes

1. PARTS SHOWN HAVE THEIR PART NUMBERS CALLED OUT FIRST, THE OPPOSITE PARTS HAVE THEIR PART NUMBERS CALLED OUT LAST.
2. BULKHEAD MADE BY THE STRETCHER LEVELED PROCESS.
3. F-4C 63-7407 THRU 63-7420.
4. F-4C 63-7421 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4.
5. F-4C 63-7407 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749.
6. F-4C 63-7527 THRU 64-891, F-4D 64-929 THRU 64-933 AND RF-4C 63-7750 THRU 65-838.
7. F-4C 63-7407 THRU 63-7662.
8. F-4C 63-7663 THRU 64-881 AND F-4D 64-929 THRU 64-937.
9. RF-4C 63-7742 THRU 64-1017.
10. RF-4C 64-1018 THRU 65-838.
11. F-4C 63-7663 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295 AND 69-7589 AND UP AND RF-4C 64-1018 THRU 72-156; ALSO F-4E 66-287 AND 66-296 THRU 69-7589 BEFORE TO 1F-4E-566.
12. F-4C, F-4D AND RF-4.
13. F-4E AND F-4G.
14. F-4C 64-892 THRU 64-928, F-4D 64-934 THRU 66-8825 AND RF-4C 65-839 THRU 72-156.
15. F-4C, F-4D, F-4E 66-284 THRU 67-341, AND RF-4C 63-7742 THRU 67-461.
16. F-4E 67-342 THRU 68-538, F-4E/G 69-236 THRU 69-303, AND RF-4C 67-462 THRU 72-156.
17. F-4C 64-882 THRU 64-928 AND F-4D 64-938 THRU 65-778.
18. F-4E 66-284 THRU 66-367.
19. F-4D 65-779 THRU 66-8825.
20. F-4E 66-368 THRU 68-494 BEFORE TO 1F-4E-566.
21. RF-4C 69-360 THRU 69-384.
22. RF-4C 65-839 THRU 66-388.
23. RF-4C 66-389 THRU 67-427.
24. RF-4C 67-428 THRU 68-611.
25. F-4E 66-284 THRU 66-286, AND 66-288 THRU 66-295; ALSO F-4C, F-4D, F-4E 66-287, 66-296 THRU 67-219, AND RF-4C 63-7742 THRU 67-442 BEFORE TO 1F-4-991.
26. F-4E 67-220 THRU 69-7589, AND RF-4C 67-443 THRU 71-252 BEFORE TO 1F-4-991.
27. F-4C 63-7663 THRU 64-928.
28. RF-4C 64-1018 THRU 64-1061.
29. F-4D 64-929 THRU 64-976.
30. RF-4C 64-1062 THRU 66-450.
31. F-4D 64-977 THRU 66-8698.
32. RF-4C 66-451 THRU 67-427.
33. F-4D 66-8699 THRU 66-8825, AND F-4E 66-284 THRU 67-207.
34. F-4C 64-892 THRU 64-928, F-4D 64-934 THRU 66-8825, AND RF-4C 65-839 THRU 68-576.
35. RF-4C 68-577 THRU 68-580.
36. RF-4C 68-581 THRU 68-611.
37. F-4E 66-368 THRU 68-409 BEFORE TO 1F-4E-566.
38. F-4E 68-410 THRU 68-420 BEFORE TO 1F-4E-566.
39. F-4E 68-421 THRU 68-494 BEFORE TO 1F-4E-566.
40. F-4E 69-269 THRU 69-7271 BEFORE TO 1F-4E-566.
41. F-4E 66-368 AND UP, AND F-4G.
42. RF-4C 69-349 THRU 69-359.
43. RF-4C 71-248 THRU 71-254.
44. F-4E 68-495 THRU 69-268 BEFORE TO 1F-4E-566.
45. F-4E 69-7272 THRU 69-7589 BEFORE TO 1F-4E-566.
46. F-4E 71-224 THRU 71-236.
47. F-4E 72-121 AND UP.
48. F-4E 66-284 THRU 71-236, RF-4C 63-7742 THRU 71-252, F-4C, F-4D, AND F-4G.
49. F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
50. RF-4C 69-349 THRU 72-156.
51. F-4E 71-238 THRU 73-01170, ALSO F-4E 68-495 THRU 71-237 BEFORE TO 1F-4E-566.
52. F-4E /G 69-304 THRU 69-7588, F-4E 69-7589 AND UP.
53. RF-4C 71-255 THRU 72-156.
54. F-4E 72-121 AND UP AND RF-4C 71-253 THRU 72-156.
55. F-4C, F-4D 64-929 THRU 65-778, AND RF-4C 63-7742 THRU 66-388.
56. F-4E 66-284 THRU 71-236 AND F-4G.
57. F-4E 71-237 AND UP.
58. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 66-367 BEFORE TO 1F-4E-566.
59. F-4E 66-287 AND 66-296 THRU 66-367 AFTER TO 1F-4E-566.
60. F-4E 66-368 THRU 68-494 AFTER TO 1F-4E-566.
61. F-4E 68-495 THRU 69-268 AFTER TO 1F-4E-566 AND F-4G 69-236 THRU 69-268.
62. F-4E 69-269 THRU 69-7271 AFTER TO 1F-4E-566 AND F-4G 69-269 THRU 69-7271.
63. F-4E 69-7272 THRU 69-7589 AFTER TO 1F-4E-566 AND F-4G 69-7272 THRU 69-7588.
64. F-4E 71-237 THRU 71-1088.
65. F-4E 71-1089 THRU 71-1402.
66. F-4E 66-287 AND 66-296 THRU 69-7589 AFTER TO 1F-4E-566 AND F-4G.
67. F-4E 66-368 THRU 68-409 AFTER TO 1F-4E-566.
68. F-4E 68-410 THRU 68-420 AFTER TO 1F-4E-566.
69. F-4E 68-421 THRU 68-494 AFTER TO 1F-4E-566.
70. F-4E 68-495 THRU 71-237 AFTER TO 1F-4E-566 AND F-4G.
71. F-4C 63-7407 THRU 63-7662, AND RF-4C 63-7742 THRU 64-1017.
72. RF-4C 67-428 THRU 68-593.
73. F-4E 67-208 THRU 68-451.
74. RF-4C 68-594 THRU 72-156.
75. F-4E 68-452 AND UP AND F-4G.
76. F-4C, F-4D, F-4E 66-287, 66-296 THRU 69-7589, AND RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991 AND F-4G.
77. F-4E 73-01171 AND UP.
78. FOR REPAIR SEE FIGURE 4-23.
79. F-4C, F-4D, AND RF-4C 63-7742 THRU 69-384 BEFORE TO 1F-4-991; ALSO F-4E 66-284 THRU 69-7589 AND F-4G.
80. RF-4C 71-248 THRU 71-252 BEFORE TO 1F-4-991; ALSO F-4E 71-224 AND UP AND RF-4C 71-253 THRU 72-156.
81. F-4C, F-4D, AND RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991.
82. FORGED AND MACHINED IN THE C CONDITION THEN HEAT TREATED TO 180-200 KSI.
83. FOR GANG CHANNEL REPAIR, SEE FIGURE 4-22A.

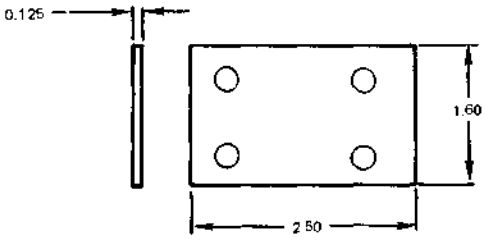
4C-3-1-2-(101-4)J

Figure 4-22. Bulkheads and Frames - FS 296.00 thru FS 308.31 (Sheet 4 of 4)





VIEW A-A



DETAIL B

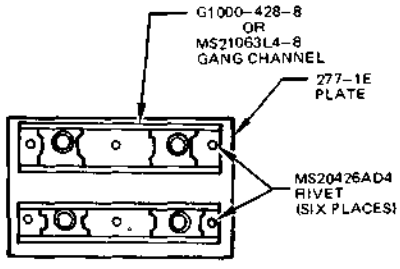
277-1E REPAIR PLATE
0.125 2024--T4 AL ALY

REPAIR PROCEDURE

CAUTION

DO NOT DRILL BULKHEAD TO REMOVE GANG CHANNEL ATTACHING RIVETS. IF RIVETS CANNOT BE REMOVED, GRIND STEMS FLUSH WITH BULKHEAD SURFACE

A. REMOVE OR LOOSEN NUTS.
B. MANUFACTURE 277-1E PLATE, SEE DETAIL B.
C. LOCATE 277-1E PLATE AND DRILL FOUR HOLES TO EXISTING STRUCTURE.
D. MANUFACTURE 277-1E-1 PLATE ASSEMBLY SEE DETAIL C.
E. BOND 277-1E-1 PLATE ASSEMBLY TO BULKHEAD USING MIL-S-81733 SEALING COMPOUND, REFERENCE TO 1F-4C-3-1-6.



DETAIL C

277-1E-1 PLATE ASSEMBLY

4C-3-1-2-(382)A

Figure 4-22A. Gang Channel Repair, FS 303.62 Bulkhead

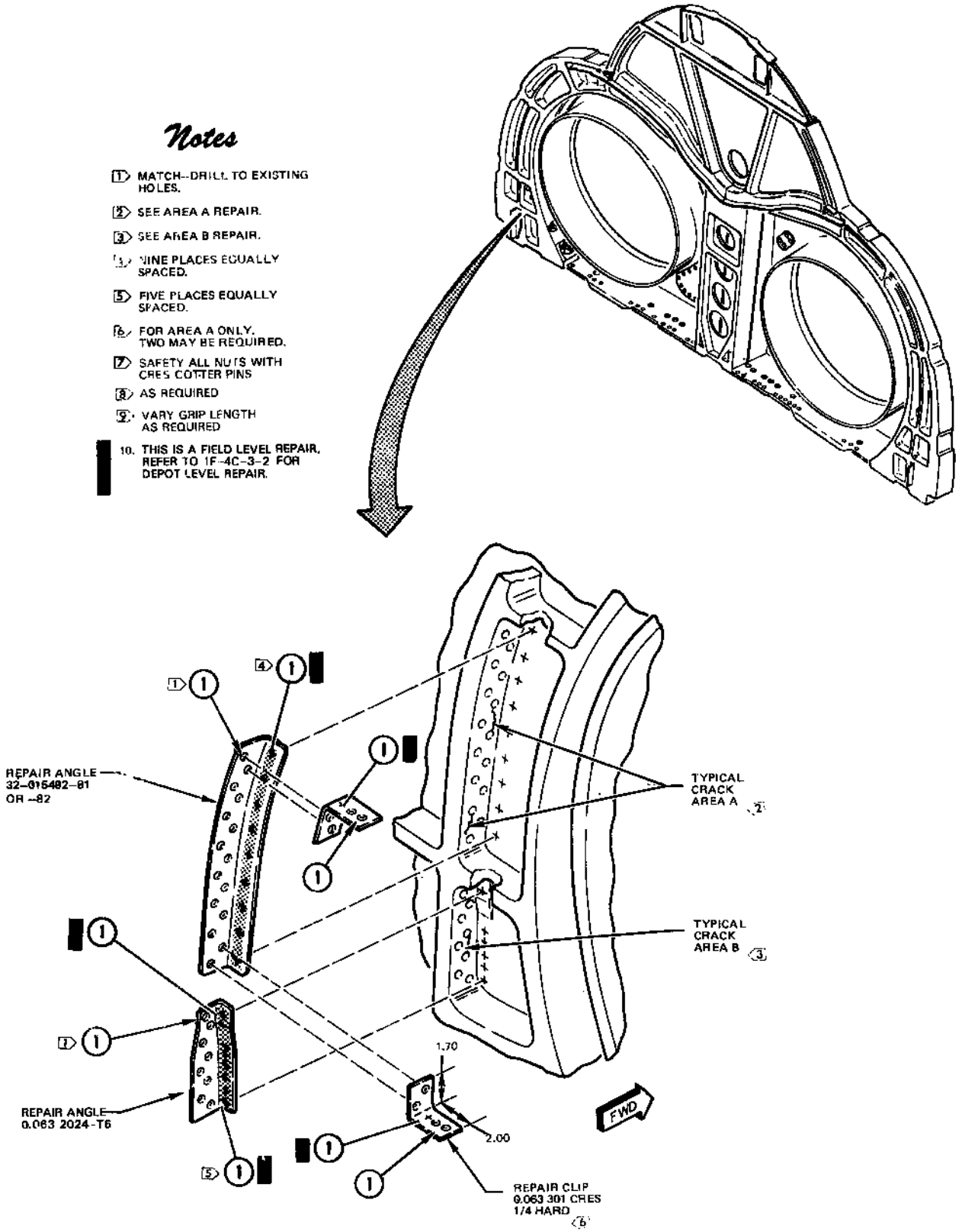


Figure 4-22B. Bulkhead Repair- F.S. 303.62 (Sheet 1 of 2)

REF NO.	FASTENER	NUT OR COLLAR	WASHER		HOLE SIZE	TORQUE (IN-LBS)
			UNDER HEAD	UNDER NUT		
1	NAS464P3-3 (7)	MS17825-3 (7)		AN960C10 (8)	0.191 $^{+.006}_{.000}$	12-17
2	DELETED					

REPAIR PROCEDURE

THE REPAIR IS GIVEN IN TWO PARTS. THE UPPER BAY WILL BE IDENTIFIED AS AREA A AND THE LOWER BAY WILL BE IDENTIFIED AS AREA B. THE REPAIR FOR EACH AREA IS TO BE PERFORMED AS NOTED BELOW.

AREA A

A. FOR CRACKS IN FLANGE THAT ARE MORE THAN THREE FASTENER HOLES FROM EITHER HORIZONTAL STIFFENER.
   (1) STOP DRILL CRACK 0.191 DIAMETER IF IT DOES NOT END IN AN EXISTING HOLE.
   (2) OBTAIN REPAIR ANGLE 32-015492-81 OR -82.
   (3) MATCH DRILL ANGLE TO EXISTING HOLES AND ADD NEW HOLES AS NOTED.
   (4) FINISH REWORKED AREA AND REPAIR ANGLE PER TO 1F-4C-3-1-6.
   (5) INSTALL REPAIR ANGLE WITH FASTENERS NOTED.

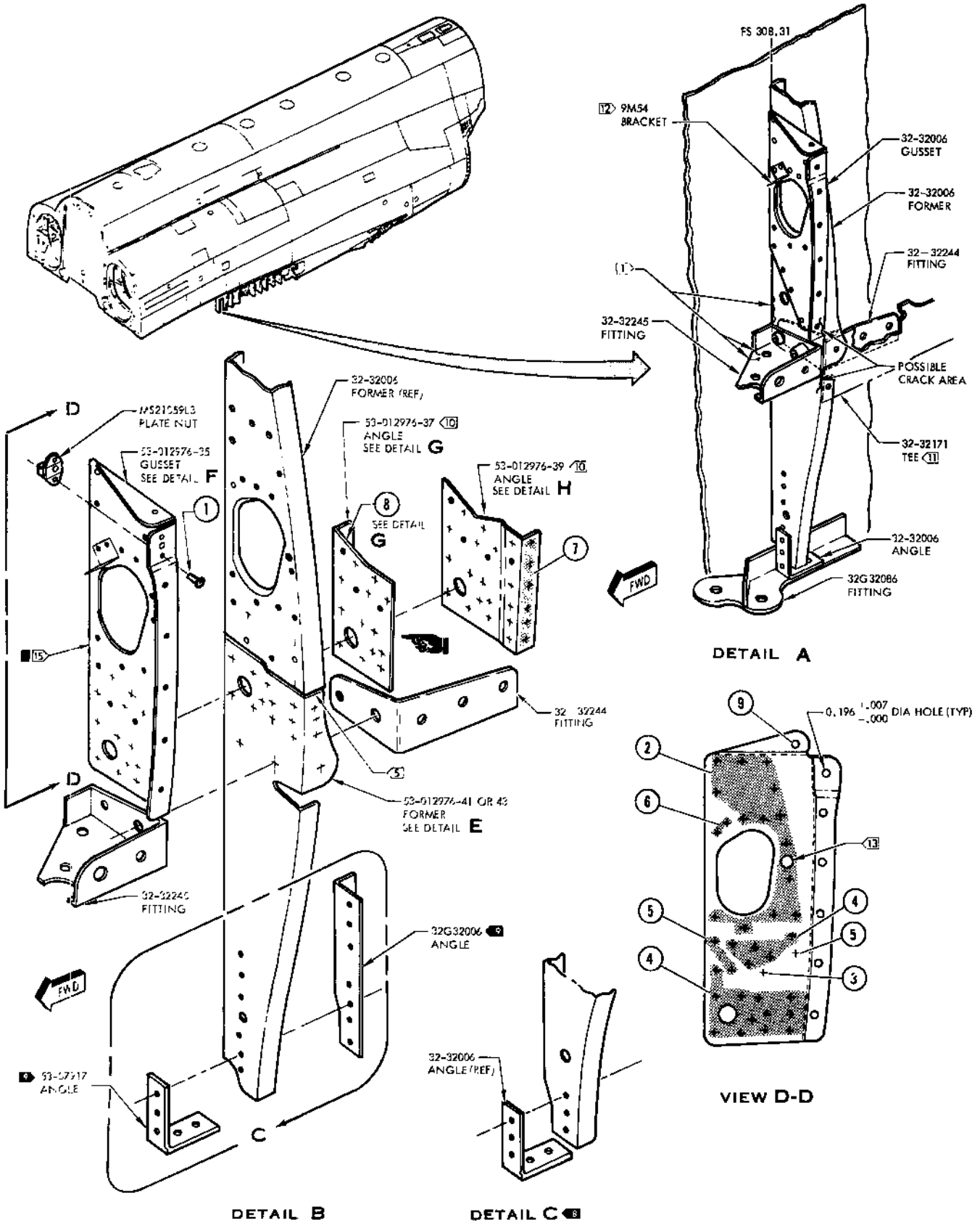
B. FOR CRACKS IN FLANGE THAT ARE CLOSER THAN THREE FASTENER HOLES FROM EITHER HORIZONTAL STIFFENER.
   (1) STOP DRILL CRACK 0.191 DIAMETER IF IT DOES NOT END IN AN EXISTING HOLE.
   (2) OBTAIN REPAIR ANGLE 32-015492-81 OR -82.
   (3) FABRICATE REPAIR CLIP AS SHOWN.
   (4) MATCH DRILL ANGLE AND CLIP TO EXISTING HOLES AND ADD NEW HOLES AS NOTED.
   (5) FINISH REWORKED AREA AND REPAIR PARTS PER TO 1F-4C-3-1-6.
   (6) INSTALL REPAIR PARTS WITH FASTENERS AS NOTED. APPLY MIL-S-81733 SEALANT TO MATING SURFACES OF REPAIR CLIP AND INSTALL WHILE SEALANT IS WET. SEE TO 1F-4C-3-1-6.

AREA B

A. STOP DRILL CRACK 0.191 DIAMETER IF IT DOES NOT END IN AN EXISTING HOLE.
B. FABRICATE REPAIR ANGLE.
C. MATCH DRILL ANGLE TO EXISTING HOLES AND ADD NEW HOLES AS NOTED.
D. FINISH REWORKED AREA AND REPAIR ANGLE PER TO 1F-4C-3-1-6.
E. INSTALL REPAIR ANGLE WITH FASTENERS NOTED.

4C-3-1-2-(407-2)86

Figure 4-22B. Bulkhead Repair- F.S. 303.62 (Sheet 2 of 2)



4C 3 1 2 (316-1)J

Figure 4-23. Frame Repair - FS 308.31 (Sheet 1 of 3)

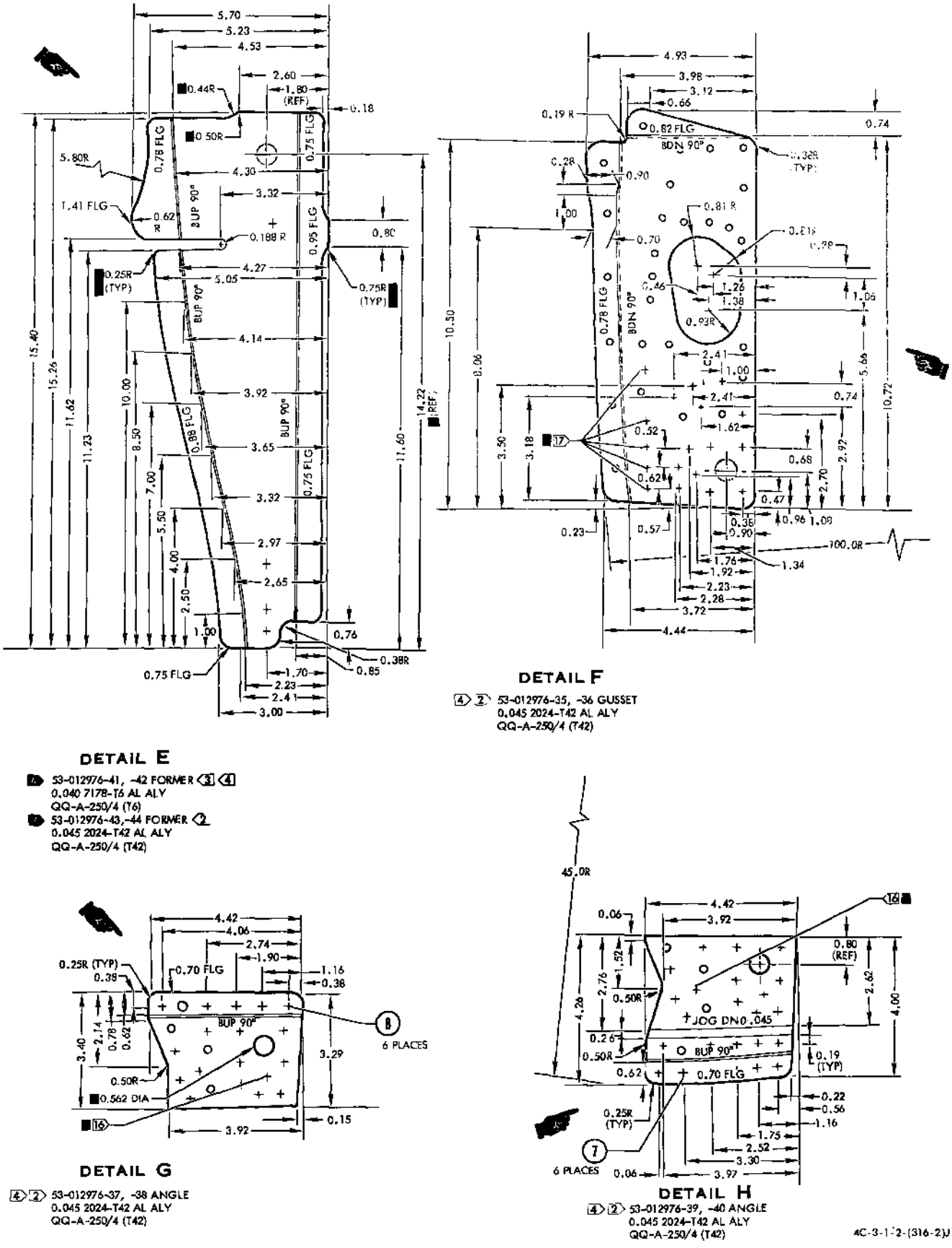


Figure 4-23. Frame Repair - FS 308.31 (Sheet 2 of 3)

DETAIL J

DELETED

VIEW K-K

DELETED

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	MS20426AD3		0.096 $^{+.009}_{-.000}$
2	HL556-5-2	HL594-5	0.173 $^{+.006}_{-.000}$
3	HL556-6-3	HL594-6	0.205 $^{+.006}_{-.000}$
4	HL550-5-3	HL594-5	0.156 $^{+.006}_{-.000}$
5	HL556-5-3	HL594-5	0.173 $^{+.006}_{-.000}$
6	CR3553-4		0.144 $^{+.005}_{-.000}$
7	MS20470AD5		0.156 $\pm .006$
8	MS20615-5M		0.156 $\pm .006$
9	HL550-6-2	HL594-6	0.188 $\pm .007$

INSPECTION AND REPAIR PROCEDURE

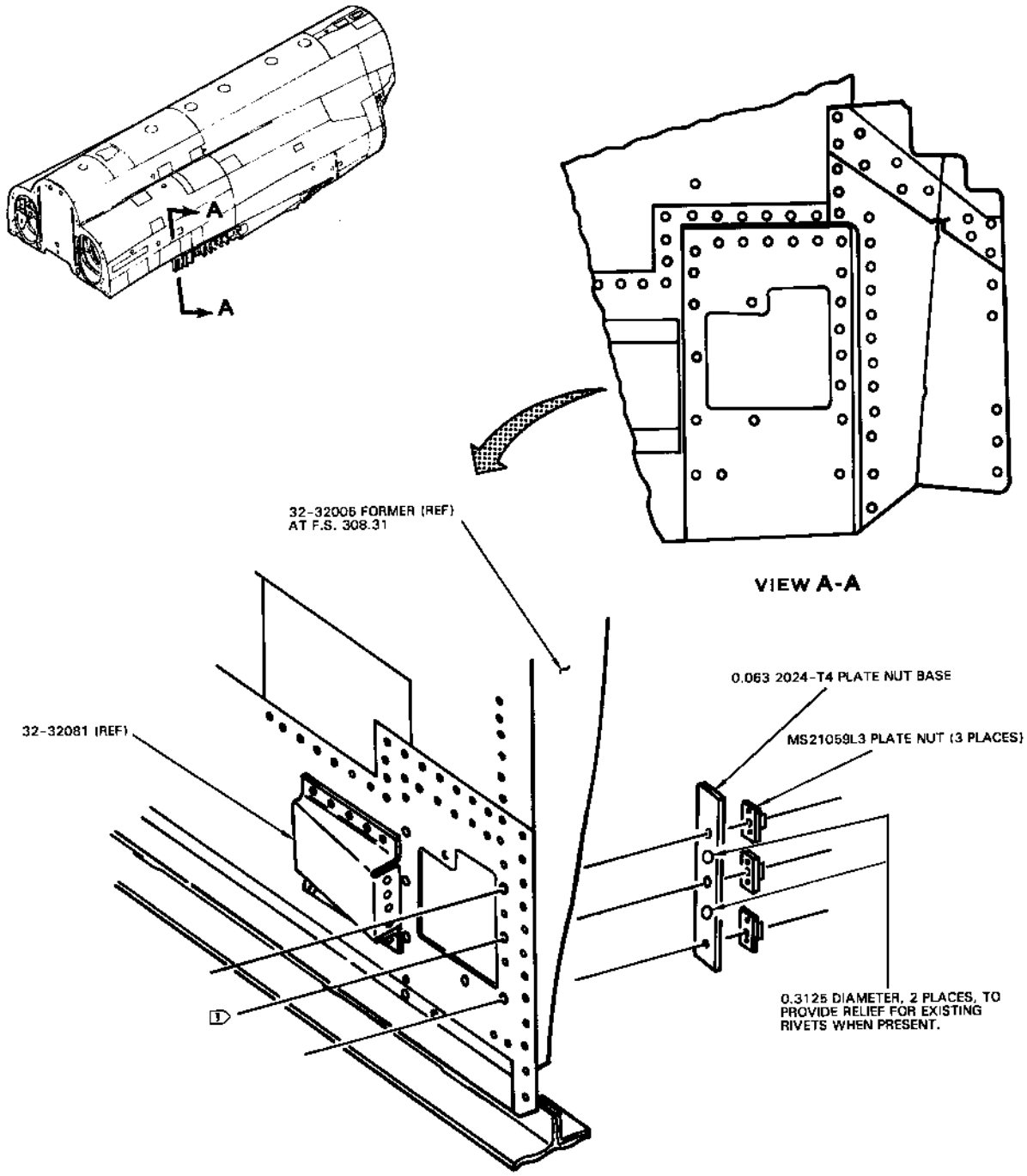
A. GAIN ACCESS TO 32-32006 FORMER FOR INSPECTION AND REPAIR BY REMOVING DOORS 39 AND 132.
B. VISUALLY INSPECT ALL PARTS. PENETRANT INSPECT 32-32006 FORMER AND GUSSET AND 32-32245 FITTING FOR CRACKS IN AREAS SHOWN IN DETAIL A.
C. IF CRACKS EXIST IN 32-32245 FITTING, DISPOSITION IS AS FOLLOWS:
■ IF THE CRACK IS LOCATED IN THE RADIUS AS INDICATED BY NOTE 1 AND DOES NOT EXTEND INTO THE CORNER RADIUS, STOP DRILL CRACK 0.187 DIAMETER. MAKE SURE THAT STOP DRILL DOES NOT GOUGE ADJACENT STRUCTURE AND MAINTAIN 1.5 INCH HOLE DIAMETER DISTANCE FROM FASTENERS. ROUT OUT CRACK 125 RHR FINISH. FINISH BARE METAL PER TO 1F-4C-3-1-6. IF CRACKS EXTENDS INTO CORNER RADIUS OR IF CRACKED INTO OTHER LOCATIONS, REPLACE THE FITTING. EXERCISE CARE IN REMOVING TAPER-LOC FASTENERS. IF PRESSURE AND MILD RAPPING DOES NOT LOOSEN THE FASTENER, REQUEST DEPOT ASSISTANCE.
D. IF CRACKS EXIST IN 32-32006 GUSSET, REPLACE GUSSET.
E. IF CRACKS EXIST IN 32-32006 FORMER, REMOVE 32-32006 GUSSET, 32-32244 FITTING, 32-32171-71, -72 INTERCOSTAL, 32-32171-73, -74 9M54 BRACKET AND HARDWARE.
F. FABRICATE REPAIR PARTS. SEE DETAILS E, F, G AND H. USE 53-012976-41, -42 OR -43, -44 REPAIR FORMER AS TEMPLATE FOR REWORKING 32-32006 FORMER. ALLOW 0.06 MAXIMUM CLEARANCE SEE DETAIL B.
■ (14) G. LOCATE REPAIR FORMER, GUSSET AND ANGLES AND DRILL FASTENER HOLES TO SIZE CALLED OUT IN CHART. LOCATE FASTENER HOLES IN ACCORDANCE WITH TO 1F-4C-3-1-1.
H. REMOVE REPAIR PARTS AND DEBURR PARTS AND STRUCTURE.
I. REFINISH REWORKED AREA, EDGE OF HOLES AND REPAIR PARTS PER TO 1F-4C-3-1-6.
J. INSTALL REPAIR PARTS AND FASTENERS CALLED OUT IN CHART. SEE DETAIL B AND VIEW D-D.
K. INSTALL BRACKET AND HARDWARE REMOVED IN STEP E.
L. INSTALL 32-32081 SHROUD.
M. CHECK HYDRAULIC LINE ROUTING AND CLAMP AS NECESSARY TO PREVENT CHAFING

Notes

(1) FLUORESCENT PENETRANT INSPECT THIS AREA IN ACCORDANCE WITH TO 1F-4C-36.
(2) FORM IN 2024-0 CONDITION AND HEAT TREAT TO 2024-T42 CONDITION PER TO 1F-4C-3-1-1.
(3) FORM IN 7178-0 CONDITION AND HEAT TREAT TO 7178-T6 CONDITION PER TO 1F-4C-3-1-1.
(4) BEND RADIUS 0.060.
(5) MAXIMUM CLEARANCE 0.06 BETWEEN 32-32006 FORMER AND 53-012976 REPAIR FORMER.
(6) F-4C 63-7407 THRU 64-891, F-4D 64-929 THRU 64-933 AND RF-4C 63-7740 THRU 65-838.
(7) F-4C 64-892 THRU 64-928, F-4D 64-934 THRU 66-8825, F-4E 66-284 THRU 73-01184 AND RF-4C 65-839 THRU 71-259; F-4G.
(8) F-4C, F-4D, F-4E AND RF-4C BEFORE TO 1F-4-991.
(9) F-4C, F-4D, F-4E 66-287, 66-296 THRU 69-7589 AND RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991; F-4G.
(10) PERMISSIBLE TO FABRICATE ONE CHANNEL TO TAKE PLACE OF 53-012976-37 AND -39.
(11) STEP F MAY BE OMITTED IF FRAME CAN BE INSERTED WITHOUT SLOT. IF NEEDED, REMOVE 32-32244 FITTING TO SLIP FRAME INTO PLACE
(12) BRACKET IS NECESSARY TO PREVENT HYDRAULIC LINE CHAFE
(13) DRILL HOLE AS NECESSARY ON INSTALLATION TO MATCH EXISTING STRUCTURE
(14) LOCATE FITTING 32-32245 (REF) AND GUSSET 53-012976-35, SUCH THAT DOOR 39, 32-32038 (REF) WILL BE FLUSH WITH THE FUSELAGE MOLDLINE GUSSET, 53-012976-35, MAY BE TRIMMED TO PROVIDE PROPER FIT, PER (15).
(15) A MAXIMUM TRIM OF 0.050 IS ALLOWED ALONG THE INBOARD EDGE OF GUSSET 53-012976-35.
(16) NEW HOLES, 13 PLACES, IN 53-012976-37 and -39 ANGLES SHALL BE MATCH DRILLED TO THE HOLE PATTERN IN 53-012976-35 GUSSET. REFER TO DETAIL F.
(17) MATCH DRILL THESE HOLES IN 53-012976-35 GUSSET (5 PLACES) WITH 53-012976-39 ANGLE. REFER TO DETAIL H.

4C-3-1-2-(316-3)J

Figure 4-23. Frame Repair - FS 308.31 (Sheet 3 of 3)



Notes

1. FOR MANIFOLD ASSEMBLY, SEE TO 1F-4( )-4-3.
2. INSTALL PLATE NUTS TO BASE AS SHOWN.

4C-3-1-2-(457)

Figure 4-23A. Use Of Plate Nuts Along Forward Fasteners for 7530897 Manifold Assembly, Power Control No. 1 and No. 2 Systems

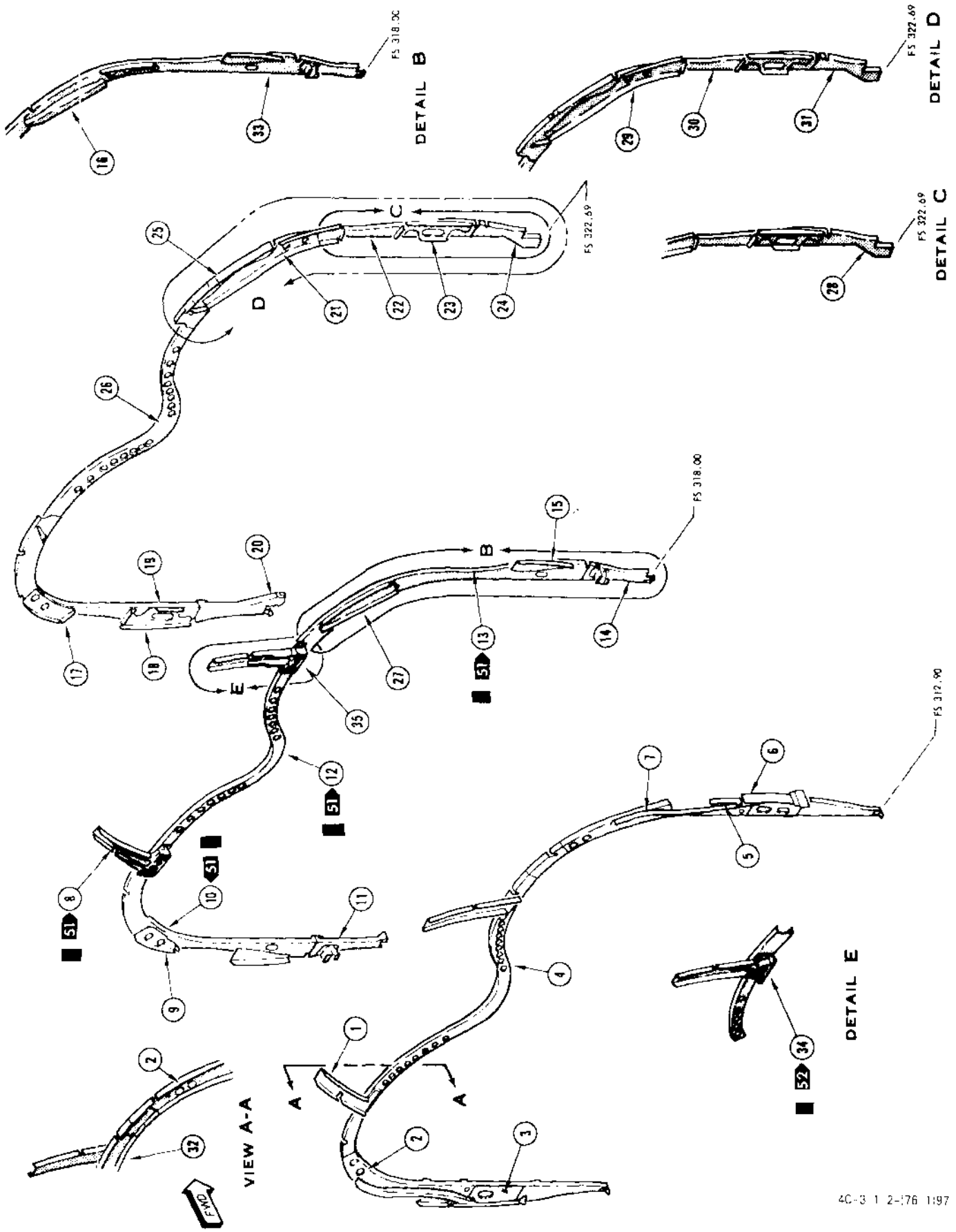
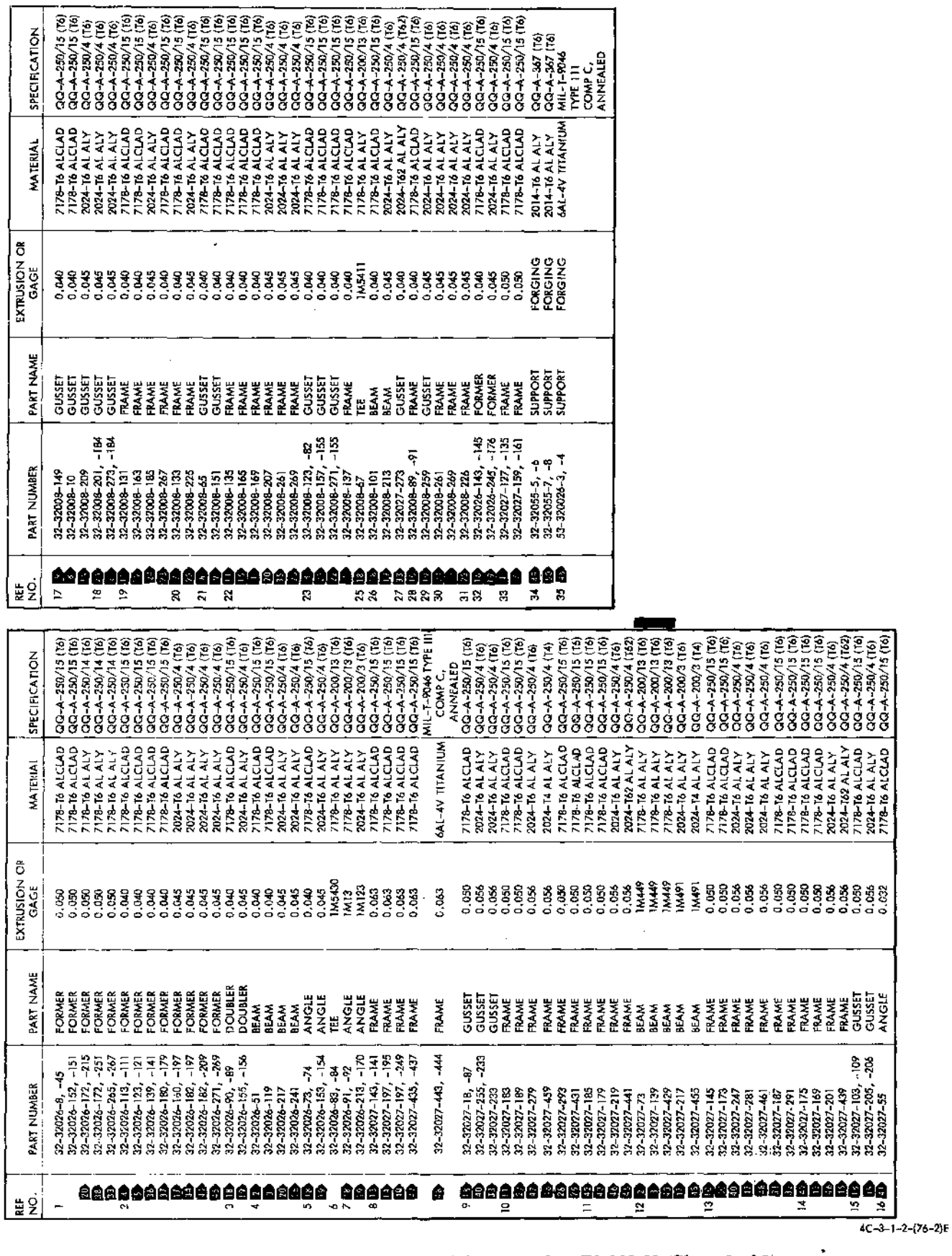


Figure 4 24. Bulkheads and Frames - FS 312.90 **thru FS 322.69 (Sheet 1 of 3)**



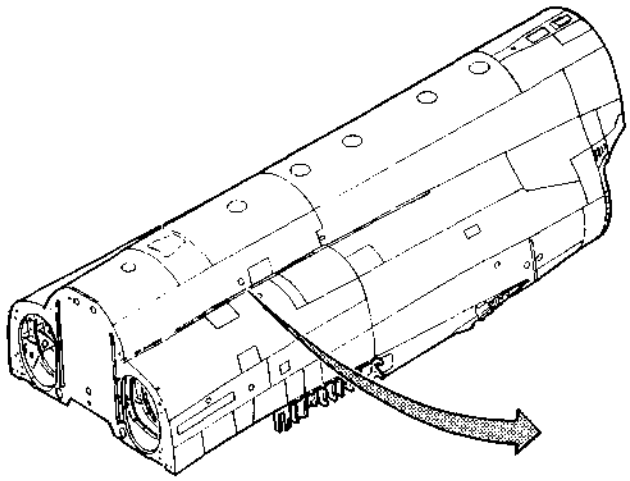
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32026-8, -45	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-152, -151	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-172, -215	FORMER	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32026-172, -251	FORMER	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32026-265, -267	FORMER	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	32-32026-113, -111	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-123, -121	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-139, -141	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-180, -179	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-190, -197	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32026-182, -197	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32026-182, -209	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32026-271, -269	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
3	32-32026-90, -89	DOUBLER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-155, -156	DOUBLER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
4	32-32026-51	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-119	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-217	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32026-241	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
5	32-32026-73, -74	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-153, -154	ANGLE	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
6	32-32026-83, -84	TEE	1M5430	7178-T6 AL ALY	QQ-A-200/13 (T6)
7	32-32026-91, -92	ANGLE	1M13	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32026-213, -170	ANGLE	1M123	2024-T6 AL ALY	QQ-A-200/3 (T6)
8	32-32027-143, -141	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-197, -195	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-197, -249	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-435, -437	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
					MIL-T-9046 TYPE III
	32-32027-443, -444	FRAME	0.063	6AL-4V TITANIUM	COMP C, ANNEALED
9	32-32027-18, -87	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-235, -233	GUSSET	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32027-233	GUSSET	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
10	32-32027-183	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-189	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-279	FRAME	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32027-439	FRAME	0.056	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-32027-293	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-431	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-32027-185	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-179	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-219	FRAME	0.056	2024-T4 AL ALY	QQ-A-250/4 (T4)
	32-32027-441	FRAME	0.056	2024-T62 AL ALY	QQ-A-250/4 (T62)
12	32-32027-73	BEAM	1M449	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32027-139	BEAM	1M449	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32027-429	BEAM	1M449	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32027-217	BEAM	1M491	2024-T6 AL ALY	QQ-A-200/3 (T6)
	32-32027-455	BEAM	1M491	2024-T4 AL ALY	QQ-A-200/3 (T4)
13	32-32027-145	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-173	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-247	FRAME	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32027-281	FRAME	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32027-461	FRAME	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32027-187	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-291	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-32027-175	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-169	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-201	FRAME	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32027-439	FRAME	0.056	2024-T62 AL ALY	QQ-A-250/4 (T62)
15	32-32027-103, -109	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-205, -206	GUSSET	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
16	32-32027-55	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-32008-149	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-10	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-209	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
18	32-32008-201, -184	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32008-273, -184	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
19	32-32008-131	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-163	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-185	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
20	32-32008-267	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-133	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-225	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
21	32-32008-65	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-151	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-32008-135	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-165	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-169	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-207	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32008-261	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32008-269	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
23	32-32008-123, -82	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-157, -155	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-271, -155	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-137	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32008-67	TEE	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-32008-101	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-32008-213	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32027-273	GUSSET	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
27	32-32008-89, -91	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-32008-259	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
29	32-32008-261	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
30	32-32008-269	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
31	32-32008-226	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
32	32-32026-143, -145	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32026-245, -176	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
33	32-32027-127, -135	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32027-159, -161	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	32-32055-5, -6	SUPPORT	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
35	32-32055-7, -8	SUPPORT	FORGING	2014-T6 AL ALY	QQ-A-367 (T6)
	53-320026-3, -4	SUPPORT	FORGING	6AL-4V TITANIUM	MIL-T-9046 TYPE III COMP C, ANNEALED

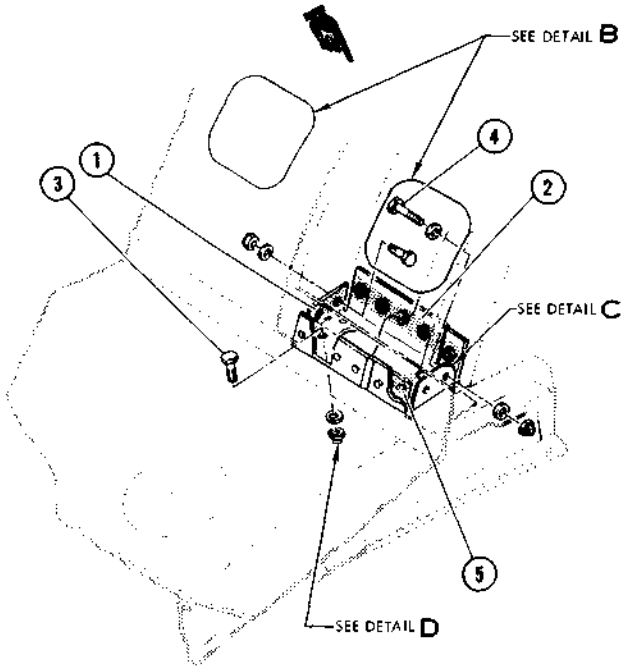
4C-3-1-2-(76-2)F

Figure 4-24. Bulkheads and Frames – FS 312.90 thru FS 322.69 (Sheet 2 of 3)

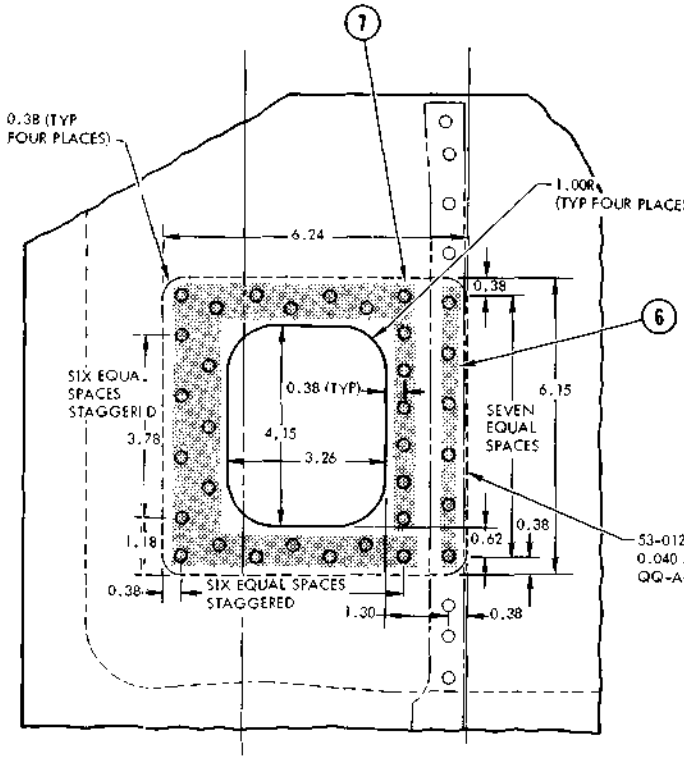
4C-3-1-2-(76-3)97

Figure 4-24. Bulkheads and Frames - FS 312.90 thru FS 322.69 (Sheet 3 of 3)



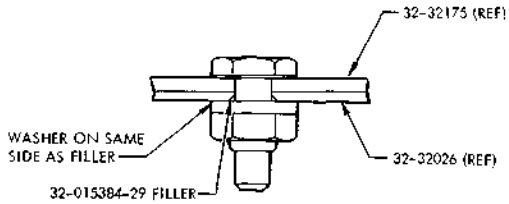


DETAIL A



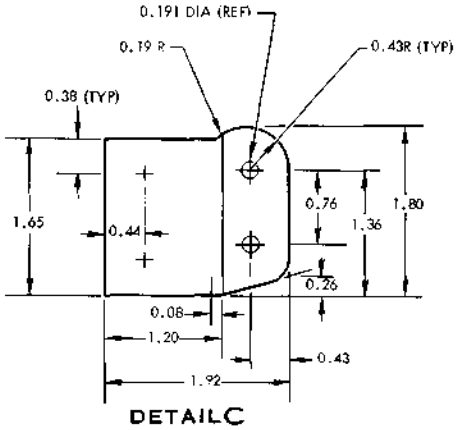
ACCESS HOLE (TYPICAL 2 PLACES)

DETAIL B



TYPICAL SECTION

DETAIL D



DETAIL C

53-012989-9-10 3 4
0.071 7178-T6 ALCLAD
QQ-A-250/15 (T6)

FWD

4C--3-1-2-(321-1)85

Figure 4-25. Intercostal Repair - FS 312.90 and FS 318.00 (Sheet 1 of 2)

REPAIR PROCEDURE

A. VISUALLY INSPECT 32-32175 CLIP AND INTERCOSTAL FOR CRACKS.
B. IF CRACKS EXIST PERFORM FLUORESCENT PENETRANT INSPECTION AREA PER TO 1F-4C 36.
C. REMOVAL OF FUEL CELL AND COMPONENTS SHALL BE IN ACCORDANCE WITH TO 1F 4( )-2 10.
D. REMOVE DAMAGE 32-32175 PARTS.
■ E. MAKE CUTOUTS IN 32 - 32123 SKIN. SEE DETAIL A.
F. FABRICATE REPAIR PARTS, SEE DETAILS B AND C.
G. REPLACE 32-32175 INTERCOSTAL WITH NEW PART.
H. REPLACE 32-32175 CLIP WITH REPAIR 53-012989-9-10 CLIP. SEE DETAIL A.
I. LOCATE NEW AND REPAIR PARTS AND DRILL FASTENER HOLES TO SIZE INDICATED IN CHART, SEE DETAIL A.
J. REMOVE PART AND DEBURR HOLES IN STRUCTURE AND REPAIR PARTS.
K. REFINISH HOLES, EDGES OF STRUCTURE, AND REPAIR PARTS. REFER TO TO 1F-4C-3-1-6.
L. LOCATE AND SEAL PART, REFER TO TO 1F - 4C-3-1 6.
M. INSTALL FASTENER INDICATED IN CHART. SEE DETAIL A.
N. LOCATE REPAIR DOUBLER 53-012989-13, -14 AND DRILL HOLE TO SIZE IN CHART, SEE DETAIL A. REFER TO TO 1F · 4C-3 · 1 - 1 FOR METHOD OF LOCATING HOLES.
O. REMOVE REPAIR DOUBLER AND DEBURR HOLES IN STRUCTURE AND DOUBLER.
P. REFINISH HOLES, EDGE OF PART, AND REWORKED AREA, REFER TO TO 1F-4C-3-1-6.
Q. LOCATE AND SEAL REPAIR DOUBLER, REFER TO TO 1F-4C-3-1 -6.
R. INSTALL FASTENERS IN REPAIR DOUBLER AND SKIN INDICATED IN CHART.
S. LIQUID SEAL STRUCTURE, REFER TO TO 1F-4C -3 · 1 -6.
T. REINSTALL FUEL CELL AND COMPONENTS, REFER TO TO 1F -4( )-2-10.

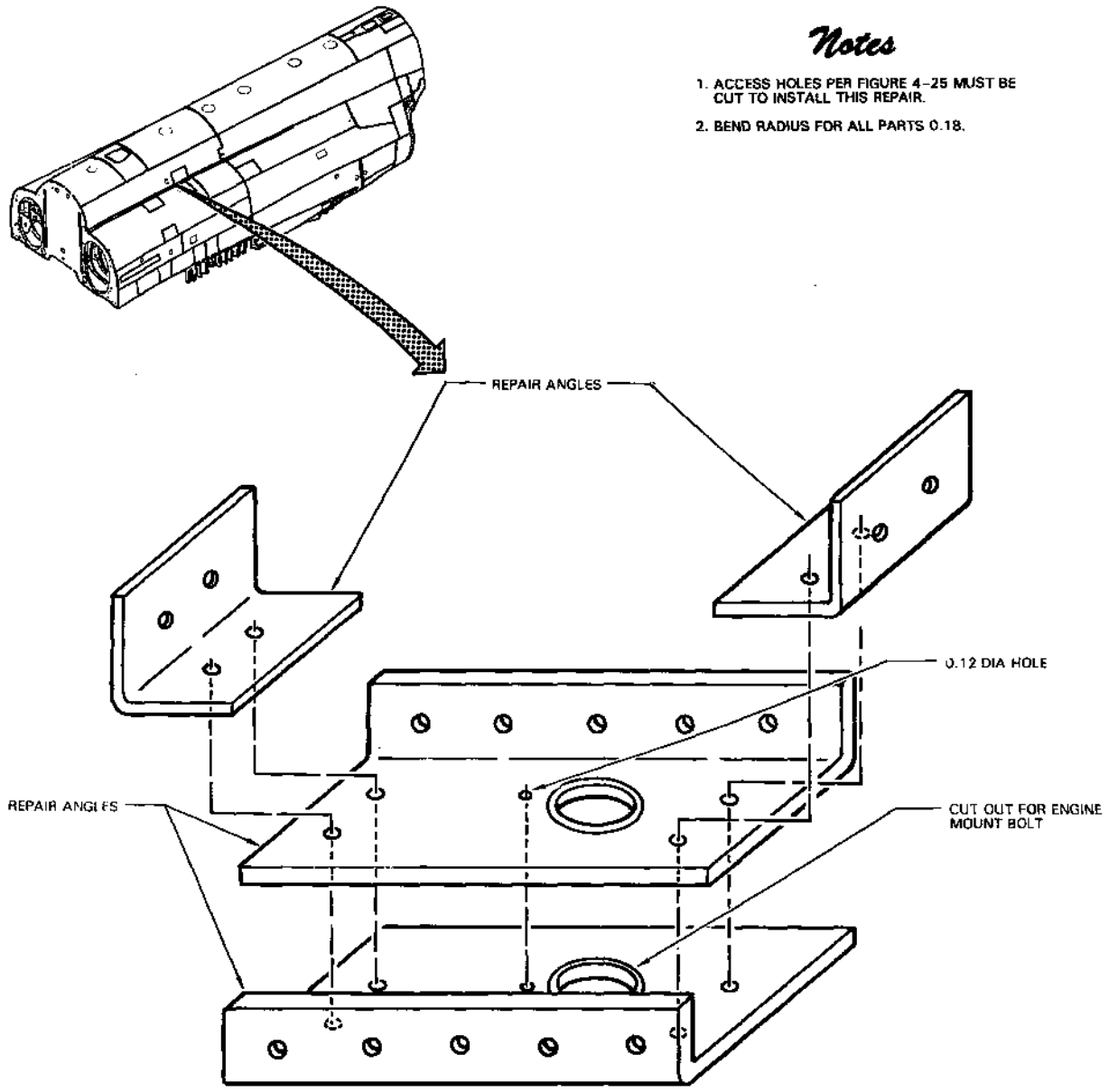
REF NO.	FASTENER	WASHER		TORQUE (INCH-LB)	COLLAR	HOLE SIZE
		UNDER HEAD	UNDER NUT			
1	NAS464P3A3	AN960D10L	AN960D10L	15-25	MS21042-3	0.191 $^{+.006}_{-.000}$
2	NAS1673-3L3					0.199 $^{+.003}_{-.000}$
3	NAS464P3A3	AN960C10	AN960C10	15-25	MS21042-3	0.191 $^{+.003}_{-.000}$
4	NAS464P3A9	32-015384-29 <1> AN960D10L <2>	AN960D10 <2>		MS21042-3	0.191 $^{+.003}_{-.000}$
5	HL550-6-3				HL594-6	0.190 $^{+.004}_{-.000}$
6	NAS1669-08L2					0.165 $^{+.003}_{-.000}$
7	NAS1669-08L1					0.165 $^{+.003}_{-.000}$

Notes

1 > INSTALL COUNTERSINK WASHER, REFER TO TO 1F-4C-3-1-5.
2 > TWO REQUIRED.
3 > BEND RADII 0.16.
4 > FORM IN 7178-0 CONDITION AND HEAT TREAT TO 7178-T6 CONDITION, REFER TO TO 1F-4C · 3 - 1 - 1.

4C-3-1-2 (321-2)B5

Figure 4-25. Intercostal Repair - FS 312.90 and FS 318.00 (Sheet 2 of 2)



REPAIR PROCEDURE

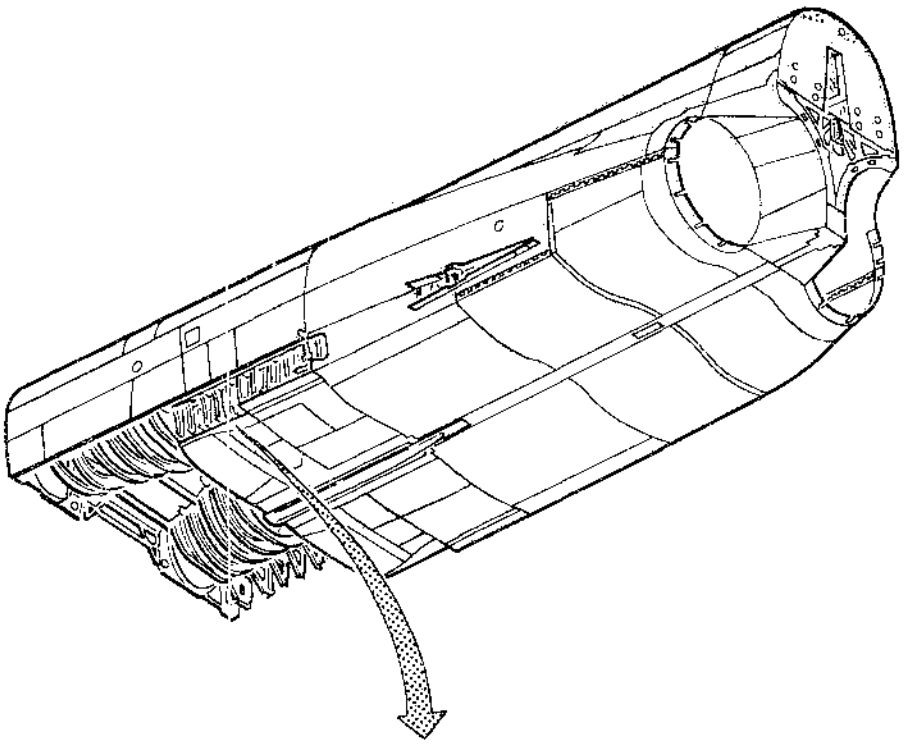
NOTE

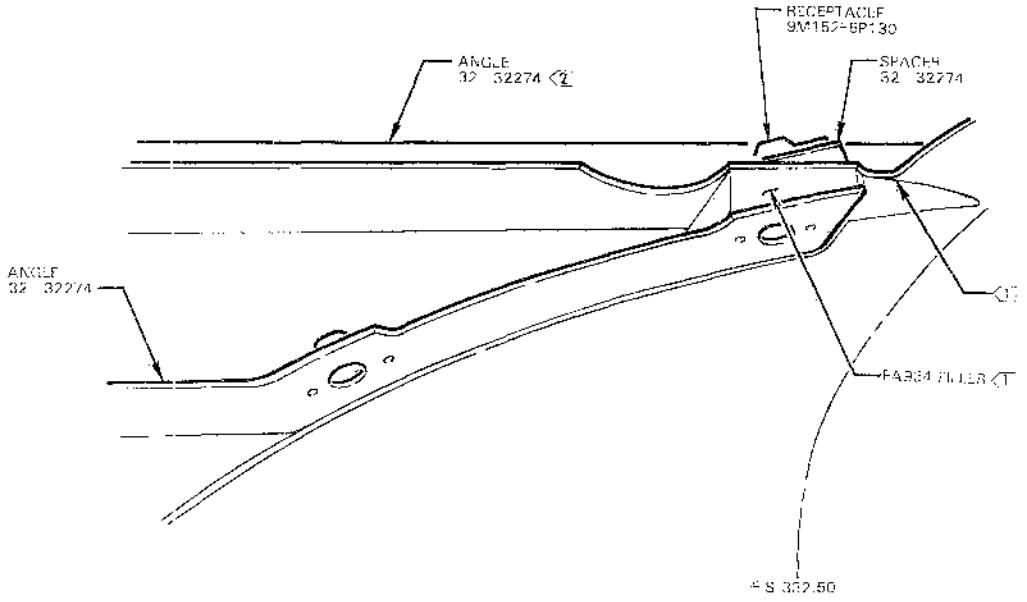
THIS REPAIR IS NOT VALID AFTER TO 1F-4-1481.

A. REMOVAL OF FUEL CELL AND COMPONENTS SHALL BE IN ACCORDANCE WITH TO 1F-4C-2-10.
B. REMOVE EXISTING BROKEN FRAME THROUGH ACCESS DOOR 40.
C. FABRICATE 4 REPAIR ANGLES PER BROKEN INTERCOSTAL AND ABOVE SKETCH. MAKE FROM 7075 T6 OR 7173 T6 ALUMINUM 0.071 THICK. HEAT TREAT TO THE T6 CONDITION AFTER BENDING.
D. MATCH DRILL REPAIR PARTS TO THE BROKEN INTERCOSTAL AND ABOVE SKETCH.
E. PICK UP EXISTING FASTENERS, LENGTH AS REQUIRED. REFER TO FIGURE 4-25 FOR FASTENER CALL OUT.
F. USE CORROSION CONTROL PROCEDURES PER TO 1F-4C-3-1-6.
G. REINSTALL FUEL CELL AND COMPONENTS. REFER TO TO 1F-4( )-2-10.

4C-3-1-2-(458)97

Figure 4-25A. Intercostal Repair - FS 312.90 thru FS 318.





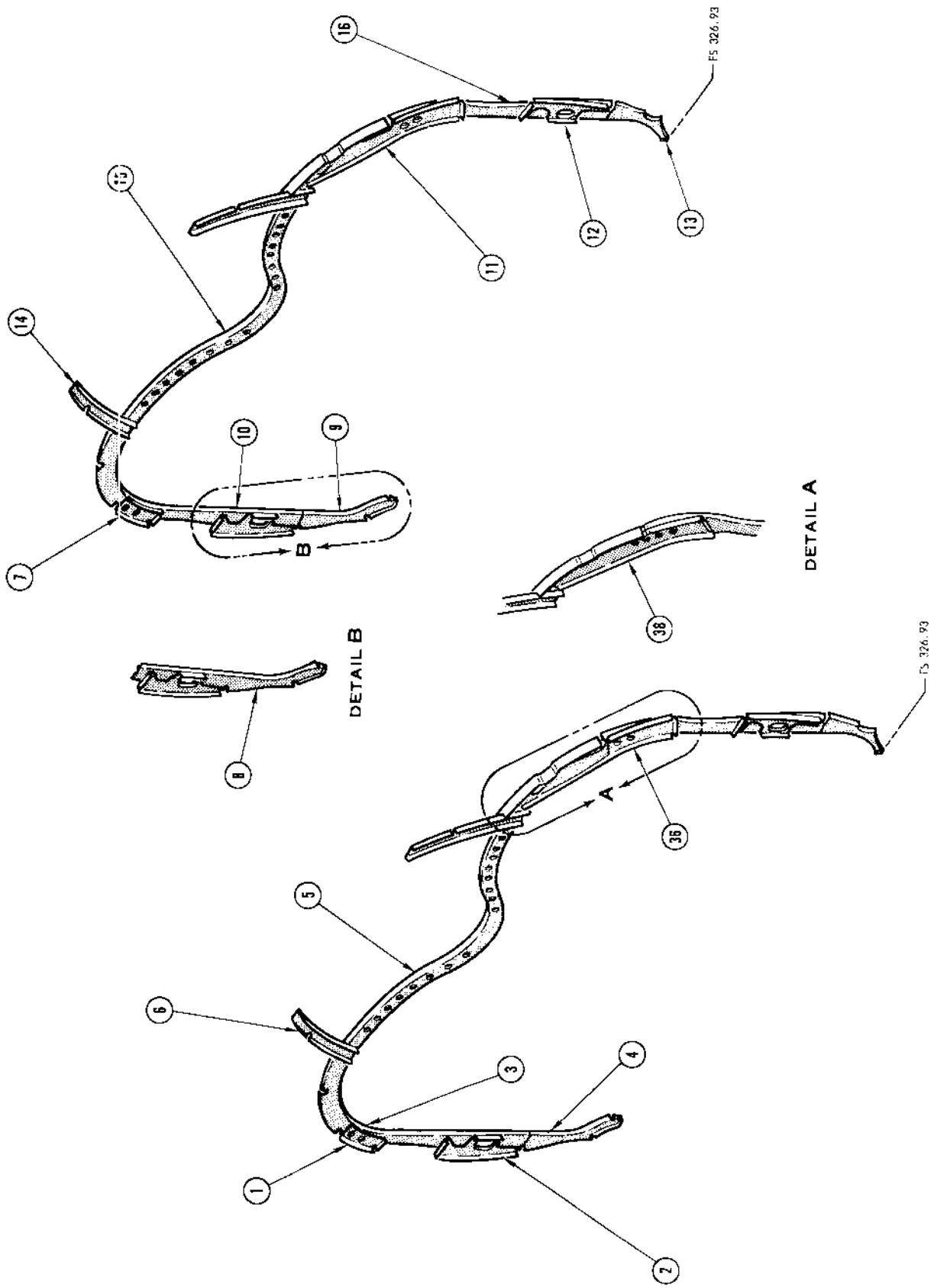
Notes

<1> FOR REPLACEMENT OF FASTENER RECEPTACLE, USE FA934 AEROSPACE ADHESIVE AS FILLER BETWEEN ANGLES AND ATTACH RECEPTACLE TO BOTH ANGLES WITH MS20426AD4 RIVETS.

<2> FOR REWORK OR REPLACEMENT OF UPPER ANGLE, ATTACH RECEPTACLE TO UPPER ANGLE WITH MS20426AD4 RIVETS WHILE REMOVED FROM AIRCRAFT AND OMIT THE FA934 FILLER.

4C-3-1-2-426/A

Figure 4-25B. Angle 32-32274 Repair FS 322.50.



4C-3-1-2-(92-1)E

Figure 4-26. Bulkheads and Frames - FS 326.93 thru FS 337.75 (Sheet 1 of 4)

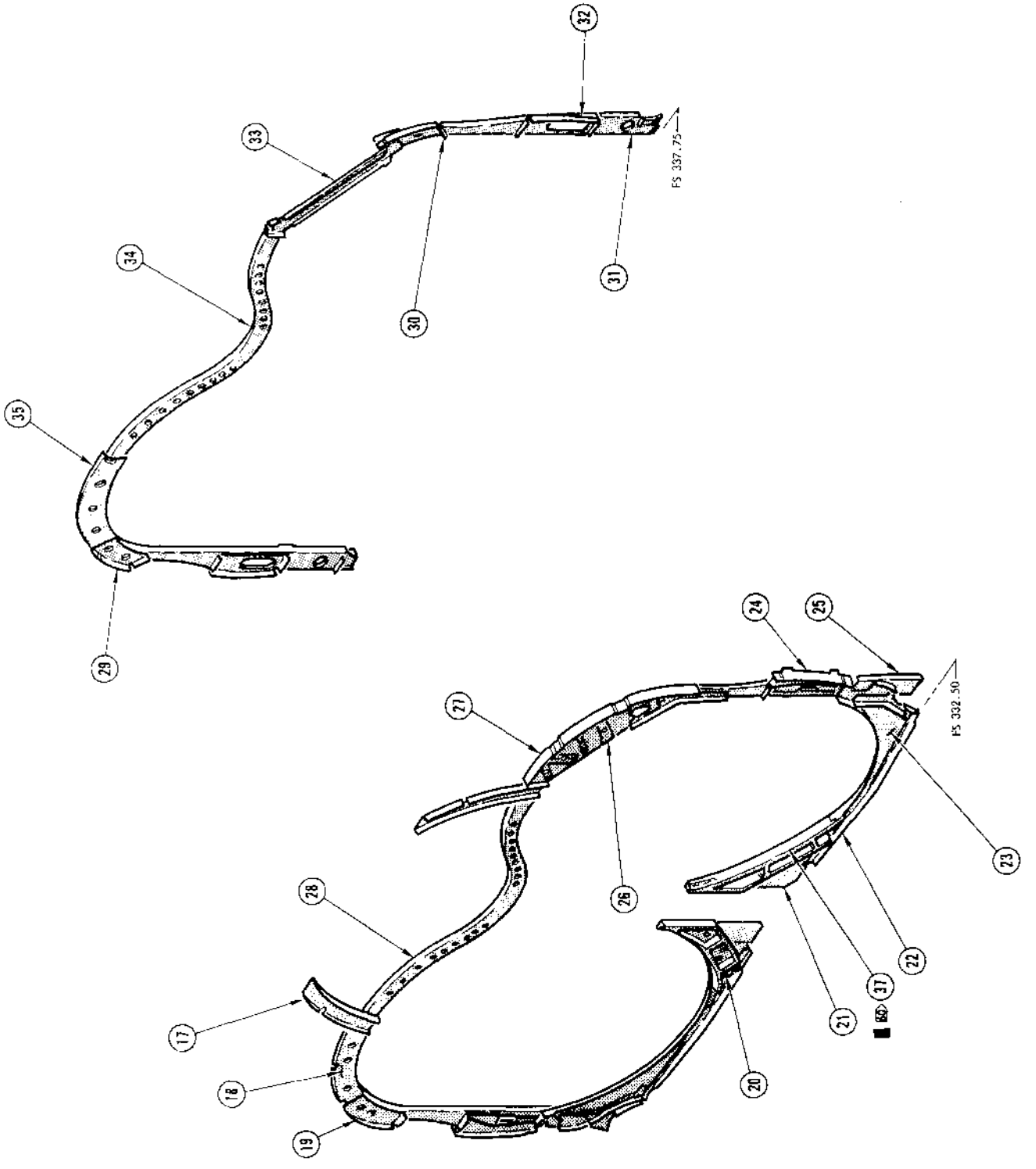


Figure 4-26. Bulkheads and Frames - FS 326.93 thru FS 337.75 (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32009-129,-169	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32009-129	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
2	32-32009-137,-127	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
3	32-32009-167,-161	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32009-195,-161	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32009-195,-203	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32009-53	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
4	32-32009-149,-147	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
5	32-32009-131	BEAM	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
6	32-32009-28,-27	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32009-28,-35	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-32009-12	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-32009-83,-89	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-32009-113	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-32009-111	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32009-123	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-32009-61	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32009-105	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-32009-9,-91	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-32009-117	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-32009-28,-35	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32009-39	BEAM	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-32009-115	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32009-125	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-32030-54,-103	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-1033,-1035	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-1033,-1037	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-32030-205	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-721	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32030-145	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32030-1031	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32030-143	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32030-1039	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
19	32-32030-18	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-473	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
20	53-32034-1	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
	53-32034-5	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
21	32-32030-135,-136	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-493,-494	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
22	32-32030-213,-231	TEE	1M5600	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32030-781,-783	TEE	1M5600	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32030-795,-793	TEE	1M5600	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	32-32030-289,-211	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-741,-723	FRAME	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32030-883,-723	FRAME	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
24	32-32030-61,-22	TEE	1M5258	7178-T6 AL ALY	QQ-A-200/13 (T6)
25	32-32030-177	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-1013	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-841	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
■	32-32030-1009	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
26	32-32030-133	FORMER	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-297	FORMER	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
■	32-32030-1015	FORMER	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-839	FORMER	0.100	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32030-1011	FORMER	0.100	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32030-1025	FORMER	0.100	2024-T6 AL ALY	QQ-A-250/4 (T6)
27	32-32030-183	TEE	1M5258	7178-T6 ALCLAD	QQ-A-200/13 (T6)
	32-32030-865	TEE	1M57618	7178-T6 AL ALY	QQ-A-200/13 (T6)
■	32-32030-1029	TEE	1M57618	7178-T6 AL ALY	QQ-A-200/13 (T6)
28	32-32030-127	BEAM	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32030-709	BEAM	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
29	32-32031-54	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
■	32-32031-135	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
30	32-32031-63	DOUBLER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-139	DOUBLER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
31	32-32031-111	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-105	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-197	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-181	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32031-199	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
32	32-32031-17,-18	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-129,-130	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
33	32-32031-79	BEAM	1M9717	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32031-191	BEAM	1M9717	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32031-177	BEAM	1M97209	2024-T851 AL ALY	QQ-A-200/13 (T851)
■ 34	32-32031-35	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-91	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-147	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32031-167	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
35	32-32031-67	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-119	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32031-155	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32031-209	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32031-71	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
36	32-32009-145	ANGLE	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
■ 37	32-32246-7,-5	FITTING	MACHINE	7075-T6 AL ALY	QQ-A-367 (T6)
	32-32246-303,-11	FITTING	MACHINE	7075-T6 AL ALY	QQ-A-367 (T6)
■	32-32246-307,-13 (60)	FITTING	MACHINE	7075-T6 AL ALY	QQ-A-367 (T6)
38	32-32009-187	DOUBLER	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32009-187	DOUBLER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)

4C-3-1-2-(92-3)G

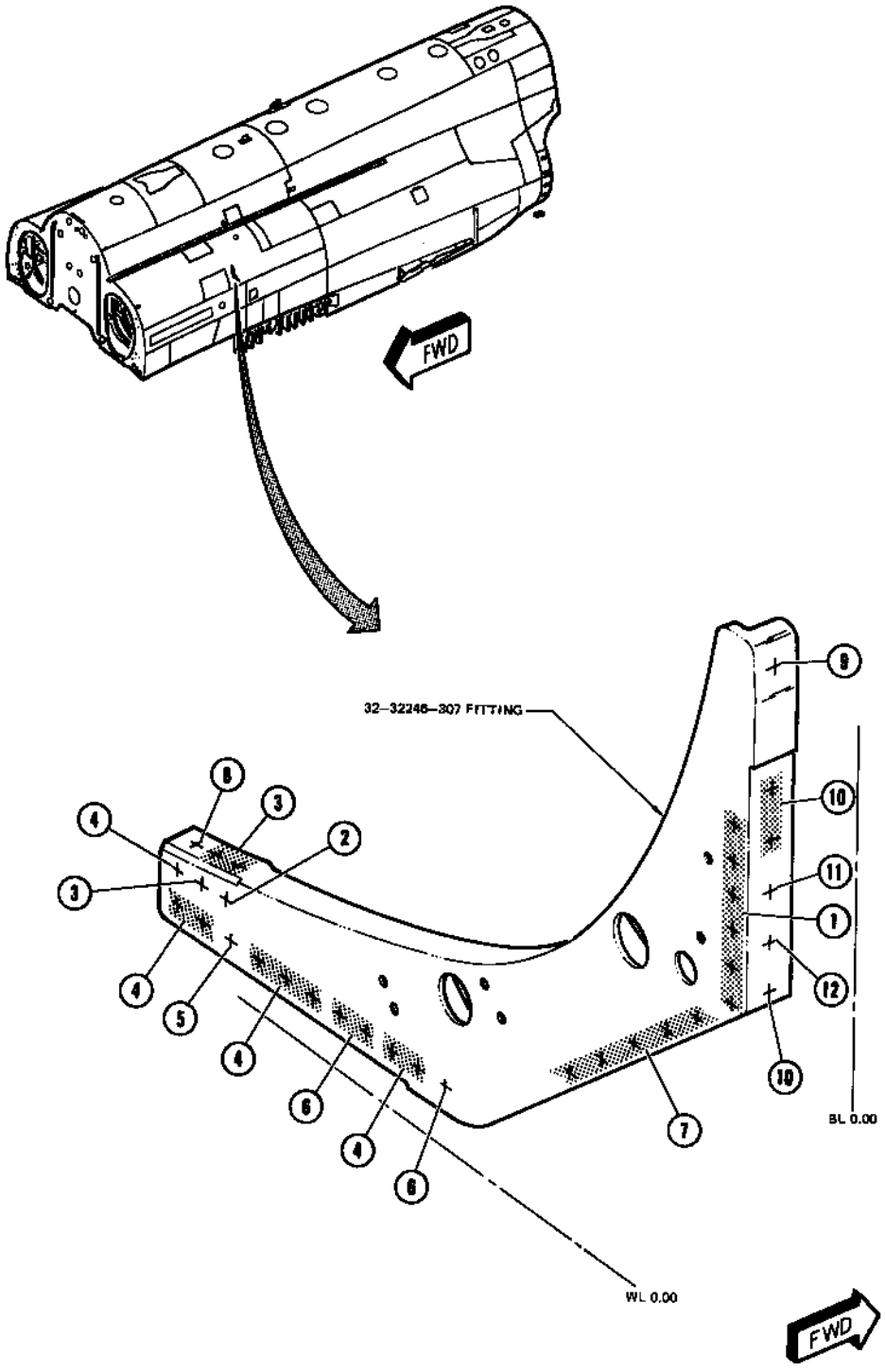
Figure 4-26. Bulkheads and Frames - FS 326.93 thru FS 337.75 (Sheet 3 of 4)

Notes

1. DELETED.
2. F-4C 64-738 THRU 64-928, F-4D, AND RF-4C 64-1062 THRU 72-156.
3. DELETED.
4. F-4C 63-7443 THRU 64-928; F-4D, AND RF-4.
5. F-4C 63-7407 THRU 63-7442.
6. F-4C 63-7631 THRU 64-928, AND RF-4C 64-1007 THRU 72-156.
7. F-4C 63-7407 THRU 63-7468 AND RF-4C 63-7742.
8. F-4C 63-7631 THRU 64-928; F-4D, AND RF-4C 64-1007 THRU 72-156.
9. F-4C 63-7407 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749.
10. F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 66-367 AND RF-4C 63-7750 THRU 68-611.
11. F-4C 63-7470 THRU 64-737 AND RF-4C 64-1007 THRU 64-1061.
12. F-4C 63-7407 THRU 63-7630 , AND RF-4C 63-7742 THRU 64-1006.
13. F-4E 66-284 THRU 66-367.
14. F-4C, F-4D, AND RF-4C.
15. F-4E 66-284 THRU 66-420.
16. F-4C, F-4D 64-929 THRU 66-7504 , AND RF-4C.
17. F-4D 66-7505 THRU 66-8825.
18. F-4E, AND F-4G.
19. F-4C, F-4D, F-4E 66-284 THRU 66-367, AND RF-4C.
20. F-4E 66-368 AND UP, AND F-4G.
21. F-4E 68-495 AND UP, AND F-4G.
22. F-4C, F-4D, AND RF-4C 63-7742 THRU 68-561.
23. RF-4C 68-552 THRU 72-156.
24. F-4C 63-7407 THRU 63-7526, AND RF-4C 63-7742 THRU 63-7749.
25. F-4E 72-121 AND UP.
26. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-238 BEFORE TO 1F-4E-566.
27. F-4C 63-7469 THRU 64-928, F-4D, AND RF-4C 63-7743 THRU 72-156.
28. F-4E 71-239 THRU 71-1402 BEFORE TO 1F-4E-566.
29. F-4E 66-368 THRU 71-236 BEFORE TO 1F-4E-566.
30. F-4E 66-284 THRU 68-413.
31. F-4C 63-7407 THRU 64-737, AND RF-4C 63-7742 THRU 64-1061.
32. F-4C 64-738 THRU 64-928, F-4D, AND RF-4C 64-1062 THRU 72-156.
33. F-4E 68-418 AND UP, AND F-4G.
34. F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295, AND RF-4C 63-7750 THRU 72-156; ALSO F-4E 66-287 AND 66-296 THRU 68-494 BEFORE TO 1F-4E-566.
35. F-4C 63-7443 THRU 64-928, F-4E 66-284 THRU 71-236, AND RF-4C 63-7742 THRU 71-252 , F-4D, AND F-4G.
36. F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
37. F-4E 66-284 THRU 71-236, RF-4C 63-7742 THRU 71-252 , F-4C, F-4D, AND F-4G.
38. F-4E 71-237 THRU 71-1402.
39. RF-4C 71-253 THRU 72-156.
40. RF-4C 69-349 THRU 72-156 AND F-4E 68-498 THRU 71-1402 AND F-4G.
41. RF-4C 69-349 THRU 72-156.
42. F-4C, F-4D, AND RF-4C 63-7742 THRU 68-611.
43. DELETED.
44. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, F-4E 66-287 AND 66-296 THRU 66-367 BEFORE TO 1F-4E-566.
45. F-4E 66-287 AND 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
46. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, F-4E 66-287 AND 66-296 THRU 66-420 BEFORE TO 1F-4E-566.
47. F-4E 66-287 AND 66-296 THRU 71-236 AFTER TO 1F-4E-566 AND F-4G.
48. F-4E 66-368 THRU 72-1499 AND F-4G.
49. F-4E 73-01157 AND UP.
50. F-4C 63-7443 THRU 64-928, F-4D, F-4E, RF-4C , AND F-4G.
51. F-4E 66-284 THRU 68-495.
52. DELETED.
53. F-4C 63-7527 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 68-611.
54. DELETED.
55. F-4E 66-284 THRU 68-494.
56. F-4E 68-495 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
57. F-4E/G 69-7261 THRU 69-7588, F-4E 69-7589 AND UP.
58. F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
59. DELETED.
60. FOR REPLACEMENT, SEE FIGURE 4-26A.

4C-3-1-2-(92-4)H

Figure 4-26. Bulkheads and Frames - FS 326.93 thru FS 337.75 (Sheet 4 of 4)



4C-3-1-2-(371-1)

Figure 4-26A. Fitting 32-32246-307, Replacement Index (Sheet 1 of 2)

REF NO	FASTENER	NUT OR COLLAR	WASHER		TORQUE INCH-LBS	HOLE SIZE
			UNDER HEAD	UNDER NUT		
1	NAS1054-4-4	HS234-4				0.125 +.008 -.000
2	NAS1055-6-3	HS234-6				0.189 +.006 -.000
3	NAS1054-6-3	HS234-6				0.189 +.006 -.000
4	NAS1054-6-5	HS234-6				0.189 +.006 -.000
5	NAS1054-6-7	HS234-6				0.189 +.006 -.000
6	NAS1054-6-6	HS234-6				0.189 +.006 -.000
7	NAS1054-4-3	HS234-4				0.125 +.008 -.000
8	NAS1054-5-3	HS234-5				0.156 +.008 -.000
9	MS20005-10	LH3393-054	MS20002C5	AN960-516	125-135	0.313 +.007 -.000
10	NAS464P4A8	MS21042-4	AN960-416	AN916-416 (1)	50-70	0.250 +.007 -.000
11	NAS464P4A5	MS21042-4		AN916-416	50-70	0.250 +.007 -.000
12	NAS464P4A5	MS21042-4		AN916-416 (1)	50-70	0.250 +.007 -.000

INSTALLATION PROCEDURE FOR NEW PART

A. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES. COUNTERSINK HOLES TO RECEIVE FASTENERS AS APPLICABLE.

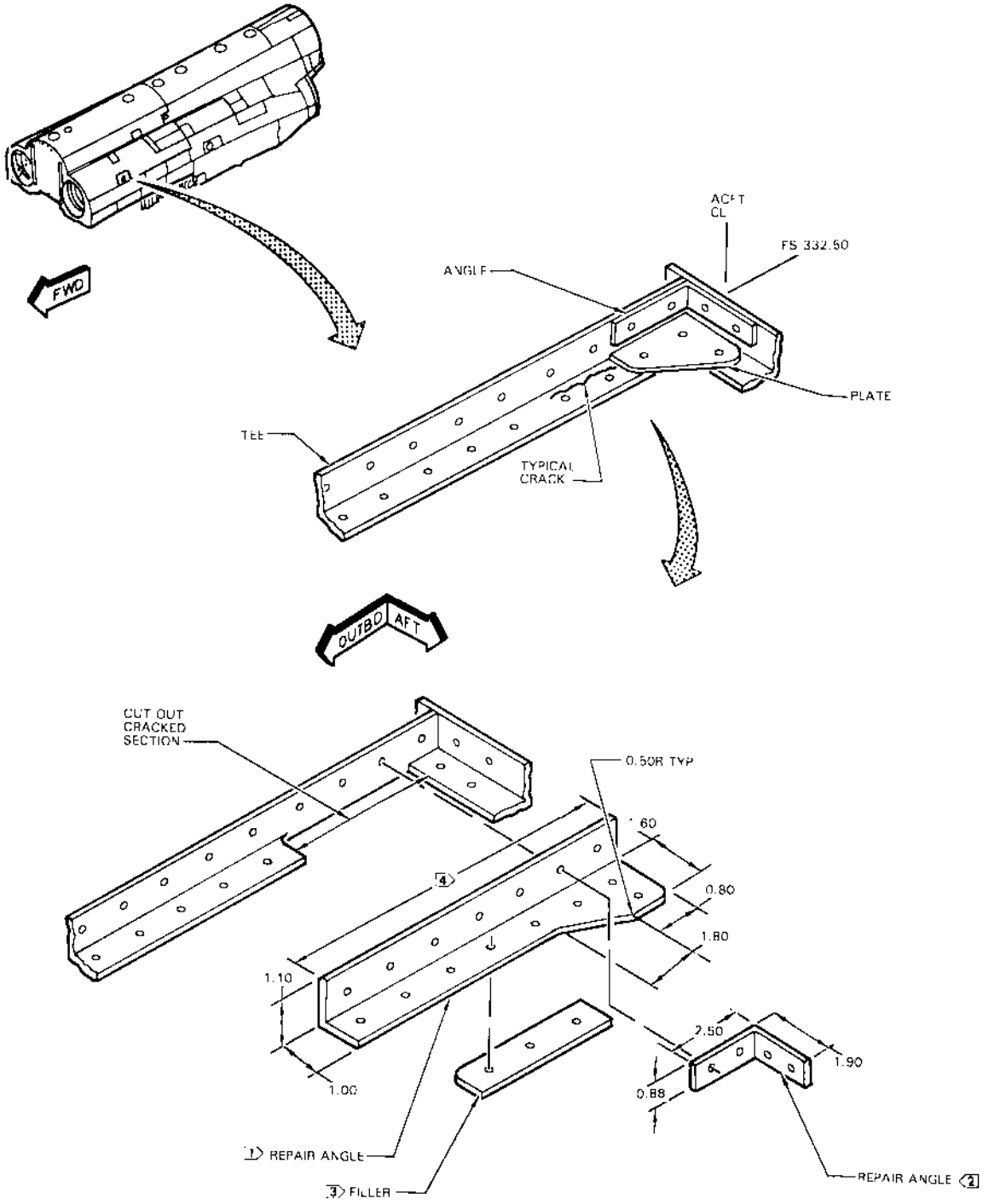
B. REFINISH HOLES AND COUNTERSINKS ACCORDING TO CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

Note

(1) TWO REQUIRED.

4C-3-1-2-(371-2)

Figure 4-26A. Fitting, 32-32246-307, Replacement Index (Sheet 2 of 2)



MAJOR CHANGE

4C-3-1-2 (43-1)B

Figure 4-26B. Tee, 32-32030 Repair (Sheet 1 of 2)

REPAIR PROCEDURE

A. REMOVE ANGLE AND PLATE.
B. CUT OUT CRACKED SECTION OF 32-32030 TEE.
C. MANUFACTURE REPAIR ANGLES AND FILLER. SEE NOTES (1) (2) AND (3).
D. MATCH DRILL REPAIR PARTS TO EXISTING FASTENER HOLES.
E. REMOVE REPAIR PARTS AND DEBURR.
F. FINISH REWORKED AREA AND REPAIR PARTS. SEE TO 1F-4C-3-1-6.
G. APPLY MIL-S-81733 SEALANT TO MATING SURFACES OF REPAIR PARTS AND ASSEMBLE WHILE SEALANT IS WET. SEE TO 1F-4C-3-1-6.
H. POSITION REPAIR PARTS AND INSTALL ORIGINAL TYPE AND SIZE FASTENERS, LENGTH AS REQUIRED.

Notes

(1) MATERIAL: 0.071 SHEET 301 CRES OR 302 CRES 1/4 HARD. MINIMUM BEND RADIUS IS 0.16.

(2) MATERIAL: 0.063 SHEET 7075-T6.

(3) MATERIAL: 0.100 SHEET 7075-0 OR EQUIVALENT.

(4) LENGTH TO EXTEND A MINIMUM OF THREE FASTENERS BEYOND CUTOUT.

4C-3-1-1-(431-2)C

Figure 4-26B. Tee, 32-32030 Repair (Sheet 2 of 2)

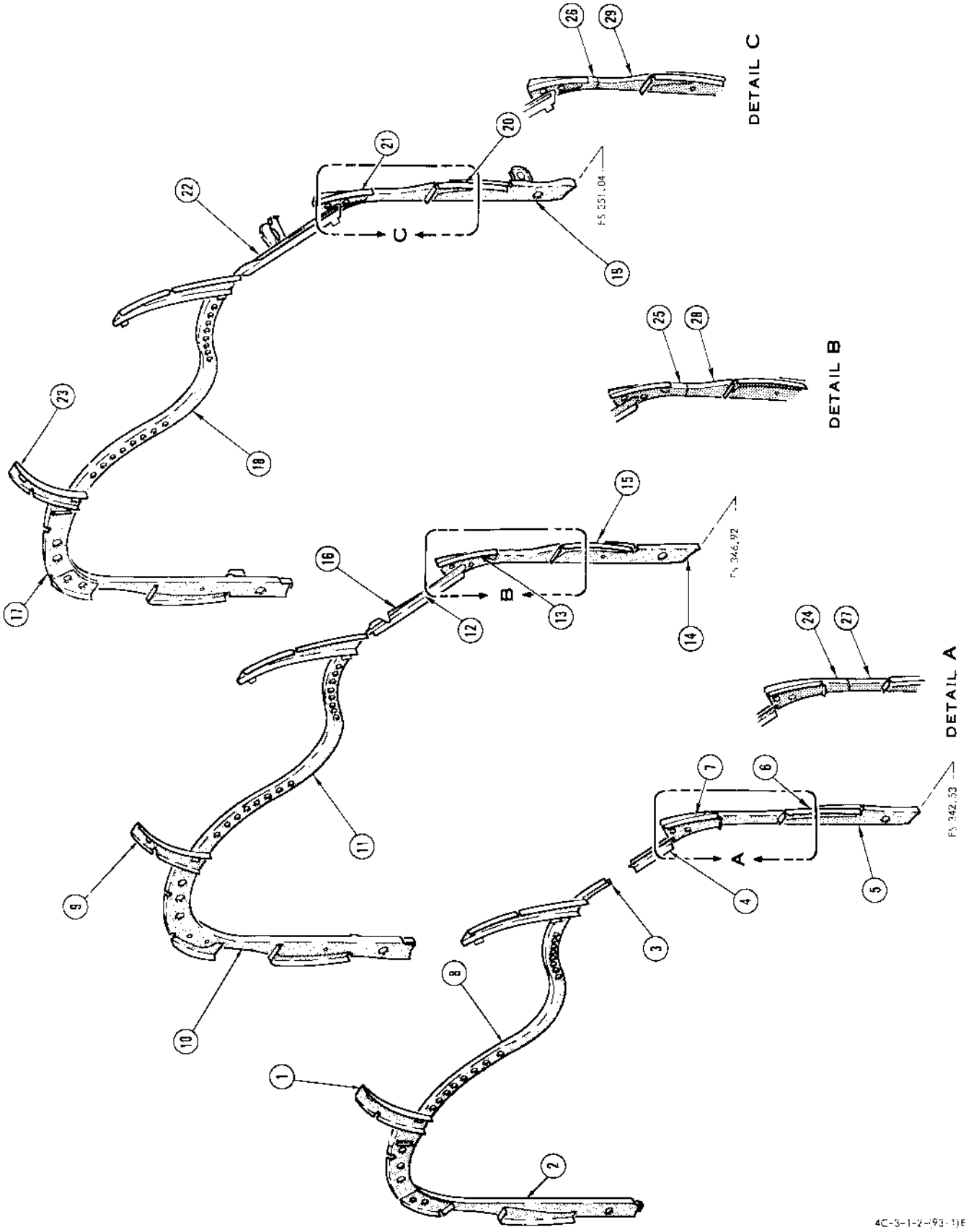


Figure 4-27. Bulkheads and Frames FS 342.53 thru FS 351.04 (Sheet 1 of 3)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	33	32-32010-26,-57	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	35	32-32010-26,-25	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	34	32-32010-26, -169	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	37	32-32010-185,-189	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	17	32-32010-26,-105	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	38	32-32010-185,-187	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	7	32-32010-65	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	8	32-32010-99	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32	32-32010-101	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	36	32-32010-133	FORMER	0.045	2024-T4 AL ALY	QQ-A-200/3 (T4)
	1	32G32010-87	FORMER	0.045	2024-T4 AL ALY	QQ-A-200/3 (T4)
	39	32-32010-191	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
3	27	32-32010-165	CHANNEL	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
	28	32-32010-179	CHANNEL	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
	5	32-32010-73	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	6	32-32010-85	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32G32010-41	CHANNEL	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
4	25	32-32010-75	TEE	1M568	7178-T6 AL ALY	QQ-A-200/13 (T6)
	26	32-32010-175	TEE	1M568	7178-T6 AL ALY	QQ-A-200/13 (T6)
	14	32-32010-163	TEE	1M57544	2024-T6 AL ALY	QQ-A-200/3 (T6)
	13	32G32010-21	TEE	1M57544	2024-T6 AL ALY	QQ-A-200/3 (T6)
5	7	32-32010-67	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	31	32-32010-95	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-32010-137	FRAME	0.045	2024-T4 AL ALY	QQ-A-200/3 (T4)
6	13	32-32010-37,-38	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	12	32-32010-12,-41	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-32010-117,-109	GUSSET	0.045	2024-T4 AL ALY	QQ-A-200/3 (T4)
	15	32G32010-13	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
8	17	32-32010-51	BEAM	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32010-151	BEAM	0.056	2024-T4 AL ALY	QQ-A-200/3 (T4)
	14	32-32010-139	BEAM	0.056	2024-T4 AL ALY	QQ-A-200/3 (T4)
9	9	32-32013-39,-35	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	10	32-32013-75,-35	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	33	32-32013-195,-191	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32013-75,-121	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	34	32-32013-75,-135	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	37	32-32013-195,-193	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	16	32-32013-59	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	20	32-32013-157	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	16	32-32013-105	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
11	3	32-32013-37	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	4	32-32013-73	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32013-103	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
12	30	32-32013-181	ANGLE	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
	31	32-32013-185	ANGLE	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
	15	32G32013-43	ANGLE	0.090	2024-T6 ALCLAD	QQ-A-250/5 (T6)
13	12	32-32013-31,-12	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-32013-87,-83	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
14	35	32-32013-57	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	18	32-32013-93	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	19	32-32013-171	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
15	11	32-32013-9,-10	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-32013-81,-82	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
16	25	32-32013-65	BEAM	1M9717	7178-T651 AL ALY	QQ-A-200/13 (T651)
	26	32-32013-175	BEAM	1M9717	7178-T651 AL ALY	QQ-A-200/13 (T651)
	18	32-32013-137	BEAM	1M97209	2024-T851 AL ALY	QQ-A-200/3 (T851)
	20	32-32013-173	BEAM	1M97209	2024-T851 AL ALY	QQ-A-200/3 (T851)
	15	32G32013-37	BEAM	1M97209	2024-T851 AL ALY	QQ-A-200/3 (T851)
17	21	32-32015-113	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	27	32-32015-137	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32015-219	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	14	32-32015-239	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
18	11	32-32015-37	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	2	32-32015-135	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32015-189	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	16	32-32015-165	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
19	21	32-32015-109	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	28	32-32015-139	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	24	32-32015-237	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-32015-211	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	20	32-32015-239	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
20	12	32-32015-13,-14	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	33	32-32015-159,-160	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
21	12	32-32015-41,-12	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32015-187,-171	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	14	32-32015-157,-171	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
22	25	32-32015-105	BEAM	1M9718	2024-T6 AL ALY	QQ-A-200/13 (T6)
	26	32-32015-247	BEAM	1M9718	7178-T651 AL ALY	QQ-A-200/13 (T651)
	37	32-32015-235	BEAM	1M97209	2024-T851 AL ALY	QQ-A-200/3 (T851)
	31	32-32015-281	BEAM	1M97209	2024-T851 AL ALY	QQ-A-200/3 (T851)
23	33	32-32015-26,-35	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	34	32-32015-286,-285	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32015-153,-25	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	36	32-32015-153,-209	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	37	32-32015-284,-283	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(93-2)E

Figure 4-27. Bulkheads and Frames - FS 342.53 thru FS 351.04 (Sheet 2 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
24 (15)	32G32010-11	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
25 (15)	32G32013-33	FORMER	0.045	2024-T6 ALCLAD	QQ-A-250/5 (T6)
26 (15)	32G32015-55	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
27 (15)	32-32010-145	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
28 (15)	32-32013-109	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
29 (15)	32-32015-185	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)

Notes

1. F-4E 66-287, 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
2. F-4C 64-818 THRU 64-928, F-4D, AND RF-4 64-1018 THRU 72-156.
3. F-4C 63-7407 THRU 63-7442.
4. F-4C 63-7443 THRU 64-928, F-4D, AND RF-4.
5. F-4C 63-7407 THRU 63-7468, AND RF-4 63-7742.
6. F-4C 63-7469 THRU 64-928, F-4D, AND RF-4 63-7743 THRU 72-156.
7. F-4C 63-7407 THRU 63-7526, AND RF-4 63-7742 THRU 63-7749.
8. F-4C 63-7527 THRU 64-928, AND F-4D.
9. F-4C 63-7407 THRU 64-737 AND RF-4 63-7742 THRU 64-1061.
10. F-4D, F-4C 64-738 THRU 64-928, AND RF-4 64-1062 THRU 71-252.
11. F-4C 63-7407 THRU 64-817, AND RF-4 63-7742 THRU 64-1017.
12. F-4C, F-4D, AND RF-4
13. F-4E AND F-4G.
14. F-4E 66-368 AND UP AND F-4G.
15. F-4E 66-284 THRU 66-367.
16. F-4C 64-882 THRU 64-928.
17. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, AND RF-4 65-839 THRU 71-252.
18. F-4E 66-368 THRU 67-282.
19. F-4E 67-283 AND UP, F-4G, AND RF-4 67-454 THRU 72-156.
20. F-4E 67-283 AND UP AND F-4G.
21. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937 AND RF-4 63-7742 THRU 65-838.
22. F-4C 64-882 THRU 64-928, RF-4 65-839 THRU 72-156 AND F-4D 64-938 THRU 67-8825.
23. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825 AND RF-4 65-839 THRU 67-453.
24. RF-4 67-454 THRU 72-156.
25. F-4C, F-4D, AND RF-4 63-7742 THRU 68-561.
26. RF-4 68-562 THRU 72-156.
27. F-4F 66-368 THRU 67-393.
28. F-4E 67-394 AND UP AND F-4G.
29. F-4C 63-7469 THRU 64-928, F-4D, AND RF-4 63-7743 THRU 72-156.
30. F-4C, F-4D AND F-4E 66-368 THRU 68-538.
31. F-4E 69-236 AND UP AND F-4G.
32. F-4E 66-368 THRU 68-538.
33. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4 63-7742 THRU 65-838.
34. F-4E 66-368 THRU 71-236 AND F-4G.
35. F-4C, F-4D, AND RF-4 63-7742 THRU 67-453.
36. F-4C, F-4D, AND RF-4 63-7742 THRU 71-252.
37. F-4E 71-237 AND UP.
38. RF-4 71-253 THRU 72-156.
39. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO 66-287 AND 66-296 THRU 71-1402 BEFORE TO 1F-4E-566.
40. F-4E 72-121 AND UP.
41. F-4C 63-7527 THRU 64-928, F-4D, AND RF-4 63-7750 THRU 72-156.
42. RF-4 63-7750 THRU 72-156.

4C-3-1-2-(93-3)G

Figure 4-27. Bulkheads and Frames - FS 342.53 thru FS 351.04 (Sheet 3 of 3)

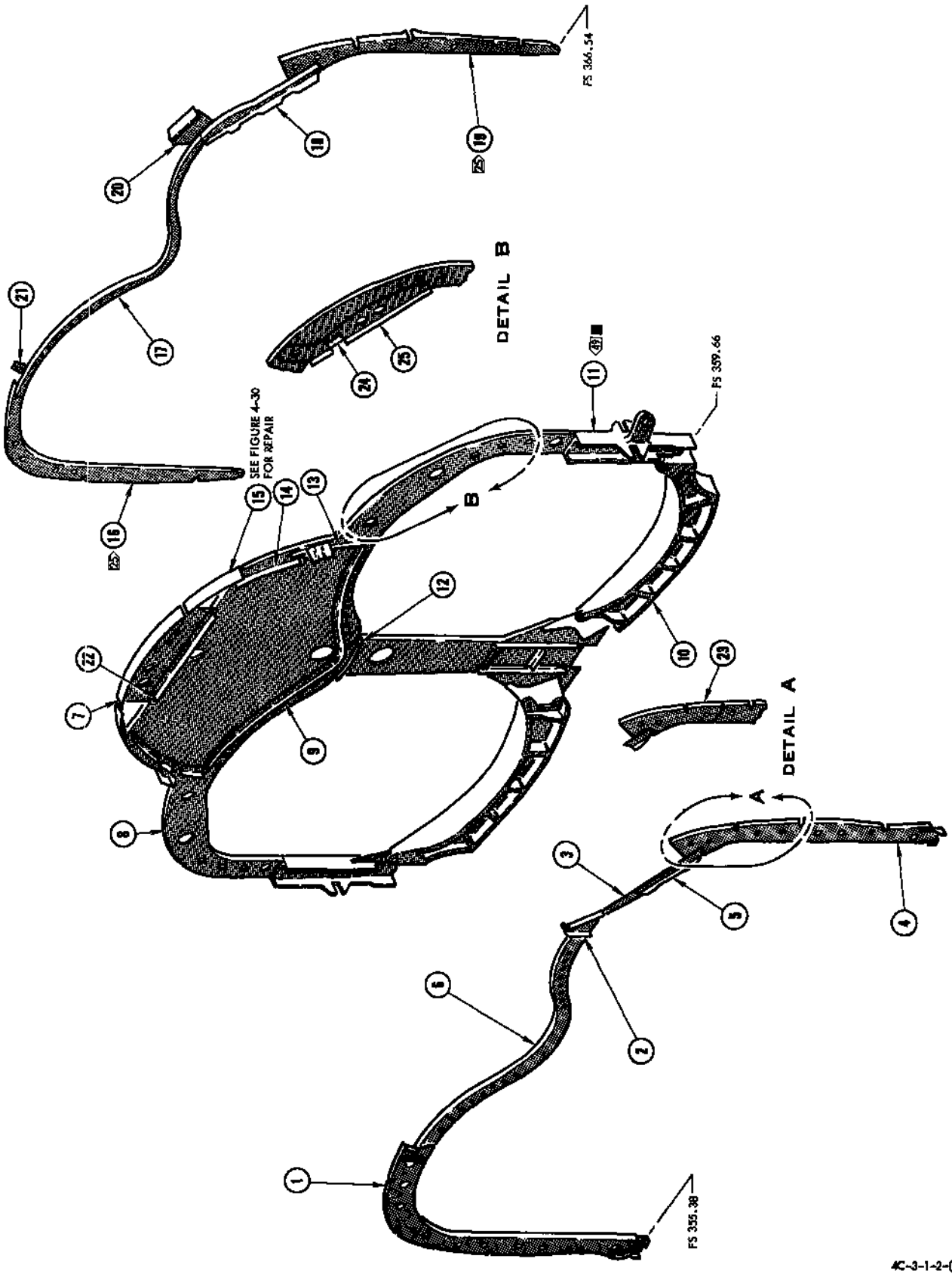
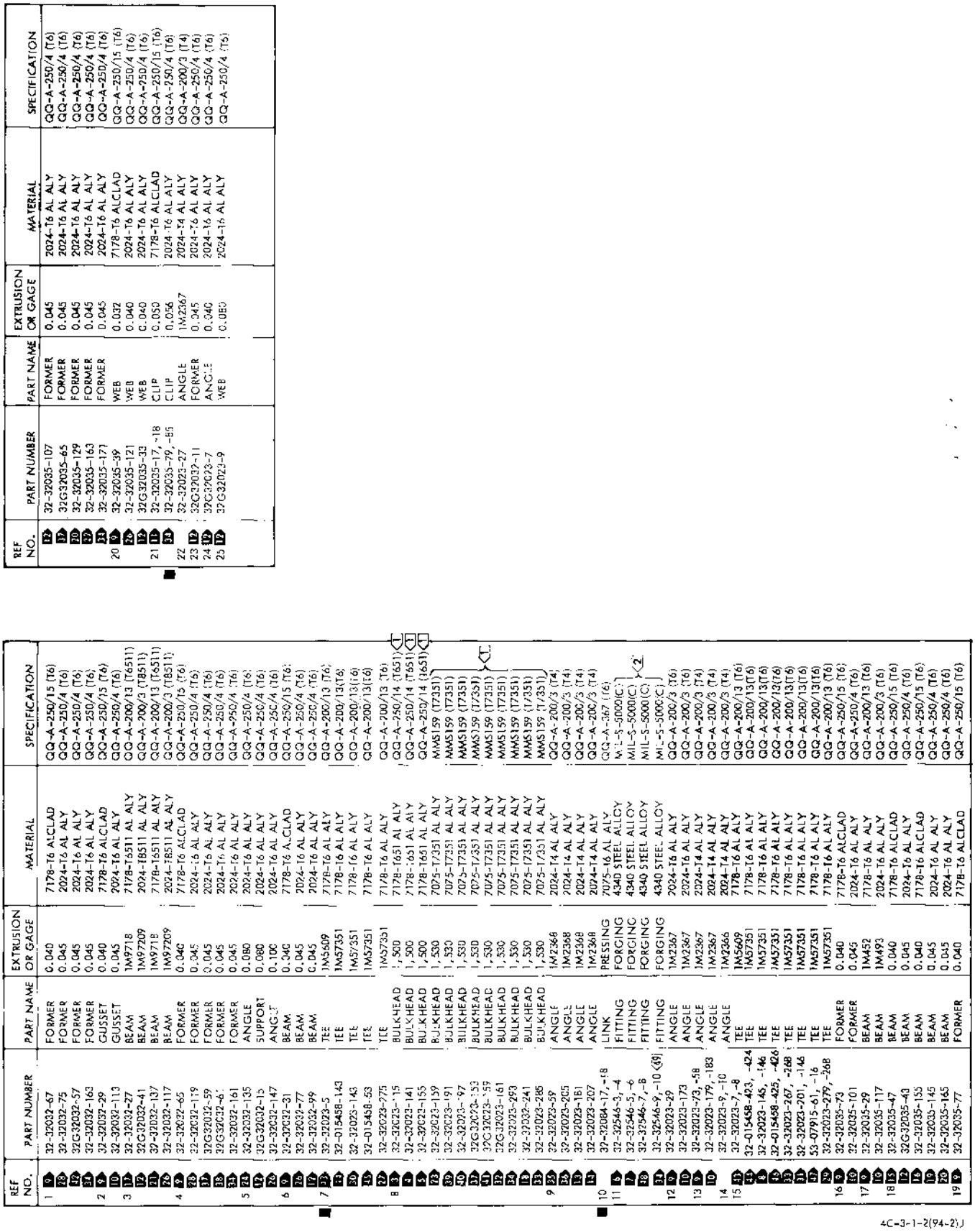


Figure 4-28. Bulkheads and Frames - FS 355.38 thru FS 366.54 (Sheet 1 of 3)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32032-67	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32032-75	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32032-57	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
2	32-32032-163	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32032-29	GUSSET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32032-113	GUSSET	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
3	32-32032-27	BEAM	1M97718	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
	32G32032-41	BEAM	1M97209	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
	32-32032-137	BEAM	1M97718	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
	32-32032-117	BEAM	1M97209	2024-T8511 AL ALY	QQ-A-200/3 (T8511)
4	32-32032-65	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32032-179	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32032-59	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32032-61	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32032-161	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
5	32-32032-135	ANGLE	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32032-13	SUPPORT	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32032-147	ANGLE	0.100	2024-T6 AL ALY	QQ-A-250/4 (T6)
6	32-32032-31	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32032-77	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32032-99	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
7	32-32023-5	TEE	1M53609	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-015458-143	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-32023-143	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-015458-53	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-32023-275	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	32-32023-15	BULKHEAD	1,500	7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-32023-141	BULKHEAD	1,500	7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-32023-155	BULKHEAD	1,500	7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-32023-139	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32-32023-191	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32-32023-97	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32G32023-153	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32G32023-159	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32G32023-161	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32-32023-293	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32-32032-241	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
	32-32023-285	BULKHEAD	1,530	7075-T7351 AL ALY	MMS159 (T7351)
9	32-32023-59	ANGLE	1M2366	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32023-205	ANGLE	1M2368	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32023-181	ANGLE	1M2368	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32023-207	ANGLE	1M2368	2024-T4 AL ALY	QQ-A-200/3 (T4)
10	32-32084-17, -18	LINK	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
11	32-32546-3, -4	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000(C)
	32-32546-5, -6	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000(C)
	32-32546-7, -8	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000(C)
12	32-32546-9, -10 (39)	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000(C)
	32-32023-29	ANGLE	1M2367	2024-T6 AL ALY	QQ-A-200/3 (T6)
	32-32023-173	ANGLE	1M2367	2024-T6 AL ALY	QQ-A-200/3 (T6)
13	32-32023-73, -58	ANGLE	1M2367	2024-T4 AL ALY	QQ-A-200/3 (T4)
	32-32023-179, -183	ANGLE	1M2367	2024-T4 AL ALY	QQ-A-200/3 (T4)
14	32-32023-9, -10	ANGLE	1M2366	2024-T4 AL ALY	QQ-A-200/3 (T4)
15	32-32023-7, -8	TEE	1M53609	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-015458-423, -424	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-32023-145, -146	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-015458-425, -426	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-32023-267, -268	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-32023-201, -146	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	53-07915-61, -16	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13(T6)
	32-32023-279, -268	TEE	1M57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	32-32035-73	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32035-101	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
17	32-32035-29	BEAM	1M452	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32035-117	BEAM	1M493	2024-T6 AL ALY	QQ-A-200/3 (T6)
18	32-32035-47	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G32035-43	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32035-155	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32035-145	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32035-145	BEAM	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
19	32-32035-77	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-32035-107	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32G32035-65	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32035-129	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32035-163	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32035-177)	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32035-39	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32035-121	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
21	32G32035-33	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32035-17, -18	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32035-79, -85	CLIP	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
22	32-32023-27	ANGLE	1M2367	2024-T4 AL ALY	QQ-A-200/3 (T4)
23	32G32032-11	FORMER	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
24	32G32023-7	ANGLE	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
25	32G32023-9	WEB	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)

4C-3-1-2(94-2)J

Figure 4-28. Bulkheads and Frames - FS 355.38 thru FS 366.54 (Sheet 2 of 3)

Notes

(1) STRETCHER LEVELED PLATE.
(2) HEAT TREAT 180 to 200 KSI.
(3) F-4C 63-7407 THRU 63-7526, AND RF-4C 63-7742 THRU 63-7749.
(4) F-4C 63-7527 THRU 63-7662, AND RF-4C 63-7750 THRU 64-1017.
(5) F-4C 63-7663 THRU 64-928, F-4D 64-929 THRU 65-749, AND RF-4C 64-1018 THRU 68-561.
(6) F-4C 63-7407 THRU 63-7468.
(7) F-4C 63-7469 THRU 64-928, F-4E 66-284 THRU 71-1402, F-4D, AND F-4G.
(8) F-4E 66-284 THRU 66-286, 66-288 THRU 66-295; ALSO, F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-287, 66-296 THRU 66-367, AND RF-4C 63-7750 THRU 71-252 BEFORE TO 1F-4-991.
(9) F-4C, F-4D, AND RF-4C.
(10) F-4E AND F-4G.
(11) F-4E 66-284 THRU 71-1402 AND F-4G.
(12) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 66-367 BEFORE TO 1F-4E-566.
(13) F-4E 66-284 THRU 67-219.
(14) F-4E 67-220 AND UP AND F-4G.
(15) F-4C, F-4D, AND RF-4C 63-7742 THRU 67-457.
(16) RF-4C 67-458 THRU 72-156.
(17) F-4C, F-4D, AND RF-4C 63-7742 THRU 68-561.
(18) RF-4C 68-562 THRU 71-252.
(19) F-4E 66-368 THRU 68-409, 69-236 AND UP AND F-4G.
(20) F-4E 68-410 THRU 68-538.
(21) RF-4C 68-562 THRU 72-156.
(22) F-4E 66-368 THRU 68-409, 69-236 THRU 71-1402 AND F-4G.
(23) F-4D 65-750 THRU 66-8825.
(24) F-4C, F-4D, AND RF-4C.
(25) FOR REPAIR SEE FIGURE 4-29.
(26) F-4E 66-368 AND UP AND F-4G.
(27) F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
(28) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4E 66-287 AND 66-296 THRU 71-236 BEFORE TO 1F-4E-566.
(29) F-4E 71-237 AND UP.
(30) F-4E 66-284 THRU 66-286, 66-288 THRU 66-295; ALSO, F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-287, 66-296 THRU 69-7589, AND RF-4C 63-7750 THRU 71-252 BEFORE TO 1F-4-991.
(31) F-4E 66-368 THRU 69-7589 BEFORE TO 1F-4-991.
(32) F-4E 71-237 THRU 71-1402.
(33) RF-4C 71-253 THRU 72-156.
(34) F-4E 72-121 AND UP.
(35) F-4C, F-4D, AND RF-4C 63-7742 THRU 67-461.
(36) RF-4C 67-462 THRU 72-156.
(37) F-4E 66-287 AND 66-296 THRU 66-367 AFTER TO 1F-4E-566.
(38) F-4E 66-368 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(39) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, 66-287 AND 66-296 THRU 66-367 BEFORE TO 1F-4E-566.
(40) F-4E 66-368 THRU 71-236 BEFORE TO 1F-4E-566.
(41) F-4E 66-368 THRU 71-236 AFTER TO 1F-4E-566 AND F-4G.
(42) F-4E 66-287 THRU 66-296 THRU 71-1402 AFTER TO 1F-4E-566 AND F-4G.
(43) F-4C 63-7407 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749 BEFORE TO 1F-4-991.
(44) F-4C 63-7407 THRU 63-7526 AND RF-4C 63-7742 THRU 66-7749 AFTER TO 1F-4-991.
(45) F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-287, 66-296 THRU 69-7589, F-4G, AND RF-4C 63-7750 THRU 71-252 AFTER TO 1F-4-991.
(46) F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-287, 66-296 THRU 66-367, AND RF-4C 63-7750 THRU 71-252 AFTER TO 1F-4-991.
(47) F-4E 66-368 THRU 69-7589 AFTER TO 1F-4-991 AND F-4G.
(48) RF-4C.
(49) FOR REPLACEMENT, SEE FIGURE 4-30A.

Figure 4-28. Bulkheads and Frames - FS 355.38 thru FS 366.54 (Sheet 3 of 3)

4C-3-1-2-(94-3)H

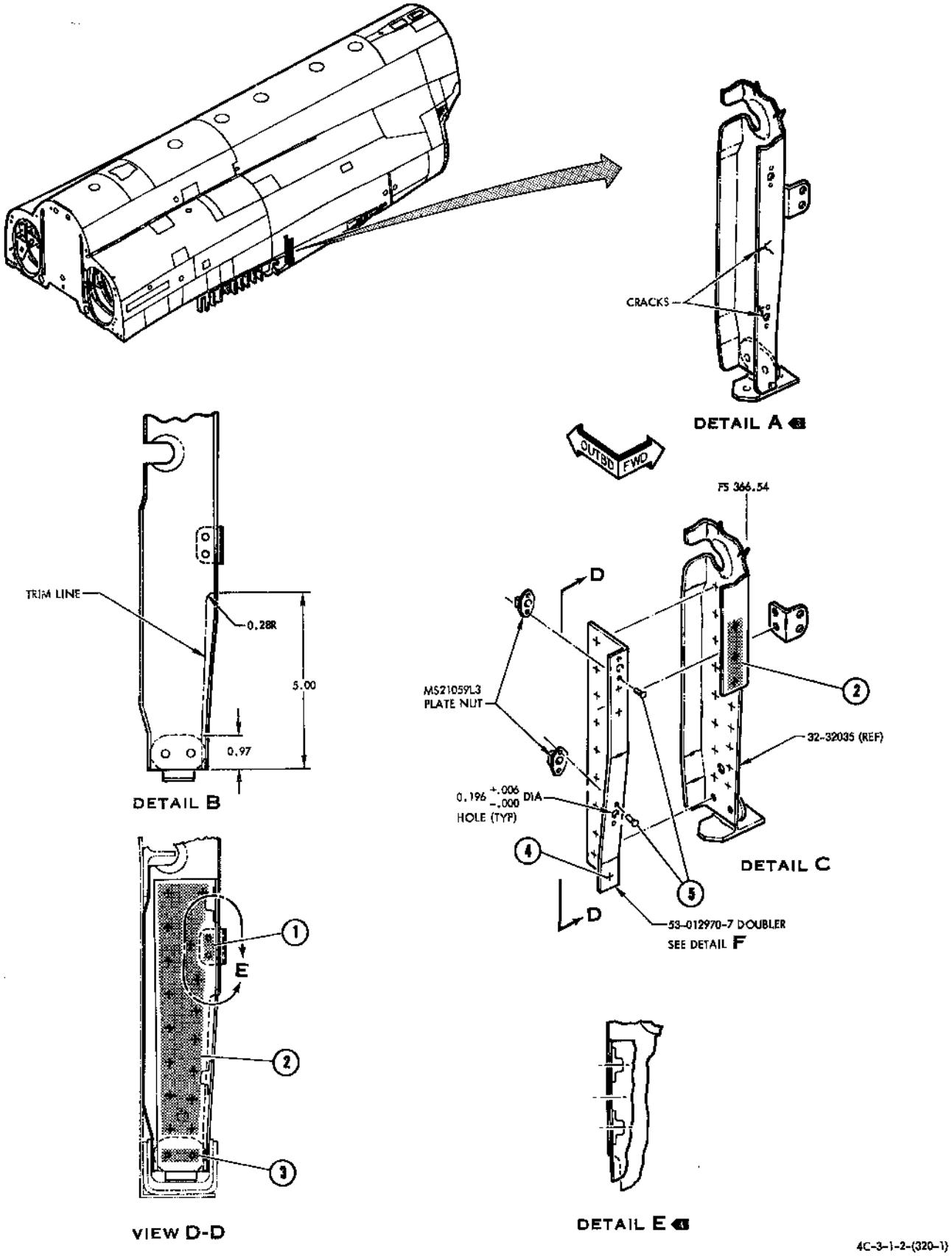
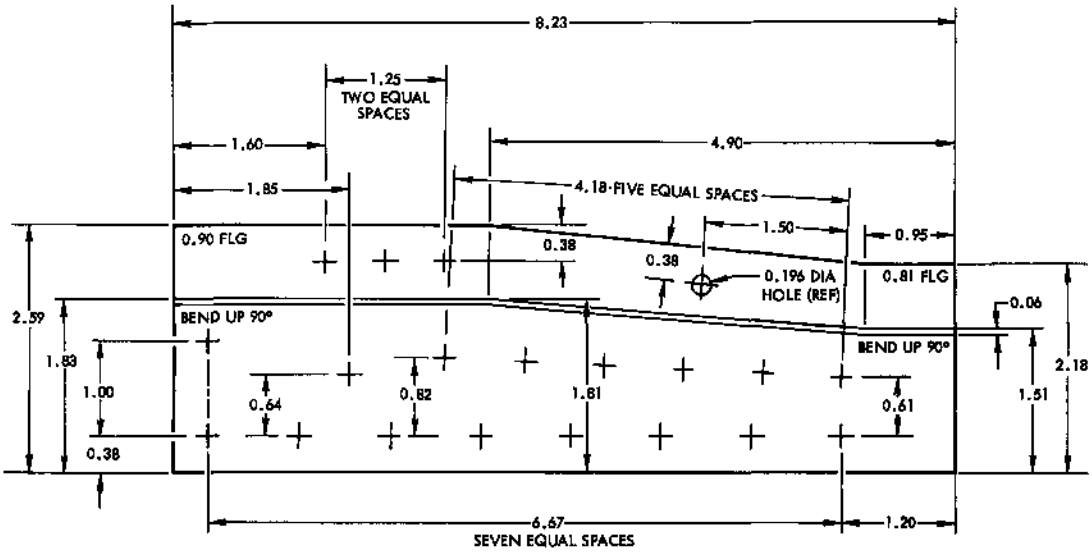


Figure 4-29. Frame Repair - FS 366.54 (Sheet 1 of 2)



DETAIL F

53-012970-7 ANGLE 1 2 4
53-012970-8 ANGLE 1 2 5
0.063 2024-T6 ALCLAD
QQ-A-250/5(T6)

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	MS20470AD4		0.128 +.014 -.000
2	MS20615M5-5		0.159 +.013 -.000
3	HS40PB6-3	HS234-6	0.205 +.006 -.000
4	HS40PB6-5	HS234-6	0.205 +.006 -.000
5	MS20426AD3		0.096 +.009 -.000

INSPECTION AND REPAIR PROCEDURE

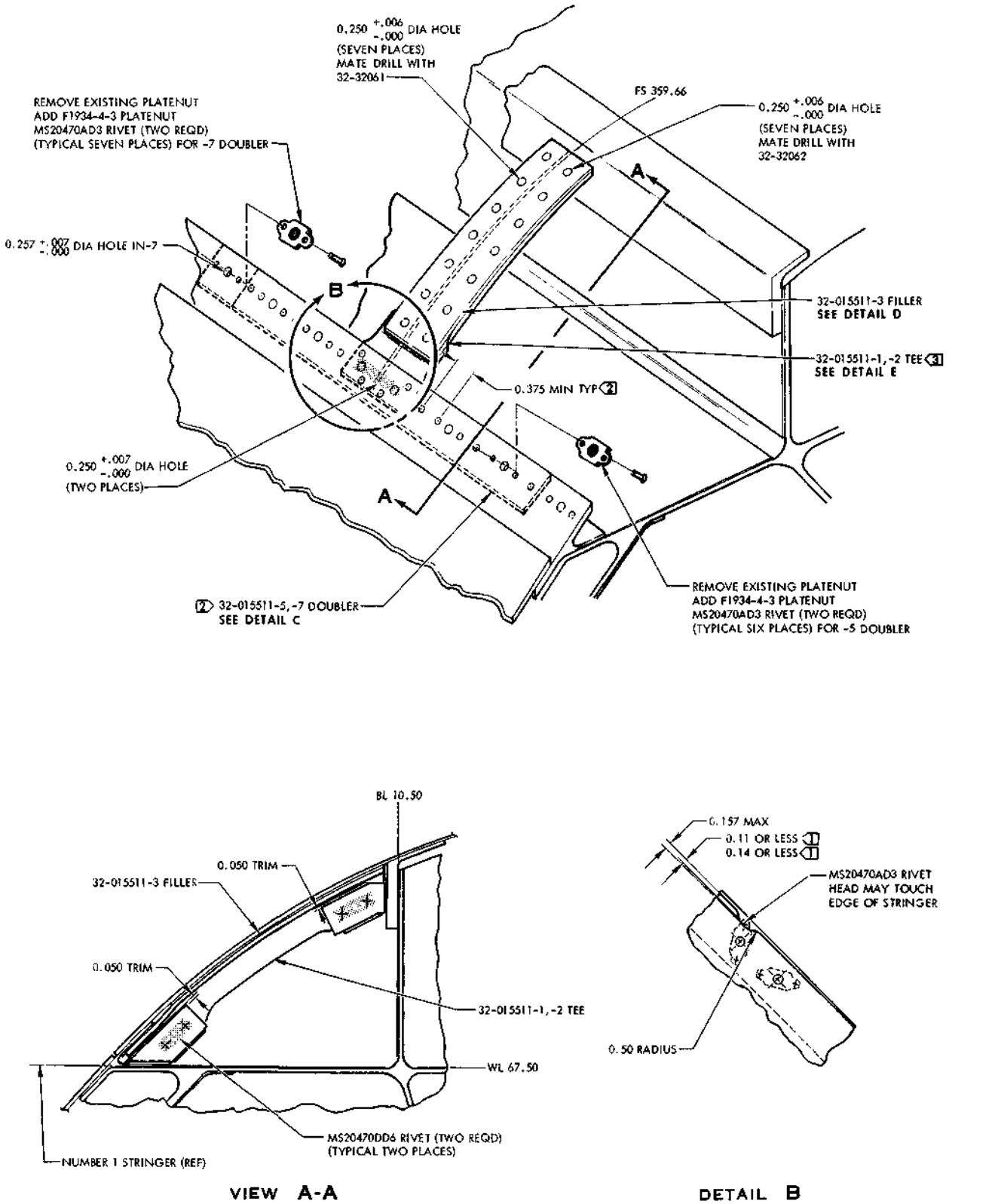
A. REMOVE 32-32431 REMOVABLE SHROUD FOR ACCESS TO 32-32035 FORMER.
B. VISUALLY INSPECT 32-32035 FORMER FOR CRACKS OR BUCKLES IN AREA OF INBOARD FLANGE, SEE DETAIL A.
C. IF EVIDENCE OF DAMAGE EXISTS, REMOVE DAMAGED AREA, SEE DETAIL B.
D. REMOVE BRACKET AND HARDWARE AS REQUIRED FOR REPAIR, SEE DETAILS C AND E.
E. FABRICATE REPAIR PARTS, SEE DETAIL F.
F. LOCATE REPAIR ANGLE AND DRILL FASTENER HOLES TO SIZE CALLED OUT IN CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING FASTENER HOLES.
G. REMOVE REPAIR ANGLE AND DEBURR HOLES IN ANGLE AND STRUCTURE.
H. REFINISH REWORKED AREA, EDGE OF HOLES, AND REPAIR ANGLE. REFERENCE TO 1F-4C-3-1-6.
I. INSTALL REPAIR ANGLE AND FASTENERS CALLED OUT IN CHART, SEE DETAIL C AND VIEW D-D.
J. INSTALL BRACKET AND HARDWARE REMOVED IN STEP D.
K. INSTALL 32-32431 REMOVABLE SHROUD.

Notes

1. FORM PART IN 2024-0 CONDITION AND HEAT TREAT TO 2024-T6. REFERENCE TO 1F-4C-3-1-1.
2. BEND RADIUS TO 0.13.
4. F-4C, F-4D, F-4E F-4G, RF-4 63-7742 THRU 71-252 LEFT SIDE, AND F-4E AND F-4G RIGHT SIDE.
5. F-4E AND F-4G RIGHT SIDE.
4 5. F-4C, F-4D, F-4E F-4G, AND RF-4 63-7742 THRU 71-252 LEFT SIDE.

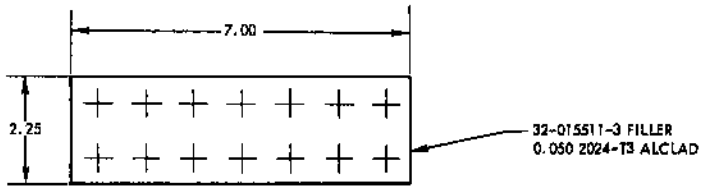
4C-3-1-2-(320-2)B

Figure 4-29. Frame Repair - FS 366.54 (Sheet 2 of 2)

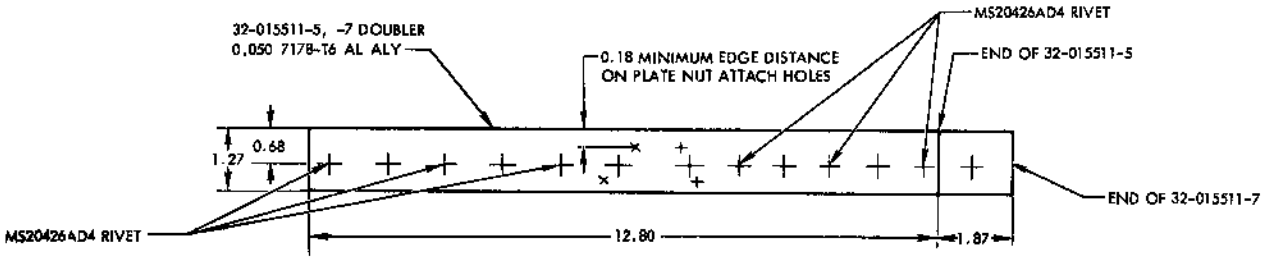


4C-3-1-2-(118-1)A

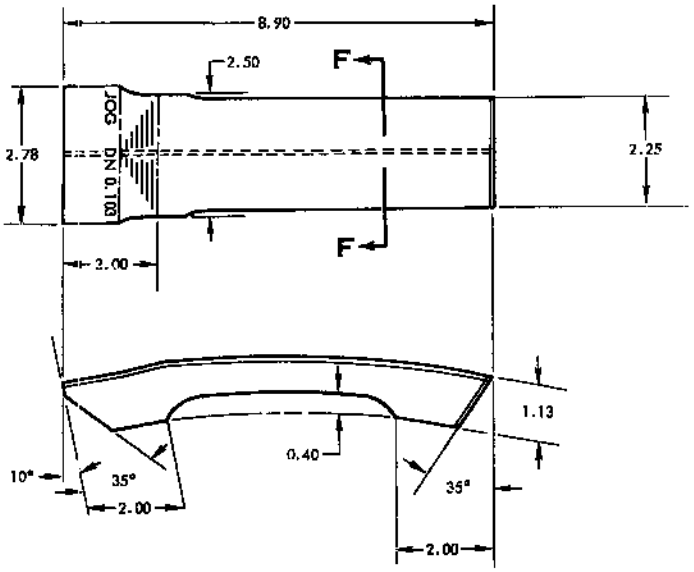
Figure 4-30. Bulkhead, 32-32023, Repair - FS 359.66 (Sheet 1 of 2)

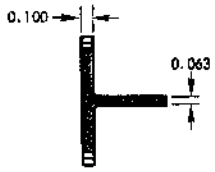


DETAIL C



DETAIL D





SECTION F-F

[4] 32-015511-1, -2 TEE
1MS7351 EXTRUSION
7178-0 AL ALY
QQ-A-200/13

DETAIL E

Notes

[1] FOR EDGE DISTANCE OF 0.14 OR LESS ADD 32-015511-5, -7 DOUBLER, 32-015511-1, -2 TEE, AND 32-015511-3 FILLER AS SHOWN. FOR EDGE DISTANCE OF 0.11 OR LESS, STRINGER MUST BE ROUTED OUT AS SHOWN IN DETAIL B AND 32-015511-5, -7 DOUBLER, 32-015511-1, -2 TEE AND 32-01551-3 FILLER ADDED.

[2] IF 0.375 MINIMUM RIVET SPACING CAN BE MAINTAINED USE 32-015511-5 DOUBLER, OTHERWISE 32-015511-7 DOUBLER MUST BE USED.

[3] 32-015511-1, -2 TEE IS IDENTICAL TO 32-321023-59, -60 TEE EXCEPT FOR FASTENER HOLES SHOWN.

[4] HEAT TREAT TO 7178-T6 AFTER FORMING.

4C-3-1-2-(118-21A

Figure 4-30. Bulkhead, 32-32023, Repair - FS 359.66 (Sheet 2 of 2)

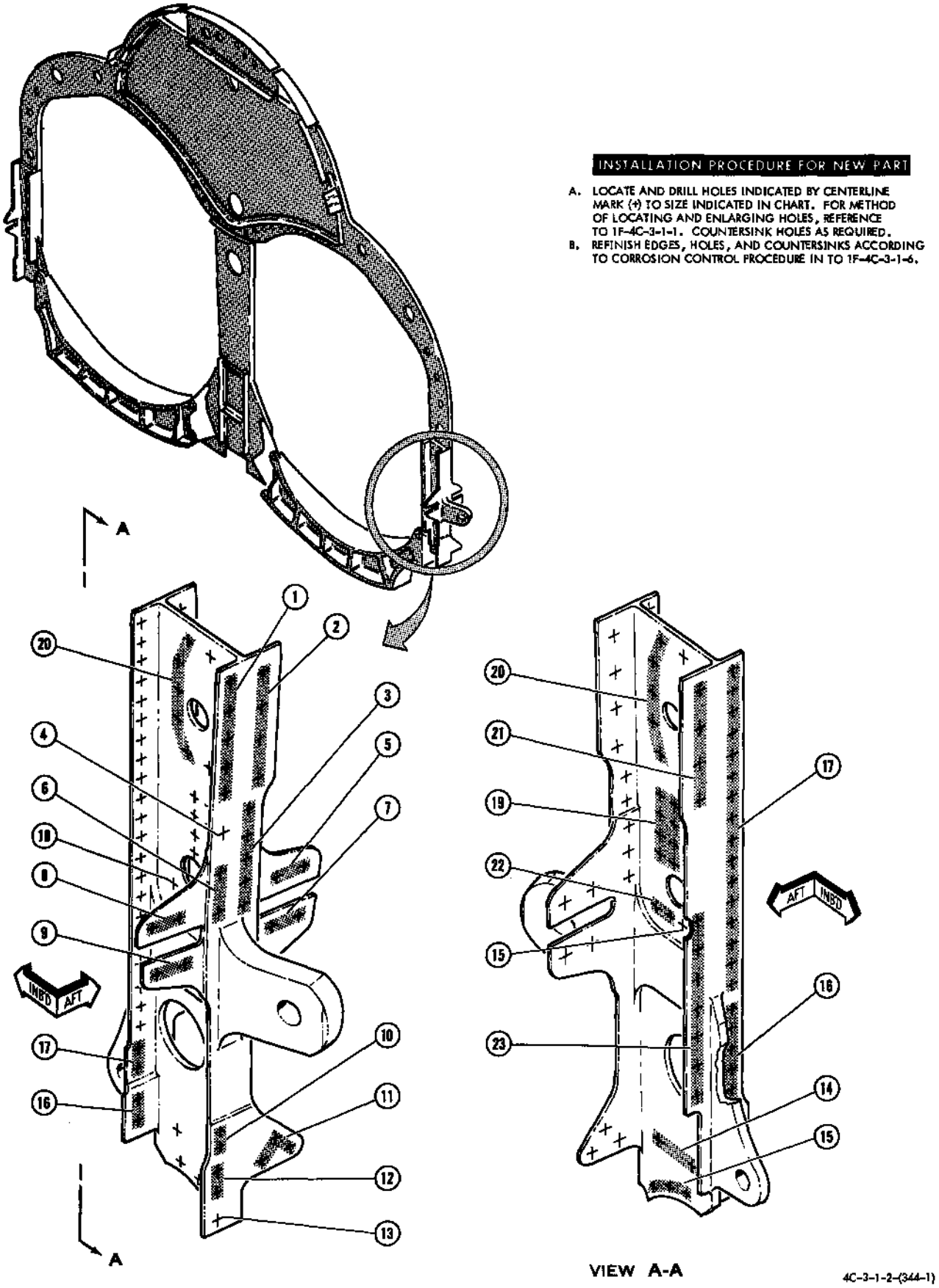


Figure 4-30A. Fitting, 32-32546, Replacement Index (Sheet 1 of 2)

REF NO.	FASTENER [1]	NUT BASE	WASHER		SHIM OR SPACER	TORQUE (INCH LB)	NUT OR COLLAR	HOLE SIZE
			UNDER HEAD	UNDER NUT				
1	NAS333CFA5-5				4M49A3DL8-5 4M49A3DM8-5	15-25	G19179-3-2-8-5	0.196 +.007 -.000
2	NAS335CFA10	67992W524		AN960C516		65-95	67992N524	0.312 +.007 -.000
3	HS61-6						HS60M6	0.189 +.006 -.000
4	NAS333CFA5-5				NAS463YDD104	15-25	F1972-3-2	0.196 +.007 -.000
5	HS62-8-6						HS60M8	0.250 +.006 -.000
6	NAS333CFA5-5				NAS463XDD10H	15-25	F1934-3-2	0.196 +.007 -.000
7	HS61-8-6						HS60M8	0.250 +.006 -.000
8	NAS334CFA7					40-60	F1979-4-?-8-2	0.250 +.007 -.000
9	NAS529-8-4						NAS528A8	0.248 +.003 -.000
10	MS20470AD4							0.128 +.006 -.000
11	NAS1054-6						NAS528A6	0.189 +.006 -.000
12	NAS1054-6-6						HS234-6	0.189 +.006 -.000
13	NAS333CFA5			AN960D10		15-25	MS21042-3	0.189 +.006 -.000
14	NAS464P5LA9			AN960D516		65-95	MS21042-5	0.312 +.007 -.000
15	NAS1054-5-5						HS234-5	0.1562 +.0060 -.0000
16	MS20615-4M							0.159 +.007 -.000
17	MS20615-5M							0.159 +.007 -.000
18	HS26-5-3						HS24-5	0.156 +.007 -.000
19	NAS1054-5-4						HS234-5	0.156 +.007 -.000
20	NAS1054-8-4						NAS528A8	0.2500 +.0060 -.0000
21	NAS464P5LA10			AN960C516		65-95	MS21042-5	0.3125 +.0070 -.0000
22	HS26-5-2						HS24-5	0.156 +.006 -.000
23	AN3-5A		AN960D10				MS21064L3-8-7	0.191 +.007 -.000

Note

[1] FASTENER LENGTH NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.

4C-3-1-2-(344-2)

Figure 4-30A. Fitting, 32-32546, Replacement Index (Sheet 2 of 2)

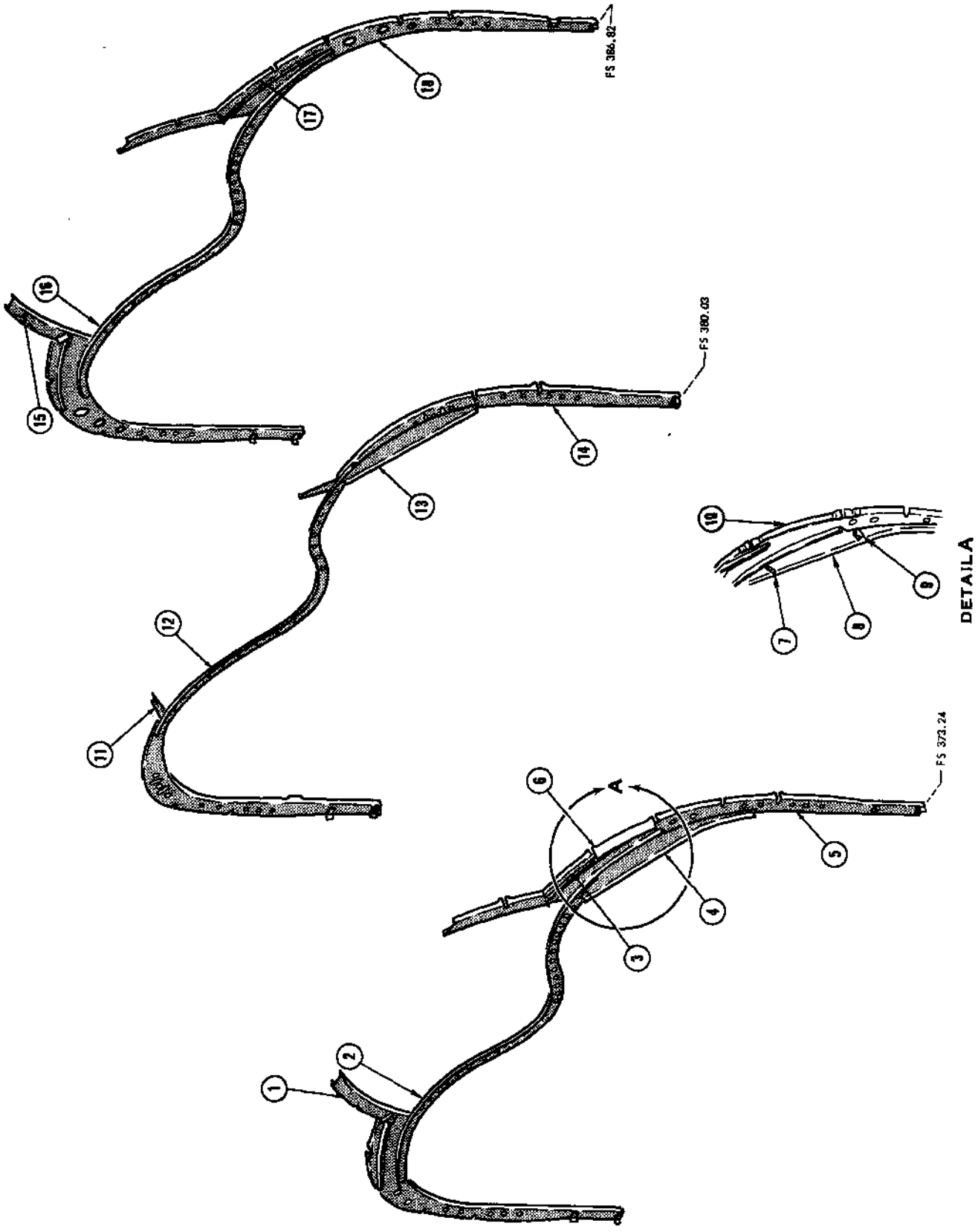


Figure 4-31. Bulkheads and Frames - FS 373.24 thru FS 386.82 (Sheet 1 of 2)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	18	32-32096-64, -63	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	9	32-32096-292, -291	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/14 (T6)
2	12	32-32096-31	BEAM	1M452	7178-T6 ALCLAD	QQ-A-200/13 (T6)
	16	32-32096-79	BEAM	1M493	2024-T6 ALCLAD	QQ-A-200/3 (T6)
	13	32-32096-263	BEAM	1M493	2024-T6 ALCLAD	QQ-A-200/3 (T6)
	17	32-32096-289	BEAM	1M493	2024-T6 ALCLAD	QQ-A-200/3 (T6)
3	5	32-32096-39, -14	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-32096-13, -14	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32-32096-277, -14	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	5	32-32096-41	GUSSET	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-32096-211	GUSSET	0.040	2024-T6 ALCLAD	QQ-A-250/4 (T6)
	15	32-32096-275	GUSSET	0.040	2024-T6 ALCLAD	QQ-A-250/4 (T6)
5	2	32-32096-65, -69	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	3	32-32096-75, -77	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	8	32-32096-99, -95	FORMER	0.045	2024-T6 ALCLAD	QQ-A-250/4 (T6)
	7	32-32096-213, -95	FORMER	0.045	2024-T6 ALCLAD	QQ-A-250/4 (T6)
6	5	32-32096-35	SPLICE PLATE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	6	32-32096-219	SPLICE PLATE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	8	32-32096-217	CLIP	0.040	2024-T3 ALCLAD	QQ-A-250/4 (T3)
8	8	32G32096-5	GUSSET	0.040	2024-T6 ALCLAD	QQ-A-250/4 (T6)
9	8	32-32096-215	CLIP	0.040	2024-T3 ALCLAD	QQ-A-250/4 (T3)
10	8	32G32096-37	ANGLE	0.045	2024-T6 ALCLAD	QQ-A-250/4 (T6)
11	5	32-32097-10, -21	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	6	32-32097-67, -63	CLIP	0.056	2024-T6 ALCLAD	QQ-A-250/4 (T6)
12	5	32-32097-19	BEAM	1M453	7178-T6 ALCLAD	QQ-A-200/13 (T6)
	8	32-32097-79	BEAM	1M492	2024-T6 ALCLAD	QQ-A-200/3 (T6)
	7	32-32097-65	BEAM	1M492	2024-T6 ALCLAD	QQ-A-200/3 (T6)
13	5	32-32097-27	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	7	32-32097-69	ANGLE	0.040	2024-T6 ALCLAD	QQ-A-250/4 (T6)
	8	32G32097-3	ANGLE	0.040	2024-T6 ALCLAD	QQ-A-250/4 (T6)
14	4	32-32097-43, -45	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	1	32-32097-55, -57	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	8	32-32097-81, -73	FRAME	0.045	2024-T6 ALCLAD	QQ-A-250/4 (T6)
	7	32-32097-165, -73	FRAME	0.045	2024-T6 ALCLAD	QQ-A-250/4 (T6)
15	18	32-32098-26, -25	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	9	32-32098-162, -161	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	10	32-32098-9	BEAM	1M449	7178-T6 ALCLAD	QQ-A-200/13 (T6)
	11	32-32098-143	BEAM	1M491	2024-T6 ALCLAD	QQ-A-200/3 (T6)
	6	32-32098-47	BEAM	1M491	2024-T6 ALCLAD	QQ-A-200/3 (T6)
17		32-32098-11, -12	STIFFENER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	4	32-32098-35, -36	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	1	32-32098-43, -44	FORMER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	6	32-32098-53, -54	FORMER	0.045	2024-T6 ALCLAD	QQ-A-250/4 (T6)

Notes

1. RF-4C.
2. F-4C 63-7407 THRU 63-7442.
3. F-4C 63-7443 THRU 64-928; F-4D; RF-4C.
4. F-4C; F-4D.
5. F-4C; F-4D; RF-4C.
6. F-4E AND F-4G.
7. F-4E 66-368 AND UP AND F-4G.
8. F-4E 66-284 THRU 66-367.
9. F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
10. F-4C, F-4D, RF-4C 63-7742 THRU 67-459.
11. RF-4C 67-460 THRU 72-156.
12. F-4C, F-4D, RF-4C 63-7742 THRU 67-469.
13. RF-4C 68-548 THRU 72-156.
14. F-4E 66-284 THRU 68-409.
15. F-4E 68-410 AND UP AND F-4G.
16. F-4E 66-284 THRU 66-538.
17. F-4E 69-236 AND UP AND F-4G.
18. F-4C, F-4D, F-4E 66-284 THRU 71-236, F-4G, AND RF-4C 63-7742 THRU 71-252.

4C-3-1-2-(102-2)E

Figure 4-31. Bulkheads and Frames - FS 373.24 thru FS 386.82 (Sheet 2 of 2)

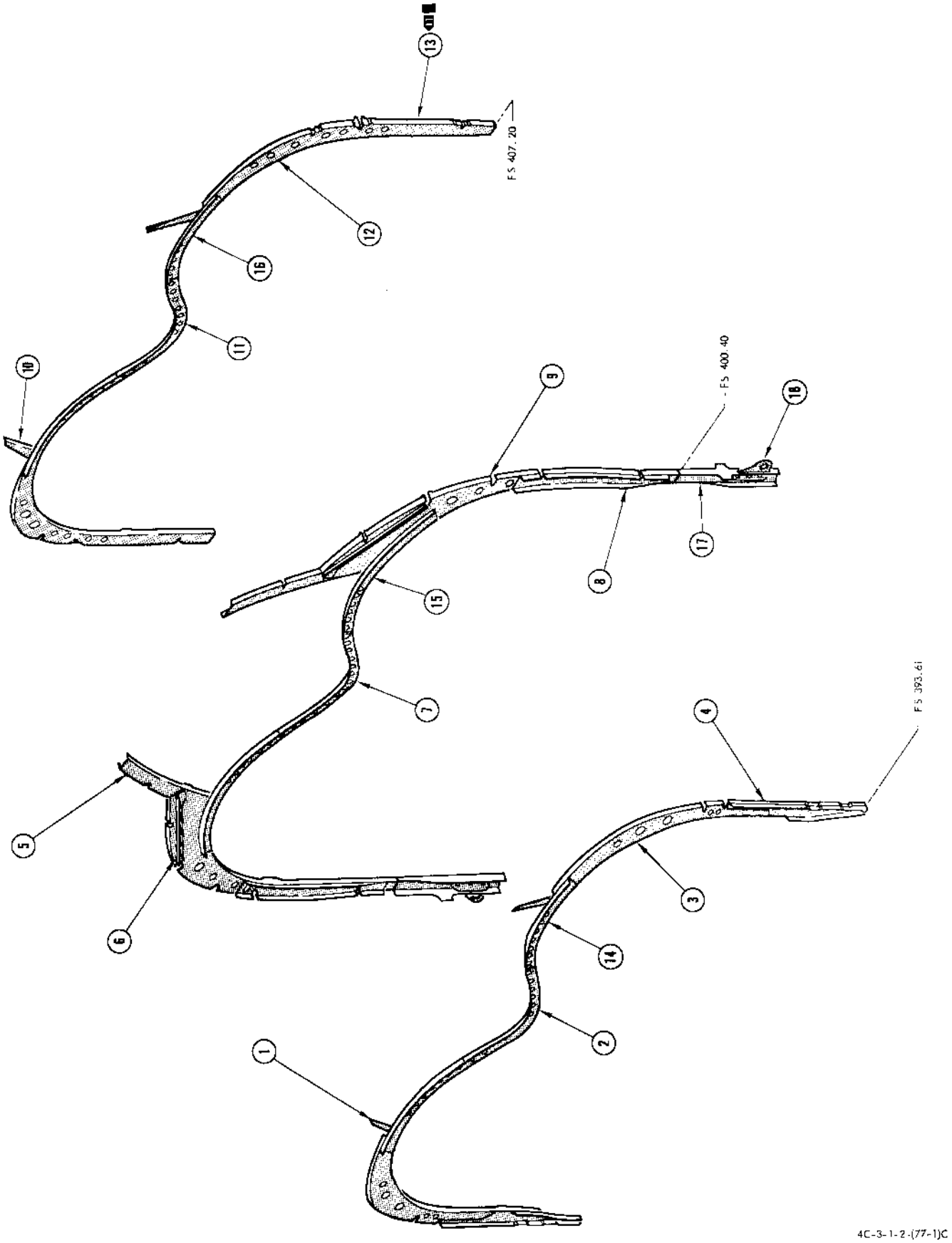


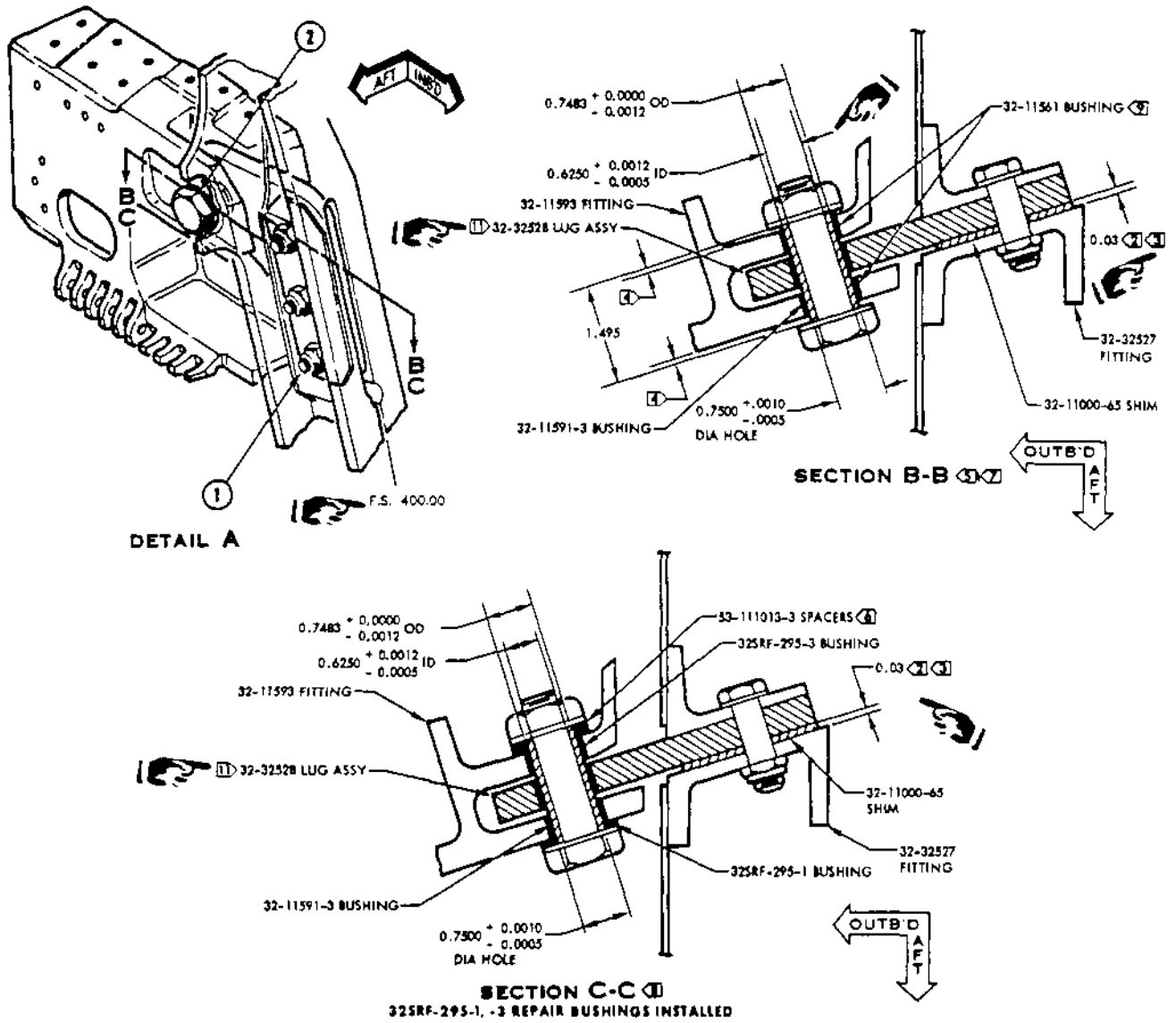
Figure 4-32. Bulkheads and Frames - FS 393.61 thru FS 407.20 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32099-46, -45	SUPPORT	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
2	32-32099-37	BEAM	0.071	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
3	32-32099-33, -34	FORMER	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
4 [4]	32-32099-47, -48	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[6]	32-32099-55, -56	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[5]	32-32099-59, -60	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
5	32-32100-87, -88	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-32100-110, -109	STIFFENER	0.071	717B-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-32100-91	BEAM	0.112	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
8	32-32100-95, -96	CHANNEL	0.045	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
9 [2]	32-32100-93, -94	FORMER	0.050	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
[3]	32-32100-113, -114	FORMER	0.050	8Mn TITANIUM ALLOY	AMS 4908
10	32-32101-46, -45	ANGLE	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
11	32-32101-41	BEAM	0.080	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
12	32-32101-37, -38	FRAME	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
13 [7]	32-32101-47, -48 [11]	FRAME	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[5]	32-32101-51, -52 [11]	FRAME	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
14	32-32099-35, -36	BEAM	0.071	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
15	32-32100-89, -90	BEAM	0.112	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
16	32-32101-39, -40	BEAM	0.080	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
17	32-32527-7, -8	FITTING	PRESSING	7075-T6 AL ALY	QQ-A-367 (T6)
18 [9]	32-32528-1 [8]	LUG ASSY	0.500	7075-T6 AL ALY	QQ-A-250/12 (T6)
[10]	32-32528-301 [8]	LUG ASSY	0.500	7075-T6 AL ALY	QQ-A-250/12 (T6)

NOTES

[1] FOR INTERCHANGEABLE SPECIFICATION REFERENCE T.O. 1F-4C-3-1-1.
[2] F-4C 63-7407 THRU 63-7420.
[3] F-4C 63-7421 THRU 64-928, F-4D, F-4E, AND F-4G.
[4] F-4C AND F-4D.
[5] F-4E AND F-4G.
[6] RF-4.
[7] F-4C, F-4D, AND RF-4.
[8] FOR REPLACEMENT, SEE FIGURE 4-33.
[9] F-4C, F-4D, F-4E 66-284 THRU 72-1478, F-4G, AND RF-4. FOR FUTURE PROCUREMENT USE THE FOLLOWING PART.
[10] F-4E 72-1479 AND UP. FUTURE PROCUREMENT FOR PRECEDING PART.
[11] FOR REPAIR, SEE FIGURE 4-35.

Figure 4-32. Bulkheads and Frames - FS 393.61 thru FS 407.20 (Sheet 2 of 2)



G9500159

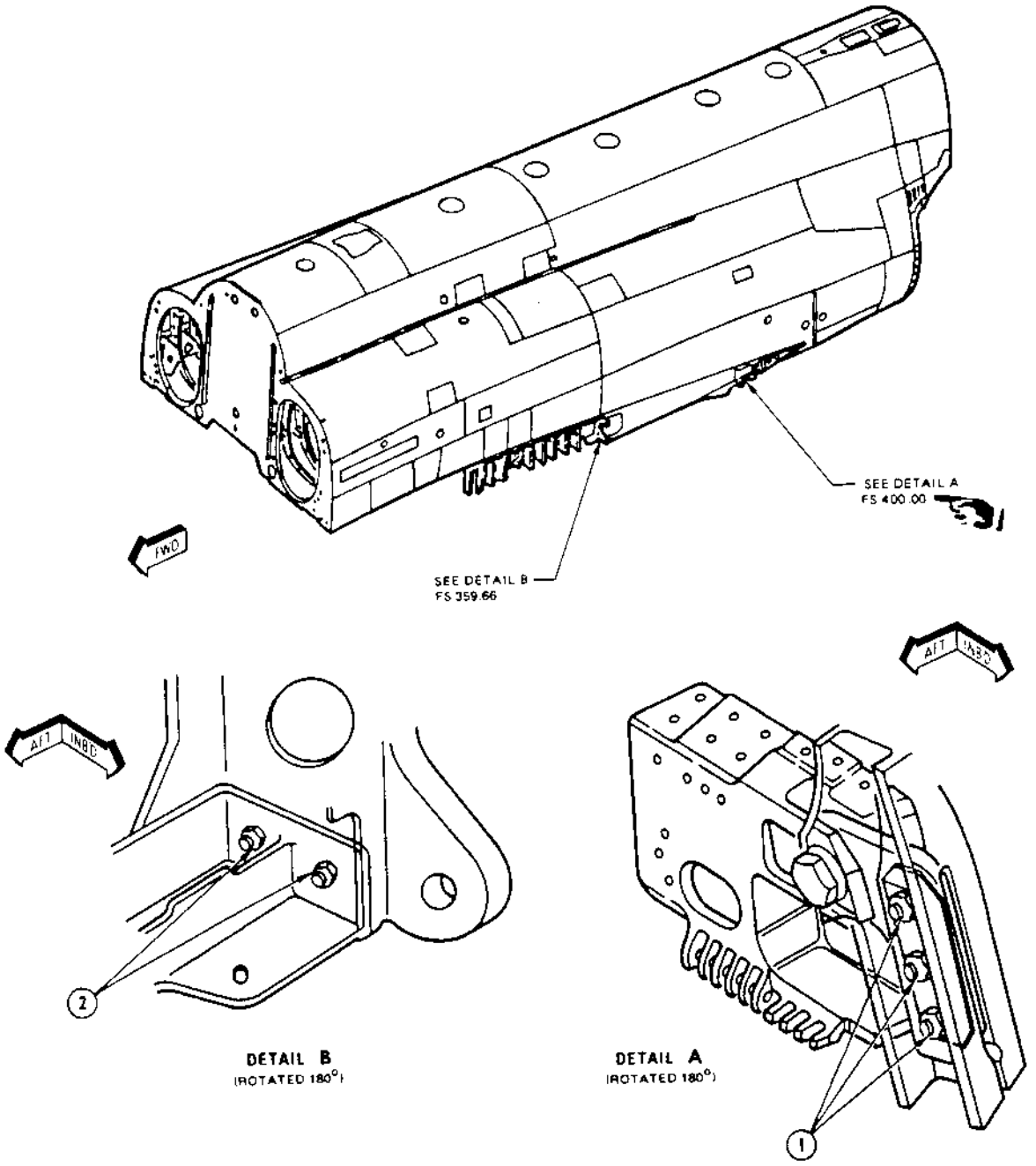
	REF NO.	BOLT	WASHER		NUT	TORQUE (INCH-POUNDS)	HOLE SIZE
			UNDER HEAD	UNDER NUT			
■ 10	1	NAS464P7LA16	AN960D716L	AN960D716L	28FT-720	270-300	0.4375 (+0.0012/-0.0005)
	2	NAS464P10LA25	AN960D1016	AN960D1016	NAS1022A10	500-600	0.6250 (+0.0012/-0.0005)

Figure 4-33. Lug Assembly, 32-32528, Replacement (Sheet 1 of 2)

NOTES

1. ADDITIONAL INFORMATION IN TEXT.
2. DIMENSION IS NOMINAL SHIMMED GAP BETWEEN 32-32527 FITTING AND 32-32528 LUG ASSEMBLY. MAXIMUM UNSHIMMED GAP SHALL NOT EXCEED 0.008. MAXIMUM SHIM THICKNESS SHALL NOT EXCEED 0.060. MAXIMUM LAMINATED SHIM THICKNESS SHALL NOT EXCEED 0.031.
3. SHIMS MAY BE INSTALLED ON FORWARD OR AFT SIDE OF 32-32528 LUG AS REQUIRED.
4. MINIMUM GAP OF 0.005 MUST EXIST TO ENSURE CLAMP-UP CONDITION WILL NOT EXIST. GAP MAY BE UNDER BOLT HEAD OR NUT.
5. BOLT AND BUSHING CAN BE ROTATED USING VERY LITTLE TORQUE.
6. INSTALL SPACES AS REQUIRED TO CONTROL FORWARD AND AFT MOVEMENT OF 32-11591-3 BUSHING FROM 0.005 MINIMUM TO 0.020 MAXIMUM.
7. BEFORE REPLACEMENT OF 32-11561 BUSHINGS.
8. AFTER REPLACEMENT OF 32-11561 BUSHINGS WITH 32SRF-295-1, -3 BUSHINGS.
9. FOR REPLACEMENT OF 32-11561 BUSHINGS, SEE FIGURE 4-34.
10. USE NAS2907-16 (FIRST OVERSIZE FASTENER) OR NAS3007-16 (SECOND OVERSIZE FASTENER) FOR REPAIR OF OVERSIZE HOLES.
11. FOR REPLACEMENT OF 32-32528 LUG ASSEMBLY, SEE PARAGRAPH 4-54.

Figure 4-33. Lug Assembly, 32-32528, Replacement (Sheet 2 of 2)



DETAIL B
(ROTATED 180°)

DETAIL A
(ROTATED 180°)

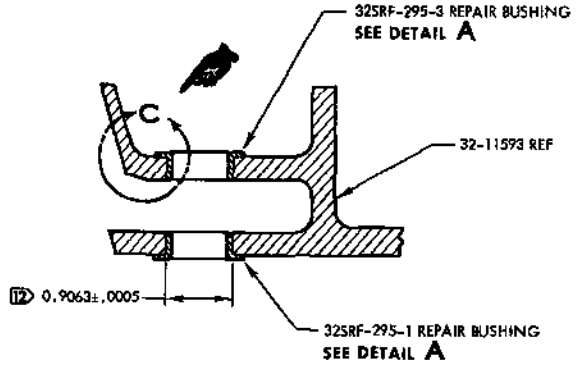
REF NO.	BOLT	WASHER		NUT	TORQUE (INCH-LB)
		UNDER HEAD	UNDER NUT		
1	NAS464P7LA16	AN960D716L	AN960D716L	28FT-720	270-300
2	NAS464P5LA-9	AN960D516L	AN960D16L	NAS679A5	100-140

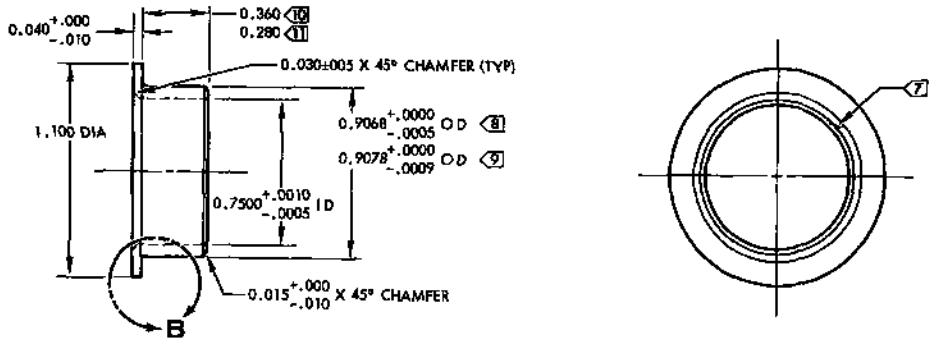
Note

BEFORE PERFORMING CHECK OF YAW STAB. AUG. PER TO1F-4 1 1-2-16 RETORQUE FASTNERS (1) AND (2) TO VALUES SHOWN ABOVE.

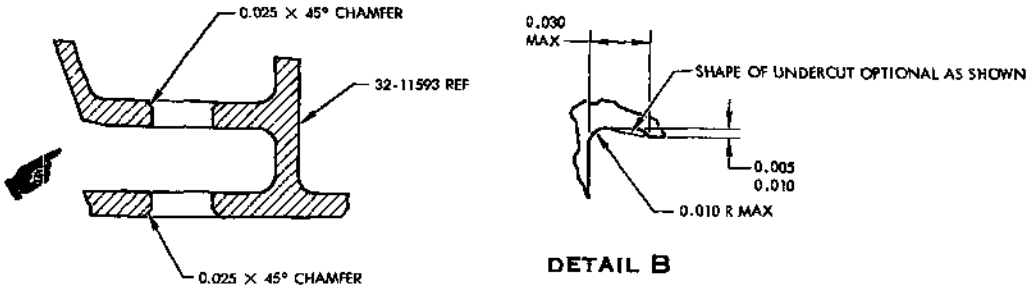
G9500160

Figure 4-33A. Fastener Retorque, Rudder Flutter Correction





DETAIL A
32SRF-295-1, -3



DETAIL C

DETAIL B

REPAIR PROCEDURE

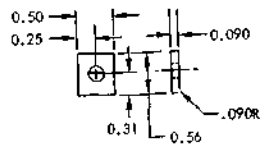
A. REMOVE 32-11561-3, -5 BUSHINGS.
B. REAM HOLES OVERSIZE, SEE NOTE 12 .
C. FABRICATE REPAIR BUSHINGS, 32SRF-295-1, -3, SEE DETAIL A.
D. INSTALL REPAIR BUSHINGS, 32SRF-295-1, -3 AS SHOWN.

Notes

1. MATERIAL: 303SE CRES, COLD WORKED, MMS-265.
2. BREAK SHARP EDGES.
3. FINISH 125 MICROINCH ALL OVER.
4. FLUORESCENT PENETRANT INSPECT PART. FOR PENETRANT PROCEDURE REFER TO T.O. 33B-1-1.
5. DIAMETER TO BE CONCENTRIC WITHIN 0.003 TOTAL INDICATED READING.
6. CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 2.
7. DO NOT PLATE THIS SURFACE.
8. DIMENSION BEFORE PLATING.
9. DIMENSION AFTER PLATING.
10. FOR 32SRF-295-1. DIMENSION TO BE ±.010 OF 32-11593 FITTING THICKNESS.
11. FOR 32SRF-295-3. DIMENSION TO BE ±.010 OF 32-11593 FITTING THICKNESS.
12. REAM HOLES OVERSIZE IN LINE.

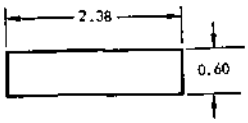
4C-3-1-2-(295

Figure 4-34. Bushing, 32-11561, Repair



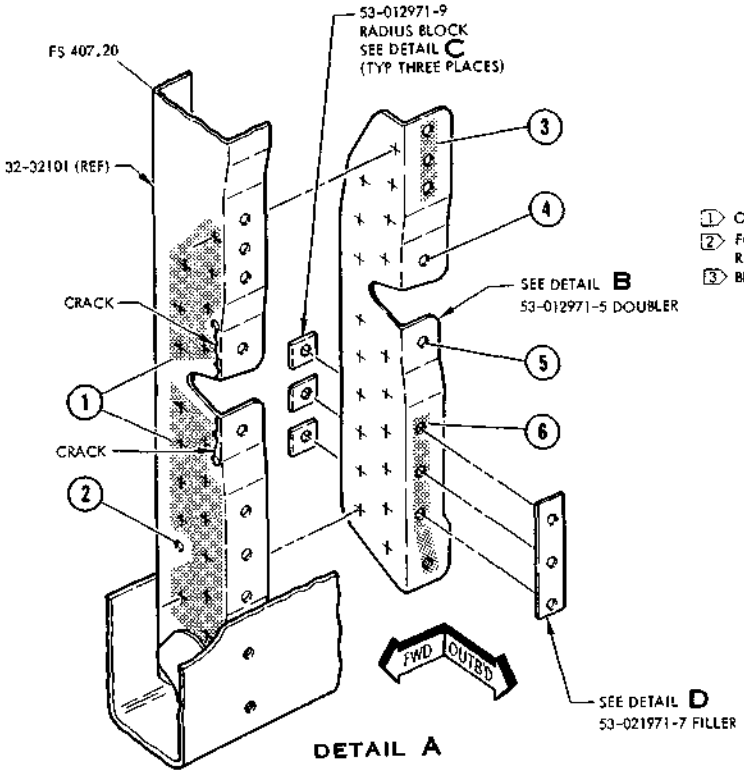
DETAIL C

53-012971-9 RADIUS BLOCK
0.090 2024-T3 AL ALY
QQ-A-250/4 (T3)



DETAIL D

53-012971-7 FILLER
0.025 2024-T3 AL ALY
QQ-A-250/4 (T3)

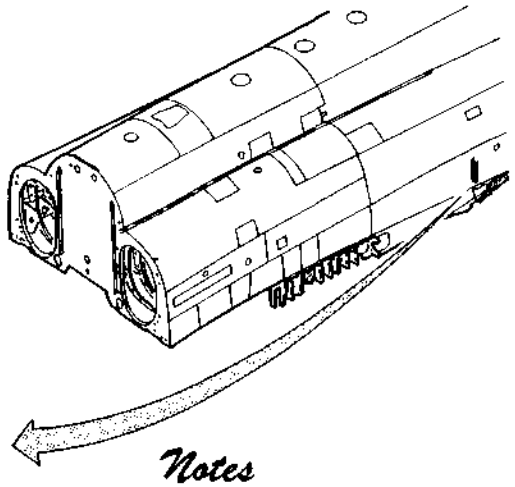


DETAIL A

INSPECTION AND REPAIR PROCEDURE

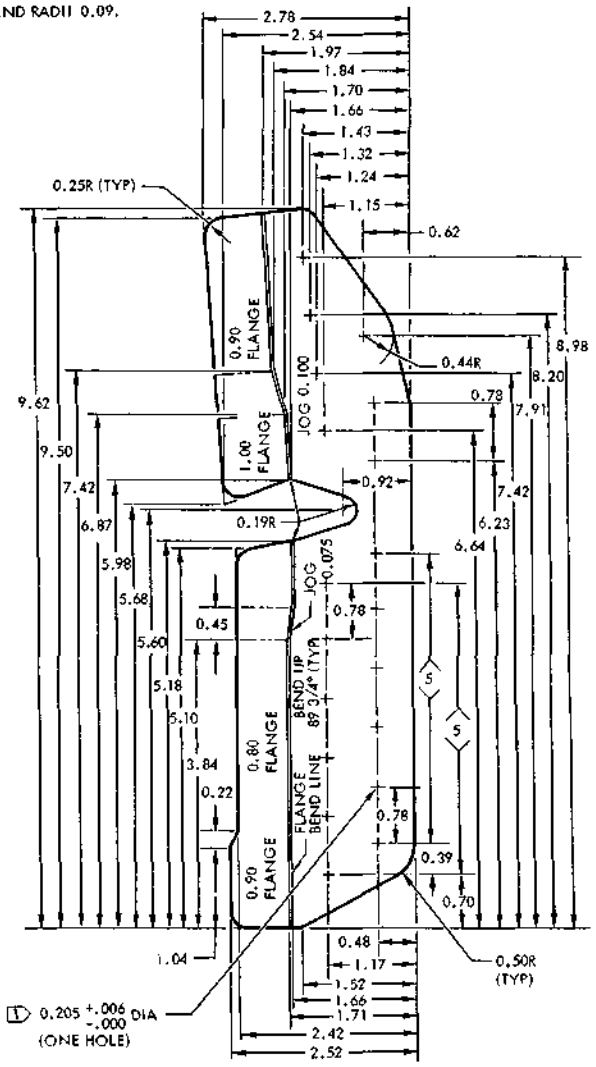
A. PERFORM FLUORESCENT PENETRANT INSPECTION ON AREA SHOWN IN DETAIL A. REFER TO T.O. 1F-4C-36 FOR INSPECTION PROCEDURE.
B. STOP DRILL CRACK WITH 0.250 DIAMETER DRILL, SEE DETAIL A.
C. ROUT OUT CRACK AREA 0.06 WIDE, SEE DETAIL A.
D. FABRICATE REPAIR PARTS, SEE DETAILS B, C, AND D.
E. LOCATE REPAIR PARTS AND DRILL FASTENER HOLE TO SIZE CALLED OUT IN CHART, SEE DETAIL A. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES.
F. REMOVE REPAIR PARTS AND DEBURR HOLE IN STRUCTURE AND REPAIR PARTS, SEE DETAIL A.
G. REFINISH EDGE OF HOLES, REWORKED AREA, AND REPAIR PARTS, REFER TO T.O. 1F-4C-3-1-6.
H. FAY SEAL REPAIR AND STRUCTURE, REFER TO T.O. 1F-4C-3-1-6.
I. INSTALL REPAIR PART WITH FASTENERS CALLED OUT IN CHART, SEE DETAIL A.

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	NAS1054-6-2	HS234-6	0.189 +.006 -.000
2	HS40PB6-2 (1)	HS234-6	0.205 +.006 -.000
3	HS39PB6-4	HS234-6	0.205 +.006 -.000
4	HS39PB6-6	HS234-6	0.205 +.006 -.000
5	HS40PB6-6	HS234-6	0.205 +.006 -.000
6	HS40PB6-5	HS234-6	0.205 +.006 -.000



Notes

1. OMIT IF TOOLING HOLE IN FRAME IS LARGER THAN 3/16 DIAMETER.
2. FORM PART IN 2024-0 CONDITION AND HEAT TREAT TO 2024-T42 CONDITION, REFER TO T.O. 1F-4C-3-1-1.
3. BEND RADII 0.09.



DETAIL B

3 2 53-012971-5, -6 DOUBLER
0.045 2024-T42 AL ALY
QQ-A-250/4 (T42)

4C-3-1-2-(319)

Figure 4-35. Frame Repair - FS 407.70

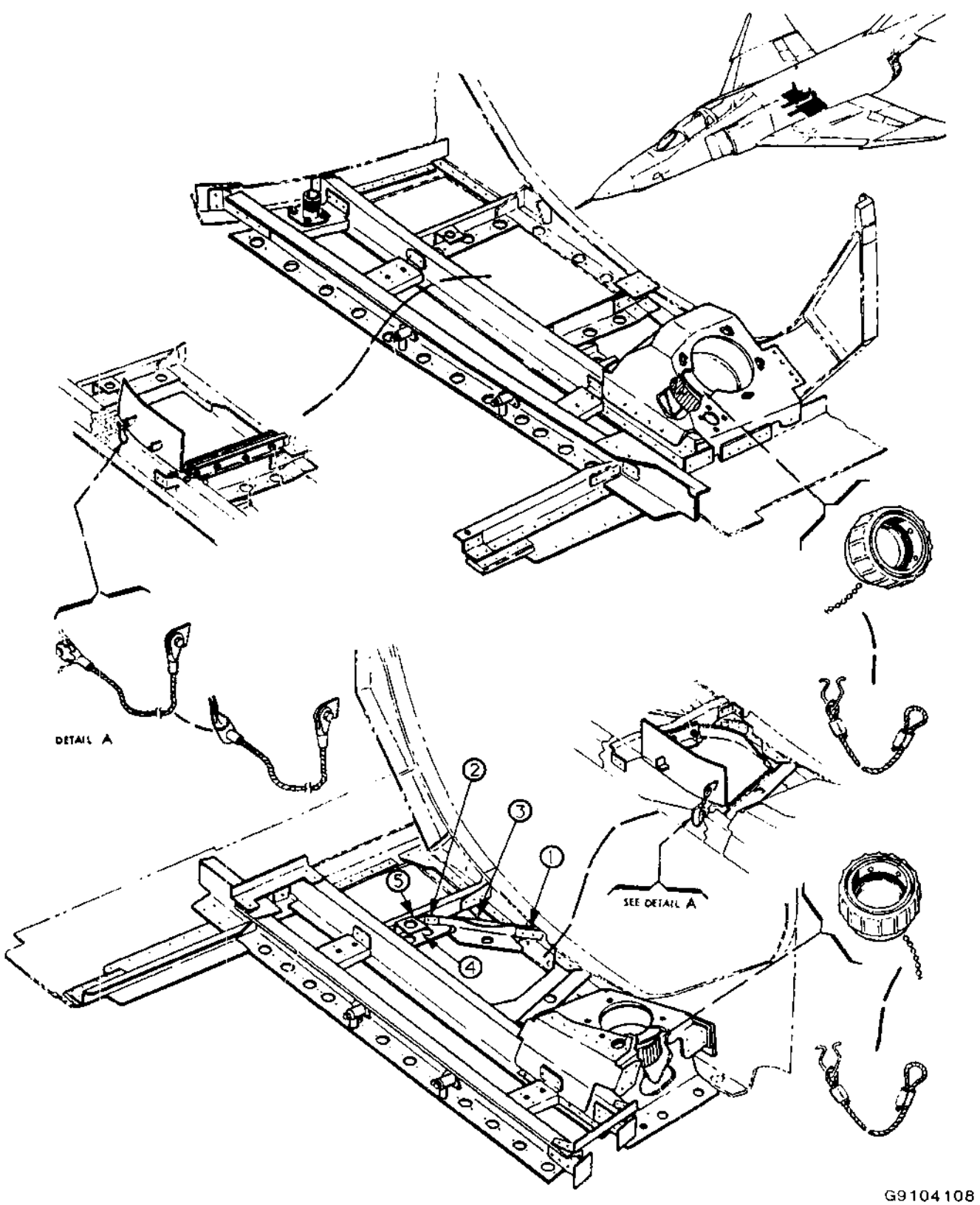


Figure 4-35A. Pneumatic Starter Pan Assembly Repair (Sheet 1 of 2)

INDEX	PART NUMBER	NOUN	GAUGE OR EXTRUSION	MATERIAL
1	53-32027-71	ANGLE	0.063	7178-T6
2	53-32027-73	ANGLE	0.063	7178-T6
3	53-32027-75	BEAM	1M7589	7178-T6
4	53-32027-83	CHANNEL	1M7589	7178-T6
5	53-32027-87	SUPPORT	1M2149	7178-T6

REPAIR PROCEDURES

A. REMOVE DAMAGED COMPONENTS.

B. IF REPLACEMENT PARTS ARE NOT AVAILABLE, LOCAL MANUFACTURE PARTS AS REQUIRED.

C. USE SAME FASTENERS AS ORIGINAL WHEN INSTALLING NEW PARTS.

NOTES

1. WHEN 0.063 THICK 7178-T6 IS NOT AVAILABLE, USE 0.070 THICK 7075-T6.
2. SEE T.O. 1F-4C-3-1-5, FIGURE 3-9A FOR SHEETMETAL EQUIVALENT OF 1M7589 EXTRUSION.
3. SEE T.O. 1F-4C-3-1-5, FIGURE 3-2 FOR SHEETMETAL EQUIVALENT OF 1M2149 EXTRUSI0N.
4. PROCEDURES GIVEN ARE FOR LEFT ENGINE BAY. USE SIMILAR PROCEDURES FOR DAMAGE IN THE RIGHT ENGINE BAY.

Figure 4-35A. Pneumatic Starter Pan Assembly Repair (Sheet 2 of 2).

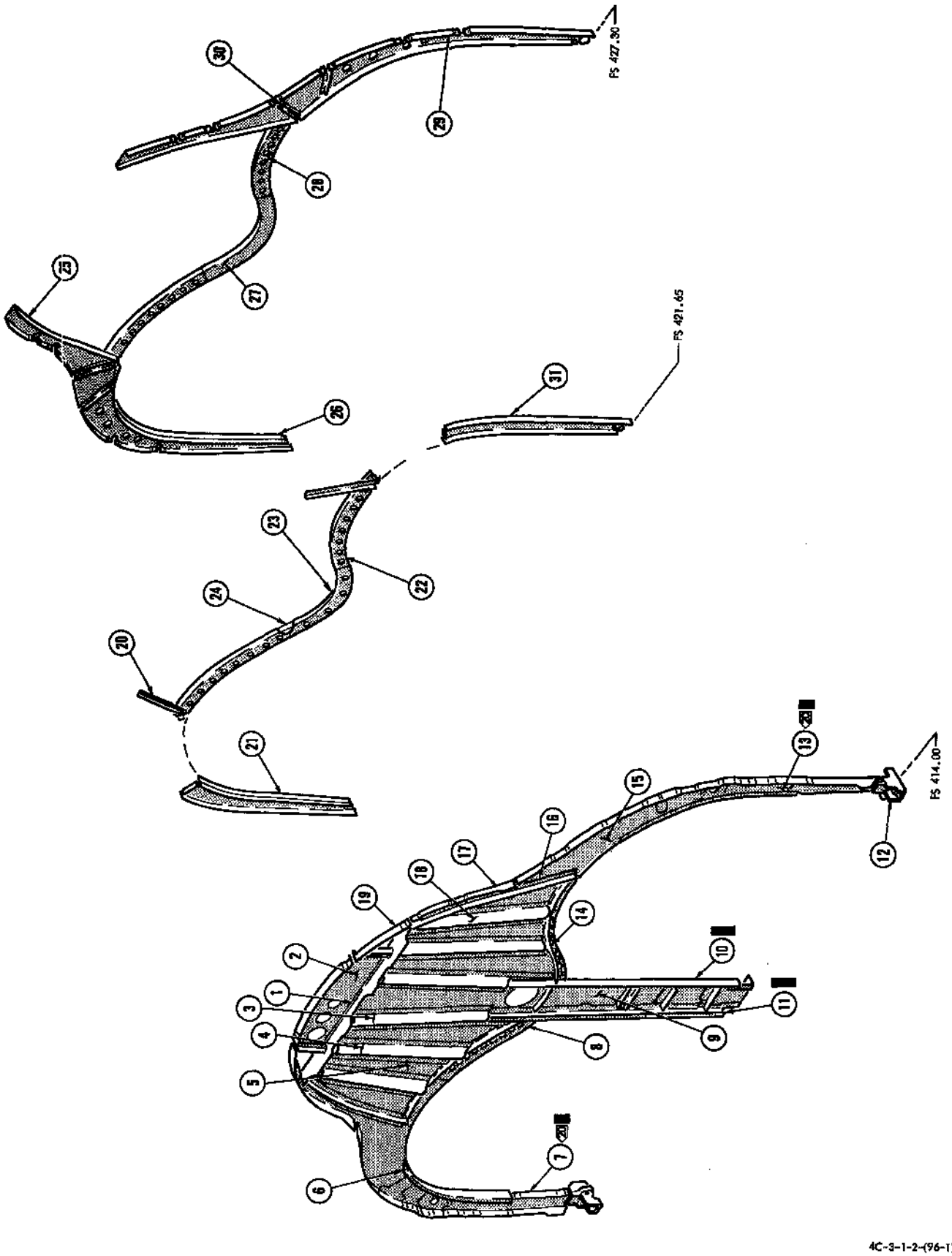


Figure 4-36. Bulkheads and Frames - FS 414.00 thru FS 427.30 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32028-235	CRUCIFORM	1M9583	7178-T651 AL ALY	QQ-A-200/13 (T651)
2	32-32028-151	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32028-265	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32028-273	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32028-289	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-32028-47,-48	HAT	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32028-267,-268	HAT	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32028-271,-272	HAT	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-32028-50,-49	HAT	0.070	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32028-254,-253	HAT	0.070	7178-T651 ALCLAD	QQ-A-250/15 (T651)
5	32-32028-149	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32028-269	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
6	32-32028-52,-51	CHANNEL	0.063	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III CMPSN A, ANNEALED
7	32-32028-238,-237 [20]	FORMER	0.071	17-7PH CRES	MIL-S-25043 ANL
8	32-32028-43	ANGLE	0.032	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III CMPSN A, ANNEALED [1]
9	32-32028-179	WEB	0.071	8Mn TITANIUM ALLOY	
	32-32028-401	WEB	0.071	6AL-4V TITANIUM	MIL-T-9046 TYPE III COMPOSITION C, ANNEALED
10	32-32250-15	CHANNEL	1M2904	4330V MODIFIED	AMS 6427 [21]
	32-32250-21	CHANNEL	1M2904	4330V MODIFIED	AMS 6427 [21]
11	32-32250-17	CHANNEL	1M2904	4330V MODIFIED	AMS 6427 [21]
	32-32250-23	CHANNEL	1M2904	4330V MODIFIED	AMS 6427 [21]
12	32-32448-9,-10	FITTING	PRESSING	2014-T6 HF BILLET	QQ-A-367 (T6)
	32-32448-13,-14	FITTING	PRESSING	2014-T6 HF BILLET	QQ-A-367 (T6)
	32-32448-11,-12	FITTING	PRESSING	2014-T6 HF BILLET	QQ-A-367 (T6)
	32-32448-15,-16	FITTING	PRESSING	2014-T6 HF BILLET	QQ-A-367 (T6)
	32-321613-3,-4	FITTING	FORGING	6AL-4V TITANIUM ALLOY	MIL-F-83142 COMP 6
	32-321613-5,-6	FITTING	FORGING	6AL-4V TITANIUM ALLOY	MIL-F-83142 COMP 6
13	32-32028-249,-250 [20]	FORMER	0.071	17-7PH CRES	MIL-S-25043-ANL [22]
14	32-32028-17	CRUCIFORM	1M9585	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32028-277	CRUCIFORM	1M97178	2024-T6 AL ALY	QQ-A-200/3 (T6)
15	32-32028-163,-164	FORMER	0.071	8Mn TITANIUM ALLOY	[1]
16	32-32028-13,-14	CRUCIFORM	1M9584	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	32-32028-53,-54	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-32028-45,-46	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-32028-37,-38	TEE	1M5194	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-32102-14,-13	ANGLE	0.036	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
21	32-32102-16,-17	ANGLE	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
22	32-32102-32,-31	CHANNEL	0.050	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
23	32-32102-25	CHANNEL	0.050	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
24	32-32102-33,-34	CHANNEL	0.056	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
25	32-32103-12,-11	FORMER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-32103-18,-17	ANGLE	0.063	8Mn TITANIUM ALLOY	[1]
27	32-32103-9	CHANNEL	0.080	8Mn TITANIUM ALLOY	
28	32-32103-43,-44	BEAM	0.080	8Mn TITANIUM ALLOY	
29	32-32103-47,-48	FRAME	0.050	8Mn TITANIUM ALLOY	
	32-32103-53,-54	FRAME	0.050	8Mn TITANIUM ALLOY	
30	32-32103-19,-20	CHANNEL	0.050	8Mn TITANIUM ALLOY	
31	32-32102-37,-38	FRAME	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
	32-32102-39,-40	FRAME	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED

Notes

[1] MIL-T-9046 TYPE III COMPOSITION A, ANNEALED.
F-4C 63-7407 THRU 63-7742.
F-4C 63-7443 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4.
F-4C 63-7407 THRU 64-817 AND RF-4 63-7742 THRU 64-1077.
F-4C 64-818 THRU 64-928, F-4D 64-929 THRU 64-963, AND RF-4 64-1078 THRU 65-864.
F-4D 64-964 THRU 66-8825, F-4E, F-4G, AND RF-4 65-865 THRU 72-156.
F-4C, F-4D 64-929 THRU 64-963, AND RF-4 63-7742 THRU 65-864.
F-4E AND F-4G.
F-4C AND F-4D 64-929 THRU 64-963.
RF-4 67-428 THRU 72-156.
F-4C, F-4D, AND RF-4.
F-4D.
RF-4 63-7742 THRU 66-428.
F-4E 66-284 THRU 67-398.
F-4E 68-303 AND UP AND UP AND F-4G.
F-4C, F-4D, F-4E 66-284 THRU 71-236, F-4G, AND RF-4 63-7742 THRU 71-252.
F-4E 71-237 AND UP AND RF-4 71-253 THRU 72-156.
RF-4 63-7724 THRU 69-384.
F-4E 66-284 THRU 71-236 AND F-4G.
[20] FOR REPAIR, SEE FIGURE 4-37.
[21] MACHINED IN THE C CONDITION THEN HEAT TREATED TO 220-240 KSI.
[22] HEAT TREAT TO CONDITION TH1050 PER MIL-H-6875.

4C-3-1-2-(96-2)F

Figure 4-36. Bulkheads and Frames - FS 414.00 thru FS 427.30 (Sheet 2 of 2)

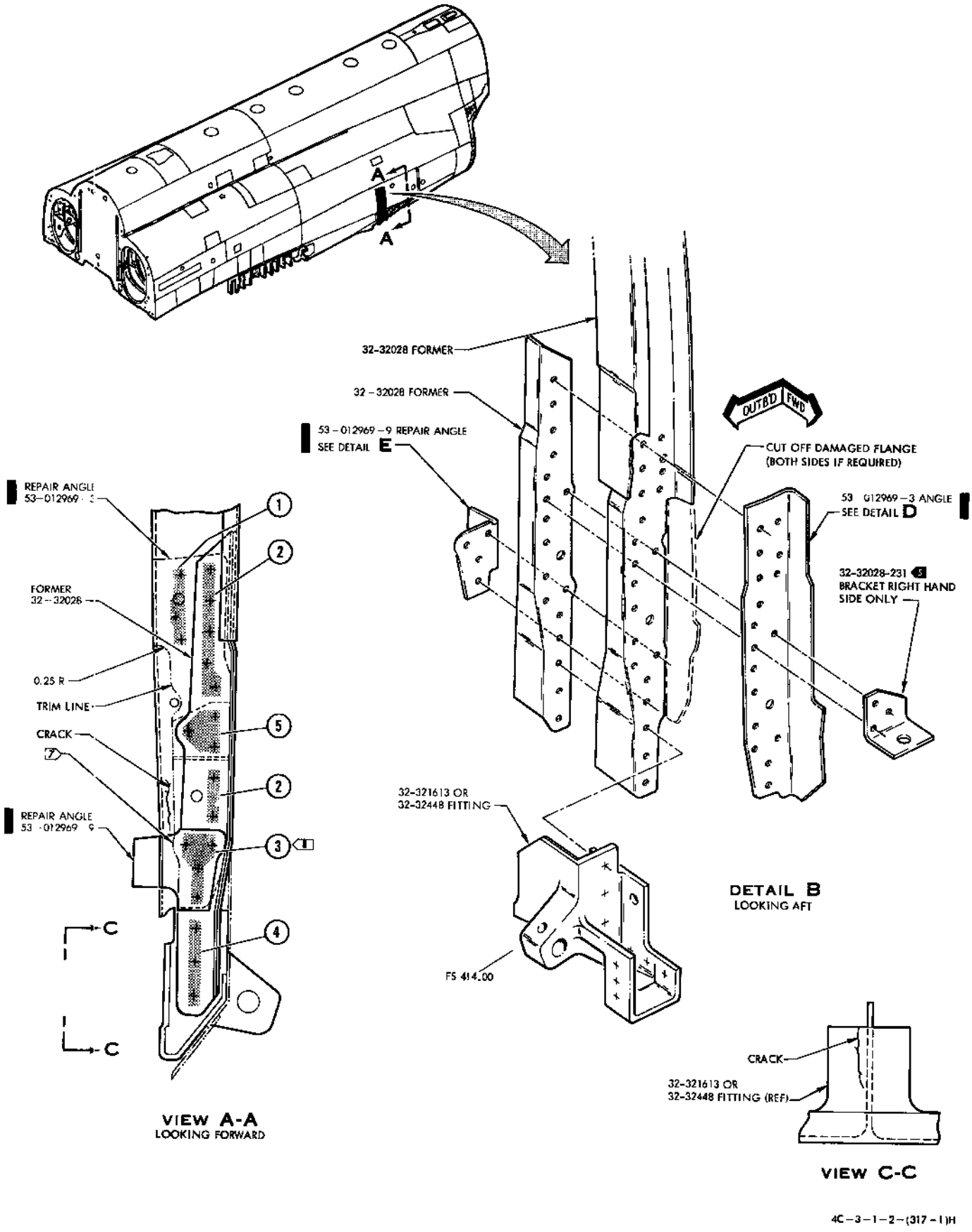
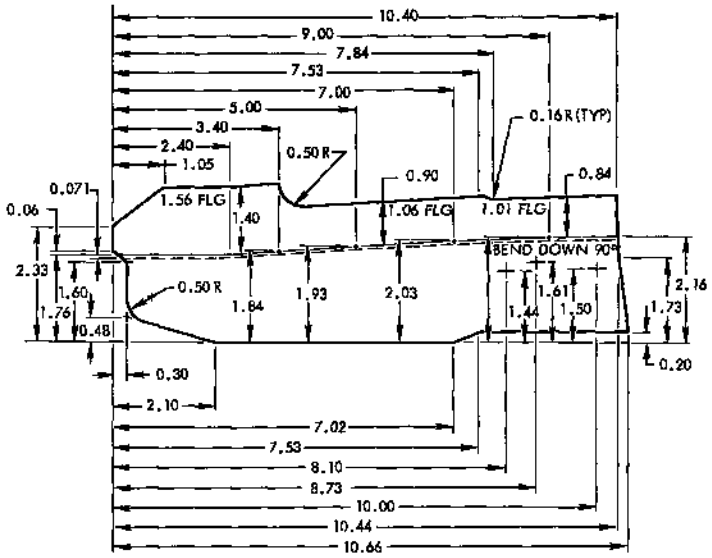
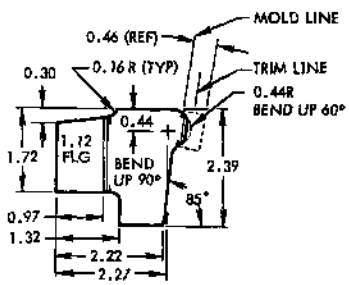


Figure 4-37. Bulkhead Repair - FS 414.00 (Sheet 1 of 2)



DETAIL D
53-012969-3,-4 ANGLE 1 2
0.071 17-7PH CRES
MIL-S-25043 ANNEALED



DETAIL E
53-012969-9,-10 ANGLE 1 2
0.071 17-7 PH CRES
MIL-S-25043 ANNEALED

INSPECTION PROCEDURE

A. REMOVE SHROUD, MOLD LINE FASTENERS AND INNER STRUCTURE FASTENERS AS REQUIRED FOR ACCESS TO 32-32028 BULKHEAD.
B. VISUALLY INSPECT AREA FOR CRACKS, SEE VIEW A-A AND C-C.
C. IF CRACKS EXIST IN 32-32028 - 233, -239 OR -249 FORMER, REWORK PER REPAIR PROCEDURE.
D. IF CRACKS EXIST IN 32-32448 OR 32-321613 FITTING, REMOVE AND REPLACE FITTING. REPLACE 32-32448-9,-10,-11,-12 FITTINGS WITH 32-32448-13,-14,-15,-16 RESPECTIVELY. REPLACE ALL OTHER FITTINGS WITH IDENTICAL PARTS.
E. IF CRACK EXISTS ONLY IN 32 - 32028 169, 170, 237 OR -238 TAB FLANGE, THE TAB FLANGE IS TO BE CUT OFF AND REPLACED BY REPAIR ANGLE 53 012969 9. 9 NO ADDITIONAL REPAIR IS REQUIRED.

REPAIR PROCEDURE

A. REMOVE BRACKET, ANGLE AND HARDWARE AS REQUIRED, SEE DETAIL B.
B. INSERT CRES SCUFF PLATE BETWEEN SKIN AND MOLD LINE FLANGE OF 32-32028 FORMER.
C. TRIM CRACKED AREA OF 32-32028 FORMER TO TRIM LINE, SEE VIEW A-A.
D. TRIM 32-32028-169, -170 OR -237, -238 TAB FLANGE FLUSH WITH TRIM LINE OF STEP C.
E. FABRICATE REPAIR PARTS, SEE DETAILS D AND E.
F. LOCATE REPAIR ANGLES AND DRILL FASTENER HOLES TO SIZE SHOWN IN CHART. LOCATE FASTENER HOLES PER TO 1F-4C-3-1-1.
G. REMOVE REPAIR ANGLES AND DEBURR HOLES IN ANGLES AND STRUCTURE. HEAT TREAT 17 7PH CRES REPAIR PARTS TO CONDITION TH1050 PER MIL H 6875.
H. REFINISH REWORKED AREA, EDGES OF HOLES AND REPAIR ANGLES IN ACCORDANCE WITH TO 1F-4C-3-1-6.
I. INSTALL REPAIR ANGLES AND FASTENERS CALLED OUT IN CHART, SEE VIEW A-A.
J. INSTALL BRACKET, ANGLE AND HARDWARE REMOVED IN STEP A.
K. REPLACE SHROUD OR COVER CUTOUT WITH 301 CRES 1/4 HARD USING STD SHEET METAL PRACTICES PER T O 1F-4C-3-1-1.

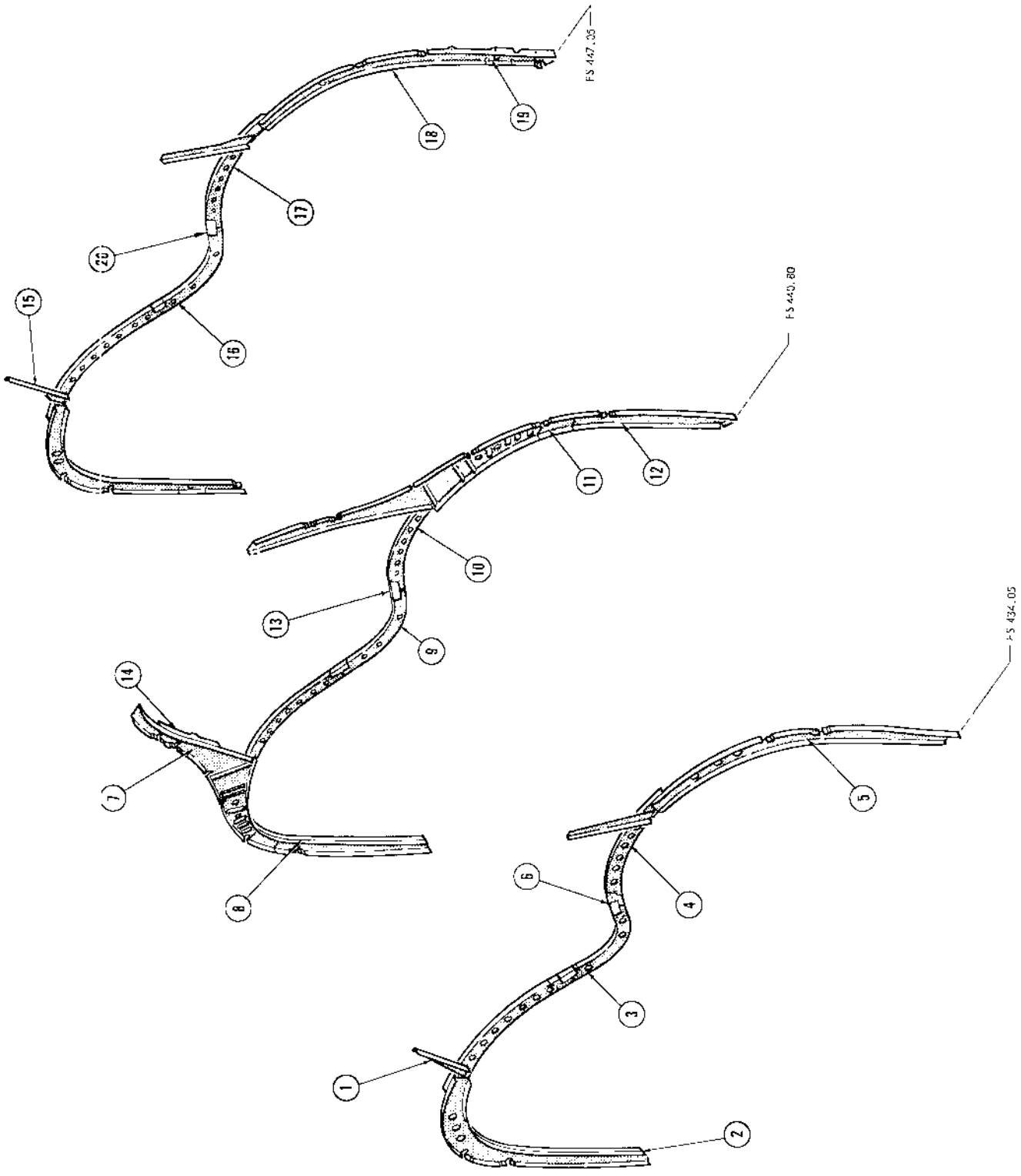
Notes

1 FORM IN THE ANNEALED CONDITION.
2 BEND RADIUS 0.19.
3 F-4C, F-4D AND RF-4C.
4 F-4E; F-4G.
5 F-4C 63-7407 THRU 63-7442.
6 F-4C 63-7443 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C.
7 CUT OFF TAB TO MATCH APPROXIMATE TRIM LINE SHOWN.
8 LENGTH OF FASTENER AS REQUIRED FOR REPAIR OF TAB ONLY (STEP E OF INSPECTION PROCEDURE).
9 IF EXISTING FASTENER HOLE IN TAB IS SUCH THAT IT WILL BE IN BEND RADIUS OF REPAIR ANGLE 53 012969--9 FORMER 32 32028 - 169, 170, - 237 - 238 MUST BE REPLACED.
10 IF HS234 -( ) COLLARS ARE NOT AVAILABLE; HS60M-( ) COLLARS MAY BE USED AS A SUBSTITUTE.

REF NO.	FASTENER	NUT OR 10 COLLAR	HOLE SIZE
1	HS62 -6 3	HS234 -6 OR HS60M -6	0.189 +.006 -.000
2	HS62 6 - 4	HS234 6 OR HS60M --6	0.189 +.006 -.000
3	HS62 6 -- 5	HS234 - 6 OR HS60M -6	0.189 +.006 -.000
4 3	HS62 8 -- 4	HS234 -8 OR HS60M -8	0.250 +.006 -.000
4	HS62 -8 -6	HS234 -8 OR HS60M - 8	0.250 +.006 -.000
5 5	HS62 -6 -5	HS234 -6 OR HS60M- 6	0.189 +.006 -.000
6	HS62 6 -- 4	HS234 -6 OR HS60M -6	0.189 +.006 -.000

4C -3- 1- 2-1317 2184

Figure 4-37. Bulkhead Repair - FS 414.00 (Sheet 2 of 2)



4C-3 1-2-(97 1)B

Figure 4-38. Bulkheads and Frames FS 434.50 thru FS 447.05 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32104-16, -15	ANGLE	0.036	8Mn TITANIUM ALLOY	AMS 4908
2 [B]	32-32104-35, -36	ANGLE	0.032	8Mn TITANIUM ALLOY	AMS 4908
[C]	32-32104-43, -44	ANGLE	0.032	8Mn TITANIUM ALLOY	AMS 4908
3 [10]	32-32104-9	CHANNEL	0.050	8Mn TITANIUM ALLOY	AMS 4908
[C]	32-32104-51	CHANNEL	0.050	8Mn TITANIUM ALLOY	AMS 4908
4 [B]	32-32104-27, -28	CHANNEL	0.050	8Mn TITANIUM ALLOY	AMS 4908
[D]	32-32104-53, -54	CHANNEL	0.050	8Mn TITANIUM ALLOY	AMS 4908
5 [B]	32-32104-39, -40	FORMER	0.032	8Mn TITANIUM ALLOY	AMS 4908
[C]	32-32104-41, -42	FORMER	0.032	8Mn TITANIUM ALLOY	AMS 4908
[D]	32-32104-55, -56	FORMER	0.032	8Mn TITANIUM ALLOY	AMS 4908
6	32-32104-29, -30	CHANNEL	0.056	8Mn TITANIUM ALLOY	AMS 4908
7	32-32105-13, -14	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8 [B]	32-32105-43, -44	ANGLE	0.032	8Mn TITANIUM ALLOY	AMS 4908
[C]	32-32105-53, -54	ANGLE	0.032	8Mn TITANIUM ALLOY	AMS 4908
9	32-32105-9	BEAM	0.056	8Mn TITANIUM ALLOY	AMS 4908
10	32-32105-25, -26	BEAM	0.056	8Mn TITANIUM ALLOY	AMS 4908
11	32-32105-33, -34	DOUBLER	0.032	8Mn TITANIUM ALLOY	AMS 4908
12 [B]	32-32105-47, -48	FORMER	0.032	8Mn TITANIUM ALLOY	AMS 4908
[C]	32-32105-51, -52	FORMER	0.032	8Mn TITANIUM ALLOY	AMS 4908
13	32-32105-27, -28	CHANNEL	0.063	8Mn TITANIUM ALLOY	AMS 4908
14	32-32105-39, -40	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32106-13, -14	SUPPORT	0.036	8Mn TITANIUM ALLOY	AMS 4908
16	32-32106-9	BEAM	0.056	8Mn TITANIUM ALLOY	AMS 4908
17	32-32106-31, -32	BEAM	0.056	8Mn TITANIUM ALLOY	AMS 4908
18 [B]	32-32106-35, -36	FORMER	0.032	8Mn TITANIUM ALLOY	AMS 4908
[C]	32-32106-47, -48	FORMER	0.032	8Mn TITANIUM ALLOY	AMS 4908
19	32-32106-39, -40	DOUBLER	0.032	8Mn TITANIUM ALLOY	AMS 4908
20	32-32106-33, -34	CHANNEL	0.063	8Mn TITANIUM ALLOY	AMS 4908

Notes

[1] FOR INTERCHANGEABLE SPECIFICATION REFER TO TO 1F-4C-3-1-1.

[B] F-4C 63-7421 THRU 64-928; F-4D; F-4E; F-4G; RF-4C.

[C] F-4C 63-7407 THRU 63-7742.

[D] F-4C 63-7443 THRU 64-928; F-4D; F-4E; F-4G; RF-4C.

[E] F-4C, F-4D, RF-4C.

[F] F-4E AND F-4G.

[G] F-4C 63-7407 THRU 63-7420.

[H] F-4C 63-7443 THRU 64-928, F-4D, F-4E 66-284 THRU 69-7589, F-4G, AND RF-4C 63-7742 THRU 69-384.

[J] F-4E 71-224 AND UP, AND RF-4C 71-248 THRU 72-156.

[K] F-4C, F-4D, F-4E 66-284 THRU 69-7589, F-4G, AND RF-4C 63-7742 THRU 69-384.

4C-3-1-2-(97-2)C

Figure 4-38. Bulkheads and Frames - FS 434.50 thru FS 447.05 (Sheet 2 of 2)

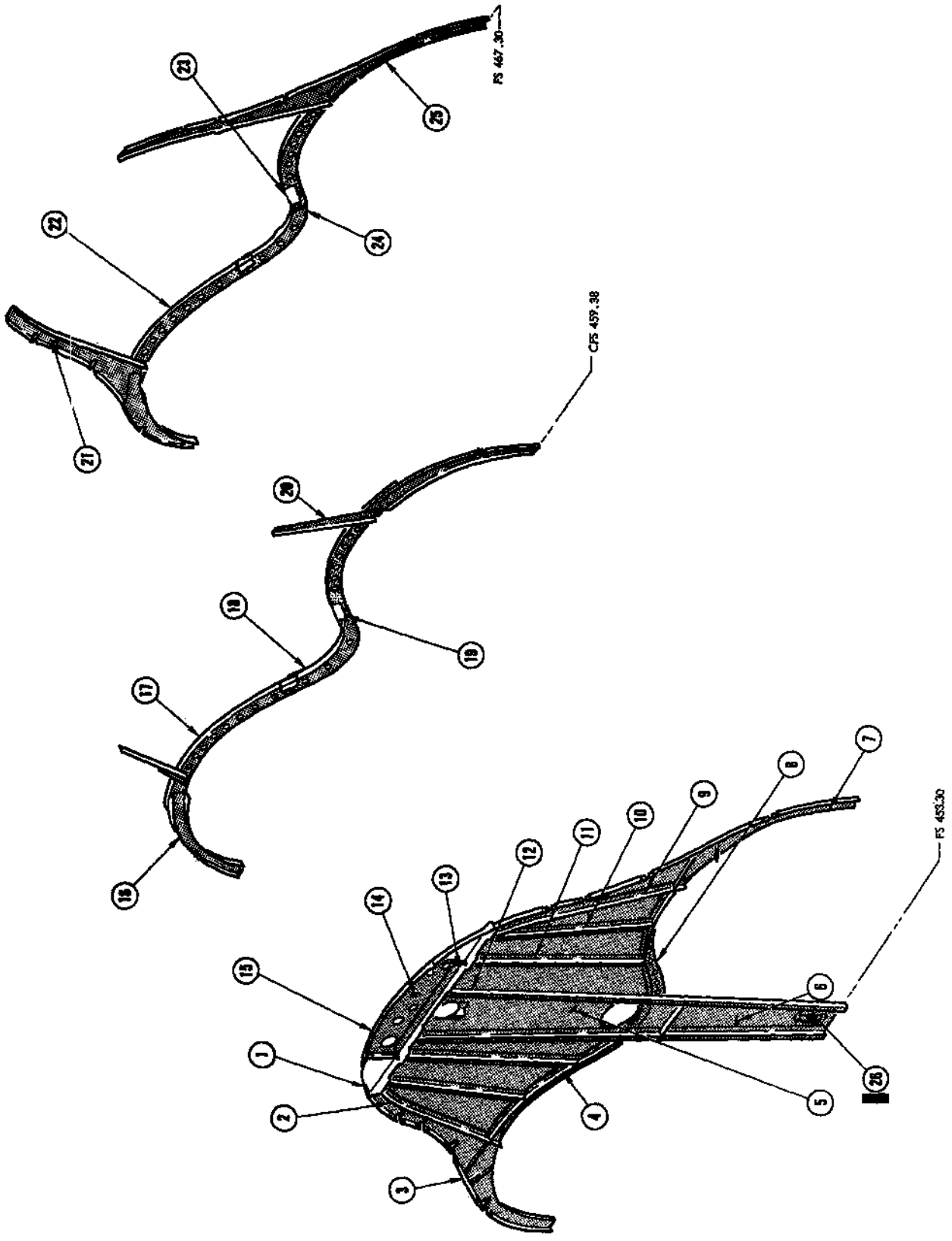


Figure 4-39. Bulkheads and Frames - FS 453.30 thru FS 467.30 (Sheet 1 of 2)

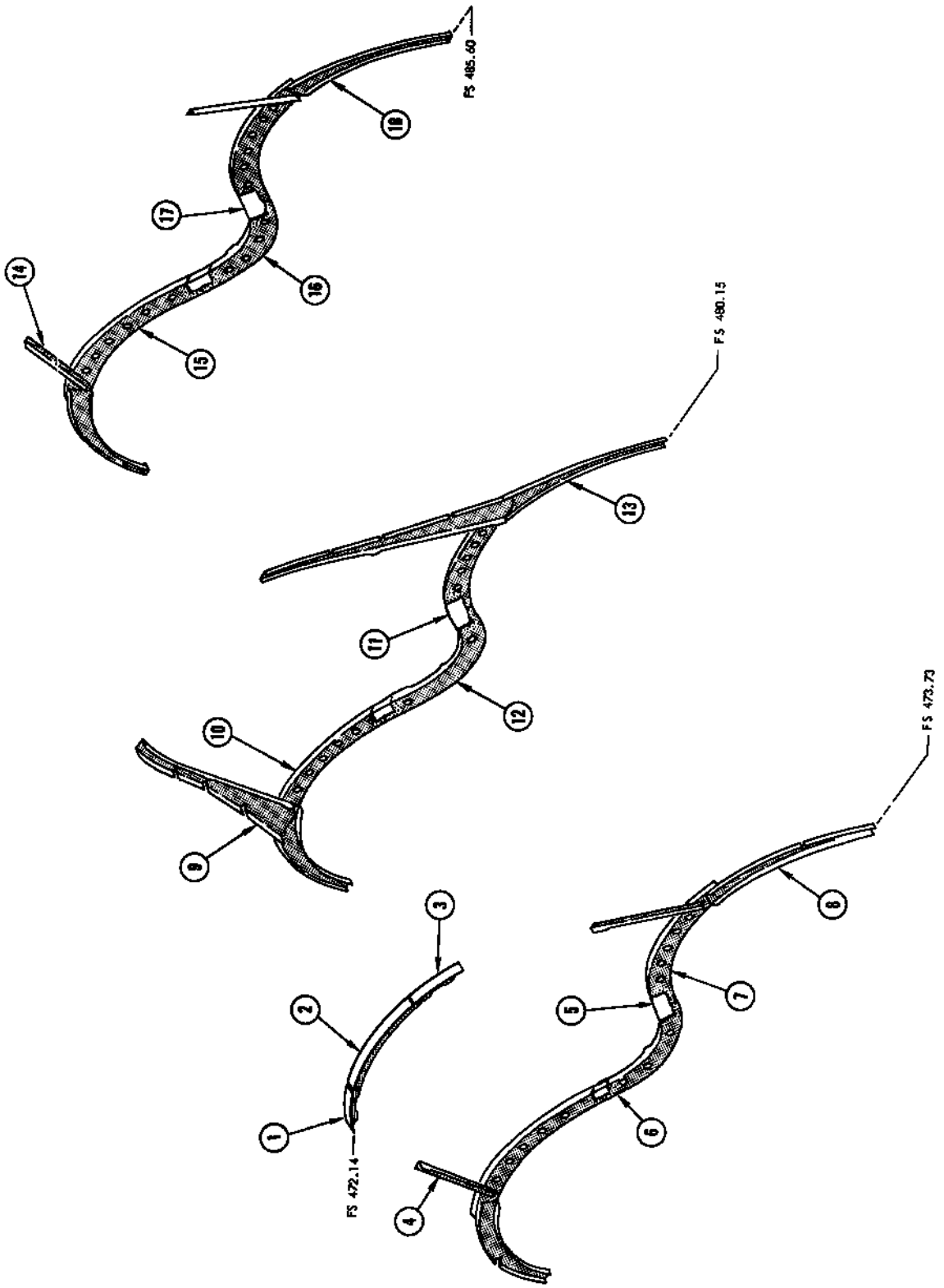
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32033-52, -51	TEE	1M5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
1	32-32033-52, -185	TEE	1M5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
1	32-32033-186, -185	TEE	1M5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	32-32033-13, -14	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-32033-179, -180	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-32033-109, -110	FRAME	0.032	8Mn TITANIUM ALLOY	[1]
3	32-32033-177, -178	FRAME	0.032	8Mn TITANIUM ALLOY	[1]
4	32-32033-45	CRUCIFORM	1M9573	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32033-171	CRUCIFORM	1M97177	2024-T6 AL ALY	QQ-A-200/3 (T6)
5	32-32033-117	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14(T6)
6	32-32033-7	WEB	0.032	8Mn TITANIUM ALLOY	[1]
7	32-32033-107, -139	ANGLE	0.063	8Mn TITANIUM ALLOY	[1]
8	32-32033-105, -106	ANGLE	0.032	8Mn TITANIUM ALLOY	[1]
8	32-32033-105, -197	ANGLE	0.032	8Mn TITANIUM ALLOY	[1]
9	32-32033-43, -44	CRUCIFORM	1M9572	7178-T6 AL ALY	QQ-A-200/13 (T6)
10	32-32033-17, -18	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-32033-15, -16	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-32033-99, -100	CHANNEL	0.080	4130 STEEL	MIL-S-18729 (N)
13	32-32033-143	CRUCIFORM	1M9574	7178-T6 AL ALY	QQ-A-200/13 (T6)
13	32-32033-153	CRUCIFORM	1M9574	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-32033-119	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-32033-165	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-32033-155	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32033-53	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32033-187	ANGLE	1M2166	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	32-32033-195	ANGLE	1M2166	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	32-32107-23, -24	FORMER	0.063	8Mn TITANIUM ALLOY	[1]
17	32-32107-29, -30	BEAM	0.063	8Mn TITANIUM ALLOY	[1]
18	32-32107-9	BEAM	0.063	8Mn TITANIUM ALLOY	[1]
18	32-32107-49	BEAM	0.063	8Mn TITANIUM ALLOY	[1]
19	32-32107-27, -28	CHANNEL	0.071	8Mn TITANIUM ALLOY	[1]
20	32-32107-13, -14	CLIP	0.036	8Mn TITANIUM ALLOY	[1]
21	32-32108-7, -8	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-32108-17, -18	BEAM	0.063	8Mn TITANIUM ALLOY	[1]
22	32-32108-27, -28	BEAM	0.063	8Mn TITANIUM ALLOY	[1]
23	32-32108-19, -20	CHANNEL	0.071	8Mn TITANIUM ALLOY	[1]
24	32-32108-13	BEAM	0.063	8Mn TITANIUM ALLOY	[1]
24	32-32108-29	BEAM	0.063	8Mn TITANIUM ALLOY	[1]
25	32-32108-5, -6	FORMER	0.036	8Mn TITANIUM ALLOY	[1]
26	32-32249-5	FITTING	FORGING	4330 STEEL ALLOY	AMS 6427 [22]

Notes

[1] MIL-T-9046 TYPE III COMPOSITION A, ANNEALED.
[2] F-4D 64-964 THRU 66-8825, F-4E, AND F-4G.
[3] RF-4.
[4] F-4C 63-7407 THRU 64-928, F-4D, F-4E, AND F-4G.
[5] F-4C 63-7407 THRU 64-672 AND RF-4 63-7742 THRU 64-1037.
[6] F-4C 64-673 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4 64-1038 THRU 72-156.
[7] F-4C, F-4D, AND RF-4.
[8] F-4E AND F-4G.
[9] F-4C, F-4D, F-4E 66-284 THRU 66-367 AND RF-4.
[10] F-4E 66-368 THRU 67-282.
[11] F-4E 67-283 AND UP AND F-4G.
[12] F-4C, F-4D 64-929 THRU 66-7650, AND RF-4 63-7742 THRU 66-428.
[13] F-4D 66-7651 THRU 66-8825, F-4E, F-4G, AND RF-4 66-249 THRU 72-156.
[14] F-4C 63-7407 THRU 64-928, AND F-4D 64-929 THRU 64-963.
[15] F-4C, F-4D, F-4E 66-284 THRU 67-398, AND RF-4 63-7742 THRU 67-469.
[16] F-4E 68-303 THRU 71-236, F-4G, AND RF-4 68-548 THRU 71-252.
[17] F-4E 71-237 AND UP AND RF-4 71-253 THRU 72-156.
[18] F-4C, F-4D, F-4E 66-284 THRU 71-1093, F-4G, AND RF-4 63-7742 THRU 71-252.
[19] F-4E 71-1391 AND UP AND RF-4 71-253 THRU 72-156.
[20] F-4C, F-4D, F-4E 66-284 THRU 72-138, F-4G, AND RF-4 63-7742 THRU 69-384.
[21] F-4E 72-139 AND UP AND RF-4 71-248 THRU 72-156.
[22] FORGED AND MACHINED IN THE C CONDITION THEN HEAT TREATED TO 220 TO 240 KSI.

4C-3-1-2-(84-2)F

Figure 4-39. Bulkheads and Frames - FS 453.30 thru FS 467.30 (Sheet 2 of 2)



4C-3-1-2-(98-1)C

Figure 4-40. Bulkheads and Frames - FS 473.73 thru FS 485.60 (Sheet 1 of 2)

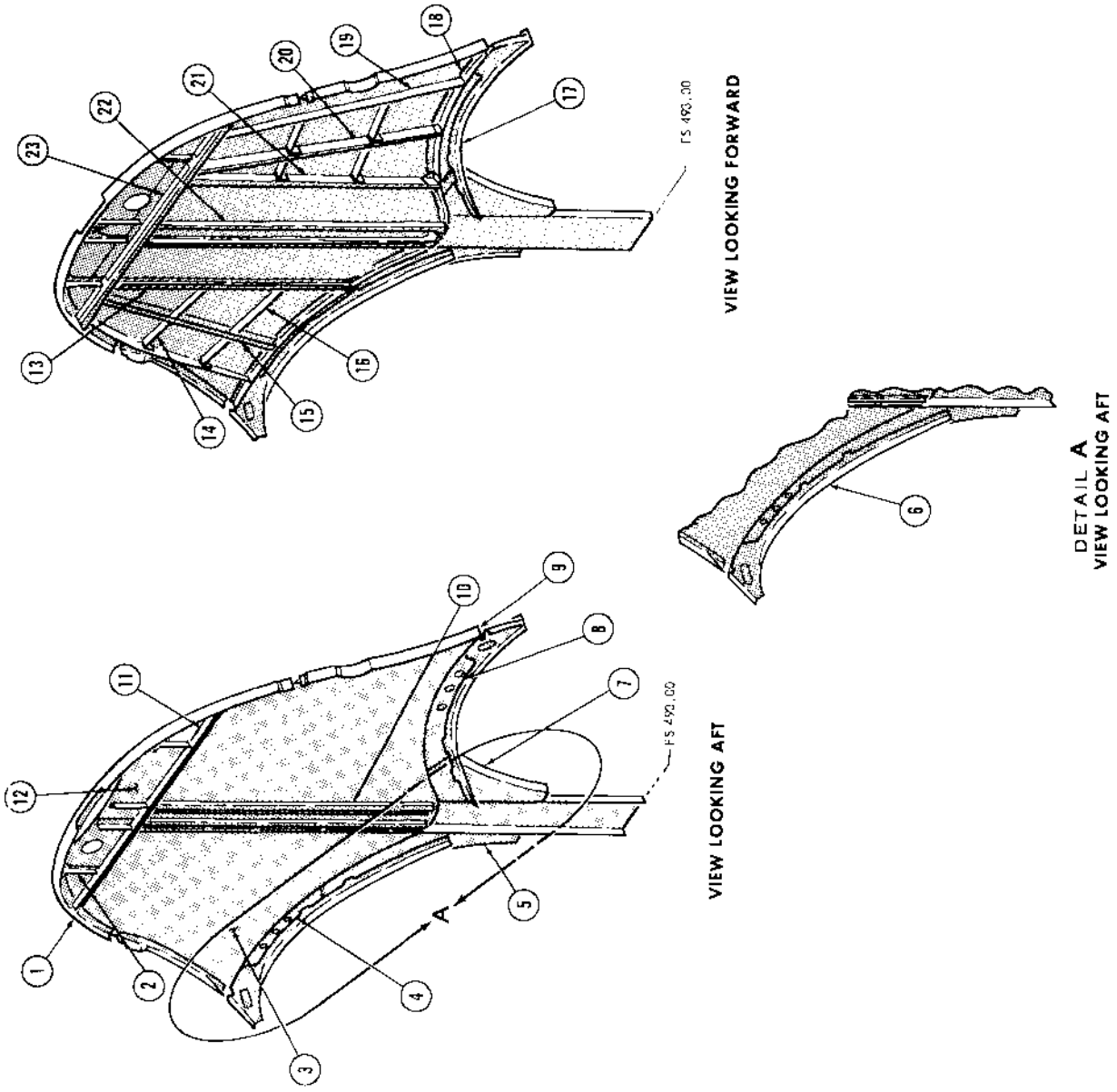
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [2]	32-32160-9	FORMER	IM5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
[3]	32-32160-19	FORMER	IM57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
[3]	32-32160-31	FORMER	IM57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
[7]	32-32160-40	FORMER	IM57292	7178-T6 AL ALY	QQ-A-200/13 (T6)
[9]	32-32160-66	FORMER	IM57292	7178-T6 AL ALY	QQ-A-200/13 (T6)
2 [2]	32-32160-5	FORMER	IM5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
[3]	32-32160-17	FORMER	IM57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
[4]	32-32160-29	FORMER	IM57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
[7]	32-32160-37	FORMER	IM57292	7178-T6 AL ALY	QQ-A-200/13 (T6)
[9]	32-32160-63	FORMER	IM57292	7178-T6 AL ALY	QQ-A-200/13 (T6)
3 [2]	32-32160-7	FORMER	IM5609	7178-T6 AL ALY	QQ-A-200/13 (T6)
[3]	32-32160-15	FORMER	IM57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
[4]	32-32160-27	FORMER	IM57351	7178-T6 AL ALY	QQ-A-200/13 (T6)
[7]	32-32160-39	FORMER	IM57292	7178-T6 AL ALY	QQ-A-200/13 (T6)
[9]	32-32160-65	FORMER	IM57292	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32109-13, -14	ANGLE	0.036	8Mn TITANIUM ALLOY	
5	32-32109-25, -26	CHANNEL	0.063	8Mn TITANIUM ALLOY	
6 [10]	32-32109-9	BEAM	0.050	8Mn TITANIUM ALLOY	
[11]	32-32109-43	BEAM	0.050	8Mn TITANIUM ALLOY	
7	32-32109-23, -24	BEAM	0.050	8Mn TITANIUM ALLOY	
8	32-32109-5, -6	FORMER	0.045	8Mn TITANIUM ALLOY	
9 [5]	32-32110-11, -12	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[6]	32-32110-35, -36	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-32110-27, -28	BEAM	0.050	8Mn TITANIUM ALLOY	
11	32-32110-25, -26	CHANNEL	0.050	8Mn TITANIUM ALLOY	
12 [10]	32-32110-9	BEAM	0.050	8Mn TITANIUM ALLOY	
[11]	32-32110-39	BEAM	0.050	8Mn TITANIUM ALLOY	
13	32-32110-29, -30	FRAME	0.050	8Mn TITANIUM ALLOY	
14	32-32111-13, -14	STIFFENER	0.036	8Mn TITANIUM ALLOY	
15 [8]	32-32111-17, -18	BEAM	0.045	8Mn TITANIUM ALLOY	
[8]	32-32111-27, -28	BEAM	0.045	8Mn TITANIUM ALLOY	
16 [10]	32-32111-21	BEAM	0.045	8Mn TITANIUM ALLOY	
[11]	32-32111-29	BEAM	0.045	8Mn TITANIUM ALLOY	
17	32-32111-19, -20	CHANNEL	0.050	8Mn TITANIUM ALLOY	
18	32-32111-5, -6	FORMER	0.063	8Mn TITANIUM ALLOY	

Notes

[1] MIL-T-9046 TYPE III COMPOSITION A, ANNEALED.
[2] F-4C 63-7407 THRU 63-7524.
[3] F-4C 63-7528 THRU 64-928 AND F-4D.
[4] RF-4.
[5] F-4C 63-7407 THRU 64-928, F-4D, F-4E, AND F-4G.
[6] F-4C 64-905 THRU 64-928, F-4D 64-929 THRU 66-8825, F-4E, F-4G, AND RF-4 65-850 THRU 72-156.
[7] F-4E 66-284 THRU 67-398.
[8] F-4C 63-7407 THRU 64-904, F-4D 64-929 THRU 64-948, AND RF-4 63-7742 THRU 65-849.
[9] F-4E 68-303 AND UP AND F-4G.
[10] F-4C, F-4D, F-4E 66-284 THRU 71-1093, F-4G, AND RF-4 63-7742 THRU 71-252.
[11] F-4E 71-1391 AND UP AND RF-4 71-253 THRU 72-156.

4C-3-1-2-(98-2)E

Figure 4-40. Bulkheads and Frames - FS 473.73 thru FS 485.60 (Sheet 2 of 2)



4C-3-1-2-(99-1)A

Figure 4-41. Bulkhead, FS 493.00 - F-4C and F-4D (Sheet 1 of 2)

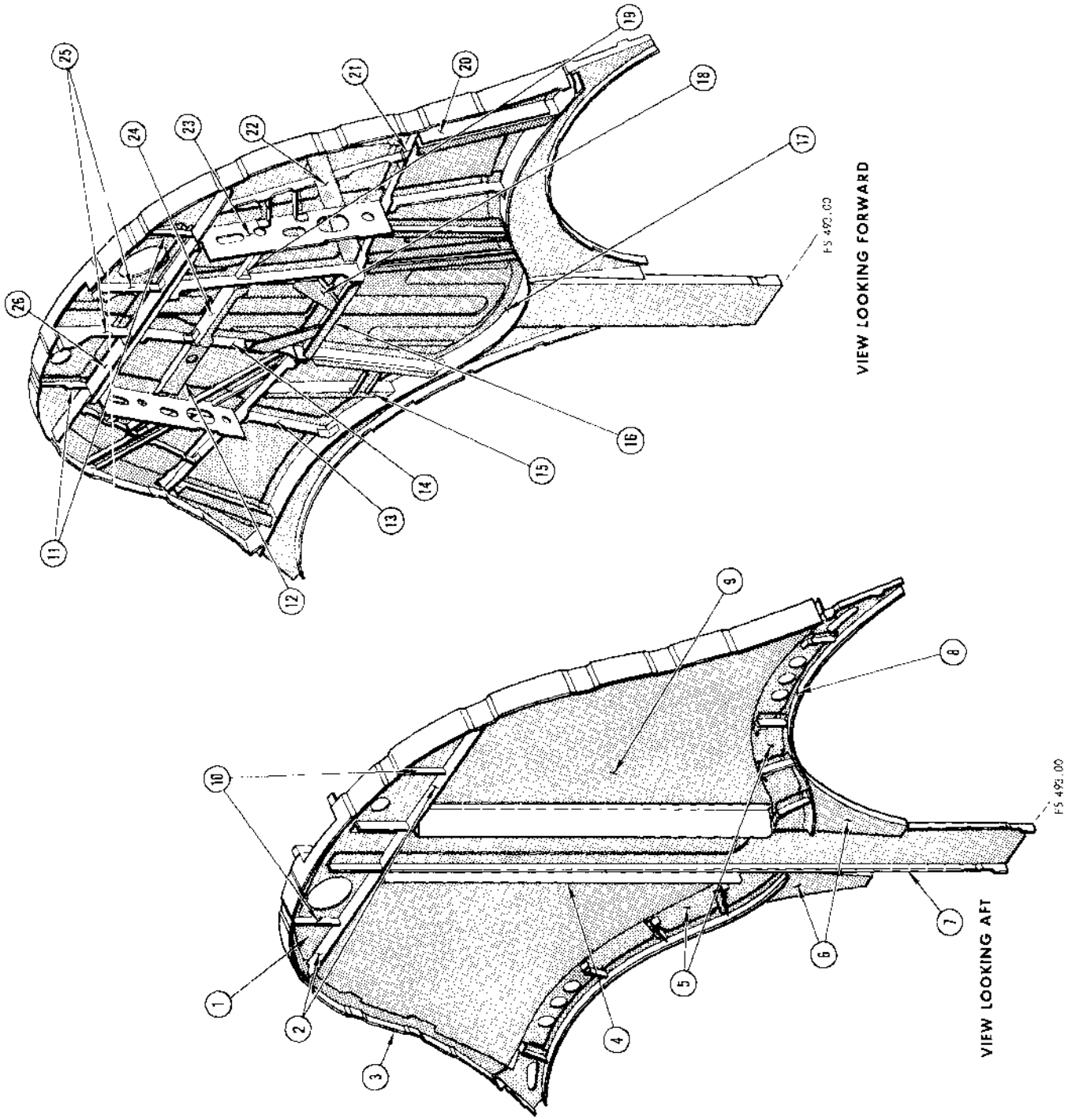
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32037-161	CAP	IM5644	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32037-231	CAP	IM5644	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32037-263	CAP	IM5644	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	32-32037-172, -171	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32037-236, -235	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-32037-111	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6) <2>
4	32-32037-252	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
5	32-32037-254	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
6	32-32037-211, -212	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
	32-32037-245, -246	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
7	32-32037-253	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
8	32-32037-251	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
9	32-32037-177, -178	TEE	IM5643	7178-T6 AL ALY	QQ-A-200/13 (T6)
10	32-32037-151, -152	COVER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-32037-121	CRUCIFORM	IM9574	7178-T6 AL ALY	QQ-A-200/13 (T6)
12	32-32037-205	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32037-229	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32037-261	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
13	32-32037-149, -150	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-32037-165, -166	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32037-167, -168	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-32037-169, -170	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-32037-209, -210	ANGLE	0.025	8Mn TITANIUM ALLOY	<3>
	32-32037-243, -244	ANGLE	0.025	8Mn TITANIUM ALLOY	
	32-32037-255, -256	ANGLE	0.025	8Mn TITANIUM ALLOY	
18	32-32037-137	ANGLE	IM2382	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-32037-119, -120	CRUCIFORM	IM9774	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-32037-135, -136	CHANNEL	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-32037-213, -214	CHANNEL	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-32037-217, -218	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-32037-117	ANGLE	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

1. SEAL ENTIRE BULKHEAD PER TO 1F-4C-3-1-6.
2. THIS PART IS CHEMICALLY MILLED FROM 0.080, 7178-T6 AL ALY QQ-A-250/14 (T6).
3. MIL-T-9046 TYPE III COMPOSITION A, ANNEALED.
4. F-4C 63-7469 THRU 64-737.
5. F-4C 63-738 THRU 64-928 AND F-4D.
6. F-4C 63-7407 THRU 63-7526.
7. F-4C 63-7527 THRU 64-737.
8. F-4C 63-7527 THRU 64-928 AND F-4D.
9. F-4C 63-7407 THRU 63-7468.
10. DELETED.

4C-3-1-2-(99-2)8

Figure 4-41. Bulkhead, FS 493.00 - F-4C and F-4D (Sheet 2 of 2)



4C-3-1-2-(104-1)B

Figure 4-42. Bulkhead, FS 493.00 RF-4 (Sheet 1 of 2)

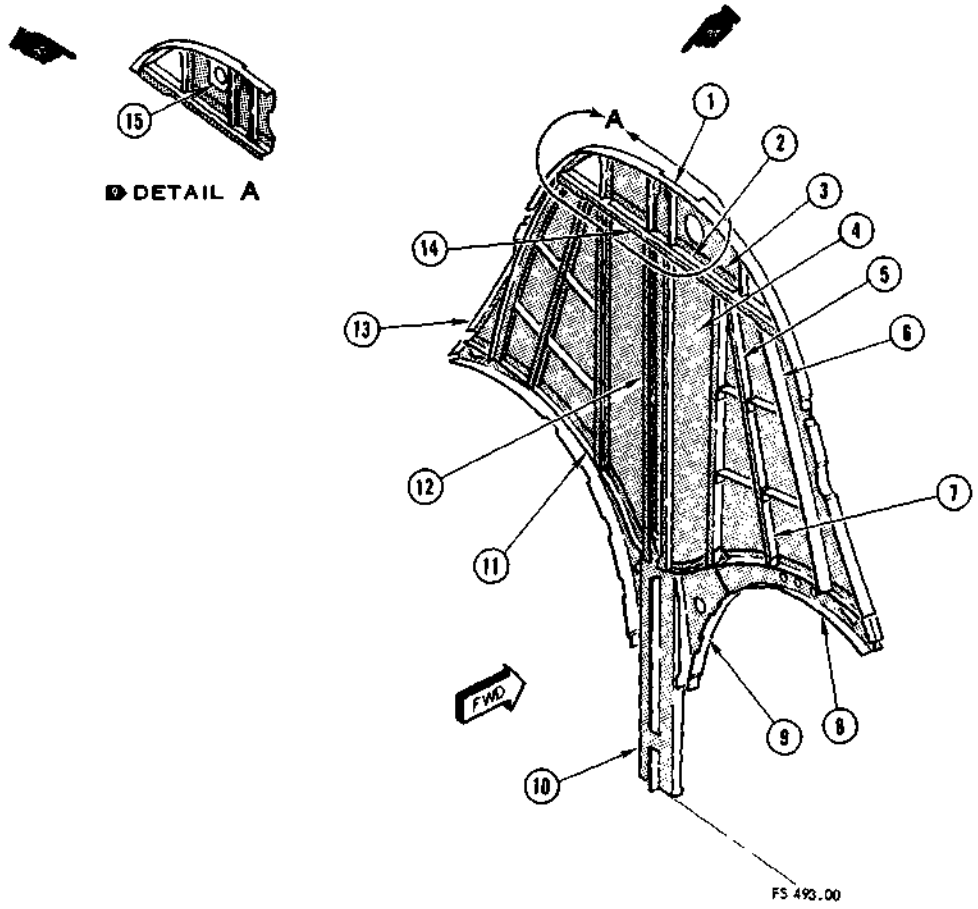
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [1]	53-32527-147	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
[2]	53-32527-247	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	53-32527-21	CRUCIFORM	1M97136	7178-T651 AL ALY	QQ-A-200/13 (T651)
3 [1]	53-32527-143	CAP	NAS344	7178-T6 AL ALY	QQ-A-200/13 (T6)
[3]	53-32527-243	CAP	NAS344	7178-T6 AL ALY	QQ-A-200/13 (T6)
[4]	53-32527-261	CAP	NAS344	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	53-32527-137, -138	COVER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
■ 5	53-32527-211, -212	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
■ 6	53-32527-213, -214	FORMER	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I COMPOSITION B ANNEALED
7 [5]	32-32296-11	CHANNEL	1M7902	4340 STEEL ALLOY	MIL-S-5000 CONDITION C [7]
[6]	32-32296-17	CHANNEL	1M7902	4340 STEEL ALLOY	MIL-S-5000 CONDITION C [7]
8	53-32527-215, -216	ANGLE	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
9	53-32527-139	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
10	53-32527-145, -146	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11 [1]	53-32527-25, -26	TEE	1M57368	7178-T651 AL ALY	QQ-A-250/13 (T651)
[3]	53-32527-25, -245	TEE	1M57368	7178-T651 AL ALY	QQ-A-200/13 (T651)
12	53-32527-223	BRACKET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	53-32527-45, -46	TEE	1M5194	7178-T651 AL ALY	QQ-A-200/13 (T651)
14	53-32527-157, -158	TEE	1M57374	7178-T651 AL ALY	QQ-A-200/13 (T651)
15	53-32527-47, -48	CHANNEL	0.050	7178-T651 AL ALY	QQ-A-250/15 (T651)
16	53-32527-159	CHANNEL	1M7644	7178-T651 AL ALY	QQ-A-200/13 (T651)
17	53-32527-27	ANGLE	1M2382	7178-T6 AL ALY	QQ-A-200/13 (T6)
18	53-32527-233, -234	ANGLE	0.063	2024-T4 ALCALD	QQ-A-250/5 (T4)
19	53-32527-97	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	53-32527-19, -20	CRUCIFORM	1M9774	7178-T6 AL ALY	QQ-A-200/13 (T6)
21 [1]	53-32527-149, -150	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[3]	53-32527-249, -250	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	53-32527-41, -42	CHANNEL	1M7638	7178-T651 AL ALY	QQ-A-200/13 (T651)
23	53-32527-231, -232	TEE	1M57142	7178-T651 AL ALY	QQ-A-200/13 (T651)
24	53-32527-75	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	53-32527-141, -142	ANGLE	1M2548	7178-T651 AL ALY	QQ-A-200/13 (T651)
26	53-32527-79	ANGLE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

[1] RF-4 63-7742 THRU 64-1061.
[2] RF-4 64-1062 THRU 72-156.
[3] RF-4 64-1062 THRU 67-442.
[4] RF-4 67-443 THRU 72-156.
[5] RF-4 63-7742 THRU 71-252.
[6] RF-4 71-253 THRU 72-156.
■ [7] MACHINED IN THE C CONDITION THEN HEAT TREATED TO 180 TO 200 KSI.

4C-3-1-2-(104-2)C

Figure 4-42. Bulkhead, FS 493.00 - RF-4 (Sheet 2 of 2)



REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1		32-321600-33	CAP	1M57470	7178-T6 ALCLAD	QQ-A-250/13 (T6)
2		32-321600-35	CRUCIFORM	1M9574	7178-T651 ALCLAD	QQ-A-250/13 (T651)
■ 3	10	32-321600-87	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
4		32-321600-5	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
5		32-321600-30,-29	CHANNEL	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
6	1	32-321600-77,-11	CRUCIFORM	1M97173	7178-T6 AL ALY	QQ-A-200/13 (T6)
	2	32-321600-77,-199	CRUCIFORM	1M97173	7178-T6 AL ALY	QQ-A-200/13 (T6)
7		32-321600-28,-27	CHANNEL	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
8		32-321600-135,-136	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III COMP. A, ANNEALED
9	1	32-321600-133,-134	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III COMP. A, ANNEALED
	2	32-321600-209,-210	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046, TYPE III COMP. A, ANNEALED
10	5	32-32296-15	CHANNEL	1M7902	4340 STEEL	MIL-S-5000
	7	32-32296-19	CHANNEL	1M7902	4340 STEEL	MIL-S-5000
	8	32-32296-23	CHANNEL	1M7902	4340 STEEL	MIL-S-5000
11		32-321600-141	ANGLE	1M2590	2024-T6 AL ALY	QQ-A-200/3 (T6)
12		32-321600-32, -31	ZEE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
13	3	32-321600-9,-10	TEE	1M5655	7178-T6 AL ALY	QQ-A-200/13 (T6)
	4	32-321600-197,-198	TEE	1M5655	7178-T6 AL ALY	QQ-A-200/13 (T6)
	9	32-321600-207,-208	TEE	1M5655	7178-T6 AL ALY	QQ-A-200/13 (T6)
14		32-321600-93	ANGLE	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
■ 15	9	53-070004-61	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)

Notes

1. F-4E 66-284 THRU 68-538.
2. ■ F-4E 69-236 AND UP AND F-4G.
3. F-4E 66-284 THRU 67-247.
4. F-4E 67-248 THRU 67-379.
5. ■ F-4E 67-380 AND UP AND F-4G.
6. F-4E 66-284 THRU 71-1093 AND F-4G.
7. F-4E 71-1391 THRU 72-138.
8. F-4E 72-139 AND UP.
9. ■ F-4G.
10. MODIFIED ON F-4G.

4C-3-1-2-(100)C

Figure 4-43. Bulkhead, FS 493.00 - F-4E AND F-4G

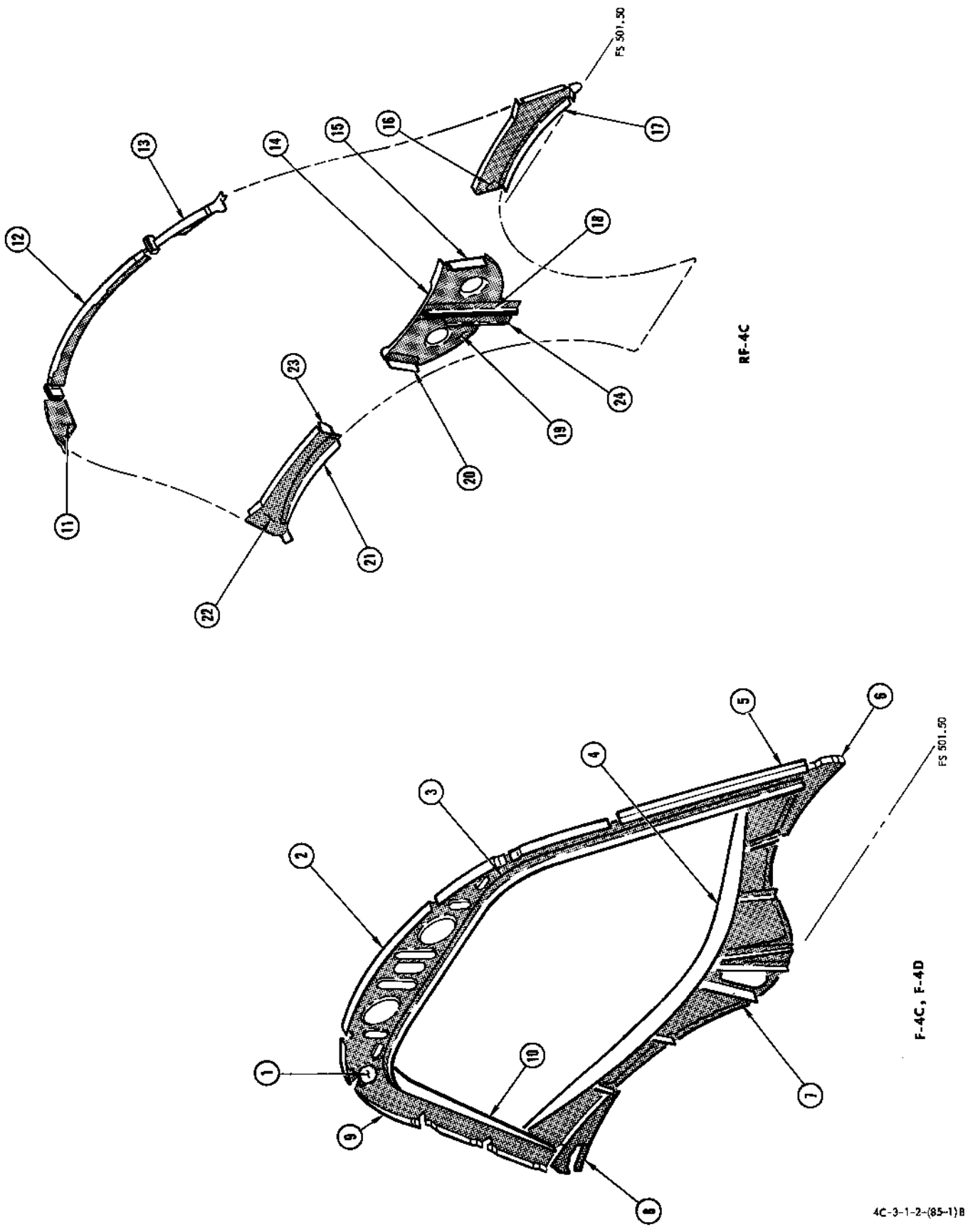


Figure 4-44. Frame, FS 501.50 - F-4C, F-4D, and RF-4C (Sheet 1 of 2)

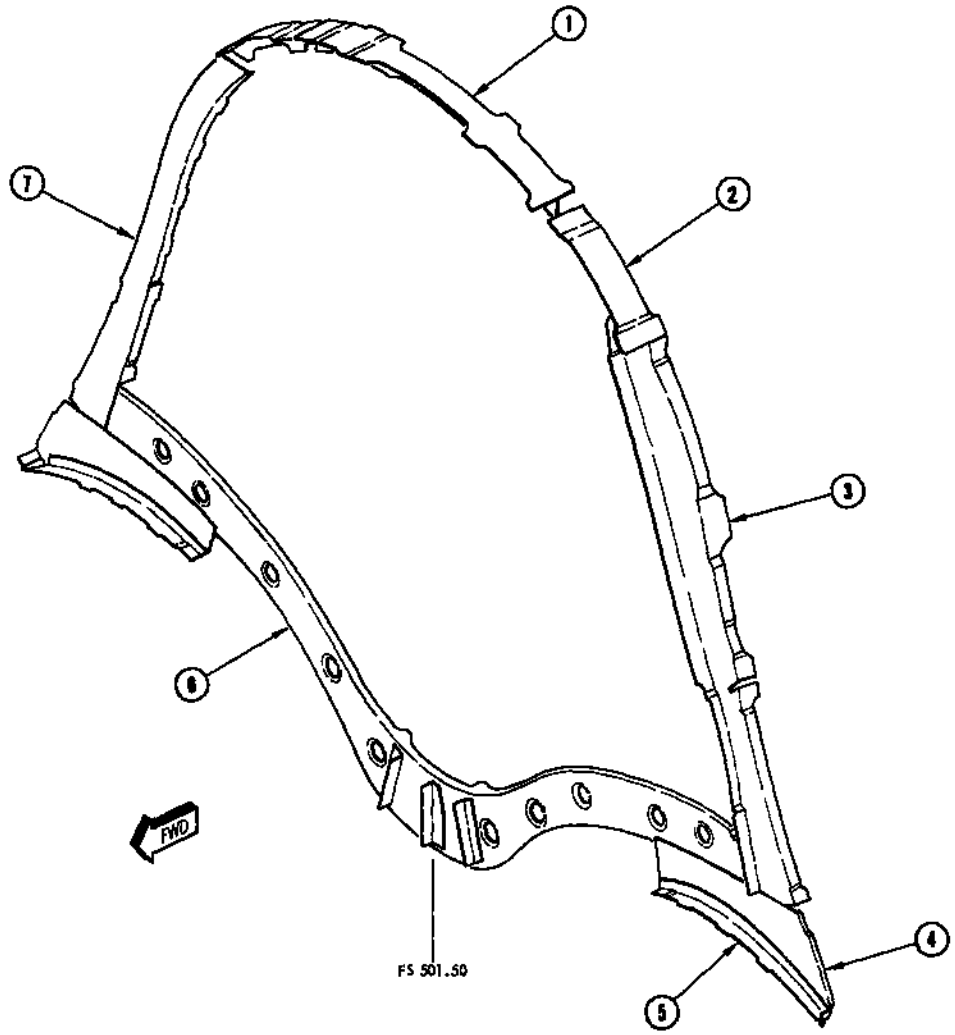
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32112-27,-28	SPLICE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2 ➧	32-32112-59	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
➧	32-32112-79	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
➧	32-32112-81	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-32112-43	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-32112-23	TEE	1M5725	7178-T6 AL ALY	QQ-A-200/13 (T6)
5	32-32112-21	TEE	1M5411	7178-T6 AL ALY	QQ-A-200/13 (T6)
6 ➧	32-32112-75,-76	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
➧	32-32112-83,-84	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
7	32-32112-71	WEB	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
8	32-32112-67,-68	ANGLE	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
9	32-32112-73,-33	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-32112-19,-20	TEE	1M5469	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	53-32538-8	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	53-32538-5	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	53-32538-7	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	53-32538-13	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	53-32538-17	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	53-32538-21	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
17	32-32112-67	ANGLE	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
18	53-32538-15	TEE	1M5639	7178-T651 AL ALY	QQ-A-200/13 (T651)
19	53-32538-11	FORMER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	53-32538-18	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-32112-68	ANGLE	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
22	53-32538-22	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
23	53-32538-24,-23	CLIP	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
24	53-32538-19	CHANNEL	0.071	17-7PH STAINLESS STEEL	MIL-S-25043 CONDITION A

Notes

➧ F-4C 63-7407 THRU 63-7468.
➧ F-4C 63-7469 THRU 63-7526.
➧ F-4C 63-7527 THRU 64-928; F-4D.
➧ F-4C; F-4D 64-929 THRU 65-673.
➧ F-4D 65-674 THRU 66-8825.

4C-3-1-2-(85-2)B

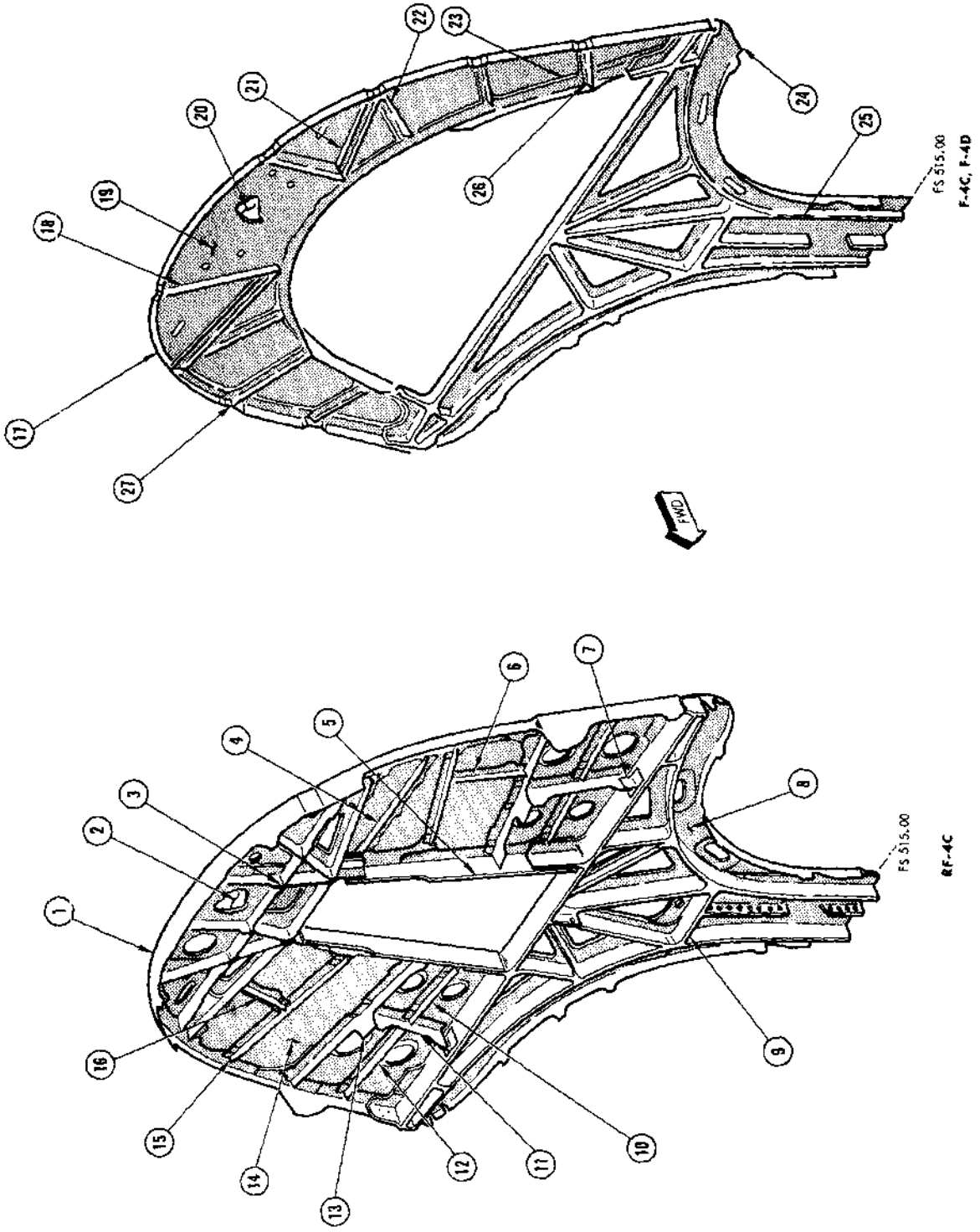
Figure 4-44. Frame, FS 501.50 - F-4C, F-4D, and RF-4C (Sheet 2 of 2)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-321601-15	TEE	1M5218	7178-T6 AL ALY	QQ-A-200/13 (T6)
2	32-321601-17,-19	TEE	1M5218	7178-T6 AL ALY	QQ-A-200/13 (T6)
3	32-321601-5	FRAME	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	32-321601-11,-12	FORMER	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
5	32-321601-13,-14	ANGLE	0.025	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
6	32-321601-9	FRAME	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
7	32-321601-7	FRAME	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)

4C-3-1-2-(287)A

Figure 4-45. Frame, FS 501.50 - F-4E AND F-4G



4C-3-1-2-(86-1)B

Figure 4-46. Bulkhead, FS 515.00 - F-4C, F-4D, and RF-4C (Sheet 1 of 2)

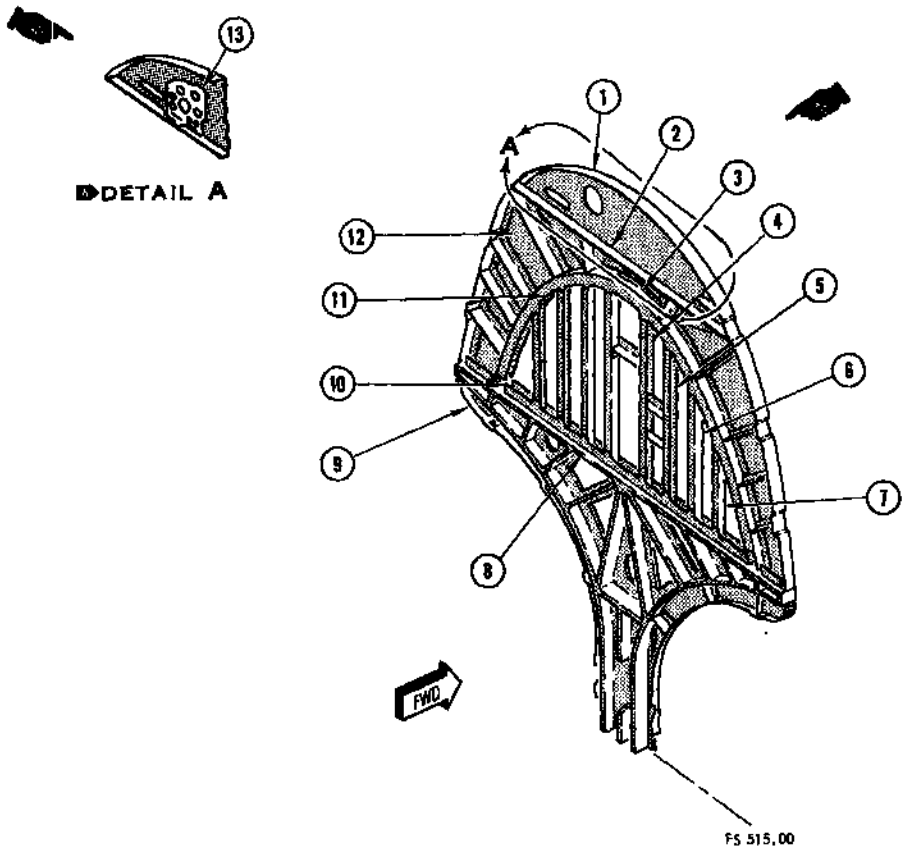
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-32528-7	CAP	1M2543	2024-T351 AL ALY	QQ-A-200/3 (T351)
2	53-32528-33	DOUBLER	0.125	7178-T6 AL ALY	QQ-A-200/13 (T6)
3 1	53-32567-5	FITTING	1.50	7178-T651 AL ALY	QQ-A-250/14 (T651)
2	53-32567-7	FITTING	1.50	7178-T651 AL ALY	QQ-A-250/14 (T651)
4	53-32528-29	ANGLE	1M2329	7178-T651 AL ALY	QQ-A-200/13 (T651)
5 1	53-32528-59,-60	ANGLE	1M2542	7178-T651 AL ALY	QQ-A-200/13 (T651)
3	53-32528-69,-70	ANGLE	1M2542	7178-T651 AL ALY	QQ-A-200/13 (T651)
4	53-32528-75,-76	ANGLE	1M2542	7178-T651 AL ALY	QQ-A-200/13 (T651)
6	53-32528-27	TEE	1M5218	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	53-32528-39	CLIP	1M578	7075-T6 AL ALY	QQ-A-200/11 (T6)
8	53-32528-5,-6	WEB	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
9 1	32-32143-11	FITTING	FORGING	4330 STEEL	AMS6427
2	53-32614-3	FITTING	FORGING	4330 STEEL	AMS6427
10	53-32528-25,-26	ANGLE	AND10133	7178-T651 AL ALY	QQ-A-200/13 (T651)
11	53-32528-21,-22	TEE	1M5164	7178-T651 AL ALY	QQ-A-200/13 (T651)
12	53-32528-23,-24	ANGLE	AND10133	7178-T651 AL ALY	QQ-A-200/13 (T651)
13 3	53-32528-17,-18	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	53-32528-77,-78	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
14 1	53-32528-57	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	53-32528-67	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	53-32528-73	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
15	53-32528-13,-15	TEE	1M5218	7178-T651 AL ALY	QQ-A-200/13 (T651)
16	53-32528-31	TEE	1M5218	7178-T651 AL ALY	QQ-A-200/13 (T651)
17	32-32039-75	CAP	1M2356	2024-T4 AL ALY	QQ-A-200/3 (T4)
18	32-32039-13,-14	STIFFENER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-32039-79	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
20	32-32039-41	DOUBLER	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-32039-73,-74	BEAM	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-32039-67,-68	STIFFENER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-32039-65	CAP	1M5590	7178-T6 AL ALY	QQ-A-200/13 (T6)
24	32-32039-81,-82	FORMER	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 TYPE III COMPOSITION A, ANNEALED
25	32-32143-7	FITTING	FORGING	4330 STEEL	AMS6427
26	32-32039-59,-60	STIFFENER	0.051	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-32039-61,-62	STIFFENER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

1. RF-4C 63-7742 THRU 64-1017.
2. RF-4C 64-1018 THRU 72-156.
3. RF-4C 64-1018 THRU 64-1061.
4. RF-4C 64-1062 THRU 72-156.
5. RF-4C 63-7742 THRU 64-1061.
6. RF-4C 63-7742 THRU64-1035.
7. RF-4C 64-1036 THRU 72-156.

4C-3-1-2-(86-2)8

Figure 4-46. Bulkhead, FS 515.00 - F-4C, F-4D, and RF-4C (Sheet 2 of 2)



REF NO	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-321562-263	OUTER CAP	1M2565	2024-T351 AL ALY	QQ-A-200/3 (T351)
2	32-321562-267	STIFFENER	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	32-321562-241	INNER CAP	1MS7442	7178-T6 AL ALY	QQ-A-200/13 (T6)
4	32-321562-254,-253	CHANNEL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
5	32-321562-248,-247	CHANNEL	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
6	32-321562-250,-249	CHANNEL	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	32-321562-252,-251	CHANNEL	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
8	32-321237-5	FITTING	FORGING	4330 STEEL	AMS6427
9	32-321562-155,-156	FORMER	0.032	8Mn TITANIUM ALLOY	AMS4908 (1)
10	32-321562-255	CHANNEL	1M7729	7178-T651 AL ALY	QQ-A-200/13 (T651)
11	32-321562-147	CHANNEL	1M7724	7178-T6 AL ALY	QQ-A-200/13 (T6)
12 D	32-321562-209	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
D	32-321562-487	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
D	32-321562-709	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
D	32-321562-713	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
13 D	53-070004-117	DOUBLER	0.050	17-7PH CRES	MIL-S-25043 (TH-1050)

Notes

(1) FOR INTERCHANGEABLE SPECIFICATION REFER TO TO 1F-4C-3-1-1.
D F-4E 66-284 THRU 66-367.
E F-4E 66-368 THRU 68-489 AND 68-495.
F F-4E 68-490 THRU 68-494 AND 68-496 THRU 68-538.
G F-4E 69-236 AND UP, AND F-4G.
H F-4G.

4C-3-1-2-(39)B

Figure 4-47. Bulkhead, FS 515.00 - F-4E AND F-4G

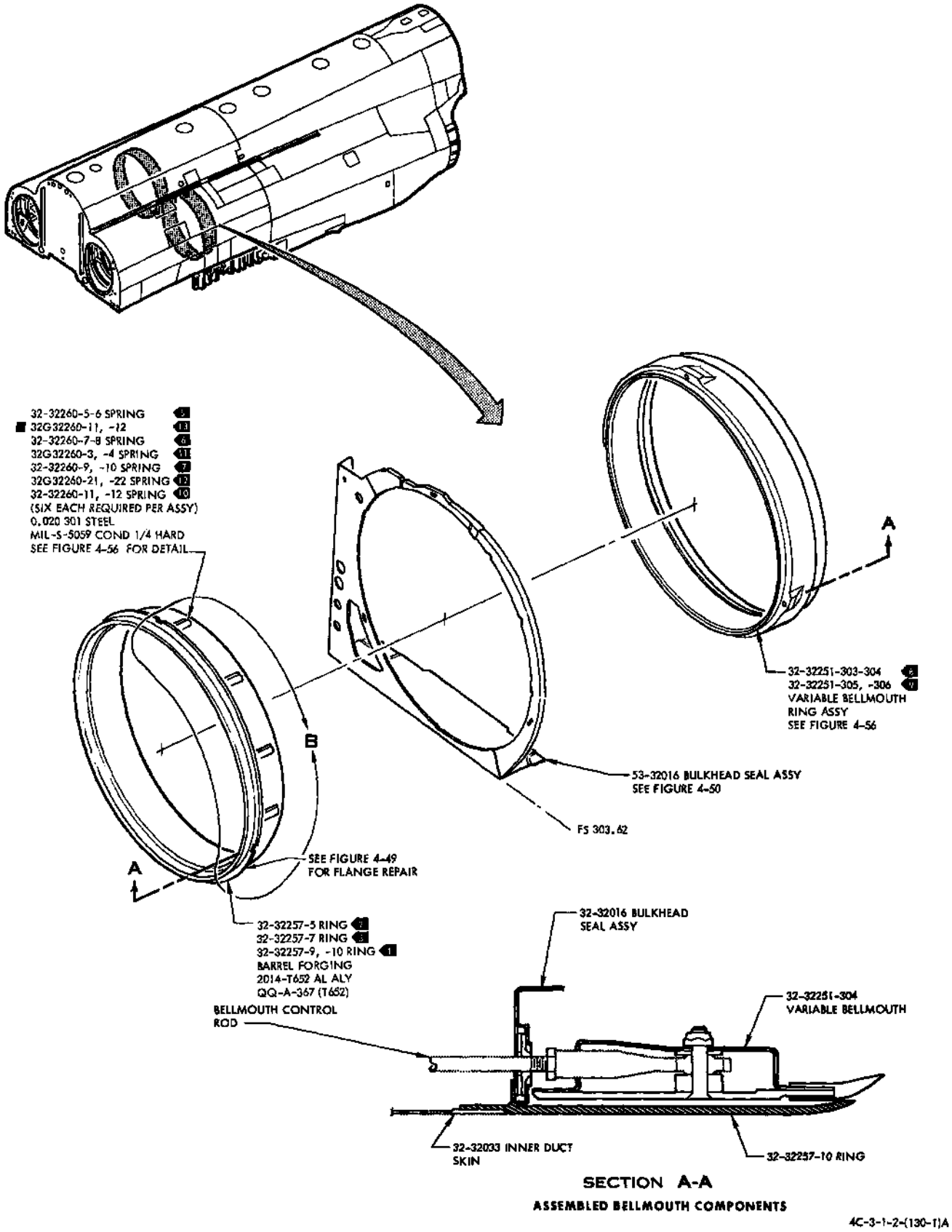
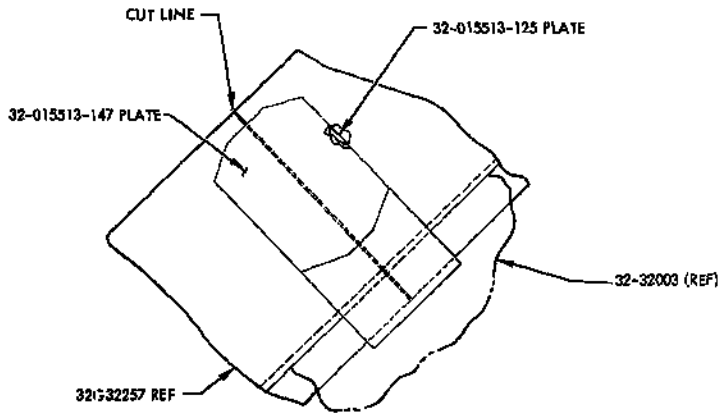


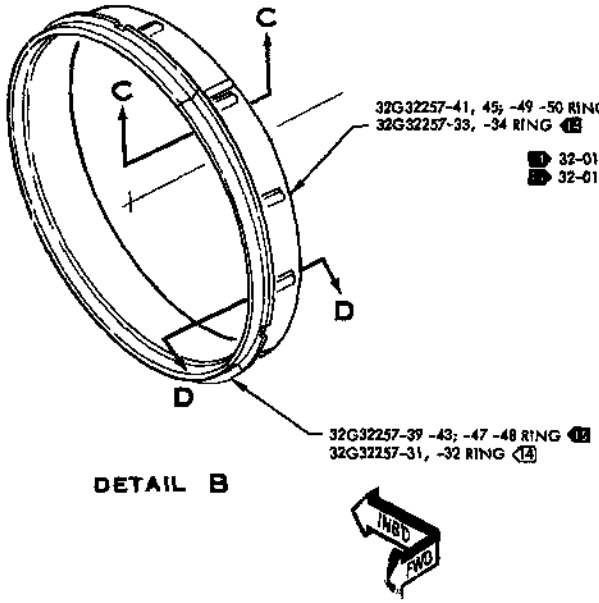
Figure 4-48. Bellmouth, Bellmouth Ring and Metal Seal (Sheet 1 of 2)

Notes

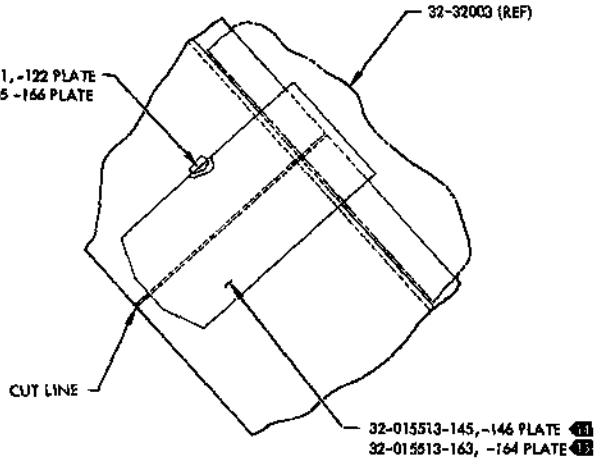
1. SEE FIGURE 4-56 FOR VARIABLE BELLMOUTH AND BELLMOUTH CENTERING SPRING REPAIR.
2. F-4C 63-7407 THRU 63-7420.
3. F-4C 63-7421 THRU 63-7662 AND RF-4C 63-7742 THRU 64-1017.
4. F-4C 63-7663 THRU 64-928, RF-4C 64-1018 THRU 72-156, F-4D, F-4E, AND F-4G.
5. F-4C 63-7407 THRU 64-906, F-4D 64-929 THRU 64-937, RF-4C 63-7740 THRU 65-846 BEFORE T.O. 1F-4-991.
6. F-4C 64-907 THRU 64-928, F-4D 64-938 THRU 66-8786, RF-4C 65-847 THRU 66-472 BEFORE T.O. 1F-4-991, F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, F-4E 66-287 AND 66-338 BEFORE T.O. 1F-4E-566.
7. F-4D 66-8787 THRU 66-8825, RF-4C 66-473 THRU 69-384 BEFORE T.O. 1F-4-991, F-4E 71-224 THRU 71-241 AND RF-4C 71-248 AND 71-249; ALSO F-4E 66-339 THRU 69-7589 BEFORE T.O. 1F-4E-566.
8. F-4C, F-4D 64-929 THRU 66-8822, F-4E 66-284 THRU 66-365, 66-368 AND 66-369, RF-4C 63-7742 THRU 67-436.
9. F-4D 66-8823 THRU 66-8825, F-4E 66-366, 66-367, 66-370 AND UP, RF-4C 67-437 THRU 72-156, AND F-4G.
10. F-4E 71-242 AND UP, RF-4C 71-250 THRU 72-156.
11. F-4C 64-907 THRU 64-928, F-4D 64-938 THRU 66-8786, RF-4C 65-847 THRU 66-472 AFTER T.O. 1F-4-991; ALSO, F-4E 66-287 AND 66-296 THRU 66-338 AFTER T.O. 1F-4E-566.
12. F-4D 66-8787 THRU 66-8825, RF-4C 66-473 THRU 69-384 AFTER TO 1F-4-991; ALSO F-4E 66-339 THRU 69-7589 AFTER TO 1F-4E-566 AND F-4G.
13. F-4C 63-7407 THRU 64-906, F-4D 64-929 THRU 64-937, RF-4C 63-7740 THRU 65-846 AFTER T.O. 1F-4-991.
14. AFTER TO 1F-4E-566.
15. AFTER TO 1F-4-991.



VIEW C-C



DETAIL B



VIEW D-D

4C-3-1-2-(130-2)B

Figure 4-48. Bellmouth, Bellmouth Ring and Metal Seal (Sheet 2 of 2)

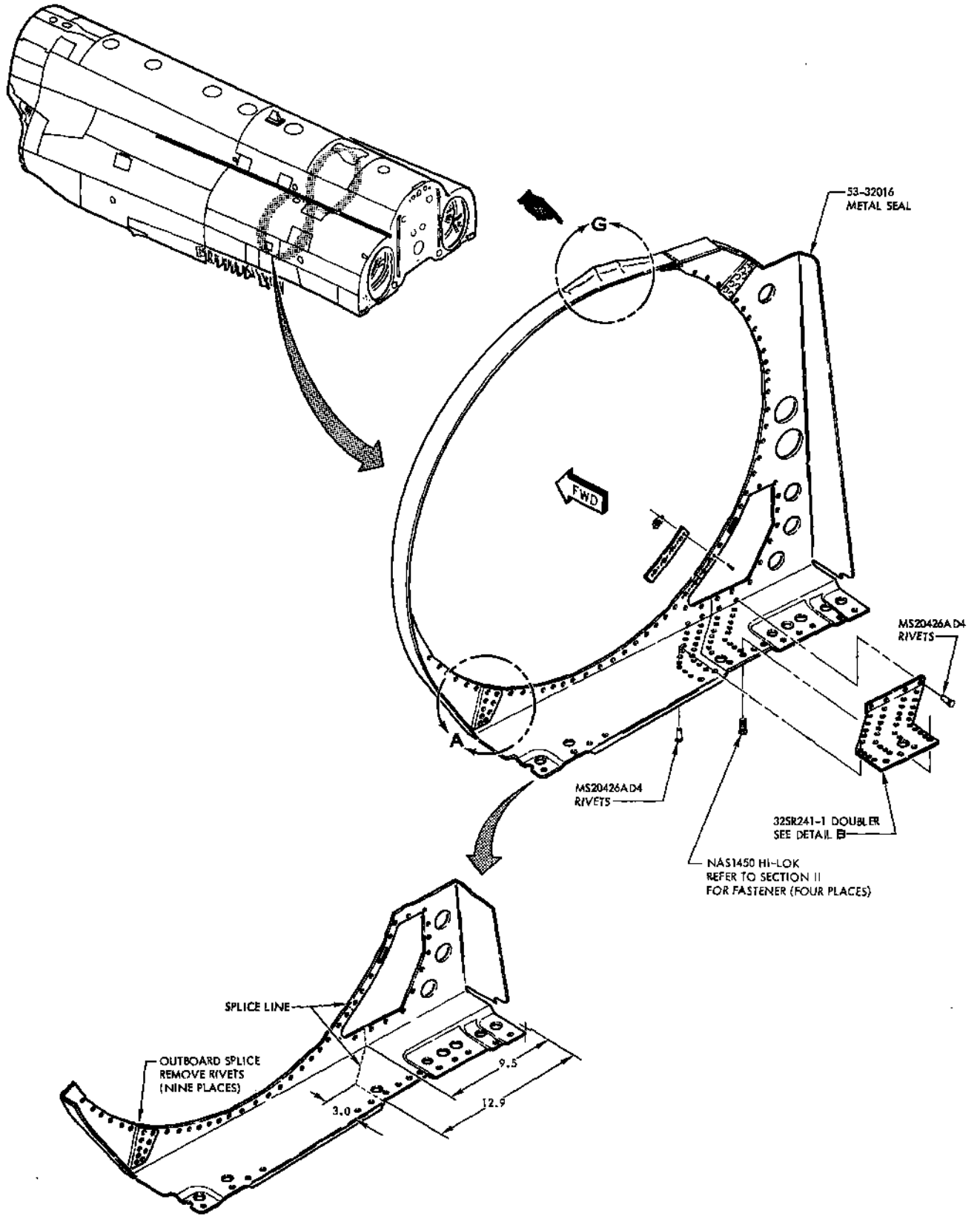


Figure 4-49. Bellmouth Barrel Ring Flange Repair (Sheet 1 of 4)

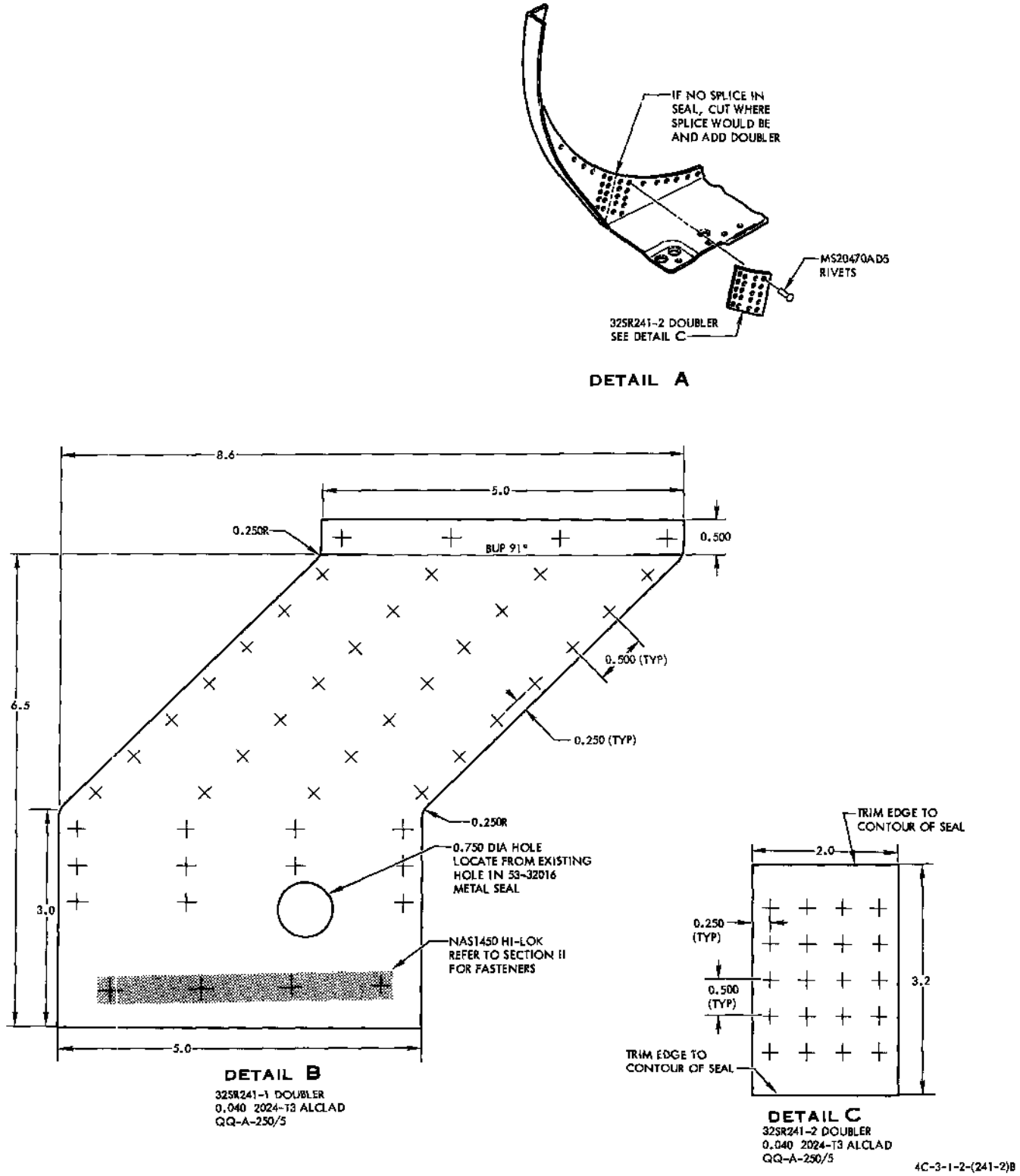
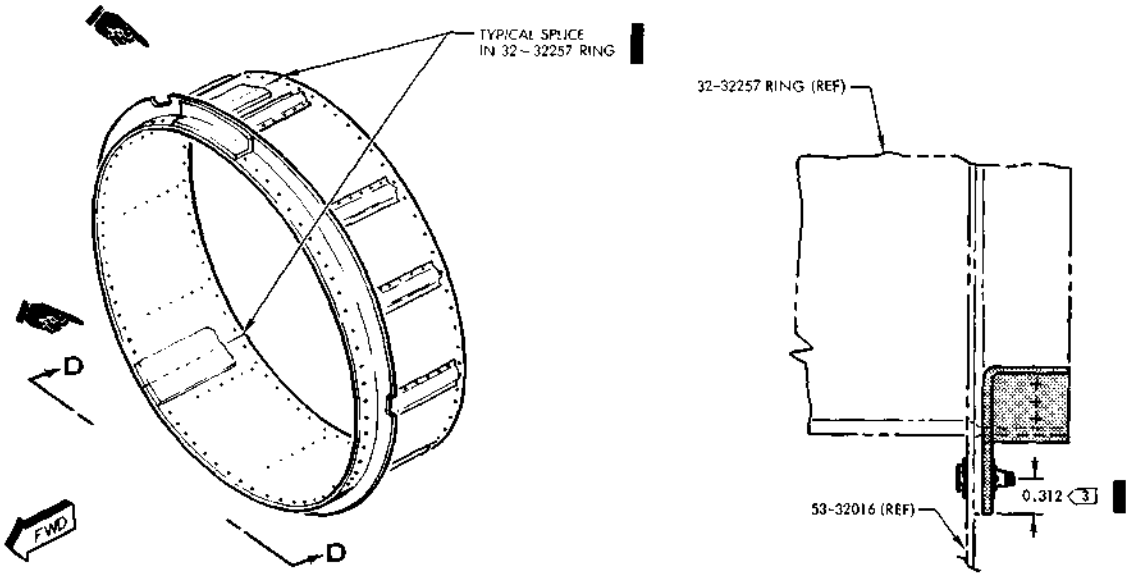


Figure 4-49. Bellmouth Barrel Ring Flange Repair (Sheet 2 of 4)



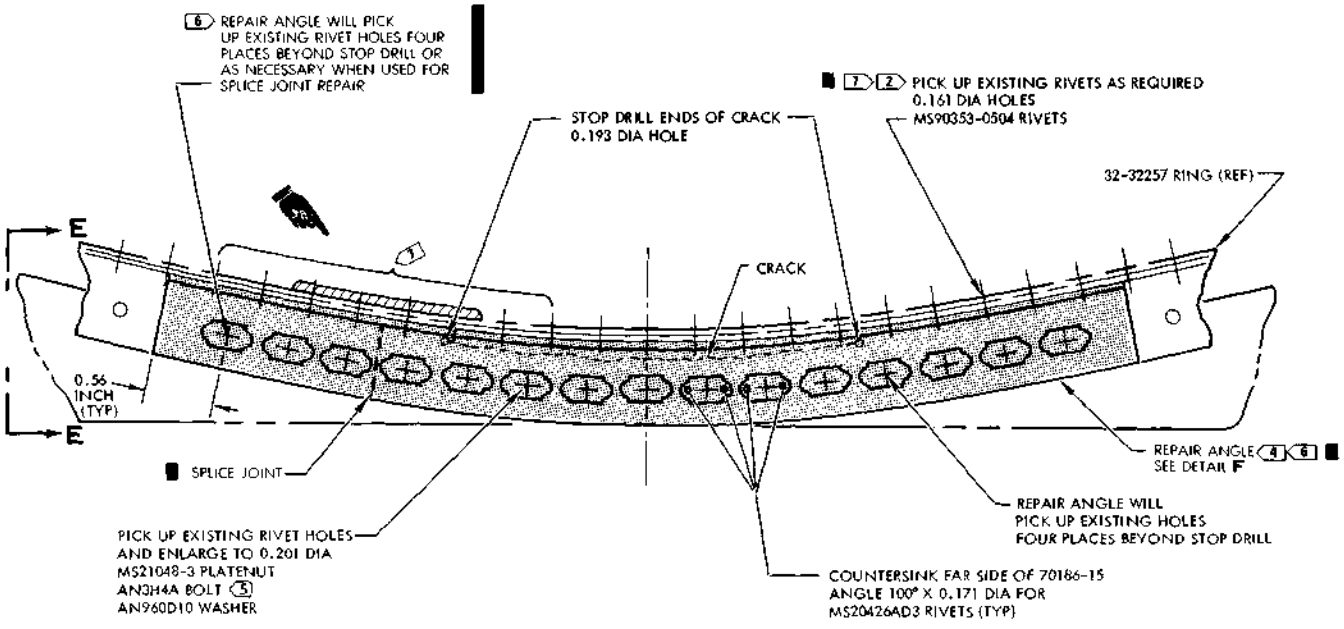
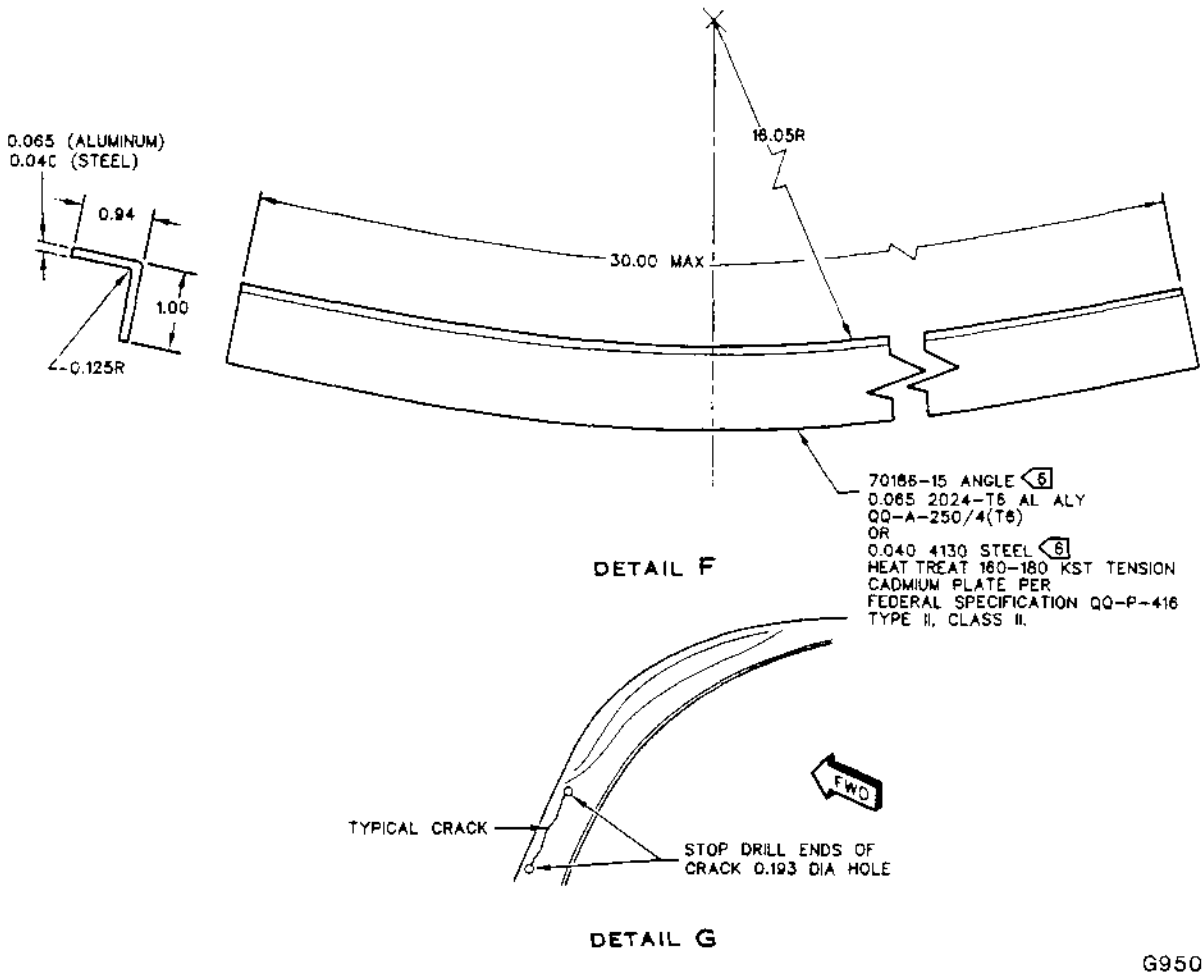


Figure 4-49. Bellmouth Barrel Ring Flange Repair (Sheet 3 of 4)



G9500161

PROCEDURE

A REMOVE ENGINE, REFERENCE T.O. 1F-4( )-2-8 AND REMOVE VARIABLE BELLMOUTH, REFERENCE T.O. 1F-4( )-2-9.

NOTE

IF WING ASSEMBLY IS INSTALLED, CUT METAL SEAL TO GAIN ACCESS FOR FLANGE REPAIR.

1 CUT METAL SEAL, 53-32016 AS SHOWN.

2 DRILL OUT RIVETS IN OUTBOARD SPLICE OR IF NO SPLICE EXISTS, CUT SEAL IN AREA SHOWN.

3 DRILL OUT REMAINING FASTENERS IN PORTION OF SEAL TO BE REMOVED.

B STOP DRILL CRACK IN 32-32257 RING.

C REMOVE EXISTING FASTENERS IN FLANGE OF 32-32257 RING IN AREA REPAIR ANGLE WILL BE INSTALLED.

D FABRICATE REPAIR ANGLE.

E LOCATE AND DRILL REPAIR ANGLE.

F COUNTERSINK REPAIR ANGLE.

G INSTALL PLATE NUTS ON REPAIR ANGLE.

NOTE

WHEN ACCESS IS ADEQUATE FOR FASTENER INSTALLATION, ORIGINAL TYPE FASTENER IS USED. OVERSIZE FASTENER IS USED, AS REQUIRED.

H REFINISH PART PER T.O. 1F-4C-3-1-6.

J PRIME FAYING SURFACES WITH EPOXY PRIMER.

K INSTALL REPAIR ANGLE ON BELLMOUTH.

L FABRICATE DOUBLERS, 32SR241-1 AND 32SR241-2 IF SUBSTEPS OF A ARE ACCOMPLISHED.

M REINSTALL VARIABLE BELLMOUTH PER T.O. 1F-4( )-2-9 AND ENGINES PER T.O. 1F-4( )-2-8.

N REPAIR FOR CRACKS IN UPPER RING.

1 STOP DRILL AS SHOWN.

2 COVER CRACK AND FILL HOLES WITH SEALANT, SPECIFICATION MIL-S-81733.

3 NO DOUBLER IS REQUIRED.

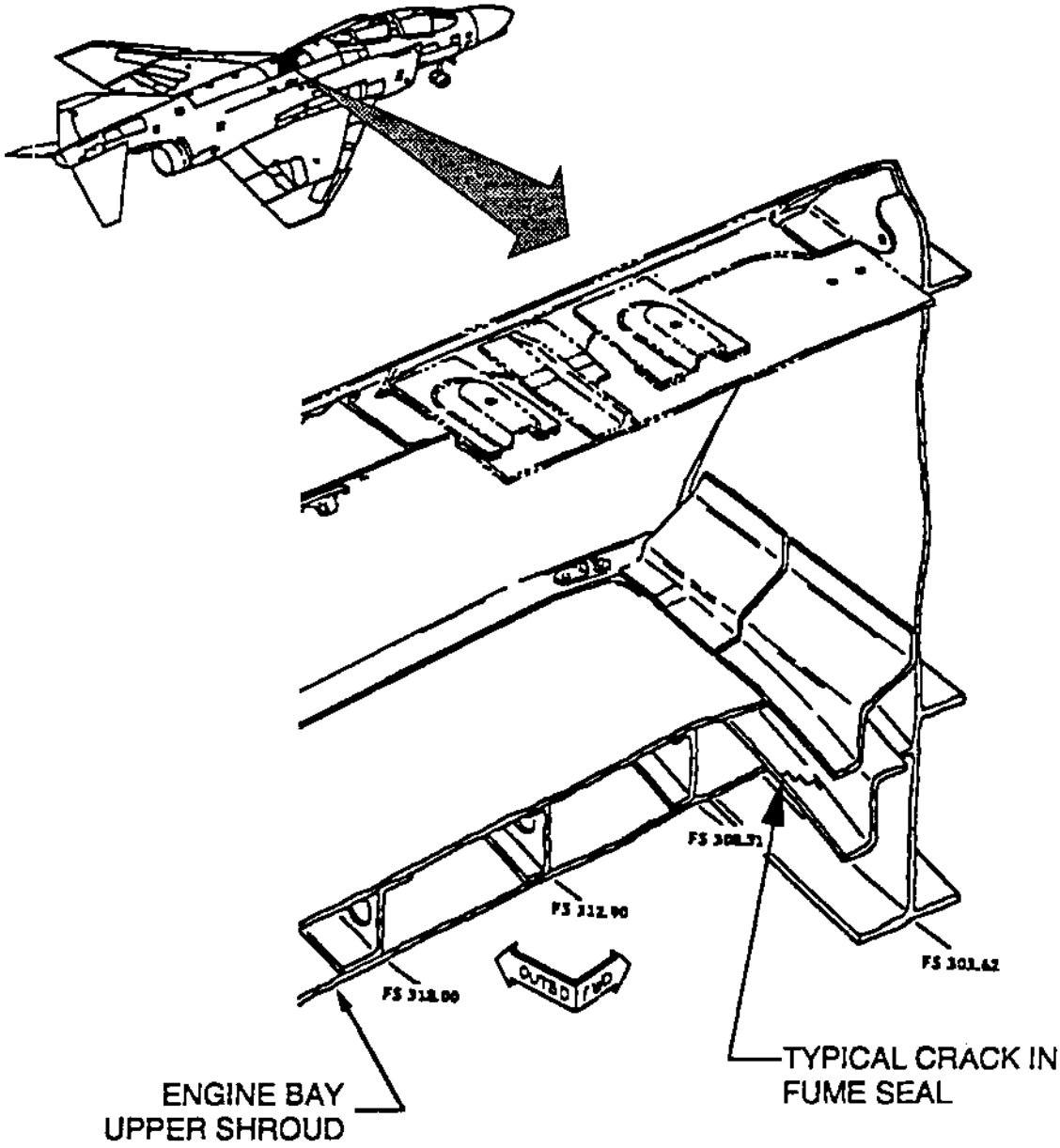
4 IF CRACK EXCEEDS FIVE INCHES, RING MUST BE REPLACED.

Figure 4-49. Bellmouth Barrel Ring Flange Repair (Sheet 4 of 4)

NOTES

1. AIRCRAFT HAVING METAL SEAL, 53-32016, REPAIR INCORPORATED PER FIGURE 4-54; CHANGE THE FASTENER CALLOUTS FROM JO-BOLTS TO MS20470AD5 RIVETS WHEN INCORPORATING THIS REPAIR.
2. RIVET HOLES TO BE PICKED UP IN AREA BETWEEN STOP DRILL HOLES WILL BE DETERMINED BY LENGTH OF CRACK.
3. MINIMUM RIVET EDGE DISTANCE IS 0.312.
4. ANGLE 70186-15, LENGTH WILL BE DETERMINED BY LENGTH OF CRACK.
5. FUME AND FOREIGN OBJECT SEAL BOLTS PER T.O. 1F-4C-3-1-6. SAFETYWIRE FASTENER HEADS.
6. USE 70186-15 ALUMINUM ANGLE TO REPAIR 32-32257 RING FLANGE; WHEN FINISHED REPAIR WILL NOT OVERLAP OR INTERFERE WITH BELLMOUTH SPLICE REPAIR ANGLE. WHEN CRACK IN THE 32-32257 BELLMOUTH FLANGE EXTENDS INTO BELLMOUTH SPLICE REPAIR AREA, USE A CONTINUOUS SECTION OF STEEL REPAIR ANGLE TO SERVE AS BOTH A CRACK REPAIR AND A REPLACEMENT FOR THE 32-015513-65, -66 SPLICE REPAIR ANGLE PER DRAWING 53G32016.
7. WHEN INSTALLING STEEL REPAIR ANGLE, USE NAS1055-5 FASTENER WITH NAS528A COLLAR FOUR PLACES EACH SIDE OF SPLICE JOINT.

Figure 4-49. Bellmouth Barrel Ring Flange Repair (Sheet 4A of 4)



NOTES

1. STOP DRILLING CRACK IS NOT PRACTICAL SINCE ACCESS IS RESTRICTED AND SUBSTRUCTURE MAY BE DAMAGED DURING STOP DRILLING.
2. SEAL CRACK PER T.O. 1F-4C-3-1-6.

G9500162

Figure 4-49A. Engine Bay Fume Seal Repair at FS 305

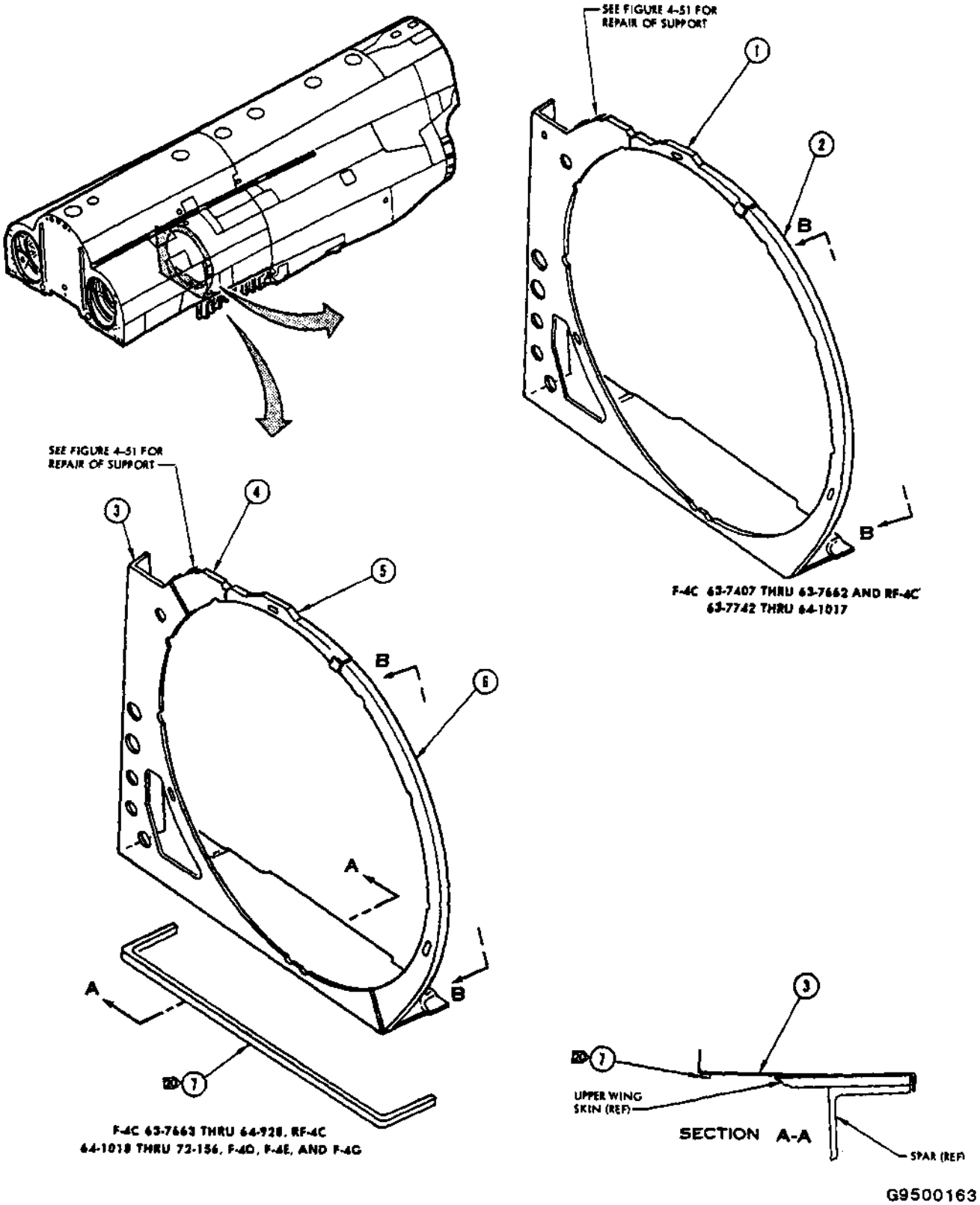
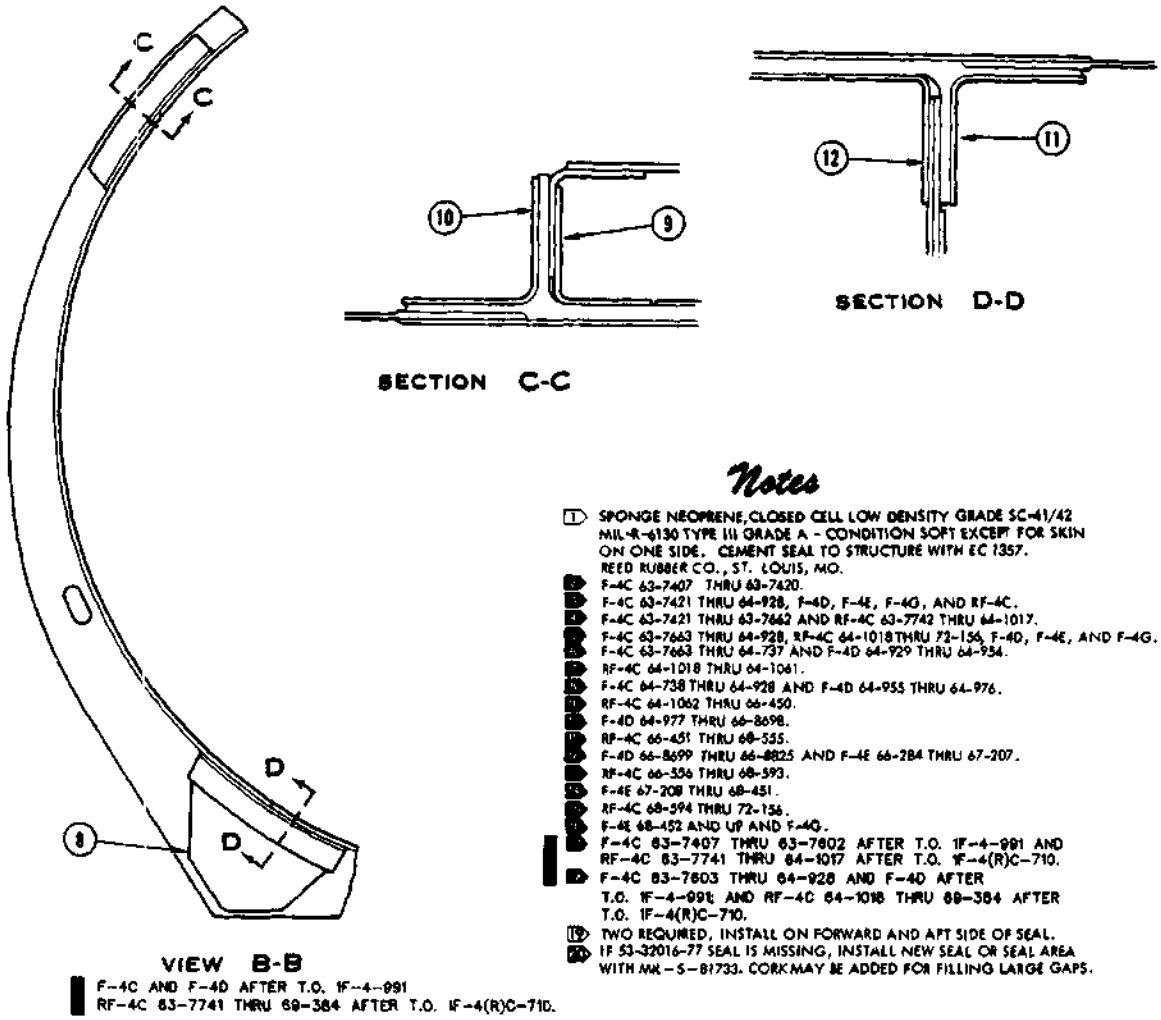


Figure 4-50. Metal seal, 53-32016, FS 303.62 (Sheet 1 of 2)



F-4C AND F-4D AFTER T.O. 1F-4-991
RF-4C 63-7741 THRU 69-384 AFTER T.O. 1F-4(R)C-710.

Notes

1. SPONGE NEOPRENE, CLOSED CELL LOW DENSITY GRADE SC-41/42 MIL-R-6130 TYPE III GRADE A - CONDITION SOFT EXCEPT FOR SKIN ON ONE SIDE. CEMENT SEAL TO STRUCTURE WITH EC 1357. REED RUBBER CO., ST. LOUIS, MO.
2. F-4C 63-7407 THRU 63-7420.
3. F-4C 63-7421 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C.
4. F-4C 63-7421 THRU 63-7662 AND RF-4C 63-7742 THRU 64-1017.
5. F-4C 63-7663 THRU 64-928, RF-4C 64-1018 THRU 72-156, F-4D, F-4E, AND F-4G.
6. F-4C 63-7663 THRU 64-737 AND F-4D 64-929 THRU 64-954.
7. RF-4C 64-1018 THRU 64-1061.
8. F-4C 64-738 THRU 64-928 AND F-4D 64-955 THRU 64-976.
9. RF-4C 64-1062 THRU 66-450.
10. F-4D 64-977 THRU 66-8698.
11. RF-4C 66-451 THRU 68-555.
12. F-4D 66-8699 THRU 66-8825 AND F-4E 66-284 THRU 67-207.
13. RF-4C 66-556 THRU 68-593.
14. F-4E 67-208 THRU 68-451.
15. RF-4C 68-594 THRU 72-156.
16. F-4E 68-452 AND UP AND F-4G.
17. F-4C 63-7407 THRU 63-7602 AFTER T.O. 1F-4-991 AND RF-4C 63-7741 THRU 64-1017 AFTER T.O. 1F-4(R)C-710.
18. F-4C 63-7603 THRU 64-928 AND F-4D AFTER T.O. 1F-4-991 AND RF-4C 64-1018 THRU 69-384 AFTER T.O. 1F-4(R)C-710.
19. TWO REQUIRED, INSTALL ON FORWARD AND AFT SIDE OF SEAL.
20. IF 53-32016-77 SEAL IS MISSING, INSTALL NEW SEAL OR SEAL AREA WITH MR-S-81733. CORK MAY BE ADDED FOR FILLING LARGE GAPS.

REF NO	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32016-43, 44	SEAL	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32016-125, 126	SEAL	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	53-32016-43, 18	SEAL	0.040	7178-T6 ALCLAD	QQ-A-250/4 (76)
	53-32016-45, 36	SEAL	0.040	2024-T4 AL ALY	QQ-A-250/4 (T4)
2	53-32016-53, 54	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-53, 64	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-53, 73	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-53, 75	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-53, 79	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-83, 75	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-83, 79	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-95, 99	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-95, 97	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-113, 117	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
	53-32016-113, 115	SEAL	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
4	32-32016-141, 142	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
5	32-32016-125, 126	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
6	32-32016-137, 138	SEAL	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
7	53-32016-77 [20]	SEAL	1/2X0.75X36.0	RUBBER	[1]
8	32-015513-23 [19]	DOUBLER	0.040	2024-T3	QQ-A-250/4
9	32-015513-27, -28	ANGLE	0.040	4130 STEEL	MIL-S-18729 COND N
	32-015513-71, -72	ANGLE	0.040	4130 STEEL	MIL-S-18729 COND N
10	32-015513-29, -30	ANGLE	0.040	4130 STEEL	MIL-S-18729 COND N
	32-015513-69, -70	ANGLE	0.040	4130 STEEL	MIL-S-18729 COND N
11	32-015513-65, -66	ANGLE	0.040	4130 STEEL	MIL-S-18729 COND N
12	32-015513-67, -68	ANGLE	0.040	4130 STEEL	MIL-S-18729 COND N

G9104109

Figure 4-50. Metal Seal, 53-32016, FS 303.62 (Sheet 2 of 2)

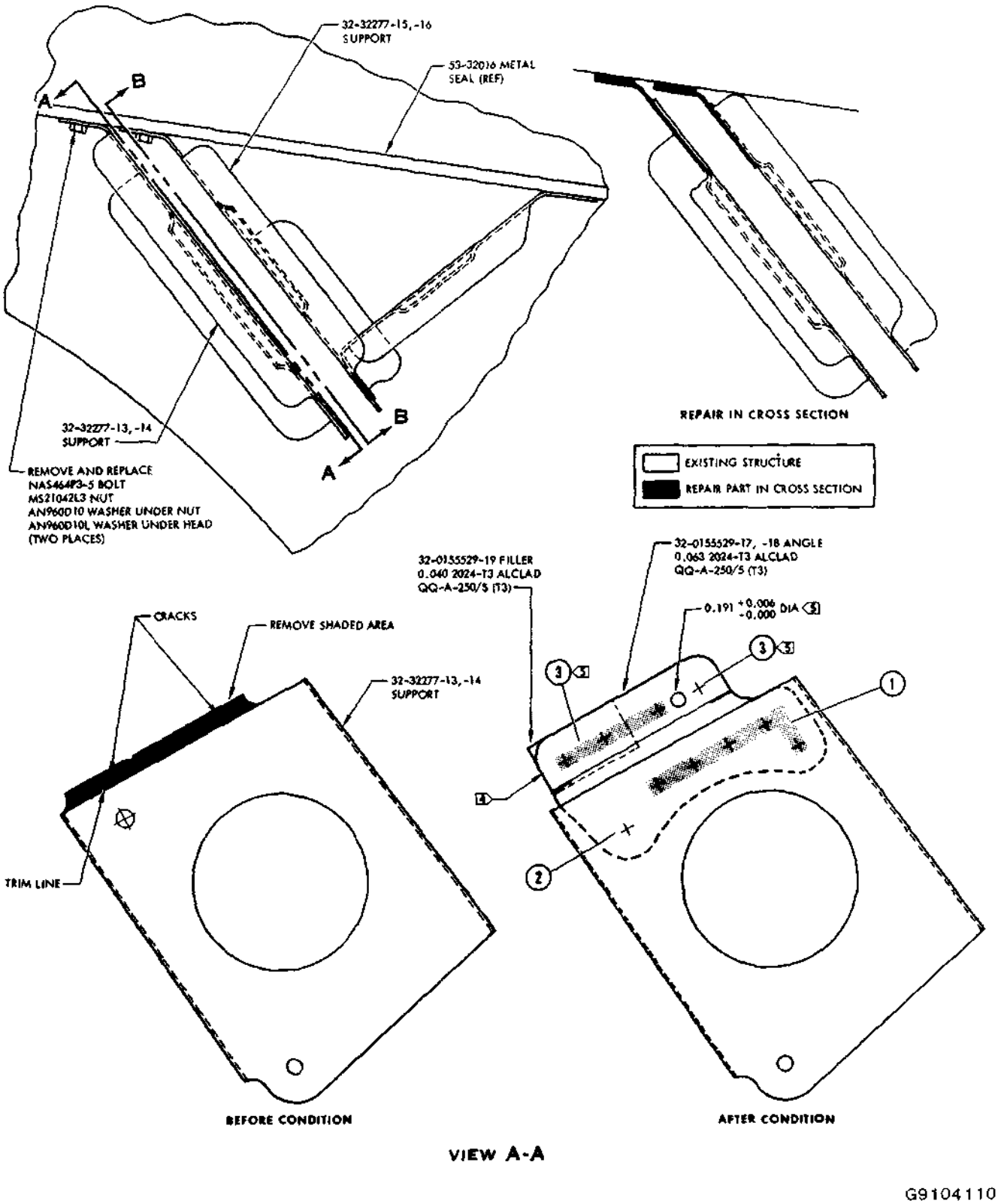
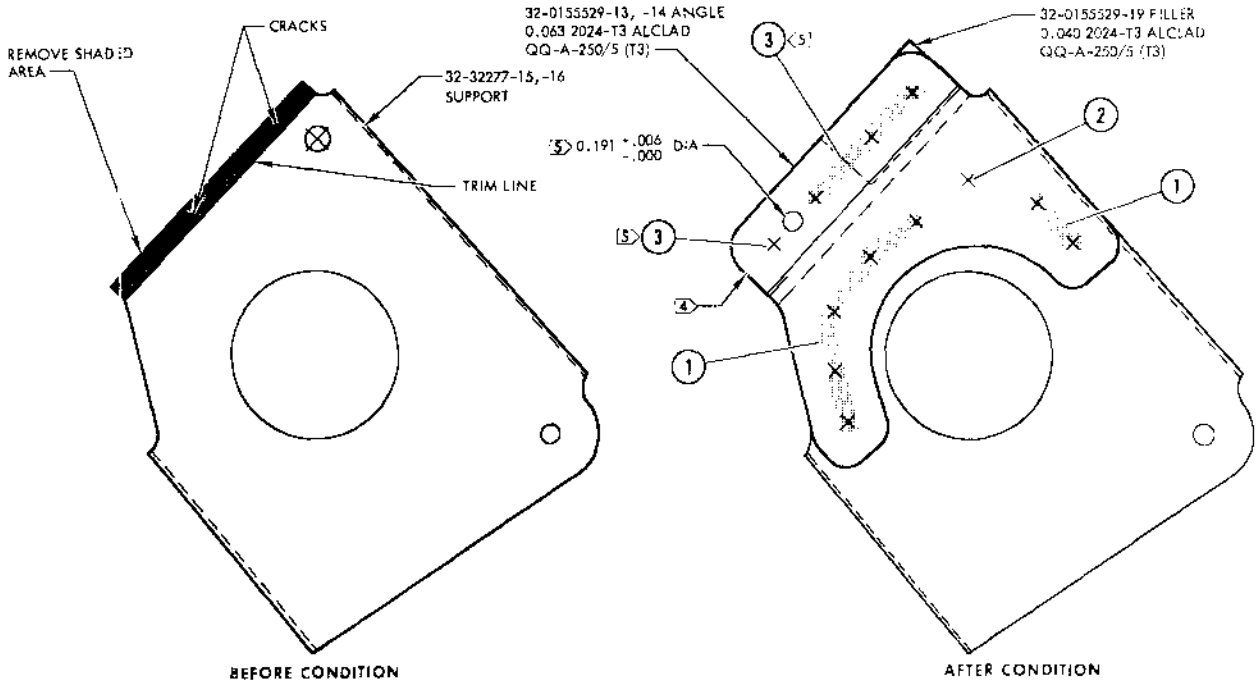
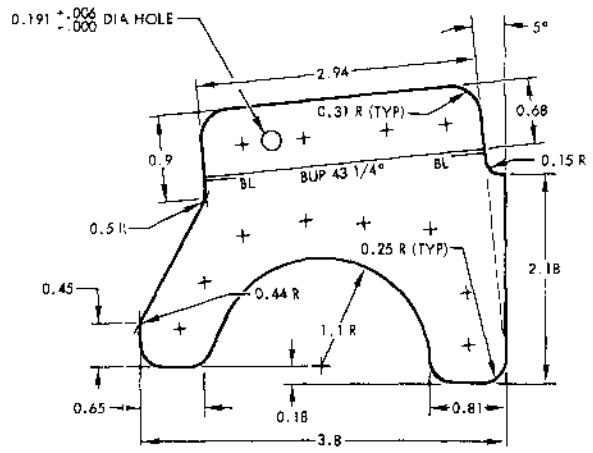


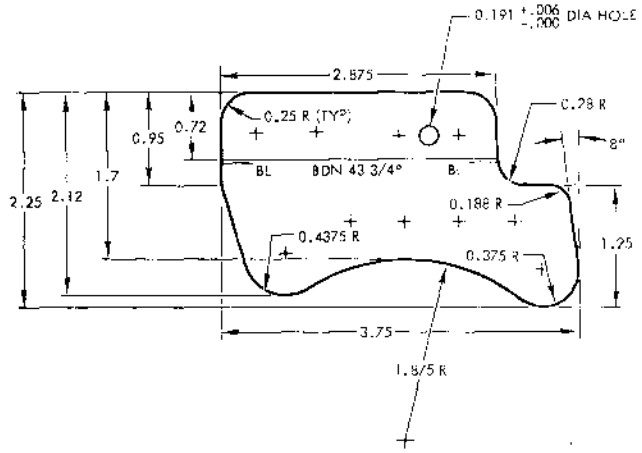
Figure 4-51. Bellmouth Upper Idler Arm Support Repair (Sheet 1 of 2)



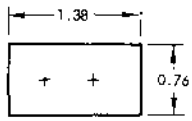
VIEW B-B



32-0155529-13, -14 ANGLE
0.063 2024-T3 ALCLAD
QQ-A-250/5 (T3)



32-0155529-17, -18 ANGLE
0.063 2024-T3 ALCLAD
QQ-A-250/5 (T3)



32-0155529-19 FILLER
0.040 2024-T3 ALCLAD
QQ-A-250/5 (T3)

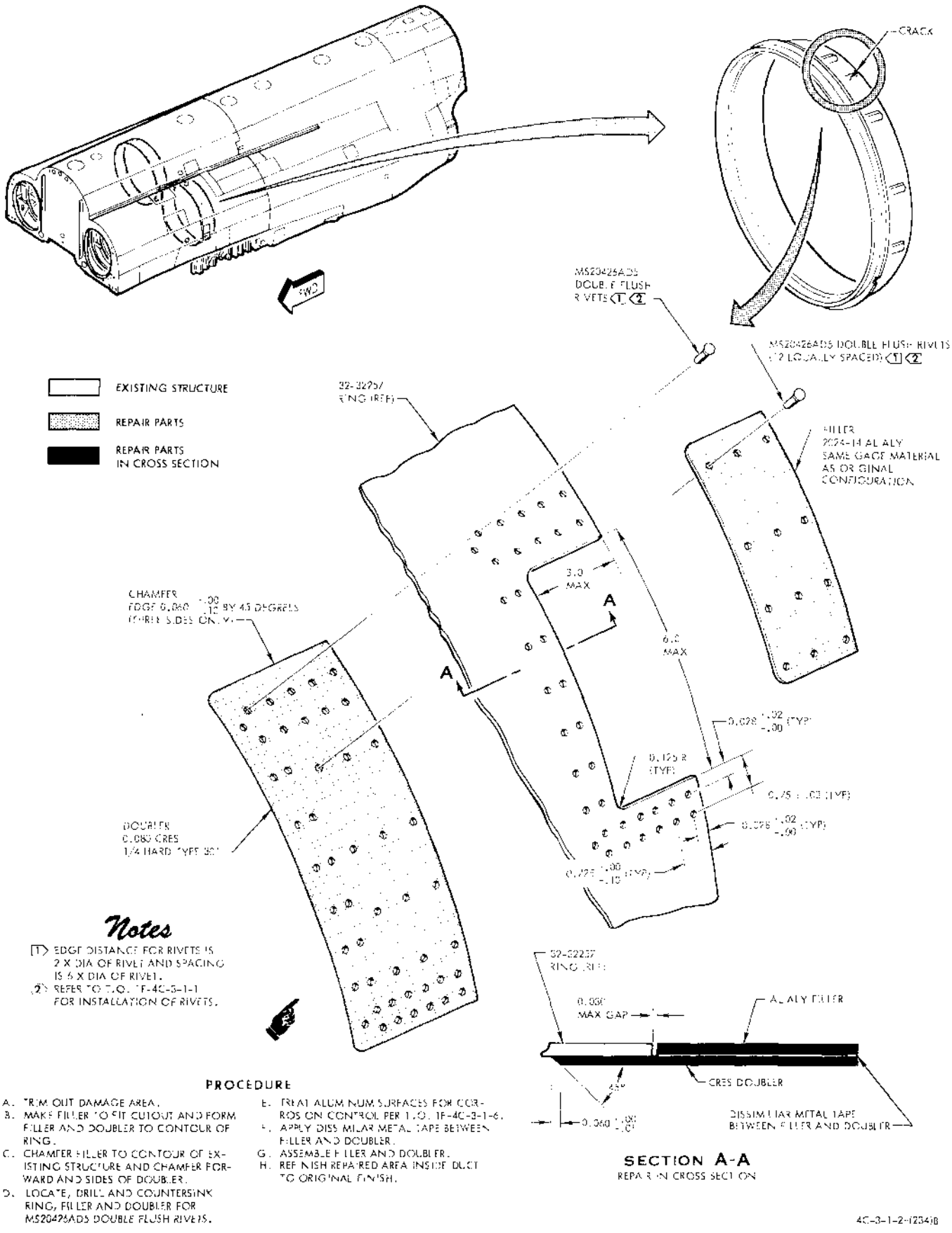
REF NO	FASTENER	COLLAR	HOLE SIZE
1	HS26-5-2	HS24-5	0.156 +.006 -.000
2	HS26-6-2	HS24-6	0.189 +.006 -.000
3	NAS1054-5-6 (3)	NAS528A5	0.156 +.006 -.000

Notes

1. REFER TO T.O. 1F-4C-3-1-1 FOR INSTALLATION OF FASTENERS.
2. REFINISH TRIMMED EDGES PER T.O. 1F-4C-3-1-6.
3. INSTALL FASTENER WITH WET SEALANT PER T.O. 1F-4C-3-1-6.
4. FAY SEAL FLANGE PER T.O. 1F-4C-3-1-6.
5. MATE DRILL WITH HOLES IN EXISTING STRUCTURE.

4C-3-1-2-(233-2)A

Figure 4-51. Bellmouth Upper Idler Arm Support Repair (Sheet 2 of 2)



Notes

(1) EDGE DISTANCE FOR RIVETS IS 2 X DIA OF RIVET AND SPACING IS 6 X DIA OF RIVET.
(2) REFER TO T.O. 1F-4C-3-1-1 FOR INSTALLATION OF RIVETS.

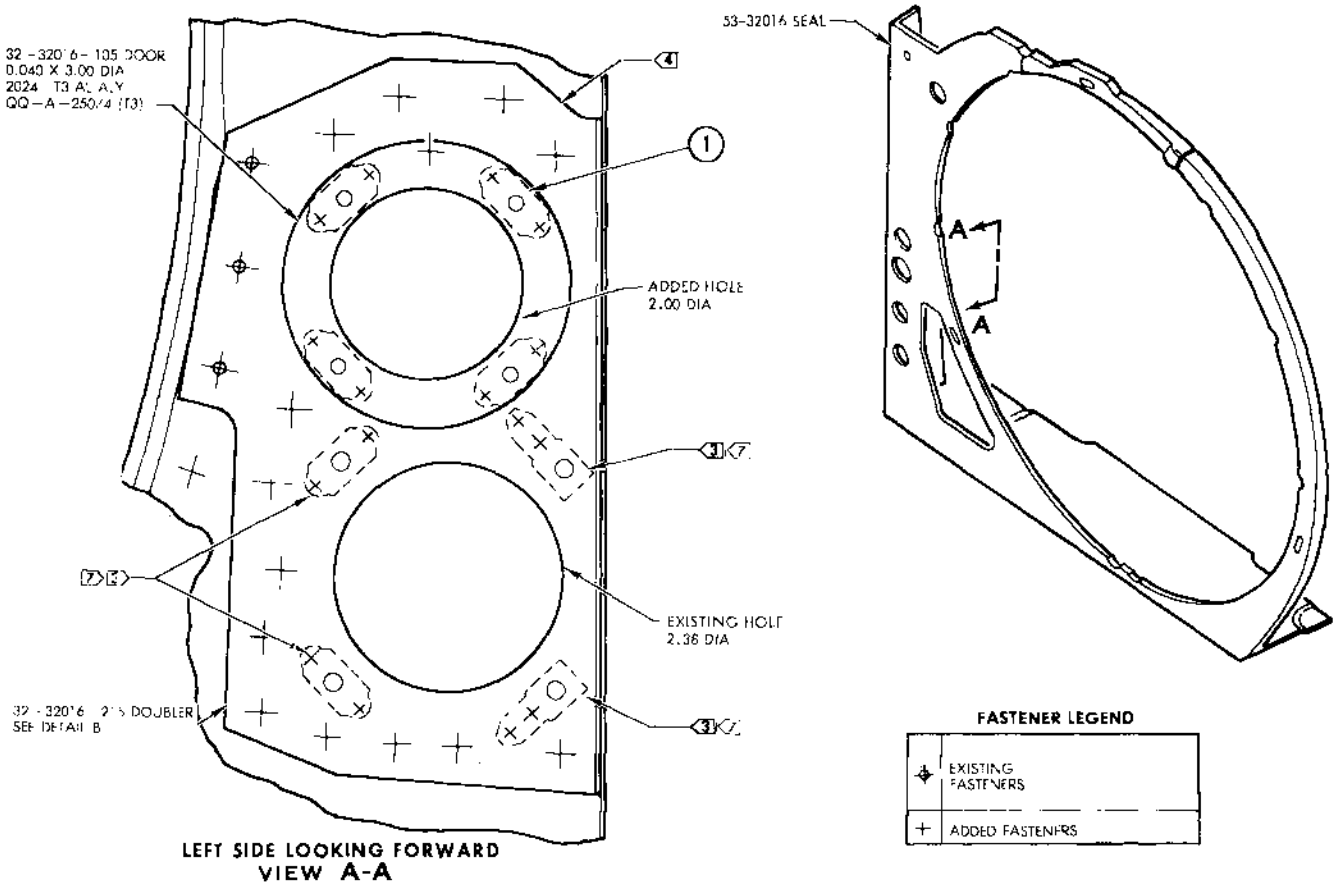
PROCEDURE

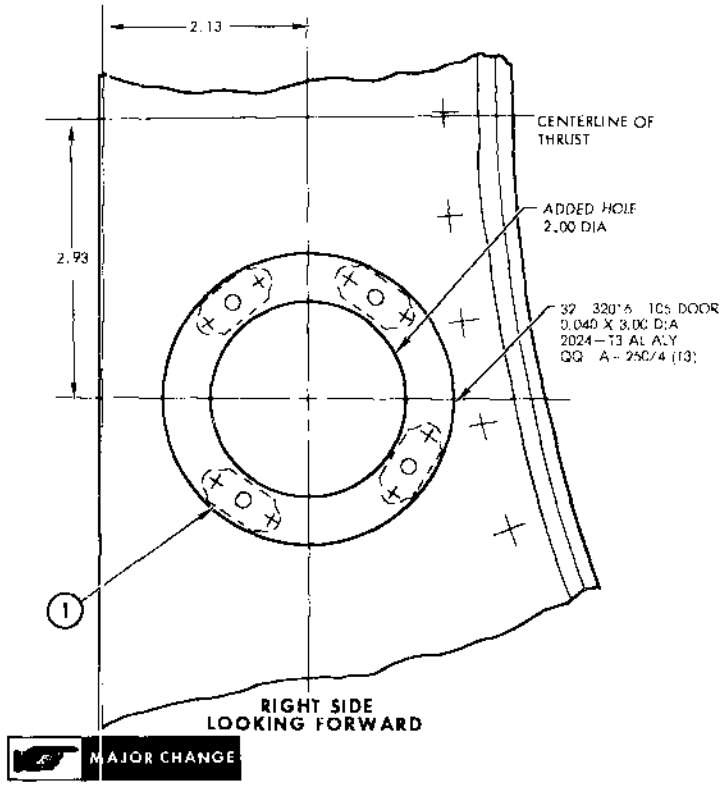
A. TRIM OUT DAMAGE AREA.
B. MAKE FILLER TO FIT CUTOUT AND FORM FILLER AND DOUBLER TO CONTOUR OF RING.
C. CHAMFER FILLER TO CONTOUR OF EXISTING STRUCTURE AND CHAMFER FORWARD AND SIDES OF DOUBLER.
D. LOCATE, DRILL AND COUNTERSINK RING, FILLER AND DOUBLER FOR MS20426AD5 DOUBLE FLUSH RIVETS.
E. TREAT ALUMINUM SURFACES FOR CORROS ON CONTROL PER T.O. 1F-4C-3-1-6.
F. APPLY DISSIMILAR METAL TAPE BETWEEN FILLER AND DOUBLER.
G. ASSEMBLE FILLER AND DOUBLER.
H. REFINISH REPAIRED AREA INSIDE DUCT TO ORIGINAL FINISH.

SECTION A-A
REPAIR IN CROSS SECTION

4C-3-1-2-12340

Figure 4-52. Fixed Bellmouth Barrel Trailing Edge Repair



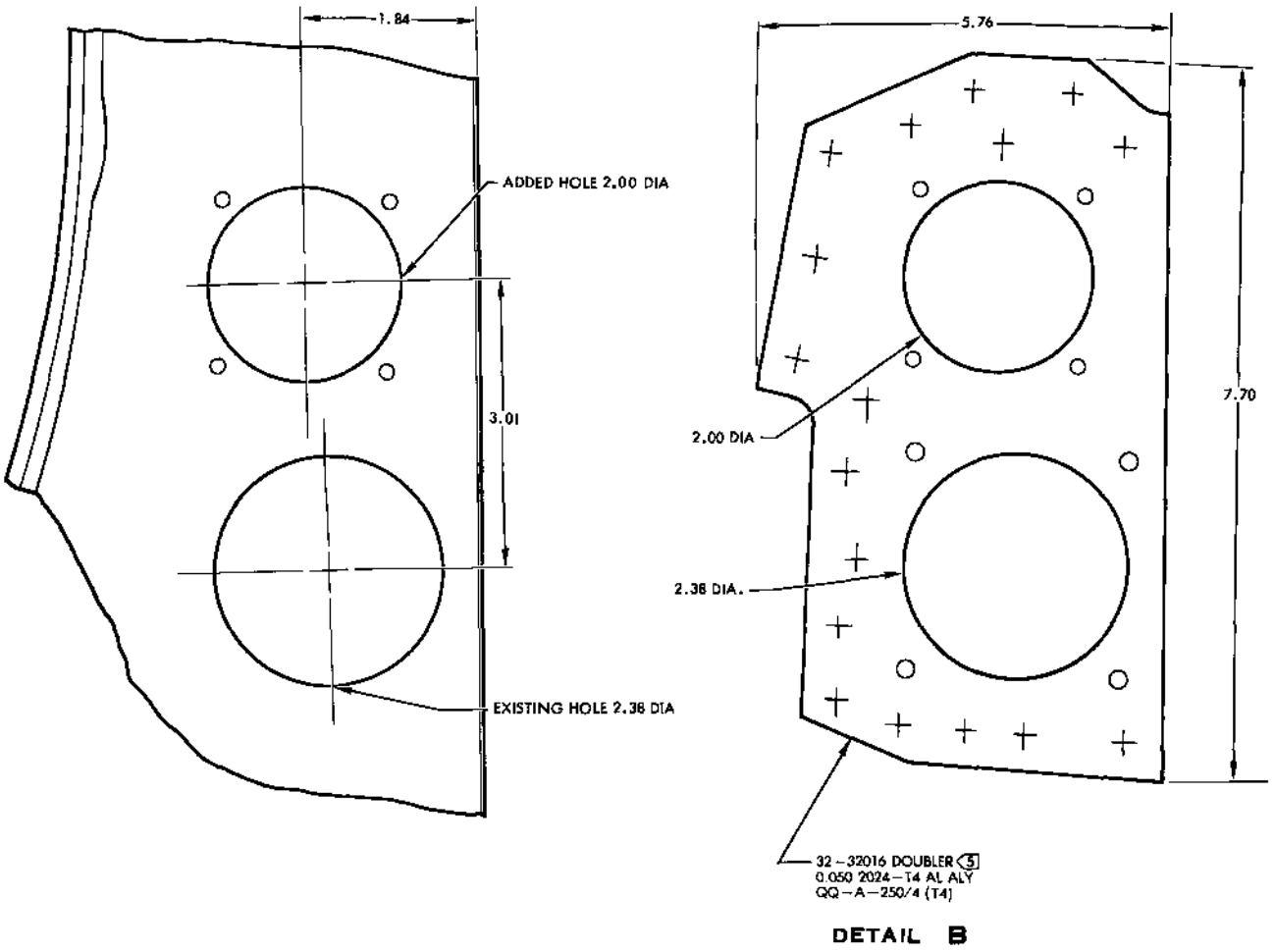


REF NO.	FASTENER	WASHER	NUT	HOLE SIZE
7	AN515-8R7	AN960D8	MS21059L08	0.170 +.010 -.000

MAJOR CHANGE

4C-3-1-2-(16-1) C

Figure 4-53. Door Installation, Bellmouth Bellcrank Adjustment (Sheet 1 of 2)

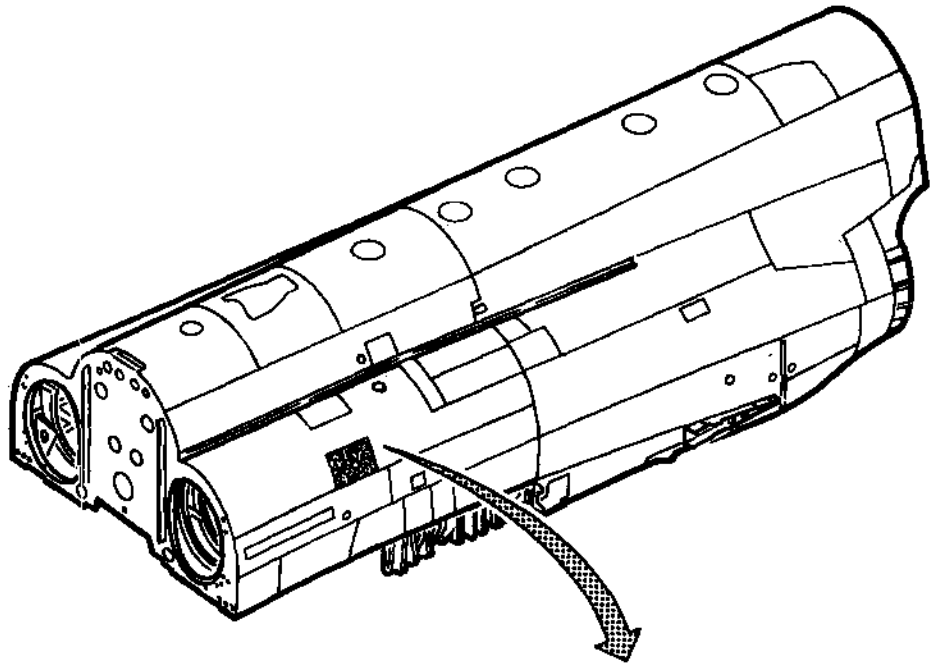


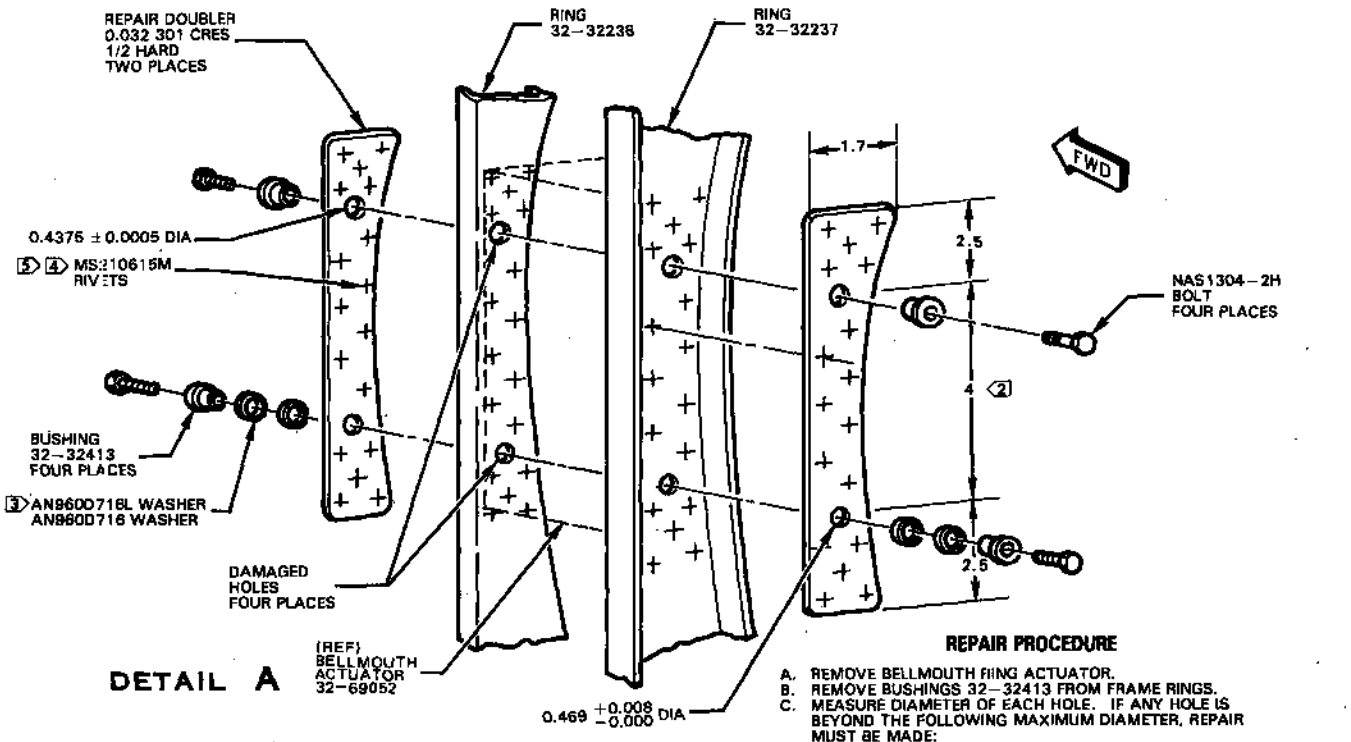
Notes

1. DRAWING NUMBER FOR DOOR IS 32-32016.
2. THE DOOR PROVIDES ACCESS TO THE INBOARD BELLCRANK TURN BUCKLE.
3. REMOVE MS20426AD2 RIVETS AND MS21061L08 PLATES NUTS (TWO), REPLACE WITH MS21059L3 PLATE NUTS. INSTALL WITH CR2248-4-2 RIVETS.
4. SEAL PER TO 1F-4C-3-1-6.
5. FABRICATE -215 DOUBLER FROM 32-32016 DRAWING.
6. USE CR3523-5 CHERRY MAX FASTENERS AT THESE LOCATIONS.
7. INSTALL PLATE NUTS MS20426AD3 RIVETS OR EQUIVALENT.
8. INSTALL PARTS PER 32-32016.
9. FINISH REWORK AREA PER CORROSION CONTROL PROCEDURE. REFER TO 1F-4C-3-1-6.

4C-3-1-2-(16-2)D

Figure 4-53. Door Installation, Bellmouth Bellcrank Adjustment (Sheet 2 of 2)





REPAIR PROCEDURE

A. REMOVE BELLMOUTH RING ACTUATOR.
B. REMOVE BUSHINGS 32-32413 FROM FRAME RINGS.
C. MEASURE DIAMETER OF EACH HOLE. IF ANY HOLE IS BEYOND THE FOLLOWING MAXIMUM DIAMETER, REPAIR MUST BE MADE:
   (1) UPPER HOLE -0.4380.
   (2) LOWER HOLE -0.4770.
D. FABRICATE REPAIR DOUBLER AS APPLICABLE FOR DAMAGED HOLES. SEE DETAIL A.
E. MATE DRILL DOUBLER WITH EXISTING FASTENER HOLES IN FRAME.
   (1) UPPER HOLE +0.4375 +.0005 -.0000.
   (2) LOWER HOLE -0.469 +.0008 -.0000.
F. LAYOUT AND DRILL ADDED FASTENER HOLES AS SHOWN. SEE DETAIL A.
G. FINISH REWORK AREA AND REPAIR PARTS PER TO 1F-4C-3-1-6.
■ H. APPLY MIL-S-81733 TO MATING SURFACE OF REPAIR DOUBLER AND INSTALL WHILE SEALANT IS WET. SEE TO 1F-4C-3-1-6.

Notes

1. CLIPS AND INTERCOSTALS REMOVED FOR CLARITY.
2. MATCH DISTANCE BETWEEN HOLES TO MATCH HOLES IN HYDRAULIC ACTUATOR.
3. AFTER BUSHING IS BOTTOMED OUT, A TOTAL GAP OF 0.155 ± .0105 MUST EXIST BETWEEN ACTUATOR AND FRAME, OR BETWEEN FRAME AND WASHERS. IF GAP IS INCORRECT ADD OR REMOVE THE WASHERS IDENTIFIED. STACK APPROPRIATE WASHERS AS REQUIRED TO OBTAIN PROPER GAP. APPLICABLE TO ALL FOUR BUSHING LOCATIONS.
4. MAINTAIN FOUR TIMES DIAMETER SPACING AND TWO TIMES DIAMETER EDGE DISTANCE.
5. LENGTH OF FASTENERS TO BE DETERMINED AT TIME OF INSTALLATION.

4C-3-1-2-(429)A

Figure 4-53A. Bellmouth Actuator Mounting Holes, Repair

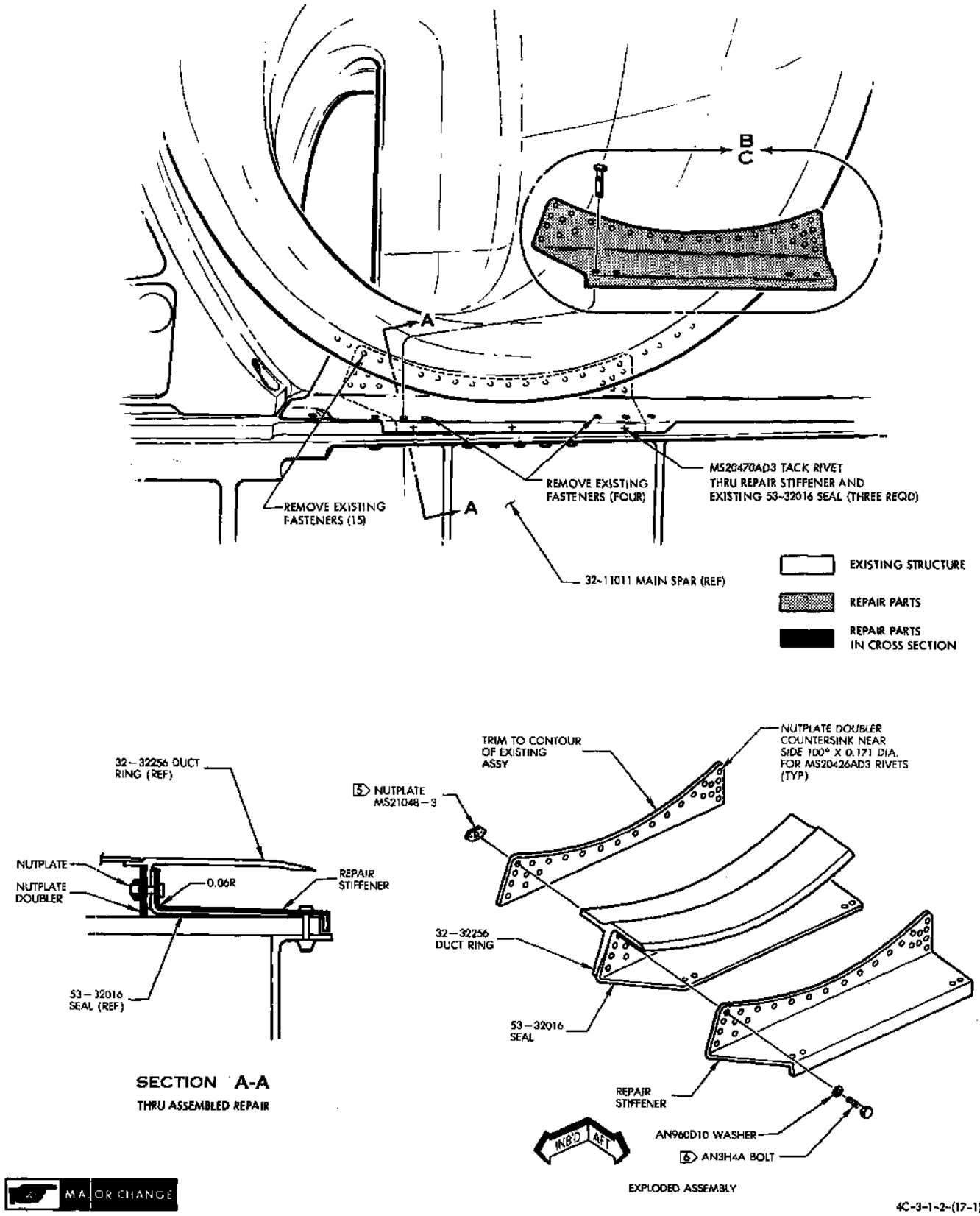
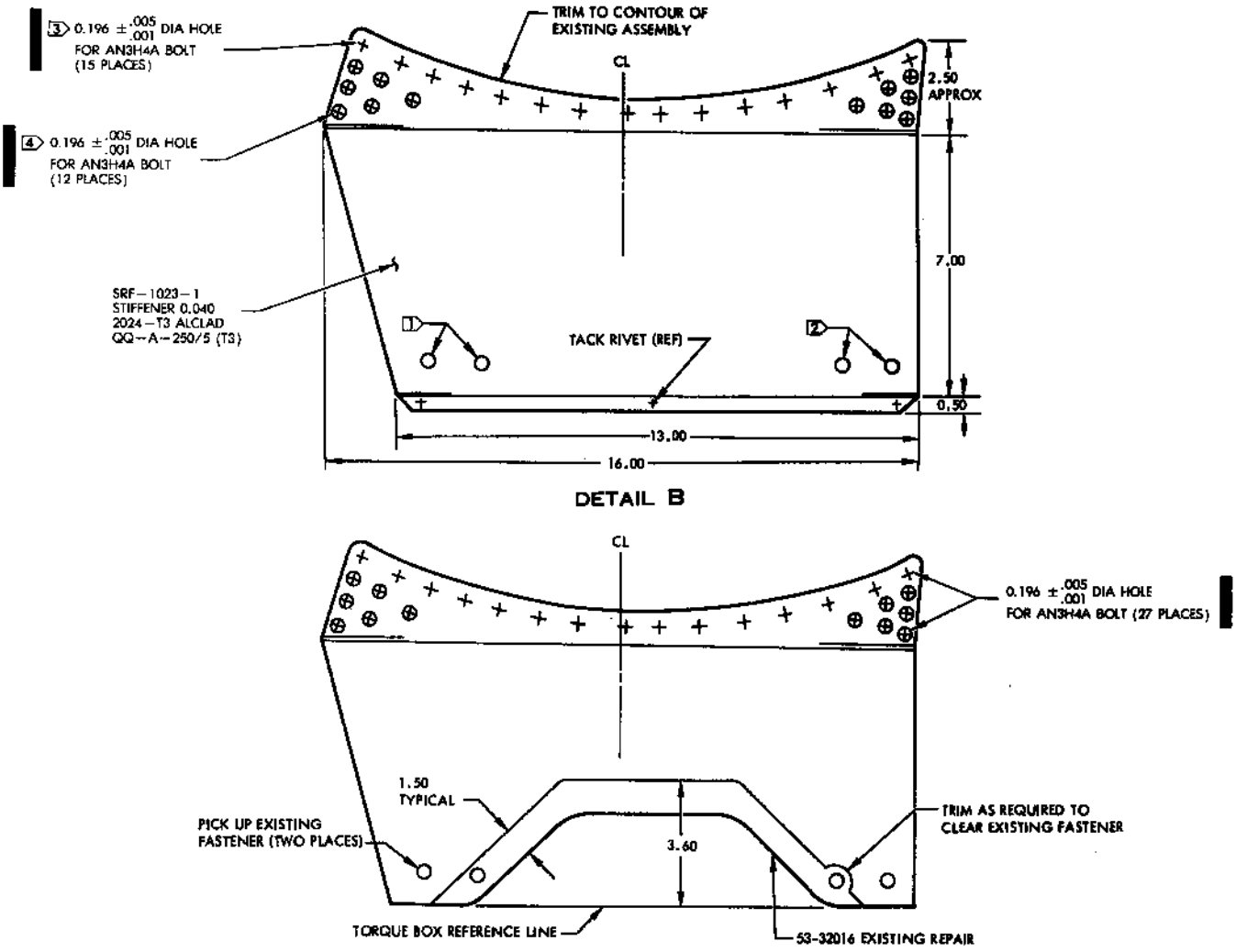


Figure 4-54. Metal Seal, 53-32016, Insertion Repair (Sheet 1 of 2)



REPAIR PROCEDURE

CRACKS WHICH DEVELOP IN LOWER 53-32016 SEAL ASSEMBLY, ABOVE WING SPAR AND SKIN CAN BE REPAIRED AS FOLLOWS:

REPAIR 1. SMALL CRACKS 2 OR 3 INCHES IN LENGTH CAN BE STOP DRILLED WITH A 0.191 DIA DRILL. THE AREA OF THE CRACK WILL THEN BE SEALED PER TO 1F-4C-3-1-6. THE MAXIMUM NUMBER OF CRACKS CAN NOT EXCEED THREE.

REPAIR 2. IF CRACK EXTENDS TO THE EDGE OF PART OR EXISTS ALONG FORWARD BEND RADIUS OR NUMBER OF CRACKS EXCEED LIMITATIONS OF REPAIR 1 OR ARE CLOSER TOGETHER THAN 0.500, A STIFFENER REPAIR MUST BE INSTALLED PER THE FOLLOWING PROCEDURE:

53-32016 SEAL REPAIR

A. STOP DRILL EACH END OF CRACK WITH A 0.191 DIA DRILL.

B. REMOVE FASTENERS AS NOTED ON PAGE 1. FIFTEEN HI-SHEAR RIVETS AND FOUR HUCK BOLTS.

C. ENLARGE HI-SHEAR HOLES THRU 32-32256 FIXED BELLMOUTH RING AND 53-32016 SEAL TO 0.196 +.005 -.001 DIA FOR AN3H4A BOLT.

D. FORM REPAIR STIFFENER FROM 0.040, 2024-T3 ALCLAD QQ-A-250/5 (T3) TO APPROXIMATE DIMENSIONS AS SHOWN IN DETAIL B. FINAL TRIM AND LOCATION OF HOLE PATTERN TO BE DETERMINED ON INSTALLATION.

E. FORM NUTPLATE DOUBLER FROM 0.040 2024-T3 ALCLAD QQ-A-250/5 (T3).

F. LOCATE AND DRILL NUTPLATE RETAINER HOLES ON DOUBLER.

NOTE

ON AIRCRAFT THAT THE 53-32016 SEAL HAS BEEN TRIMMED PER FIGURE 4-55, SEE ALTERNATE REPAIR STIFFENER, DETAIL C. ALL DIMENSIONS NOT SHOWN REMAIN THE SAME.

G. REMOVE ALL DIRT, CHIPS, AND SEALER FROM AREA TO BE COVERED BY REPAIR STIFFENER AND REFINISH AREA PER TO 1F-4C-3-1-6 CORROSION CONTROL.

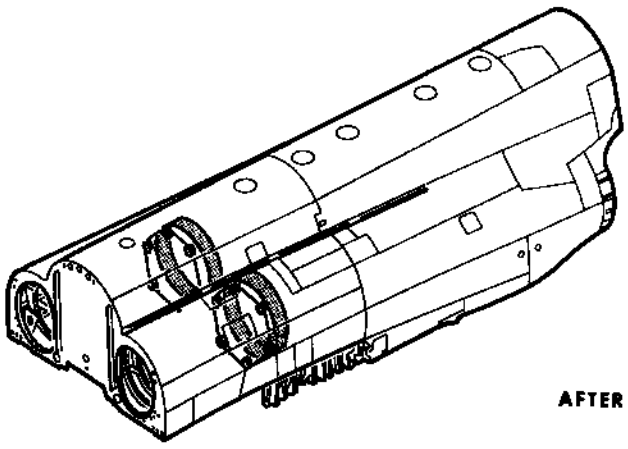
H. INSTALL REPAIR STIFFENER AND SEAL PER T O 1F-4C-3-1-6 ALONG PERIPHERY OF REPAIR STIFFENER. AVOID EXCESSIVE BUILDUP OF SEALANT.

Notes

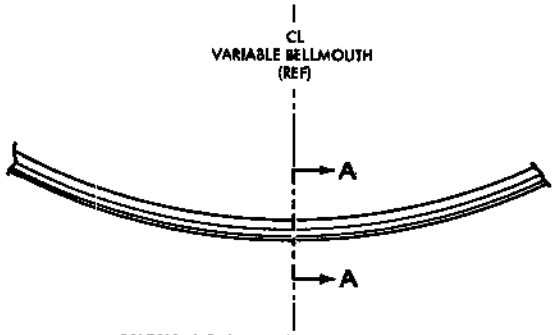
1. INSTALL NAS1450-11 HUCK BOLTS AND NAS1080C10 COLLARS.
2. INSTALL NAS1450-13 HUCK BOLTS AND NAS1080C10 COLLARS.
3. + EXISTING FASTENER HOLES TO BE ENLARGED TO 0.196 +.005 -.001 DIAMETER.
4. ⊗ ADDED 0.196 +.005 -.001 DIA THRU REPAIR STIFFENER 53-32016 SEAL, AND DOUBLER. MAINTAIN 0.550 SPACING AND 0.130 EDGE DISTANCE.
5. FASTEN NUTPLATE AT EACH HOLE WITH MS20426AD3 RIVETS (TYP 27 PLACES).
6. SAFETY LOCKWIRE ALL FASTENERS AFTER INSTALLATION.

4C-3-1-2-(17-2)0

Figure 4-54. Metal Seal, 53-32016, Insertion Repair (Sheet 2 of 2)

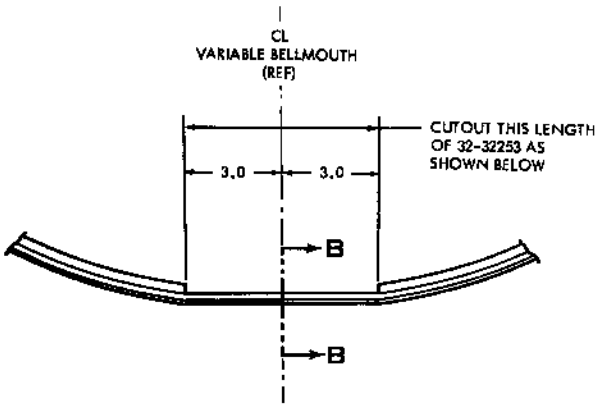


BEFORE CUTOUT

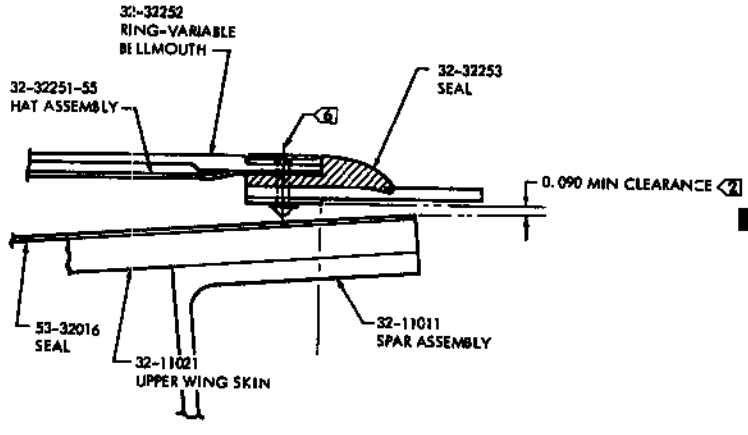


VIEW LOOKING FWD AT RING ASSEMBLY-VARIABLE BELLMOUTH.

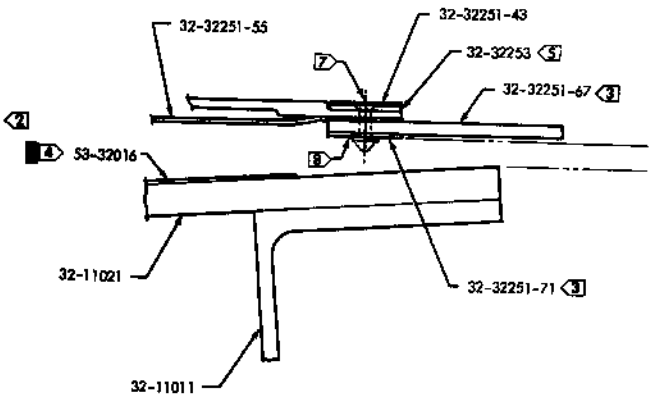
AFTER CUTOUT



VIEW LOOKING FWD AT RING ASSEMBLY-VARIABLE BELLMOUTH.



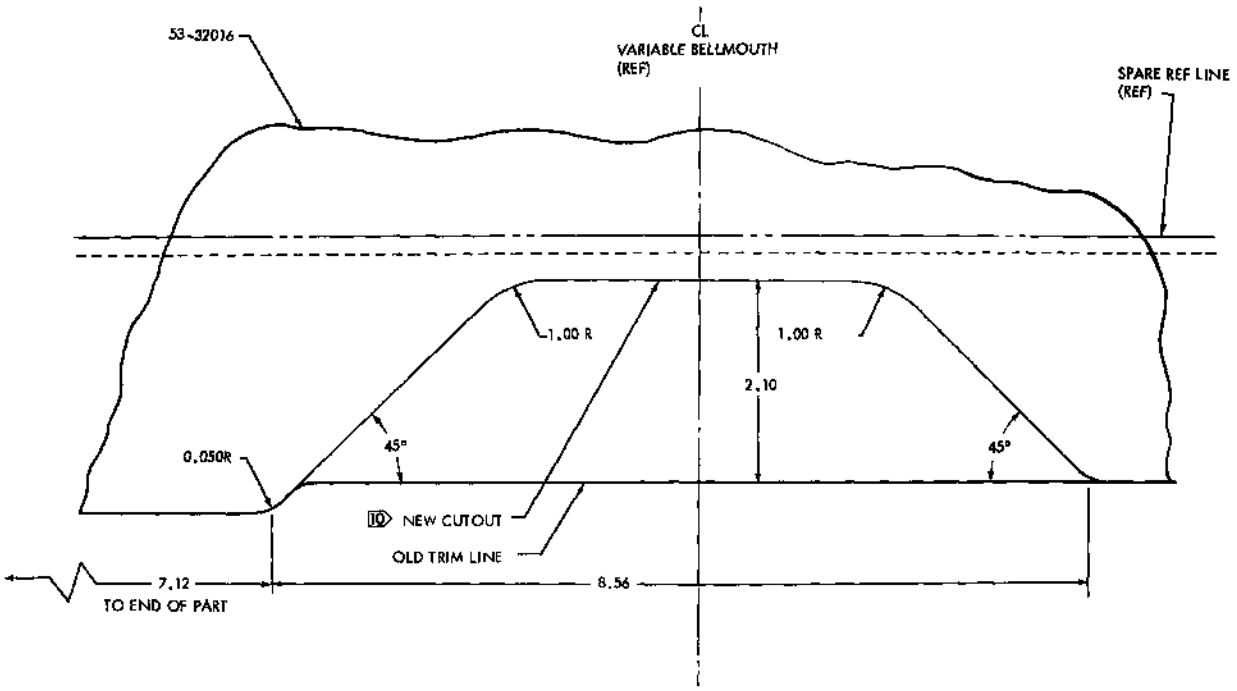
SECTION A-A



SECTION B-B

4C-3-1-2-(18-1)B

Figure 4-55. Interference Between Engine Duct Bellmouth and Seal, 53-32016, Repair - FS 303.62 (Sheet 1 of 2)



VIEW LOOKING DOWN

UPPER SURFACE OF WING SPAR 9

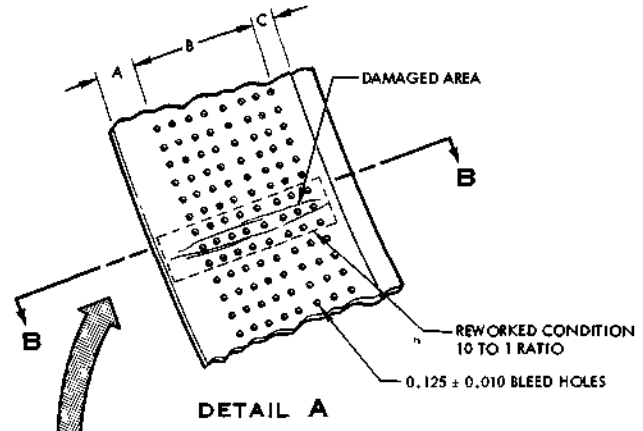
Notes

1. REMOVE VARIABLE BELLMOUTH RING ASSEMBLY PER T.O. 1F-4( )-2-9.
2. IF THERE IS A GREATER CLEARANCE THAN 0.090 THIS REPAIR DOES NOT HAVE TO BE ACCOMPLISHED.
3. THESE PARTS ARE THE SAME EXCEPT THEY MUST BE PULLED UP TIGHT AGAINST 32-32251-55 WHEN RIVETS ARE RE-INSTALLED.
4. SEE SHEET 2 OF THIS ILLUSTRATION FOR DETAIL OF CUTOUT.
5. TRIM AREA SHOWN CROSS-HATCHED IN SECTION A-A TO ACHIEVE THIS CONDITION.
6. REMOVE THE NECESSARY RIVETS TO ACCOMPLISH THIS REPAIR.
7. REINSTALL RIVETS USING HS23 HI-SHEAR RIVETS.
8. TO BE INSTALLED BY SQUEEZING. WASHER TO BE INSTALLED UNDER SHOP HEAD.
9. LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE.
10. CUTOUT SHOWN IS FOR 53-32016 SEAL ONLY. WING SPAR AND SKIN IS NOT TO BE TRIMMED OR CUT IN ANY MANNER.

4C-3-1-2-(18-2)B

Figure 4-55. Interference Between Engine Duct Bellmouth and Seal, 53-32016, Repair - FS 303.62 (Sheet 2 of 2)

AREA	LENGTH	LENGTH OF DAMAGE	MAX DAMAGE DEPTH
A	0.0 TO 1.0	0 TO 1/4 1/4 TO 1/2 1/2 TO 1	70% 60% 50%
B	1.0 TO 3 3/4	0 TO 1/2 1/2 TO 1 1 TO 2-3/4	100% 80% 60%
C	3 3/4 TO 4 1/8	SAME AS A	



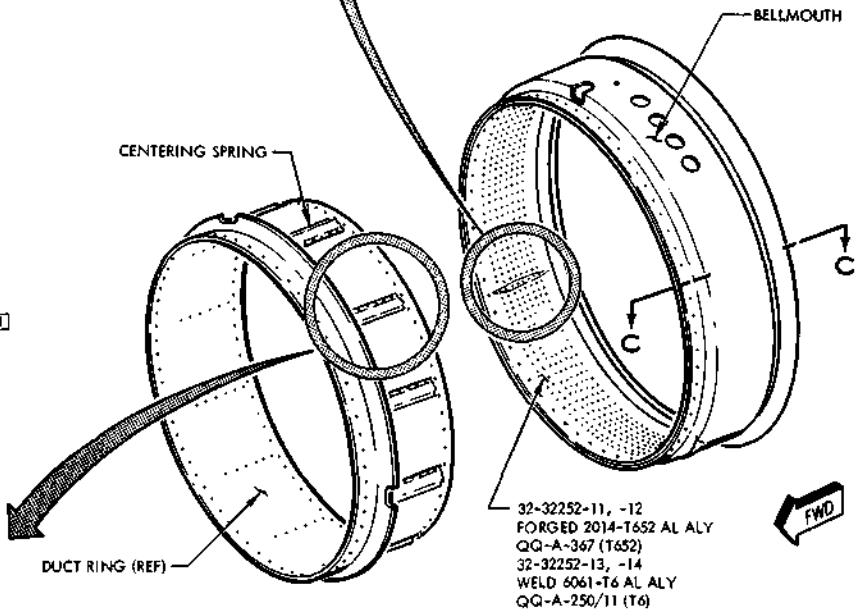
DETAIL A



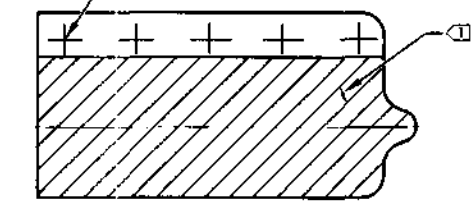
SECTION B-B

Note

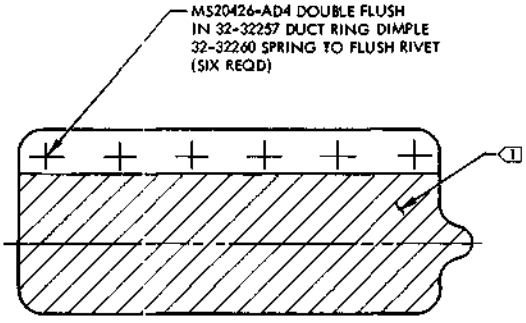
[1] 32G32260-3, -4; -11, -12 AND 32-32260-5, -6 AND -7, -8 TEFLON COATED BOTH SIDES. 32G32260-21, -22 AND 32-32260-9, -10 MOLYKOTE X-106 SOLID FILM LUBRICANT BOTH SIDES. 32-32260-11, -12 DESOTO 822T200 ANTI-CHAF COATED BOTH SIDES.



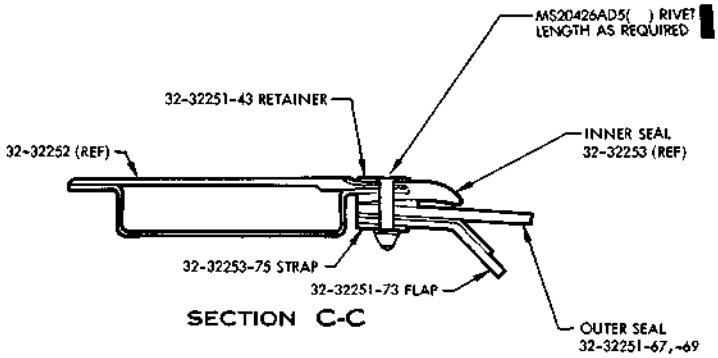
BELLMOUTH INSERTION AND CENTERING SPRINGS.



DETAIL D
SPRING 32G32260-3, -4; -11, -12; AND -21, -22



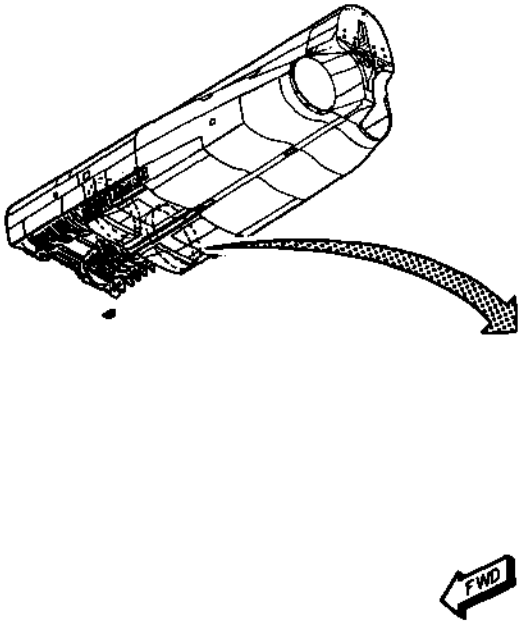
DETAIL D
SPRING 32-32260-5, -6; -7, -8; -9 -10;
AND -11, -12

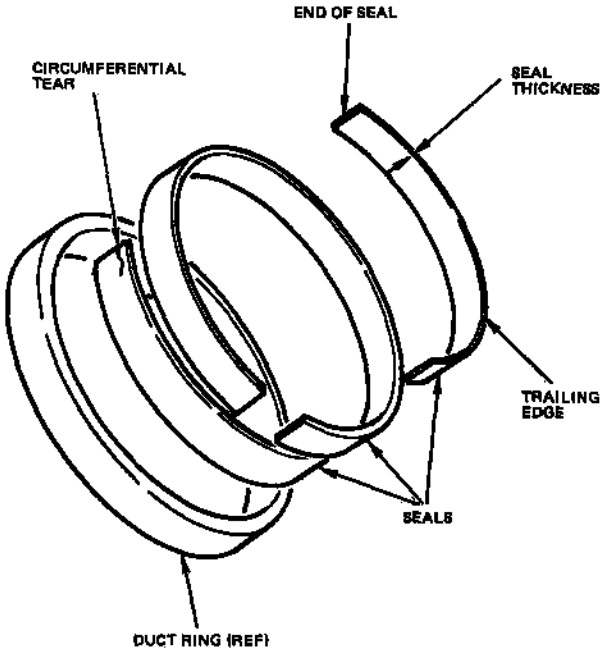


SECTION C-C

4C-3-1-2-(11-1)K

Figure 4-56. Variable Bellmouth Repair (Sheet 1 of 2)





BELLMOUTH REWORK

1. REMOVE VARIABLE BELLMOUTH RING ASSEMBLY PER T.O. 1F-4( )-2-9.
2. REWORK DAMAGED BELLMOUTH AS FOLLOWS.
   A. IF DAMAGE DOES NOT EXCEED LIMITS AS SHOWN IN TABLE ON SHEET 1 FOR AREAS A, B, OR C, REPAIR BY BLENDING ON A 10 TO 1 RATIO EXCEPT AS NOTED.
   B. IN AREA "B" WHERE DAMAGE IS 80 PERCENT OR MORE OF TOTAL METAL THICKNESS, REPAIR BY CUTTING THAT SECTION OUT OF THE RING. (SECTION REMOVED SHOULD BE AS SMALL AS POSSIBLE, BUT NOT SMALLER THAN DIAMETER OF A PERFORMATED HOLE IN THE RING.) AFTER REMOVING SECTION, BLEND REMAINING AREA PER TABLE ON SHEET 1.

NOTE

FOR NONPERFORATED SECTIONS IN AREA B, USE AREA A LIMITS.

   C. RECHECK BLEED HOLES IN RING TO ASSURE BLENDING HAS NOT CLOGGED THE OPENING. REMOVE FOREIGN OBJECT DAMAGE FROM HAT SECTION OF RING.
   D. ALODINE REWORKED AREA PER T.O. 1F-4C-3-1-6 USING MIL-A-5541.
   E. REPLACE ALL DAMAGED FASTENERS.

CAUTION

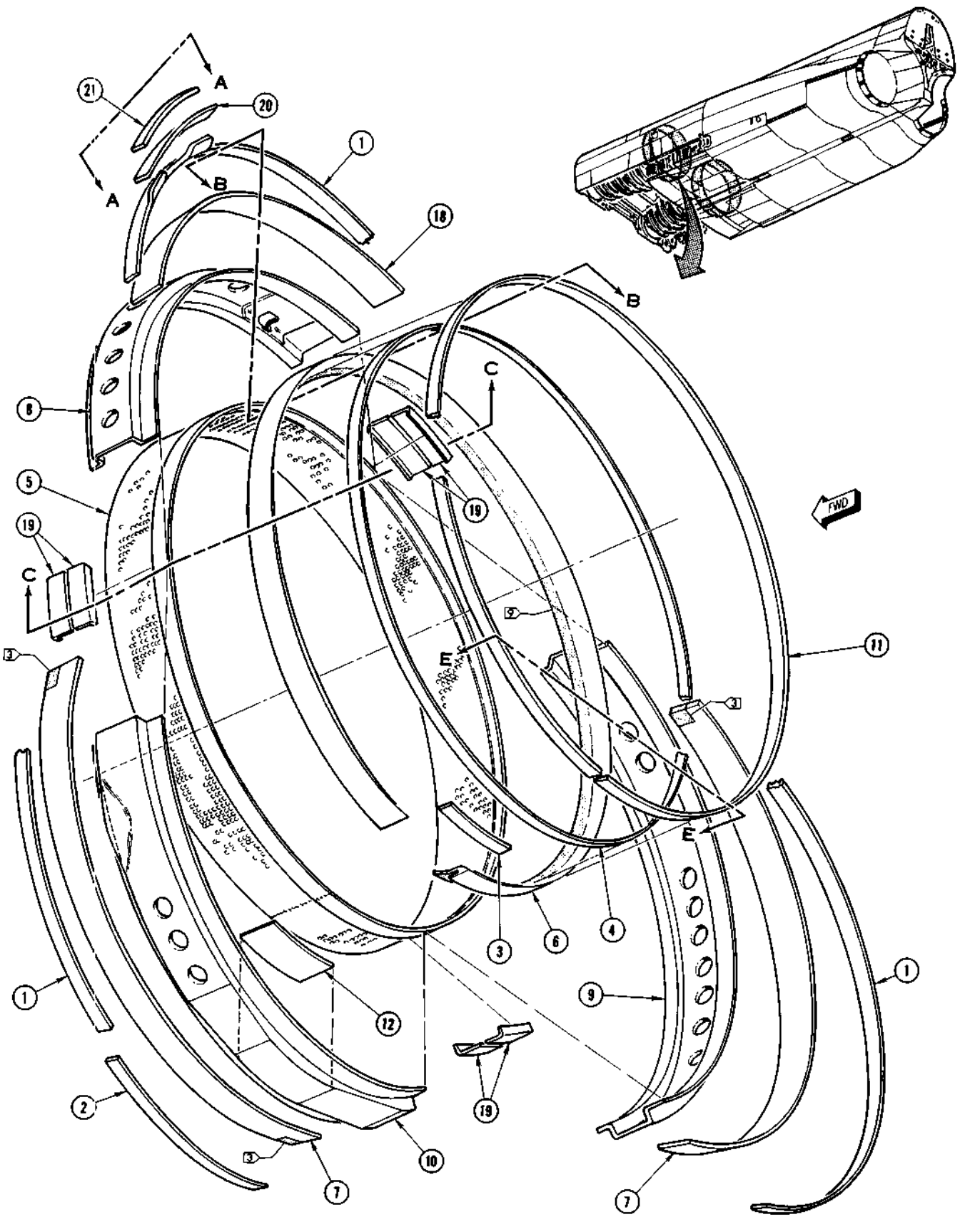
ALLOW 24 HRS. DRY TIME PRIOR TO OPERATING BELLMOUTH.

   F. REFINISH REWORKED AREA USING EPOXY PRIMER AND DESOTO 822T200 ANTICHAFFING COATING PER T.O. 1F-4C-3-1-6.

3. USE THE FOLLOWING CRITERIA TO ACCEPT OR REJECT BELLMOUTH RING SEALS.
   A. CIRCUMFERENTIAL TEARS SHALL NOT BE DEEPER THAN 75 PERCENT OF SEAL THICKNESS, NOR EXCEED THREE INCHES IN LENGTH, AND NOT BE WITHIN TWO INCHES FROM THE END OF THE SEAL.
   B. TRAILING EDGE WEAR SHALL NOT BE DEEPER THAN 0.25 INCH AND NOT LONGER THAN FOUR INCHES PER SECTION. TRIM ALL FRAYED EDGES.
   C. SURFACE ABRATIONS CANNOT PENETRATE THE THIRD LAYER OF CORD. SECOND LAYER PENETRATION CANNOT EXCEED ONE SQUARE INCH IN AREA.
   D. STRAIGHT CUTS MADE DELIBERATELY BY TOOLS FOR CLEARANCE PURPOSES THAT RUN FORE AND AFT ARE ACCEPTABLE.
   E. TEARS LESS THAN ONE HALF INCH LONG WHICH RUN FORE AND AFT ARE ACCEPTABLE.
4. WHEN DAMAGE EXCEEDS THE LIMITS SHOWN IN DAMAGE LIMITS CHART, RETURN TO DEPOT FOR REPAIR.

4C-3-1-2-(11-2)J

Figure 4-56. Variable Bellmouth Repair (Sheet 2 of 2)



4C-3-1-2-(250-1)A

Figure 4-57. Engine Air Duct Bellmouth Repair Index (Sheet 1 of 3)

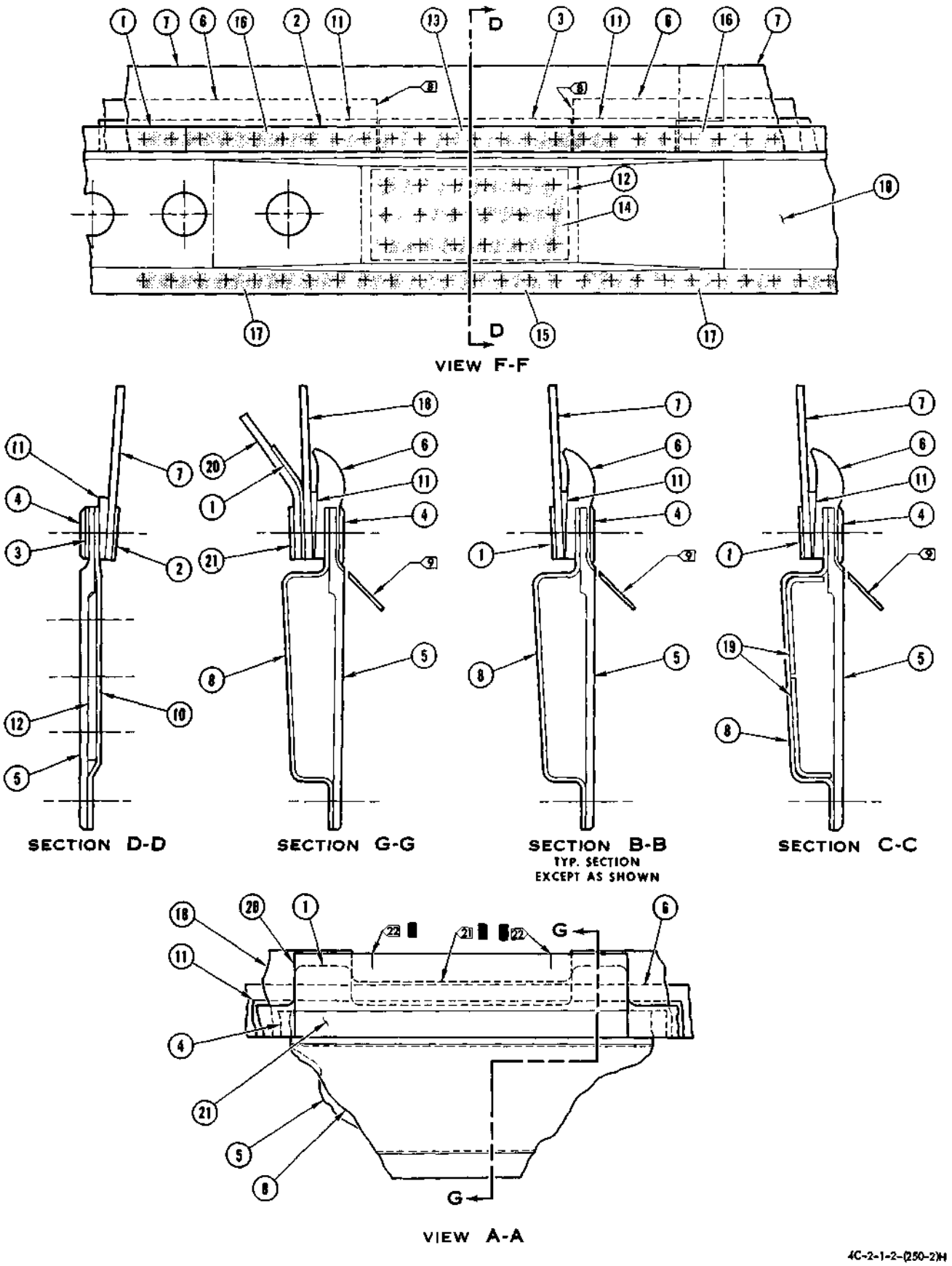
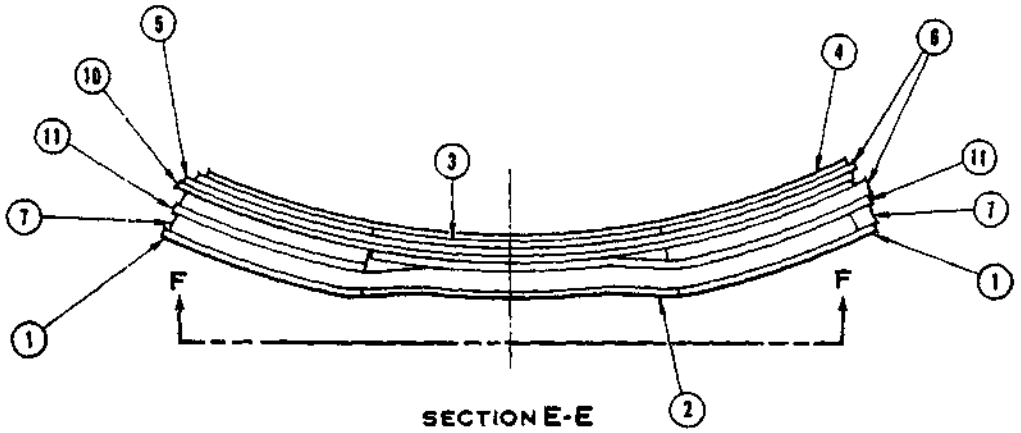


Figure 4-57. Engine Air Duct Bellmouth Repair Index (Sheet 2 of 3)



SECTION E-E

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1 [13]	32-32251-71	RING	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
[14]	32-32251-87	RING	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
2 [14]	32-32251-85	RETAINER	0.025	301 CRES	MIL-S-5059 (1/4 H)
3 [14]	32-32251-81	FILLER	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)
4	32-32251-43	RETAINER	3M9588	2024-T4 AL ALY	QQ-A-200/3 (T4)
5 [18]	32-32252-13, -14	RING [11]	WELD ASSEMBLY	6061-T6 AL ALY	QQ-A-250/11 (T6)
[17]	32-32252-11, -12	RING [11]	FORGING	2014-T652 AL ALY	QQ-A-367 (T652)
6	32-32253-5	SEAL [6]		[6]	
7 [15]	32-32251-67 (2)	SEAL		[7]	
[16]	32-32251-79, -83	SEAL		[7]	
8	32-32251-57, -58	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-32251-59, -60	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-32251-61, -62	HAT	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11 [19]	32-32251-91	SPACER RING	0.090	2024-T3 AL ALY	QQ-A-250/4 (T3)
[15]	32-32251-65	SPACER RING	0.090	2024-T3 AL ALY	QQ-A-250/4 (T3)
12 [14]	32-32251-77	PLATE	0.100	7178-T6 AL ALY	QQ-A-250/14 (T6)
[17]	32-32751-39	PLATE	0.100	7075-T6 ALCLAD	QQ-A-250/13 (T6)
13	MS20426AD5	RIVET (11) [4]			
14	MS20426DD6	RIVET (18) [5]			
15	MS20426AD4	RIVET (8) [5]			
16	MS20426AD5	RIVET			
17	HS23-4	HI SHEAR RIVET			
	HS24-4	HI SHEAR COLLAR			
18	32-32251-69	SEAL [21]		[7]	
19 [20]	32-32251-53	ANGLE (6)	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-32251-73	FLAP [22]		[18]	
21	32-32251-75	STRAP	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)

Notes

1. REMOVE VARIABLE BELLMOUTH RING ASSEMBLY PER TO 1F-4( )-2-9.
2. BELLMOUTH RING ASSEMBLY TO CLEAR 53-32016 SEAL ASSEMBLY 0.090. SEE FIGURE 4-55 FOR ADDITIONAL CLEARANCE.

[3] 32-32251-67, -69 SEALS ARE TRIMMED TO BUTT AGAINST EACH OTHER UNDER RETAINERS. FLAP AREAS OF THE SEALS ARE TRIMMED TO OVERLAP APPROXIMATELY 3/4 INCH.

[4] INSTALL MANUFACTURED HEAD FLUSH IN 32-32251-85 RETAINER, SHOP HEAD FLUSH IN 32-32251-43 RETAINER, DIMPLE 32-32251-85.

[5] INSTALL MANUFACTURED HEAD FLUSH IN 32-32251-61 HAT. SHOP HEAD FLUSH IN 32-32252-13, -14 RING.

[6] SEAL CONSTRUCTION IS LAMINATED TRICOT WEAVE DACRON FABRIC IMPREGNATED WITH SILICONE RUBBER, PART NUMBER 4547-2 OR PART NUMBER 202-5 OR EQUAL.

[7] MATERIAL IS PART NUMBER 4526-1 OR EQUAL.

[8] TRIM 32-32253 SEAL AS SHOWN.

[9] TRIM FLUSH WITH 32-32251-43 RETAINER.

[10] MATERIAL IS PART NUMBER 4526-2 OR EQUAL.

[11] FINISH INNER SURFACE WITH EPOXY PRIMER AND 822T200 ANTI-CHAFE COATING. REFERENCE TO 1F-4C-3-1-6.

[12] DELETED.

[13] F-4C, F-4D 64-929 THRU 66-8822, F-4E 66-284 THRU 66-365, 66-368, 66-369 AND RF-4 63-7742 THRU 67-436.

[14] F-4D 66-8823 THRU 66-8825, F-4E 66-366, 66-367, 66-370 AND UP, RF-4 67-437 THRU 72-156, AND F-4G.

[15] F-4C, F-4D, F-4E 66-284 THRU 68-355, AND RF-4 63-7742 THRU 68-557.

[16] F-4E 68-356 AND UP, AND RF-4 68-558 THRU 72-156, AND F-4G.

[17] F-4C, F-4D 64-929 THRU 65-665, AND RF-4 63-7742 THRU 65-901

[18] F-4D 65-666 THRU 66-8825, RF-4 65-902 THRU 72-156, F-4E, AND F-4G.

19. ENLARGE CONTROL ROD OPENINGS UP TO 0.19 TO EITHER SIDE AND TO AN OVERALL LENGTH OF 1.75 MAXIMUM TO REMOVE CRACKS. RETAIN 0.25 MINIMUM CORNER RADIUS.

[20] THESE ANGLES MAY BE INSTALLED USING CR3243-4 FASTENERS.

[21] TRIM 32-32251-69 SEAL AS SHOWN, TO CLEAR COOLER VALVE.

[22] AFTER ENGINE INSTALLATION, SLIT -73 FLAP EVEN WITH BASE OF OIL COOLER VALVE.

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Figure 4-57. Engine Air Duct Bellmouth Repair Index (Sheet 3 of 3)

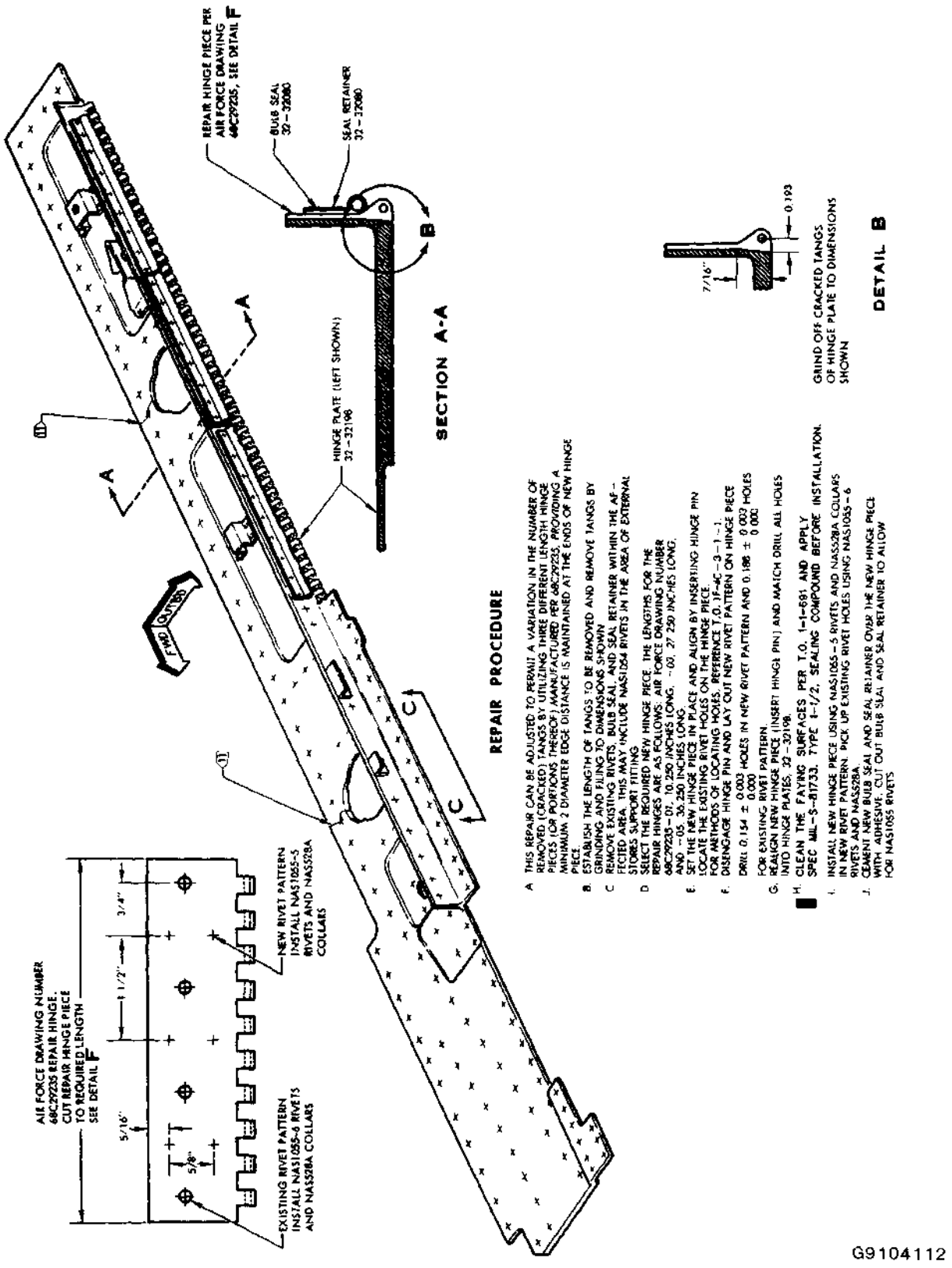
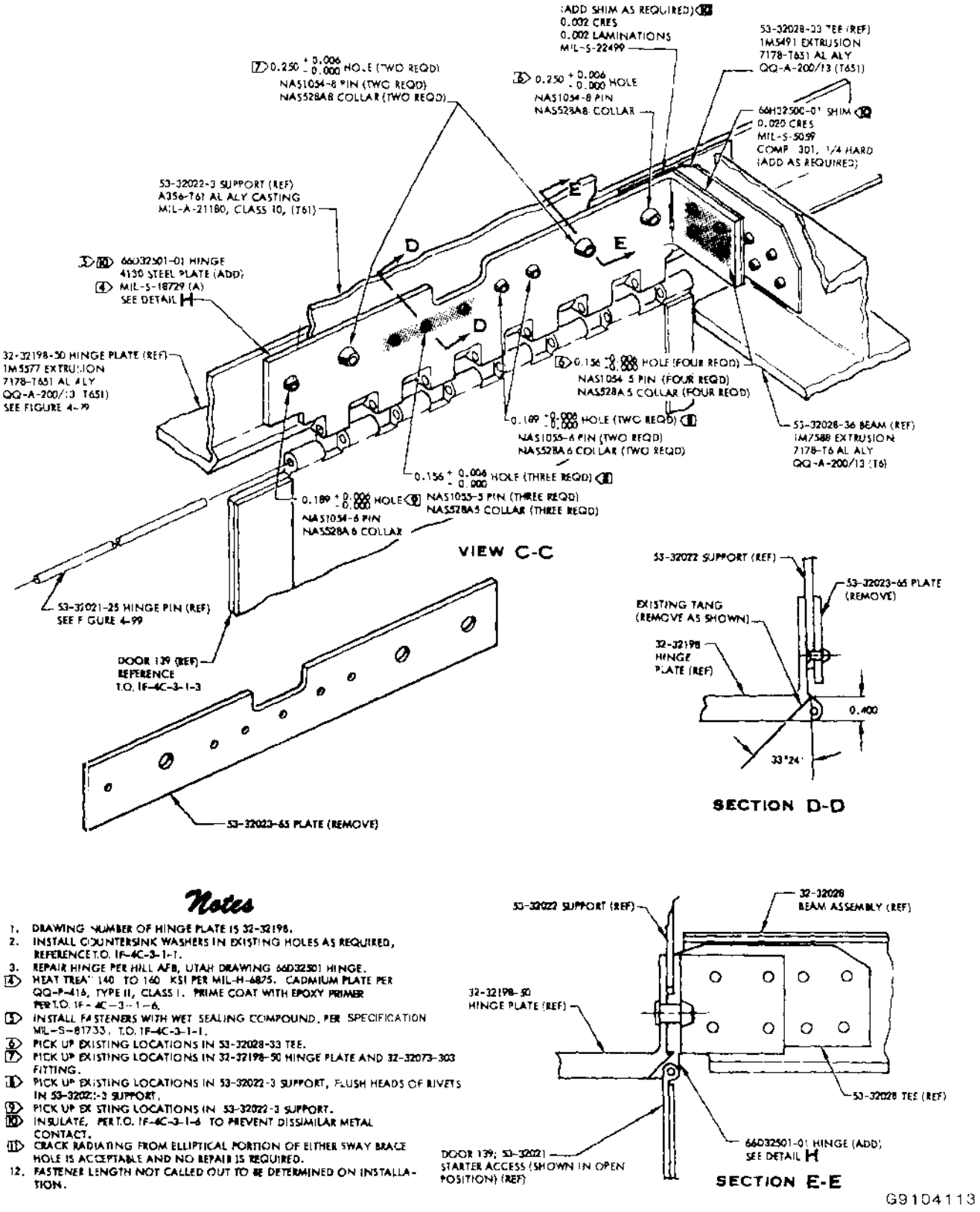


Figure 4-58. Door 81 and 139 Structural Hinge Repair (Sheet 1 of 3)



Notes

1. DRAWING NUMBER OF HINGE PLATE IS 32-32198.
2. INSTALL COUNTERSINK WASHERS IN EXISTING HOLES AS REQUIRED, REFERENCE T.O. 1F-4C-3-1-1.
3. REPAIR HINGE PER HILL AFB, UTAH DRAWING 66D32501 HINGE.
4. HEAT TREAT 140 TO 160 KSI PER MIL-H-6875. CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 1. PRIME COAT WITH EPOXY PRIMER PER T.O. 1F-4C-3-1-6.
5. INSTALL FASTENERS WITH WET SEALING COMPOUND, PER SPECIFICATION MIL-S-81733, T.O. 1F-4C-3-1-1.
6. PICK UP EXISTING LOCATIONS IN 53-32028-33 TEE.
7. PICK UP EXISTING LOCATIONS IN 32-32198-50 HINGE PLATE AND 32-32073-303 FITTING.
8. PICK UP EXISTING LOCATIONS IN 53-32022-3 SUPPORT, FLUSH HEADS OF RIVETS IN 53-32022-3 SUPPORT.
9. PICK UP EXISTING LOCATIONS IN 53-32022-3 SUPPORT.
10. INSULATE, PER T.O. 1F-4C-3-1-6 TO PREVENT DISSIMILAR METAL CONTACT.
11. CRACK RADIATING FROM ELLIPTICAL PORTION OF EITHER SWAY BRACE HOLE IS ACCEPTABLE AND NO REPAIR IS REQUIRED.
12. FASTENER LENGTH NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.

G9104113

Figure 4-58. Door 81 and 139 Structural Hinge Repair (Sheet 2 of 3)

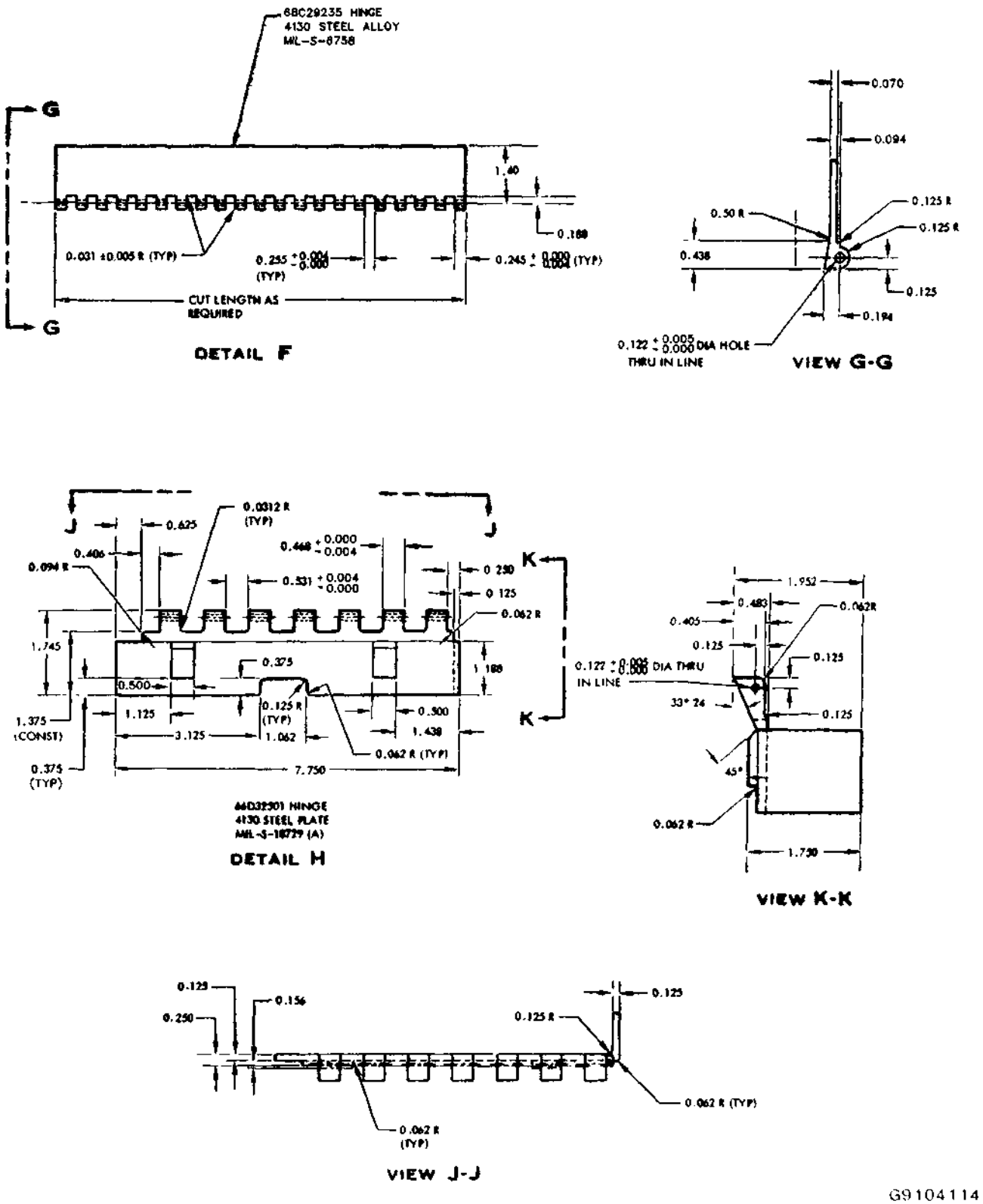
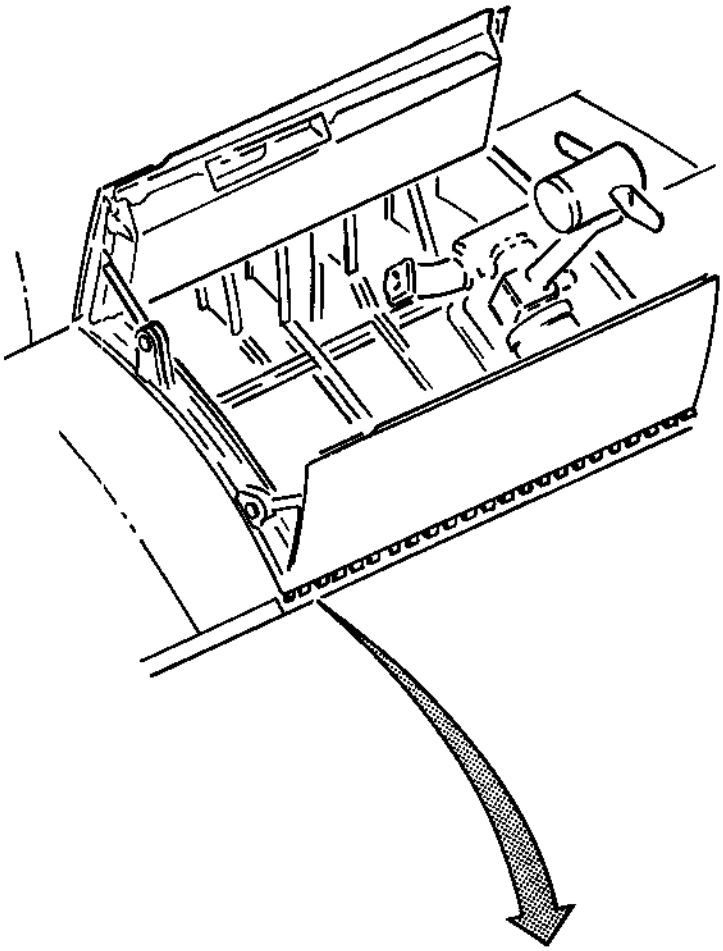
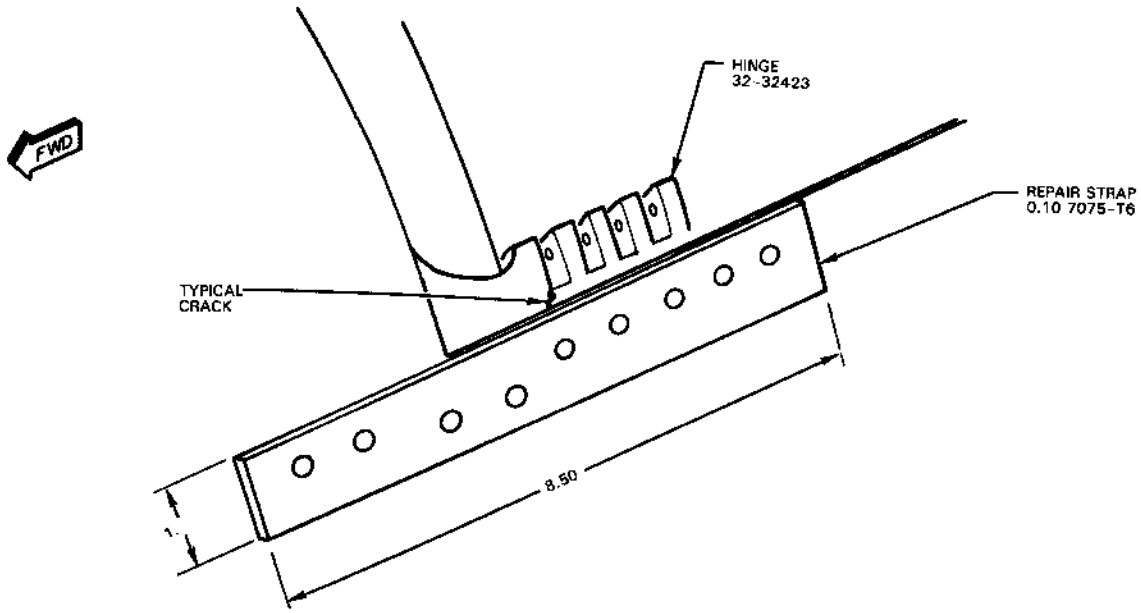


Figure 4-58. Door 81 and 139 Structural Hinge Repair (Sheet 3 of 3)



REPAIR PROCEDURE

A. FABRICATE REPAIR STRAP FROM 0.10 7075-T6 ALUMINUM AS SHOWN. CHAMFER OUTER EDGE 0.80 X 45°.
B. REMOVE EXISTING SKIN FASTENERS ON EITHER SIDE OF CRACK AS SHOWN.
C. MATCH DRILL REPAIR STRAP TO EXISTING HOLES IN SKIN.
D. FINISH SKIN AND REPAIR STRAP PER 1F-4C-3-1-6.
E. INSTALL COUNTERSINK FILLERS IN SKIN COUNTERSINKS USING MIL-S-81733.
F. APPLY MIL-S-81733.
G. INSTALL REPAIR STRAP WITH CR3552 OR MS90353 ORIGINAL SIZE FASTENERS WITH LENGTH AS REQUIRED.



4C-3-1-2-(451)A

Figure 4-58A. Ram Air Turbine Door Hinge Repair, 32-32423 -F-4C, F-4D and RF-4C

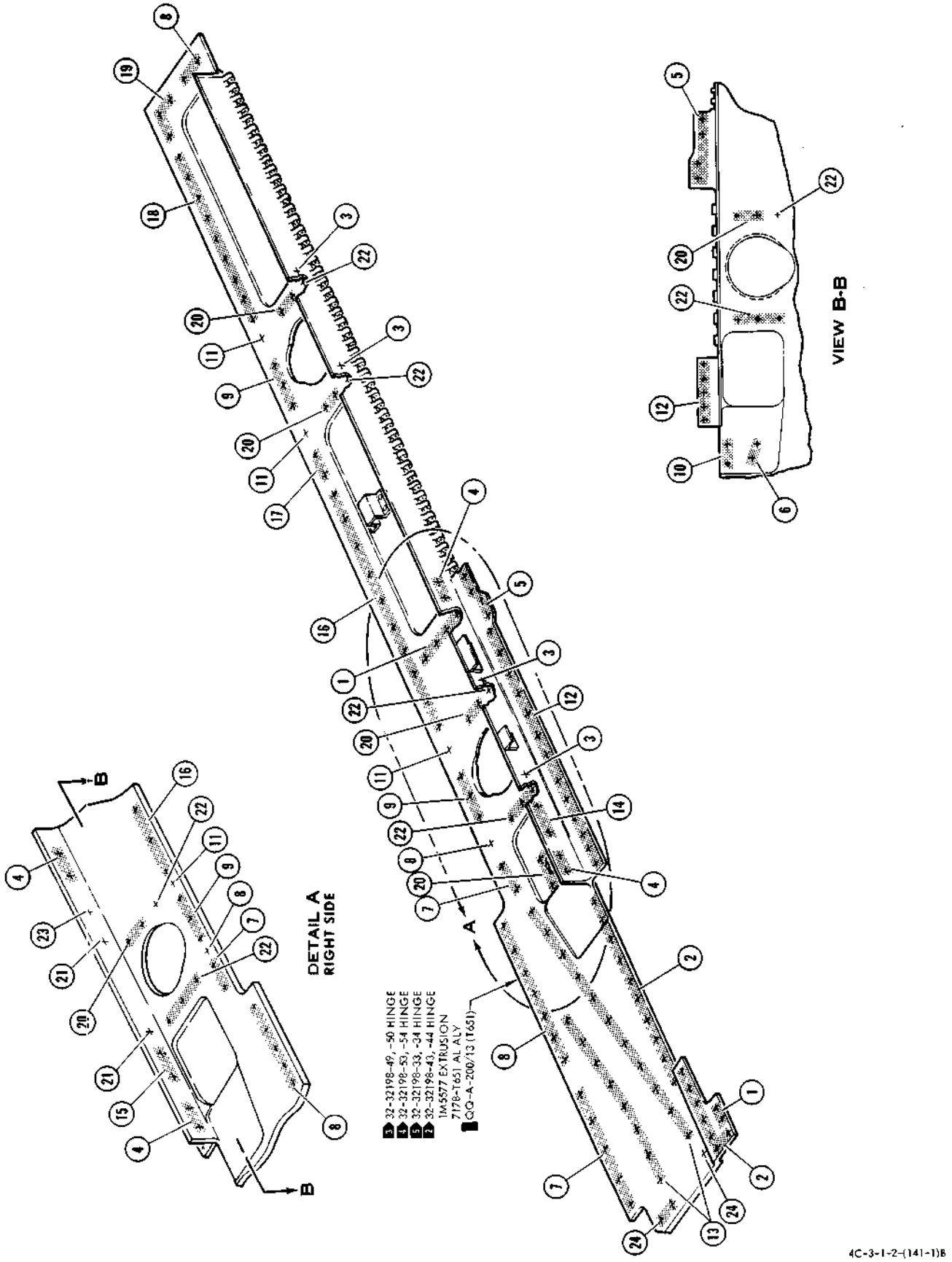


Figure 4-59. Door 81, Structural Hinge Replacement (Sheet 1 of 2)

REF NO.	FASTENER	COLLAR	NUT	WASHER	HOLE SIZE
1	MS20426AD5				0.156 +.006 -.000
2	MS20426AD4				0.126 +.006 -.000
3	NAS1054-8-6	HS234-8			0.250 +.007 -.000
4	NAS1054-6-3	NAS528A6			0.189 +.006 -.000
5	NAS1055-6-3	HS234-6			0.189 +.006 -.000
6	NAS1055-5-6	NAS528A5			0.156 +.006 -.000
7	NAS334CFA6		MS21042-4	AN960D416	0.250 +.007 -.000
8	NAS334CFA7		MS21042-4	AN960D416	0.250 +.007 -.000
9	NAS334CFA7-5		MS21064L4-8-3		0.250 +.007 -.000
10	NAS1055-4-6	NAS528A4			0.125 +.006 -.000
11	NAS334CFA7-5		MS21042-4		0.250 +.007 -.000
12	MS20426AD4				0.126 +.006 -.000
13	NAS1055-8-6	NAS528A8			0.250 +.007 -.000
14	NAS1054-8-5	NAS528A8			0.250 +.006 -.000
15	NAS1054-8-4	NAS528A8			0.250 +.006 -.000
16	NAS334CFA7-5		MS21064L4-10-10		0.250 +.007 -.000
17	NAS334CFA7-5		F1934-4-4		0.250 +.007 -.000
18	NAS334CFA7-5		MS21064L4-8-9		0.250 +.006 -.000
19	NAS334CFA7-5		MS21042-4	AN960D416	0.250 +.006 -.000
20	NAS333CF6		MS21042-3	AN960D10L	0.191 +.006 -.000
21	NAS1054-8-9	HS234-8			0.250 +.007 -.000
22	NAS1055-6-6	HS234-6			0.189 +.006 -.000
23	MS20470D06				0.191 +.006 -.000
24	NAS1055-8-9	NAS528A8			0.250 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

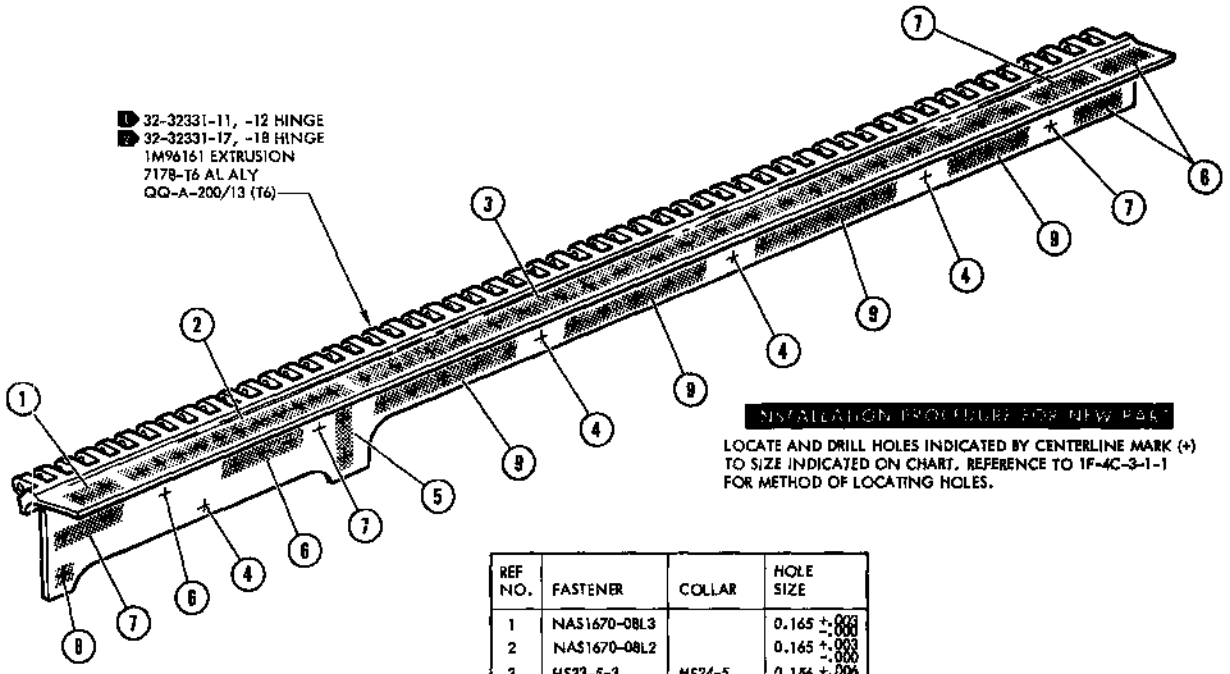
LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED ON CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES.

Notes

1. FOR HINGE (STRUCTURAL) REPAIR SEE FIGURE 4-58.
   - F-4D 66-7761 THRU 66-8825 AND RF-4C 66-449 THRU 72-156.
   - F-4E 66-284 THRU 66-289.
   - F-4E 66-290 AND UP, AND F-4G.
   - F-4C, F-4D 64-929 THRU 65-7760, AND RF-4C 63-7742 THRU 66-446.

4C-3-1-2-(141-2)D

Figure 4-59. Door 81, Structural Hinge Replacement (Sheet 2 of 2)



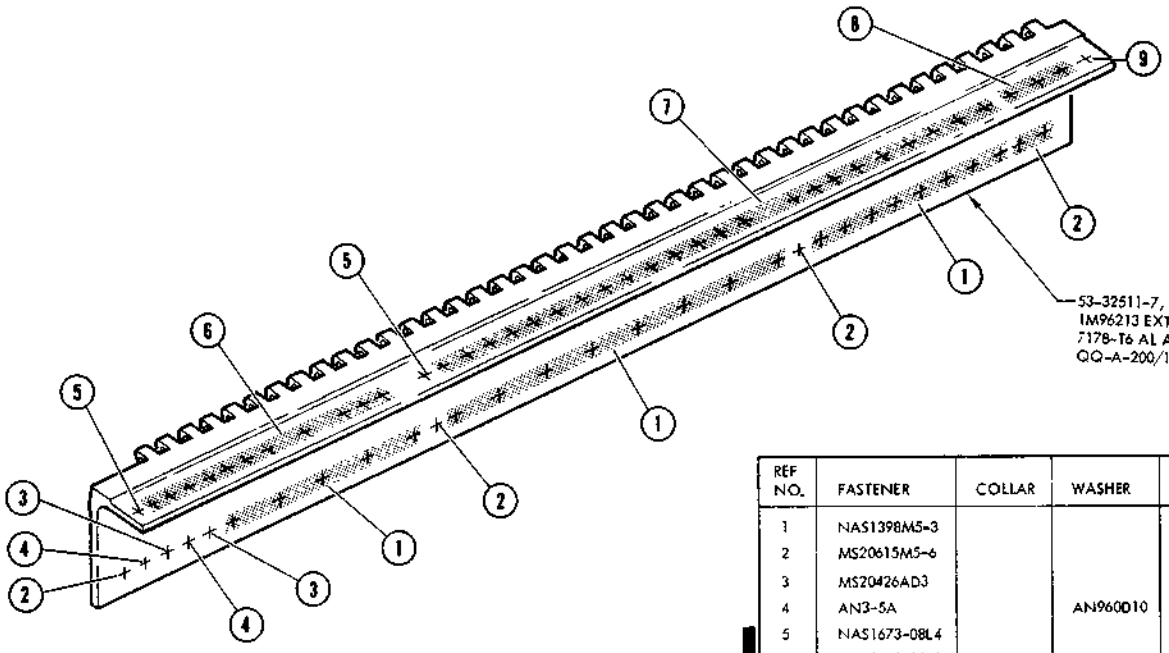
REF NO.	FASTENER	COLLAR	HOLE SIZE
1	NAS1670-08L3		0.165 +.003 -.000
2	NAS1670-08L2		0.165 +.003 -.000
3	HS23-5-3	HS24-5	0.156 +.006 -.000
4	NAS1054-6-3	NAS528A6	0.189 +.006 -.000
5	NAS1054-6-4	NAS528A6	0.189 +.006 -.000
6	NAS1054-6-5	NAS528A6	0.189 +.006 -.000
7	NAS1054-6-6	NAS528A6	0.189 +.006 -.000
8	NAS1054-6-7	NAS528A6	0.189 +.006 -.000
9	MS20615-5M5		0.159 +.006 -.000

Notes

F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-257, F-4C, AND F-4D.
F-4E/G 69-258 THRU 69-7588, AND F-4E 69-7589 AND UP.

4C-3-1-2-(142)D

Figure 4-60. Door 82, Structural Hinge Replacement - F-4



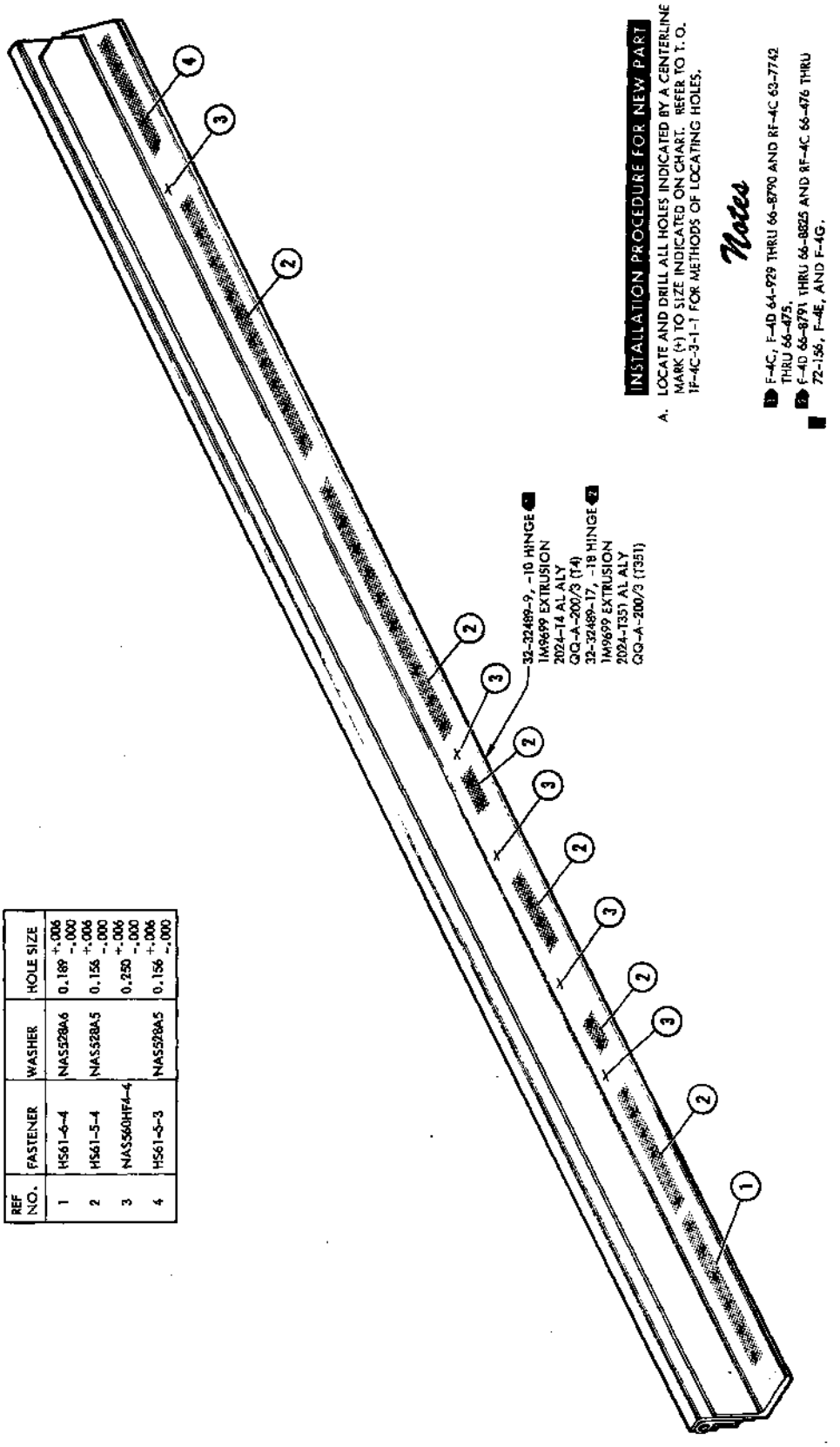
REF NO.	FASTENER	COLLAR	WASHER	HOLE SIZE
1	NAS1398M5-3			0.156 +.006 -.000
2	MS20615M5-6			0.156 +.006 -.000
3	MS20426AD3			0.096 +.003 -.000
4	AN3-5A		AN960D10	0.196 +.006 -.000
5	NAS1673-08L4			0.154 +.003 -.000
6	NAS1673-08L3			0.154 +.003 -.000
7	MS20470AD5			0.156 +.006 -.000
8	NAS1054-6	HS234-6		0.189 +.006 -.000
9	NAS1054-8	HS234-8		0.250 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED ON CHART. REFERENCE TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES.

4C-3-1-2-(143)C

Figure 4-61. Door 82, Structural Hinge Replacement - RF-4



REF NO.	FASTENER	WASHER	HOLE SIZE
1	HS61-6-4	NAS528A6	0.189 +.006 -.000
2	HS61-5-4	NAS528A5	0.156 +.006 -.000
3	NAS560HF4-4		0.250 +.006 -.000
4	HS61-5-3	NAS528A5	0.156 +.006 -.000

Figure 4-62. Door 83, Structural Hinge Replacement - F-4

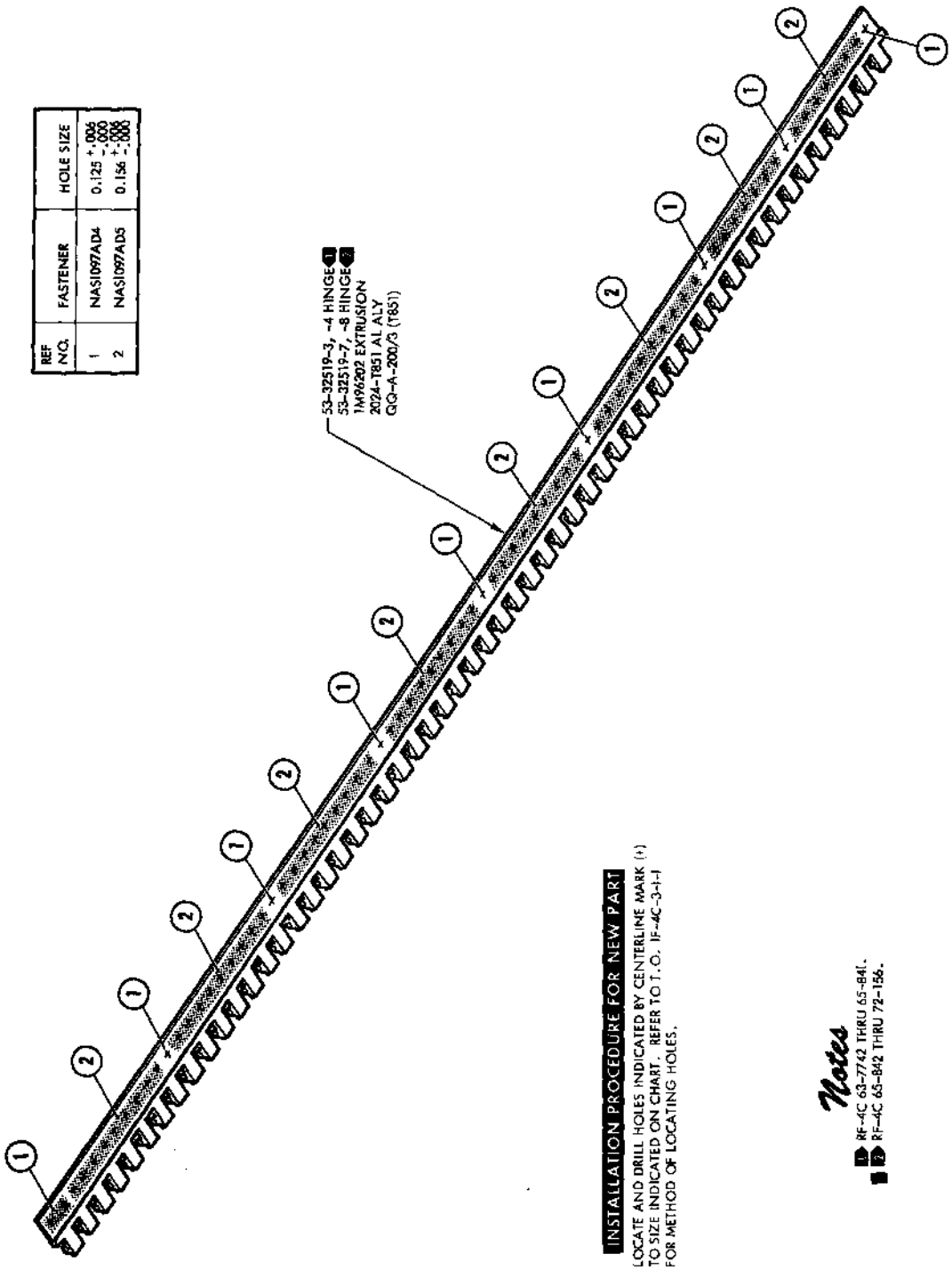


Figure 4-63. Door 83, Structural Hinge Replacement - RF-4

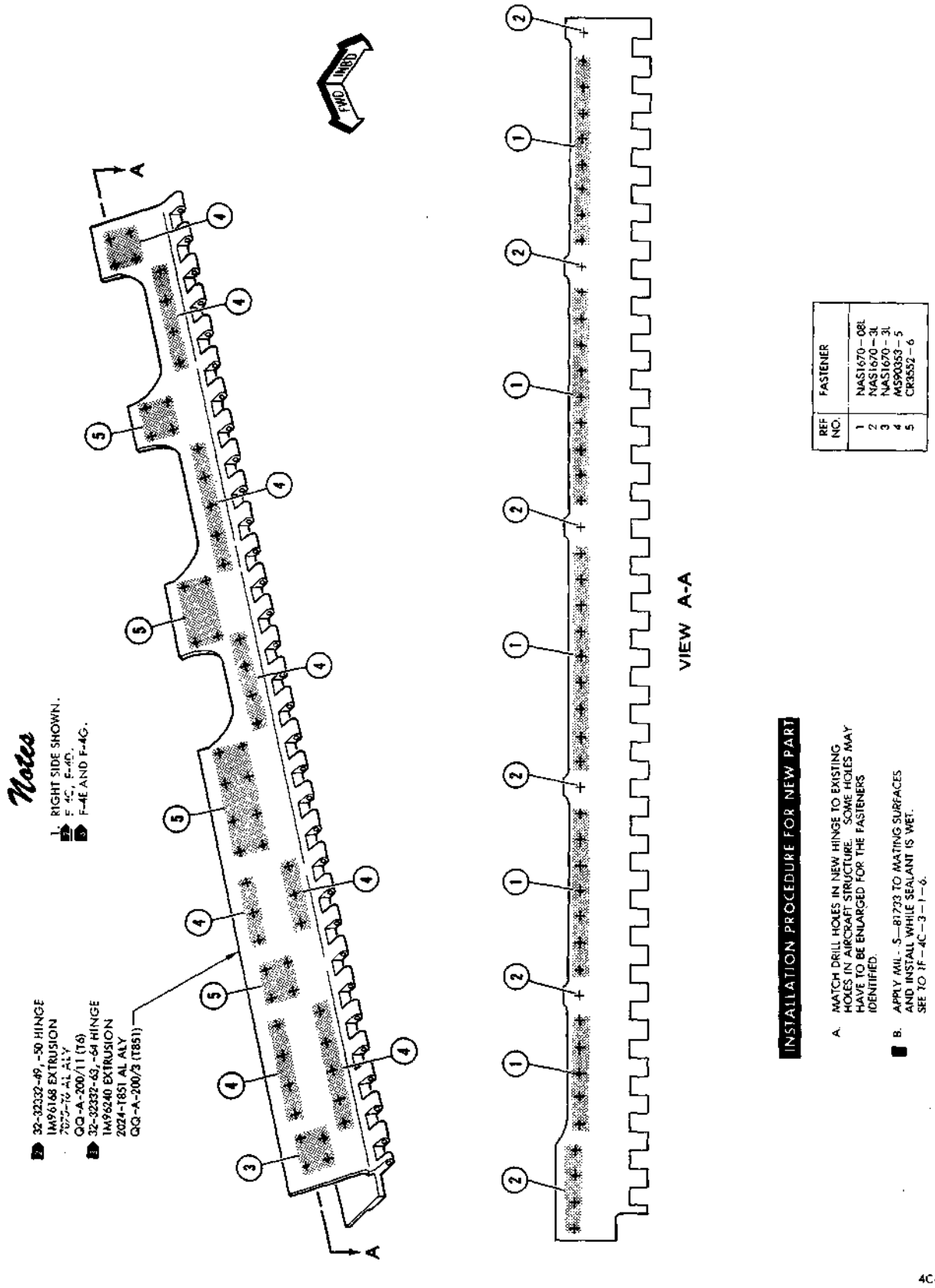


Figure 4-64. Door 92, Structural Hinge Replacement - F-4

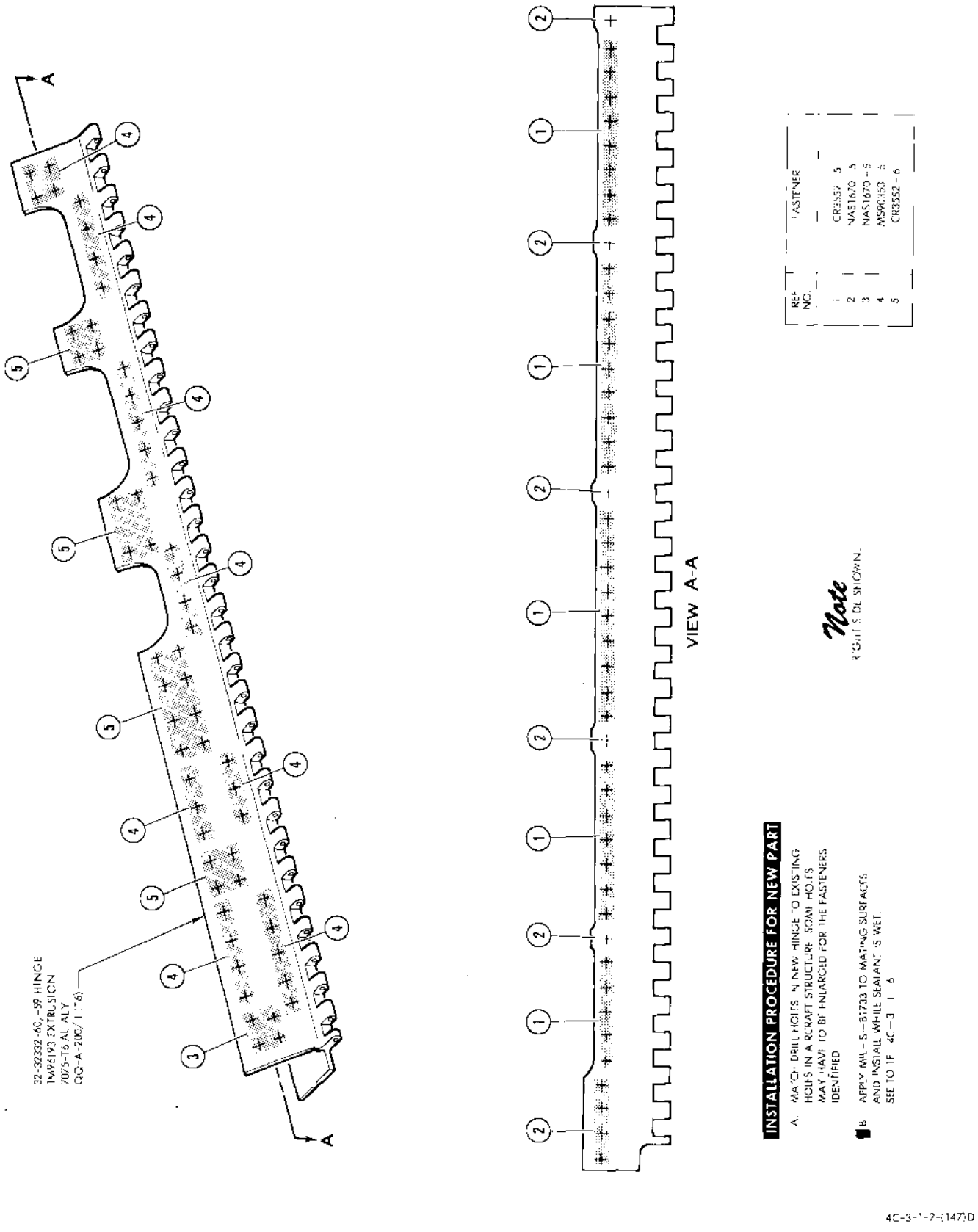
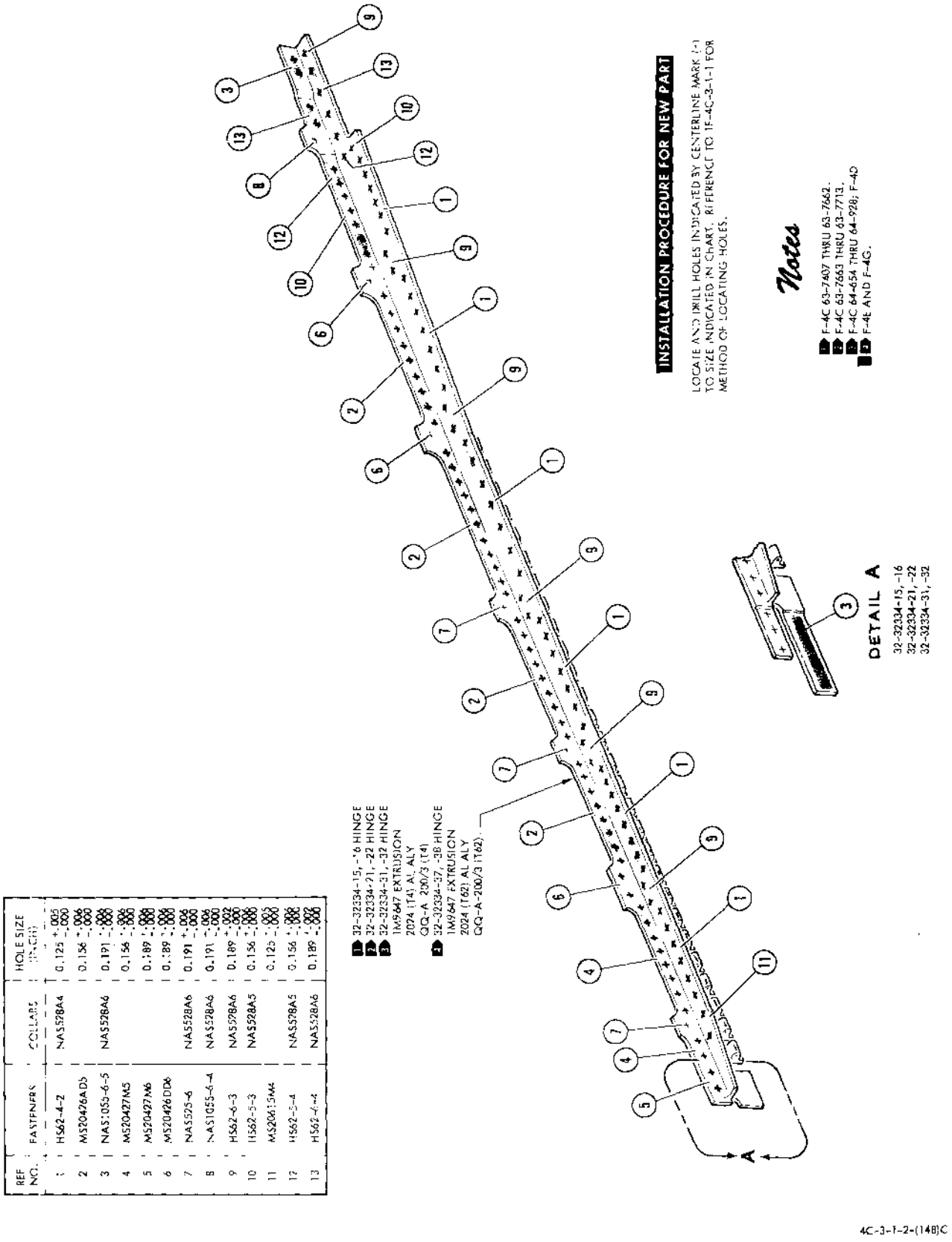
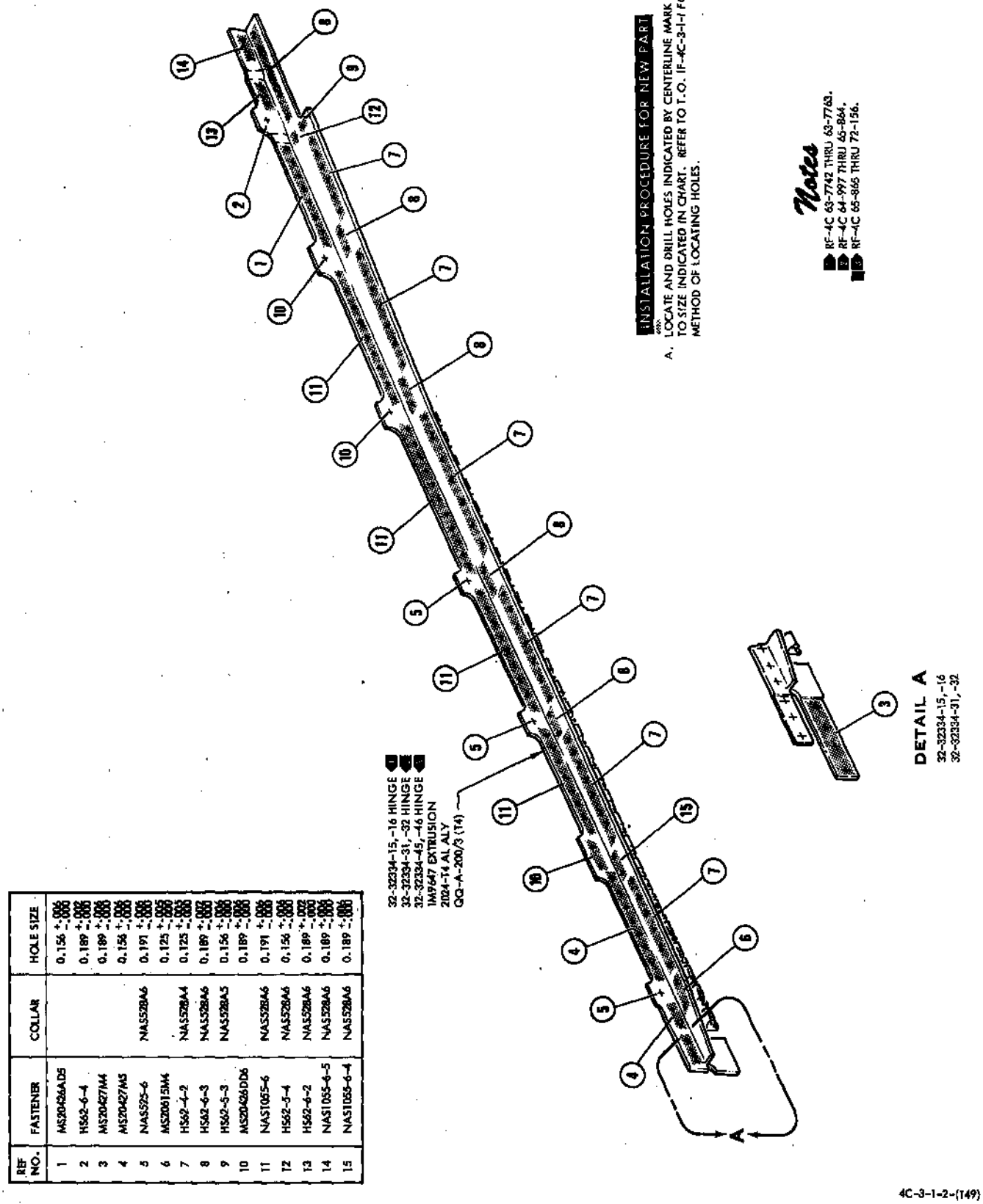


Figure 4-65. Door 92, Structural Hinge Replacement - RF-4



REF NO.	FASTENER	COLLAR	HOLE SIZE (INCH)
1	HS62-4-2	NAS528A4	0.125 +.005 -.000
2	MS20426AD5		0.156 +.006 -.000
3	NAS1055-6-5	NAS528A6	0.191 +.006 -.000
4	MS20427M5		0.156 +.006 -.000
5	MS20427M6		0.189 +.006 -.000
6	MS20426DD6		0.189 +.006 -.000
7	NAS525-6	NAS528A6	0.191 +.006 -.000
8	NAS1055-6-4	NAS528A6	0.191 +.006 -.000
9	HS62-6-3	NAS528A6	0.189 +.002 -.000
10	HS62-5-3	NAS528A5	0.156 +.006 -.000
11	MS20615M4		0.125 +.005 -.000
12	HS62-5-4	NAS528A5	0.156 +.006 -.000
13	HS62-4-4	NAS528A6	0.189 +.006 -.000

Figure 4-66. Door 96, Structural Hinge Replacement - F-4



REF NO.	FASTENER	COLLAR	HOLE SIZE
1	MS20426AD5		0.156 +.006 -.000
2	HS62-6-4		0.189 +.006 -.000
3	MS20427M4		0.189 +.006 -.000
4	MS20427M5		0.156 +.006 -.000
5	NAS525-6	NAS528A6	0.191 +.006 -.000
6	MS20615M4		0.125 +.006 -.000
7	HS62-4-2	NAS528A4	0.125 +.006 -.000
8	HS62-6-3	NAS528A6	0.189 +.002 -.000
9	HS62-5-3	NAS528A5	0.156 +.006 -.000
10	MS20426DD6		0.189 +.006 -.000
11	NAS1055-6	NAS528A6	0.191 +.006 -.000
12	HS62-5-4	NAS528A6	0.156 +.006 -.000
13	HS62-6-2	NAS528A6	0.189 +.002 -.000
14	NAS1055-6-5	NAS528A6	0.189 +.006 -.000
15	NAS1055-6-4	NAS528A6	0.189 +.006 -.000

Figure 4-67. Door 96, Structural Hinge Replacement - RF-4

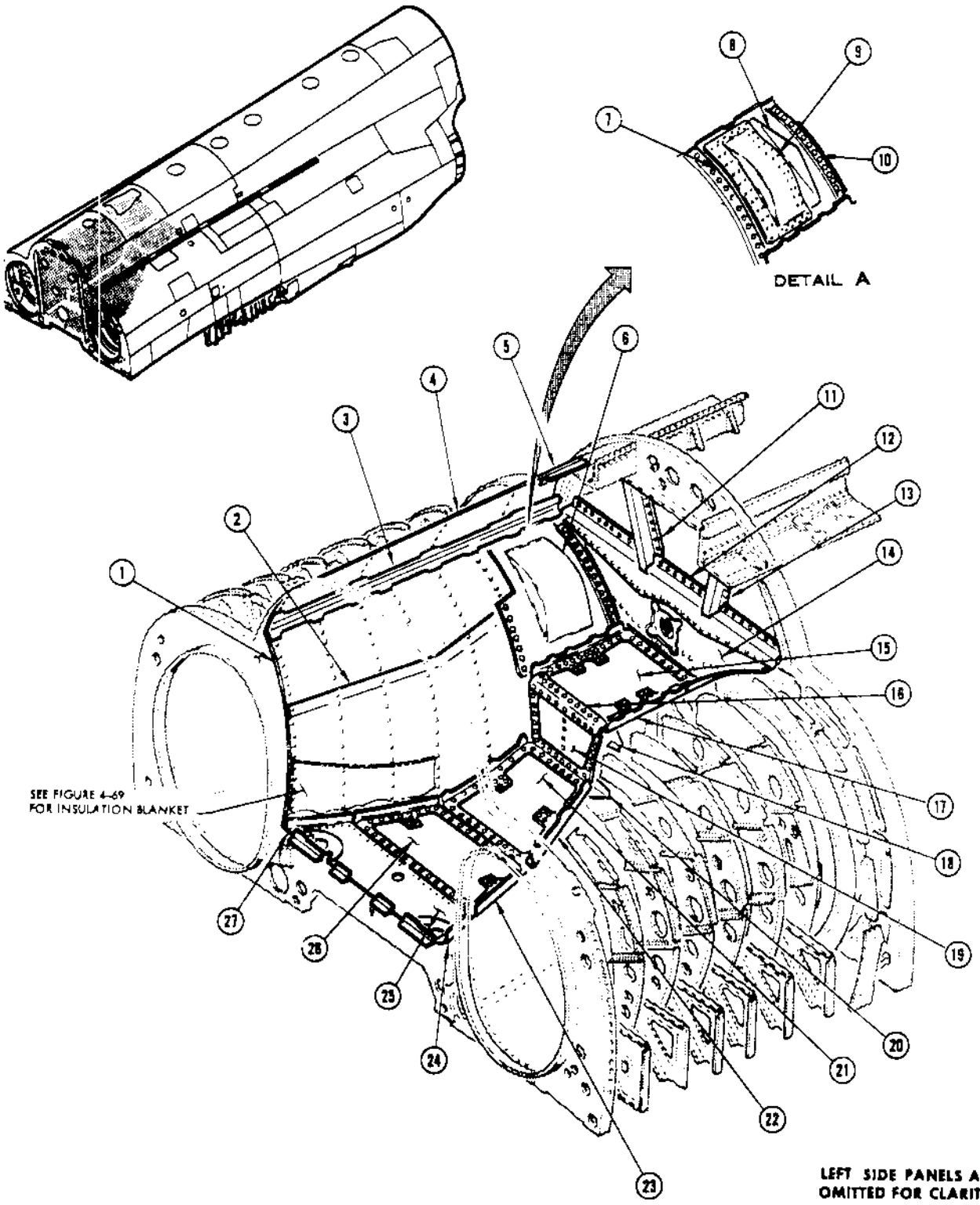


Figure 4-68. Number 2 Fuel Tank Cavity Structure (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 [8]	32-32051-72, -71	PANEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[18]	32-32051-76, -75	PANEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-32051-70, -69	PANEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3 [8]	32-32051-66, -65	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[9]	32-32051-82, -81	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-32051-26, -25	PANEL	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-32051-62, -61	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6 [11]	32-32051-78, -77	PANEL			
[12]	32-32051-80, -79	PANEL <3>			
[13]	32-32051-84, -83	PANEL			
7 [10]	32-32051-74, -73	PANEL	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
8 [16]	32-32051-60, -59	PANEL	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9 [16]	32-32051-68, -67	DOUBLER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10 [16]	32-32051-44, -43	DOUBLER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	53-32020-25	LINER	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	53-32020-7	LINER	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
13	53-32020-9	HAT	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
14 [14]	53-32020-3	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[15]	53-32020-29	FORMER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32052-167	SKIN <5>			
	32-32052-111	SEAL GASKET <4>			
16	32-32052-89	COVER	0.016	2024-T3 ALCLAD	QQ-A-250/5 (T3)
17	32-32052-83, -84	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-32052-87	BEAM	1M2454	7178-T6 AL ALY	QQ-A-200/13 (T6)
19	32-32052-71	SKIN <5>			
	32-32052-115	SEAL GASKET <4>			
20	32-32052-85	BEAM	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-32052-165	SKIN <5>			
	32-32052-113	SEAL GASKET <4>			
22 [5]	32-32052-81, -82	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[7]	32-32052-183, -184	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-32052-129, -130	ANGLE	0.030	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	32-32052-45	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-32052-139	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-32052-127	SKIN <5>			
	32-32052-125	SEAL GASKET <4>			
27	32-32052-15	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)

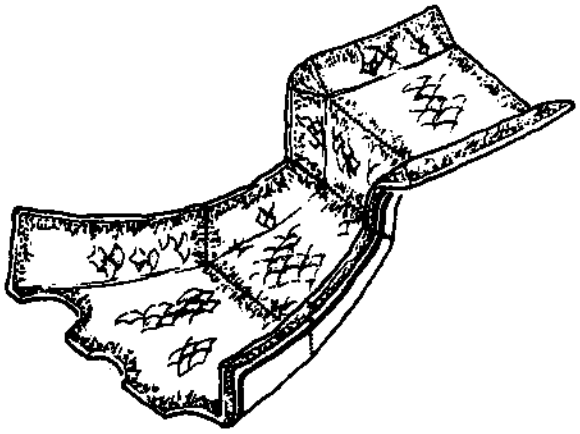
Notes

1. SEE FIGURE 4-70 FOR REMOVAL AND INSTALLATION OF THE FLOOR SUB-ASSEMBLIES.
2. FUEL CELL CAVITIES SHALL BE SEALED PER T.O. 1F-4C-3-1-6.
<3> THIS PANEL IS CHEMICALLY MILLED FROM 0.080 7178-T6 ALUMINUM ALLOY, QQ-A-250/14 (T6). THE PERIMETER OF THE PANEL IS 0.016 EXCEPT THE AFT EDGE WHICH IS 0.060. THE REST OF THE PANEL IS 0.016 EXCEPT THE AREA BETWEEN FS 289.50 AND FS 297.25 WHICH IS 0.080.
<4> FABRICATE REPLACEMENT GASKET FROM 0.125 RUBBER BUNA N SHEET AMS3215. CEMENT GASKET TO SKIN WITH SEALANT, SPECIFICATION MIL-A-46146.
<5> THIS FLOOR IS CHEMICALLY MILLED FROM 0.080 7178-T6 ALUMINUM ALLOY, QQ-A-250/14 (T6). THE LANDS AROUND THE EDGES OF THE DOOR ARE 0.080, THE LANDS AT THE STIFFENER AREAS ARE 0.050 AND THE REST OF THE FLOOR IS 0.020.
[5] F-4C 63-7407 THRU 64-737 AND RF-4 63-7742 THRU 64-1061.
[7] F-4C 64-738 THRU 64-928, RF-4C 64-1062 THRU 72-156, F-4D, F-4E, AND F-4G.
[8] F-4C 63-7407 THRU 64-881.
[9] F-4C 64-882 THRU 64-928, RF-4C 65-839 THRU 72-156, F-4D, F-4E, AND F-4G.
[10] F-4C 63-7421 THRU 63-7596 AND RF-4 63-7742 THRU 63-7763.
[11] F-4C 63-7598 THRU 64-672 AND RF-4 64-997 THRU 64-1036.
[12] F-4C 64-673 THRU 64-840 AND RF-4 64-1038 THRU 65-817.
[13] F-4C 64-841 THRU 64-928, RF-4C 64-818 THRU 72-156, F-4D, F-4E, AND F-4G.
[14] F-4C, F-4D, RF-4 63-7742 THRU 67-627 AND F-4E 66-284 THRU 66-367.
[15] RF-4C 67-428 THRU 72-156, F-4E 66-368 AND UP, AND F-4G.
[16] F-4C 63-7407 THRU 63-7420.
[17] F-4C 63-7407 THRU 63-7597 AND RF-4 63-7742 THRU 63-7749.
[18] F-4C 63-7589 AND UP. RF-4C 64-997 THRU 72-156, F-4D, F-4E, AND F-4G.
19. REFER TO 7829503 DRAWING FOR CHANNEL AND *FRAME REPAIR.*

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Figure 4-68. Number 2 Fuel Tank Cavity Structure (Sheet 2 of 2)

32-32508-5 CAVITY FLOOR INSULATION BLANKET



Notes

1. WET BLANKETS SHALL BE AIR DRIED PRIOR TO REINSTALLATION.
2. REFER TO T. O. 1F-4( )-2-10 FOR BLANKET INSTALLATION.
3. ALL CAVITY REWORK SHALL BE COMPLETE PRIOR TO BLANKET INSTALLATION.
4. DELETED

INSULATION BLANKET REPAIR

NOTE

MAXIMUM DAMAGE (TEAR) IN HOT FACE OR COOL FACE MAY NOT EXCEED 12 INCHES IN WIDTH OR 15 INCHES IN LENGTH. THESE LIMITATIONS MAY BE EXCEEDED WITH LOCAL ENGINEERING APPROVAL. THE INSULATION BATTING MUST NOT BE DAMAGED TO THE EXTENT THAT NO PROTECTION REMAINS BETWEEN FUEL CELL AND CAVITY FLOOR. REPAIR BLANKETS AS FOLLOWS.

A. WASH FUEL TANK BLANKET PER T.O. 1-1-691.
B. RINSE BLANKET OUT WITH HOT WATER.
C. HANG FUEL BLANKET UP TO DRY AT ROOM TEMPERATURE.
D. CUT PATCH FROM EITHER 128 FIBERGLAS CLOTH, HOT FACE (WHITE) OR 116 FIBERGLAS CLOTH SILICONE RUBBER IMPREGNATED, COOL FACE (GREEN) (98900) - SEAMEN PRODUCTS - TO DESIRED LENGTH AND WIDTH. MAINTAIN A MINIMUM OF 2 INCH OVERLAP ON ALL SIDES OF DAMAGE.
E. HAND STITCH PATCH IN PLACE USING A 2 BY 6 INCH DIAMOND PATTERN WITH 4 TO 6 STITCHES PER INCH. THREAD WILL CONFORM TO E-18, (45253) OWENS CORNING FIBERGLAS CORP.

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Figure 4-69. Number 2 Fuel Tank Insulation Blanket Repair

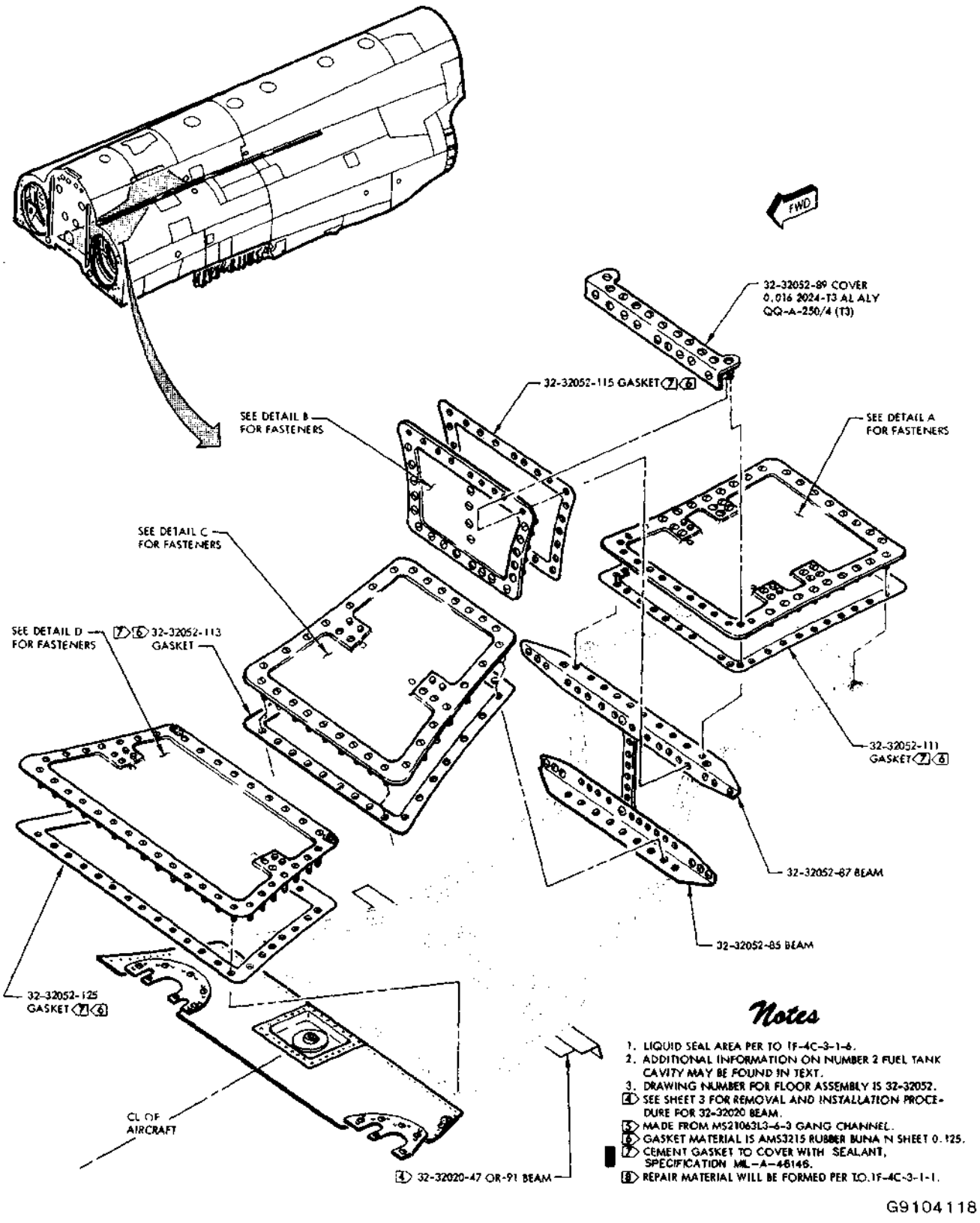
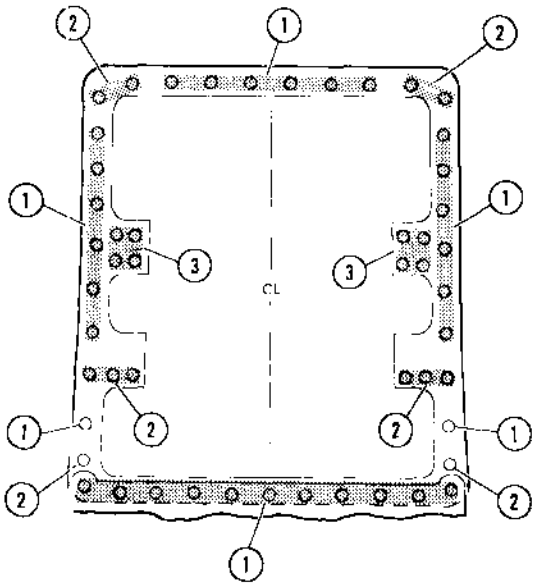
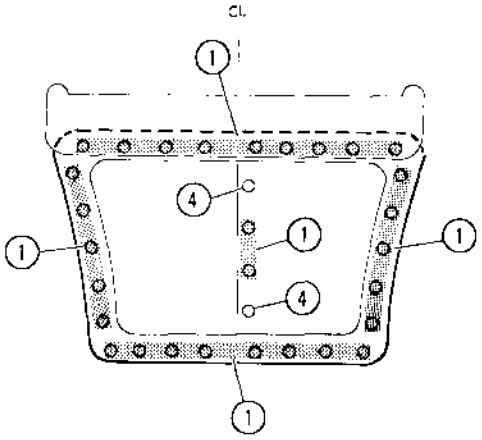


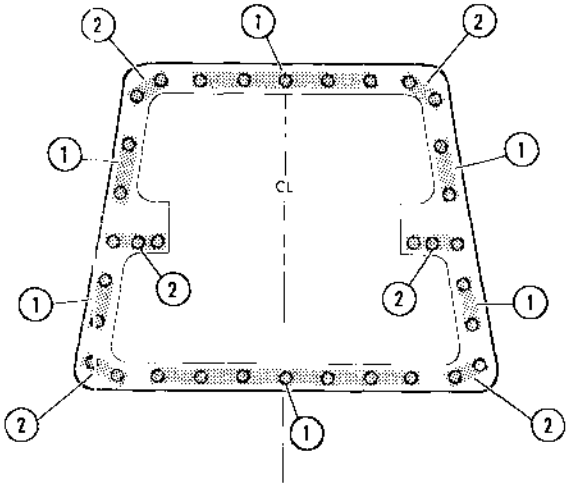
Figure 4-70. Number 2 Fuel Tank Cavity Floor, Removal and Installation, Beam Splice -32-32020 (Sheet 1 of 3)



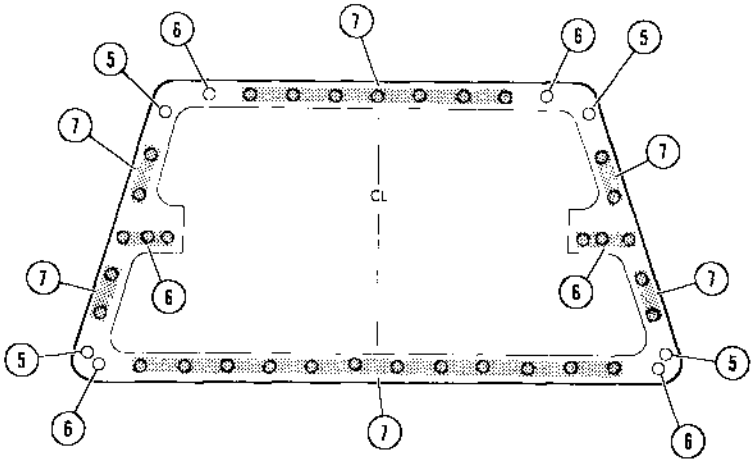
DETAIL A
32-32052-167 SKIN



DETAIL B
32-32052-71 SKIN



DETAIL C
32-32052-165 SKIN

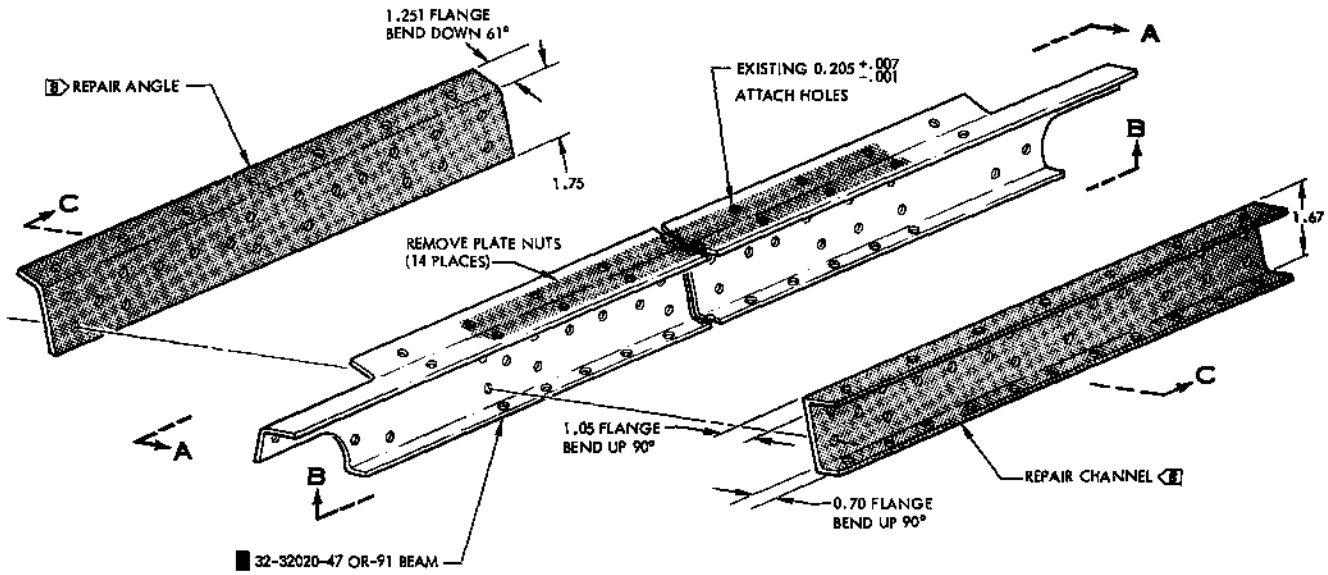


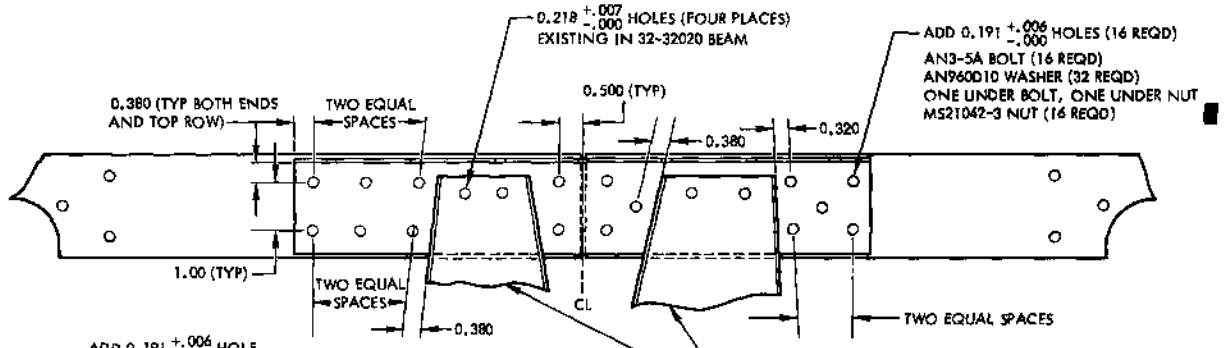
DETAIL D
32-32052-127 SKIN

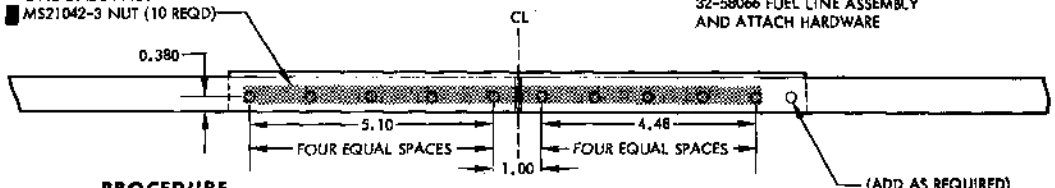
REF NO.	FASTENER	WASHER	SEAL	SHIM	NUT	TORQUE (INCH-LB)	HOLE SIZE
1	NAS229-13	AN960D10L	NAS1523AA3F		F1934-3-2	15-25	0.205 +.007 -.001
2	NAS229-13	AN960D10L	NAS1523AA3F	NAS463YDD10	MS21061L3	15-25	0.205 +.007 -.001
3	NAS229-13	AN960D10L	NAS1523AA3F		32-39057-53 (5)	15-25	0.205 +.007 -.001
4	NAS229-13	AN960D10L	NAS1523AA3F	4M30D416-125	MS21061L3	15-25	0.205 +.007 -.001
5	NAS229-12	AN960-10L	NAS1523AA3F	NAS463YDD10H	MS21061L3	15-25	0.205 +.007 -.001
6	NAS229-12	AN960-10L	NAS1523AA3F	NAS463YDD10	MS21061L3	15-25	0.205 +.007 -.001
7	NAS229-12	AN960-10L	NAS1523AA3F		F1934-3-2	15-25	0.205 +.007 -.001

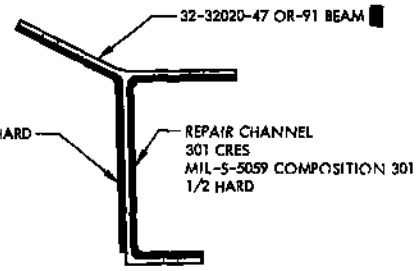
4C-3-1-2-(115-2)C

Figure 4-70. Number 2 Fuel Tank Cavity Floor, Removal and Installation, Beam Splice - 32-32020 (Sheet 2 of 3)









PROCEDURE

A. REMOVAL OF FUEL CELL AND COMPONENTS SHALL BE IN ACCORDANCE WITH T.O. 1F-4( )-2-10.

B. REMOVE 32-32508-5 INSULATION BLANKET.

NOTE

REFER TO FIGURE 4-69 FOR HANDLING AND REPAIR OF INSULATION BLANKET.

C. REMOVE NUMBER TWO CELL CAVITY FLOOR PANELS PER SHEET 1.

D. REMOVE FOUR EACH, AN3-5A BOLTS, MS21042-3 NUTS AND AN960D10 WASHERS FROM 32-58066 FUEL LINE SUPPORT BRACKETS AND 32-32020 BEAM AND ALL OTHER SUPPORT CLAMPS AND HARDWARE AS REQUIRED.

E. REMOVE PLATENUTS AS SHOWN FROM 32-32020 BEAM. RELOCATE PLATENUTS F1934-3-2 ON REPAIR ANGLE AND CHANNEL, FLUSH MS20426AD3 RIVETS IN REPAIR PARTS. ACCEPTABLE TO LEAVE PLATE-NUT RIVET HOLES IN 32-32020 BEAM OPEN.

NOTE

PRIOR TO MAKING SAW CUT IN 32-32020 BEAM THE FOUR 0.281 FUEL LINE BRACKET ATTACH HOLES IN 32-32020 BEAM SHALL BE LOCATED AND DRILLED IN REPAIR ANGLE AND/OR CHANNEL TO PREVENT MISLOCATION ON RE-ASSEMBLY.

F. MAKE SAW CUT IN 32-32020 BEAM AS SHOWN.

G. REMOVE TEN AN3-5A BOLTS AND AN960D10 WASHERS FROM BEAM AND REMOVE FROM AIRCRAFT.

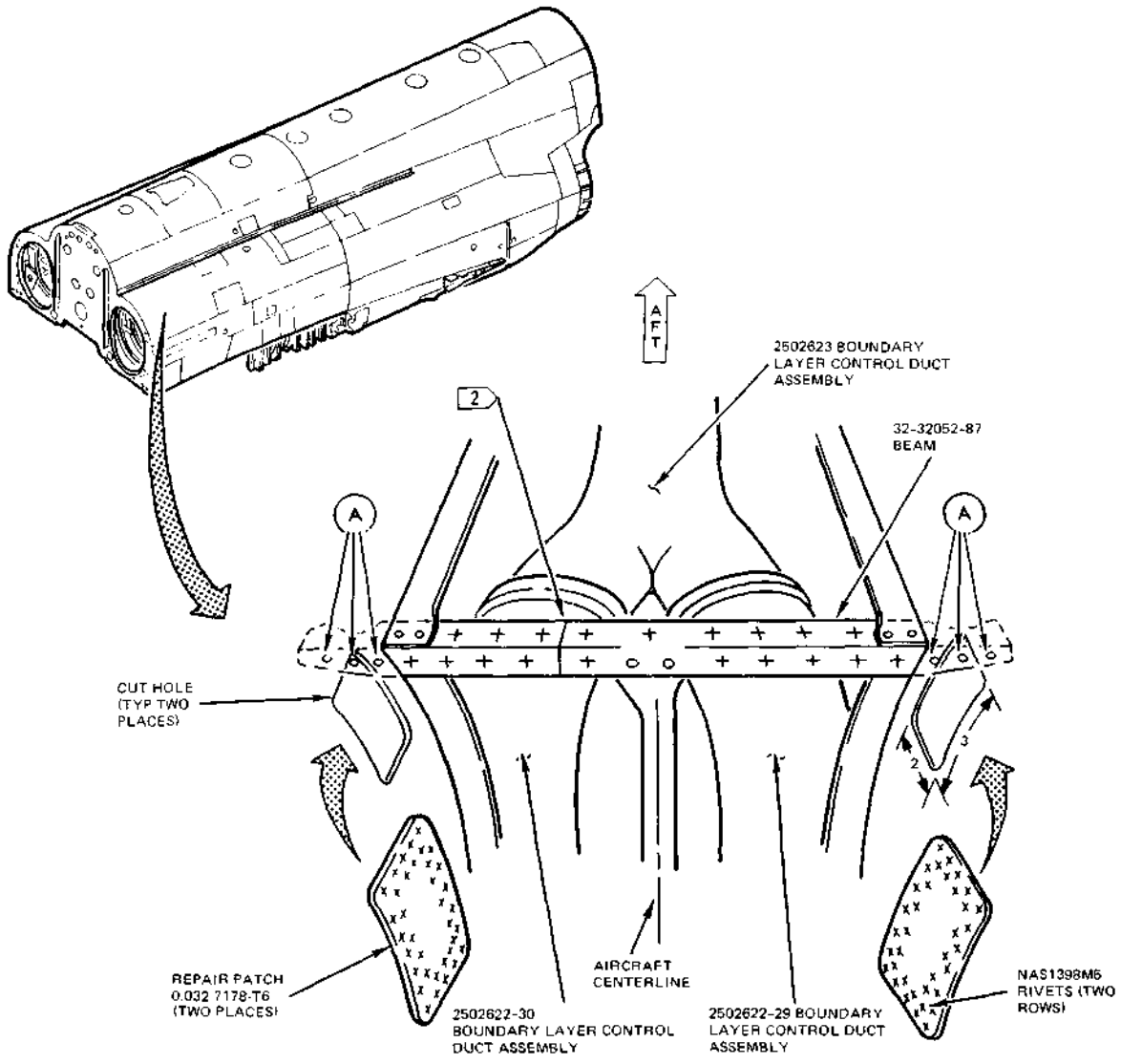
H. LOCATE AND DRILL REMAINING REPAIR ATTACH HOLES AS SHOWN.

I. PRIOR TO INSTALLATION AND ASSEMBLY OF BEAM ALL PARTS SHALL BE REFINISHED PER T.O. 1F-4C-3-1-6.

J. INSTALL AND SEAL FLOOR PANELS PER SHEET 1 AND T.O. 1F-4C-3-1-6.

4C-3-1-2-(115-3)B

Figure 4-70. Number 2 Fuel Tank Cavity Floor, Removal and Installation, Beam Splice - 32-32020 (Sheet 3 of 3)



PROCEDURE

A. CUT 2 BY 3 INCH HOLE IN EACH FUEL TANK SIDEWALL FORWARD OF 32-32052-87 BEAM APPROXIMATELY AS SHOWN

B. REMOVE THREE FASTENERS (A) FROM EACH END OF 32-32052-87 BEAM.

C. REMOVE OTHER FASTENERS AT EACH END AND CENTER OF BEAM.

D. REMOVE BEAM. SEE 2

E. REMOVE DAMAGED BOUNDARY LAYER CONTROL DUCT ASSEMBLY AND REPAIR OR REPLACE AS REQUIRED.

F. REPLACE BEAM AND INSTALL NAS464P3 BOLTS, AND 960010 WASHERS, AND MS20500-1032 NUTS AT (A).

G. FABRICATE PATCHES FROM 0.032 7178-T6 ALCLAD AND MATE DRILL PATCH AND SKIN FOR NAS1398M5 RIVETS. MAINTAIN EDGE AND SPACING.

H. FINISH REWORKED AREA AND PARTS PER TO 1F-4C-3-1-6.

I. APPLY MIL-S-81733 SEALANT TO MATING SURFACES OF PATCH AND INSTALL WITH NAS1398M5 RIVETS WHILE SEALANT IS WET.

Notes

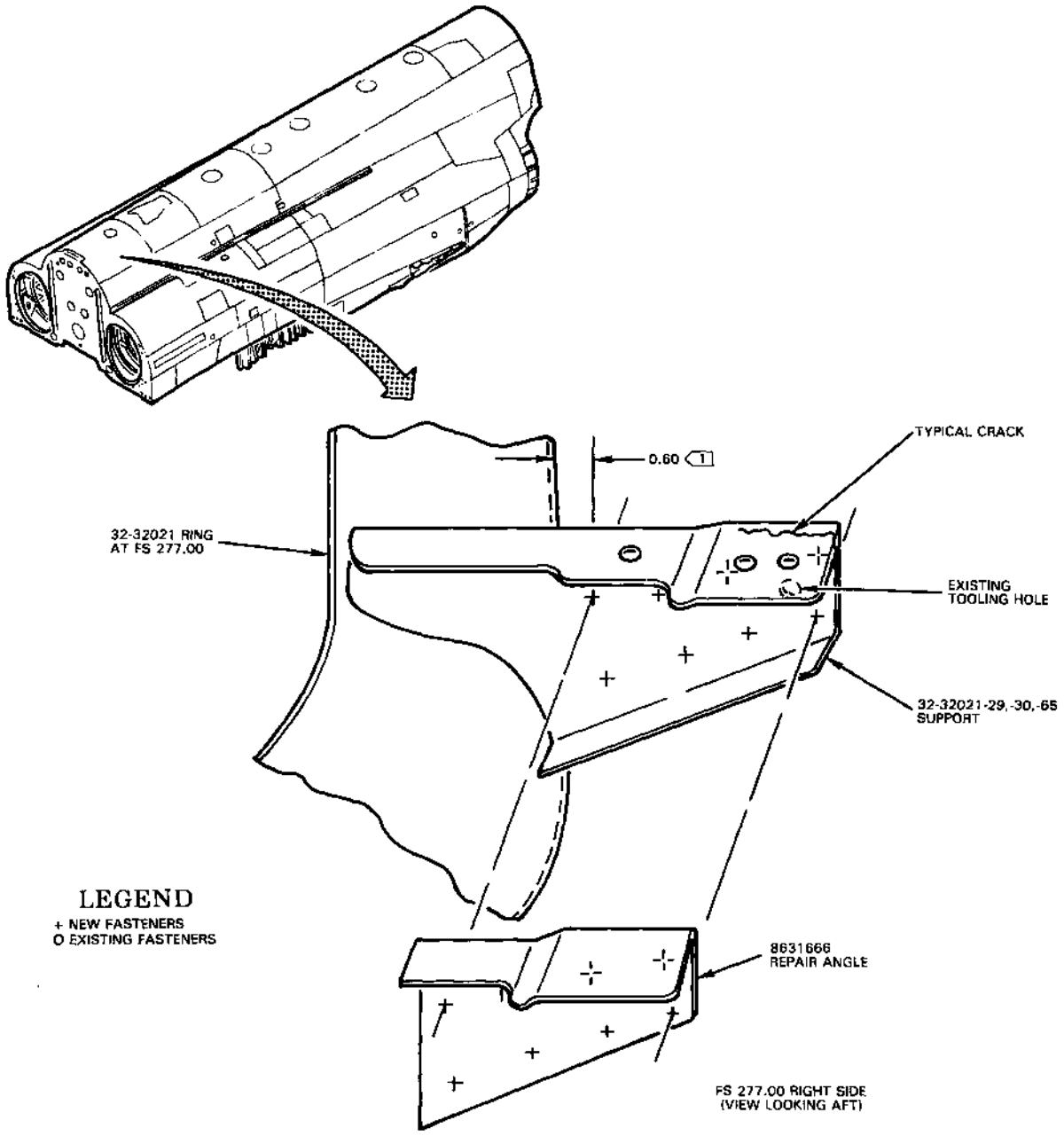
1. FINAL ASSEMBLY OF REPAIR ANGLE TO BEAM MUST BE ACCOMPLISHED IN THE FUEL TANK CAVITY.

2. MINIMUM EDGE DISTANCE IS 0.312 AND MINIMUM SPACING IS 0.625.

IF BEAM CANNOT BE REMOVED IN ONE PIECE CUT IN APPROX LOCATION NOTED. FABRICATE A REPAIR ANGLE TO FIT UNDER BEAM (0.040 301 CRES 1/4 HARD) WITH LEGS TO MATCH THE BEAM. EXTEND REPAIR ANGLE AT LEAST THREE FASTENERS ON EACH SIDE OF THE CUT. PLACE CORROSION BARRIER TAPE BETWEEN ANGLE AND BEAM. ASSEMBLE REPAIR ANGLE TO BEAM USING THE 3M117-( ) RIVETS THAT WILL ATTACH THE FASTENER RECEPTACLES TO THE LOWER SIDE OF THE REPAIR ANGLE. CORROSION TREAT CUT ENDS OF BEAM PER TO 1F-4C-3-1-6.

4C-3-1-2-(408)A

Figure 4-70A. Boundary Layer Control Duct Assembly Removal, Number 2 Fuel Tank Cavity



Note

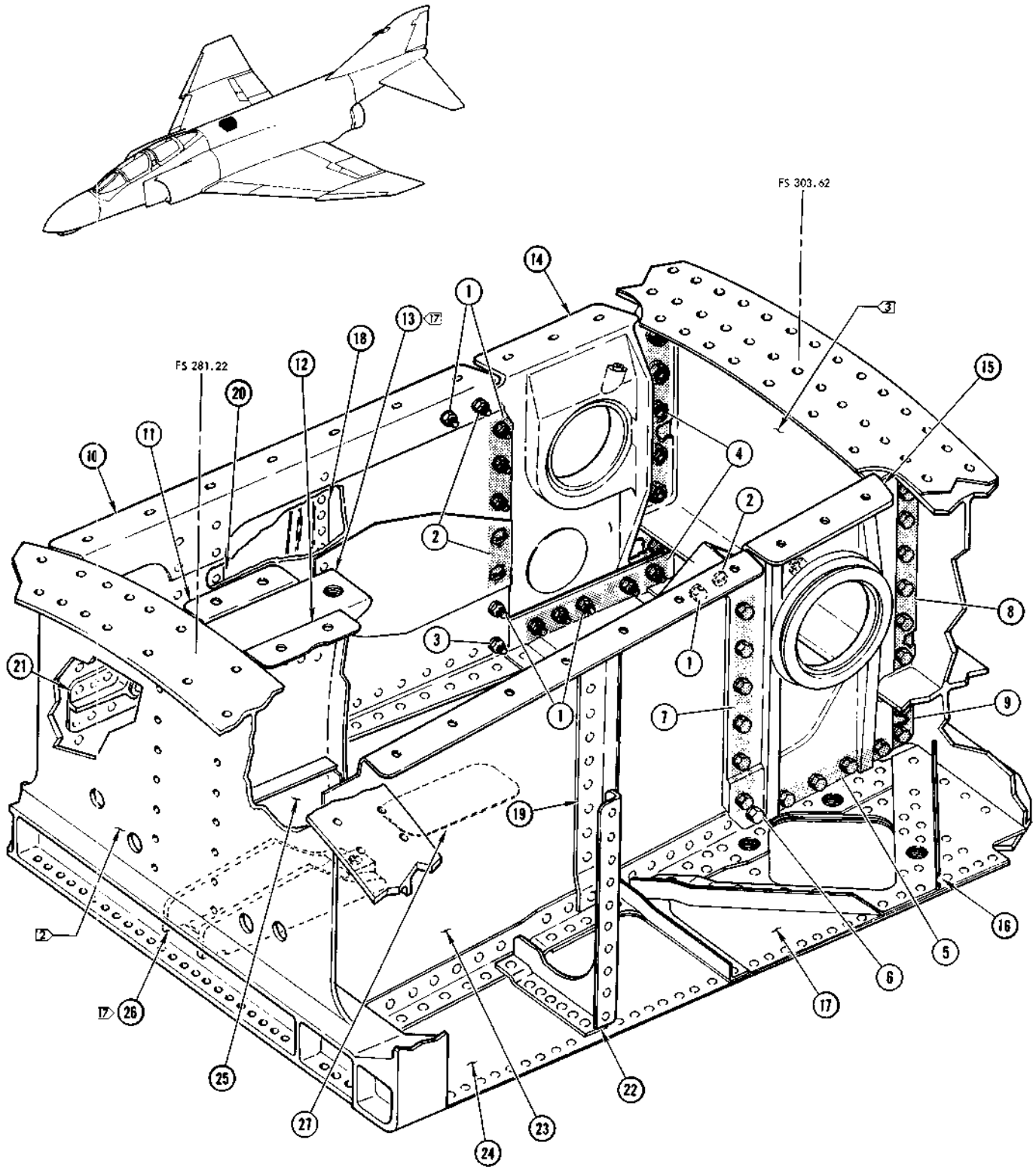
[1] REPLACE 32–32021 SUPPORT WHEN CRACKING OCCURS WITHIN 0.60 INCH OF 32–32021 RING.

REPAIR PROCEDURE

A. STOP DRILL CRACK IN 32–32021 SUPPORT TO 0.25 DIAMETER.
B. MATCH DRILL EXISTING FASTENER HOLES FROM 32–32021 SUPPORT TO 8631666 REPAIR ANGLE. INSTALL NEW PLATE NUTS AS REQUIRED.
C. INSTALL 8631666 REPAIR ANGLE WITH NAS1398D5 FASTENERS.
D. MAINTAIN 2 DIAMETER EDGE DISTANCE AND 4 DIAMETER FASTENER SPACING ON NEW FASTENERS.
E. SEAL AND TREAT FOR CORROSION CONTROL REFER TO TO 1F–4C–3–1–6.

4C–3–1–2–(387184

Figure 4-70B. Number 2 Fuel Tank Floor, 32-32021 Support Fitting Repair - FS 277.00



4C-3-1-2-(78-1)E

Figure 4-71. I.F.R. Well, FS 281.22 thru FS 303.62 (Sheet 1 of 2)

FASTENER INDEX

REF NO.	FASTENER	NUT	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	AN3-5A	MS21042-3	AN960D10	20-25	0.191 +.006 -.000
2	NAS583-4T	MS21042-3		20-25	0.191 +.006 -.000
3	AN3-6A	MS21042-3	AN960D10	20-25	0.191 +.006 -.000
4	NAS464P3A6	MS21042-3	AN960D10	20-25	0.191 +.006 -.000
5	AN3-6A	F1934-3-2	AN960D10	20-25	0.191 +.006 -.000
6	AN3-7A	NS103072-02	AN960D10	20-25	0.191 +.006 -.000
7	AN3-5A	MS21059L3	AN960D10	20-25	0.191 +.006 -.000
8	NAS464P3A6	MS21063L3-39	AN960D10	20-25	0.191 +.006 -.000
9	NAS464P3A6	MS27059L3	AN960D10	20-25	0.191 +.006 -.000

STRUCTURE INDEX

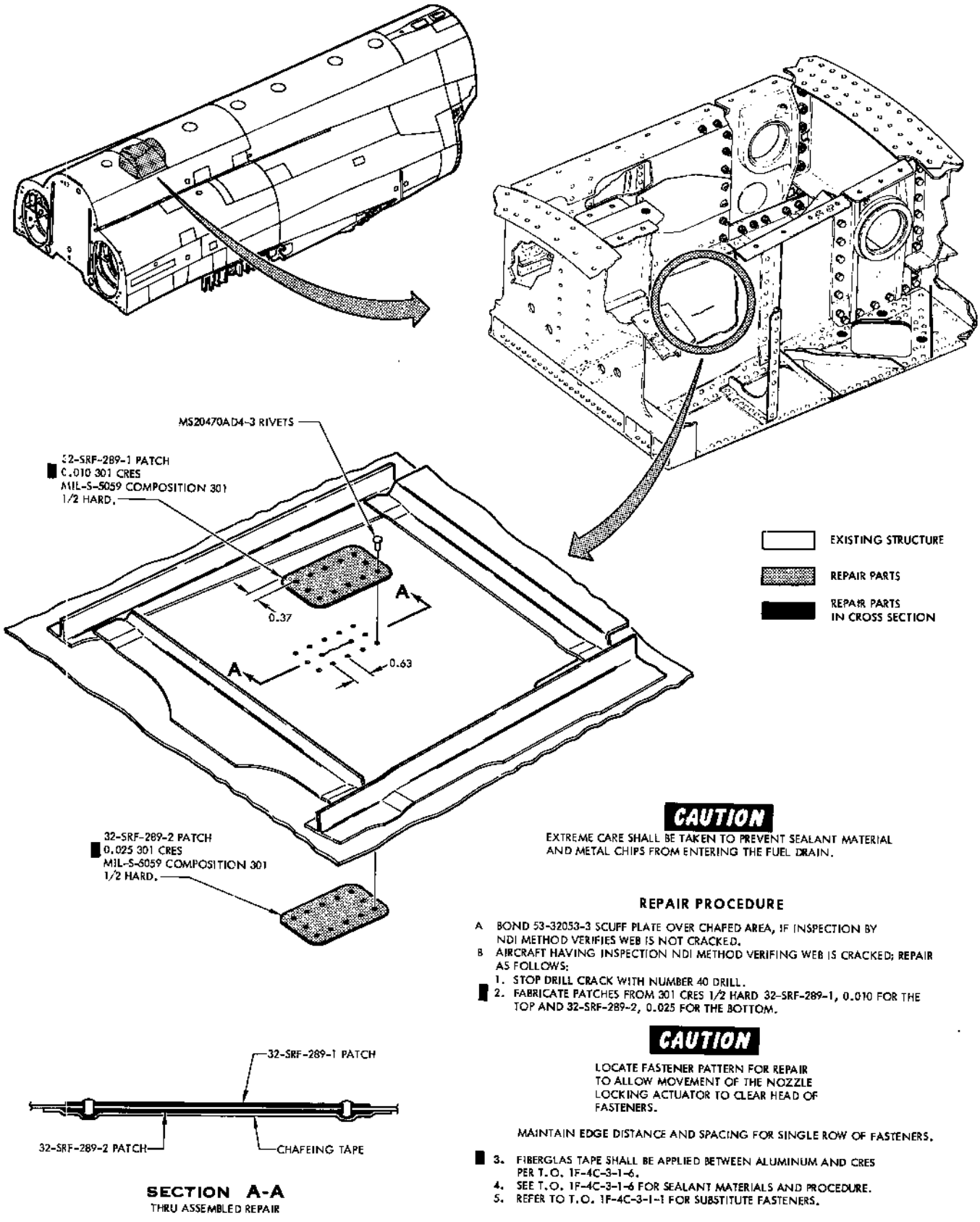
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
10 (1)	53-32010-105	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(2)	53-32010-133	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
11 (3)	53-32010-18	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	53-32010-150	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(11)	53-32010-222	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12 (4)	53-32010-17	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(12)	53-32010-149	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(13)	53-32010-213	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(14)	53-32010-221	FORMER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	20-32374-3 (17)	STOP	PRESSING	2014-T6 AL ALY	QQ-A-367 (T6)
14	53-32014-1	TRUNNION	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
15	53-32013-1	TRUNNION	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
16	53-32010-25	GUSSET	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	53-32010-53	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-32010-117	ZEE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
19 (11)	53-32010-115	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(12)	53-32010-169	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	53-32010-135	STIFFENER	1M5497	7178-T6 AL ALY	QQ-A-200/13 (T6)
21	20-32387-5	SHAFT SUPPORT FITTING	CASTING	AZ91-4 MAGNESIUM ALLOY	QQ-M-56 (T4)
22	53-32010-49	STIFFENER	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
23 (2)	53-32010-101	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(2)	53-32010-141	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(3)	53-32010-143	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	53-32010-3	WEB	0.020	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25 (9)	53-32010-19, -20	DOUBLER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	53-32010-151, -152	DOUBLER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(11)	53-32010-219, -220	DOUBLER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	20-32374-9 (17)	STOP	PRESSING	2014-T6 AL ALY	QQ-A-367 (T6)
27 (16)	53-32053-3	SCUFF PLATE	0.016	301 CRES	MIL-S-5059 (1/2 H)

Notes

1. LIQUID SEAL IFR WELL PER TO 1F-4C-3-1-6.
2. FOR 53-32025 BULKHEAD, SEE FIGURE 4-20.
3. FOR 53-32016 BULKHEAD, SEE FIGURE 4-22.
4. F-4C 63-7407 THRU 63-7442.
5. F-4C 63-7443 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4C.
6. F-4C 63-7407 THRU 63-7434.
7. F-4C 63-7435 THRU 64-928 AND F-4E 66-284 THRU 66-364.
8. F-4E 66-365 AND UP; F-4G, AND RF-4C.
9. F-4C 63-7407 THRU 63-7596.
10. F-4C 63-7598 THRU 64-928, F-4D, F-4E 66-284 THRU 68-538, AND RF-4C 63-7742 THRU 69-357.
11. F-4C, F-4D, AND RF-4C.
12. F-4E AND F-4G.
13. F-4C 63-7578 THRU 64-928, F-4D, RF-4C 63-7742 THRU 69-357, AND F-4E 66-284 THRU 66-367.
14. F-4E 66-368 THRU 68-538.
15. F-4E 69-236 AND UP, RF-4C 69-358 THRU 72-156, AND F-4G.
16. F-4E/G 69-7288 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 69-377 THRU 72-156.
17. NAS464P3 BOLT MAY BE SUBSTITUTED WHEN REPLACING 20-32374-3 OR -9 STOPS. BOLT LENGTH TO BE DETERMINED UPON INSTALLATION.

4C-3-1-2-(78-2)G

Figure 4-71. I.F.R. Well, FS 281.22 thru FS 303.62 (Sheet 2 of 2)



CAUTION

EXTREME CARE SHALL BE TAKEN TO PREVENT SEALANT MATERIAL AND METAL CHIPS FROM ENTERING THE FUEL DRAIN.

REPAIR PROCEDURE

A BOND 53-32053-3 SCUFF PLATE OVER CHAFED AREA, IF INSPECTION BY NDI METHOD VERIFIES WEB IS NOT CRACKED.

B AIRCRAFT HAVING INSPECTION NDI METHOD VERIFING WEB IS CRACKED; REPAIR AS FOLLOWS:

1. STOP DRILL CRACK WITH NUMBER 40 DRILL.
2. FABRICATE PATCHES FROM 301 CRES 1/2 HARD 32-SRF-289-1, 0.010 FOR THE TOP AND 32-SRF-289-2, 0.025 FOR THE BOTTOM.

CAUTION

LOCATE FASTENER PATTERN FOR REPAIR TO ALLOW MOVEMENT OF THE NOZZLE LOCKING ACTUATOR TO CLEAR HEAD OF FASTENERS.

MAINTAIN EDGE DISTANCE AND SPACING FOR SINGLE ROW OF FASTENERS.

3. FIBERGLAS TAPE SHALL BE APPLIED BETWEEN ALUMINUM AND CRES PER T.O. 1F-4C-3-1-6.
4. SEE T.O. 1F-4C-3-1-6 FOR SEALANT MATERIALS AND PROCEDURE.
5. REFER TO T.O. 1F-4C-3-1-1 FOR SUBSTITUTE FASTENERS.

SECTION A-A
THRU ASSEMBLED REPAIR

4C-3-1-2-(289)A

Figure 4-72. I.F.R. Well, Web Patch Repair

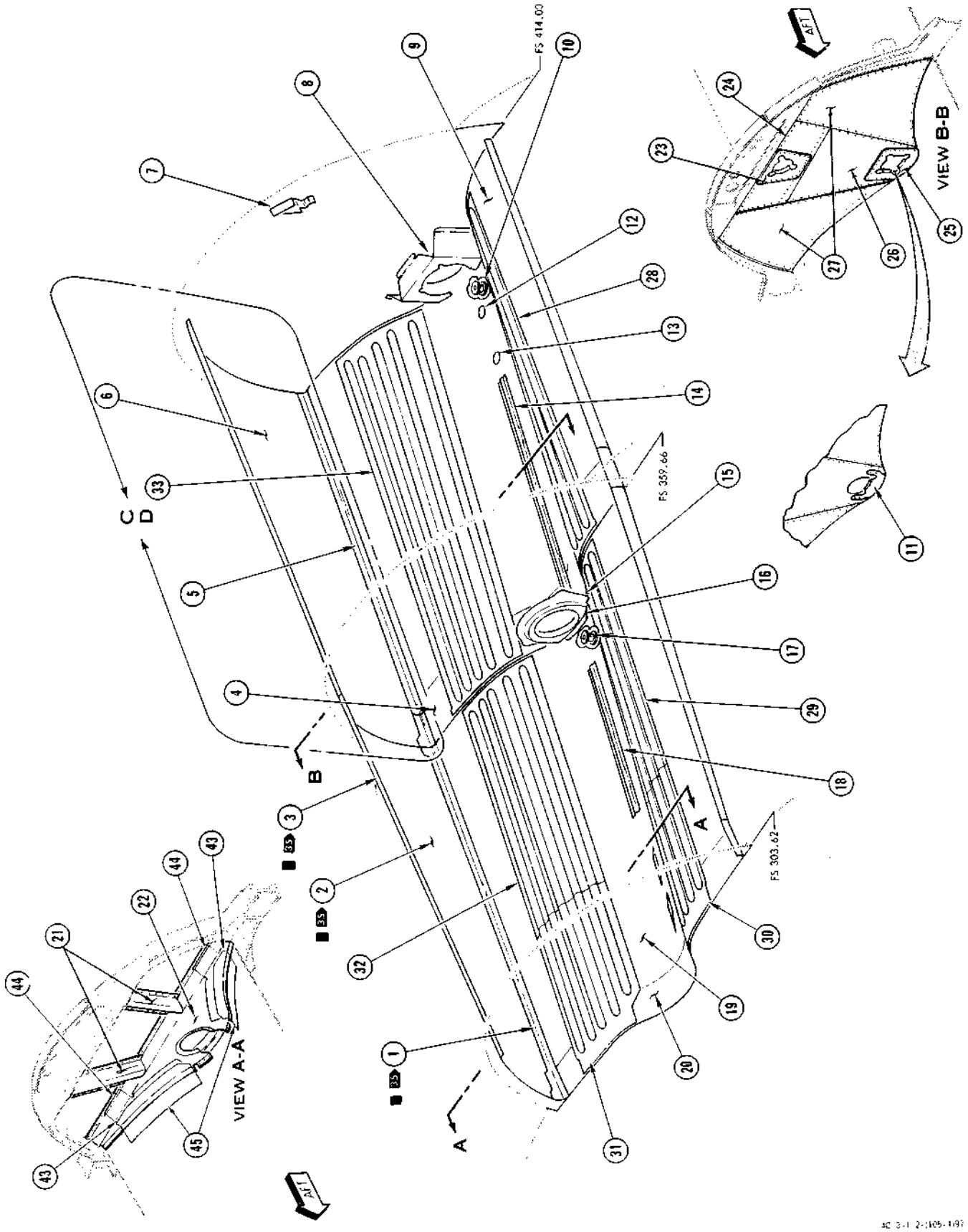
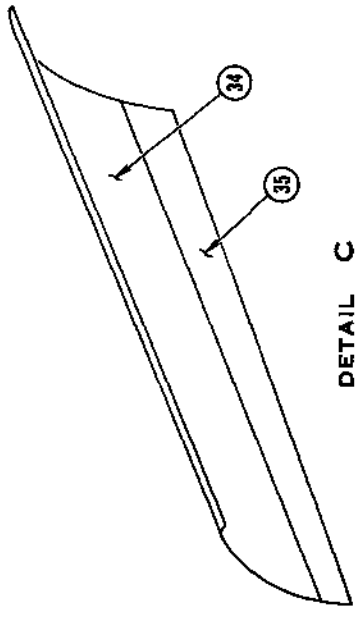


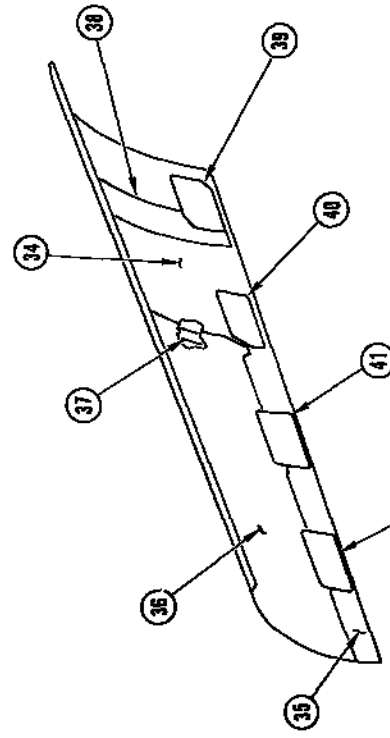
Figure 4-73. Numbers 3 and 4 Fuel Cell Cavity Structure (Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32123-148, -149	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32123-175, -149	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32123-213, -207	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32123-429, -207	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32123-459, -460	ANGLE	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
2	32-32123-147, -161	SKIN	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32123-187, -185	SKIN	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32123-209, -211	SKIN ③	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32123-209, -295	SKIN ③	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32123-209, -433	SKIN	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32123-460, -447	SKIN	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	32-32123-153, -152	ANGLE	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-32123-443, -444	ANGLE	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-32123-445, -446	ANGLE	0.125	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-32123-461, -465	ANGLE	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
4	32-32058-15	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32058-35	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32058-37	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32058-55	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-32124-8, -7	ANGLE	1M142	7178-T651 AL ALY	QQ-A-200/13 (T651)
6	32-32124-78, -77	SKIN ③ ④	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32124-99, -100	SKIN ③ ④	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	32-32221-5, -6	FORMER	0.016	2024-T4 ALCLAD	QQ-A-250/5 (T4)
8	32-32221-3	COVER	0.016	2024-T4 ALCLAD	QQ-A-250/5 (T4)
9	32-32221-9	COVER	0.032	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32058-13	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32058-33	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32058-39	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32058-57	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-58141-7	DRAIN FITTING	CASTING	A356-T6 AL ALY	QQ-A-596 COMP B
11	32-32220-41	COVER	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
12	32-32233-7	SUPPORT	CASTING	356-T6 AL ALY	QQ-A-596 COMP B
	32-32223-11	SUPPORT	CASTING	356-T6 AL ALY	QQ-A-596 COMP B
13	32-32233-9	SUPPORT	CASTING	356-T6 AL ALY	QQ-A-596 COMP B
	32-32223-11	SUPPORT	CASTING	356-T6 AL ALY	QQ-A-596 COMP B
14	32-32058-19	DRAIN TROUGH	0.012	2024-T3 ALCLAD	QQ-A-250/5 (T3)
15	32-32219-3	PAN	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
16	32-32219-9	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
17	32-58141-7	DRAIN FITTING	CASTING	A356-T6 AL ALY	QQ-A-596 COMP B
18	32-32057-17	DRAIN TROUGH	0.012	2024-T3 ALCLAD	QQ-A-250/5 (T3)
19	32-32057-9	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32057-29	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32057-23	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-32057-19	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32057-25	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	32-32218-13, -15	HAT	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
22	32-32218-11	FORMER	0.016	2024-T3 ALCLAD	QQ-A-250/5 (T3)
23	32-32220-23	COVER	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
24	32-32220-35	PANEL	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-32220-25	COVER	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-32220-39	COVER	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
26	32-32220-33	PANEL	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-32220-5	PANEL	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	7531290-27	PANEL	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	7531290-03	STIFFENER	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
29	7531293-01	STIFFENER	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
30	7531293-21	STIFFENER	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
31	7531293-47	STIFFENER	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
32	7531290-04	STIFFENER	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
33	32-32124-48, -47	SKIN	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
34	32-32124-6, -5	SKIN	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
35	7531287-04, -03	PANEL	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
36	7531287-42, -41	STIFFENER	⑬	2024-T42 AL ALY	QQ-A-200/3 (T42)
37	7531287-18, -17	STIFFENER	⑬	2024-T42 AL ALY	QQ-A-200/3 (T42)
38	7531287-44, -43	DOUBLER	0.140	2024-T3 AL ALY	QQ-A-250/4 (T3)
39	7531287-14, -13	DOUBLER	0.090	2024-T3 AL ALY	QQ-A-250/4 (T3)
40	7531287-08, -07	DOUBLER	0.090	2024-T3 AL ALY	QQ-A-250/4 (T3)
41	7531287-06, -05	DOUBLER	0.090	2024-T3 AL ALY	QQ-A-250/4 (T3)
42	7531293-15, -16	ANGLE	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
43	7531293-17, -18	PATCH	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
44	7531293-13, -14	FILLER	0.100	2024-T3 AL ALY	QQ-A-250/4 (T3)
45					



DETAIL C

F-4C, F-4D 64-929 THRU 65-611, AND RF-4C
63-7742 THRU 65-901 BEFORE TO 1F-4-1071



DETAIL D

F-4C, F-4D 64-929 THRU 65-611, AND RF-4C
63-7742 THRU 65-901 AFTER TO 1F-4-1071

4C-3-1-2-(105-2)E

Figure 4-73. Numbers 3 and 4 Fuel Cell Cavity Structure (Sheet 2 of 3)

Notes

1. SEE FIGURES 4-77 AND 4-78 FOR FUEL CELL FLOOR AND PANEL REPAIRS.
2. FUEL CELL CAVITIES SHALL BE SEALED PER TO 1F-4C-3-1-6.
3. THIS SKIN IS CHEMICALLY MILLED FROM 0.050 STOCK.
4. F-4C 63-7407 THRU 63-7442.
5. F-4E 66-284 THRU 66-367.
6. F-4E 66-368 AND UP AND F-4G.
7. F-4C 63-7443 THRU 64-898, RF-4 63-7742 THRU 65-841, AND F-4D 64-929 THRU 64-935.
8. F-4C.
9. F-4D AND RF-4.
10. F-4E 66-284 THRU 69-7589 AND F-4G.
11. DELETED.
12. F-4D 65-612 THRU 66-8825 AND RF-4 65-902 THRU 71-252.
13. F-4C, F-4D 64-929 THRU 64-963, AND RF-4 63-7742 THRU 65-864.
14. F-4E, F-4D 64-964 THRU 66-8825, AND RF-4 65-865 THRU 72-156, F-4E, AND F-4G.
15. F-4D 64-964 THRU 66-8825, AND RF-4 65-865 THRU 69-384.
16. F-4E 71-224 AND UP.
17. F-4E 66-284 THRU 71-236 AND F-4G.
18. F-4C, F-4D, AND RF-4.
19. F-4C 64-899 THRU 64-926, F-4D 64-936 THRU 66-8825, AND RF-4 65-842 THRU 72-156.
20. F-4C 63-7421 THRU 64-898, RF-4 63-7742 THRU 65-841, AND F-4D 64-929 THRU 64-935.
21. F-4C 63-7407 THRU 63-7420.
22. F-4C, F-4D, F-4E 66-284 THRU 71-236, RF-4C 63-7742 THRU 71-252
23. F-4C, F-4D, AND F-4G.
24. RF-4C 71-253 THRU 72-156.
25. F-4E 71-237 THRU 74-01049.
26. F-4C 64-899 THRU 64-926, F-4D 64-936 THRU 66-8825, F-4E 71-237 THRU 74-01049, AND RF-4 65-842 THRU 72-156.
27. F-4E 71-237 AND UP AND RF-4 71-253 THRU 72-156.
28. F-4C, F-4D, F-4E 66-284 THRU 68-494, AND RF-4 63-7740 THRU 69-348.
29. F-4E AND F-4G.
30. F-4E 66-368 THRU 74-01049 AND F-4G.
31. F-4E 74-01050 AND UP.
32. F/RF-4 BEFORE TO 1F-4-1071.
33. F/RF-4 AFTER TO 1F-4-1071.
34. EXTRUSION DIE NUMBER 28525, ALUMINUM CO. OF AMERICA, WASHINGTON, D.C. CODE IDENT 81547.
35. FOR INSPECTION CRITERIA AND REPAIR CONSIDERATIONS, REFER TO PARAGRAPHS 4-79A AND 4-79B OF TEXT.
36. AFTER TO 1F-4-1481, FLAGNOTE 30 APPLIES TO ALL F-4E/G AND RF-4C AIRCRAFT.

4C-3-1-2-1105-3197

Figure 4-73. Numbers 3 and 4 Fuel Cell Cavity Structure (Sheet 3 of 3)

★ U.S. GOVERNMENT PRINTING OFFICE: 1991 - 554-017/41421

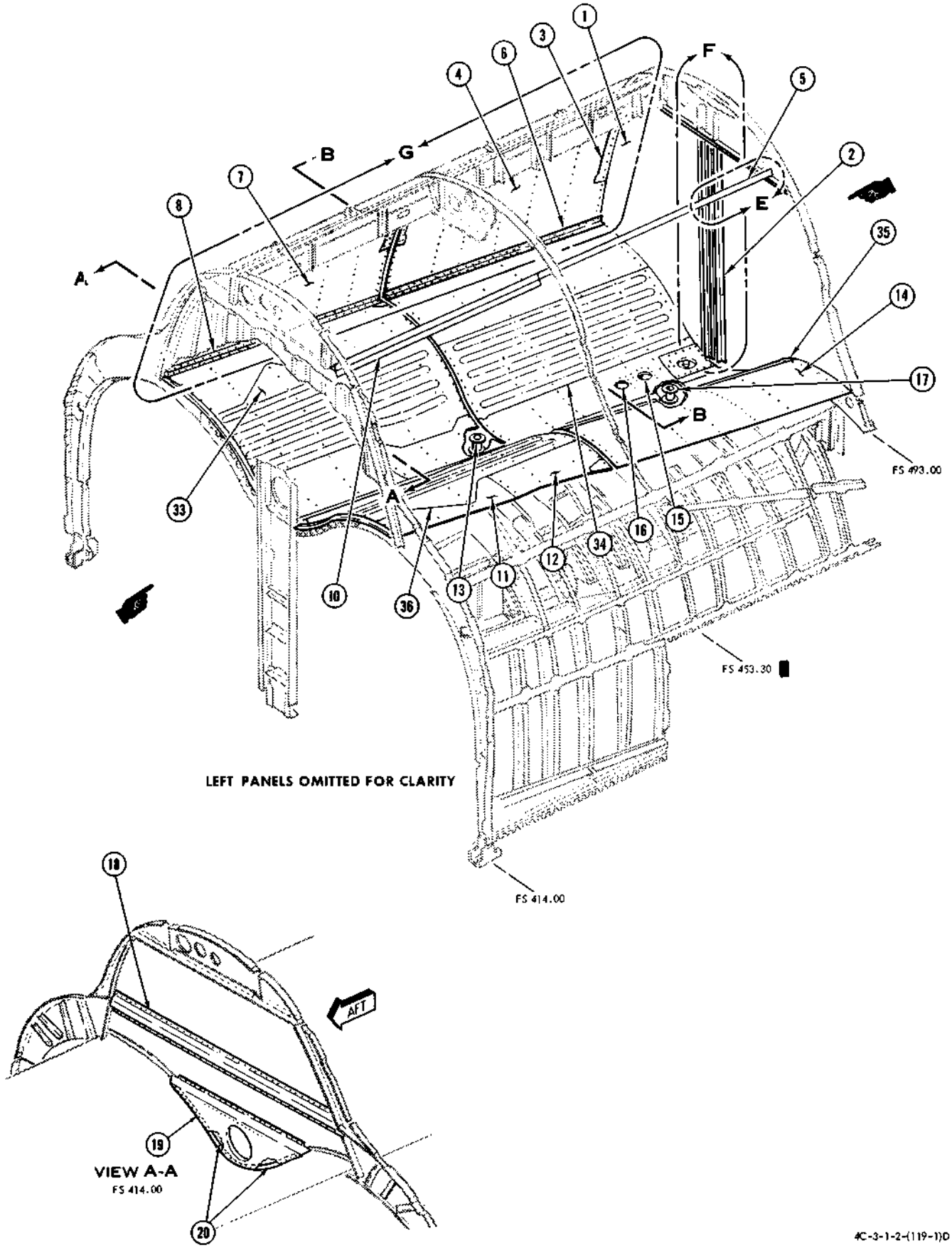


Figure 4-74. Numbers 5 and 6 Fuel Cell Cavity Structure (Sheet 1 of 4)

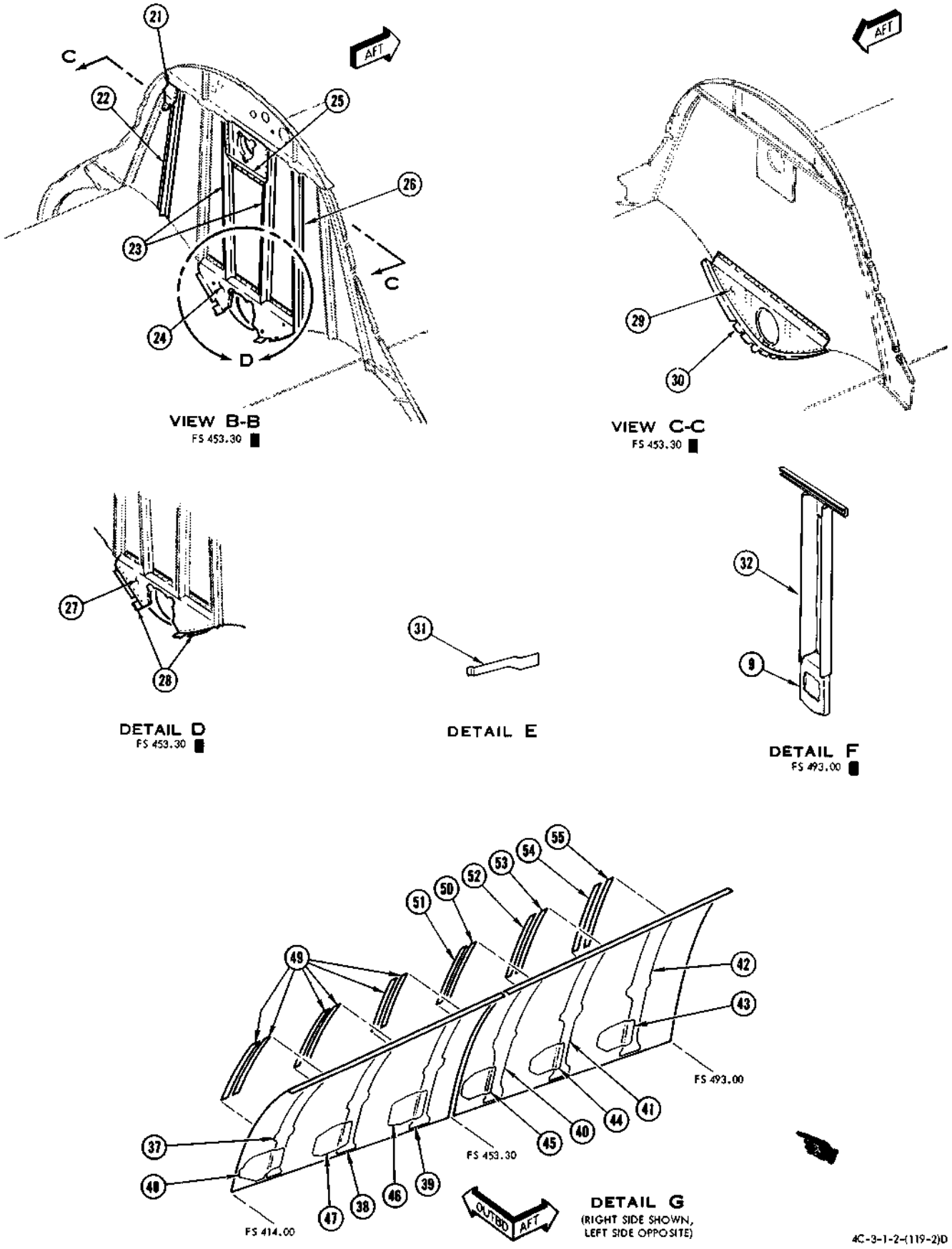


Figure 4-74. Numbers 5 and 6 Fuel Cell Cavity Structure (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32037-111	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
26	32-32527-139	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
1	32-321600-5	WEB	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	32-32037-151, -152	COVER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20	32-32527-137, -138	COVER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-32126-9, -10	DOUBLER	0.032	7075-T6 ALCLAD	QQ-A-250/13 (T6)
4	32-32126-3, -4	PANEL LOWER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-32126-93, -94	PANEL LOWER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-32126-27, -28	PANEL UPPER	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-32126-91, -92	PANEL UPPER	0.016	7178-T6 ALCALD	QQ-A-250/15 (T6)
16	32-32126-119, -120	PANEL [3]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
19	32-32126-117, -118	PANEL [3]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
29	32-32126-130, -131	PANEL [3]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
28	32-32126-129, -130	PANEL [3]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
27	32-32126-132, -131	PANEL [3]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
5	32-32126-33, -32	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
5	32-32126-95, -96	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
18	32-32125-115, -116	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
6	32-32126-5, -6	ANGLE	1M142	7178-T6 AL ALY	QQ-A-200/13 (T6)
7	32-32126-99, -100	ANGLE	1M2560	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	32-32125-3, -4	PANEL LOWER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-32125-5, -6	PANEL UPPER	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32125-79, -80	PANEL [2]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
28	32-32125-81, -82	PANEL [2]	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
8	32-32125-7, -8	ANGLE	1M142	7178-T6 AL ALY	QQ-A-200/13 (T6)
9	32-321600-169	HAT	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
25	32-321600-187	HAT	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
10	32-32125-51, -52	ANGLE	0.050	7075-T6 ALCLAD	QQ-A-250/13 (T6)
11	32-32059-27	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-32059-3	SKIN	0.032	7178-T6 ALCALD	QQ-A-250/15 (T6)
13	32-58141-9	FITTING	CASTING	A356-T6 AL ALY	QQ-A-596 COMP B
30	32-58141-11	FITTING	CASTING	A356-T6 AL ALY	QQ-A-596 COMP B
14	32-32060-29	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-32060-45	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	32-32060-65	SKIN	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-32233-7	SUPPORT	CASTING	356-T6 AL ALY	QQ-A-596 COMP B
16	32-32365-3	SUPPORT	CASTING	356-T6 AL ALY	QQ-A-596 COMP B
17	32-58321-7	FITTING	CASTING	CRES	AMS5350
18	32-32222-7	HAT	0.016	2024-T3 ALCLAD	QQ-A-250/5 (T3)
7	32-32222-11	HAT	0.016	2024-T3 ALCLAD	QQ-A-250/5 (T3)
19	32-32222-3	COVER	0.016	2024-T4 ALCLAD	QQ-A-250/5 (T4)
20	32-32222-5	ANGLE	0.020	2024-T4 ALCLAD	QQ-A-250/5 (T4)
21	32-32223-12, -11	FORMER	0.040	2024-T3 ALCLAD	QQ-A-250/5 (T3)
22	32-32033-17, -16	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-32223-7, -8	HAT	0.016	2024-T3 ALCLAD	QQ-A-250/5 (T3)
24	32-32223-31	FORMER	0.020	2024-T4 ALCLAD	QQ-A-250/5 (T4)
11	32-32223-35	FORMER	0.020	2024-T4 ALCLAD	QQ-A-250/5 (T4)
25	32-32223-29	FORMER	0.016	2024-T4 ALCLAD	QQ-A-250/5 (T4)
26	32-32033-15, -16	HAT	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-32223-3	FORMER	0.016	2024-T3 ALCLAD	QQ-A-250/5 (T3)
28	32-32223-5, -6	ANGLE	0.020	2024-T4 ALCLAD	QQ-A-250/5 (T4)
29	32-32224-7	FORMER	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
31	32-32224-11	FORMER	0.016	7075-T6 ALCLAD	QQ-A-250/13 (T6)
30	32-32224-9	ANGLE	0.040	2024-T4 ALCLAD	QQ-A-250/5 (T4)
31	32-32126-97, -98	ANGLE	0.071	7075-T6 ALCLAD	QQ-A-250/13 (T6)
32	32-321600-129	HAT	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
33	7531291-42	STIFFENER	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
34	7531292-28	STIFFENER	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
35	7531292-27	STIFFENER	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
36	7531291-41	STIFFENER	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
37	7531288-04, -03	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
34	7531288-32, -31	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
38	7531288-06, -05	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
34	7531288-34, -33	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
39	7531288-08, 07	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
34	7531288-36, -35	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
40	7531289-2, -1	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
34	7531289-36, -35	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
41	7531289-4, -3	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
34	7531289-38, -37	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
42	7531289-6, -5	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)
34	7531289-42, -41	STIFFENER	[32]	2024-T42 AL ALY	QQ-A-200/3 (T42)

4C-3-1-2-(119-3)D

Figure 4-74. Numbers 5 and 6 Fuel Cell Cavity Structure (Sheet 3 of 4)

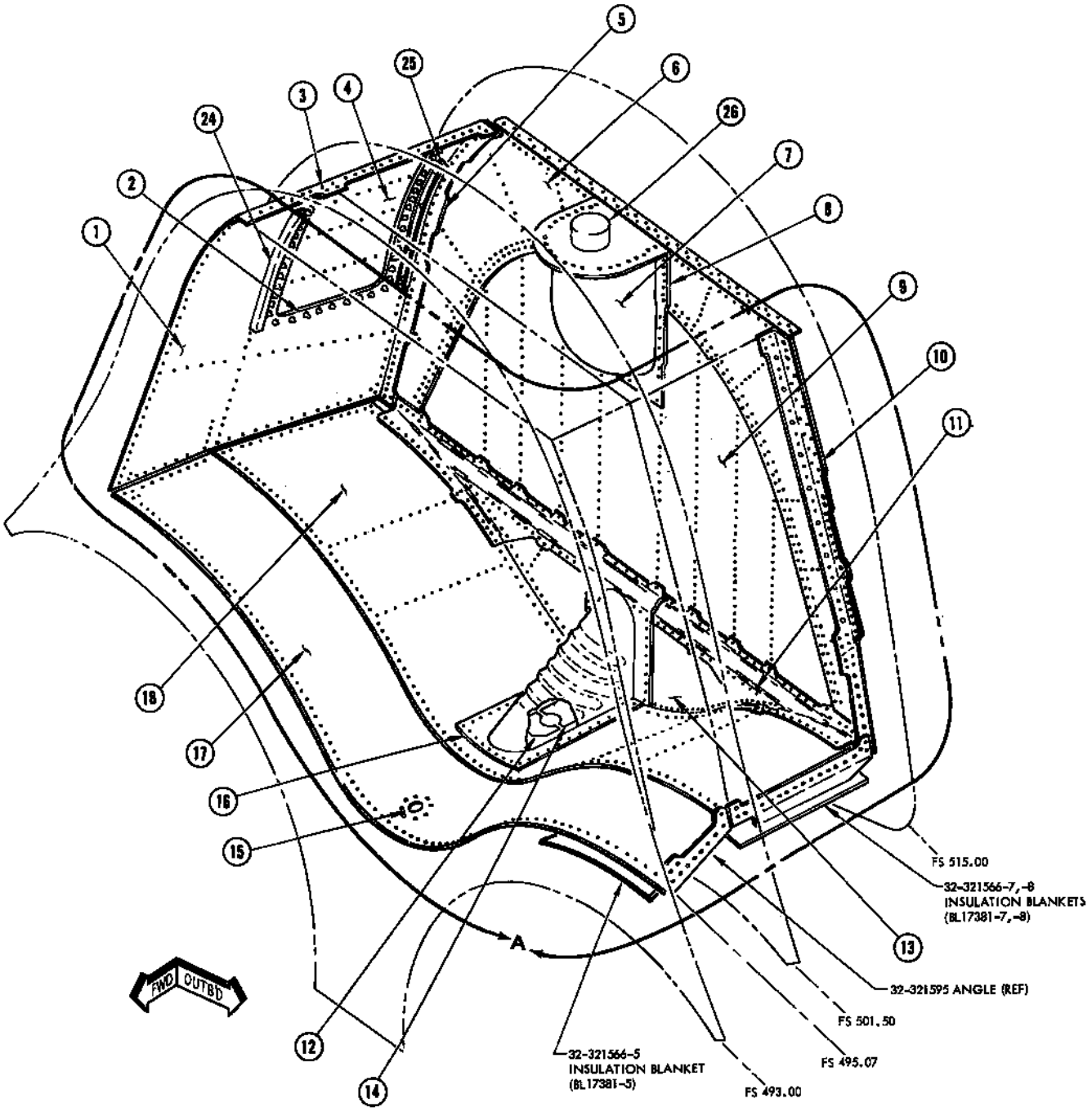
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
43	7531289-31	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
44	7531289-27	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
45	7531289-25	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
46	7531288-15	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
47	7531288-14, -13	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
48	7531288-12, -11	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
49 (21)	7531288-25	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
50	7531289-7	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
51	7531289-11	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
52	7531289-13	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
53	7531289-15	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
54	7531289-22, -21	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
55	7531289-24, -23	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)

Notes

1. C. FIGURE 4-77 FOR REPAIRS FOR FLOORS AND PANELS.
2. THE LANDS ARE 0.050 AND MILLED AREAS ARE 0.016.
3. THIS PANEL IS CHEMICALLY MILLED FROM 0.050 STOCK 7178-T6 ALUMINUM ALLOY, QQ-A-250/14 (T6) THE LANDS ARE 0.050. THE MILLED AREAS ABOVE STRINGER NUMBER 3 (32-32175) ARE 0.016. THE MILLED AREAS BELOW STRINGER NUMBER 3 ARE 0.032.
4. F-4C AND F-4D 64-929 THRU 65-611.
5. RF-4.
6. F-4C 63-7407 THRU 64-737 AND RF-4 63-7743 THRU 64-1061.
7. F-4C 64-738 THRU 64-928, RF-4 64-1062 THRU 72-156, F-4D, F-4E, AND F-4G.
8. F-4C 63-7407 THRU 63-7662 AND RF-4 63-7742 THRU 64-1017.
9. F-4C 63-7663 THRU 64-674 AND RF-4 64-1018 THRU 64-1030.
10. F-4C 63-7407 THRU 64-674 AND RF-4 63-7742 THRU 64-1030.
11. F-4C 64-675 THRU 64-928, RF-4 64-1031 THRU 72-156, F-4D, F-4E, AND F-4G.
12. F-4C, F-4D 64-929 THRU 65-611 AND RF-4 63-7742 THRU 65-901.
13. F-4D 65-612 THRU 66-8825 AND RF-4 65-902 THRU 66-412.
14. F-4E AND F-4G.
15. DELETED.
16. DELETED.
17. RF-4 63-7742 THRU 65-901.
18. RF-4 65-902 THRU 67-427.
19. F-4D 65-612 THRU 66-7650.
20. F-4D 66-7651 THRU 66-8825.
21. F-4E 66-284 THRU 66-356.
22. DELETED.
23. F-4C 64-738 THRU 64-928, RF-4 64-1062 THRU 72-156, F-4D, F-4E 66-284 THRU 68-538, AND F-4E/G 69-236 THRU 69-7578. FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
24. F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 AND UP. FUTURE PROCUREMENT FOR PRECEDING PART.
25. F-4E 66-357 AND UP AND F-4G.
26. F-4C, F-4D.
27. RF-4 67-428 THRU 72-156.
28. RF-4 66-413 THRU 72-156, F-4E, AND F-4G.
29. F-4C 64-7407 THRU 63-7526 AND RF-4 63-7742 THRU 63-7749.
30. F-4C 63-7527 THRU 64-928, RF-4 63-7750 THRU 72-156, F-4D, F-4E, AND F-4G.
31. R/RF-4 AFTER TO 1F-4-1071.
32. EXTRUSION DIE NUMBER 28515, ALUMINUM CO. OF AMERICA, WASHINGTON, D.C. CODE IDENT 81547.
33. F/RF-4 AFTER TO 1F-4-1071. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
34. FUTURE PROCUREMENT FOR PRECEDING PART.
35. FOR INSPECTION CRITERIA AND REPAIR CONSIDERATIONS, REFER TO PARAGRAPHS 4-79A AND 4-78B OF TEXT.

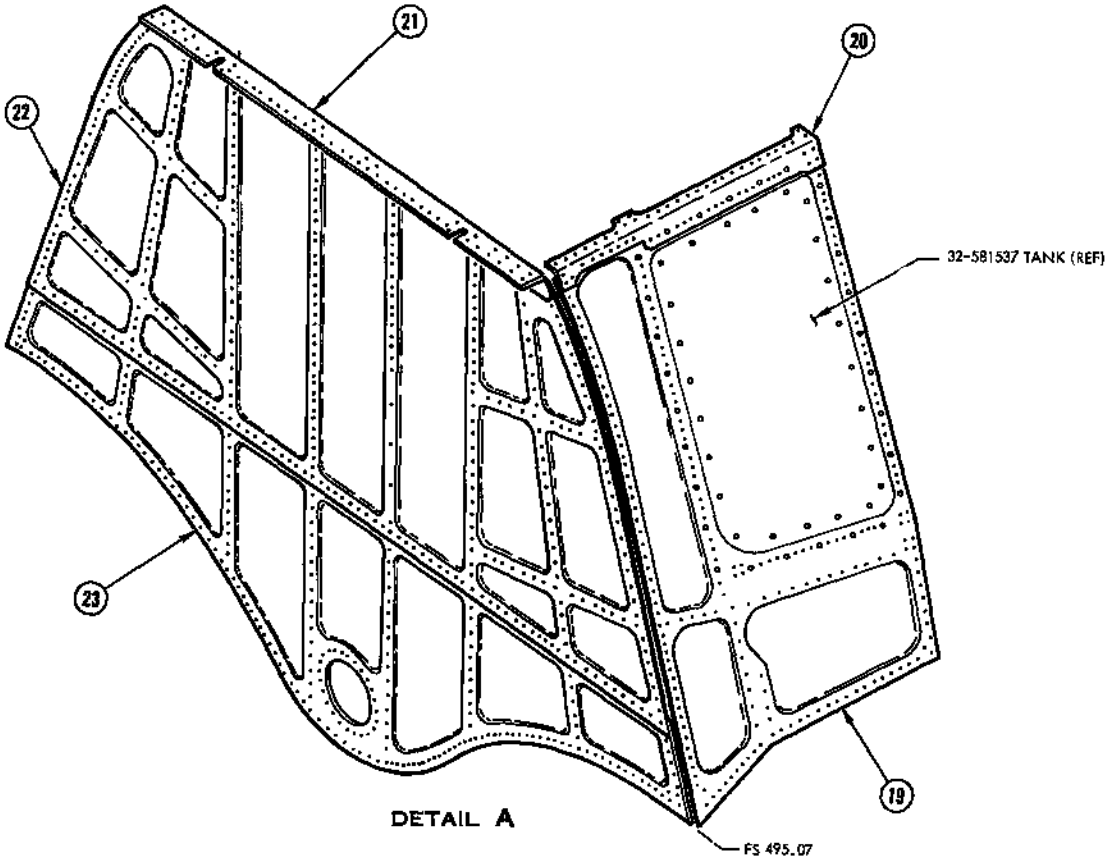
4C-3-1-2-(119-4)G

Figure 4-74. Numbers 5 and 6 Fuel Cell Cavity Structure (Sheet 4 of 4)



4C-3-1-2-(120-1)B

Figure 4-75. Number 7 Fuel Cell Cavity Structure - F-4E AND F-4G (Sheet 1 of 2)



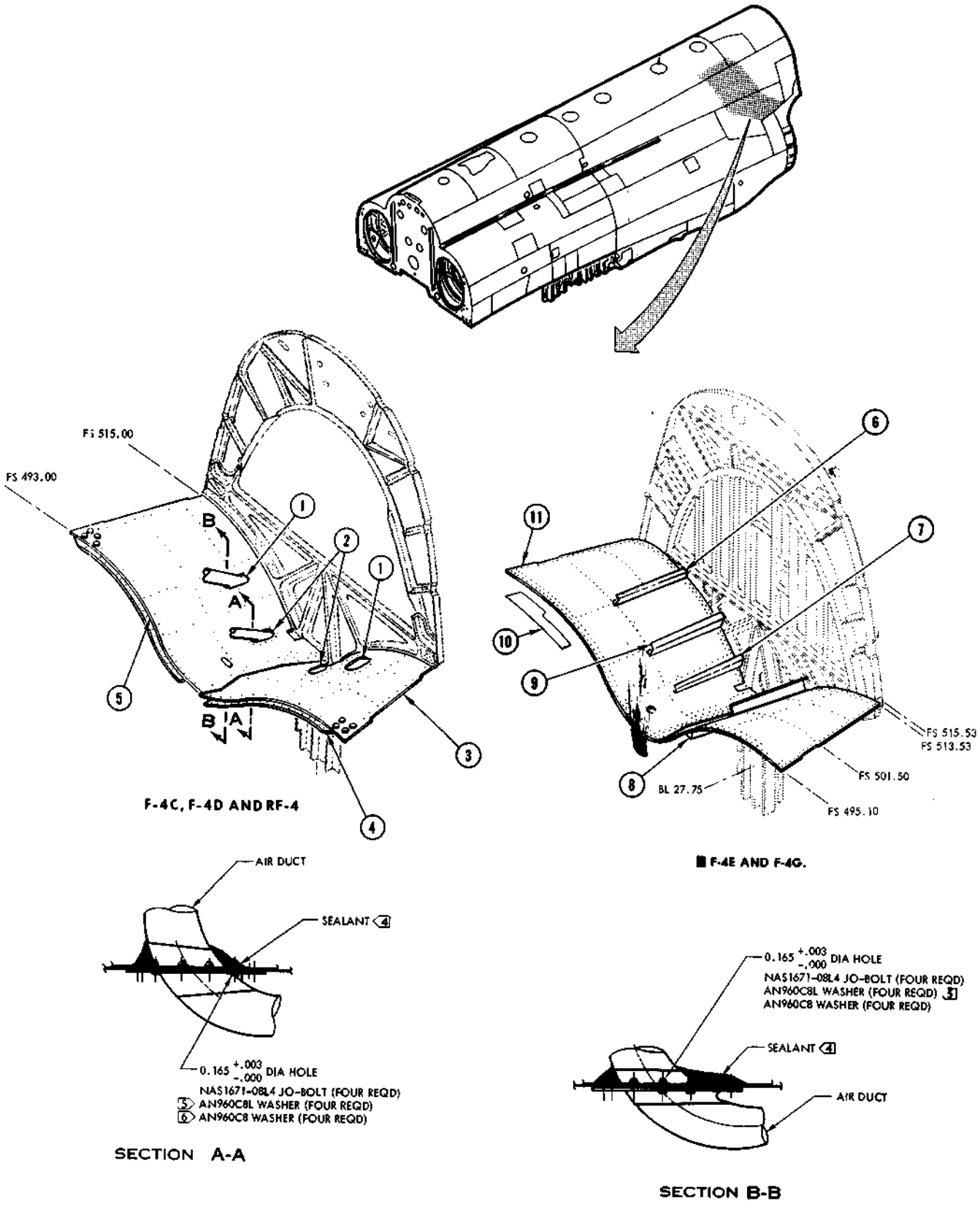
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-321576-3	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
2	32-321602-3	SEAL	1/16X9.42X17.23	RUBEX	R-437-H
3 2	32-321576-11	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	32-321576-23	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	32-321576-5	PANEL	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
5 2	32-321554-41	ANGLE	1M2475	2024-T6 AL ALY	QQ-A-200/3 (T6)
5	32-321554-43	ANGLE	1M2475	2024-T6 AL ALY	QQ-A-200/3 (T6)
6	32-321554-35	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	32-321599-1	WELD ASSY		6061-T6 AL ALY	QQ-A-250/11 (T6)
8	32-321599-31	PLATE	0.032	6061-T6 AL ALY	QQ-A-250/11 (T6)
9	32-321554-37	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
10	32-321554-21	TEE	1M5258	7178-T6 AL ALY	QQ-A-200/13 (T6)
11	32-321554-39, -40	ZEE	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
12	32-321595-21	PLATE	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
13	32-321554-19	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
14	32-321595-19	PLATE	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
15	32-581064-3	FITTING	CASTING	A356-T6 AL ALY	QQ-A-596 (T6)
16	32-321567-1	WELD ASSY		6061-T6 AL ALY	QQ-A-250/11 (T6)
17 6	32-321595-3	SKIN	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	32-321595-65	SKIN	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
18 8	32-321595-5	SKIN	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
9	32-321595-67	SKIN	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
19 4	32-321556-3	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
5	32-321556-31	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
20	32-321556-25	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
21	32-321600-93	ANGLE	0.080	7178-T6 AL ALY	QQ-A-250/14 (T6)
22	32-321600-45	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
23	32-321600-43	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
24	32-321576-15	CHANNEL	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
25 10	32-321576-13	CHANNEL	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	32-321576-25	CHANNEL	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
26	32-321591-1	WELD ASSY		6061-T6 AL ALY	QQ-A-250/11 (T6)

Notes

1. LIQUID SEAL PER TO 1F-4C-3-1-6.
2. F-4E 66-284 THRU 67-344.
3. F-4E 67-345 AND UP AND F-4G.
4. F-4E 66-284 THRU 67-219.
5. F-4E 67-220 AND UP AND F-4G.
6. F-4E 66-284 THRU 67-235.
7. F-4E 67-236 AND UP AND F-4G.
8. F-4E 66-284 THRU 68-451.
9. F-4E 68-452 AND UP AND F-4G.
10. F-4E 66-284 THRU 67-398.
11. F-4E 68-303 AND UP AND F-4G.

4C-3-1-2-(120-2)D

Figure 4-75. Number 7 Fuel Cell Cavity Structure - F-4E AND F-4G (Sheet 2 of 2)



4C-3-1-2-(112-1)E

Figure 4-76. Structure Floor Assembly - FS 493.00 thru FS 515.00 (Sheet 1 of 2)

REF NO.	SEALANT	CATALYST	ADDITIONAL MATERIAL REQUIREMENTS
1	RTV90	SILCURE L-24	USE WITH NUMBER 102 GLASS FIBER CLOTH
2	RTV90	SILCURE L-24	USE WITH ONE INCH REINFORCING STRANDS OF NUMBER 863 GLASS FIBER

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
3 [10]	32-32049-95	SKIN	0.045	8Mn TITANIUM ALLOY	
[11]	32-32049-279	SKIN	0.045	8Mn TITANIUM ALLOY	
[12]	32-32049-141	SKIN	0.045	8Mn TITANIUM ALLOY	
[13]	32-32049-283	SKIN	0.045	8Mn TITANIUM ALLOY	
[14]	32-32049-299	SKIN	0.045	8Mn TITANIUM ALLOY	
[15]	32-32049-435	SKIN	0.045	8Mn TITANIUM ALLOY	
4 [9]	32-32049-101	PLATE	0.040	8Mn TITANIUM ALLOY	
[8]	32-32049-145	PLATE	0.040	8Mn TITANIUM ALLOY	<7>
[11]	32-32049-455	PLATE	0.040	8Mn TITANIUM ALLOY	
5 [9]	32-32049-96	SKIN	0.045	8Mn TITANIUM ALLOY	
[10]	32-32049-143	SKIN	0.045	8Mn TITANIUM ALLOY	
[11]	32-32049-411	SKIN	0.045	8Mn TITANIUM ALLOY	
[12]	32-32049-437	SKIN	0.045	8Mn TITANIUM ALLOY	
6	32-32049-252,-251	INTERCOSTAL	0.025	8Mn TITANIUM ALLOY	
7	32-32049-256,-255	INTERCOSTAL	0.025	8Mn TITANIUM ALLOY	
8	32-32049-91,-92	ANGLE	AND10134-702	2024-T4 AL ALY	QQ-A-200/3 (T4)
9	32-32049-254,-253	INTERCOSTAL	0.025	8Mn TITANIUM ALLOY	
10 [10]	32-32049-269	PLATE	0.040	8Mn TITANIUM ALLOY	
[11]	32-32049-457	PLATE	0.040	8Mn TITANIUM ALLOY	<7>
11 [9]	32-32049-291,-276	SKIN	0.045	8Mn TITANIUM ALLOY	
[12]	32-32049-408,-407	SKIN	0.045	8Mn TITANIUM ALLOY	

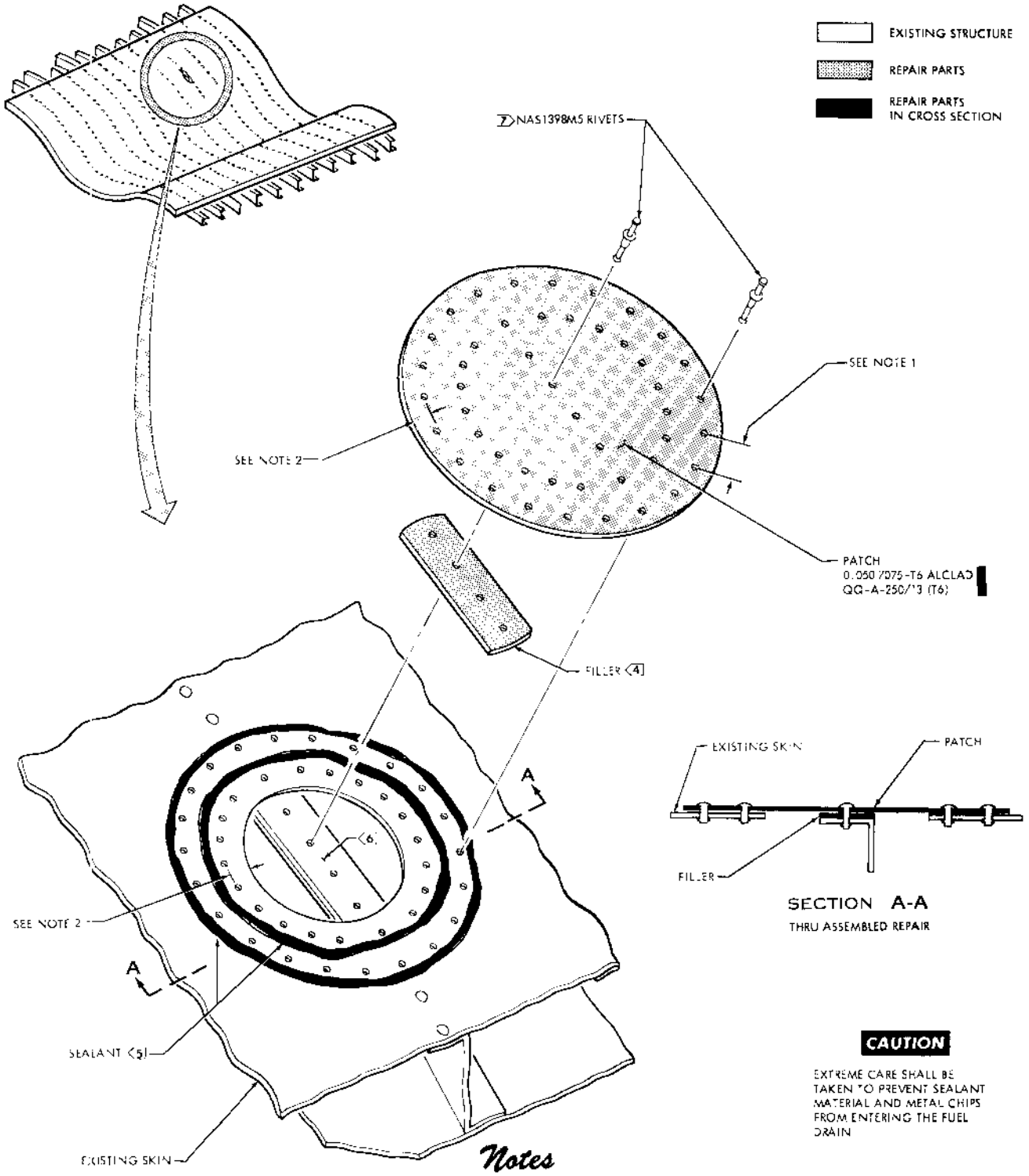
Notes

1. SEE FIGURES 4-77 AND 4-78 FOR REPAIRS TO FLOORS.
2. FUME SEAL ENTIRE ASSEMBLY PER T.O. 1F-4C-3-1-6.
3. SEALANT SHALL BE APPLIED TO FORM A CONTINUOUS SEAL, FREE OF VOIDS, PIN HOLES, ENTRAPPED AIR, OR OTHER POTENTIAL LEAK PATHS.

<4> FOR APPLICATION OF SEALANT REFER TO T.O. 1F-4C-3-1-6.
<5> UNDER BOLT HEAD.
<6> BETWEEN FLANGE AND FLOOR.
<7> MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED.
[8] RF-4C 63-7742 THRU 69-384.
[9] F-4C AND F-4D.
[9] F-4D 64-929 THRU 65-665 AND F-4C.
[10] F-4D 65-666 THRU 66-8825.
[10] F-4E 66-284 THRU 67-398.
[11] RF-4C 63-7742 THRU 65-932.
[11] RF-4C 65-933 THRU 67-469.
[12] RF-4C 65-548 THRU 69-357.
[12] RF-4C 69-358 THRU 72-156.
[13] F-4E 68-303 AND UP AND F-4G.
[14] F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
[14] F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 AND UP.
[15] RF-4C 63-7742 THRU 67-469.
[15] RF-4C 71-284 THRU 72-156.

4C-3-1-2-(112-2)E

Figure 4-76. Structure Floor Assembly - FS 493.00 thru FS 515.00 (Sheet 2 of 2)

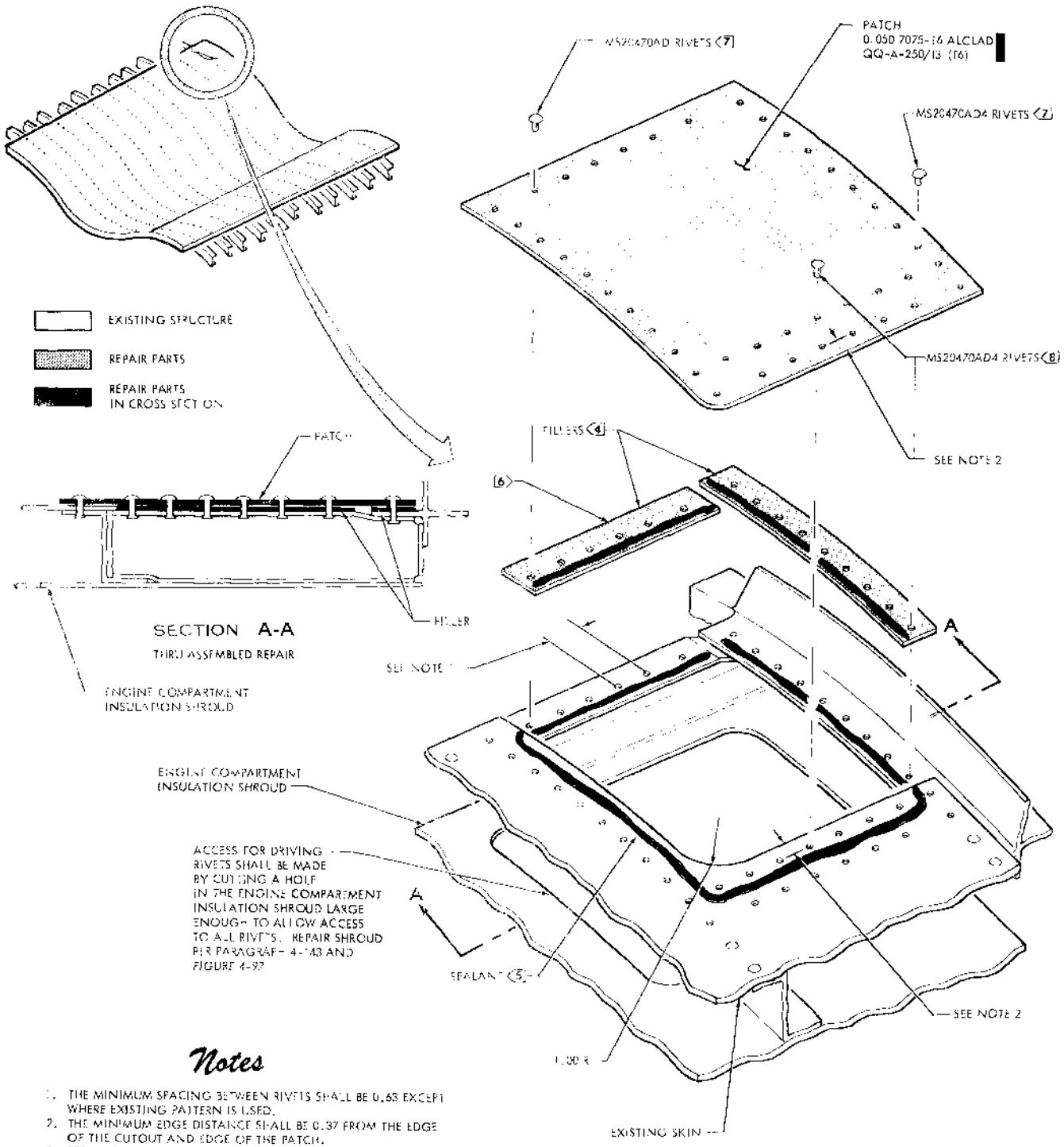


Notes

1. THE MINIMUM SPACING BETWEEN RIVETS SHALL BE 0.63 EXCEPT WHERE EXISTING PATTERN IS USED.
2. THE MINIMUM EDGE DISTANCE SHALL BE 0.37 FROM THE EDGE OF THE CUTOUT AND EDGE OF THE PATCH.
3. FOR REPAIR PROCEDURE REFER TO TEXT.
4. FILLERS SHALL BE THE SAME GAGE AND MATERIAL AS THE EXISTING FLOOR SKIN.
5. REFERENCE TO 1F-4C-3-1-6 FOR SEALANT MATERIALS AND PROCEDURE.
6. FIBERGLASS TAPE SHALL BE APPLIED BETWEEN ALL ALUMINUM PARTS AND TITANIUM PARTS PER TO 1F-4C-3-1-6.
7. REFERENCE TO 1F-4C-3-1-1 FOR SUBSTITUTE FASTENERS.

4C-3-1-2-(113)C

Figure 4-77. Fuel Tank Floor Patch Repair



Notes

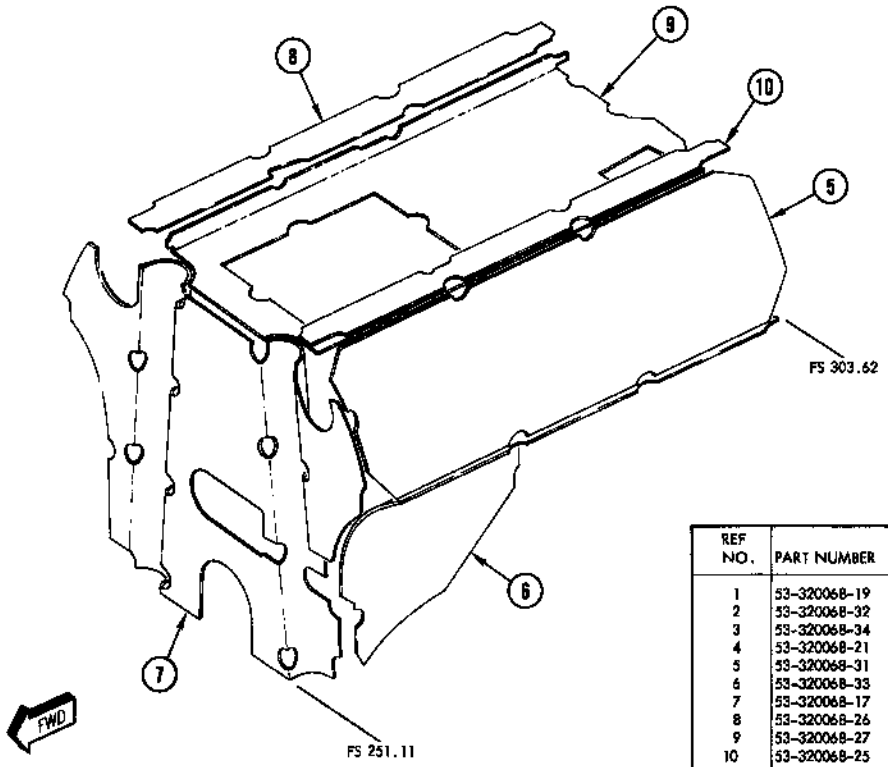
1. THE MINIMUM SPACING BETWEEN RIVETS SHALL BE 0.63 EXCEPT WHERE EXISTING PATTERN IS USED.
2. THE MINIMUM EDGE DISTANCE SHALL BE 0.37 FROM THE EDGE OF THE CUTOUT AND EDGE OF THE PATCH.
3. REFER TO TEXT FOR REPAIR PROCEDURE.
4. FILLERS SHALL BE THE SAME GAGE AND MATERIAL AS THE EXISTING FLOOR SKIN.
5. REFER TO T.O. 1F-4C-3-1-6 FOR SEALANT MATERIALS AND PROCEDURES.
6. FIBERGLAS TAPE SHALL BE APPLIED BETWEEN ALL ALUMINUM PARTS AND TITANIUM PARTS. REFER TO T.O. 1F-4C-3-1-6 FOR INFORMATION ON APPLICATION OF THIS TAPE.
7. RIVETS THAT USE THE EXISTING PATTERN SHALL BE REPLACED WITH THE SAME RIVETS THAT WERE USED IN THE ORIGINAL INSTALLATION.
8. RIVETS THAT DO NOT USE AN EXISTING PATTERN MAY BE MS20470AD-4 RIVETS IN A DOUBLE ROW THAT HAS BEEN STAGGERED.

CAUTION

EXTREME CARE SHALL BE TAKEN TO PREVENT SEALANT MATERIAL AND METAL CHIPS FROM ENTERING THE FUEL DRAIN.

4C-3-1-2-(714)A

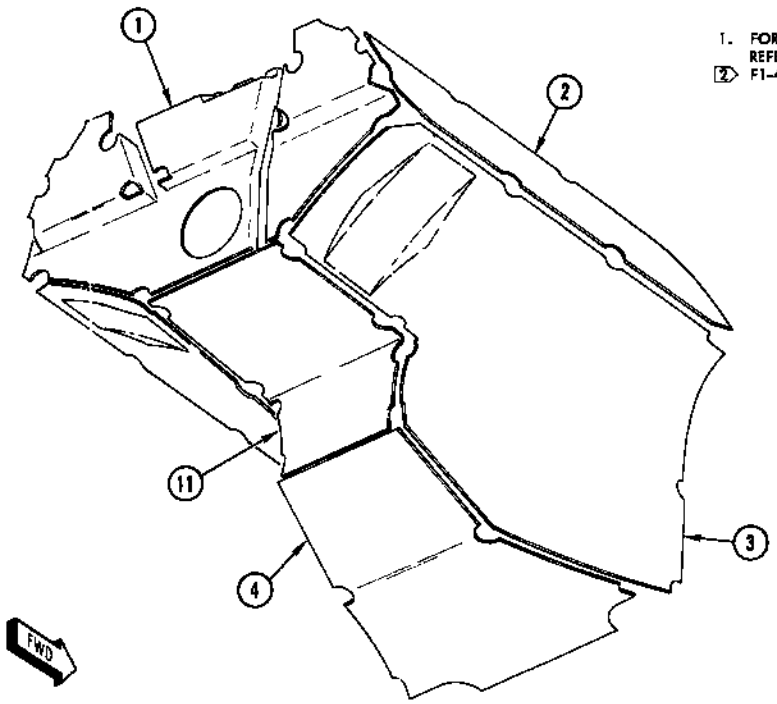
Figure 4-78. Fuel Tank Floor Insertion Repair



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL
1	53-320068-19	BACKING BOARD	0.07	
2	53-320068-32	BACKING BOARD	0.07	
3	53-320068-34	BACKING BOARD	0.07	
4	53-320068-21	BACKING BOARD	0.07	
5	53-320068-31	BACKING BOARD	0.07	
6	53-320068-33	BACKING BOARD	0.07	<2>
7	53-320068-17	BACKING BOARD	0.07	
8	53-320068-26	BACKING BOARD	0.07	
9	53-320068-27	BACKING BOARD	0.07	
10	53-320068-25	BACKING BOARD	0.07	
11	53-320068-23	BACKING BOARD	0.07	

Notes

1. FOR INSTALLATION PROCEDURE REFERENCE TO 1F-4( )-2-10, FOR REPAIR REFERENCE TO 1F-4C-3-1-5.
<2> F1-41 FIRESTONE COATED FABRICS CO. AKRON, OHIO 05476.

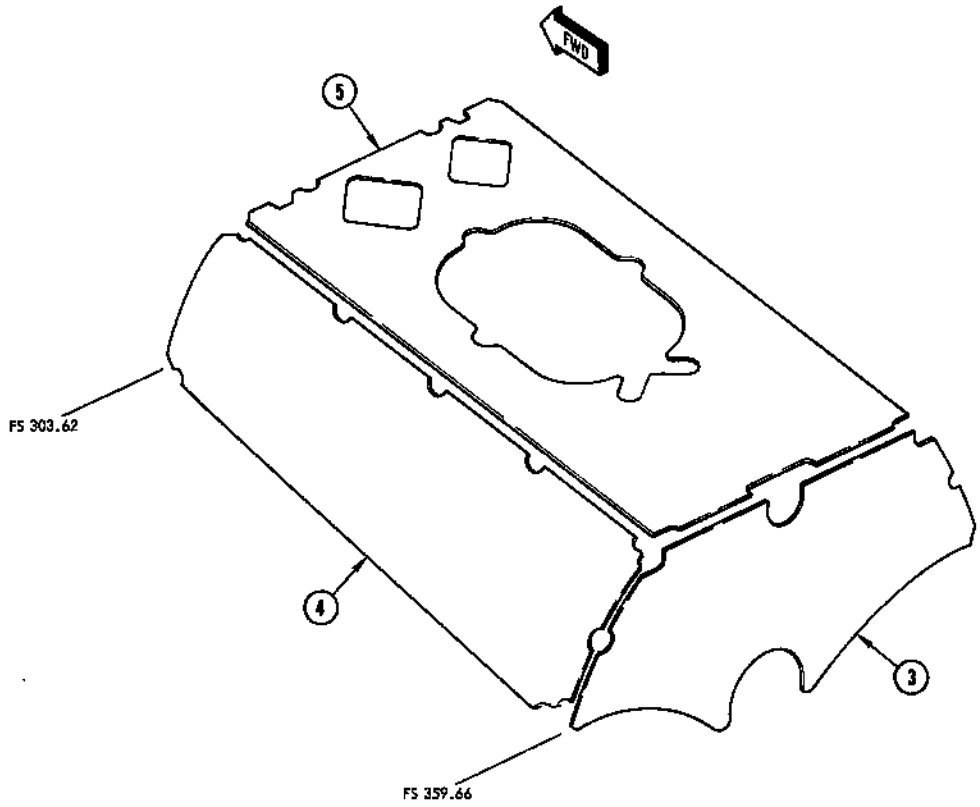


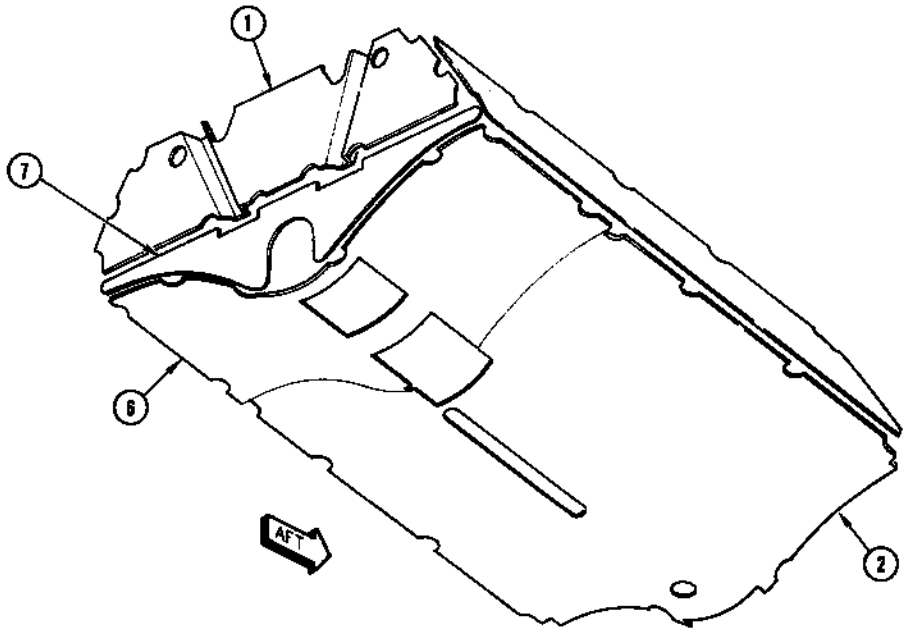
53-320068-1 BACKING BOARD ASSEMBLY

F-4E 68-495 AND UP, RF-4 69-349 THRU 72-156, AND F-4G.

4C-3-1-2-(364) A

Figure 4-78A. Backing Boards, Number 2 Fuselage Fuel Cell

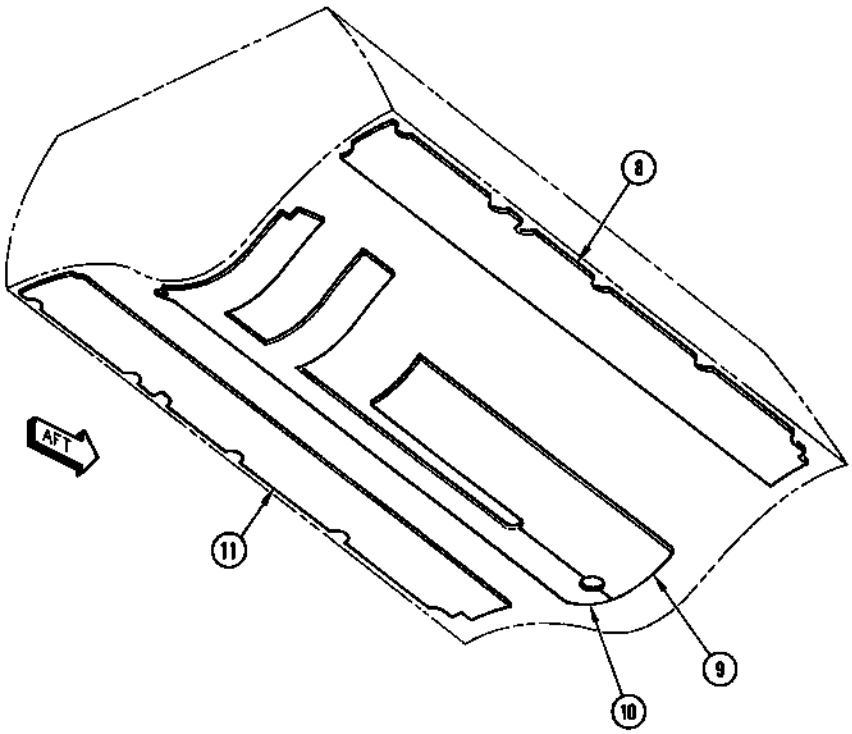




53-320069-1 BACKING BOARD ASSEMBLY
53-320069-301 BACKING BOARD ASSEMBLY

4C-3-1-2-(365-1)

Figure 4-78B. Backing Boards, Number 3 Fuselage Fuel Cell (Sheet 1 of 2)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL
1	53-320069-9	BACKING BOARD	0.07	[8]
2	53-320069-33	BACKING BOARD	0.07	
	53-320069-37	BACKING BOARD	0.07	
	53-320069-39	BACKING BOARD	0.07	
3	53-320069-5	BACKING BOARD	0.07	
4	53-320069-11, -12	BACKING BOARD	0.07	
5	53-320069-13	BACKING BOARD	0.07	
6	53-320069-31	BACKING BOARD	0.07	
	53-320069-35	BACKING BOARD	0.07	
7	53-320069-7	BACKING BOARD	0.07	
8	7531293-25	BACKING BOARD	0.032	[9]
9	7531293-33	BACKING BOARD	0.032	
10	7531293-31	BACKING BOARD	0.032	
11	7531293-27	BACKING BOARD	0.032	

Notes

1. FOR INSTALLATION PROCEDURE REFERENCE TO 1F-4( )-2-10, FOR REPAIR REFERENCE TO 1F-4C-3-1-5.
- F-4E 68-495 THRU 68-538, F-4E/G 69-236 THRU 69-261, AND RF-4 69-349 THRU 69-359.
- F-4E/G 69-262 THRU 69-7548 AND RF-4 69-360 THRU 69-379.
- F-4E/G 69-7549 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4 69-380 THRU 72-156.
- F-4E/G 69-262 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4 69-360 THRU 72-156.
- F-4C, F-4D, F-4E 66-287 THRU 68-494 AND RF-4 68-7740 THRU 68-611 AFTER TO 1F-4-1071.
- F-4E 68-495 AND UP, F-4G, AND RF-4 69-349 THRU 72-156.

[8] F1-41 FIRESTONE COATED FABRICS CO. AKRON, OHIO 05476.
[9] PLASTIC SHEET MIL-P-8045 CLASS 1, TYPE II.

4C-3-1-2-(365-2)A

Figure 4-78B. Backing Boards, Number 3 Fuselage Fuel Cell (Sheet 2 of 2)

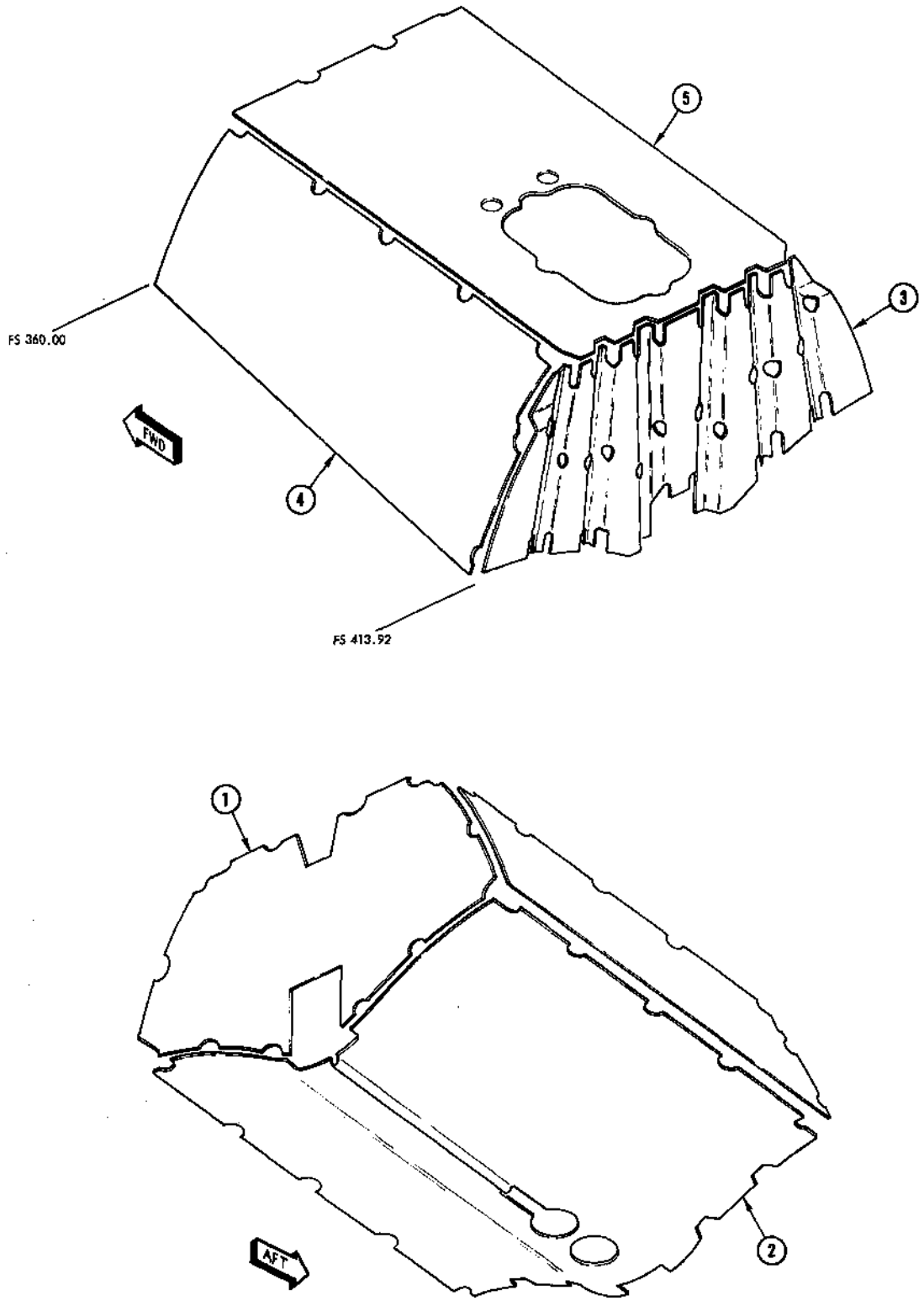
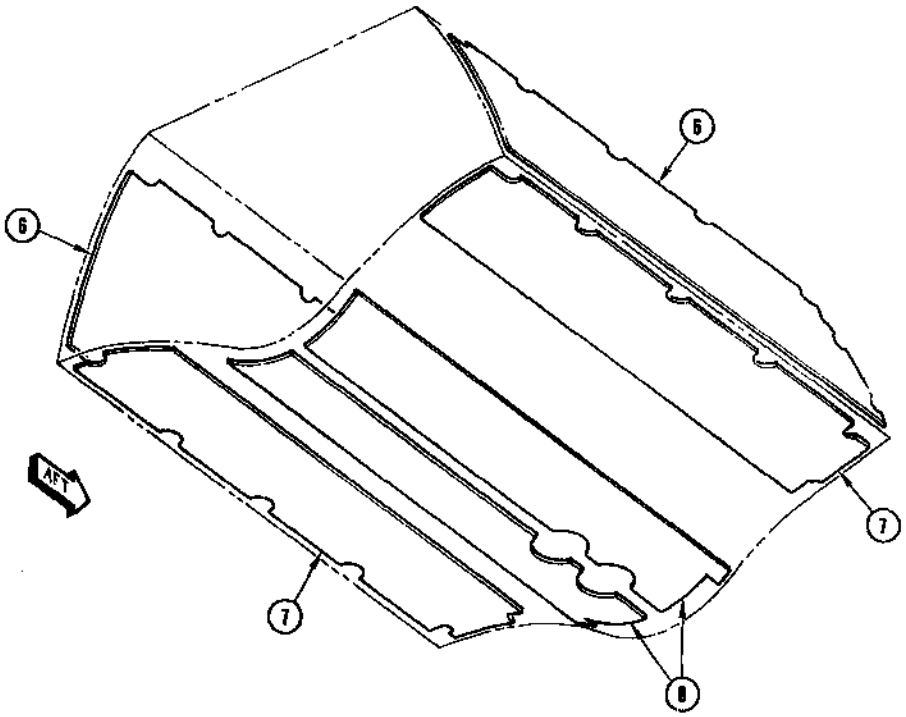


Figure 4-78C. Backing Boards, Number 4 Fuselage Fuel Cell (Sheet 1 of 2)



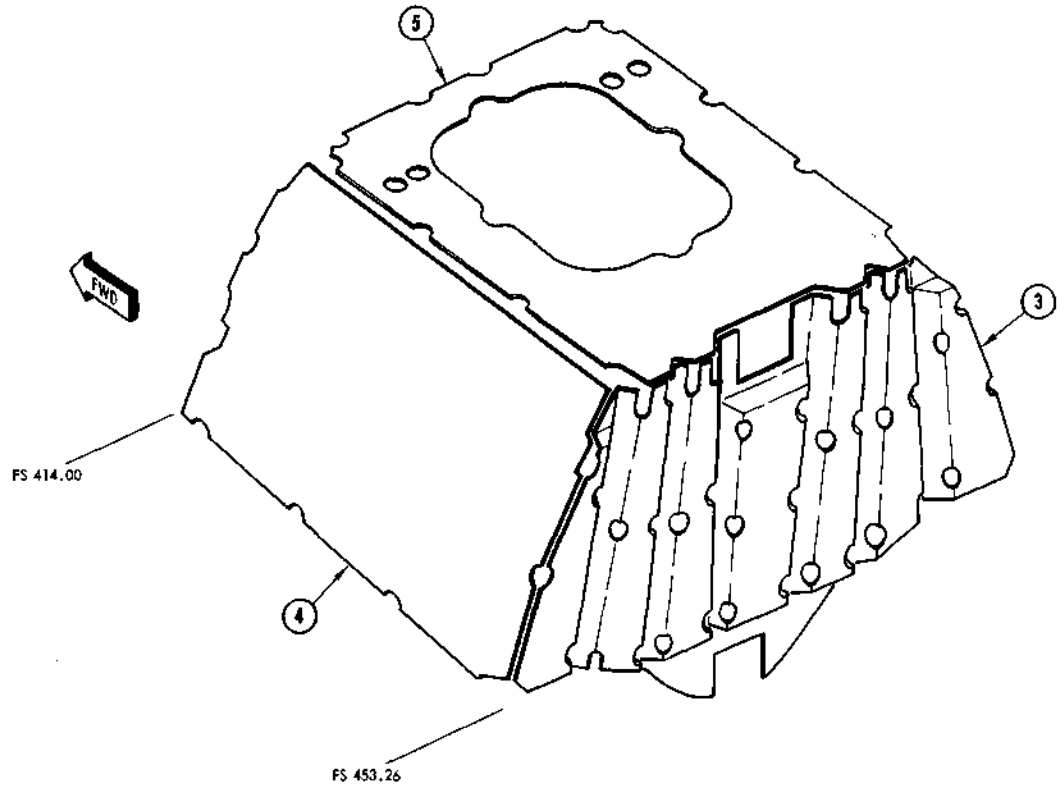
REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL
1		53-320070-5	BACKING BOARD	0.07	
2		53-320070-19	BACKING BOARD	0.07	
3	■	53-320070-9	BACKING BOARD	0.07	4
4		53-320070-13, -14	BACKING BOARD	0.07	
5		53-320070-17	BACKING BOARD	0.07	
6		7531287-21	BACKING BOARD	0.032	
7	■	7531290-17	BACKING BOARD	0.032	5
8		7531290-21	BACKING BOARD	0.032	

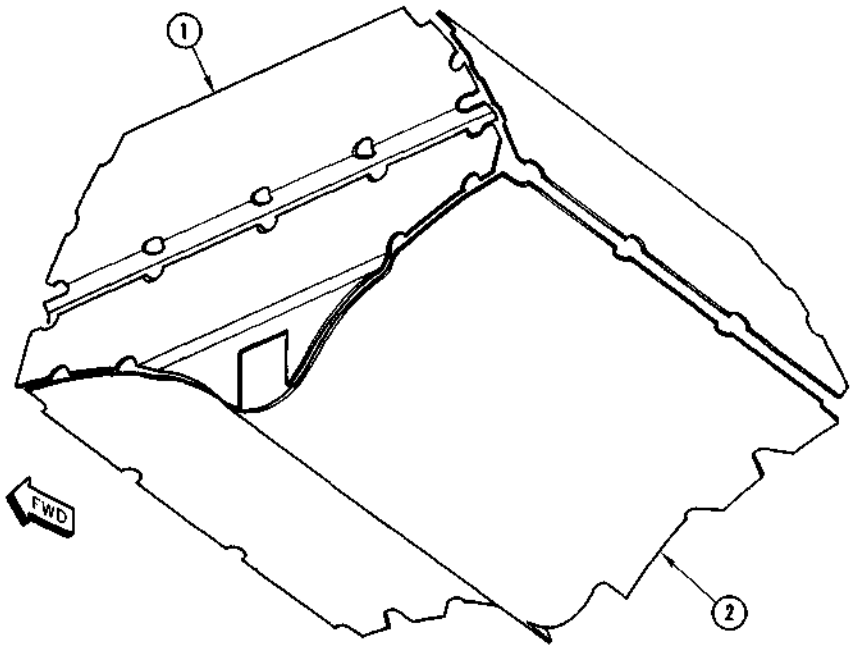
Notes

1. FOR INSTALLATION PROCEDURE REFERENCE TO 1F-4( )-2-10, FOR REPAIR REFERENCE TO 1F-4C-3-1-5.
■ F-4E 68-495 AND UP, RF-4 69-349 THRU 72-156, AND F-4G.
■ F-4C, F-4D, F-4E 66-287 THRU 68-494 AND RF-4 63-7740 THRU 68-611 AFTER TO 1F-4-1071.
4 F1-41 FIRESTONE COATED FABRICS CO. AKRON OHIO 05476.
5 PLASTIC SHEET MIL-P-8045 CLASS 1, TYPE II.

4C-3-1-2-(366-2)A

Figure 4-78C. Backing Boards, Number 4 Fuselage Fuel Cell (Sheet 2 of 2)

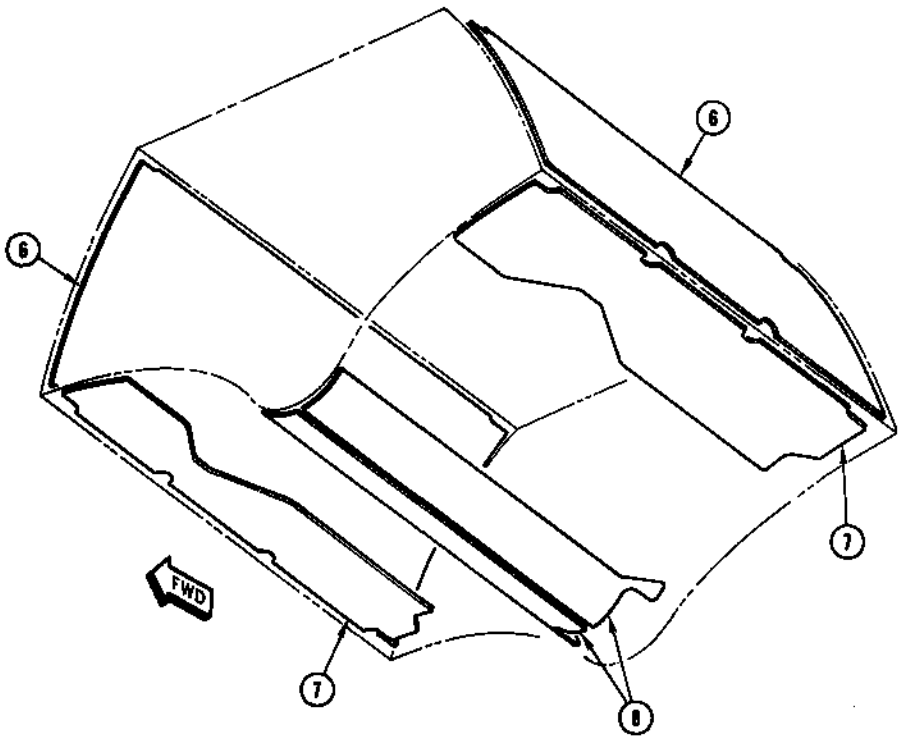




53-320071-1 BACKING BOARD ASSEMBLY

4C-3-1-2-(367-1)

Figure 4-78D. Backing Boards, Number 5 Fuselage Fuel Cell (Sheet 1 of 2)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL
1	53-320071-13	BACKING BOARD	0.07	
2	53-320071-19	BACKING BOARD	0.07	
3 ■	53-320071-15	BACKING BOARD	0.07	4
4	53-320071-17, -18	BACKING BOARD	0.07	
5	53-320071-21	BACKING BOARD	0.07	
6	7531286-23	BACKING BOARD	0.032	
7 ■	7531291-31	BACKING BOARD	0.032	5
8	7531291-27	BACKING BOARD	0.032	

Notes

1. FOR INSTALLATION PROCEDURE REFERENCE TO 1F-4( )-2-10, FOR REPAIR REFERENCE TO 1F-4C-3-1-5.

■ F-4E 68-495 AND UP, RF-4 69-349 THRU 72-156, AND F-4G.

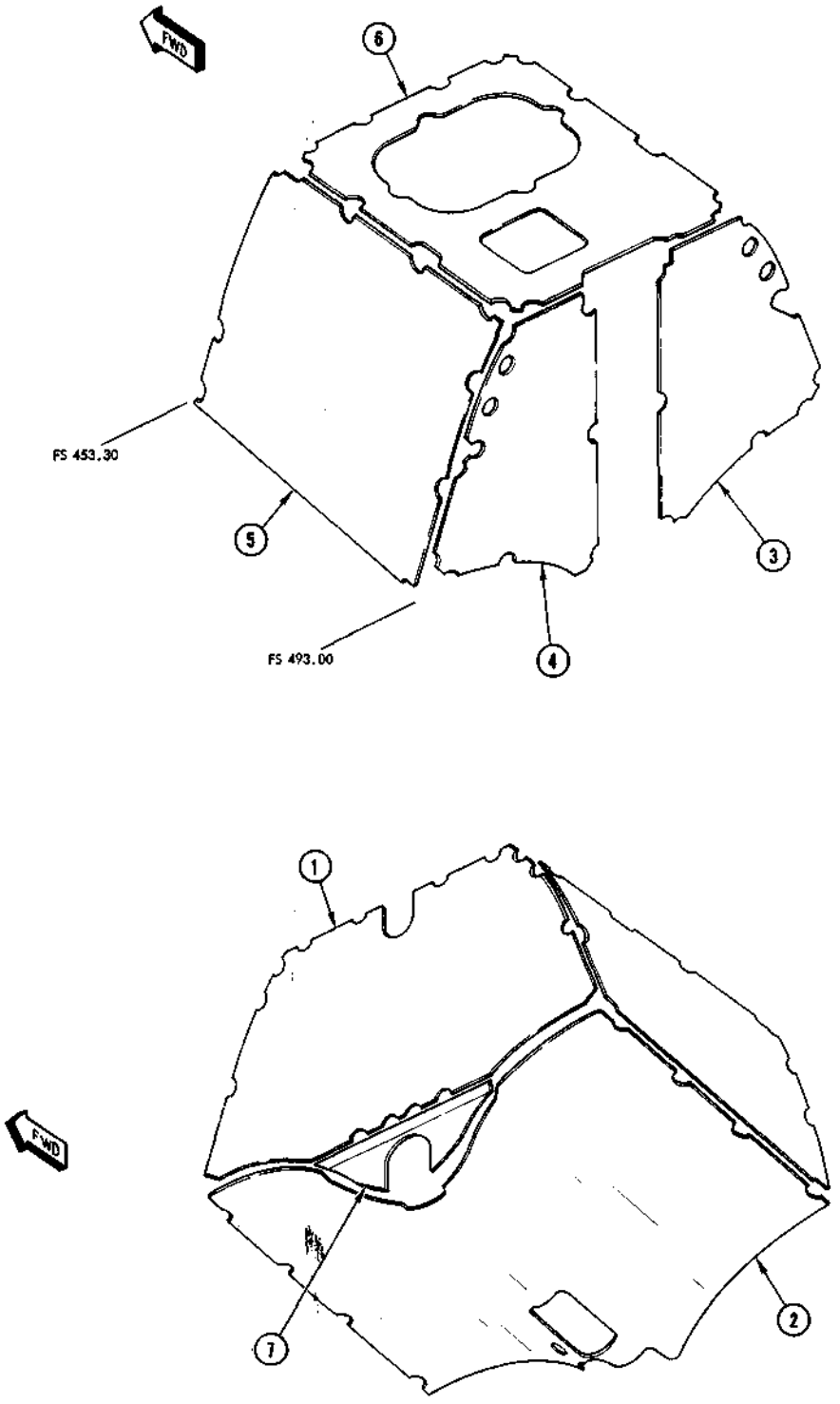
■ F-4C, F-4D, F-4E 66-287 THRU 68-494 AND RF-4 63-7740 THRU 68-611 AFTER TO 1F-4-1071.

4 F1-41 FIRESTONE COATED FABRICS CO. AKRON, OHIO 05476.

5 PLASTIC SHEET MIL-P-8045 CLASS 1, TYPE II.

4C-3-1-2-(367-2)A

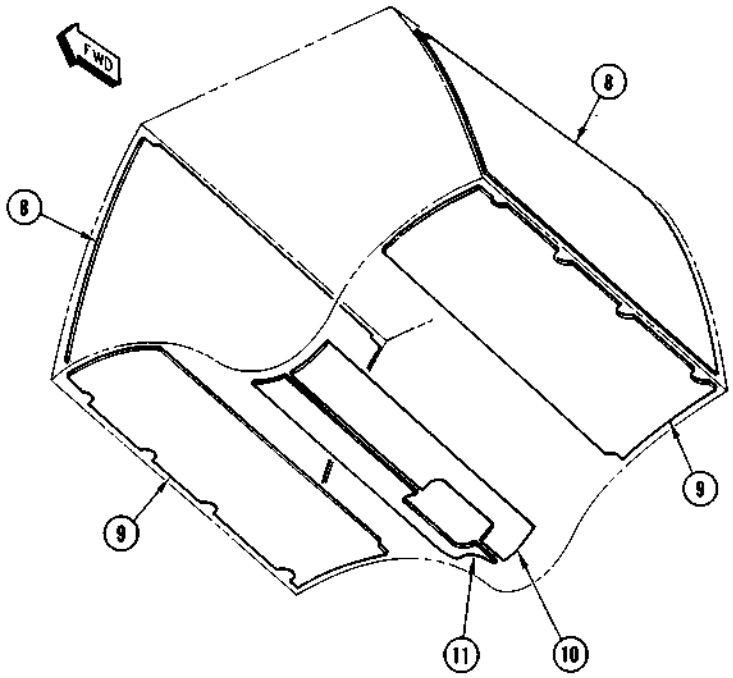
Figure 4-78D. Backing Boards, Number 5 Fuselage Fuel Cell (Sheet 2 of 2)



53-320072-1 BACKING BOARD ASSEMBLY

4C-3-1-2-(368-1)

Figure 4-78E. Backing Boards, Number 6 Fuselage Fuel Cell (Sheet 1 of 2)



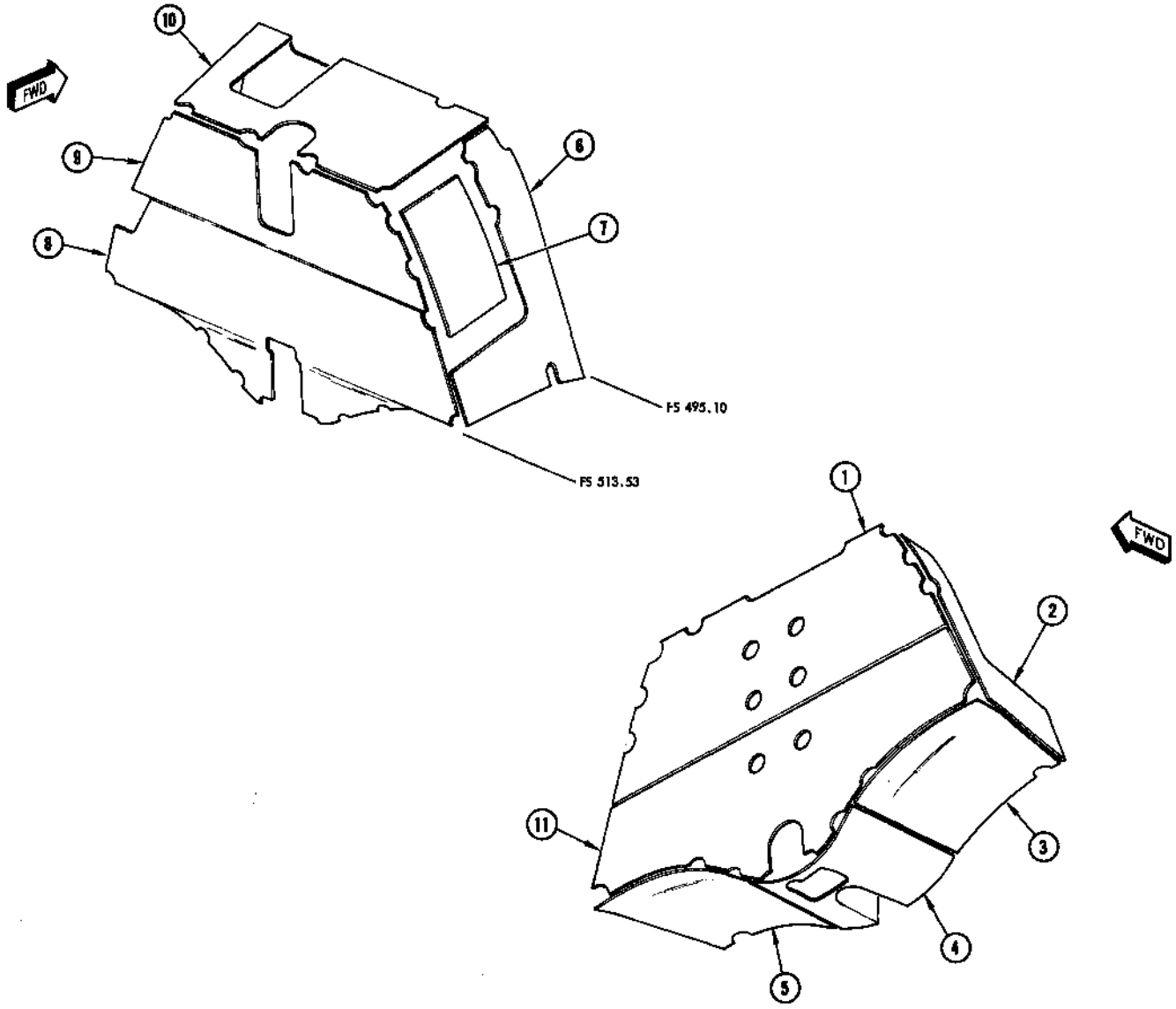
REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL
1		53-320072-15	BACKING BOARD	0.07	
2		53-320072-19	BACKING BOARD	0.07	
3		53-320072-22	BACKING BOARD	0.07	
4	2	53-320072-21	BACKING BOARD	0.07	4
5		53-320072-23, -24	BACKING BOARD	0.07	
6		53-320072-25	BACKING BOARD	0.07	
7		53-320072-17	BACKING BOARD	0.07	
8		7531289-17	BACKING BOARD	0.032	
9		7531292-15	BACKING BOARD	0.032	
10	3	7531292-17	BACKING BOARD	0.032	5
11		7531292-18	BACKING BOARD	0.032	

Notes

1. FOR INSTALLATION PROCEDURE REFERENCE TO 1F-4( )-2-10, FOR REPAIR REFERENCE TO 1F-4C-3-1-5.
2. F-4E 68-495 AND UP, RF-4 69-349 THRU 72-156, AND F-4G.
3. F-4C, F-4D, F-4E 66-287 THRU 68-494 AND RF-4 63-7740 THRU 68-611 AFTER TO 1F-4-1071.
4. F1-41 FIRESTONE COATED FABRICS CO. AKRON, OHIO 05476.
5. PLASTIC SHEET MIL-P-8045 CLASS 1, TYPE II.

4C-3-1-2-(368-2)A

Figure 4-78E. Backing Boards, Number 6 Fuselage Fuel Cell (Sheet 2 of 2)



REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL
1	53-320073-37	BACKING BOARD	0.07	
2	53-320073-47	BACKING BOARD	0.07	
3	53-320073-31	BACKING BOARD	0.07	
4	53-320073-19	BACKING BOARD	0.07	
5	53-320073-32	BACKING BOARD	0.07	
6	53-320073-41	BACKING BOARD	0.07	<2>
7	53-320073-21	BACKING BOARD	0.07	
8	53-320073-35	BACKING BOARD	0.07	
9	53-320073-15	BACKING BOARD	0.07	
10	53-320073-17	BACKING BOARD	0.07	
11	53-320073-13	BACKING BOARD	0.07	

Notes

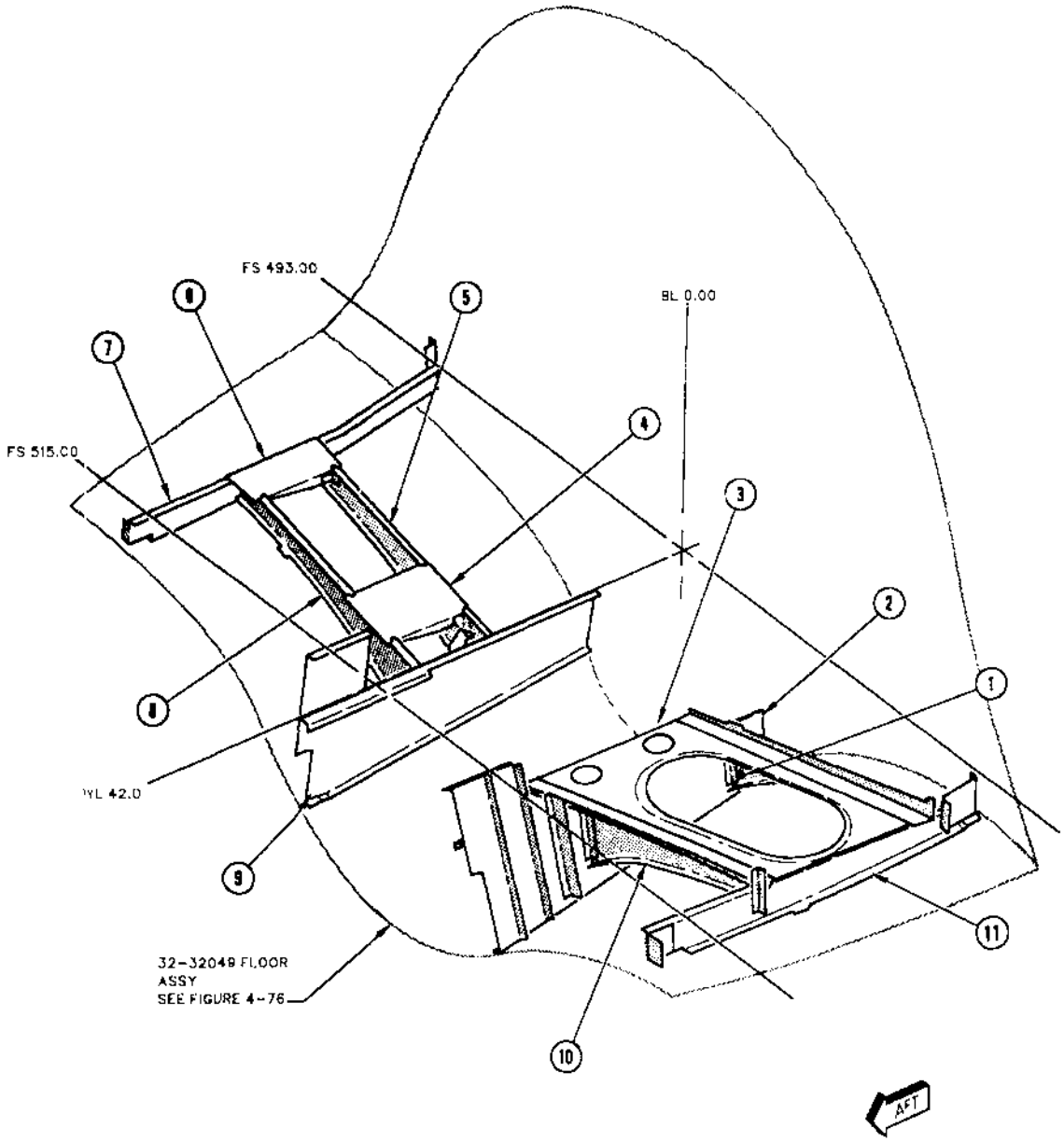
1. FOR INSTALLATION PROCEDURE REFERENCE TO 1F-4E-2-10, FOR REPAIR REFERENCE TO 1F-4C-3-1-5.
<2> F1-41 FIRESTONE COATED FABRICS CO. AKRON, OHIO 05476.

53-320073-1 BACKING BOARD ASSEMBLY

■ F-4E 68-496 AND UP AND F-4G

4C-3-1-2-(369) A

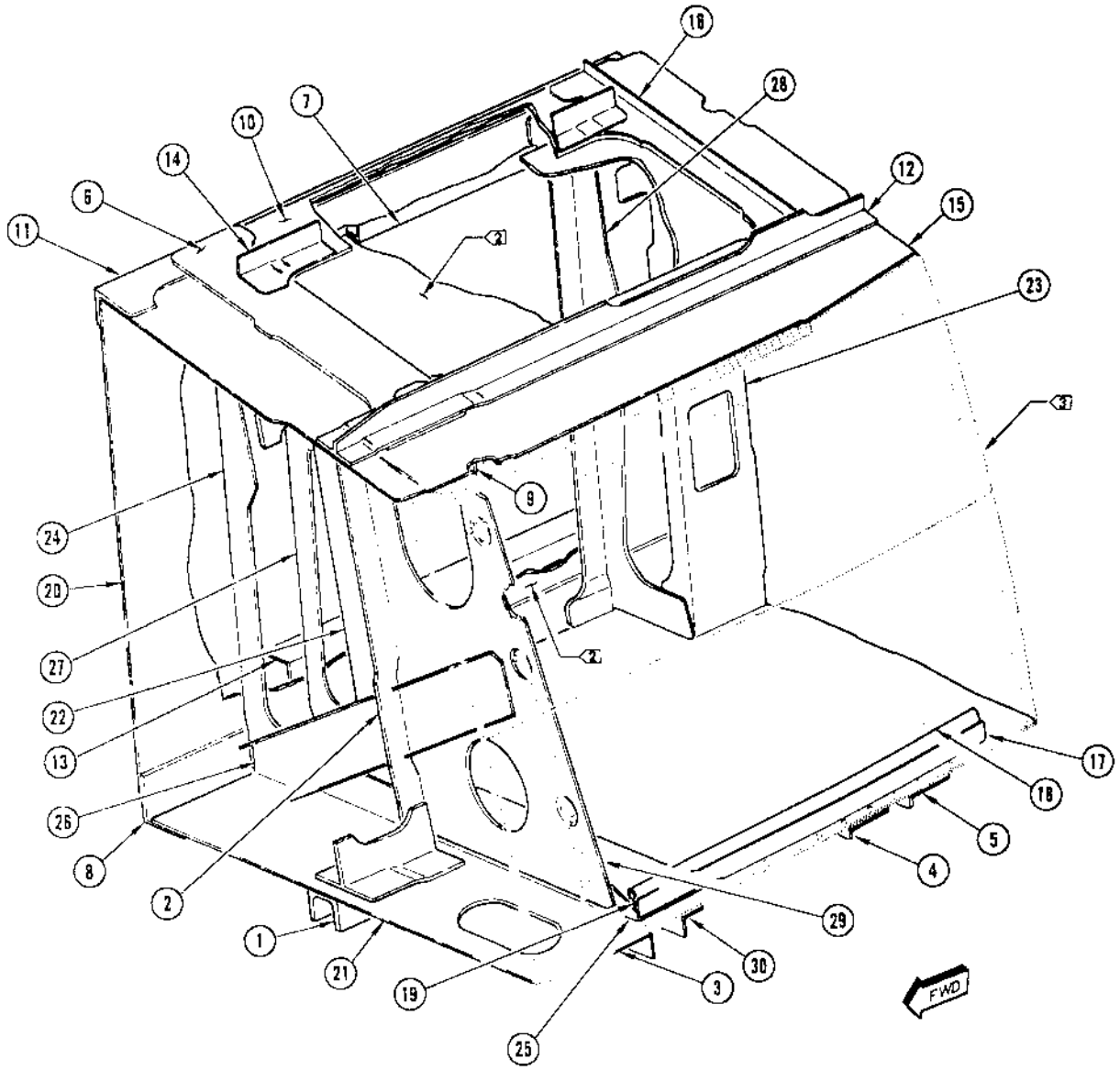
Figure 4-78F. Backing Boards, Number 7 Fuselage Fuel Cell



REF NO	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-32524-109	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	53-32524-93	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	53-32524-105	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	53-32524-53	CHANNEL	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
5	53-32524-39	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	53-32524-45	PLATE	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
7	53-32524-5	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	53-32524-43	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	53-32524-95	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	53-32524-107	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	53-32524-61	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

G9301930

Figure 4-79. Electronic Equipment Support Assembly, FS 493.00 thru FS 515.00 - RF-4C



G9301931

Figure 4-80. Chaff/Flare Ejector Well Assembly, FS 493.00 thru FS 515.00 - RF-4C (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION NO.	MATERIAL	SPECIFICATION
1	53-32541-3,-4	BEAM	1M7637	7178-T651 AL ALY	QQ-A-200/13 (T651)
2	53-32541-23,-24	ANGLE	1M2251	7178-T651 AL ALY	QQ-A-200/13 (T651)
3	53-32541-89,-90	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	53-32541-91,-92	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-32541-93,-94	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	53-32541-133,-134	PLATE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	53-32541-135,-136	ANGLE	1M332	7178-T651 AL ALY	QQ-A-200/13 (T651)
8	53-32541-139,-140	ANGLE	1M2299	7178-T651 AL ALY	QQ-A-200/13 (T651)
9	53-32541-143,-144	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	53-32451-145,-146	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	53-32541-149,-150	ANGLE	1M2207	7178-T651 AL ALY	QQ-A-200/13 (T651)
12	53-32541-151,-152	TEE	1M3609	7178-T651 AL ALY	QQ-A-200/13 (T651)
13	53-32541-159,-160	ANGLE	1M332	7178-T651 AL ALY	QQ-A-200/13 (T651)
14	53-32541-161,-162	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	53-32541-165,-166	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	53-32541-195,-196	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	53-32541-215,-216	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	53-32541-217,-218	SEAL	(1)		
19	53-32541-219,-220	ANGLE	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20 (D)	53-32541-155,-156	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-205,-206	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-229,-230	WEB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21 (D)	53-32541-221,-222	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
(D)	53-32541-235,-236	WEB	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
22 (D)	53-32541-241,-242	ZEE	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23 (D)	53-32541-9,-10	CHANNEL	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-243,-244	CHANNEL	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24 (D)	53-32541-29,-30	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-245,-246	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25 (D)	53-32541-73,-74	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-279,-280	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26 (D)	53-32541-27,-28	CHANNEL	1M7638	7178-T651 AL ALY	QQ-A-200/13 (T651)
(D)	53-32541-249,-250	CHANNEL	1M7638	7178-T651 AL ALY	QQ-A-200/13 (T651)
27 (D)	53-32541-11,-12	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-251,-252	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28 (D)	53-32541-15,-16	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-253,-254	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29 (D)	53-32541-153,-154	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-281,-282	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30 (D)	53-32541-87,-88	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(D)	53-32541-265,-266	INTERCOSTAL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)

Notes

(1) 1M31 CLOTH WRAP NEOPRENE RUBBER MIL-R-6855, CLASS II, GRADE 40.
(D) 53-32541 DOOR. REFER TO T.O. 1F-4C-3-1-3.
(D) 53-32537 DOORS SHOWN. REFER TO T.O. 1F-4C-3-1-3.
(D) RF-4C 65-7742 THRU 66-1017.
(D) RF-4C 66-1018 THRU 69-384.
(D) RF-4C 71-248 THRU 72-156.
(D) RF-4C 65-7742 THRU 69-384.
(D) RF-4C 66-1018 THRU 72-156.

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Figure 4-80. Chaff/Flare Ejector Well Assembly, FS 493.00 thru FS 515.00 - RF-4C (Sheet 2 of 2)

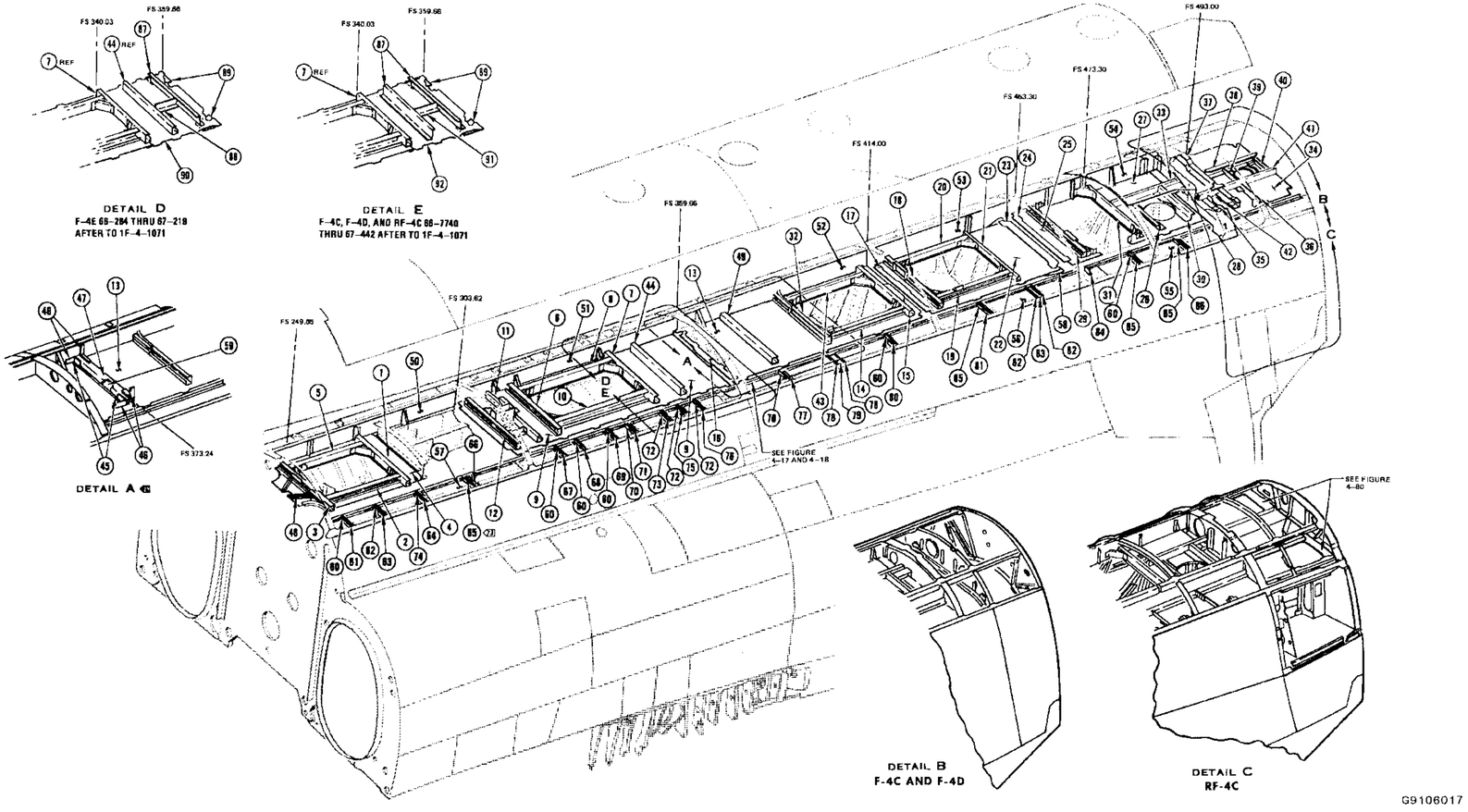


Figure 4-81. Numbers 2 thru 7 Fuel Cell Web Assemblies (Sheet 1 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-32012-3	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-53	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-101	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-113	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-67	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-105	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
2	53-32012-5	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-63	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-107	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
3	53-32012-7	CHANNEL	1M7267	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-47	CHANNEL	1M7267	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-65	CHANNEL	1M7587	7178-T651 AL ALY	QQ-A-200/13 (T651)
4	53-32012-31	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	53-32012-93	WEB	0.040	7178-T651 AL ALY	QQ-A-250/14 (T651)
5	53-32012-27	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-41	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	53-32012-81	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
6	32-32139-15	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32139-85	CHANNEL	1M7266	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	32-32139-17	CHANNEL	1M7267	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32139-87	CHANNEL	1M7267	7178-T651 AL ALY	QQ-A-200/13 (T651)
8	32-32139-19	CHANNEL	1M6275	7178-T651 AL ALY	QQ-A-200/13 (T651)
9	32-32139-35	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32139-61	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32139-97	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32139-79	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32139-95	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32139-149	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32139-151	WEB	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32139-163	WEB	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
10	32-32139-37	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32139-63	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32139-91	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
11	32-32139-41	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32139-83	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
12	32-32139-43	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32139-81	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
13	32-32140-3	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32140-47	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	7329025-01	WEB	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-32140-11	CHANNEL	1M7265	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	32-32140-13	CHANNEL	1M7268	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	32-32140-21	DOUBLER	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	32-32141-5	DOUBLER	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-32141-13	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32141-41	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
19	32-32141-15	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
20	32-32141-16	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
21	32-32141-29	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32141-39	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32141-49	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
22	32-32141-31	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32141-47	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32141-53	WEB	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
23	32-32141-33	DOUBLER	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32141-55	PLATE	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
24	32-32142-9	DOUBLER	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32142-85	DOUBLER	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-32142-27	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32142-87	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32141-91	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32142-107	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32142-109	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32142-111	WEB	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
26	32-32142-31	STIFFENER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-32142-35	WEB	0.016	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-32142-37	DOUBLER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32142-95	DOUBLER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-32142-69	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32142-89	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32142-105	CHANNEL	1M7265	7178-T651 AL ALY	QQ-A-200/13 (T651)
30	32-32142-71	STIFFENER	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-32142-73	CHANNEL	1M7267	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32142-103	CHANNEL	1M7267	7178-T651 AL ALY	QQ-A-200/13 (T651)
32	32-32140-9	CHANNEL	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32140-39	CHANNEL	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	32-32142-33	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32142-101	CHANNEL	0.050	7178-T651 ALCLAD	QQ-A-250/15 (T651)
34	32-321594-3	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
35	32-321594-13	ANGLE	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
36	32-321594-15	ANGLE	0.050	7178-T6 AL ALY	QQ-A-250/14 (T6)
37	32-321594-5	BEAM	1M7719	7178-T651 AL ALY	QQ-A-200/13 (T651)
38	32-321594-11	CHANNEL	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
39	32-321594-17	ANGLE	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
40	32-321594-19	ANGLE	0.040	7178-T6 AL ALY	QQ-A-250/14 (T6)
41	32-321594-33	CHANNEL	1M57523	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-321594-79	CHANNEL	1M57523	7178-T651 AL ALY	QQ-A-200/13 (T651)
42	32-321594-31	CHANNEL	1M57523	7178-T651 AL ALY	QQ-A-200/13 (T651)
43	32-32140-45	CHANNEL	1M7267	7178-T6 AL ALY	QQ-A-200/13 (T6)
44	32-32139-73	CHANNEL	1M7587	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32139-105	CHANNEL	1M7587	7178-T651 AL ALY	QQ-A-200/13 (T651)

4C-3-1-2-(116-2)G

Figure 4-81. Numbers 2 thru 7 Fuel Cell Web Assemblies (Sheet 2 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
45 (25)	7127039-03	FILLER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
46 (24)	7127039-01	BRACKET	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
47 (26)	7127039-05	CHANNEL	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
48 (33)	53-32012-95, -96	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(34)	53-32012-109, -110	ZEE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
49 (65)	32-32140-65	BEAM	1M7587	7178-T651 AL ALY	QQ-A-200/13 (T651)
(35)	32-32140-67	BEAM	1M7587	7178-T651 AL ALY	QQ-A-200/13 (T651)
50 (40)	32-32121-1236, -1235	WEB	0.020	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(41)	32-32121-1236, -1357	WEB	0.020	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(42)	32-32121-1815, -1357	WEB	0.020	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(72)	53-320021-88, -87	WEB	0.020	7178-T6 AL ALY	QQ-A-250/14 (T6)
(73)	53-320021-120, -119	WEB	0.020	7178-T6 AL ALY	QQ-A-250/14 (T6)
51 (44)	32-32121-1234, -1233	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(45)	32-32121-1387, -1233	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(46)	32-32121-1320, -1319	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32121-1391, -1319	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(48)	32-32121-1817, -1319	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(74)	53-320021-20, -19	WEB	0.025	7178-T6 AL ALY	QQ-A-250/14 (T6)
(75)	53-320021-152, -151	WEB	0.025	7178-T6 AL ALY	QQ-A-250/14 (T6)
(83)	53-320021-128, -127	WEB	0.025	7178-T6 AL ALY	QQ-A-250/14 (T6)
(81)	53-320021-200, -199	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
52 (49)	32-32121-1273, -1263	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(50)	32-32121-1273, -1399	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(51)	32-32121-1441, -1399	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(52)	32-32121-2018, -2017	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(53)	32-32121-2039, -2041	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(76)	53-320021-26, -25	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
(85)	53-320021-184, -183	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
(84)	53-320021-198, -197	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53 (54)	32-32121-1381, -1379	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(55)	32-32121-1381, 1451	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(56)	32-32121-1465, -1463	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(82)	53-320021-28, -27	WEB	0.025	7178-T6 AL ALY	QQ-A-250/14 (T6)
54 (57)	32-32121-1469, -1467	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(86)	53-320021-30, -29	WEB	0.025	7178-T6 AL ALY	QQ-A-250/14 (T6)
55 (58)	53-320021-21, -22	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
56 (60)	32-32121-1055, -1056	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(61)	32-32121-1317, -1318	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(62)	53-320021-23, -24	WEB	0.025	7178-T6 AL ALY	QQ-A-250/14 (T6)
(63)	53-320021-195, -196	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
57 (64)	32-32121-1125, -1126	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(65)	32-32121-1325, -1326	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(66)	32-32121-2037, -2038	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(67)	32-32121-2091, -2092	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(68)	53-320021-89, -90	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
(69)	53-320021-125, -90	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
(87)	53-320021-193, -194	WEB	0.032	7178-T6 AL ALY	QQ-A-240/14 (T6)
(70)	53-320021-201, -202	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(88)	53-320021-257, -258	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
(89)	53-320021-489, -490	WEB	0.032	7178-T6 AL ALY	QQ-A-250/14 (T6)
58 (28)	32-32141-57	DOUBLER	0.040	2024-T3 AL ALY	QQ-A-250/4 (T3)
59 (27)	7329067-01	PLATE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60	32-61204-3 ◁70	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
61	32-32121-31-32	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
62 (31)	32-61204-3 ◁70	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
(32)	32-61204-7 ◁70	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
63 (91)	32-32121-29-30	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(92)	53-320021-283, -284	STIFFENER	1M5497	7178-T6511 ALY	QQ-A-200/13 (T6511)
64 (90)	32-32121-27, -28	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(93)	53-320021-281, -282	STIFFENER	1M5497	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
65	32-61009-3 ◁74	FAIRLEAD		PHENOLIC	MIL-M-14 TYPE CFI40
66 (1)	32-32121-23	STIFFENER	1M5497	7178-T6 AL ALY	QQ-A-200/13 (T651)
(2)	53-320021-279	STIFFENER	1M5497	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
67 (11)	32-32121-413, -414	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(12)	53-320021-413, -414	STIFFENER	1M5497	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
68 (9)	32-32121-413, -414	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(10)	53-320021-277, -278	STIFFENER	1M5497	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
69	32-32121-415, -416	STIFFENER	1M5497	7178-T6511 AL ALY	QQ-A-200/13 (T6511)
70	32-61009-5 ◁74	FAIRLEAD		PHENOLIC	MIL-M-14 TYPE CFI40
71 (13)	32-32121-1277, -1278	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(14)	32-32121-2075, -2076	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
72	32-61204-7 ◁70	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
73 (15)	32-32121-1265, -1266	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(16)	32-32121-2073, -2074	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
74 (17)	32-61204-3	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
(18)	32-61204-9	FAIRLEAD	5/16	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
75 (19)	32-32121-1279, -1280	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(20)	32-32121-2071, -2072	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
76 (21)	32-32121-1293, -1294	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(22)	32-32121-2069, -2070	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
77 (23)	32-32121-1269	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(24)	32-32121-2065, -2066	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
78 (25)	32-61204-5 ◁70	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
(26)	32-61204-7 ◁70	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
79 (29)	32-32121-1315, -1316	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
(30)	32-32121-2051	STIFFENER	1M7621	7178-T651 AL ALY	QQ-A-200/13 (T651)
80	32-32121-15, -16	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
81	32-32121-19	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
82	32-61204-5 ◁70	FAIRLEAD	7/32	PHENOLIC RESIN FABRIC BASE	MIL-P-15035 TYPE FBG
83	32-32121-1327, -1328	STIFFENER	1M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)

4C-3-1-2-(116-3)G

Figure 4-81. Numbers 2 thru 7 Fuel Cell Web Assemblies (Sheet 3 of 3)

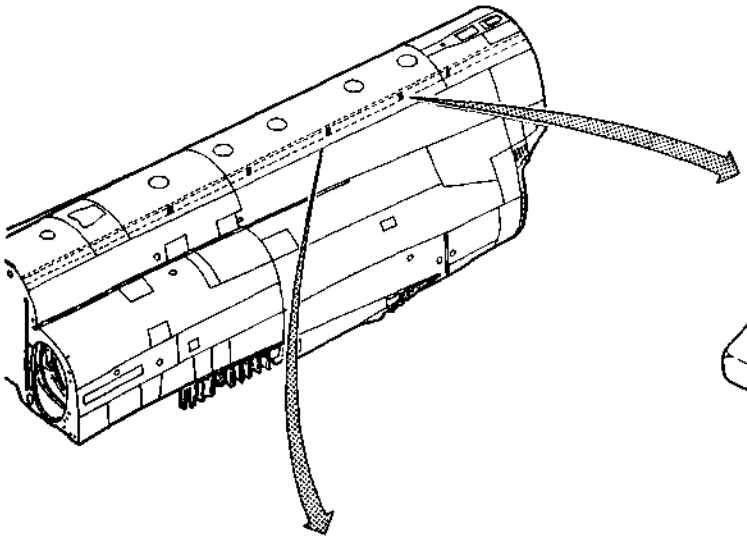
REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
84	32-61027-3	FAIRLEAD		PHENOLIC	MIL-M-14E TYPE CFI40
85	32-32121-25, -26	STIFFENER	7M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
86	32-32121-21	STIFFENER	7M5497	7178-T651 AL ALY	QQ-A-200/13 (T651)
87	7430356-03	ZEE	0.062	7075-T6 AL ALY	QQ-A-250/12 (T6)
88	7430356-15	TEE	79	7075-T73 AL ALY	QQ-A-200/11 (T73)
89	7430356-11	GUSSET	0.063	7075-T6 AL ALY	QQ-A-250/12 (T6)
90	7430356-21	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
91	7430356-01	TEE	79	7075-T73 AL ALY	QQ-A-200/11 (T73)
92	7430356-19	WEB	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)

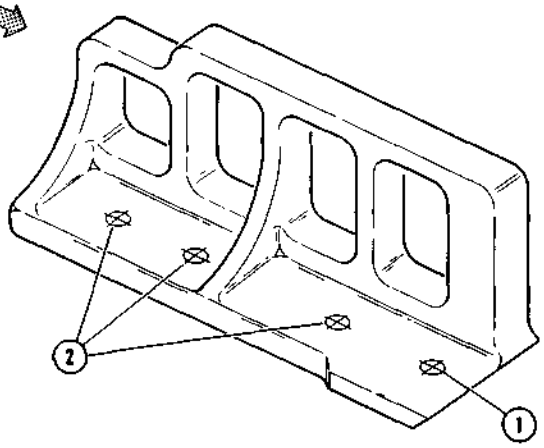
Notes

1. F-4C AND F-4D 64-929 THRU 65-665.
2. RF-4C.
3. F-4C, F-4D, AND RF-4C 63-7742 THRU 63-7763.
4. RF-4C 63-7764 THRU 72-156.
5. F-4C 63-7407 THRU 63-7662, RF-4C 63-7742 THRU 64-1017 BEFORE TO 1F-4-1071.
6. F-4C 63-7763 THRU 64-928, F-4D, AND RF-4C 64-1018 THRU 67-442 BEFORE TO 1F-4-1071.
7. F-4C 63-7407 THRU 63-7597.
8. F-4C 63-7598 THRU 64-928, F-4D, AND RF-4C.
9. RF-4C 63-7742 THRU 64-1027.
10. RF-4C 64-1028 THRU 65-932.
11. F-4C, F-4D 64-929 THRU 65-611, AND RF-4C 63-7742 THRU 65-901.
12. F-4D 65-612 THRU 66-8825 AND RF-4C 65-902 THRU 72-156.
13. RF-4C 67-443 THRU 69-375.
14. F-4E 66-284 THRU 66-367.
15. F-4C, F-4D, AND RF-4C 63-7743 THRU 65-901.
16. RF-4C 65-902 THRU 67-442.
17. F-4E AND F-4G.
18. F-4E 66-368 AND UP, AND F-4G.
19. F-4C, F-4D, AND RF-4C.
20. F-4C AND F-4D.
21. RF-4C 67-443 THRU 71-252 BEFORE TO 1F-4-1071.
22. F-4E 66-284 THRU 67-219.
23. F-4E 67-220 THRU 71-236 AND F-4G.
24. F-4C, F-4D, RF-4C, AND F-4E 66-284 THRU 66-367.
25. RF-4C 69-376 THRU 72-156.
26. F-4C, F-4D 64-929 THRU 65-665, AND RF-4C 63-7742 THRU 65-932.
27. F-4C, F-4D, F-4E 66-284 THRU 69-7589, AND RF-4C 63-7742 THRU 69-384 AFTER TO 1F-4-1035 AND F-4G.
28. F-4E 71-224 THRU 71-236 AND RF-4C 71-248 THRU 71-252.
29. F-4E 66-284 THRU 69-7589, AND RF-4C 63-7742 THRU 69-384, F-4C, F-4D, AND F-4G.
30. F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
31. F-4E 71-237 AND UP.
32. RF-4C 71-253 THRU 72-156.
33. F-4E 66-284 THRU 66-370.
34. F-4E 66-371 AND UP AND F-4G.
35. F-4E 71-224 AND UP.
36. F-4D 65-666 THRU 66-8825, RF-4C 65-933 THRU 72-156, F-4E 66-284 THRU 73-01184, AND F-4G.
37. F-4D 65-666 THRU 66-8825.
38. RF-4C 65-933 THRU 72-156.
39. F-4E, F-4G, AND RF-4C.
40. F-4C 63-7407 THRU 63-7526, AND RF-4C 63-7742 THRU 63-7749.
41. F-4C 63-7527 THRU 64-928, F-4D 64-929 THRU 66-8698, AND RF-4C 63-7750 THRU 72-156.
42. F-4D 66-8699 THRU 66-8825.
43. F-4E 67-220 AND UP AND F-4G.
44. F-4C 63-7407 THRU 63-7526.
45. RF-4C 63-7742 THRU 63-7749.
46. F-4C 63-7527 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
47. RF-4C 63-7750 THRU 72-156.
48. F-4E 66-368 THRU 67-219.
49. F-4C 63-7527 THRU 64-928 AND F-4D.
50. RF-4C 63-7750 THRU 64-1027.
51. RF-4C 64-1028 THRU 69-384.
52. RF-4C 71-248 THRU 71-252.
53. RF-4C 71-253 THRU 72-156.
54. F-4E 66-284 THRU 69-7589 AND F-4G.
55. F-4E 71-224 THRU 71-236.
56. RF-4C 64-1028 THRU 72-156.
57. F-4C 63-7527 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 72-156.
58. F-4E 66-284 THRU 71-236 AND F-4G.
59. F-4C 63-7527 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 69-384.
60. F-4E 66-368 THRU 69-7589 AND F-4G.
61. F-4E 71-237 THRU 71-1402.
62. F-4E 72-121 THRU 73-01164.
63. RF-4C 71-248 THRU 72-156.
64. F-4E 72-237 THRU 73-01184.
65. F-4E 73-01185 AND UP.
66. F-4E 73-01165 AND UP.
67. F-4C, F-4D 64-929 THRU 65-665 AND RF-4C 63-7742 THRU 65-932 BEFORE TO 1F-4-1035.
68. F-4D 65-666 THRU 66-8825, F-4E 66-284 THRU 69-7589, AND RF-4C 65-933 THRU 69-384 BEFORE TO 1F-4-1035.
69. F-4C, F-4D, F-4E 66-284 THRU 69-7589, AND RF-4C 63-7742 THRU 65-932 BEFORE TO 1F-4-1035.
70. FOR BONDING PROCEDURE, REFERENCE TO 1F-4C-3-1-5.
71. F-4C, F-4D, F-4E 66-284 THRU 71-1402, F-4G, AND RF-4C.
72. F-4E 72-121 AND UP.
73. INSTALL ON AFT SIDE OF STIFFENER ON RIGHT SIDE.
74. FOR REPLACEMENT, SEE FIGURE 4-81A.
75. F-4C 63-7407 THRU 63-7662, F-4E, F-4G, AND RF-4C 63-7742 THRU 64-1017.
76. F-4C 63-7663 THRU 64-928 AND RF-4C 64-1018 THRU 72-156.
77. F-4E 71-237 THRU 71-1402 AND RF-4C 71-253 THRU 72-156.
78. F-4C, F-4D, F-4E 66-284 THRU 71-236, AND 72-121 AND UP, F-4G, AND RF-4C 63-7742 THRU 71-252.
79. EXTRUDED TEE PER MIL HANDBOOK 301 GROUP NUMBER T930 DIE 24826.
80. F-4E 66-284 THRU 67-219 BEFORE TO 1F-4-1071.
81. F-4E AND MODIFIED ON F-4G.
82. F-4E 66-368 AND UP AND MODIFIED ON F-4G.
83. F-4E 67-220 THRU 71-236 AND MODIFIED ON F-4G.

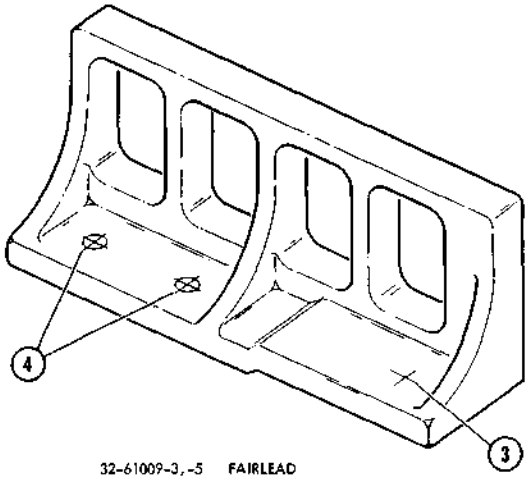
4C-3-1-2-(116-4)G

Figure 4-81. Numbers 2 thru 7 Fuel Cell Web Assemblies (Sheet 3A of 3)





32-61027-3 FAIRLEAD



32-61009-3,-5 FAIRLEAD

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1 ▶2◀	HS26-6-5	HS24-6	0.189 +.006 -.000
▶3◀	MS20470DD6		0.191 +.007 -.000
▶4◀	HS23-6-5	HS24-6	0.189 +.006 -.000
2 ▶2◀	HS26-5-5	HS24-5	0.156 +.006 -.000
▶3◀	MS20470 AD5		0.159 +.007 -.000
▶4◀	HS23-5-5	HS24-5	0.156 +.006 -.000
3 ▶2◀	HS26-5-6	HS24-5	0.156 +.006 -.000
▶3◀	HS23-5-6	HS24-5	0.156 +.006 -.000
▶3◀	MS20470 AD5		0.159 +.007 -.000
4 ▶5◀	HS26-5-5	HS24-5	0.156 +.006 -.000
▶6◀	HS23-5-5	HS24-5	0.156 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

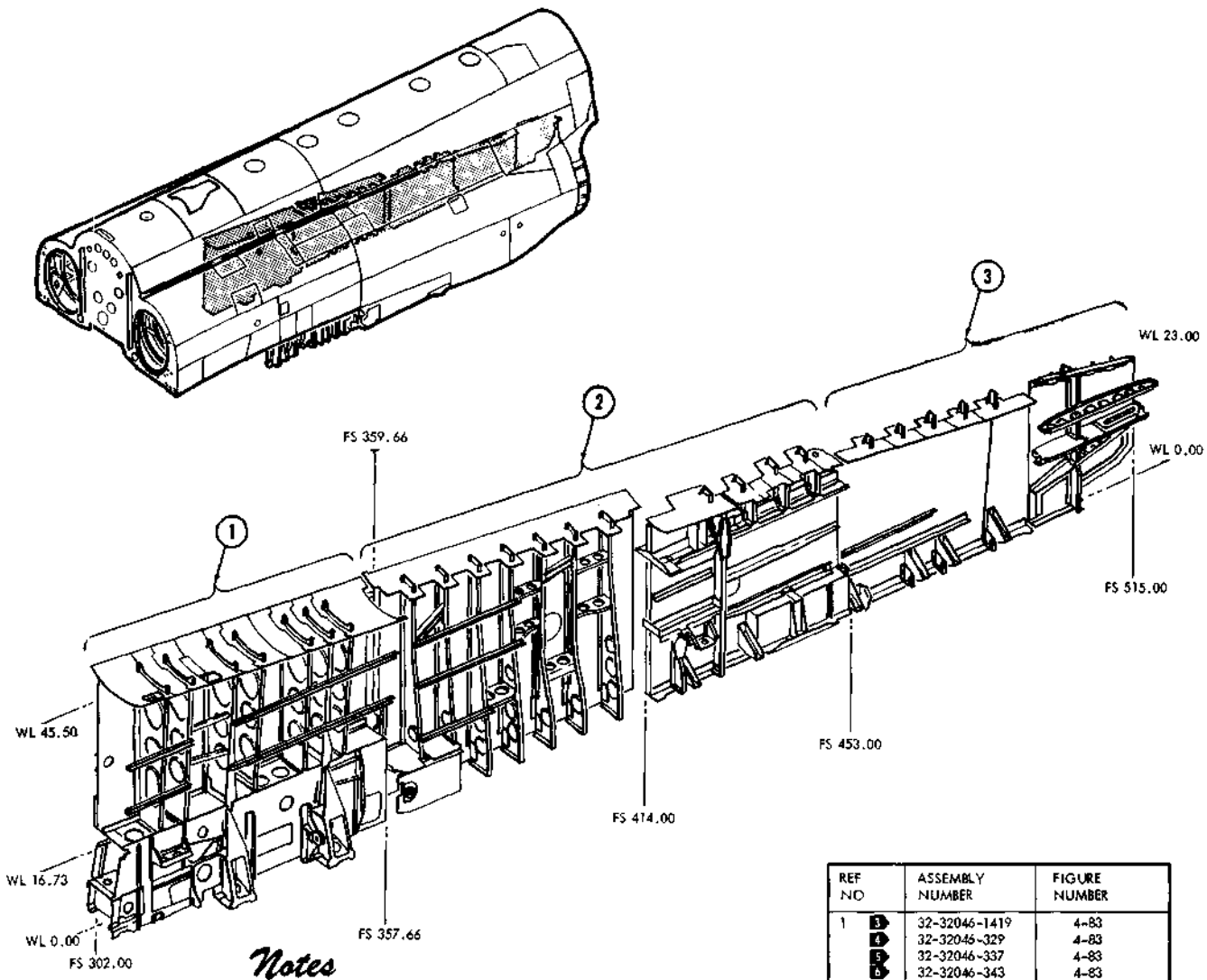
LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES, REFERENCE TO 1F-4C-3-1-1.

Notes

1. FASTENER LENGTH NOT CALLED OUT TO BE DETERMINED ON INSTALLATION.
2. F-4E 72-121 AND UP RIGHT SIDE.
3. F-4C, F-4D, F-4E, F-4G, AND RF-4C LEFT SIDE.
4. F-4E 66-284 THRU 71-1402, F-4C, F-4D, F-4G, AND RF-4C RIGHT SIDE.
5. F-4E 72-121 AND UP.
6. F-4E 66-284 THRU 71-1402, F-4C, F-4D, F-4G, AND RF-4C.

4C-3-1-2-(352)A

Figure 4-81A. Fairlead, 32-61009 and 32-61027, Replacement Index



REF NO		ASSEMBLY NUMBER	FIGURE NUMBER
1	3	32-32046-1419	4-83
	4	32-32046-329	4-83
	5	32-32046-337	4-83
	6	32-32046-343	4-83
	7	32-32046-1541	4-83
	8	32-32046-365	4-83
	9	32-32046-363	4-83
	10	32-32046-371	4-83
	33	32-32046-373	4-83
	34	32-32046-377	4-83
	11	32-32046-1493	4-83
	12	32-32046-325	4-83
	13	32-32046-333	4-83
	14	32-32046-367	4-83
	15	32-32046-361	4-83
	16	32-32046-369	4-83
	31	32-32046-375	4-83
2	17	32-32047-1455	4-84 AND 4-85
	18	32-32047-313	4-84 AND 4-85
	19	32-32047-317	4-84 AND 4-85
	20	32-32047-331	4-84 AND 4-85
	21	32-32047-343	4-84 AND 4-85
	22	32-32047-351	4-84 AND 4-85
	32	32-32047-355	4-84 AND 4-85
	35	32-32047-363	4-84 AND 4-85
	23	32-32047-319	4-84 AND 4-85
	24	32-32047-321	4-84 AND 4-85
	25	32-32047-325	4-84 AND 4-85
	26	32-32047-345	4-84 AND 4-85
	51	32-32047-361	4-84 AND 4-85
3	27	32-32048-305	4-86
	28	32-32048-307	4-86
	30	32-32048-309	4-86
	29	32-32048-437	4-86
	31	32-32048-311	4-86

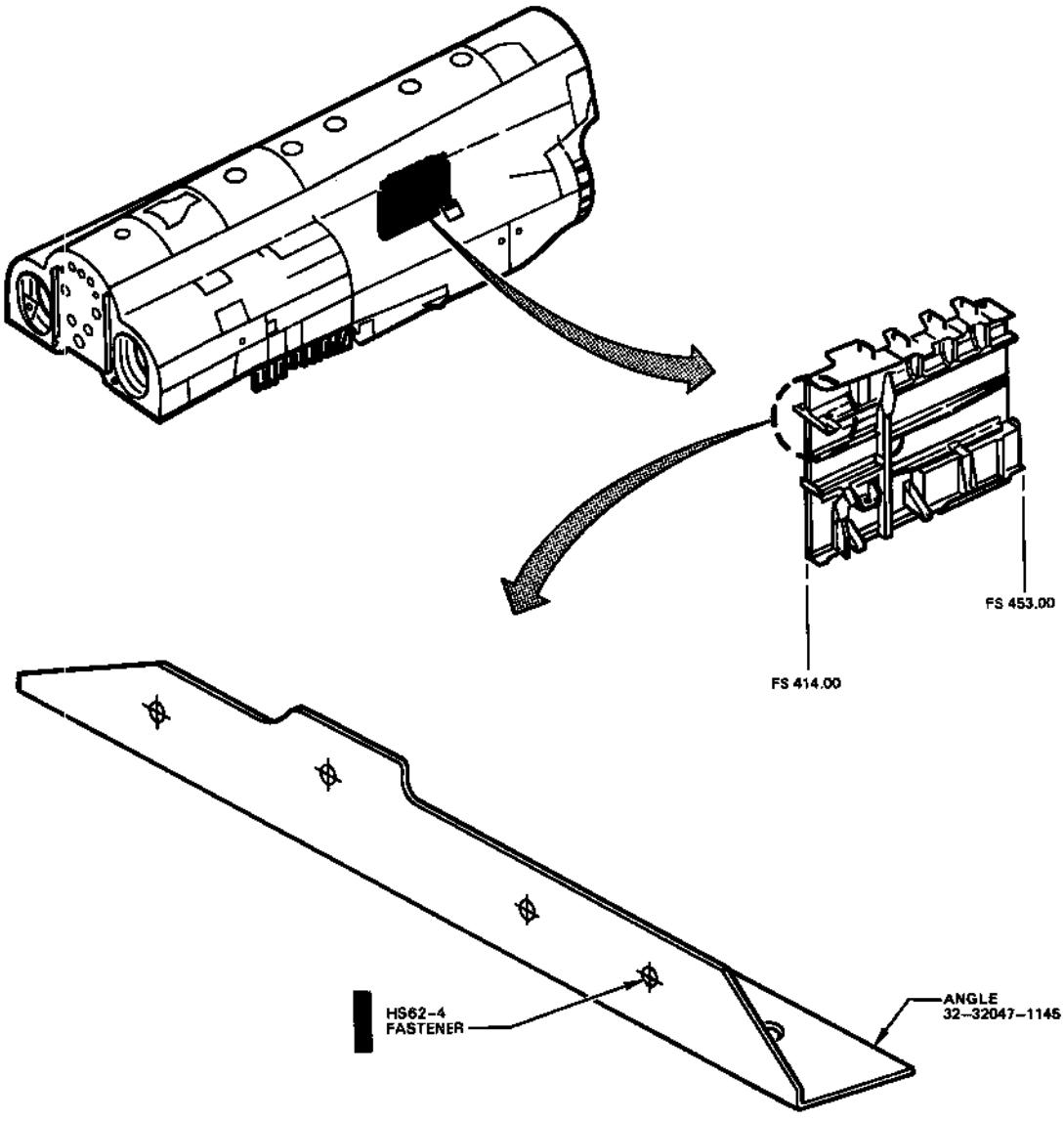
Notes

1. THE ENGINEERING DRAWING NUMBERS FOR THE CENTER FUSELAGE KEEL ASSEMBLIES ARE 32-32046, 32-32047, AND 32-32048.
2. REFER TO TEXT FOR A DESCRIPTION OF THE KEEL.

3. F-4C 63-7407 THRU 63-7597.
4. F-4C 63-7598 THRU 64-737.
5. F-4C 64-938 THRU 64-817.
6. F-4D, F-4C 64-818 THRU 64-928.
7. F-4E 66-284 THRU 68-494.
8. F-4E, 68-495 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
9. F-4E/G 69-7261 THRU 69-7578.
10. F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 71-236.
11. RF-4C 63-7742 THRU 63-7769.
12. RF-4C 64-997 THRU 64-1057.
13. RF-4C 64-1058 THRU 68-611.
14. RF-4C 69-349 THRU 69-375.
15. RF-4C 69-376 THRU 69-383.
16. RF-4C 69-384 THRU 71-252.
17. F-4C 63-7407 THRU 63-7596.
18. F-4C 63-7597 THRU 64-881 AND F-4D 64-929 THRU 64-937.
19. F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8780 AND F-4E 66-284 THRU 67-282.
20. F-4D 66-8781 THRU 66-8825.
21. F-4E 67-283 THRU 68-494.
22. F-4E 68-495 THRU 69-7589 AND F-4G.
23. RF-4C 63-7742 THRU 63-7763.
24. RF-4C 64-997 THRU 65-838.
25. RF-4C 64-839 THRU 67-453.
26. RF-4C 67-454 THRU 71-252.
27. F-4C, F-4D.
28. F-4E 66-284 THRU 71-236 AND F-4G.
29. RF-4C 63-7742 THRU 71-252.
30. F-4E 71-237 AND UP.
31. RF-4C 71-253 THRU 72-156.
32. F-4E 71-224 THRU 71-236.
33. F-4E 71-237 THRU 71-1402.
34. F-4E 72-121 AND UP.

4C-3-1-2-(153)D

Figure 4-82. Keel Index



Note

WHEN REPLACING ANGLE, 32-32047-1145, HOLES NOTED ARE TO BE REAMING AND HS62-4 FASTENER INSTALLED.

4C-3-1-2-(419)A

Figure 4-82A. Angle, 32-32047-1145, Replacement

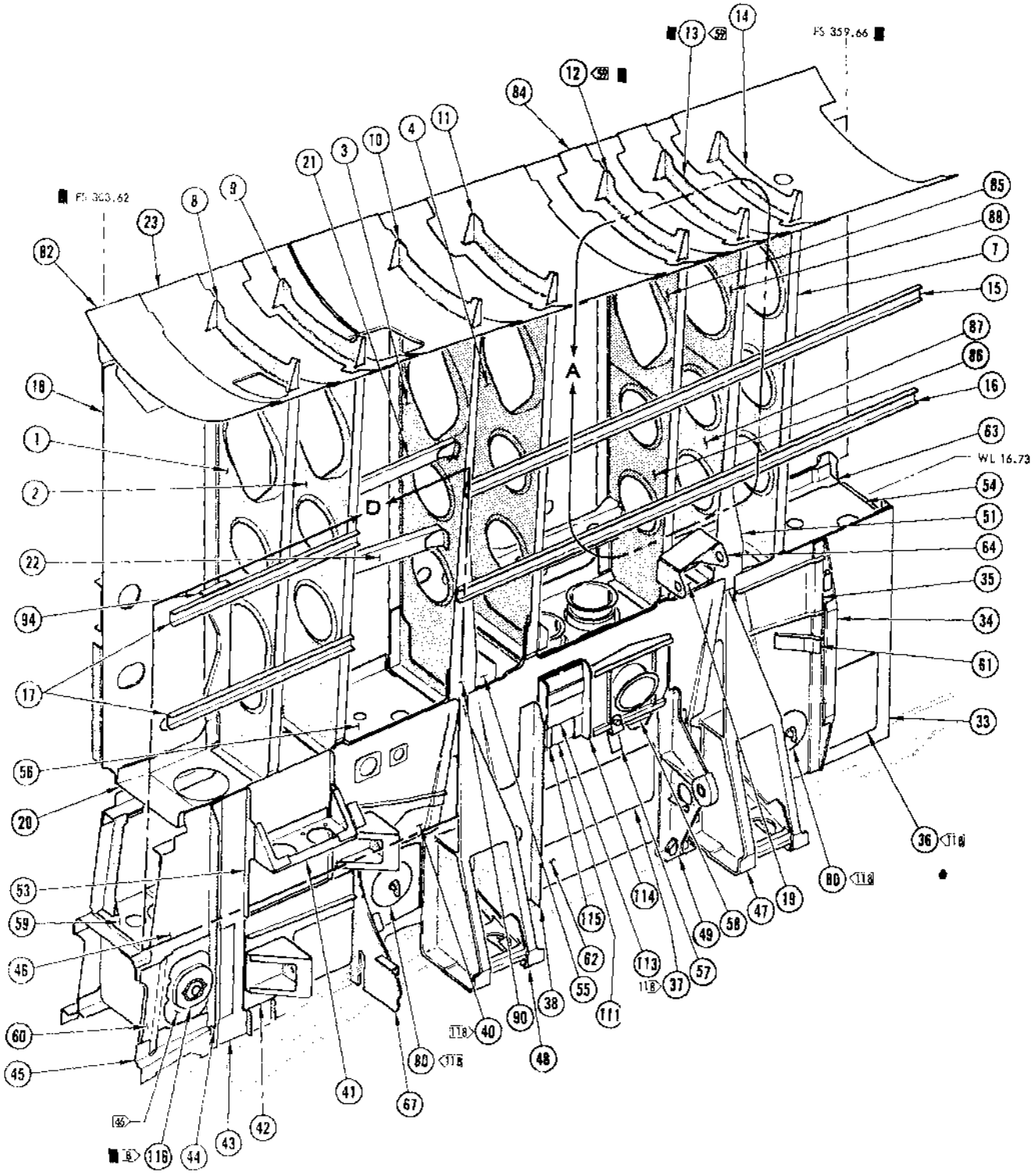
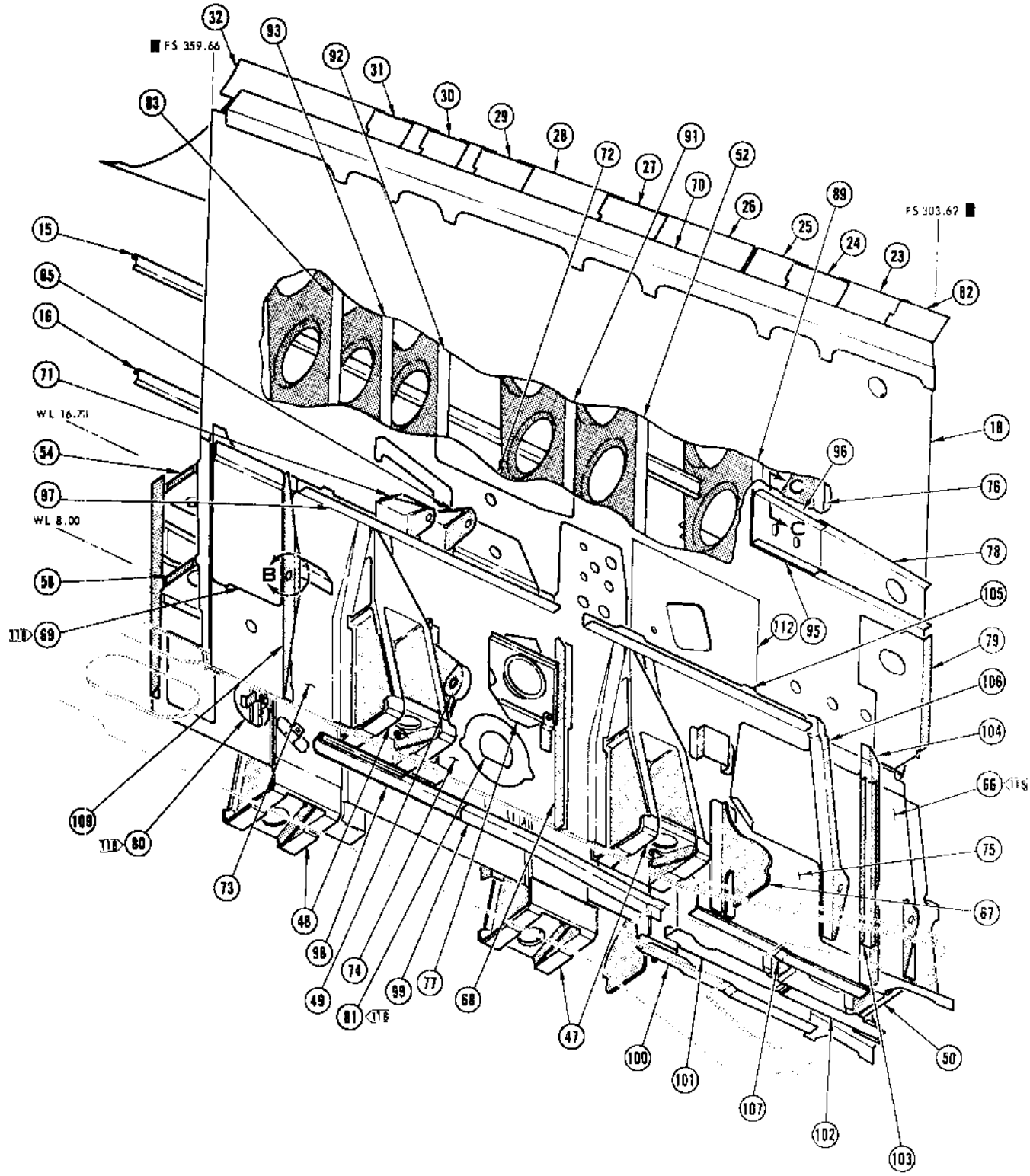
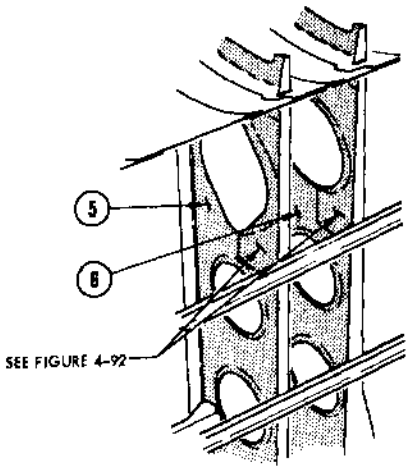


Figure 4-83. Keel FS 303.62 thru FS 359.66 (Sheet 1 of 7)

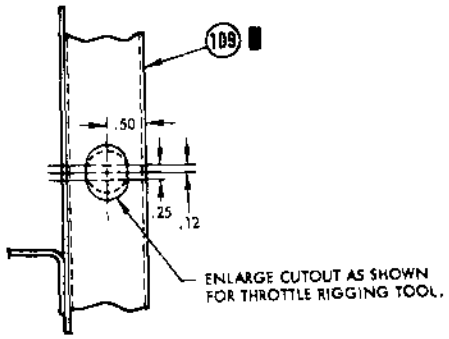


4C-3-1-2-(12-2)E

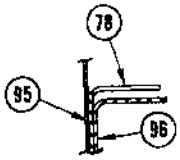
Figure 4-83. Keel FS 303.62 thru FS 359.66 (Sheet 2 of 7)



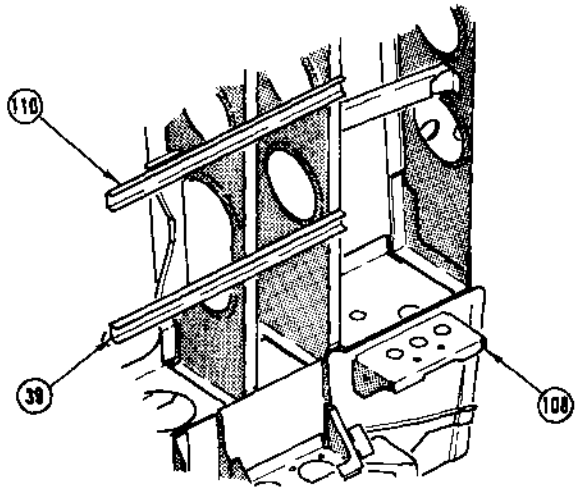
DETAIL A



DETAIL B



SECTION C-C



DETAIL D

4C-3-1-2-(12-3)D

Figure 4-83. Keel FS 303.62 thru FS 359.66 (Sheet 3 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32046-285	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-2067	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1589	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-2073	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
2	32-32046-283	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-2065	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-2165	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1587	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-2071	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-2167	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
3	32-32046-497	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1633	WEB	0.080	2024-T3 AL ALY	QQ-A-250/4 (T3)
4	32-32046-495	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-2163	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1631	WEB	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-2161	WEB	0.045	2024-T6 AL ALY	QQ-A-250/4 (T6)
5	32-32046-413	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1599	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	DELETED				
	DELETED				
	32-32046-1863	WEB LOWER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T4)
	32-32046-1879	WEB UPPER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-32046-219	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1847	WEB	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
	DELETED				
	DELETED				
	32-32046-1885	WEB LOWER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1899	WEB UPPER	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-32046-423	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-2327	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1605	WEB	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-2329	WEB	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
8	32-32046-299	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	
9	32-32046-401	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	
10	32-32046-403	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	
11	32-32046-405	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	
12	32-32046-407	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	[3]
	32-32046-1875 [SR]	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	
13	32-32046-409	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	
	32-32046-1897 [SR]	CHANNEL	0.025	5AL-2.5Sn TITANIUM ALY	
14	32-32046-411	CHANNEL	0.040	5AL-2.5Sn TITANIUM ALY	
15	32-32046-427	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1609	CHANNEL	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
16	32-32046-1421	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-2217	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1741	CHANNEL	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-2199	CHANNEL	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
17	32-32046-293	CHANNEL	0.056	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-32046-1417	WEB	0.056	6AL-4V TITANIUM ALLOY	
	32-32046-1439	WEB	0.056	6AL-4V TITANIUM ALLOY	
	32-32046-1485	WEB	0.056	6AL-4V TITANIUM ALLOY	
	32-32046-2189	WEB	0.056	6AL-4V TITANIUM ALLOY	
	32-32046-2337	WEB	0.056	6AL-4V TITANIUM ALLOY	[4]
	32-32046-2201	WEB	0.056	6AL-4V TITANIUM ALLOY	
	32-32046-2319	WEB	0.056	6AL-4V TITANIUM ALLOY	
	32-32046-2353	WEB	0.056	6AL-4V TITANIUM ALLOY	
19	32-32046-1165	FLOOR	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1661	FLOOR	0.180	2024-T6 AL ALY	QQ-A-250/4 (T6)
20	32-32046-281	FLOOR	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1585	FLOOR	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
21	32-32046-459	INTERCOSTAL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1619	INTERCOSTAL	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
22	32-32046-1031	INTERCOSTAL	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1635	INTERCOSTAL	0.032	2024-T6 AL ALY	QQ-A-250/4 (T6)
23	32-32291-95	SEAL	0.025	TITANIUM UNALLOYED	MIL-T-9046 TYPE I, COMP. B, ANNEALED
	32-32291-97	SPLICE PLATE	0.025	8Mn TITANIUM ALLOY	[5]
24	32-32291-77	SPLICE PLATE	0.025	8Mn TITANIUM ALLOY	[5]
25	32-32291-71	SEAL	0.025	TITANIUM UNALLOYED	MIL-T-9046, TYPE I, COMP. B, ANNEALED
26	32-32291-87	SEAL	0.025	TITANIUM UNALLOYED	MIL-T-9046, TYPE I, COMP. B, ANNEALED
27	32-32291-55	SPLICE PLATE	0.025	8Mn TITANIUM ALLOY	[5]
28	32-32291-101	SEAL	0.025	TITANIUM UNALLOYED	MIL-T-9046, TYPE I, COMP. B, ANNEALED
29	32-32291-65	SPLICE PLATE	0.025	8Mn TITANIUM ALLOY	
30	32-32291-63	SPLICE PLATE	0.025	8Mn TITANIUM ALLOY	
31	32-32291-61	SPLICE PLATE	0.025	8Mn TITANIUM ALLOY	[5]
32	32-32291-91	SPLICE PLATE	0.025	8Mn TITANIUM ALLOY	
	32-32291-107	SEAL	0.025	8Mn TITANIUM ALLOY	
33	32-32046-1255	WEB	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1687	WEB	0.080	2024-T81 AL ALY	QQ-A-250/4 (T81)
34	32-32046-1385	STIFFENER	AND10138-1306	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32046-2309	STIFFENER	AND10138-1306	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32046-1737	STIFFENER	1M495	2024-T851 AL ALY	QQ-A-200/3 (T851)
	32-32046-2311	STIFFENER	1M495	2024-T851 AL ALY	QQ-A-200/3 (T851)
35	32-32046-1139	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1527	CHANNEL	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1769	CHANNEL	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
36	32-32046-1319	DOOR [1E]			
	32-32046-1983	DOOR [1E]			

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Figure 4-83. Keel FS 303.62 thru FS 359.66 (Sheet 4 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
37	32-32046-1157	DOOR			
	32-32046-1779	DOOR			
	32-32046-1981	DOOR			
	32-32046-2283	DOOR			
38	32-32046-1067	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1643	ANGLE	0.056	2024-T6 AL ALY	QQ-A-250/4 (T6)
39	32-32046-1593	CHANNEL	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
	32-32046-2205	CHANNEL	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
40	32-32046-1365	DOOR			
	32G32046-199	DOOR			
	32-32046-1463	DOOR			
	32-32046-1499	DOOR			
	32G32046-201	DOOR			
	32-32046-1767	DOOR			
	32G32046-203	DOOR			
	32-32046-2277	DOOR			
41	32-32046-1423	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32046-1479	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32046-1497	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32046-1855	BRACKET	0.050	2024-T62 ALCLAD	QQ-A-250/5 (T62)
42	32-32046-1275	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-2077	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1703	ANGLE	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-2075	ANGLE	0.080	2024-T6 AL ALY	QQ-A-250/4 (T6)
43	32-32046-1127	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1707	ZEE	0.063	2024-T4 AL ALY	QQ-A-250/4 (T4)
44	32-32046-1151	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1659	ANGLE	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
45	32-32046-1291	ZEE	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32046-1557	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
46	32-32046-1289	WEB	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1705	WEB	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
47	32-32074-301	FITTING ASSY		7079-T6 AL ALY	QQ-A-367 (T6)
	32-32074-303	FITTING ASSY		7079-T6 AL ALY	QQ-A-367 (T6)
	32-32074-309	FITTING ASSY		7079-T6 AL ALY	QQ-A-367 (T6)
48	32-32073-301	FITTING ASSY		7079-T6 AL ALY	QQ-A-367 (T6)
	32-32073-303	FITTING ASSY		7079-T6 AL ALY	QQ-A-367 (T6)
	32-32073-309	FITTING ASSY		7079-T6 AL ALY	QQ-A-367 (T6)
49	32-32316-5,-6	FITTING		7075-T6 AL ALY	QQ-A-367 (T6)
	32-32316-301,-302	FITTING		7075-T73 AL ALY	MIL-A-22771 (T73)
50	32-32046-1293	WEB	0.040	6AI-4V TITANIUM	
	32-32045-1705	WEB	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
51	32-32046-415	TEE	1M5398	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32046-1601	TEE	1M57553	2024-T851 AL ALY	QQ-A-200/3 (T851)
	32-32046-1891	TEE LOWER	1M5398	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32046-1911	TEE UPPER	1M5398	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-32046-1893	TEE LOWER	1M57553	2024-T851 AL ALY	QQ-A-200/13 (T851)
	32-32046-1913	TEE UPPER	1M57553	2024-T851 AL ALY	QQ-A-200/13 (T851)
52	32-32046-205	TEE	1M5314	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-32046-1375	TEE	1M5314	7178-T651 AL ALY	QQ-A-200/3 (T651)
	32-32046-1855	TEE	1M57587	2024-T851 AL ALY	QQ-A-200/3 (T851)
53	32-32046-1247	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1679	CHANNEL	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
54	32-32046-1203	FLOOR	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1669	FLOOR	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
55	32-32046-233	FLOOR	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1945	FLOOR	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1569	FLOOR	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-1999	FLOOR	0.071	2024-T6 AL ALY	QQ-A-250/15 (T6)
56	32-32046-1363	FLOOR	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1725	FLOOR	0.071	2024-T6 AL ALY	QQ-A-250/4 (T6)
57	32-32046-1427	CLIP	0.063	302 CRES	MIL-S-5059
58	32-32046-1205	FLOOR	0.091	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32046-1475	FLOOR	0.091	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32046-1947	FLOOR	0.091	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-32046-1763	FLOOR	0.100	2024-T6 AL ALY	QQ-A-250/4 (T6)
	32-32046-1949	FLOOR	0.100	2024-T6 AL ALY	QQ-A-250/4 (T6)
59	32-32046-1261	FLOOR	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60	32-32046-1147	DOUBLER	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1655	DOUBLER	0.091	2024-T62 AL ALY	QQ-A-250/4 (T62)
61	32-32046-477	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1627	CLIP	0.050	2024-T62 AL ALY	QQ-A-250/4 (T62)
62	32-32046-1167	WEB	0.071	7178-T62 ALCLAD	QQ-A-250/15 (T62)
	32-32046-1457	WEB	0.071	7178-T62 ALCLAD	QQ-A-250/15 (T62)
	32-32046-1513	WEB	0.071	7178-T62 ALCLAD	QQ-A-250/15 (T62)
	32-32046-1751	WEB	0.080	2024-T62 AL ALY	QQ-A-250/4 (T62)
	32-32046-2347	WEB	0.080	2024-T62 AL ALY	QQ-A-250/4 (T62)
	32-32046-2349	WEB	0.071	7178-T62 ALCLAD	QQ-A-250/15 (T62)
63	32-32046-439	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-32046-1613	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
64	32-32046-1285	BRACKET	0.071	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32046-1793	BRACKET	0.071	2024-T62 ALCLAD	QQ-A-250/5 (T62)
65	32-32046-1277	BRACKET	0.071	2024-T4 ALCLAD	QQ-A-250/5 (T4)
66	32-32046-1125	DOOR			
	32-32046-1441	DOOR			
67	32-32046-1343,-1341	TEE	1M5749	7178-T6 AL ALY	QQ-A-200/13 (T6)
68	32-32046-481	ANGLE	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
69	32-32046-67	DOOR			
70	32-32046-99	ANGLE	0.063	301 CRES	MIL-S-5059 (1/2 H)
71	32-32046-1281	BRACKET	0.071	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32046-1531	BRACKET	0.071	2024-T4 ALCLAD	QQ-A-250/5 (T4)
	32-32046-1927	BRACKET	0.071	2024-T62 ALCLAD	QQ-A-250/5 (T62)
72	32-32046-1359	DOUBLER	0.040	8Mn TITANIUM ALLOY	
	32-32046-2197	DOUBLER	0.040	8Mn TITANIUM ALLOY	

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Figure 4-83. Keel FS 303.62 thru FS 359.66 (Sheet 5 of 7)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
73 (45)	32-32046-1213	WEB	0.032	8Mn TITANIUM ALLOY	
(28)	32-32046-1447	WEB	0.032	8Mn TITANIUM ALLOY	
74 (46)	32-32046-1357	WEB	0.032	8Mn TITANIUM ALLOY	
(116)	32-32046-1481	WEB	0.032	8Mn TITANIUM ALLOY	
(53)	32-32046-1923	WEB	0.032	8Mn TITANIUM ALLOY	
(54)	32-32046-2225	WEB	0.032	8Mn TITANIUM ALLOY	
75 (98)	32-32046-245	WEB	0.040	6AL-4V TITANIUM ALLOY	
(99)	32-32046-2105	WEB	0.040	6AL-4V TITANIUM ALLOY	
(100)	32-32046-2229	WEB	0.040	6AL-4V TITANIUM ALLOY	
76 (46)	32-32046-291	ANGLE	1M2389	7178-T651 AL ALY	QQ-A-200/13 (T651)
(47)	32-32045-1591	ANGLE	1M2389	2024-T851 AL ALY	QQ-A-200/3 (T851)
77	32-32046-1173	DOUBLER	0.063	8Mn TITANIUM ALLOY	
78 (29)	32-32046-1355	CHANNEL	0.063	8Mn TITANIUM ALLOY	
(30)	32-32046-2055	CHANNEL	0.071	8Mn TITANIUM ALLOY	
(31)	32-32046-2207	CHANNEL	0.063	8Mn TITANIUM ALLOY	
79 (74)	32-32046-1353	DOUBLER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(75)	32-32046-2195	DOUBLER	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1723	DOUBLER	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
80	32-32046-1347	DOOR (118)			
	32-32046-2293	DOOR (118)			
81	32-32046-1019	DOOR (118)			
82	32-32291-97	SPLICE	0.025	8Mn TITANIUM ALLOY	(5)
83 (46)	32-32046-437	ANGLE	1M2389	7178-T651 AL ALY	QQ-A-200/13 (T651)
(47)	32-32046-1611	ANGLE	1M2389	2024-T851 AL ALY	QQ-A-200/3 (T851)
84	32-32991-103	SEAL	0.025	UNALLOYED TITANIUM	MIL-T-9046, TYPE I, COMP. B, ANNEALED
85 (20)	32-32046-1867	WEB	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
86 (20)	32-32046-1865	WEB	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
87 (20)	32-32046-1889	WEB	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
88 (20)	32-32046-1901	WEB	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
89 (26)	32-32045-295	ANGLE	1M2389	7178-T651 AL ALY	QQ-A-200/13 (T651)
(27)	32-32046-2215	ANGLE	1M2389	7178-T651 AL ALY	QQ-A-200/13 (T651)
(47)	32-32046-1595	ANGLE	1M2389	2024-T851 AL ALY	QQ-A-200/3 (T851)
90 (43)	32-32046-201	TEE	1M5313	7178-T651 AL ALY	QQ-A-200/13 (T651)
(44)	32-32046-1377	TEE	1M5313	7178-T651 AL ALY	QQ-A-200/13 (T651)
(47)	32-32046-1731	TEE	1M57554	2024-T851 AL ALY	QQ-A-200/3 (T851)
91 (46)	32-32046-211	ANGLE	1M2149	7178-T651 AL ALY	QQ-A-200/13 (T651)
(47)	32-32046-1565	ANGLE	1M2149	2024-T851 AL ALY	QQ-A-200/3 (T851)
92 (27)	32-32046-421	ANGLE	1M2389	7178-T651 AL ALY	QQ-A-200/13 (T651)
(28)	32-32046-1869	ANGLE	1M2389	7178-T651 AL ALY	QQ-A-200/13 (T651)
(47)	32-32046-1871	ANGLE	1M2389	2024-T851 AL ALY	QQ-A-200/3 (T851)
93 (33)	32-32046-203	TEE	1M5345	7178-T651 AL ALY	QQ-A-200/13 (T651)
(35)	32-32046-1379	TEE	1M5345	7178-T651 AL ALY	QQ-A-200/13 (T651)
(36)	32-32046-1919	TEE	1M5345	7178-T651 AL ALY	QQ-A-200/13 (T651)
(47)	32-32046-1883	TEE	1M57586	2024-T851 AL ALY	QQ-A-200/3 (T851)
94	32G32046-293	BRACKET	0.050	2024-T4 AL ALY	QQ-A-250/4 (T4)
95 (10)	32G32046-287	FILLER	0.063	8Mn TITANIUM ALLOY	(5)
96 (10)	32G32046-283	CHANNEL	0.063	8Mn TITANIUM ALLOY	(5)
97 (76)	32-32046-441	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(77)	32-32046-2213	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(67)	32-32046-2183	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(74)	32-32046-1615	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
(88)	32-32046-2211	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
(71)	32-32046-2179	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
98 (46)	32-32046-1453	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1749	ANGLE	0.080	2024-T62 AL ALY	QQ-A-250/4 (T62)
99 (46)	32-32046-1451	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1747	ANGLE	0.080	2024-T62 AL ALY	QQ-A-250/4 (T62)
100 (46)	32-32046-1217	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1671	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
101 (46)	32-32046-259	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1579	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
102 (56)	32-32046-135	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(57)	32-32046-1557	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
103 (89)	32-32046-1161	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(90)	32-32046-1445	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1745	CHANNEL	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
104 (98)	32-32046-1095	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(89)	32-32046-1443	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1743	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
105 (76)	32-32046-1299	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(77)	32-32046-2275	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(67)	32-32046-2185	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(73)	32-32046-1709	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
(88)	32-32046-2273	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
(71)	32-32046-2181	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
106 (46)	32-32046-1339	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1717	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
107 (46)	32-32046-1219	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(47)	32-32046-1673	ANGLE	0.071	2024-T62 AL ALY	QQ-A-250/4 (T62)
108 (58)	32G32046-179	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(59)	32G32046-181	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(60)	32G32046-177	BRACKET	0.050	2024-T4 ALCLAD	QQ-A-250/5 (T4)
(61)	162348-30	BRACKET	0.063	2024-T3 AL ALY	QQ-A-250/4 (T3)
109 (46)	32-32046-1383	STIFFENER	0.050	7178-T6 AL ALY	QQ-A-250/15 (T6)
(47)	32-32046-1735	STIFFENER	0.056	2024-T62 AL ALY	QQ-A-250/4 (T62)
110 (78)	32-32046-1827	CHANNEL	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
(79)	32-32046-2203	CHANNEL	0.040	2024-T62 AL ALY	QQ-A-250/4 (T62)
111 (39)	32-32046-2341	PLATE	0.063	2024-T3 ALCLAD	QQ-A-250/5 (T3)

4C-3-1-2-112-6184

Figure 4-83. Keel FS 303.62 thru FS 359.66 (Sheet 6 of 7)

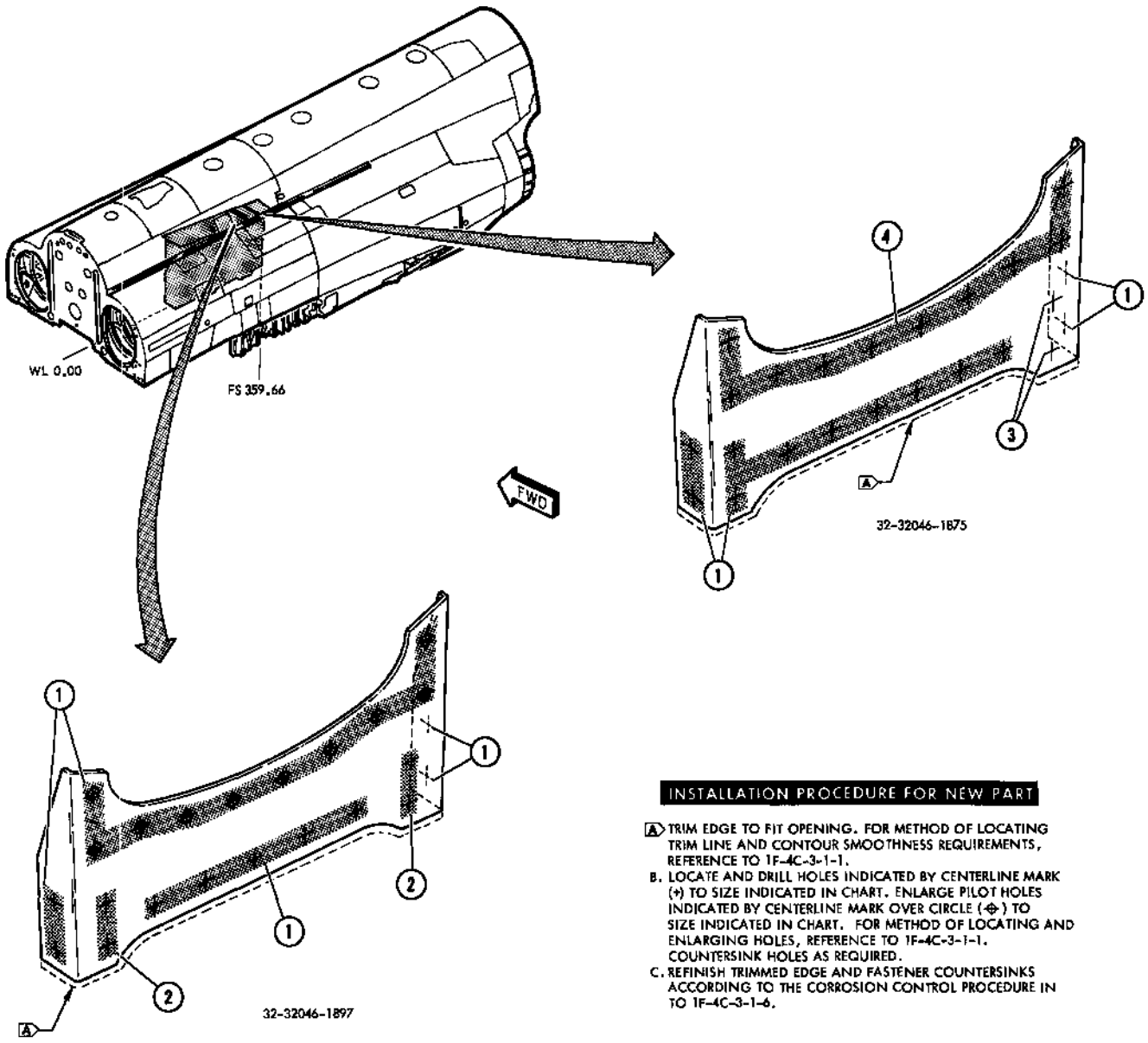
REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
112 [108]	32-32046-1297	DOUBLER	0.040	6AL-4V TITANIUM ALLOY	MIL-T-9046 TYPE III COMP. C, ANNEALED
[109]	32-32046-2057	DOUBLER	0.040	6AL-4V TITANIUM ALLOY	MIL-T-9046 TYPE III COMP. C, ANNEALED
[110]	32-32046-2323	DOUBLER	0.040	6AL-4V TITANIUM ALLOY	MIL-T-9046 TYPE III COMP. C, ANNEALED
[87]	32-32046-2325	DOUBLER	0.040	6AL-4V TITANIUM ALLOY	MIL-T-9046 TYPE III COMP. C, ANNEALED
[111]	32-32046-2355	DOUBLER	0.040	6AL-4V TITANIUM ALLOY	MIL-T-9046 TYPE III COMP. C, ANNEALED
113 [112]	32-32046-2351	ADAPTER	0.500	2024-T4 AL ALY	QQ-A-250/4 (T4)
[113]	32G32046-709	ADAPTER	0.500	2024-T4 AL ALY	QQ-A-250/4 (T4)
114 [112]	32-32046-2345	ANGLE	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
[113]	32G32046-705	ANGLE	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
115 [112]	32-32046-2346	ANGLE	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
[113]	32G32046-707	ANGLE	0.063	2024-T62 AL ALY	QQ-A-250/4 (T62)
116 [55]	32-32492-5	SEAL		SILICONE RUBBER	
[56]	32-32492-7	SEAL		SILICONE RUBBER	
[57]	32-32046-1521	SEAL ASSEMBLY			
[58]	32-32593-1, -3	SEAL ASSEMBLY			

Notes

1. DELETED.
2. FOR STRUCTURAL SPLICE AT FS 342.53 AND FS 346.92 TO FACILITATE REMOVAL OF ENGINE BLEED AIR DUCT, SEE FIGURE 4-92.
3. MIL-T-9046, TYPE II, COMPOSITION A, ANNEALED.
4. MIL-T-9046, TYPE III, COMPOSITION C, ANNEALED.
5. MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED.
6. MACHINED FORGING 32-32075-3 FOR F-4C 63-7407 THRU 63-7420; 32-32075-5 FOR F-4C 63-7421 THRU 64-928.
7. MACHINED PRESSING.
8. FOR REPLACEMENT OF EXPANDABLE SEAL SEE FIGURE 4-91.
9. F-4C 63-7527 THRU 64-928 AND F-4D.
10. F-4E 68-495 AND UP, RF-4 69-349 THRU 72-156, AND F-4G.
11. F-4C, F-4D 64-929 THRU 65-611, AND RF-4 63-7742 THRU 65-901.
12. F-4D 65-612 THRU 66-8825 AND RF-4 65-902 THRU 72-156.
13. F-4C 63-7407 THRU 64-817 AND RF-4 63-7742 THRU 63-7763.
14. RF-4 64-997 THRU 72-156.
15. F-4C 64-818 THRU 64-928 AND F-4D.
16. F-4C 63-7407 THRU 63-7442.
17. F-4C 63-7443 THRU 64-928, F-4D, F-4E, F-4G, AND RF-4.
18. F-4C 63-7407 THRU 64-881 AND RF-4 63-7742 THRU 65-838.
19. F-4C 64-882 THRU 64-928, F-4D 64-929 THRU 66-7650, AND RF-4 65-839 THRU 66-428.
20. F-4D 66-7651 THRU 66-8825, F-4E, AND F-4G.
21. RF-4 66-429 THRU 72-156.
22. F-4C, F-4D 64-929 THRU 65-770, AND RF-4 63-7742 THRU 66-386 AND 66-388.
23. F-4D 65-771 THRU 66-8825 AND RF-4 66-387 AND 66-389 THRU 72-156.
24. F-4C 63-7407 THRU 63-7597 AND RF-4 63-7742 THRU 63-7763.
25. F-4C 63-7598 THRU 64-928, F-4D 64-929 THRU 66-7650, AND RF-4 64-997 THRU 66-428.
26. F-4D 66-7651 THRU 66-8825 AND RF-4 66-429 THRU 72-156.
27. F-4C; F-4D 64-929 THRU 66-7650, AND RF-4 63-7742 THRU 66-428.
28. F-4C 63-7527 THRU 64-928, RF-4 63-7750 THRU 72-156, F-4D, F-4E, AND F-4G.
29. F-4C, F-4D, F-4E 66-284 THRU 67-230, AND RF-4.
30. F-4E 67-231 AND UP AND F-4G.
31. F-4C, F-4D, AND RF-4 63-7742 THRU 67-453.
32. RF-4 67-454 THRU 72-156.
33. F-4E 66-284 THRU 67-282.
34. F-4E 67-283 AND UP AND F-4G.
35. F-4C, F-4D AND RF-4 63-7742 THRU 67-442.
36. RF-4 67-443 THRU 72-156.
37. F-4E 66-284 THRU 67-219.
38. F-4E 66-220 AND UP AND F-4G.
39. F-4C 63-7427 THRU 64-928, F-4D 64-929 THRU 66-8786, AND RF-4 63-7750 THRU 66-474.
40. F-4D 66-8787 THRU 66-8825 AND RF-4 66-473 THRU 72-156.
41. F-4E 66-284 THRU 66-338.
42. F-4E 66-339 AND UP AND F-4G.
43. F-4C 63-7407 THRU 63-7597 AND RF-4 63-7742 THRU 63-7763.
44. F-4C 63-7598 THRU 64-928, F-4D, AND RF-4 64-997 THRU 72-156.
45. F-4C 63-7597 THRU 64-928, F-4D, AND RF-4 64-997 THRU 67-442.
46. F-4C, F-4D, AND RF-4.
47. F-4E AND F-4G.
48. F-4C 63-7407 THRU 63-7526 AND RF-4 63-7742 THRU 63-7749.
49. F-4C, F-4D, AND RF-4 63-7742 THRU 67-469.
50. RF-4 68-548 THRU 72-156.
51. F-4E 66-284 THRU 67-398.
52. F-4E 68-303 AND UP AND F-4G.
53. F-4E 67-208 THRU 68-538, F-4E/G 69-236 THRU 69-7260, AND RF-4C 67-428 THRU 69-375.
54. F-4E/G 69-7261 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 69-376 THRU 72-156.
55. F-4C 63-7407 THRU 63-7442.
56. F-4C 63-7443 THRU 64-791 AND RF-4 63-7742 THRU 64-1057.
57. F-4C 64-792 THRU 64-928, F-4D 64-928 THRU 65-611, AND RF-4 64-1058 THRU 65-901.
58. F-4D 65-612 THRU 66-8825, RF-4 65-902 THRU 72-156, F-4E, AND F-4G.
59. FOR REPLACEMENT SEE FIGURE 4-83A.
60. RF-4C 63-7740 THRU 63-7763 AFTER TO 1F-4(R)C-628.
61. F-4E 71-237 AND UP AFTER TO 1F-4E-626. RF-4C 65-905, 68-548 AND UP AFTER TO 1F-4(R)C-667.
62. F-4E 71-237 AND UP AND RF-4 71-253 THRU 72-156; ALSO F-4E 66-287 AND 66-296 THRU 69-7589, RF-4 63-7742 THRU 71-252 AFTER TO 1F-4-991, AND F-4G.
63. DELETED. 64. DELETED. 65. DELETED.
66. RF-4 67-454 THRU 69-375.
67. RF-4 69-376 THRU 72-156.
68. F-4E 67-283 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
69. RF-4 63-7742 THRU 69-375.
70. F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
71. F-4E/G 69-7261 THRU 69-7588 AND F-4E 69-7589 AND UP.
72. F-4C, F-4D, RF-4 63-7742 THRU 68-611 AND F-4E 66-284 THRU 68-494.
73. RF-4 69-349 THRU 72-156, F-4E 68-495 AND UP, AND F-4G.
74. F-4E 66-284 THRU 68-494.
75. F-4E 68-495 AND UP AND F-4G.
76. F-4D, F-4C, AND RF-4 63-7742 THRU 68-611.
77. RF-4 69-349 THRU 72-156.
78. DELETED. 79. DELETED. 80. DELETED.
81. F-4C, F-4D, RF-4 66-7742 THRU 69-375, F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
82. RF-4 69-376 THRU 72-156, F-4E/G 69-7261 THRU 69-7588, AND F-4E 69-7589 AND UP.
83. F-4C 64-818 THRU 64-928 AFTER TO 1F-4C-598; F-4D ALL AFTER TO 1F-4D-547; F-4E/G 66-284 THRU 69-7589; 71-237 AND UP BEFORE TO 1F-4E-626.
84. F-4C 63-7407 THRU 63-7526 AND RF-4 63-7742 THRU 63-7749.
85. F-4D, F-4C 63-7527 THRU 64-928, F-4E 66-284 THRU 68-494, AND RF-4 63-7750 THRU 63-7763.
86. RF-4 64-997 THRU 68-611.
87. RF-4 69-349 THRU 69-375.
88. F-4E 68-495 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
89. F-4C 63-7407 THRU 63-7524 AND RF-4 63-7742 THRU 63-7748.
90. F-4D, F-4C 63-7528 THRU 64-928, AND RF-4 63-7750 THRU 72-156.
91. F-4C, F-4D, AND RF-4 63-7742 THRU 69-375.
92. DELETED.
93. RF-4C 64-997 AND UP; REMOVED FROM 65-905, 67-451, 67-453, 68-548 THRU 68-577, 68-561 THRU 68-565, 68-567, 68-568, 68-570 THRU 68-572, 68-574, 68-577, 68-580 THRU 68-583, 68-585, 68-587, 68-589, 68-592, 68-593, 69-352, 69-359 THRU 69-362, 69-364 THRU 69-378, 69-380 THRU 69-384, 71-248 THRU 71-255, 71-258, 71-259, 72-145 THRU 72-147, 72-148 THRU 72-156 AFTER TO 1F-4R(C)-667 OR TO 1F-4(R)C-671.
94. F-4C, F-4D, AND RF-4 63-7742 THRU 69-384.
95. RF-4 71-248 THRU 72-156.
96. F-4E 66-284 THRU 69-7589 AND F-4G.
97. F-4E 71-224 AND UP.
98. F-4C, F-4D, RF-4 63-7742 THRU 69-366, AND F-4E 66-284 THRU 68-390.
99. F-4E 68-391 THRU 68-538 AND F-4E/G 69-236 THRU 69-303.
100. F-4E/G 69-304 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4 69-367 THRU 72-156.
101. F-4C 63-7407 THRU 63-7420.
102. F-4C 63-7421 THRU 64-928, F-4D 64-929 THRU 64-963, AND RF-4 63-7742 THRU 65-864.
103. F-4D 64-964 THRU 66-8825 AND RF-4 65-865 THRU 71-252.
104. F-4E 66-284 THRU 71-236 AND F-4G.
105. F-4E 71-237 AND UP.
106. RF-4 71-253 THRU 72-156.
107. F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 THRU 71-1402.
108. F-4C, F-4D, F-4E 66-284 THRU 67-230 AND RF-4 63-7742 THRU 69-375.
109. F-4E 67-231 THRU 68-538 AND F-4E/G 69-236 THRU 69-7260.
110. F-4E/G 69-7261 THRU 69-7588 AND F-4E 69-7589 THRU 71-1402.
111. F-4E 72-121 AND UP.
112. RF-4 71-253 THRU 72-156 AND F-4E 71-237 AND UP.
113. F-4C, F-4D 64-929 THRU 64-963, AND RF-4 63-7742 THRU 65-864.
114. F-4D 64-964 THRU 66-8825 AND RF-4 65-865 THRU 69-383.
115. RF-4 69-384 THRU 72-156, F-4E, AND F-4G.
116. F-4C 63-7527 THRU 64-928, F-4D, F-4E 66-284 THRU 66-382, AND RF-4 63-7742 THRU 66-478.
117. F-4C, F-4D, F-4E 66-287 AND 66-296 THRU 69-7589, AND RF-4 63-7742 THRU 71-252 AFTER TO 1F-4-991, AND F-4G.
118. FOR STRUCTURE AND FASTENERS REFERENCE TO 1F-4C-3-1-3.

4C-3-1-2-(12-7)B4

Figure 4-83. Keel FS 303.62 thru FS 359.66 (Sheet 7 of 7)



INSTALLATION PROCEDURE FOR NEW PART

(A) TRIM EDGE TO FIT OPENING. FOR METHOD OF LOCATING TRIM LINE AND CONTOUR SMOOTHNESS REQUIREMENTS, REFERENCE TO 1F-4C-3-1-1.

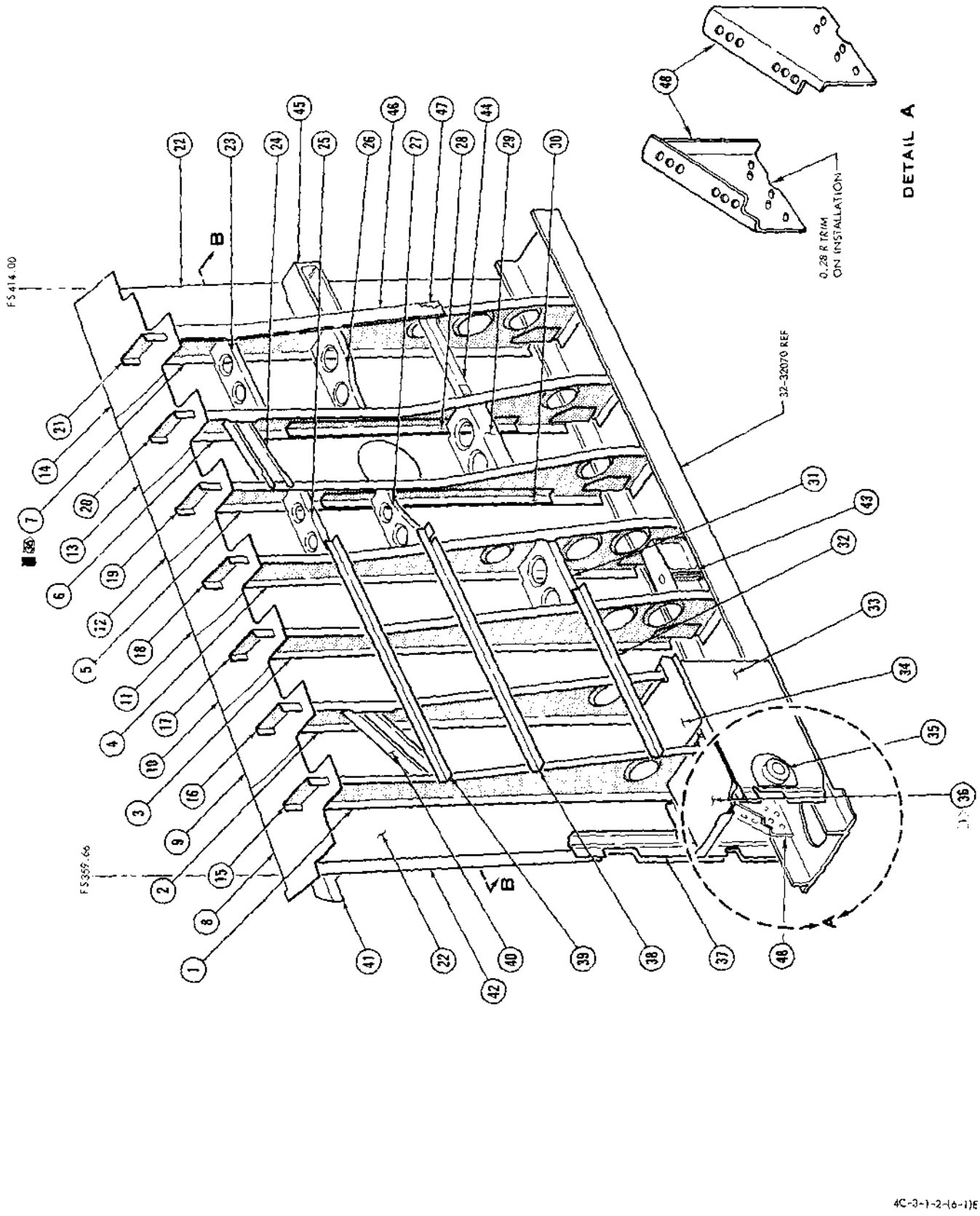
B. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. ENLARGE PILOT HOLES INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING AND ENLARGING HOLES, REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

C. REFINISH TRIMMED EDGE AND FASTENER COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
1	NAS464P3A3	MS21042-3	AN960 D10	15-25	$0.191^{+.006}_{-.000}$
2	NAS464P3A5	MS21042-3	AN960D10	15-25	$0.191^{+.006}_{-.000}$
3	NAS464P3A3	MS21042-3	AN960D10L	15-25	$0.191^{+.006}_{-.000}$
4	NAS1054-6-2	HS234-6			$0.189^{+.006}_{-.000}$

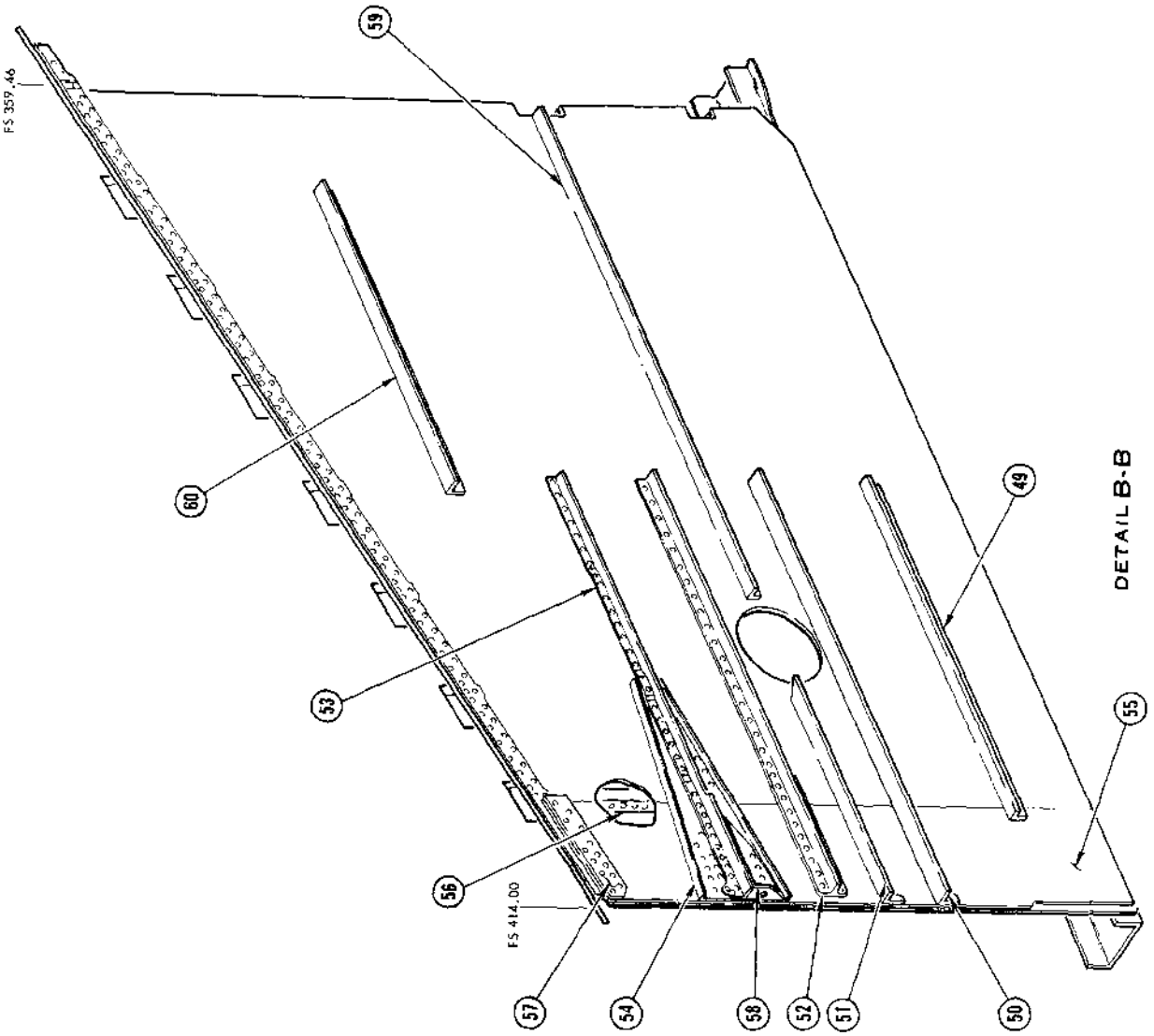
4C-3-1-2-(346)

Figure 4-83A. Channel, 32-32046, Replacement Index



4C-3-1-2-(6-1)E

Figure 4-84. Keel - FS 359.66 thru FS 414.00 (Sheet 1 of 4)



4C-3-1-2-(6-2)D

Figure 4-84. Keel - FS 359.66 thru FS 414.00 (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1	32-32047-1335	STIFFENER	0.050	8Mn TITANIUM ALLOY	
	32-32047-1759	STIFFENER	0.050	8Mn TITANIUM ALLOY	
2	32-32047-1337	STIFFENER	0.050	8Mn TITANIUM ALLOY	
	32-32046-1829	STIFFENER	0.050	8Mn TITANIUM ALLOY	
3	32-32047-1451	STIFFENER	0.080	8Mn TITANIUM ALLOY	
4	32-32047-1453	STIFFENER	0.080	8Mn TITANIUM ALLOY	
5	32-32047-1201	STIFFENER	0.050	8Mn TITANIUM ALLOY	
6	32-32047-1203	STIFFENER	0.050	8Mn TITANIUM ALLOY	
7	32-32047-1205	STIFFENER	0.050	8Mn TITANIUM ALLOY	
	32-32047-1535	STIFFENER	0.050	8Mn TITANIUM ALLOY	
	32-32047-1597	STIFFENER	0.050	8Mn TITANIUM ALLOY	
	32-32047-1741	STIFFENER	0.050	8Mn TITANIUM ALLOY	
	32-32047-1879 (37)	STIFFENER	0.050	6AL-4V TITANIUM ALLOY	
8	32-32292-3	PLATE	0.020	UNALLOYED TITANIUM	
	32-32292-3	PLATE	0.020	6AL-4V TITANIUM ALLOY	
9	32-32292-5	PLATE	0.020	UNALLOYED TITANIUM	
	32-32292-5	PLATE	0.020	6AL-4V TITANIUM ALLOY	
10	32-32292-17	PLATE	0.020	UNALLOYED TITANIUM	
	32-32292-17	PLATE	0.020	6AL-4V TITANIUM ALLOY	
11	32-32292-19	PLATE	0.020	UNALLOYED TITANIUM	
	32-32292-19	PLATE	0.020	6AL-4V TITANIUM ALLOY	
12	32-32292-11	PLATE	0.020	UNALLOYED TITANIUM	
	32-32292-11	PLATE	0.020	6AL-4V TITANIUM ALLOY	
13	32-32292-13	PLATE	0.020	UNALLOYED TITANIUM	
	32-32292-13	PLATE	0.020	6AL-4V TITANIUM ALLOY	
14	32-32292-15	PLATE	0.020	UNALLOYED TITANIUM	
	32-32292-15	PLATE	0.020	6AL-4V TITANIUM ALLOY	
15	32-32047-1361	CHANNEL	0.050	UNALLOYED TITANIUM	
16	32-32047-439	CHANNEL	0.050	UNALLOYED TITANIUM	
17	32-32047-1527	CHANNEL	0.050	5AL-2.5Sn TITANIUM ALY	
18	32-32047-1529	CHANNEL	0.050	5AL-2.5Sn TITANIUM ALY	
19	32-32047-445	CHANNEL	0.050	UNALLOYED TITANIUM	
20	32-32047-1427	CHANNEL	0.050	UNALLOYED TITANIUM	
21	32-32047-449	CHANNEL	0.050	UNALLOYED TITANIUM	
22	32-32047-1395	WEB	0.032	6AL-4V TITANIUM ALLOY	
	32-32047-1835	WEB	0.032	6AL-4V TITANIUM ALLOY	
	32-32047-1875	WEB	0.032	6AL-4V TITANIUM ALLOY	
23	32-32047-1239	INTERCOSTAL	0.040	8Mn TITANIUM ALLOY	
24	32-32047-1097	SUPPORT	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
25	32-32047-1237	INTERCOSTAL	0.040	8Mn TITANIUM ALLOY	
26	32-32047-1241	INTERCOSTAL	0.040	8Mn TITANIUM ALLOY	
27	32-32047-1235	INTERCOSTAL	0.040	8Mn TITANIUM ALLOY	
28	32-32047-1213	ANGLE	0.080	8Mn TITANIUM ALLOY	
29	32-32047-1247	INTERCOSTAL	0.045	8Mn TITANIUM ALLOY	
	32-32047-1799	INTERCOSTAL	0.045	8Mn TITANIUM ALLOY	
30	32-32047-1209	ANGLE	0.080	8Mn TITANIUM ALLOY	
31	32-32047-1459	INTERCOSTAL	0.040	8Mn TITANIUM ALLOY	
32	32-32047-1243	ANGLE	0.040	8Mn TITANIUM ALLOY	
33	32-32047-1413	WEB	0.032	8Mn TITANIUM ALLOY	
	32-32047-1611	WEB	0.032	8Mn TITANIUM ALLOY	
	32-32047-1639	WEB	0.032	8Mn TITANIUM ALLOY	
	32-32047-1655	WEB	0.032	8Mn TITANIUM ALLOY	
	32-32047-1753	WEB	0.040	8Mn TITANIUM ALLOY	
34	32-32047-1283	WEB	0.036	8Mn TITANIUM ALLOY	
	32-32047-1755	WEB	0.036	8Mn TITANIUM ALLOY	
	32-32047-1609	WEB	0.036	8Mn TITANIUM ALLOY	
	32-32047-1333	WEB	0.036	8Mn TITANIUM ALLOY	
35	32-32047-1403	RETAINER	0.025	321 CRES	MMS-251
	32-32047-1601	RETAINER	0.025	8Mn TITANIUM ALLOY	
36	32-32047-1405	DOOR			
37	32-32047-1423	SPLICE	0.040	8Mn TITANIUM ALLOY	
38	32-32047-1233	ANGLE	0.040	8Mn TITANIUM ALLOY	
39	32-32047-1219	ANGLE	0.040	8Mn TITANIUM ALLOY	
40	32-32047-1215	SUPPORT	0.025	2024-T3 ALCLAD	QQ-A-250/5 (T3)
41	32-32047-295	ANGLE	0.040	8Mn TITANIUM ALLOY	
42	32-32047-1399	SPLICE	0.040	8Mn TITANIUM ALLOY	
43	53-32037-3	SUPPORT	2.00	4140 STEEL	MIL-S-5626 (37)
44	32-32047-1283	ANGLE	0.040	8Mn TITANIUM ALLOY	

4C-3-1-2-(6-3)F

Figure 4-84. Keel - FS 359.66 thru FS 414.00 (Sheet 3 of 4)

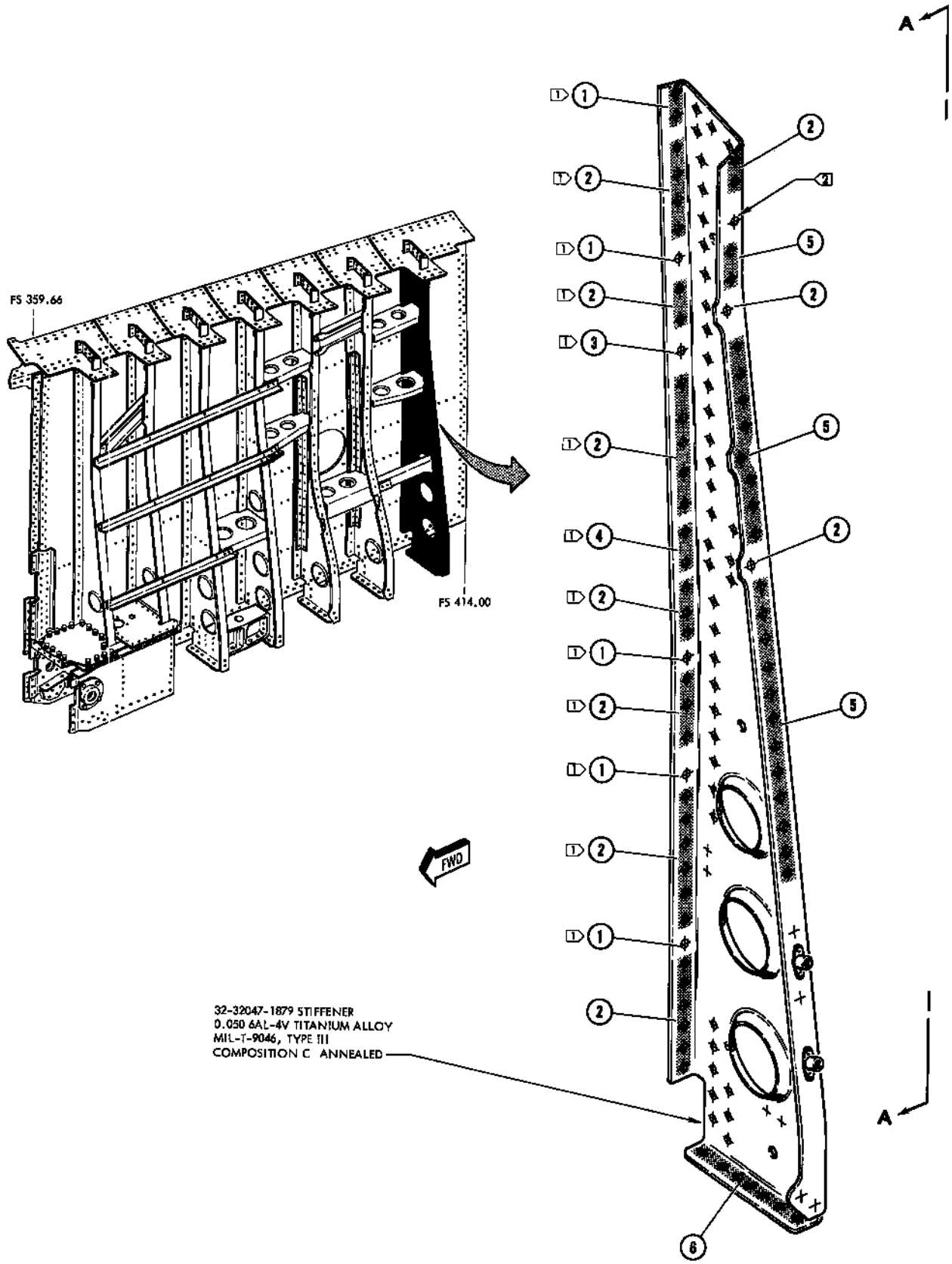
REF NO.	PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
45	53-32631-3	FITTING	FORGING	6AL-4V TITANIUM ALLOY	MIL-F-83142 COMP 6
	32G970425-3	FITTING	FORGING	6AL-4V TITANIUM ALLOY	MIL-F-83142 COMP 6
46	53-G971069-7	DOUBLER	0.050	6AL-4V TITANIUM ALLOY	[2]
47	32G32047-745	ANGLE	0.050	6AL-4V TITANIUM ALLOY	
48	32-32047-1766,-1765	SUPPORT	0.063	2024-T6 ALCLAD	QQ-A-250/5(T6)
	32G32047-83,-84	SUPPORT	0.063	2024-T6 ALCLAD	QQ-A-250/5(T6)
49	32-32047-1893	ANGLE	0.063	6AL-4V TITANIUM ALLOY	[2]
	32-32047-1231	ANGLE	0.063	8Mn TITANIUM ALLOY	[4]
	53G971069-17	ANGLE	0.063	6AL-4V TITANIUM ALLOY	[2]
50	32-32047-1891	ANGLE	0.090	6AL-4V TITANIUM ALLOY	[2]
	32-32047-1229	ANGLE	0.090	8Mn TITANIUM ALLOY	[4]
	53G971069-11	ANGLE	0.090	6AL-4V TITANIUM ALLOY	[2]
51	32-32047-1887	ANGLE	0.080	6AL-4V TITANIUM ALLOY	[2]
	32-32047-1275	ANGLE	0.050	8Mn TITANIUM ALLOY	[4]
	53G971069-19	ANGLE	0.080	6AL-4V TITANIUM ALLOY	[2]
52	32-32047-1925	TEE	1MT360-A01	6AL-4V TITANIUM ALLOY	[2]
	32-32047-1227	ANGLE	0.090	8Mn TITANIUM ALLOY	[4]
	53G971069-13	TEE	1MT360-A01	6AL-4V TITANIUM ALLOY	[2]
53	32-32047-1883	ANGLE	0.090	6AL-4V TITANIUM ALLOY	[2]
	32-32047-1225	ANGLE	0.063	8Mn TITANIUM ALLOY	[4]
	53G971069-9	ANGLE	0.090	6AL-4V TITANIUM ALLOY	
54	32-32047-1881	GUSSET	0.071	6AL-4V TITANIUM ALLOY	
	53G971069-5	GUSSET	0.071	6AL-4V TITANIUM ALLOY	
55	32-32047-1877	DOUBLER	0.071	6AL-4V TITANIUM ALLOY	[2]
	53G971069-3	DOUBLER	0.071	6AL-4V TITANIUM ALLOY	
56	32-32047-1905	ANGLE	0.080	6AL-4V TITANIUM ALLOY	
	32G32047-765	ANGLE	0.080	6AL-4V TITANIUM ALLOY	
57	32G32047-751	DOUBLER	0.080	6AL-4V TITANIUM ALLOY	
58	53-32632-3	FITTING	FORGING	6AL-4V TITANIUM ALLOY	MIL-F-83142 COMP 6
59	32-32047-1415	ANGLE	0.050	8Mn TITANIUM ALLOY	[4]
60	32-32047-1591	STIFFENER	0.032	8Mn TITANIUM ALLOY	[4]

Notes

[1] FOR FASTENERS AND MATERIAL REFERENCE TO 1F-4C-3-1-3.
[2] MIL-T-9046, TYPE III, COMPOSITION C, ANNEALED.
[3] MIL-T-9046, TYPE I, COMPOSITION B, ANNEALED.
[4] MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED.
[5] MIL-T-9046, TYPE II, COMPOSITION A, ANNEALED.
[6] DELETED.
(1) RF-4C 63-7750 THRU 72-156.
(2) F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 71-248 THRU 72-156.
(3) F-4C, F-4D 64-929 THRU 66-7650, AND RF-4C 63-7742 THRU 66-428.
(4) F-4D 66-7651 THRU 66-8825, F-4E 66-284 THRU 67-282, AND RF-4C 66-429 THRU 67-453.
(5) RF-4C 67-454 THRU 72-156.
(6) F-4E 67-283 THRU 68-451.
(7) F-4D 66-8781 THRU 66-8825.
(8) F-4D 66-7651 THRU 66-8825, RF-4C 66-429 THRU 72-156, F-4E, AND F-4G.
(9) F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4C, F-4D, F-4E 66-287 AND 66-296 THRU 69-7589, AND RF-4C 63-7742 THRU 71-252 BEFORE TO 1F-4-991.
(10) F-4C, F-4D, F-4E 66-287 AND 66-296 THRU 69-7589, AND RF-4C 63-7742 THRU 71-252 AFTER TO 1F 4-991 AND F-4G.
(11) F-4C, F-4D, F-4E 66-284 THRU 68-409, AND RF-4C 63-7742 THRU 68-576.
(12) F-4E 67-387 THRU 71-236, RF-4C 67-468 THRU 71-252 AND F-4G.
(13) F-4C 63-7407 THRU 63-7597 AND RF-4C 63-7742 THRU 63-7763.
(14) F-4C 63-7598 THRU 64-881, F-4D 64-929 THRU 64-937, AND RF-4C 64-997 THRU 65-838.
(15) F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, F-4E 66-284 THRU 67-386, AND RF-4C 65-839 THRU 67-467.
(16) F-4C, F-4D 64-929 THRU 66-8780, F-4E 66-284 THRU 68-451, AND RF-4C 63-7742 THRU 63-7749.
(17) F-4C, F-4D, RF-4C, AND F-4E 66-284 THRU 68-451.
(18) F-4E 68-452 AND UP AND F-4G.
(19) F-4E 68-410 AND UP, RF-4C 68-577 THRU 72-156 AND F-4G.
(20) F-4C, F-4D, RF-4C, F-4E 66-284 THRU 68-538, AND F-4E/G 69-236 THRU 69-7272 FOR FUTURE PROCUREMENT USE SUPERSEDING PART.
(21) F-4C, F-4D, RF-4C, F-4E/G 69-7273 THRU 69-7588, F-4E 69-7589 AND UP AND FUTURE PROCUREMENT FOR PRECEDING PART.
(22) F-4C, F-4D, RF-4C 63-7742 THRU 69-384 AND F-4E 66-284 THRU 68-538 AND F-4E/G 69-236 THRU 69-7578.
(23) F-4C, F-4D, RF-4C 63-7742 THRU 69-384, F-4E 66-284 THRU 69-7589, AND F-4G.
(24) RF-4C 71-248 THRU 72-156, AND F-4E 71-224 AND UP.
(25) F-4D 64-929 THRU 65-798 AND RF-4C 63-7742 THRU 66-387.
(26) F-4E, F-4D 65-799 THRU 66-8825, AND RF-4C 66-388 THRU 72-156.
(27) F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
(28) F-4E 66-284 THRU 71-236, RF-4C 63-7742 THRU 71-252, F-4C, F-4D, AND F-4G.
(29) F-4E 71-237 AND UP, AND RF-4C 71-253 THRU 72-156; ALSO F-4C, F-4D, F-4E 66-287 AND 66-296 THRU 69-7589, RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991, AND F-4G.
(30) FOR REPLACEMENT SEE, FIGURE 4-84A.
(31) FORGED AND MACHINED IN THE C CONDITION THEN HEAT TREATED TO 200-220 KSI.
(32) MIL-T-81556, TYPE III, COMPOSITION A, ANNEALED.

4C-3-1-2-(6-4)G

Figure 4-84. Keel - FS 359.66 thru FS 414.00 (Sheet 4 of 4)



4C-3-1-2-(358-1)

Figure 4-84A. Stiffener, 32-32047-1879, Replacement (Sheet 1 of 2)

REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	HS62-5-4	HS60-5	$0.156^{+.003}_{-.000}$
2	HS62-5-3	HS60-5	$0.156^{+.003}_{-.000}$
3	HS62-5-6	HS60-5	$0.156^{+.003}_{-.000}$
4	HS62-5-5	HS60-5	$0.156^{+.003}_{-.000}$
5	HS62-5-2	HS60-5	$0.156^{+.003}_{-.000}$
6	HS61-5-4	HS60-5	$0.156^{+.003}_{-.000}$

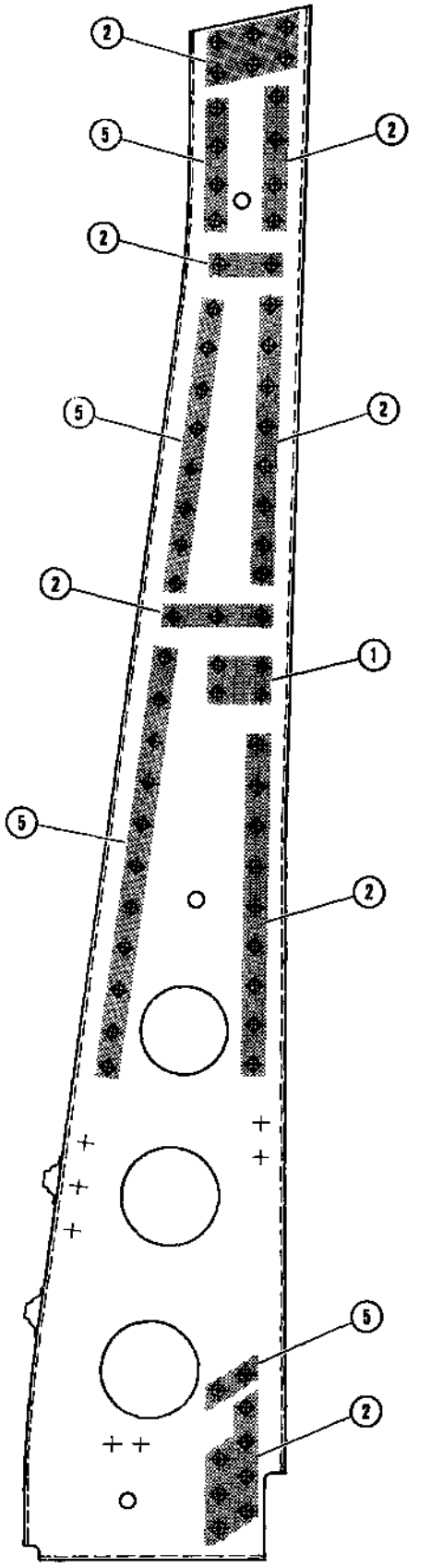
INSTALLATION PROCEDURE FOR NEW PART

A. ENLARGE PILOT HOLE INDICATED BY CENTERLINE MARK OVER CIRCLE (⊕) TO SIZE INDICATED IN CHART. REFER TO T.O. 1F-4C-3-1-1, FOR METHOD OF ENLARGING PILOT HOLE TO MATCH HOLE IN SUB-STRUCTURE. COUNTERSINK HOLE TO RECEIVE FASTENER.

B. REFINISH COUNTERSINK ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.

Notes

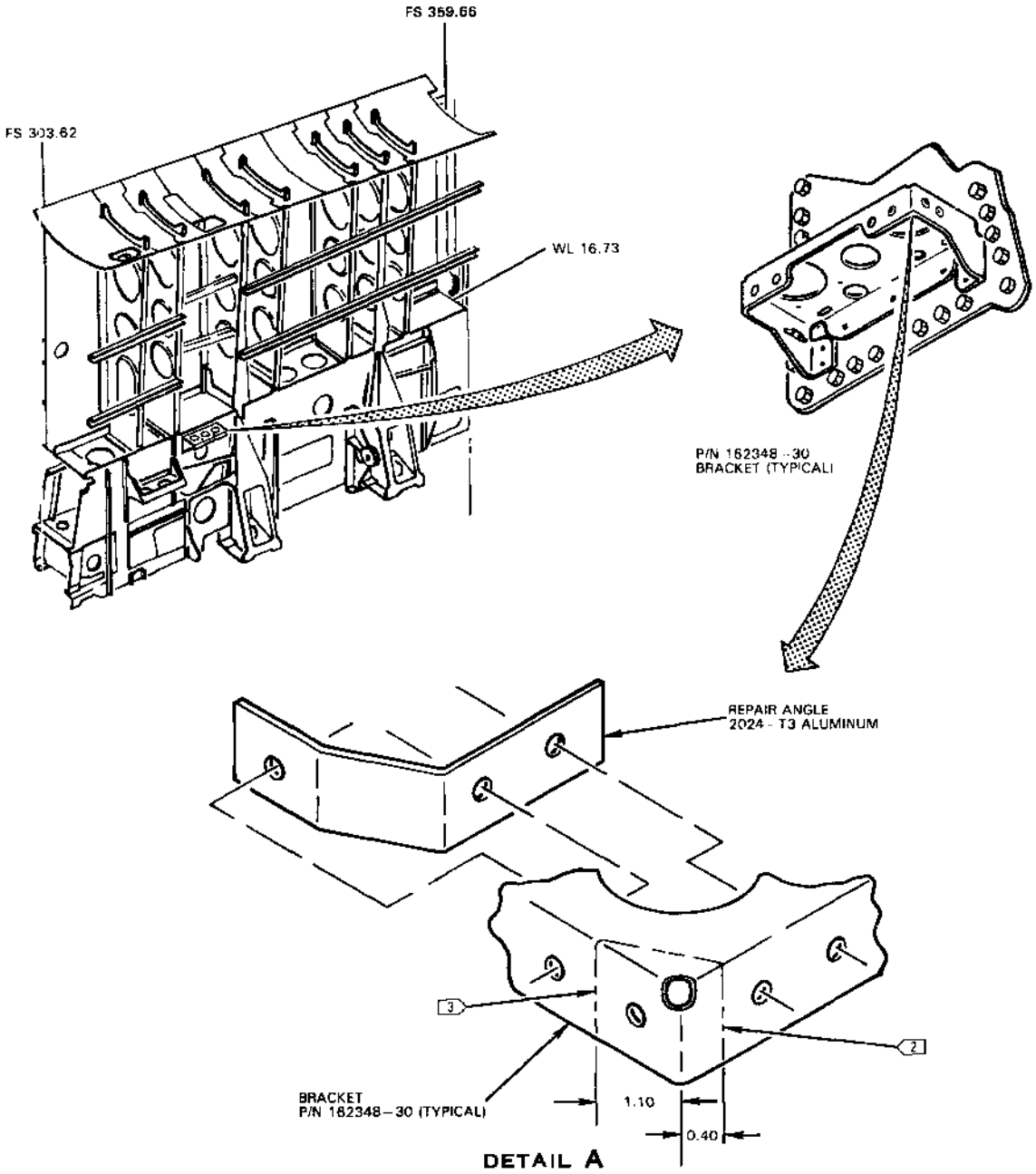
1. INSTALLED HEAD FAR SIDE.
2. $0.204^{+.007}_{-.000}$ DIAMETER HOLE.



VIEW A-A
(LOOKING FORWARD)

4C-3-1-2-(358-2)

Figure 4-84A. Stiffener, 32-32047-1879, Replacement (Sheet 2 of 2)



PROCEDURE

2 A. TRIM AFT OUTBOARD CORNER OF BRACKET, DETAIL A. REMOVE REMAINING FASTENER FROM DETAIL A.
B. FABRICATE A REPAIR ANGLE FROM 0.063 2024-T0 ALUMINUM FOR INSIDE OF BRACKET. AFTER BENDING HEAT TREAT TO 2024-T3.
C. CORROSION TREAT REWORKED AREA AND NEW PART PER TO 1F-4C-3-1-6.
D. MATCH DRILL AND INSTALL REPAIR ANGLE TO BRACKET WITH MS20470AD4 RIVETS, LENGTH AS REQUIRED.

Notes

1. THIS PROCEDURE ELIMINATES CHAFING BETWEEN AFT OUTBOARD CORNER OF 162348-30, 32G32046-177, -179 OR -181 BRACKET AND ENGINE IN LEFT HAND ENGINE BAY.
2. REMOVE AREA IN DASHED REGION.
3. PROVIDE ADEQUATE EDGE DISTANCE FOR REMAINING FASTENER HOLE.

4C-3-1-2-(388)84

Figure 4-84B. Electrical Bracket Chafing Repair

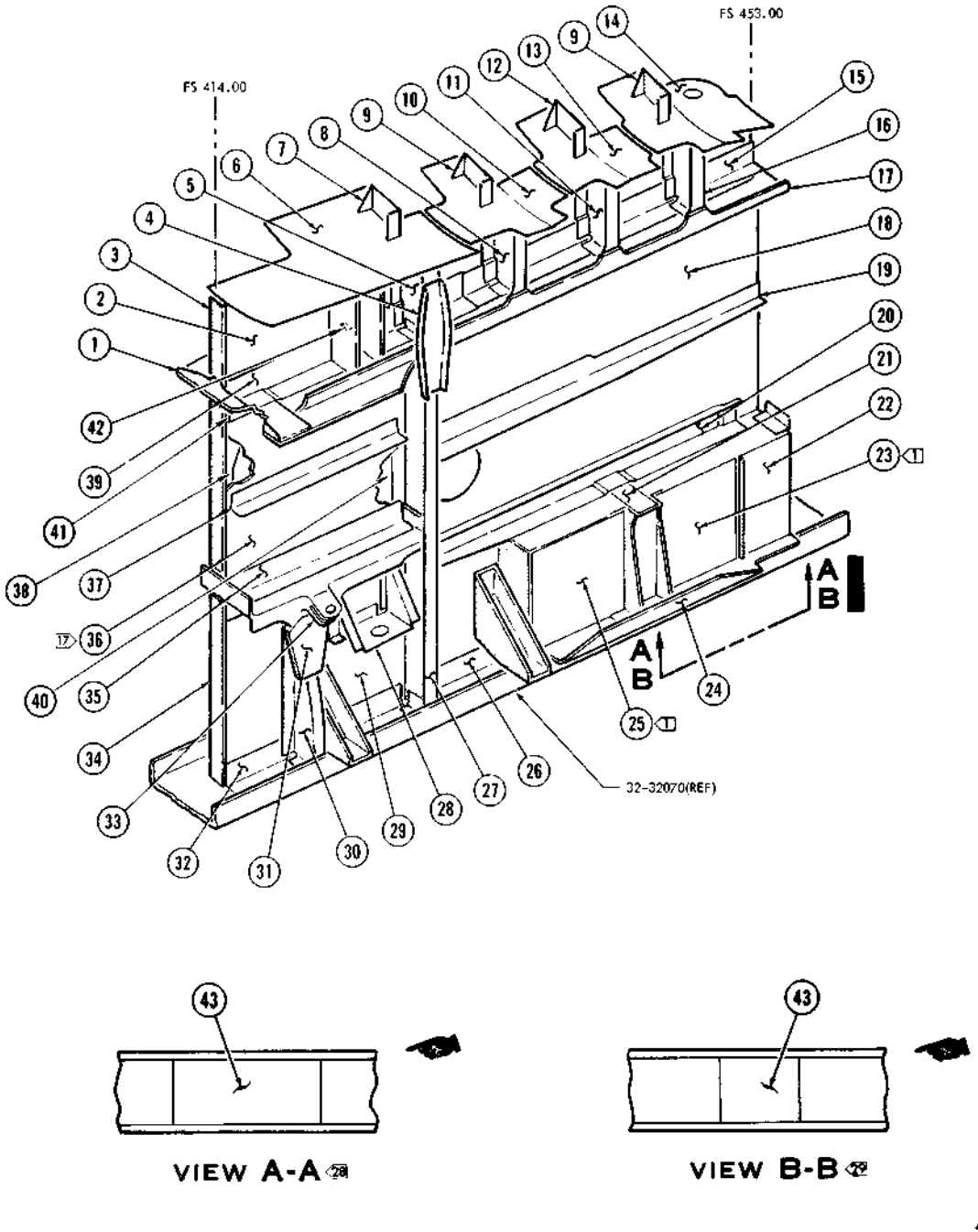


Figure 4-85. Keel - FS 414.00 thru FS 453.00 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32047-1145	ANGLE	0.050	4130 STEEL ALLOY	MIL-S-18729 (N)
2	32-32047-11	WEB	0.071	6AL-4V TITANIUM ALLOY	3
3	32-32047-201	ANGLE	0.071	8Mn TITANIUM ALLOY	
4	32-32047-21	GUSSET	0.080	8Mn TITANIUM ALLOY	4
5	32-32047-127	STIFFENER	0.090	8Mn TITANIUM ALLOY	
6	32-32293-3	PLATE	0.020	UNALLOYED TITANIUM	2
7	32-32047-105	CHANNEL	0.090	UNALLOYED TITANIUM	2
8	32-32047-131	STIFFENER	0.040	8Mn TITANIUM ALLOY	4
9	32-32047-453	CHANNEL	0.045	UNALLOYED TITANIUM	2
10	32-32293-5	PLATE	0.020	UNALLOYED TITANIUM	2
11	32-32047-135	STIFFENER	0.040	8Mn TITANIUM ALLOY	4
12	32-32047-451	CHANNEL	0.050	UNALLOYED TITANIUM	2
13	32-32293-7	PLATE	0.020	UNALLOYED TITANIUM	2
14	32-32293-13	PLATE	0.020	UNALLOYED TITANIUM	2
15	32-32047-173	ANGLE	0.040	8Mn TITANIUM ALLOY	4
16	32-32047-139	STIFFENER	0.040	8Mn TITANIUM ALLOY	
17	32-32146-5	LONGERON	FORGING	4340 STEEL ALLOY	MIL-S-5000 22
18	32-32047-1465	WEB	0.040	6AL-4V TITANIUM ALLOY	3
19	32-32047-1151	ANGLE	0.050	8Mn TITANIUM ALLOY	4
20	32-32047-1159	CHANNEL	0.056	8Mn TITANIUM ALLOY	
21	32-32047-1031	ANGLE	0.040	8Mn TITANIUM ALLOY	
22	32-32047-1025	STIFFENER	0.071	4130 STEEL ALLOY	MIL-S-18729 (N)
23	32-32047-1021	DOOR 1			
24 7	32-32379-11, -12	BEAM	FORGING	4330 STEEL ALLOY	AMS6427
11	32-32379-13, -14	BEAM	FORGING	4330 STEEL ALLOY	AMS6427
25	32-32047-1017	DOOR 1			
26	32-32047-1163	ANGLE	0.050	8Mn TITANIUM ALLOY	
27 5	32-32047-221	STIFFENER	0.090	8Mn TITANIUM ALLOY	4
6	32-32047-1719	STIFFENER	0.090	8Mn TITANIUM ALLOY	
28	32-32047-1257	BRACKET	0.040	8Mn TITANIUM ALLOY	
29 15	32-32047-425	WEB	0.045	6AL-4V TITANIUM ALLOY	3
9	32-32047-1545	WEB	0.045	6AL-4V TITANIUM ALLOY	
30	32-32047-249	STIFFENER	0.050	8Mn TITANIUM ALLOY	
31 5	32-32047-19	GUSSET	0.063	8Mn TITANIUM ALLOY	4
9	32-32047-1607	GUSSET	0.063	8Mn TITANIUM ALLOY	
32	32-32047-1375	ANGLE	0.050	8Mn TITANIUM ALLOY	
33 13	32-32047-7	FITTING	FORGING	4330 STEEL ALLOY	AMS6427
16	32-32145-9	FITTING	FORGING	4330 STEEL ALLOY	AMS6427
34	32-32047-1289	ANGLE	0.050	8Mn TITANIUM ALLOY	4
35 21	32-32047-203	ANGLE	0.050	8Mn TITANIUM ALLOY	
24	32-32047-1911	ANGLE	0.063	6AL-4V TITANIUM ALLOY	
36 18	32-32047-9	WEB 17	0.045	6AL-4V TITANIUM ALLOY	3
19	32-32047-1571	WEB 17	0.050	6AL-4V TITANIUM ALLOY	
20	32-32047-1761	WEB 17	0.050	8Mn TITANIUM ALLOY	4
21	32-32047-1841	WEB	0.050	8Mn TITANIUM ALLOY	
24	32-32047-1907	WEB	0.063	6AL-4V TITANIUM ALLOY	3
37 23	32-32047-161	ANGLE	0.063	8Mn TITANIUM ALLOY	4
24	32-32047-1915	ANGLE	0.063	6AL-4V TITANIUM ALLOY	3
38 18	32-32047-199	ANGLE	0.050	8Mn TITANIUM ALLOY	4
21	32-32047-1839	ANGLE	0.050	8Mn TITANIUM ALLOY	4
24	32-32047-1913	ANGLE	0.063	6AL-4V TITANIUM ALLOY	3
39 14	32-32047-1301	ANGLE	0.071	8Mn TITANIUM ALLOY	4
40 24	32-32047-1909	ANGLE	0.063	6AL-4V TITANIUM ALLOY	3
41 24	32-32047-1917	ANGLE	0.063	6AL-4V TITANIUM ALLOY	3
42 25	32-32226-13	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000 22
26	32-32227-9	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000 22
27	32-32227-7	FITTING	FORGING	4340 STEEL ALLOY	MIL-S-5000 22
43 28	53-32035-3	COVER 1			
29	53G32035-1	COVER 1			

Notes

1. FOR FASTENER AND MATERIAL CALLOUT REFERENCE TO 1F-4C-3-1-3.
2. MIL-T-9046 TYPE I, COMPOSITION B, ANNEALED.
3. MIL-T-9046 TYPE III, COMPOSITION C, ANNEALED.
4. MIL-T-9046 TYPE III, COMPOSITION A, ANNEALED.
5. F-4C 63-7598, RF-4C 64-997 THRU 72-156, F-4E, AND F-4G.
6. F-4C, F-4D 64-929 THRU 66-8825; F-4E 66-284 THRU 67-282; RF-4C 63-7742 THRU 67-453.
7. F-4E 67-283 AND UP, RF-4C 67-454 THRU 72-156, AND F-4G.
8. F-4C, F-4D 64-929 THRU 66-8698; F-4E 66-284 THRU 66-297; RF-4C 63-7742 THRU 66-450.
9. F-4D 66-8699 THRU 66-8825, F-4E 66-298 AND UP, RF-4C 66-451 THRU 72-156, AND F-4G.
10. F-4C 63-7407 THRU 63-7694; RF-4C 63-7742 THRU 64-1026.
11. F-4C 63-7695 THRU 64-928, RF-4C 64-1027 THRU 72-156, F-4D, F-4E, AND F-4G.
12. F-4C 63-7407 THRU 63-7597; RF-4C 63-7742 THRU 63-7763.
13. DELETED
14. F-4E 69-236 AND UP, RF-4C 69-349 THRU 72-156, AND F-4G.
15. F-4C, F-4D, RF-4C AND F-4E 66-284 THRU 68-538.
16. F-4E 69-236 AND UP AND F-4G.
17. SEE FIGURE 4-89 FOR REPAIR OF THIS WEB.
18. F-4C 63-7407 THRU 64-881, F-4D 64-929 THRU 64-937 AND RF-4C 63-7742 THRU 65-838 BEFORE T.O. 1F-4-991.
19. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, F-4C 64-882 THRU 64-928, F-4D 64-938 THRU 66-8825, F-4E 66-287, 66-296 THRU 68-538, AND RF-4C 65-839 THRU 68-611 BEFORE T.O. 1F-4-991.
20. F-4E 69-236 THRU 69-7589 AND RF-4C 69-349 THRU 69-384 BEFORE T.O. 1F-4-991.
21. RF-4C 71-248 THRU 71-252 BEFORE T.O. 1F-4-991.
22. FORGED AND MACHINED IN THE C CONDITION THEN HEAT TREATED TO 150 TO 180 KSI.
23. F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO, F-4C, F-4D, F-4E 66-287, 66-296 THRU 69-7589 AND RF-4C 63-7742 THRU 71-252 BEFORE T.O. 1F-4-991.
24. F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156; ALSO, F-4C, F-4D, F-4E 66-287, 66-296 THRU 69-7589 AND RF-4C 63-7742 THRU 71-252 AFTER T.O. 1F-4-991 AND F-4G.
25. LEFT SIDE.
26. F-4C 63-7407 THRU 64-904, F-4D 64-929 THRU 64-948, AND RF-4C 63-7742 THRU 65-849 RIGHT SIDE.
27. F-4C 64-905 THRU 64-928, F-4D 64-949 THRU 66-8825, RF-4C 65-850 THRU 72-156, F-4E, AND F-4G RIGHTSIDE.
28. BEFORE TO 1F-4C-502 AND TO 1F-4-1308.
29. AFTER TO 1F-4C-502 AND TO 1F-4-1308.

4C-3-1-3-(7-2)G

Figure 4-85. Keel - FS 414.00 thru FS 453.00 (Sheet 2 of 2)

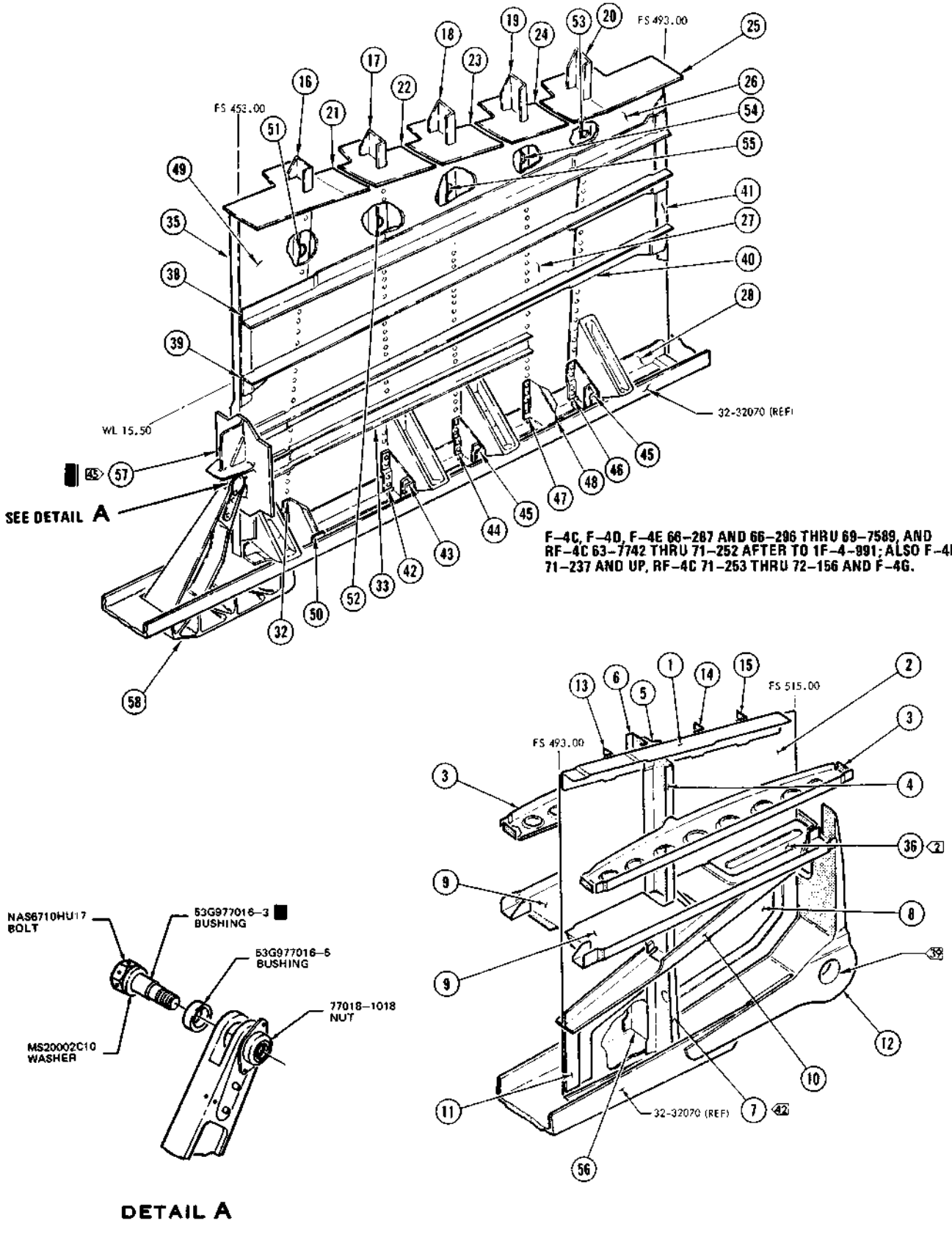
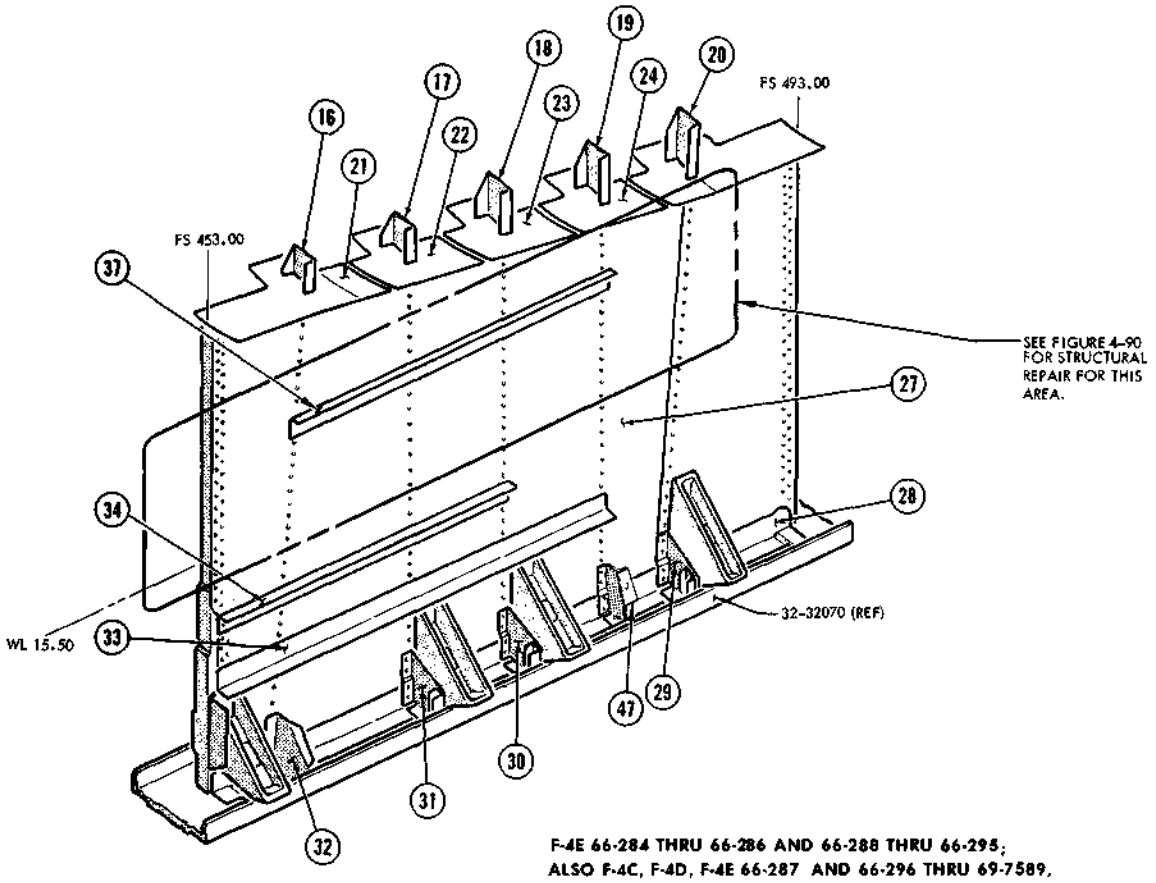


Figure 4-86. Keel - FS 453.00 thru FS 515.00 (Sheet 1 of 4)



F-4E 66-284 THRU 66-286 AND 66-288 THRU 66-295; ALSO F-4C, F-4D, F-4E 66-287 AND 66-296 THRU 69-7589, AND RF-4C 63-7742 THRU 71-252 BEFORE TO 1F-4-991.

Notes

1. MACHINED FORGING.
2. FOR FASTENER AND MATERIAL CALLOUT REFERENCE TO 1F-4C-3-1-3.
3. MIL-T-9046 TYPE I, COMPOSITION B, ANNEALED.
4. MIL-T-9046 TYPE III, COMPOSITION A, ANNEALED.
5. MIL-T-9046 TYPE III, COMPOSITION C, ANNEALED.
6. RF-4.
7. RF-4C 63-7742 THRU 63-7763.
8. RF-4C 64-997 THRU 72-156.
9. F-4C; F-4D 64-929 THRU 66-7475 AND RF-4C 63-7742 THRU 66-402.
10. F-4D 66-7476 THRU 66-8825, RF-4C 66-403 THRU 72-156, F-4E, AND F-4G.
11. F-4C AND RF-4C 63-7742 THRU 65-864.
12. RF-4C 65-865 THRU 72-156, F-4D, F-4E, AND F-4G.
13. F-4C; F-4D AND RF-4.
14. F-4E AND F-4G.
15. F-4C; F-4D, F-4E 66-284 THRU 66-382.
16. F-4E 67-208 THRU 68-409.
17. F-4C 63-7407 THRU 63-7420.
18. F-4C 63-7421 THRU 64-928 AND F-4D.
19. F-4C, AND F-4D.
20. F-4E 68-410 AND UPAND F-4G.
21. F-4C, F-4D, F-4E 66-284 THRU 68-483 AND RF-4C 63-7742 THRU 68-604.
22. F-4E 68-488 AND UP, RF-4C 68-605 THRU 72-156, AND F-4G.
23. FORGED AND MACHINED IN THE C CONDITION, THEN HEAT TREATED TO 150 TO 180 KSI.
24. F-4E 66-284 THRU 71-236, RF-4C 63-7742 THRU 71-252, F-4C, F-4D, AND F-4G.
25. F-4E 66-284 THRU 71-236, RF-4C 65-865 THRU 71-252, F-4D, AND F-4G.
26. FUTURE PROCUREMENT FOR 32-32048-479 WEB FOR F-4E 66-284 THRU 66-286, AND 66-288 THRU 66-295; ALSO, F-4D, F-4E 66-287, 66-296 THRU 69-7589, AND RF-4C 63-7742 THRU 71-252 BEFORE TO 1F-4-991.
27. F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7578, RF-4C 63-7742 THRU 69-384, F-4C, AND F-4D.
28. F-4E/G 69-7579 THRU 69-7588, F-4E 69-7589 THRU 71-236, AND RF-4C 71-248 THRU 71-252.
29. F-4E 71-237 AND UP AND RF-4C 71-253 THRU 72-156.
30. MIL-T-9046 TYPE II, COMPOSITION A, ANNEALED.
31. F-4E 66-284 THRU 71-236, RF-4C 63-7742 THRU 71-242, AND F-4G.
32. F-4E 66-284 THRU 66-286, 66-288 THRU 66-295; ALSO, F-4C, F-4D, F-4E 66-287, AND 66-296 THRU 69-7589, AND RF-4C 63-7742 THRU 71-252 BEFORE TO 1F-4-991.
33. F-4E 71-237 AND UP, AND RF-4C 71-253 THRU 72-156; ALSO, F-4C, F-4D, AND F-4E 66-287, 66-296 THRU 69-7589, RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991, AND F-4G.
34. F-4C, RF-4C 63-7742 THRU 65-864 BEFORE TO 1F-4-991.
35. F-4E 66-284 THRU 66-286, AND 66-288 THRU 66-295; ALSO F-4D, F-4E 66-287, AND 66-296 THRU 69-7589, AND RF-4C 65-865 THRU 71-252 BEFORE TO 1F-4-991.
36. F-4C, F-4D, F-4E 66-287, AND 66-296 THRU 69-7589, AND RF-4C 63-7742 THRU 71-252 AFTER TO 1F-4-991, AND F-4G.
37. F-4C 63-7407 THRU 63-7662 AND RF-4C 63-7742 THRU 64-1017.
38. F-4C 63-7663 THRU 64-928, RF-4C 64-1018 THRU 72-156, F-4D, F-4E, AND F-4G.
39. APPLY MIL-C-16173 GRADE 2 TO INSIDE DIAMETER OF HOLE FOR CORROSION PROTECTION.
40. HEAT TREAT 220 TO 240 KSI.
41. HEAT TREAT 180 TO 200 KSI.
42. FOR REPLACEMENT SEE FIGURE 4-91A.
43. ON F-4G AFTER TO 1F-4G-502.
44. ON F-4C, F-4D, F-4E, AND RF-4C AFTER TO 1F-4-1308.
45. SEE FIGURE 4-86B FOR REPAIR OF 32-32249-5 FITTING.

4C-3-1-2-(8-2)J

Figure 4-86. Keel - FS 453.00 thru FS 515.00 (Sheet 2 of 4)

REF NO.		PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1	10	32-32048-427	ANGLE	0.080	8Mn TITANIUM ALLOY	
	6	32-32048-445	ANGLE	0.080	8Mn TITANIUM ALLOY	4
	14	32-32048-701	ANGLE	0.080	8Mn TITANIUM ALLOY	
2	10	32-32048-413	WEB	0.071	6AL-4V TITANIUM ALLOY	
	6	32-32048-441	WEB	0.071	6AL-4V TITANIUM ALLOY	5
	14	32-32048-713	WEB	0.071	6AL-4V TITANIUM ALLOY	
3	15	32-32048-293, -294	CHANNEL	0.032	8Mn TITANIUM ALLOY	
	16	32-32048-431, -432	CHANNEL	0.032	8Mn TITANIUM ALLOY	
	6	32-32048-431, -450	CHANNEL	0.032	8Mn TITANIUM ALLOY	
	14	32-32048-731, -732	CHANNEL	0.032	8Mn TITANIUM ALLOY	4
4	15	32-32048-277	STIFFENER	0.032	8Mn TITANIUM ALLOY	
	16	32-32048-739	STIFFENER	0.032	8Mn TITANIUM ALLOY	
	20	32-32048-747	STIFFENER	0.032	8Mn TITANIUM ALLOY	
	6	32-32048-443	STIFFENER	0.032	8Mn TITANIUM ALLOY	
5	17	32-32273-5	TEE	1M5900	4330 STEEL ALLOY	AMS6427 40
	8	32-32273-7	TEE	1M5900	4330 STEEL ALLOY	AMS6427 40
	14	32-32273-9	TEE	1M5900	4330 STEEL ALLOY	AMS6427 40
6	10	32-32048-29	STIFFENER	0.032	8Mn TITANIUM ALLOY	
	7	32-32048-439	STIFFENER	0.032	8Mn TITANIUM ALLOY	
	6	32-32048-471	STIFFENER	0.032	8Mn TITANIUM ALLOY	4
	14	32-32048-715	STIFFENER	0.032	8Mn TITANIUM ALLOY	
7		32-32048-31, 42	STIFFENER	0.032	8Mn TITANIUM ALLOY	
8	13	32-32048-7	WEB	0.125	6AL-4V TITANIUM ALLOY	
	14	32-32048-711	WEB	0.125	6AL-4V TITANIUM ALLOY	5
9	19	32-32048-409, -411	SEAL	0.032	8Mn TITANIUM ALLOY	
	6	32-32048-457, -411	SEAL	0.032	8Mn TITANIUM ALLOY	4
	14	32-32048-727, -729	SEAL	0.032	8Mn TITANIUM ALLOY	
10	9	32-32156-7	FITTING	1	4340 STEEL ALLOY	MIL-S-5000 23
	10	32-32156-13	FITTING	1	4340 STEEL ALLOY	MIL-S-5000 23
11		32-32048-75	STIFFENER	0.250	6AL-4V TITANIUM ALLOY	5
12	21	32-32071-5	FITTING	1	4330 STEEL ALLOY	AMS6427 41
	22	32-32071-11	FITTING	1	4330 STEEL ALLOY	AMS6427
13		32-32048-35	STIFFENER	0.080	8Mn TITANIUM ALLOY	
14		32-32048-37	STIFFENER	0.080	8Mn TITANIUM ALLOY	
15		32-32048-39	STIFFENER	0.080	8Mn TITANIUM ALLOY	
16	24	32-32048-159	STIFFENER	0.036	8Mn TITANIUM ALLOY	
	29	32-32048-773	STIFFENER	0.036	8Mn TITANIUM ALLOY	
17	11	32-32048-117	STIFFENER	0.040	8Mn TITANIUM ALLOY	
	26	32-32048-483	STIFFENER	0.040	8Mn TITANIUM ALLOY	4
	29	32-32048-775	STIFFENER	0.036	8Mn TITANIUM ALLOY	
18	11	32-32048-269	STIFFENER	0.036	8Mn TITANIUM ALLOY	
	26	32-32048-487	STIFFENER	0.036	8Mn TITANIUM ALLOY	
	29	32-32048-777	STIFFENER	0.036	8Mn TITANIUM ALLOY	
19	11	32-32048-173	STIFFENER	0.036	8Mn TITANIUM ALLOY	
	26	32-32048-481	STIFFENER	0.036	8Mn TITANIUM ALLOY	
	29	32-32048-779	STIFFENER	0.036	8Mn TITANIUM ALLOY	
20	11	32-32048-259	STIFFENER	0.036	8Mn TITANIUM ALLOY	
	12	32-32048-485	STIFFENER	0.036	8Mn TITANIUM ALLOY	
21	24	32-32294-3	PLATE	0.020	UNALLOYED TITANIUM	
	33	32-32294-21	PLATE	0.020	UNALLOYED TITANIUM	
22	24	32-32294-5	PLATE	0.020	UNALLOYED TITANIUM	
	29	32-32294-23	PLATE	0.020	UNALLOYED TITANIUM	3
23	24	32-32294-7	PLATE	0.020	UNALLOYED TITANIUM	
	33	32-32294-25	PLATE	0.020	UNALLOYED TITANIUM	
24	24	32-32294-9	PLATE	0.020	UNALLOYED TITANIUM	
	29	32-32294-27	PLATE	0.020	UNALLOYED TITANIUM	
25	33	32-32294-17	PLATE	0.020	5AL-2.5Sn TITANIUM ALLOY	
	28	32-32294-19	PLATE	0.020	5AL-2.5Sn TITANIUM ALLOY	30
	29	32-32294-29	PLATE	0.020	5AL-2.5Sn TITANIUM ALLOY	
26	32	32-32048-233	WEB	0.032	6AL-4V TITANIUM ALLOY	
	34	32-32048-765	WEB	0.032	6AL-4V TITANIUM ALLOY	
27	36	32-32048-223	WEB	0.032	6AL-4V TITANIUM ALLOY	
	35	32-32048-479	WEB	0.032	6AL-4V TITANIUM ALLOY	5
	26	32-32048-759	WEB	0.032	6AL-4V TITANIUM ALLOY	
	38	32-32048-763	WEB	0.045	6AL-4V TITANIUM ALLOY	
28	32	32-32048-271	CAP	0.036	8Mn TITANIUM ALLOY	4
	34	32-32048-769	CAP	0.050	6AL-4V TITANIUM ALLOY	5
29	36	32-32048-263	GUSSET	0.036	8Mn TITANIUM ALLOY	
30	37	32-32048-265	GUSSET	0.036	8Mn TITANIUM ALLOY	
31	5	32-32048-129	GUSSET	0.036	8Mn TITANIUM ALLOY	4
32	35	32-32048-91	GUSSET	0.036	8Mn TITANIUM ALLOY	
	1	32-32048-827	GUSSET	0.036	8Mn TITANIUM ALLOY	
33	30	32-32048-447	CHANNEL	0.071	4130 STEEL ALLOY	MIL-S-18729(N)
	31	32-32048-809	CHANNEL	0.071	4130 STEEL ALLOY	MIL-S-18729(N) 41
34	32	32-32048-183	ANGLE	0.063	4130 STEEL ALLOY	MIL-S-18729(N)
35	32	32-32048-161	ANGLE	0.036	4130 STEEL ALLOY	MIL-S-18728(N)

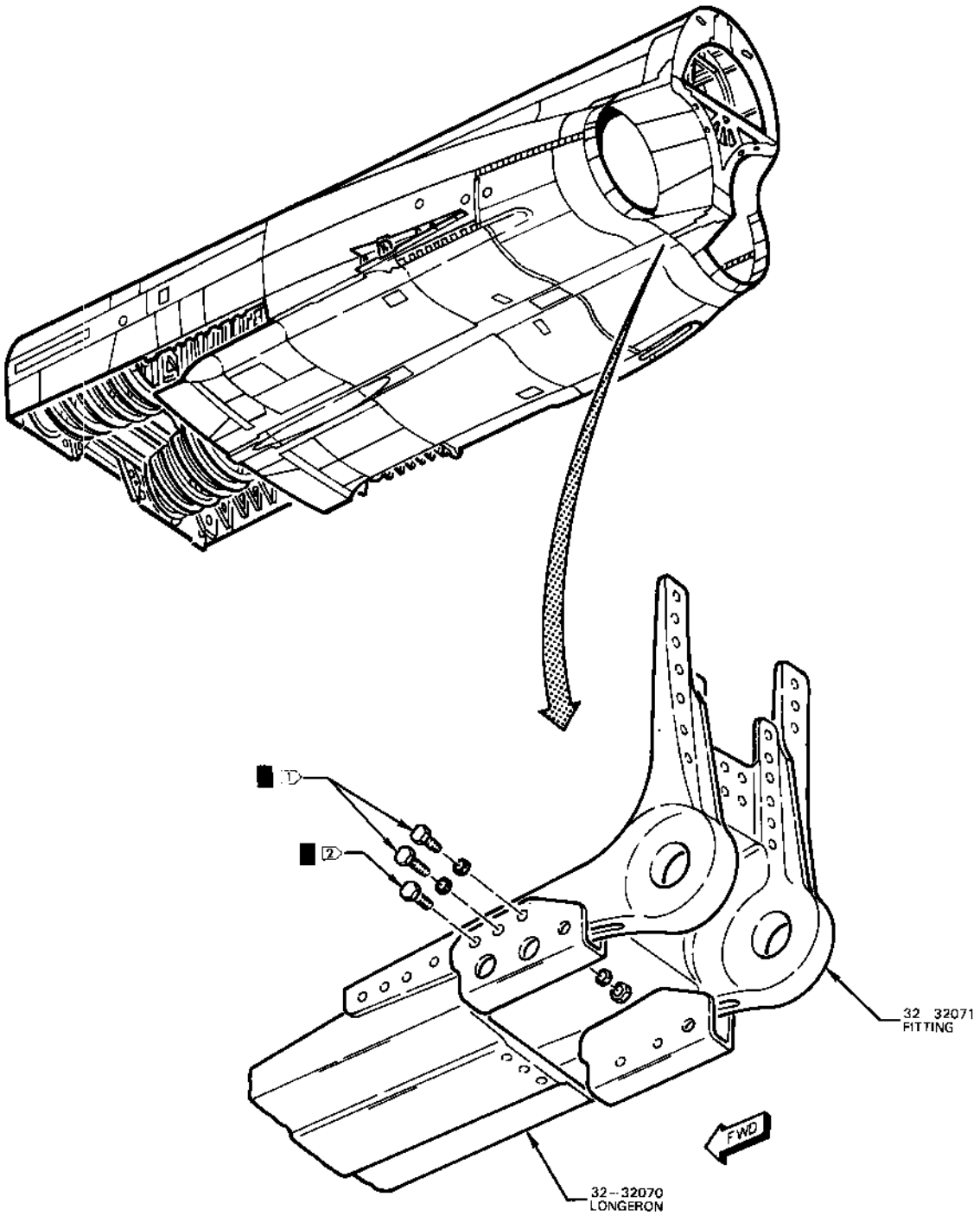
4C-3-1-2-(8-3)E

Figure 4-86. Keel - FS 453.00 thru FS 515.00 (Sheet 3 of 4)

REF NO.		PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
	33	32-32048-771	ANGLE	0.050	4130 STEEL ALLOY	MIL-S-18729(N) (41)
36		32-32048-405	DOOR (2)			
37	31	32-32048-477	STIFFENER	0.032	8Mn TITANIUM ALLOY	(4)
	40	53G971069-25	STIFFENER	0.063	6AL-4V TITANIUM ALLOY	
38	29	32-32048-803	STIFFENER	0.063	6AL-4V TITANIUM ALLOY	
39	26	53G971069-27	STIFFENER	0.063	6AL-4V TITANIUM ALLOY	(5)
	28	32-32048-805	STIFFENER	0.063	6AL-4V TITANIUM ALLOY	
40	27	32-32048-807	STIFFENER	0.063	4130 STEEL ALLOY	MIL-S-18729(N) (41)
41	24	32-32048-825	STRAP	0.050	6AL-4V TITANIUM ALLOY	(5)
42	25	32-32048-829	GUSSET	0.036	8Mn TITANIUM ALLOY	(4)
43	22	32-32048-419	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	(5)
	23	32-32048-465	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	(5)
44	21	32-32048-831	GUSSET	0.036	8Mn TITANIUM ALLOY	(4)
45	20	32-32048-423	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	(5)
	19	32-32048-463	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	(5)
46	34	32-32048-835	GUSSET	0.036	8Mn TITAMIUM ALLOY	(4)
47	32	32-32048-257	GUSSET	0.036	8Mn TITANIUM ALLOY	(4)
	30	32-32048-833	GUSSET	0.036	8Mn TITANIUM ALLOY	(4)
48	17	32-32048-421	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	
	16	32-32048-469	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	
49	14	32-32048-823	DOUBLER	0.050	6AL-4V TITANIUM ALLOY	
50	37	32-32048-417	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	(5)
	38	32-32048-467	TEE	WELD ASSY	6AL-4V TITANIUM ALLOY	
51	53	32-32048-783	ANGLE	0.050	6AL-4V TITANIUM ALLOY	
52	10	32-32048-785	ANGLE	0.050	6AL-4V TITAMIUM ALLOY	
53	35	32-32048-787	ANGLE	0.050	6AL-4V TITANIUM ALLOY	
54	11	32-32048-789	ANGLE	0.050	6AL-4V TITANIUM ALLOY	
55	52	32-32048-235	ANGLE	0.040	8Mn TITANIUM ALLOY	(4)
	36	32-32048-791	ANGLE	0.050	6AL-4V TITANIUM ALLOY	(5)
56	12	32-32048-33	STIFFENER	0.032	8Mn TITANIUM ALLOY	(4)
	15	32-32048-703	STIFFENER	0.032	8Mn TITANIUM ALLOY	(4)
57	45	32-32249-5	FITTING	FORGING	4330 STEEL ALLOY	AMS6427 (40)
58	42	53G977015-5	FITTING	FORGING	4340 STEEL ALLOY	AMS6414 (41)
	43	53G977015-9	FITTING	FORGING	4340 STEEL ALLOY	AMS6416 (41)

4C-3-1-2-(8-4)

Figure 4-86. Keel - FS 453.00 thru FS 515.00 **(Sheet 4 of 4)**



Notes

1. FOR REPLACEMENT INSTALL.

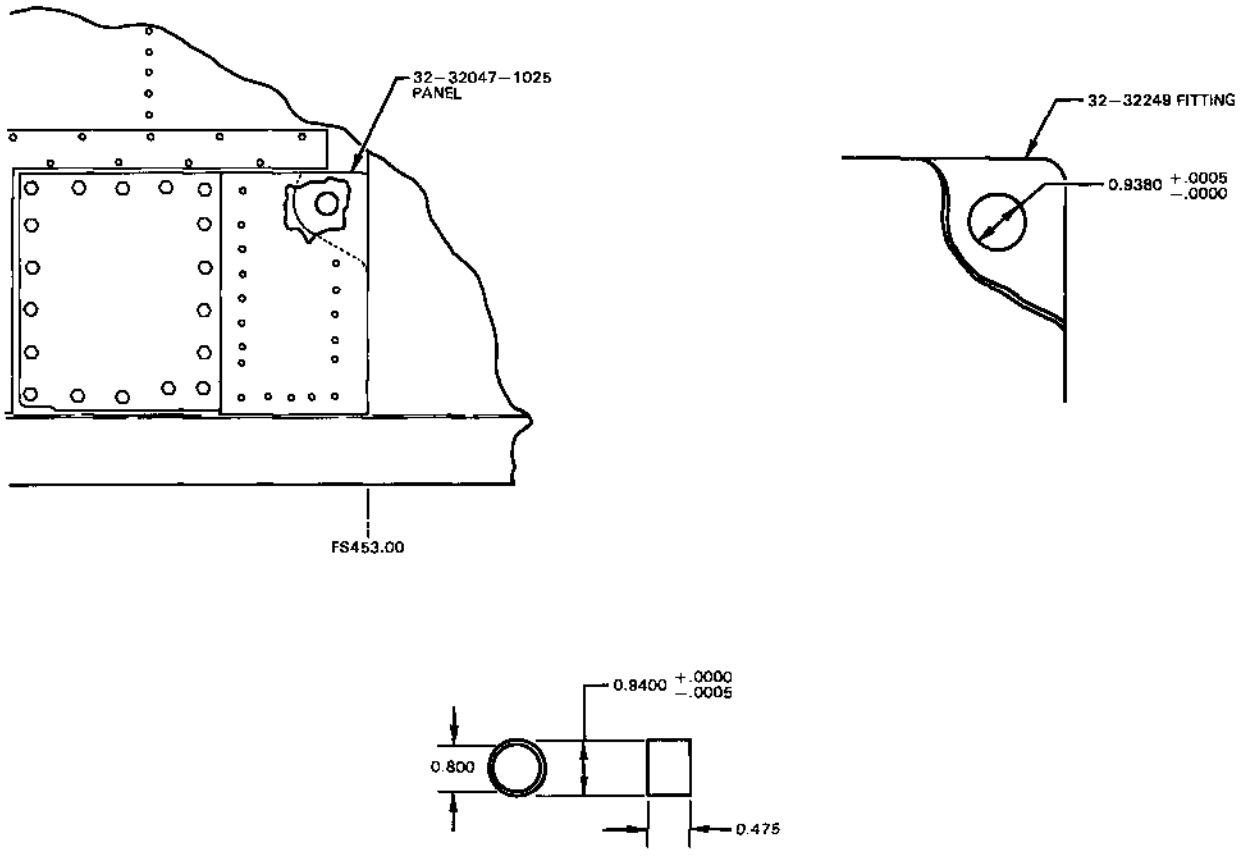
3M33-6-16 BOLT	6 PLACES		NAS6706U16 BOLT	6 PLACES
MS21043-6 NUT	6 PLACES	OR	MS21043-6 NUT	6 PLACES
AN960C616L WASHER	4 PLACES (3)		AN960C616L WASHER	4 PLACES
AN960C616 WASHER	6 PLACES		AN960C616 WASHER	6 PLACES

2. MACHINE OR GRIND HEAD OF FORWARD BOLT AS REQUIRED TO CLEAR FAIRING.

3. WASHER NOT REQUIRED UNDER HEAD OF FORWARD BOLT. (REF 2). 3-BOLTS NOT SHOWN FOR FAR SIDE OF FITTING.

4C-3-1-2-(427)A

Figure 4-86A. Fastener Replacement, Arresting Gear Fitting 32-32071



REPAIR BUSHING
17–7 PH STAINLESS STEEL

Note

1. ALIGNMENT TOOL REQUIRED TO COMPLETE REPAIR IS PART NUMBER 53G977014–5001.

REPAIR PROCEDURE

A. CLEAN BORE OF 32–32249 FITTING UNTIL 70 PERCENT OF SURFACE IS FREE OF CORROSION.
B. IF BORE DIAMETER EXCEEDS 0.815 AFTER CLEANUP, INSTALLATION OF BUSHING IS REQUIRED.
C. REMOVE 32–32047–1025 PANEL FOR ACCESS TO 32–32249 FITTING.
D. REAM FITTING BORE TO 0.9380.
E. MANUFACTURE BUSHING OUTSIDE DIAMETER TO PROVIDE .0015±.005 INTERFERENCE FIT IN BORE.
F. INSTALL BUSHING IN FITTING.
G. FINAL REAM INSIDE DIAMETER OF BUSHING TO $0.8125^{+.0005}_{-.0000}$ AFTER INSTALLATION.
H. REINSTALL 32–32047–1025 PANEL USING ORIGINAL TYPE FASTENERS.

☆U.S. GOVERNMENT PRINTING OFFICE: 1989–754–016/20004

4C–3–1–2–(436)A

Figure 4-86B. Bushing Repair, 32-32249 Fitting

All data on pages 4-212C thru 4-212F, including figure 4-86C deleted.

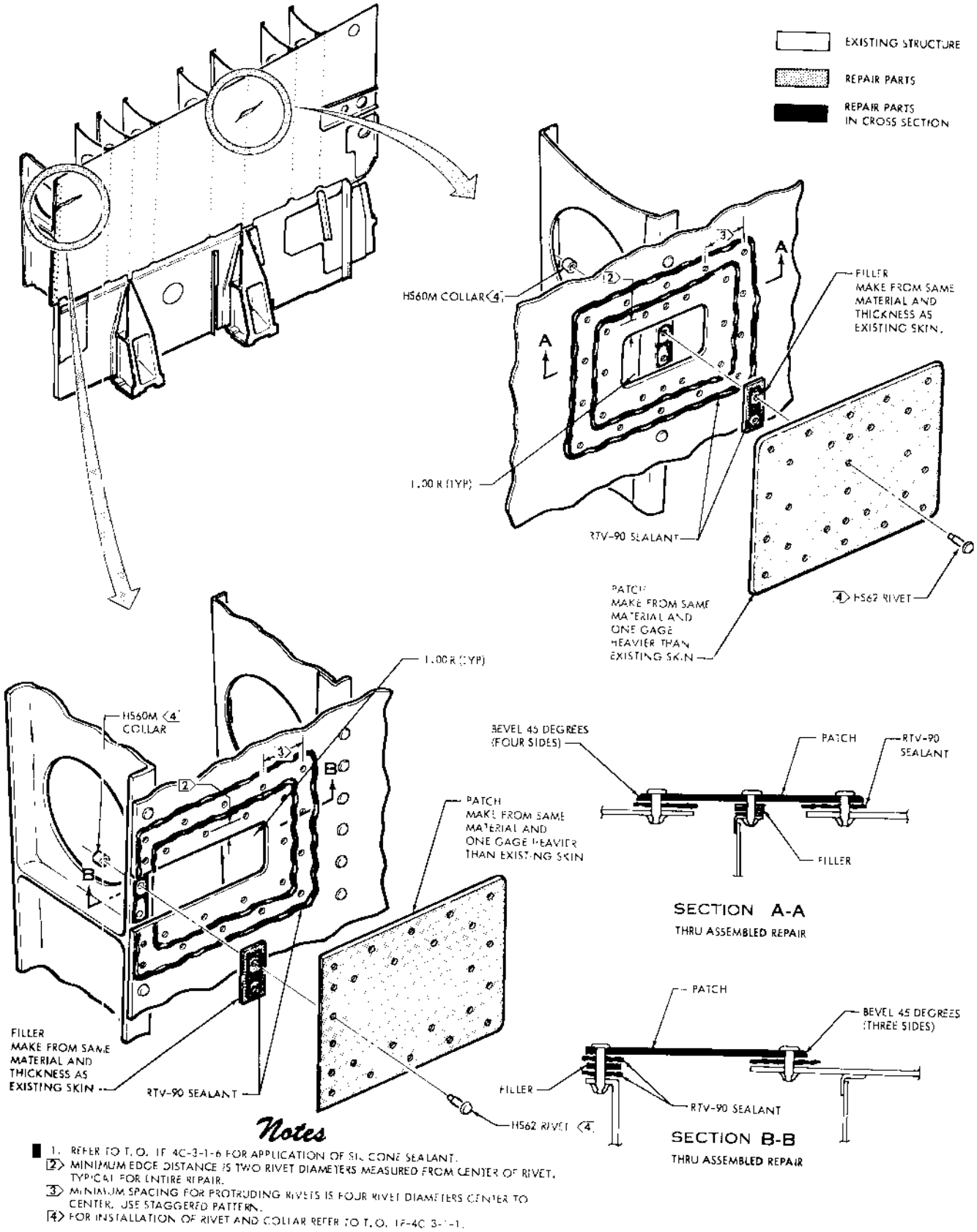
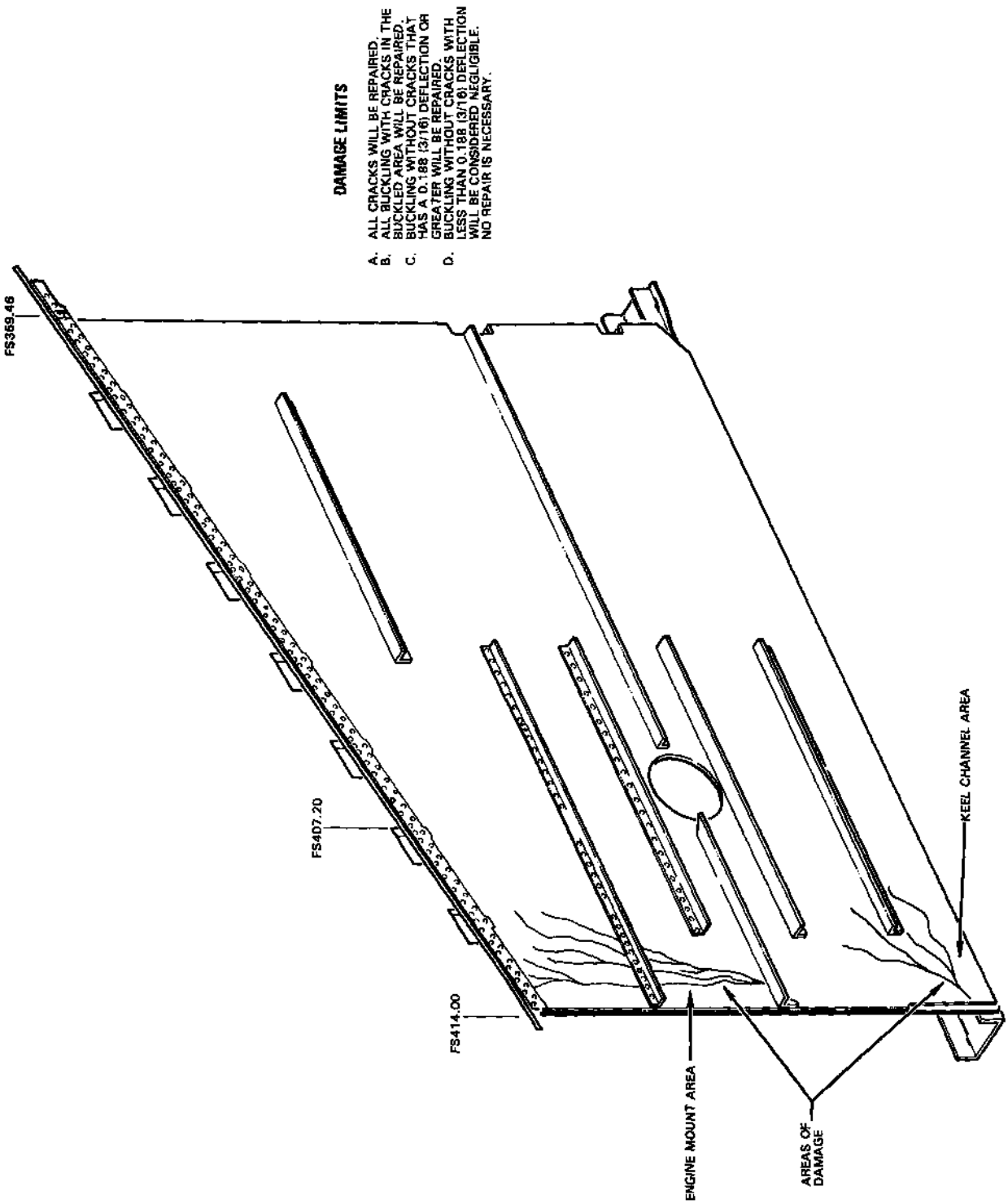


Figure 4-87. Keel Web Repairs



MAJOR CHANGE

4C-3-1-2-(128-1)G

Figure 4-88. Keel Web Repair - FS 359.66 thru FS 414.00 (Sheet 1 of 3)

All data on pages 4-214A thru 4-214B deleted.

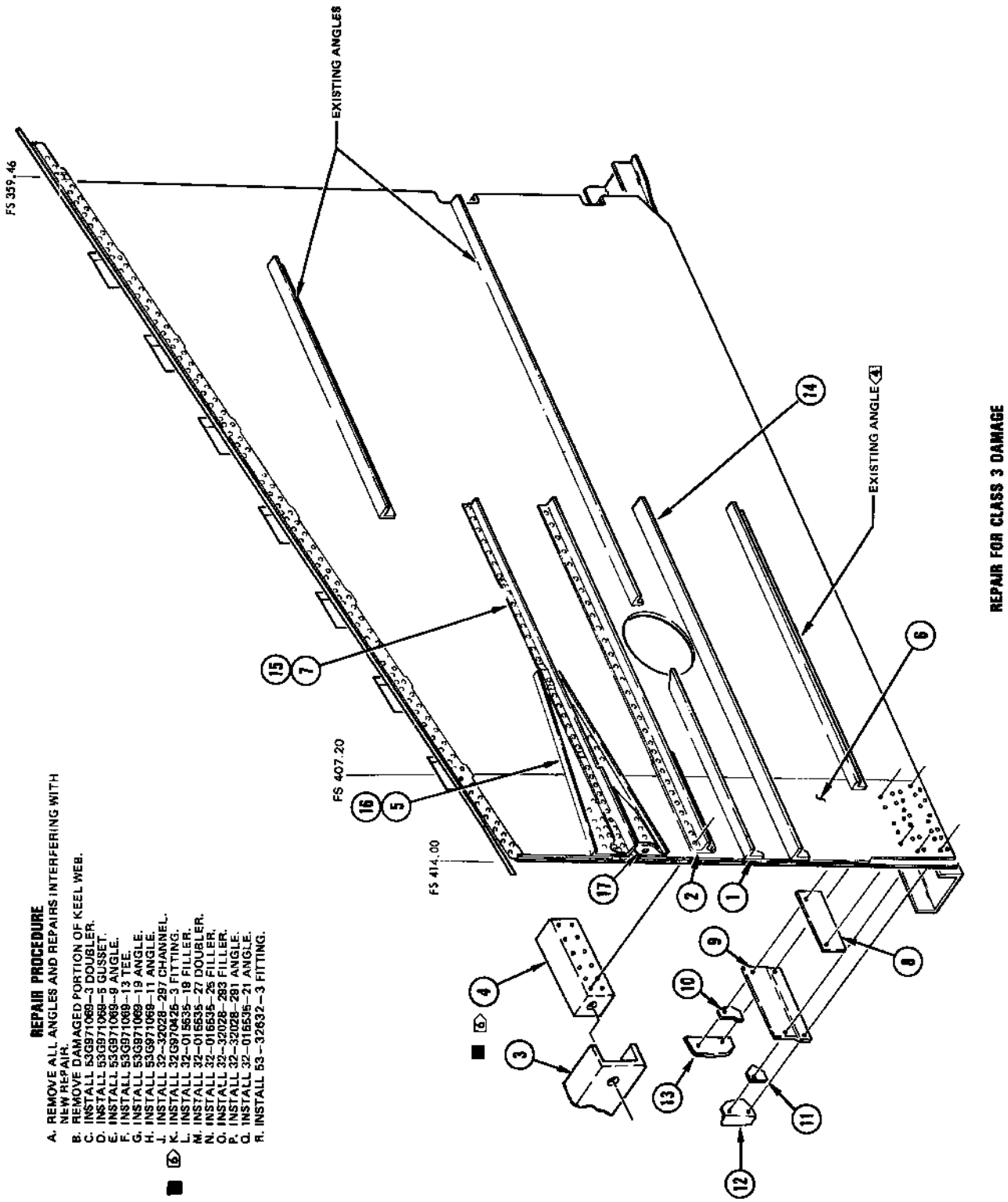


Figure 4-88. Keel Web Repair - FS 359.66 thru FS 414.00 (Sheet 2 of 3)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53G971069-19	ANGLE	0.080	6AI-4V TITANIUM ALLOY	(3)
2	53G971069-13	TEE	1MT360-A01	6AI-4V TITANIUM ALLOY	(3)
3	32-32028-297	CHANNEL	0.090	4130 CRES	MIL-S-18729 COND. N
4	(6) 32G970425-3	FITTING	FORGING	6AI-4V TITANIUM ALLOY	MIL-T-9047 COMP. 5
5	53G971069-5	GUSSET	0.071	6AI-4V TITANIUM ALLOY	
6	53G971069-3	DOUBLER	0.071	6AI-4V TITANIUM ALLOY	
7	53G971069-9	ANGLE	0.090	6AI-4V TITANIUM ALLOY	
8	32-015535-19	FILLER	0.071	6AI-4V TITANIUM ALLOY	
9	32-015535-27	DOUBLER	0.080	6AI-4V TITANIUM ALLOY	
10	32-015535-25	FILLER	0.125	6AI-4V TITANIUM ALLOY	
11	32-32028-293	FILLER	0.112	6AI-4V TITANIUM ALLOY	(3)
12	32-32028-291	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
13	32-015535-21	ANGLE	0.050	6AI-4V TITANIUM ALLOY	
14	53G971069-11	ANGLE	0.090	6AI-4V TITANIUM ALLOY	
15	53G971069-15	FILLER	0.071	6AI-4V TITANIUM ALLOY	
16	53G971069-21	FILLER	0.071	6AI-4V TITANIUM ALLOY	
17	53-32632-3	FITTING	FORGING	53-32633-3F	

Notes

1. INSTALL REPAIR PARTS PER DRAWING 53G32003.
2. PARTS AVAILABLE FROM SUPPLY.
3. (3) MIL-T-9046, TYPE III COMPOSITION C ANNEALED.
4. (4) REMOVE AND REINSTALL EXISTING ANGLE. SHIM AS REQUIRED FOR PROPER INSTALLATION.
5. IF ABOVE REPAIR PARTS ARE UNAVAILABLE FROM SUPPLY, CONTACT ENGINEERING, 00-ALC/MMSRA, FOR POSSIBLE MATERIAL SUBSTITUTION.
6. (6) AIR FORCE PART NUMBER 8412693 SUPERSEDES THE 32G970425-3 FITTING.

4C-3-1-2-(128-3)87

Figure 4-88. Keel Web Repair - FS 359.66 thru FS 414.00 (Sheet 3 of 3)

☆U.S. GOVERNMENT PRINTING OFFICE: 1989 - 654-017/00232

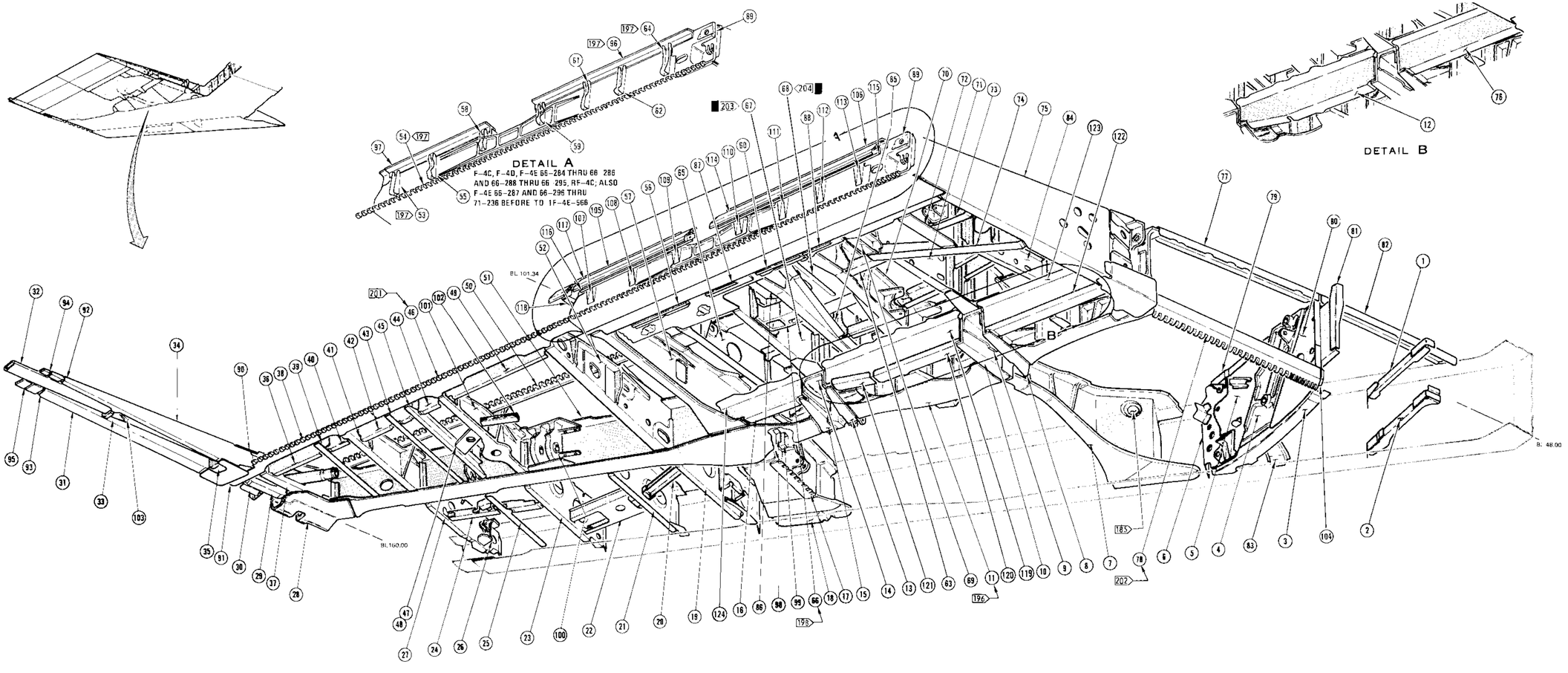


Figure 2-83. Wheel Well and Trailing Edge Lower Structural Repair Index (Sheet 1 of 7)

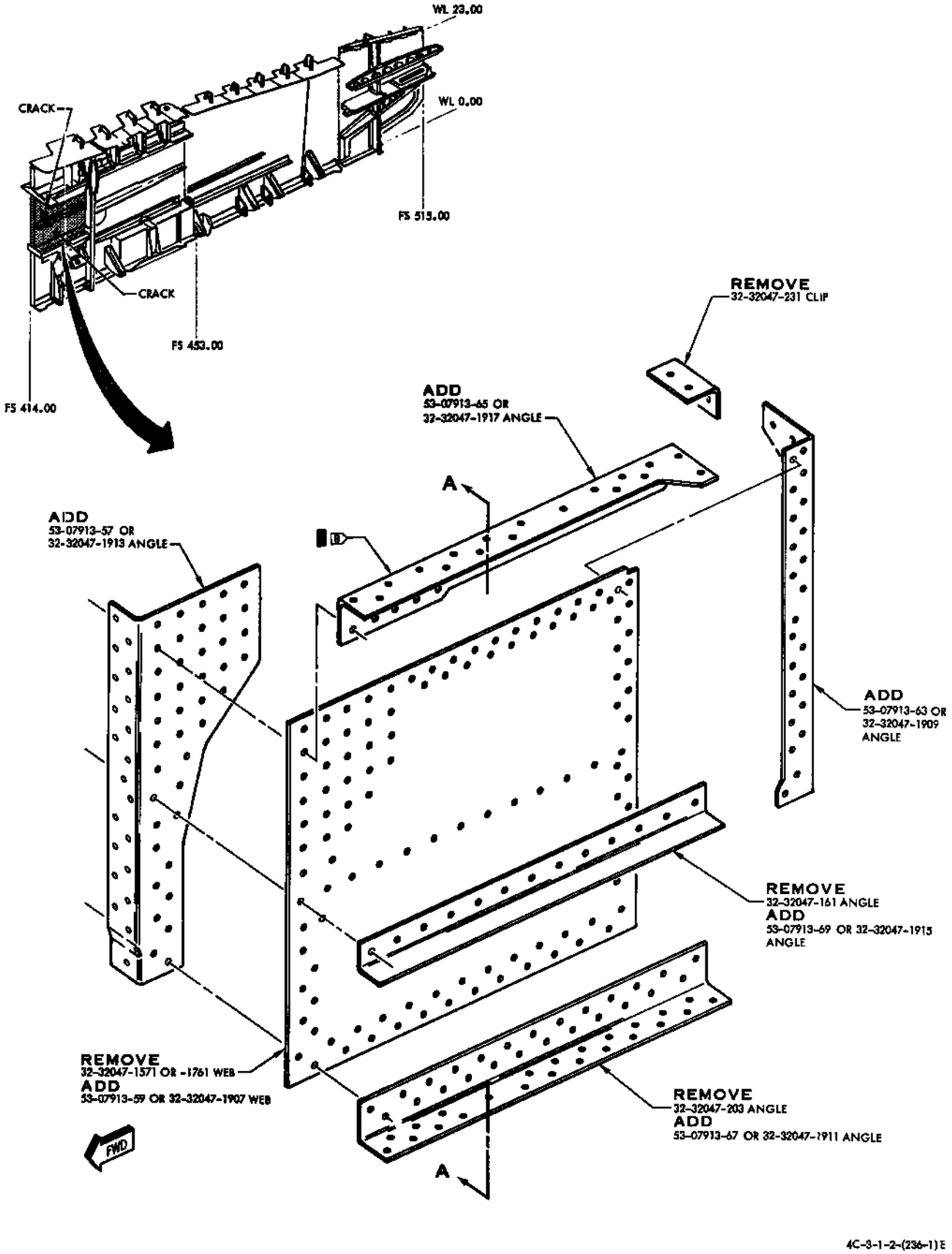
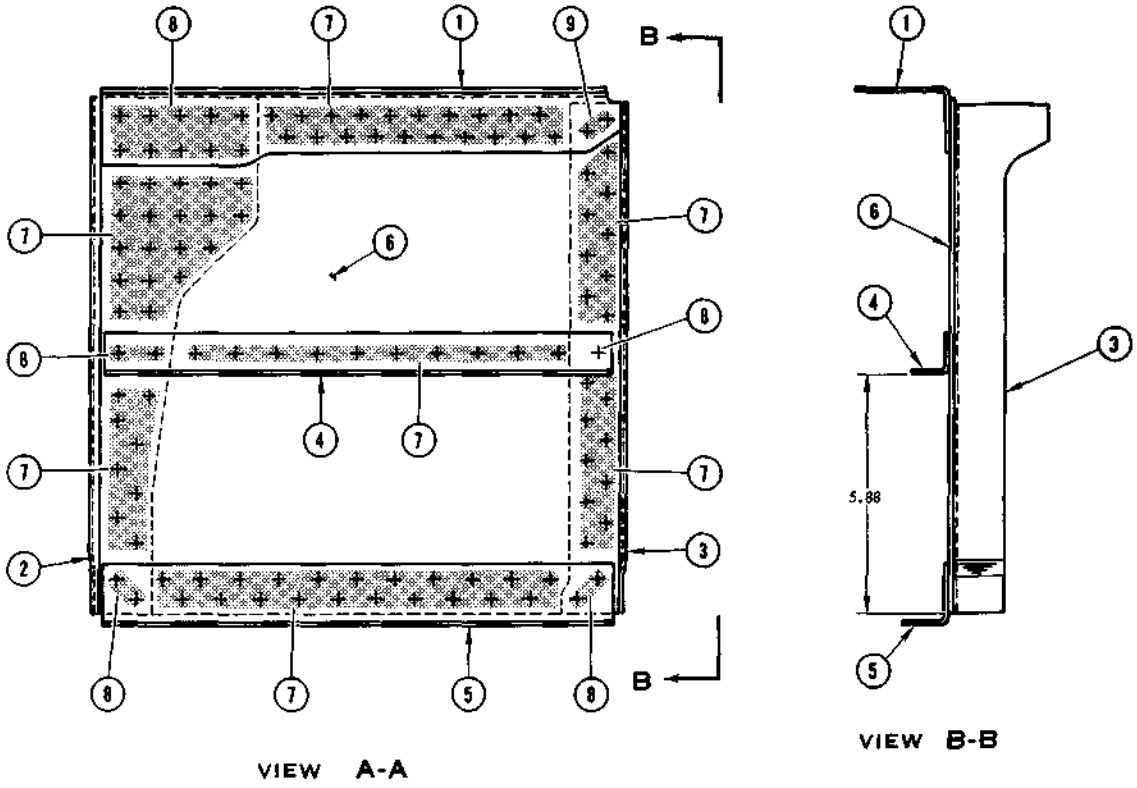
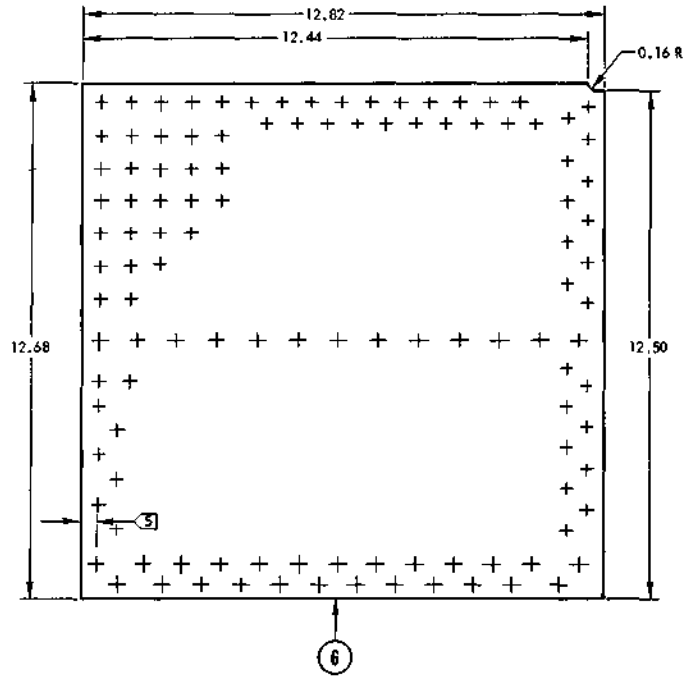


Figure 4-89. Keel Web Repair - 32-32047 FS 414.00 thru FS 427.60 (Sheet 1 of 4)





4C-3-1-2-(236-2)C

Figure 4-89. Keel Web Repair - 32-32047 FS 414.00 thru FS 427.60 (Sheet 2 of 4)

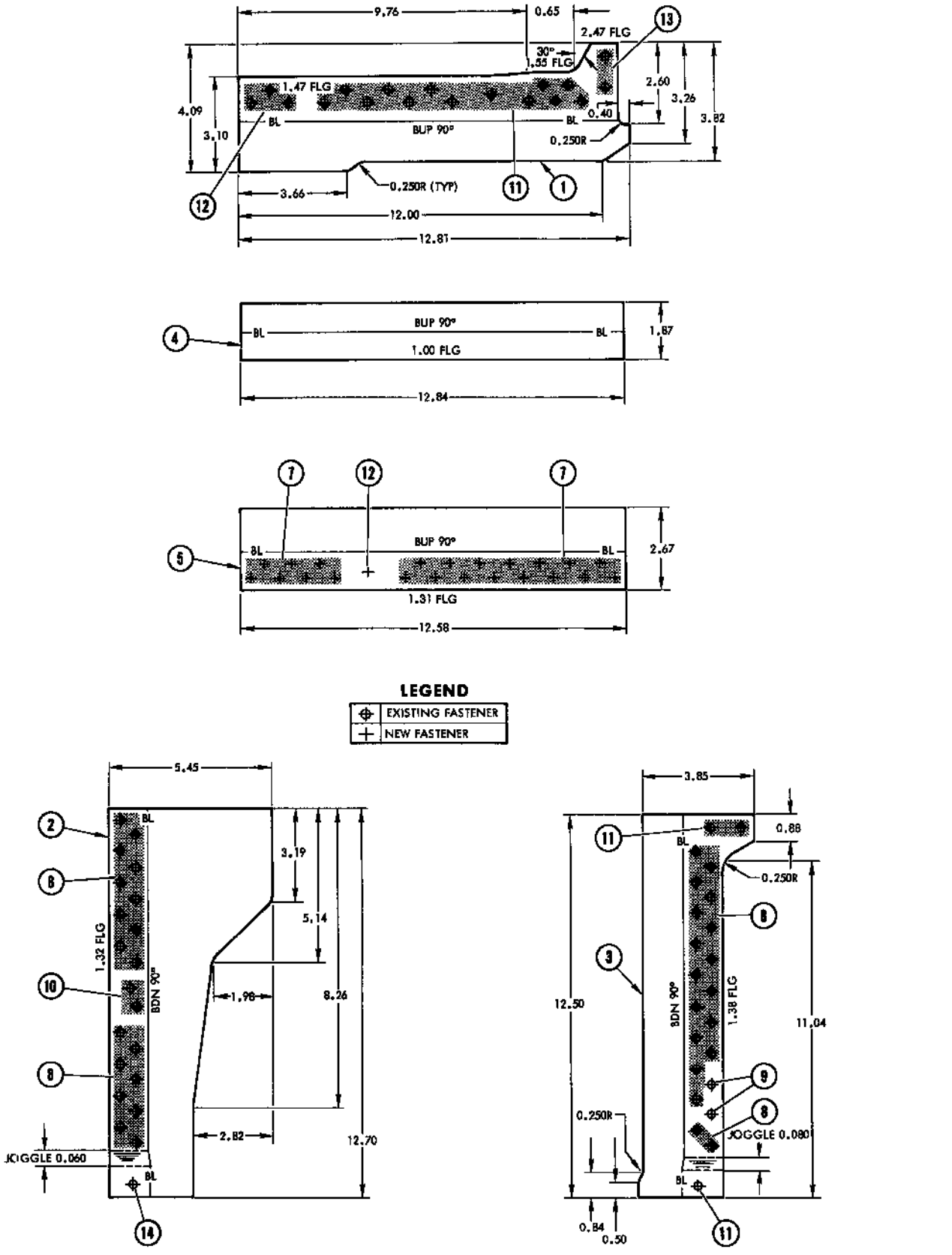


Figure 4-89. Keel Web Repair - 32-32047 FS 414.00 thru FS 427.60 (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-07913-65 <3>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	<7>
	32-32047-1917 <6>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
2	53-07913-57 <3>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
	32-32047-1913 <6>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
3	53-07913-63 <3>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
	32-32047-1909 <6>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
4	53-07913-69 <3>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
	32-32047-1915 <6>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
5	53-07913-67 <3>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
	32-32047-1911 <6>	ANGLE	0.063	6AI-4V TITANIUM ALLOY	
6	53-07913-59 <3>	WEB	0.063	6AI-4V TITANIUM ALLOY	
	32-32047-1907 <6>	WEB	0.063	6AI-4V TITANIUM ALLOY	

REF NO.	FASTENER <4>	COLLAR	HOLE SIZE
7	HS62-5-2	HS60M-5	$0.156^{+.006}_{-.000}$
8	HS62-5-3	HS60M-5	$0.156^{+.006}_{-.000}$
9	HS62-5-4	HS60M-5	$0.156^{+.006}_{-.000}$
10	HS62-5-7	HS60M-5	$0.156^{+.006}_{-.000}$
11	HS62-6-4	HS60M-6	$0.189^{+.006}_{-.000}$
12	HS62-6-5	HS60M-6	$0.189^{+.006}_{-.000}$
13	HS62-6-8	HS60M-6	$0.189^{+.006}_{-.000}$
14	HS62-8-4	HS60M-8	$0.250^{+.006}_{-.000}$

Notes

1. DRAWING NUMBER OF THIS REPAIR IS 53-07913.
2. REFER TO TEXT FOR REPAIR PROCEDURE.
<3> SEE DETAIL.
<4> FOR INSTALLATION OF RIVETS AND COLLARS REFER TO T.O. 1F-4C-3-1-1.
<5> NOMINAL EDGE DISTANCE FOR 1/8 AND LARGER DIAMETER RIVETS - TWO TIMES THE DIAMETER PLUS 0.06.
<6> REPAIR PARTS AVAILABLE FROM SUPPLY.
<7> MIL-T-9046 TYPE III, COMPOSITION C ANNEALED.
<8> PRIOR TO FINAL INSTALLATION OF THIS ANGLE, MAKE SURE ENGINE MOUNT WILL FIT FLUSH ON MATING LONGERON, 32-32146-5. TRIM EDGE OF ANGLE AS NECESSARY TO OBTAIN FLUSH FIT. SEE TO 1F-4( )-2-8 FOR ENGINE MOUNT INSTALLATION.

4C-3-1-2-(236-4)E

Figure 4-89. Keel Web Repair - 32-32047 FS 414.00 thru FS 427.60 (Sheet 4 of 4)

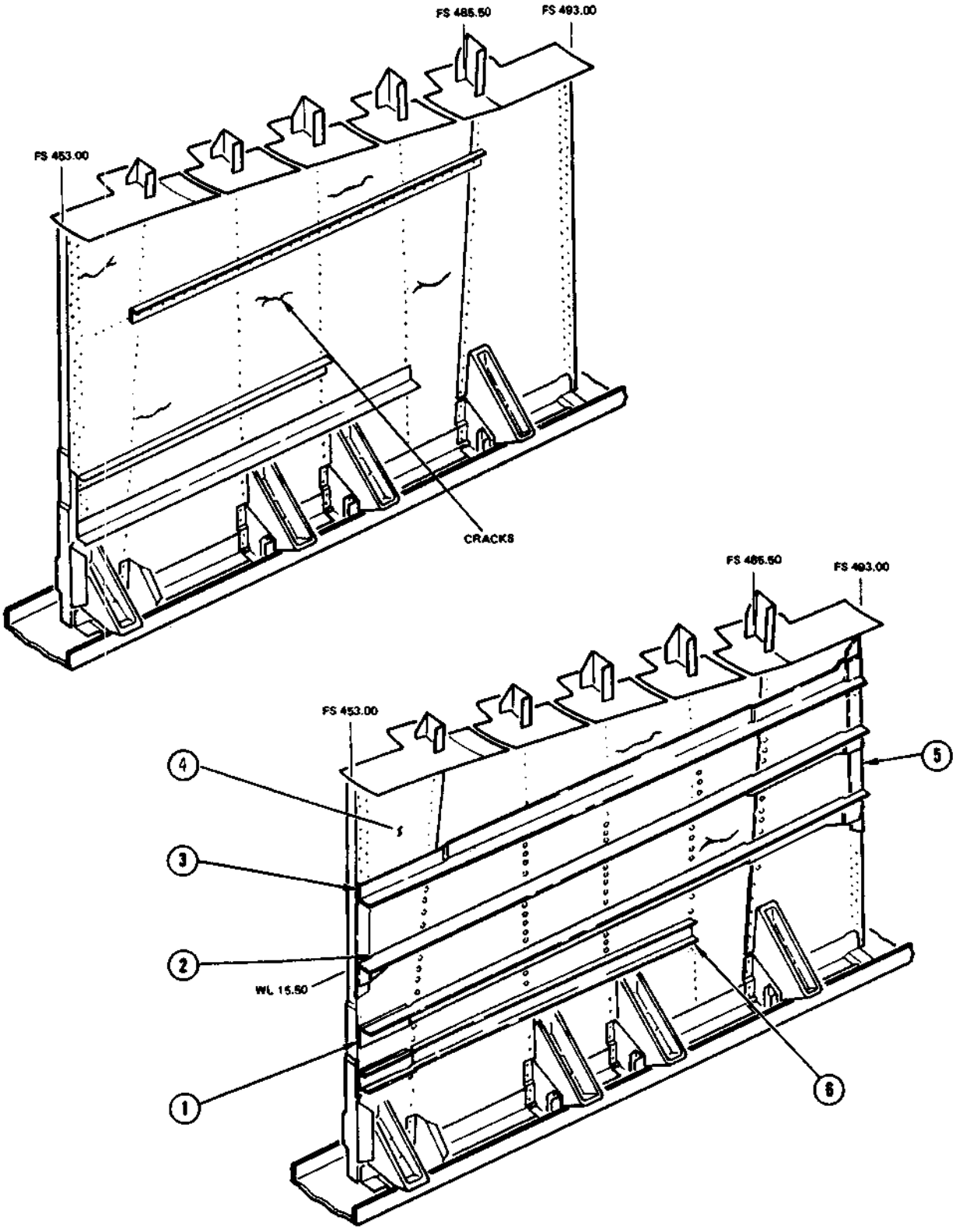


Figure 4-90. Keel Web, 32-32048, Repair - FS 453.30 through FS 493.00 (Sheet 1 of 2)

DAMAGE LIMITS

1. ALL CRACKS WILL BE REPAIRED.
2. ALL BUCKLING WITH CRACKS IN THE BUCKLED AREA WILL BE REPAIRED.
3. BUCKLING WITHOUT CRACKS THAT HAS A 0.188 (3/16) OR GREATER DEFLECTION WILL BE REPAIRED.
4. BUCKLING WITHOUT CRACKS WITH LESS THAN 0.188 (3/16) DEFLECTION WILL BE CONSIDERED NEGLIGIBLE. NO REPAIR IS NECESSARY.

REPAIR PROCEDURE

A. REMOVE EXISTING ANGLES AND DOUBLERS.
B. CUT OUT EXISTING CRACK/BUCKLING DAMAGE AND FABRICATE APPLICABLE TYPICAL REPAIR PER T.O. 1F-4C-3-1-5. INCORPORATE THE FOLLOWING ADDITIONAL REQUIREMENTS:
(1) APPLY ADHESIVE SPECIFICATION MIL-S-81733 TO BACK SIDE OF DOUBLER AND INSTALL WHILE WET.
(2) INSTALL ORIGINAL SIZE AND TYPE FASTENERS IN ORIGINAL HOLES AND HS-62-5 FASTENERS IN NEW HOLES. ALL FASTENERS TO BE PROPER GRIP LENGTH.
C. INSTALL 32-32048-823 DOUBLER <6>
D. INSTALL 32-32048-825 STRAP. <6>
E. INSTALL 32-32048-803 OR 53G971069-25 STIFFENER. <6>
F. INSTALL 53G971069-27 STIFFENER. <6>
G. INSTALL 32-32048-807 STIFFENER. <6>
H. INSTALL 32-32048-809 CHANNEL. <6>

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-32048-807	STIFFENER	0.063	4130 CRES	MIL-S-18729 COND. N <4>
2	53G971069-27	STIFFENER	0.063	6A1-4V TITANIUM ALLOY	<3>
3	32-32048-803 <5>	STIFFENER	0.063	6A1-4V TITANIUM ALLOY	<3>
4	32-32048-823	DOUBLER	0.050	6A1-4V TITANIUM ALLOY	<3>
5	32-32048-825	STRAP	0.050	6A1-4V TITANIUM ALLOY	<3>
6	32-32048-829	CHANNEL	0.071	4130 CRES	<4>

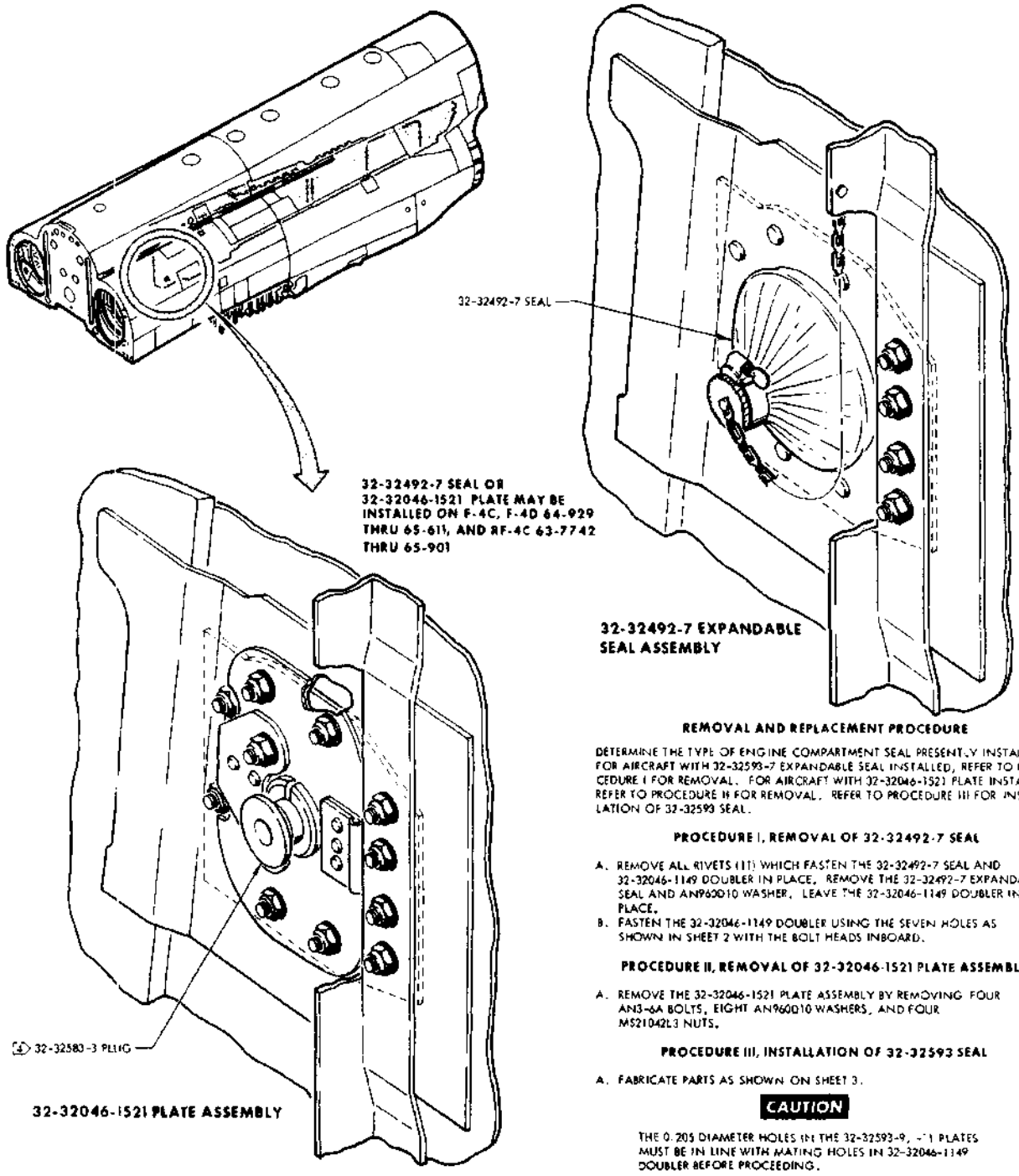
Notes

1. REPAIR PARTS AVAILABLE FROM SUPPLY.
2. INSTALL PARTS PER 32G32246, 32G50125, AND 53G32003.
<3> MIL-T-9046, TYPE III, COMPOSITION C, ANNEALED.
<4> HEAT TREAT 180-200 KSI.
<5> 53G971069-25 MAY BE SUBSTITUTED.
<6> SHIM AS REQUIRED FOR REPAIR DOUBLERS.

G9104120

Figure 4-90. Keel Web, 32-32048, Repair - FS 453.30 through FS 493.00 (Sheet 2 of 2)

Pages 4-222A and 4-222B and figure 4-90A are deleted in their entirety.



REMOVAL AND REPLACEMENT PROCEDURE

DETERMINE THE TYPE OF ENGINE COMPARTMENT SEAL PRESENTLY INSTALLED. FOR AIRCRAFT WITH 32-32593-7 EXPANDABLE SEAL INSTALLED, REFER TO PROCEDURE I FOR REMOVAL. FOR AIRCRAFT WITH 32-32046-1521 PLATE INSTALLED, REFER TO PROCEDURE II FOR REMOVAL. REFER TO PROCEDURE III FOR INSTALLATION OF 32-32593 SEAL.

PROCEDURE I, REMOVAL OF 32-32492-7 SEAL

A. REMOVE ALL RIVETS (11) WHICH FASTEN THE 32-32492-7 SEAL AND 32-32046-1149 DOUBLER IN PLACE. REMOVE THE 32-32492-7 EXPANDABLE SEAL AND AN960D10 WASHER. LEAVE THE 32-32046-1149 DOUBLER IN PLACE.
B. FASTEN THE 32-32046-1149 DOUBLER USING THE SEVEN HOLES AS SHOWN IN SHEET 2 WITH THE BOLT HEADS INBOARD.

PROCEDURE II, REMOVAL OF 32-32046-1521 PLATE ASSEMBLY

A. REMOVE THE 32-32046-1521 PLATE ASSEMBLY BY REMOVING FOUR AN3-6A BOLTS, EIGHT AN960D10 WASHERS, AND FOUR MS21042L3 NUTS.

PROCEDURE III, INSTALLATION OF 32-32593 SEAL

A. FABRICATE PARTS AS SHOWN ON SHEET 3.

CAUTION

THE 0.205 DIAMETER HOLES IN THE 32-32593-9, -11 PLATES MUST BE IN LINE WITH MATING HOLES IN 32-32046-1149 DOUBLER BEFORE PROCEEDING.

B. ASSEMBLE -7 PLATE, -5 GROMMET AND -9 PLATE, USING RTV-106 TO BOND MATING SURFACES AS SHOWN ON SHEET 2. ADD BEAD SEAL AS SHOWN.
C. ASSEMBLE -7 PLATE, -5 GROMMET AND -11 PLATE - SAME AS STEP B.
D. ATTACH FOUR MS21059L3 PLATE NUTS TO INBOARD SIDE OF 32-32046-1149 DOUBLER - SHEET 2.
E. PLACE THE APPROPRIATE WIRE BUNDLE OR THE 32-32580-3 PLUG THRU THE 2.75 DIAMETER HOLE IN THE 32 - 32046 - 1149 KEEL WEB.
F. ATTACH THE LOWER SEAL ASSEMBLY TO THE 32-32046-1149 DOUBLER.
G. ATTACH THE UPPER SEAL ASSEMBLY TO THE 32-32046-1149 DOUBLER MAKING SURE THE WIRE BUNDLE OR 32-32580-3 PLUG IS CENTERED IN THE NOTCH.

G9104121

Notes

1. REFER TO T.O. 1F-4C-3-1-6 FOR SEALING.
2. BOND MATING SURFACES WITH SEALANT, SPECIFICATION MIL-A-46146.
3. BEAD SEAL AS SHOWN WITH SEALANT, SPECIFICATION MIL-A-46146.
4. RETAIN FOR REINSTALLATION.

Figure 4-91. Expandable Seal, 32-32492, Plate Assembly or 32-32046-1521, with Plate Assembly 32-32593 Replacement (Sheet 1 of 3)

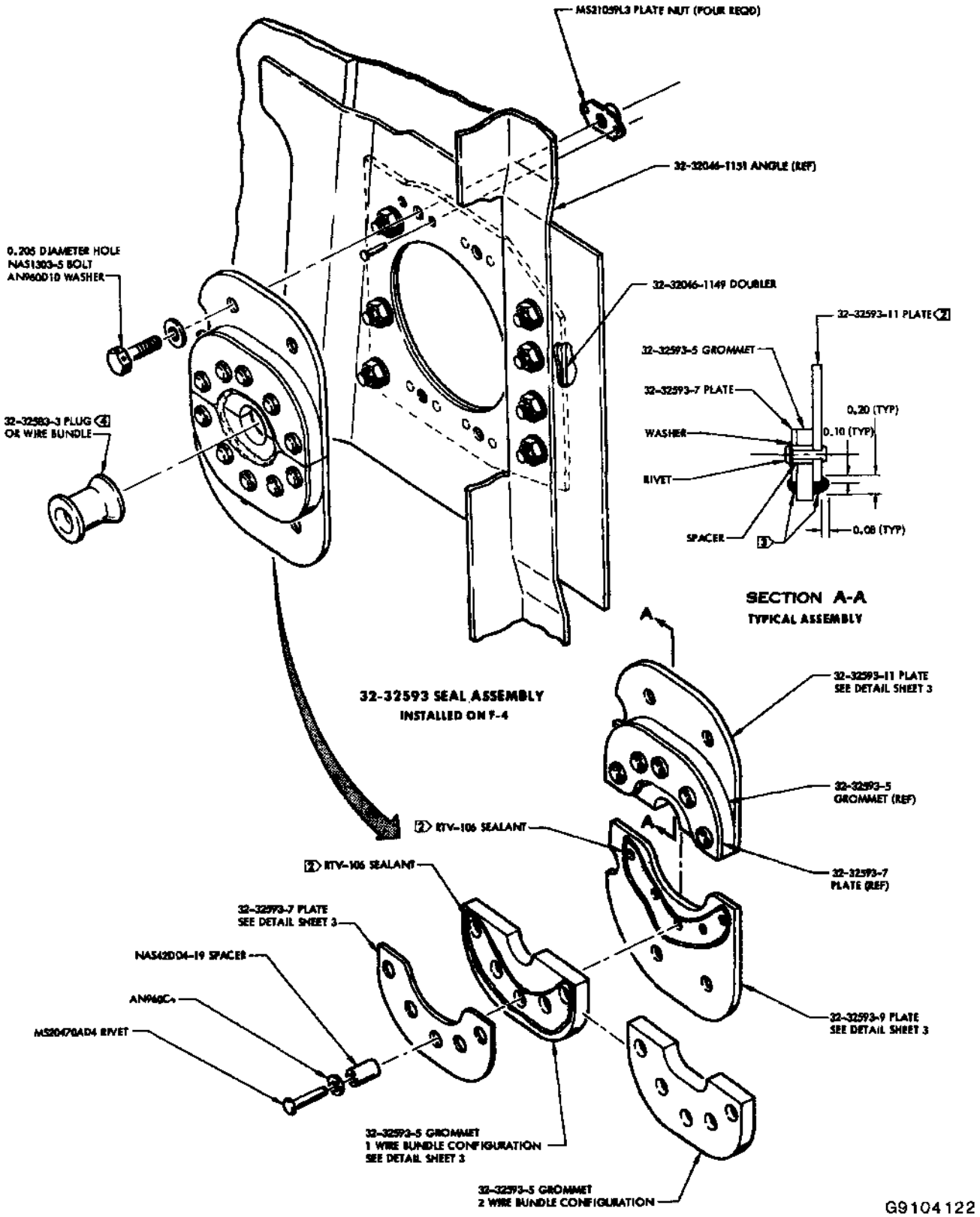
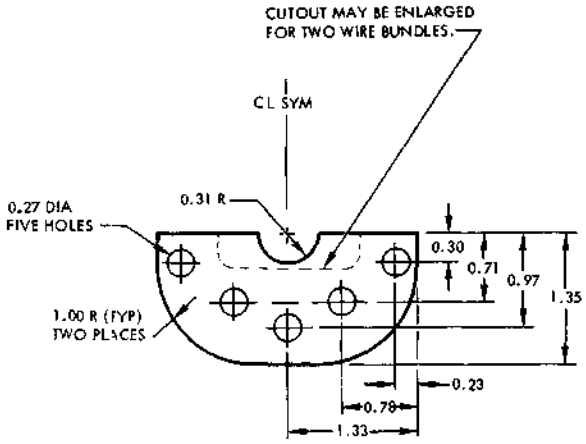
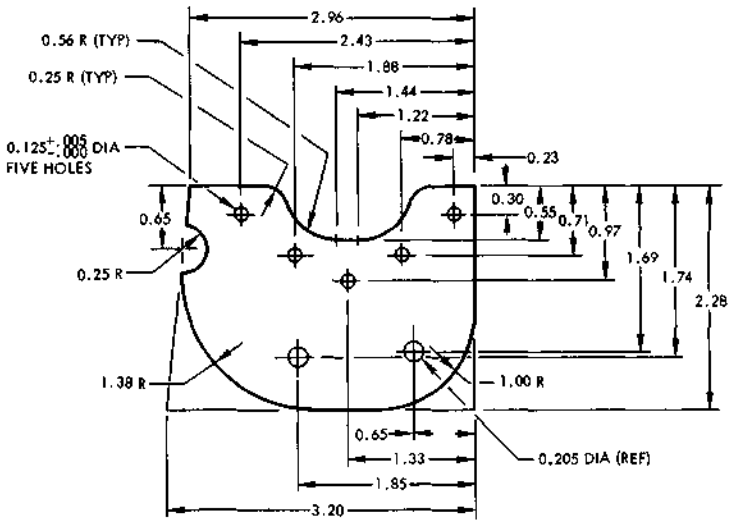


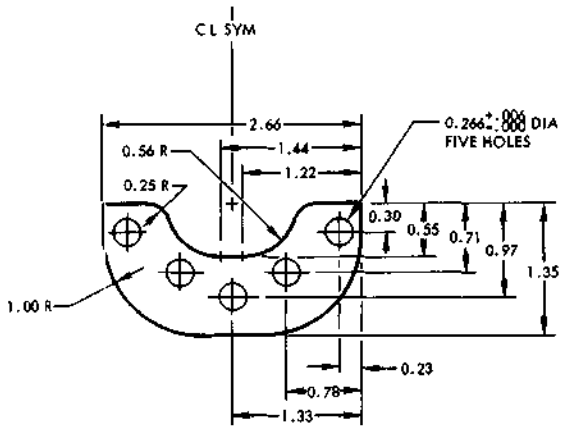
Figure 4-91. Expandable Seal, 32-32492, Plate Assembly or 32-32046-1521, with Plate Assembly 32-32593 Replacement (Sheet 2 of 3)



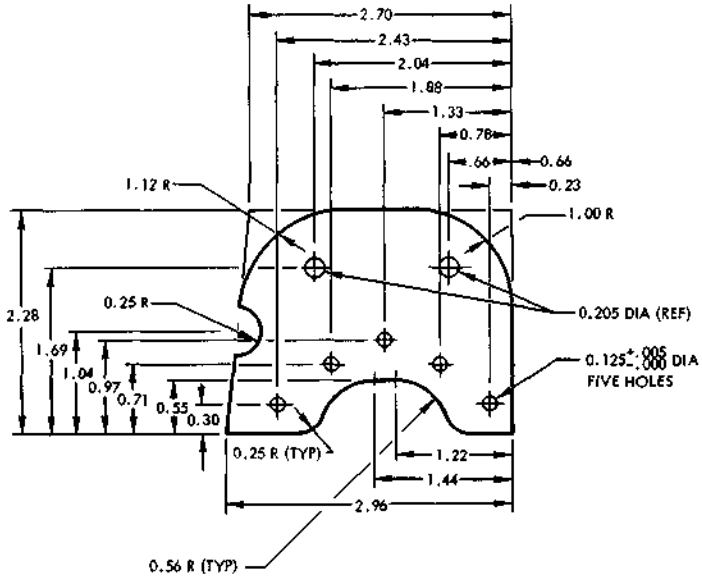
32-32593-5 GROMMET 0.250 SILICONE RUBBER
MIL-R-5847D CLASS III GRADE 25



32-32593-9 PLATE
0.080 7178-T6 ALUMINUM ALLOY
QQ-A-250/14(T6)



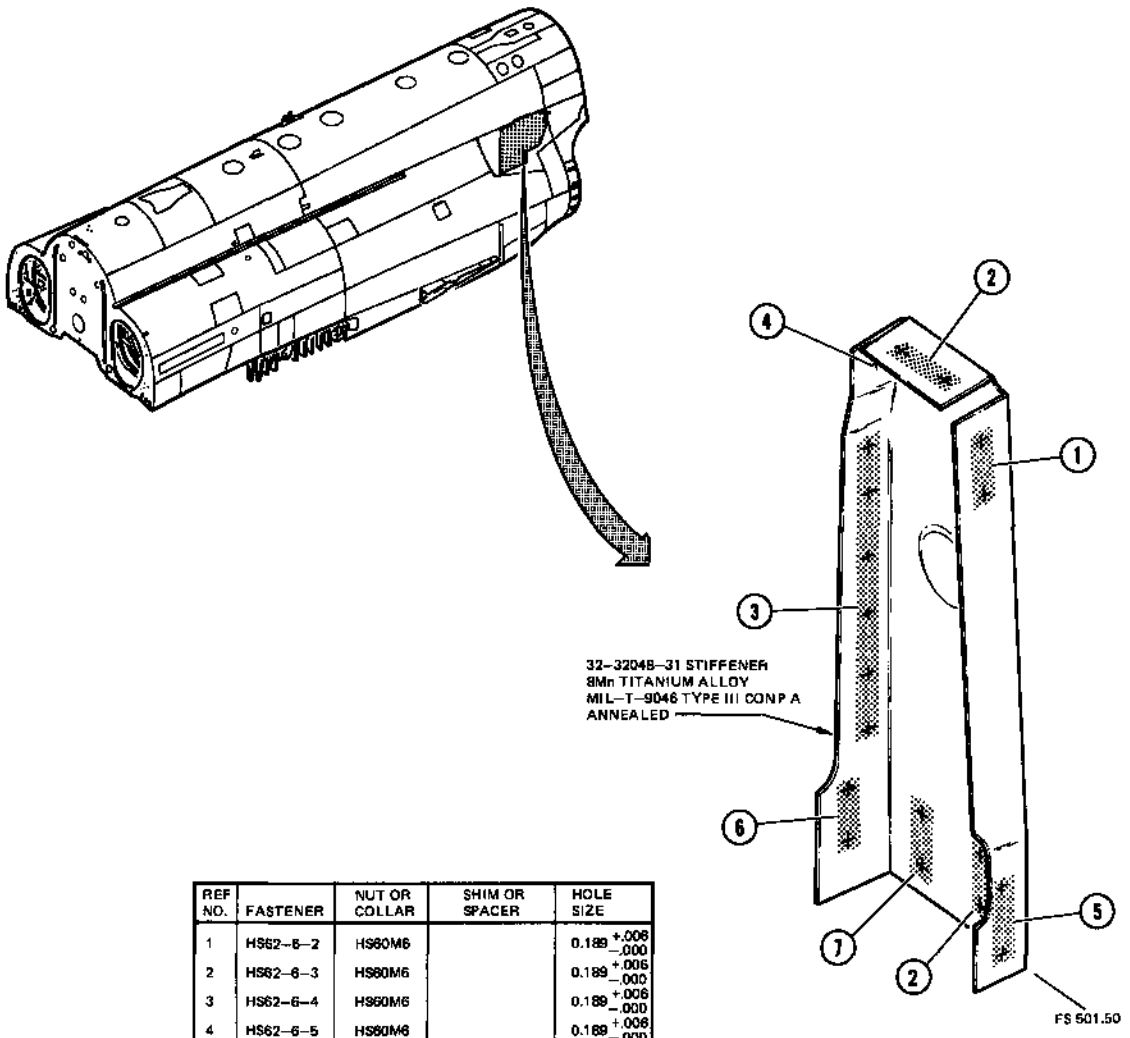
32-32593-7 PLATE
0.063 7178-T6 ALUMINUM
ALLOY QQ-A-250/14 (T6)



32-32593-11 PLATE
0.080 7178-T6 ALUMINUM
ALLOY QQ-A-250/14(T6)

4C-3-1-2-(9-3)B

Figure 4-91. Expandable Seal, 32-32492, Plate Assembly or 32-32046-1521, with Plate Assembly 32-32593 Replacement (Sheet 3 of 3)



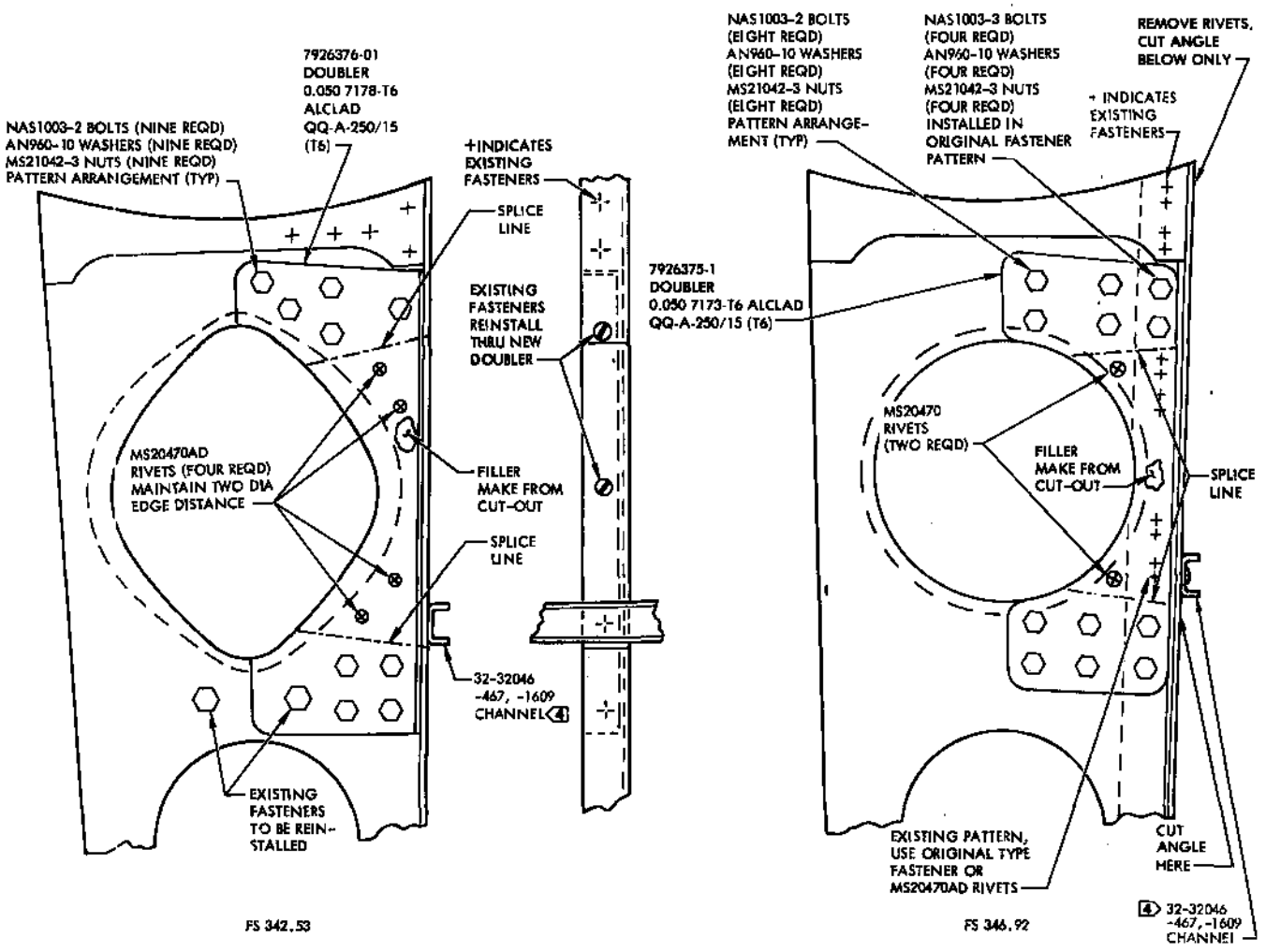
REF NO.	FASTENER	NUT OR COLLAR	SHIM OR SPACER	HOLE SIZE
1	HS62-6-2	HS60M6		0.189 +.006 -.000
2	HS62-6-3	HS60M6		0.189 +.006 -.000
3	HS62-6-4	HS60M6		0.189 +.006 -.000
4	HS62-6-5	HS60M6		0.189 +.006 -.000
5	HS62-6-6	HS60M6	32-32048-435	0.189 +.006 -.000
6	HS62-6-7	HS60M6		0.189 +.006 -.000
7	HS62-5-2	HS60M5		0.159 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. REFER TO TO 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES.

4C-3-1-2-(372)

Figure 4-91A. Stiffener, 32-32048-31, Replacement Index



SPLICE PROCEDURE

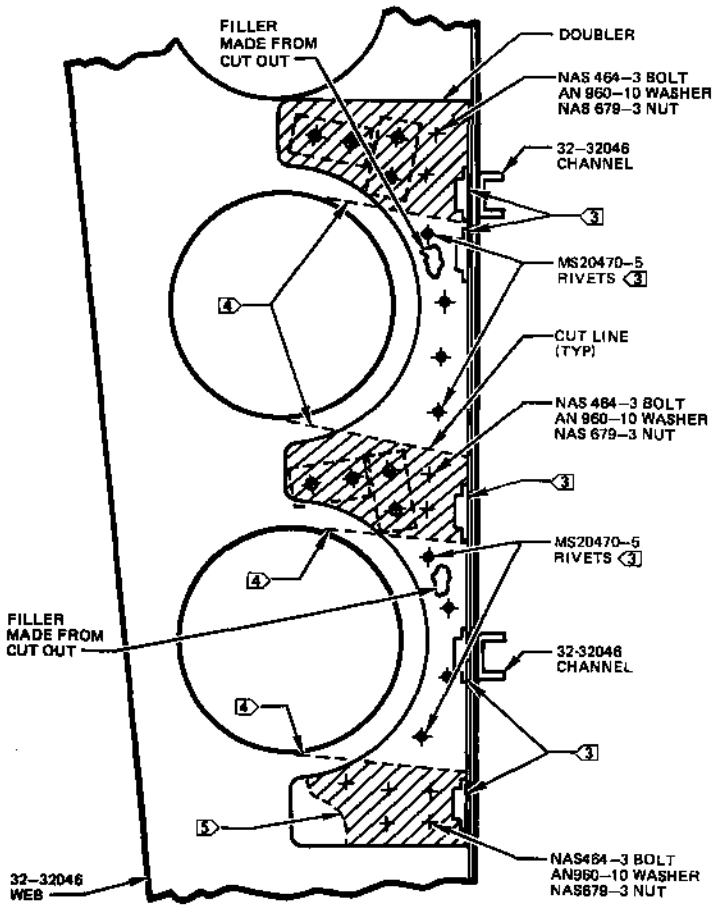
A. AT FS 346.92 REMOVE "T" EXTRUSION, 32-32046-203, AND RETAIN FOR REINSTALLATION.
B. CUT BOTH WEBS, 32-32046-219 AND -413, AS INDICATED BY DOTTED SPLICE LINE AND RETAIN THE CUT-OUT PIECES FOR USE AS FILLERS, REMOVE ALL SHARP CORNERS.
C. REMOVE DUCT AND MAKE NECESSARY REPAIRS TO DUCT. REINSTALL DUCT ASSEMBLY. REFERENCE TO 1F-4C-3-1-4 FOR DAMAGE LIMITS AND REPAIR PROCEDURES OF DUCTS.
D. FORM THE DOUBLERS TO NEST WITH WET FLANGES AND HEAT TREAT TO T6 CONDITION.
E. REASSEMBLY THE STRUCTURE USING THE CUT OUT PIECES AS FILLERS. ESTABLISH THE NEW FASTENER PATTERN WITH TWO DIA EDGE DISTANCE AND EQUAL SPACING WHERE POSSIBLE FOR THE SPECIFIED FASTENER.

Notes

1. THIS REPAIR IS ONLY TO BE USED FOR THE REMOVAL OF THE ENGINE BLEED AIR DUCT (2501677) FROM THOSE KEEL WEBS THAT ARE SINGLE PIECE. THOSE WEBS THAT WERE ORIGINALLY BUILT AS A TWO PIECE UNIT ARE TO BE DISASSEMBLED TO REMOVE THE DUCT. REFER TO DRAWING NUMBER 32-32046 FOR FASTENER IDENTIFICATION ON REASSEMBLY OF TWO-PIECE WEBS. THE PROCEDURE SHOWN IN THIS FIGURE IDENTIFIES A METHOD FOR CUTTING A SECTION FROM THE FS 342.53 AND FS 346.92 SINGLE PIECE WEBS. THIS BOLTED SPLICE WILL PERMIT FUTURE REMOVAL OF THE DUCT, IF REQUIRED.
2. REFINISH REPAIR MATERIAL PER TO 1F-4C-3-1-6 CORROSION CONTROL PRIOR TO FINAL ASSEMBLY.
3. REPAIR MATERIAL WILL BE FORMED PER TO 1F-4C-3-1-1 SHOP PRACTICES.
4. REMOVAL OF 32-32046-467, -1609 CHANNEL IS REQUIRED TO ACCOMPLISH THIS REPAIR. WHEN REPLACING THIS CHANNEL, REPLACE H.S. FASTENERS WITH NAS1003-2 BOLTS, AN960-10 WASHERS, AND MS21042-3 NUTS AT ATTACH POINTS.

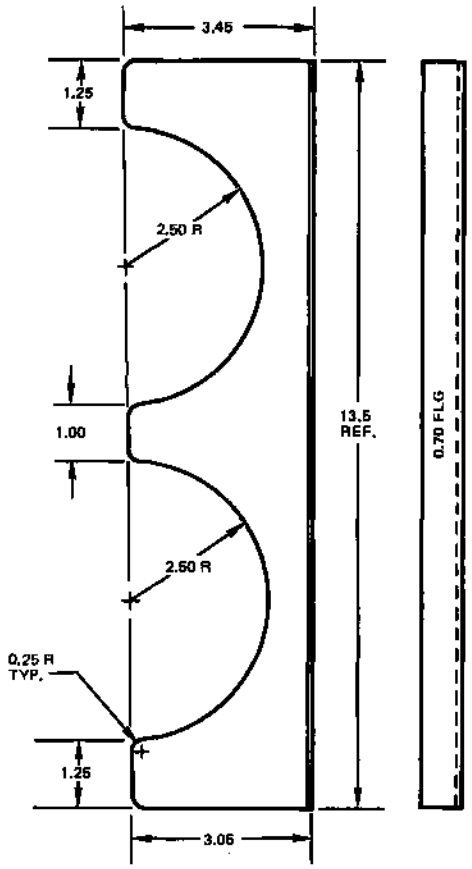
4C-3-1-2-(40)D

Figure 4-92. Keel Web Splice Repairs to Permit Removal of Engine Bleed Air Duct - FS 342.53 and FS 346.92



DETAIL A

LOOKING AFT FS318.00



DOUBLER

DETAIL B

SPLICE PROCEDURE

WARNING

DURING ALL GRINDING AND DRILLING OPERATIONS SAFETY GOGGLES AND SHIELD WILL BE WORN.

A. CUT WEB AS INDICATED BY DOTTED SPLICE LINES AND KEEP THE CUT OUT PIECES FOR USE AS FILLERS.

B. REMOVE ALL SHARP CORNERS.

C. REMOVE FUEL LINES, MAKE NECESSARY TESTS AND REPAIRS AND REINSTALL FUEL LINES.

D. FABRICATE DOUBLER TO MATCH EXISTING WEB FROM 0.060, 7075–O ALUMINUM ALLOY. SEE DETAIL B

E. HEAT TREAT DOUBLER TO 7075–T6 AFTER FORMING.

F. POSITION FILLER AND DOUBLER AND DRILL EXISTING AND NEW FASTENER HOLES.

G. COUNTERSINK FASTENER HOLES AS REQUIRED.

H. REMOVE PARTS AND DEBURR FASTENER HOLES.

I. FINISH PARTS PER TO 1F–4C–3–1–6.

J. INSTALL FILLER AND DOUBLER WITH NAS464–3 BOLTS, AN960–10 WASHERS AND NAS679–3 NUTS, AND HL550–5 HI–LOKS AND HL579–5 COLLARS.

K. FINISH REWORK AREA PER TO 1F–4C–3–1–6.

Notes

1. DIMENSIONS AND LOCATIONS OF EXISTING HARDWARE ARE APPROXIMATE. VARIATIONS TO REPAIR SHOWN MAYBE REQUIRED TO FIT EXISTING CONFIGURATION.

2 MAINTAIN 2 DIAMETER EDGE DISTANCE ON FASTENERS. REPLACE EXISTING MS20470–AD–5 RIVETS WITH HL550–5 HI–LOKS AND HL579–5 COLLARS.

3 RELOCATE PLATENUTS TO FLANGE ON DOUBLER.

4 SPLICE LINES–APPROXIMATE LOCATION OF WEB CUT LINES.

5 TRIM DOUBLER AS REQUIRED IN AREA SHOWN TO CLEAR EXISTING WEB PLATENUT.

LEGEND

- EXISTING FASTENERS 4
- MS20470–5 RIVET TO ATTACH FILLERS.
- NEW FASTENERS

4C–3–1–2–(415)B

Figure 4-92A. Keel Web Splice Repair to Permit Removal of Engine Fuel Lines FS 318.00

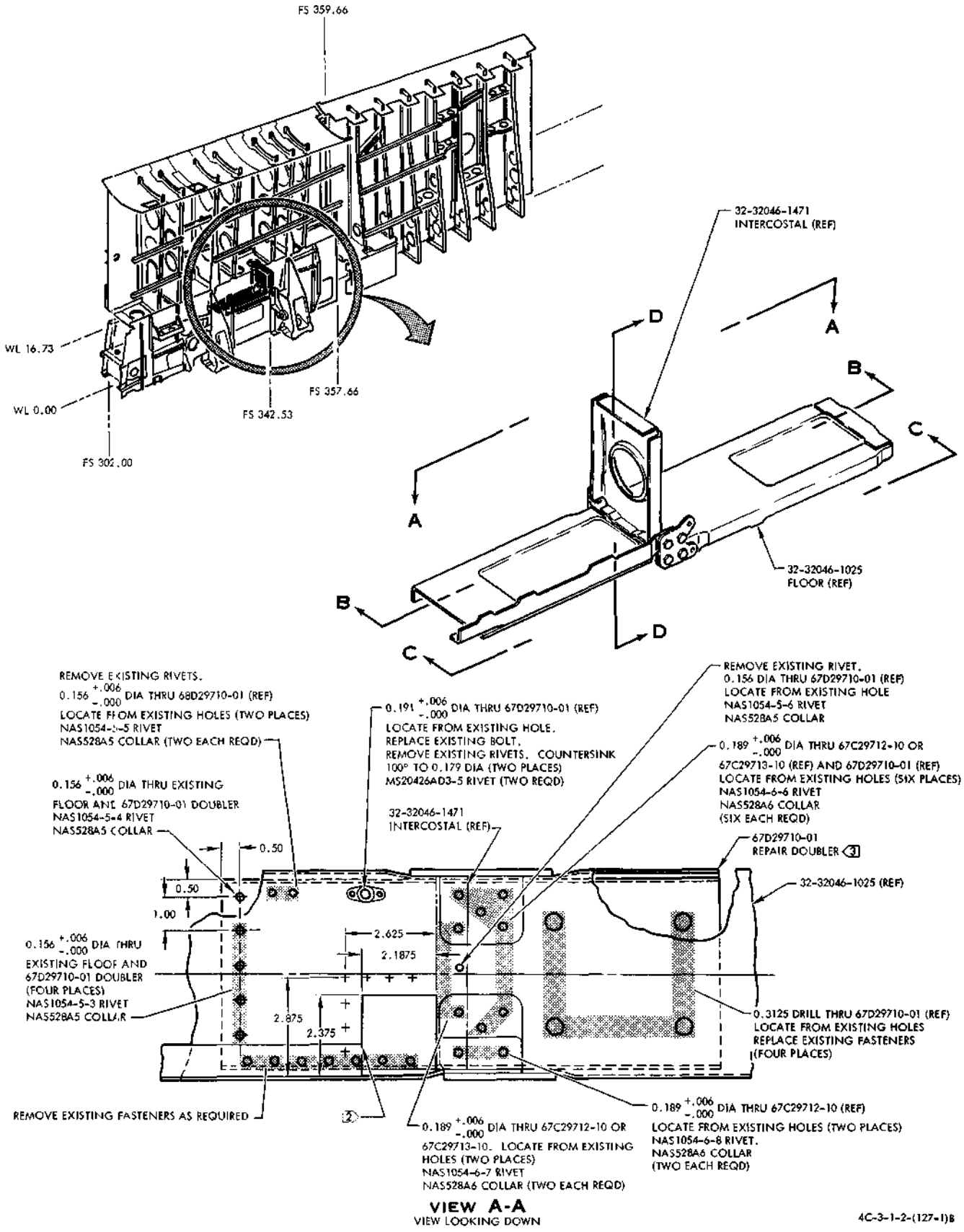


Figure 4-93. Auxiliary Air Door Back-Up Structure Repair
Keel Web - FS 346.92 WL 8.80 (Sheet 1 of 3)

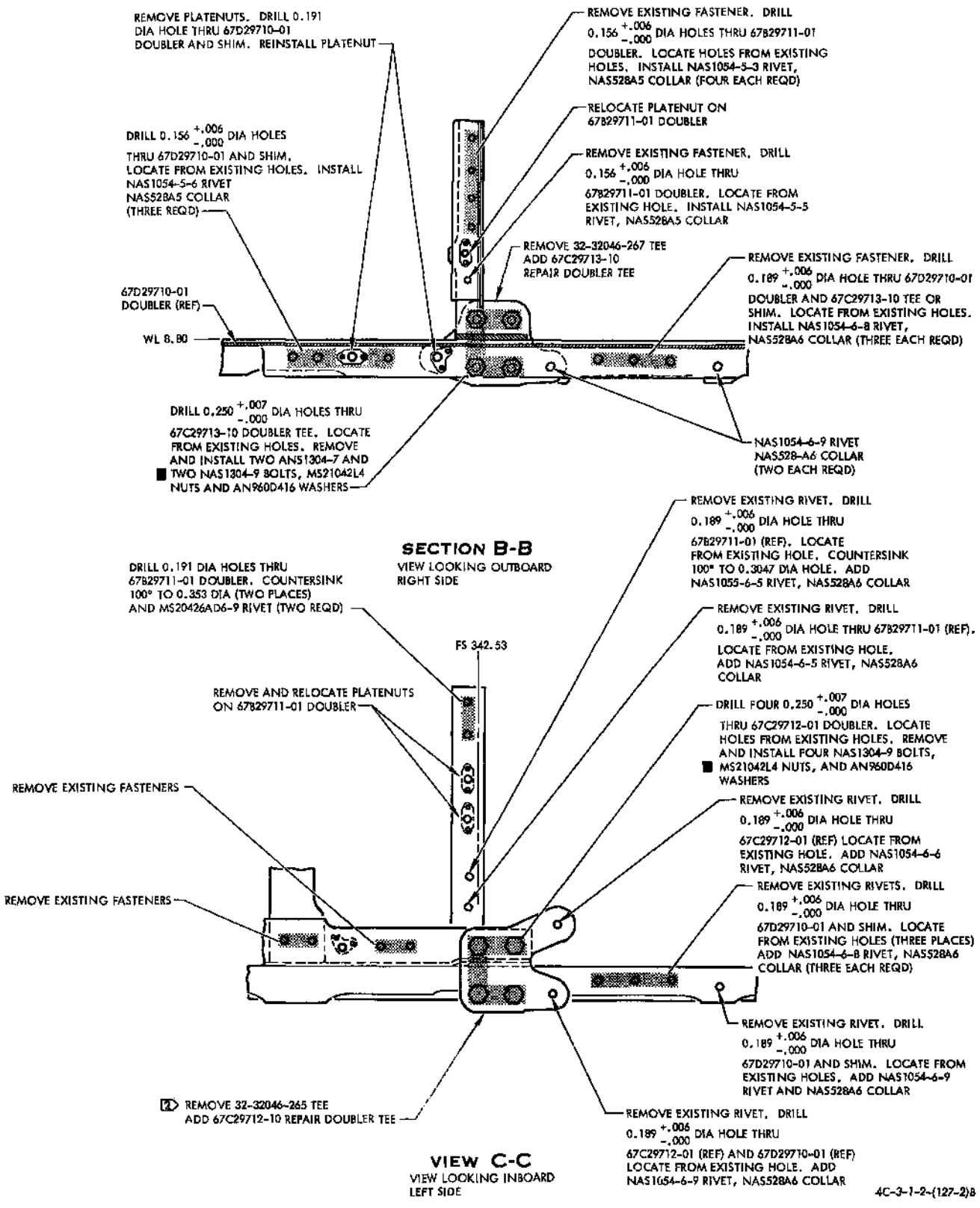
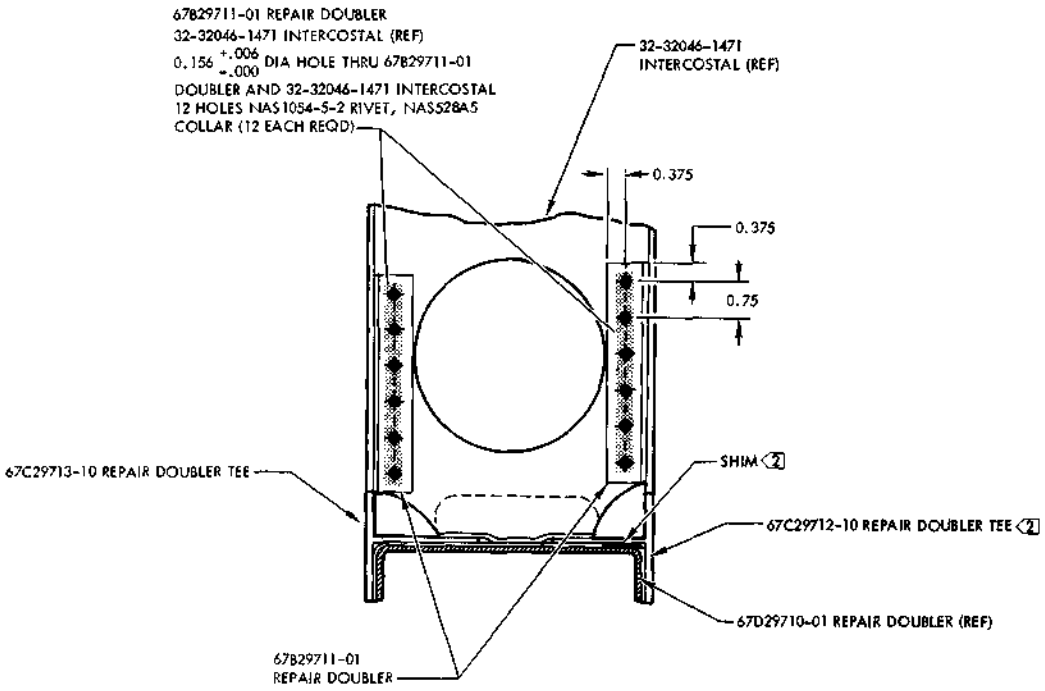


Figure 4-93. Auxiliary Air Door Back-Up Structure Repair

Keel Web - FS 346.92 WL 8.80 (Sheet 2 of 3)



AFTER MODIFICATION

SECTION D-D

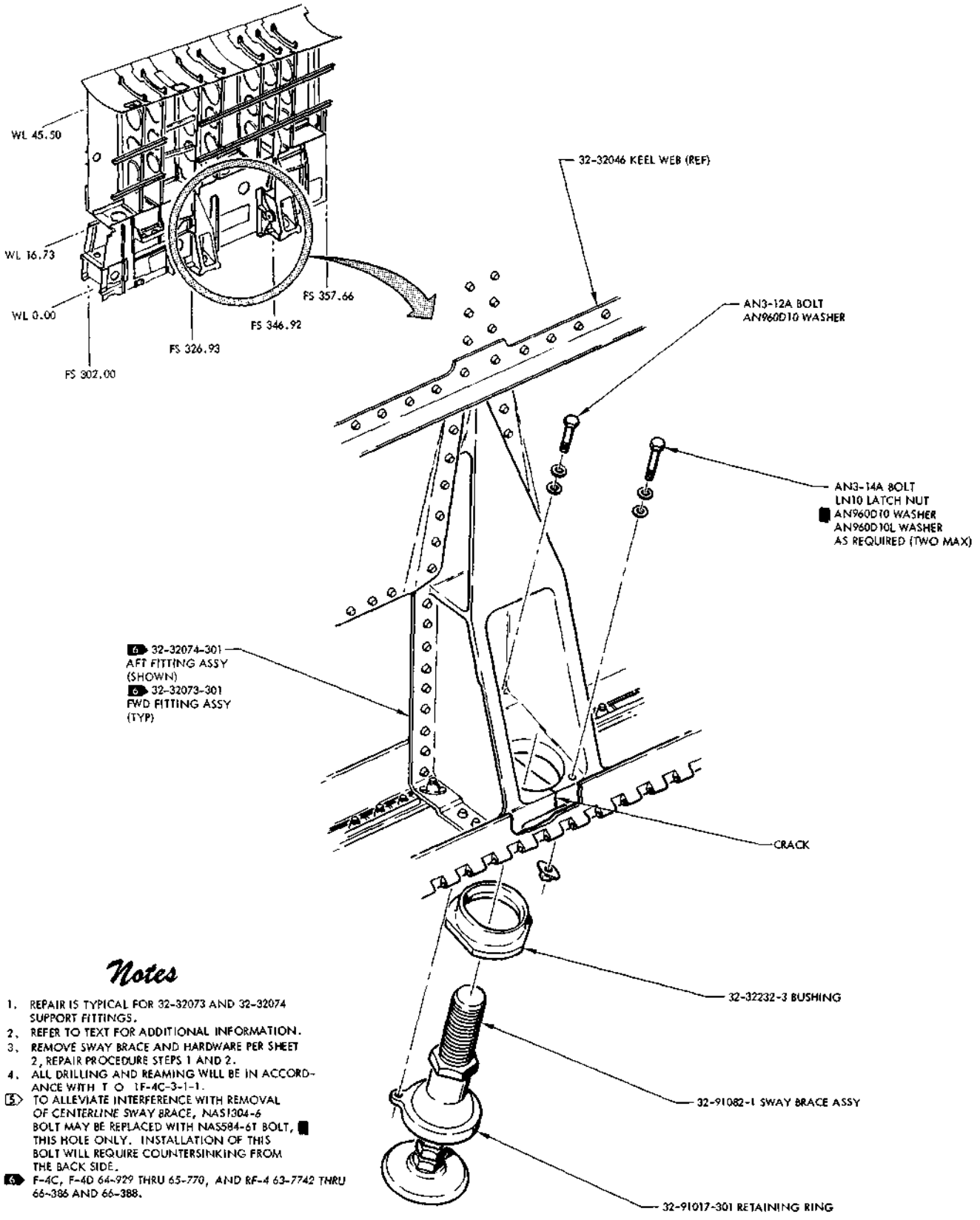
VIEW LOOKING AFT

Notes

1. IN PLACES WHERE RIVETING IS DIFFICULT, RIVETS MAY BE SUBSTITUTED WITH NA5464 SCREWS AND MS21042 NUTS.
2. TO REMOVE 32-32046-265 TEE IT IS NECESSARY TO CUT OUT A 2.1875 X 2.375 HOLE. REMOVE TEE AND REPLACE WITH 67C29712-10 DOUBLER. SAVE A 0.75 X 2.1875 PIECE OF CUTOUT FOR USE AS A SHIM BETWEEN THE EXISTING ANGLE AND 67D29710-01 DOUBLER.
3. SPACE BETWEEN FLOOR AND 67D29710-01 DOUBLER TO BE SHIMMED WITH ALUMINUM ALLOY, 7178-T6, QQ-A-250/14 (T6) 0.156 X 1.00, LENGTH AS REQUIRED. SHIM STOCK TO BE TREATED PER MIL-C-5541.

4C-3-1-2-(127-3)C

Figure 4-93. Auxiliary Air Door Back-Up Structure Repair
Keel Web - FS 346.92 WL 8.80 (Sheet 3 of 3)



Notes

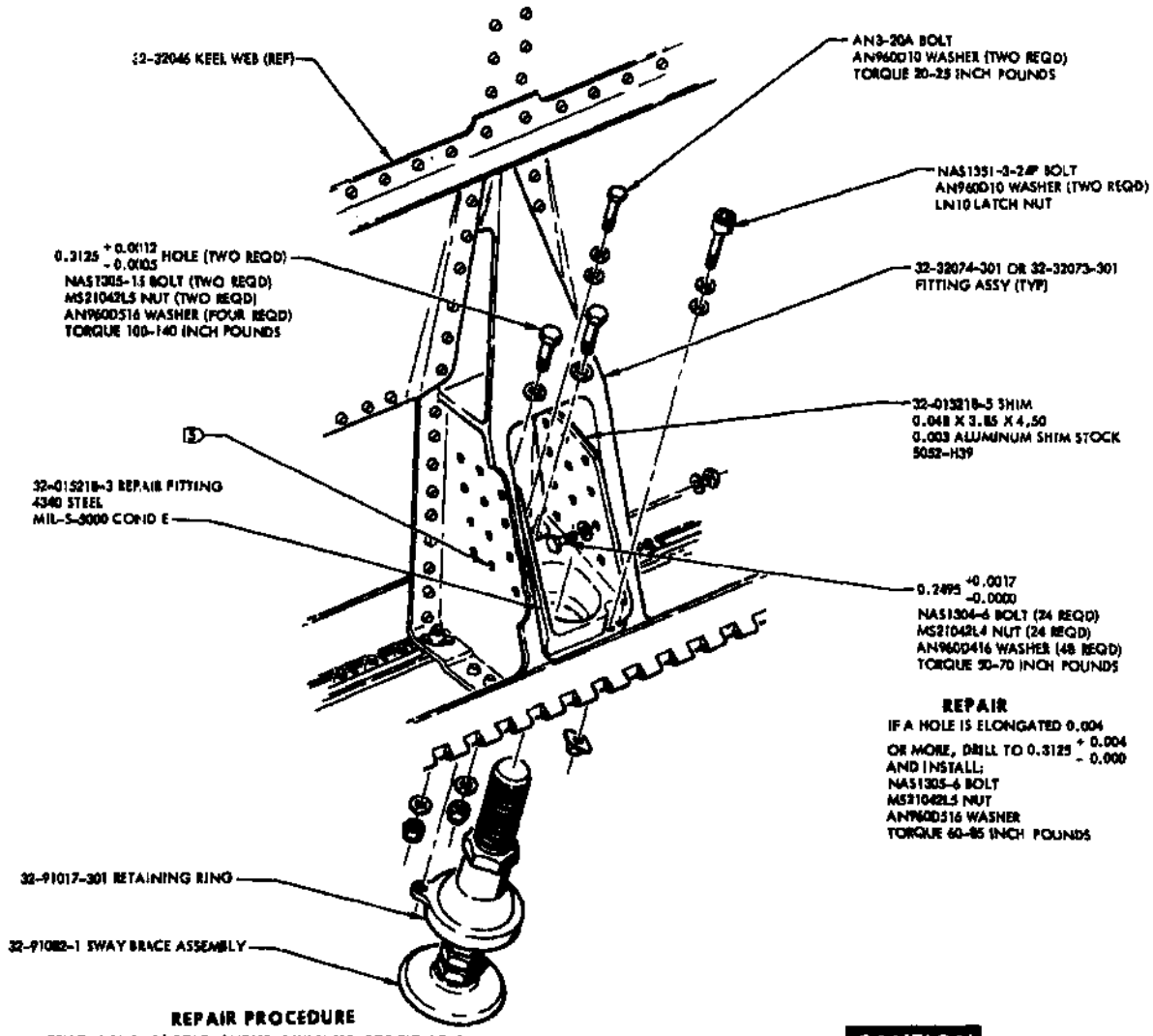
1. REPAIR IS TYPICAL FOR 32-32073 AND 32-32074 SUPPORT FITTINGS.
2. REFER TO TEXT FOR ADDITIONAL INFORMATION.
3. REMOVE SWAY BRACE AND HARDWARE PER SHEET 2, REPAIR PROCEDURE STEPS 1 AND 2.
4. ALL DRILLING AND REAMING WILL BE IN ACCORDANCE WITH T O 1F-4C-3-1-1.

5 TO ALLEVIATE INTERFERENCE WITH REMOVAL OF CENTERLINE SWAY BRACE, NAS1304-6 BOLT MAY BE REPLACED WITH NAS584-6T BOLT, ■ THIS HOLE ONLY. INSTALLATION OF THIS BOLT WILL REQUIRE COUNTERSINKING FROM THE BACK SIDE.

6 F-4C, F-4D 64-929 THRU 65-770, AND RF-4 63-7742 THRU 66-386 AND 66-388.

4C-3-1-2-(10-1)E

Figure 4-94. Centerline Stores Support Fitting Repair (Sheet 1 of 2)



REPAIR PROCEDURE

1. REMOVE AN3-12A BOLT, AN960D10 WASHERS, POSITION THE LN10 LATCH NUT TO ALLOW REMOVAL OF 32-91082 SWAY BRACE, 32-910 7-301 RETAINING RING AND 32-32232-3 BUSHING. REMOVE LN10 LATCH NUT, AN3-14A BOLT AND AN960D10 WASHERS.

NOTE

DISCARD 32-32232-3 BUSHING. RETAIN FOR REINSTALLATION: 32-91082-1 SWAY BRACE, 32-91017-301 RETAINING RING, AND LN10 LATCH NUT.

2. VISUALLY INSPECT AREA OF 32-32074 OR 32-32073 SUPPORT FITTINGS FOR ADDITIONAL DAMAGE, CHAMFER THE UPPER INBOARD EDGE OF THE LARGE (BUSHING) HOLE IN SUPPORT FITTING TO ALLOW THE REPAIR FITTING TO SEAT PROPERLY. SMOOTH AREA AND REFINISH THE CHAMFERED AND CRACKED AREA PER T.O. 1F-4C-3-1-6 CORROSION CONTROL.

3. POSITION THE 32-015218-3 REPAIR FITTING IN THE 32-32074 OR 32-32073 SUPPORT FITTINGS AND ALIGN THE FITTINGS BY INSERTING AN3-20A BOLT THRU THE 0.250 HOLE IN REPAIR FITTING AND THE MATCHING NUMBER 10 HOLE IN THE ORIGINAL SUPPORT FITTING. CLAMP FITTING IN PLACE TO HOLD SECURELY. CHECK ALIGNMENT AND ROTATE FITTING AS NECESSARY TO BE SURE FITTING IS SEATED SQUARELY AND RESTING FLAT AGAINST THE CORRESPONDING SURFACE OF SUPPORT FITTING. MATCH DRILL TWO HOLES THRU SUPPORT FITTING FROM THE EXISTING 0.3125 HOLES IN REPAIR FITTING.

CAUTION

TO PREVENT MISALIGNMENT, DRILL ONE HOLE AND INSERT NAS1305-15 BOLT BEFORE DRILLING SECOND HOLE.

INSTALL SECOND NAS1305-15 BOLT AND TIGHTEN SECURELY. INSTALL 32-015218-5 SHIMS FORE AND AFT. INSTALL A 0.2490 +0.0000 -0.0000 OD, 0.125 +0.000 -0.000 ID, 0.50 LONG DRILL BUSHING MANUFACTURED FROM SAE 01 OR SAE 1095 TOOL STEEL (ROCKWELL C SCALE 59-60) IN THE 32-015213-3 REPAIR FITTING PRIOR TO DRILLING. DRILL 24 EACH 0.125 DIAMETER PILOT HOLES IN THE SUPPORT FITTING. REMOVE THE DRILL BUSHING AND OPEN UP THE 0.125 PILOT HOLES TO 0.1875. LINE REAM THE 0.1875 HOLES IN FITTING ASSEMBLY TO 0.2495 +0.0017 -0.0000 TO MATCH THE PREDRILLED HOLES IN THE REPAIR FITTING.

4. REMOVE THE REPAIR FITTING, REMOVE CHIPS, DEBURR HOLES AND COAT RAW SURFACES PER T.O. 1F-4C-3-1-6 CORROSION CONTROL.

5. REINSTALL REPAIR FITTING WITH THE NECESSARY AMOUNT OF 32-015218-5 SHIMS TO MAINTAIN ALIGNMENT AND ELIMINATE CLAMP-UP STRESSES IN SUPPORT FITTING.

6. INSTALL THE REQUIRED BOLTS, NUTS AND WASHERS AND TIGHTEN TO THE REQUIRED TORQUE.

7. AT COMPLETION OF REWORK REINSTALL THE FOLLOWING: 32-91082-1 SWAY BRACE ASSEMBLY, 32-91017-301 RETAINING RING AND LN10 LATCH NUT. BE SURE LATCH NUT IS RETURNED TO THE PROPER POSITION.

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Figure 4-94. Centerline Stores Support Fitting Repair (Sheet 2 of 2)

4-134. ENGINE COMPARTMENT.

4-135. There are two engine compartments which are separated by the keel. The compartments are pressurized for engine cooling. The compartments are insulated in two parts: from FS 302.00 to FS 357.66 with a titanium shroud and from FS 359.66 to FS 515.00 with a titanium shroud and internal blankets. The blanket provides protection for fuel cells from engine heat. The compartment has a rail and mounting brackets located in the center fuselage structure for attaching the engine to the aircraft. Also, three subcomponents are used to seal the compartment for pressurization.

4-136. SHROUD. See figure 4-95. The shroud for the engine compartment insulation consists of several titanium sheet metal panels. In certain areas these panels are corrugated for added strength. From FS 359.66 to FS 515.00, the shroud has insulation blankets tack welded to them.

4-137. Negligible Damage. Nicks, scratches and gouges that are free of cracks are negligible. Dents are negligible provided they are free of cracks and sharp corners. Loose or missing rivets shall not be considered as negligible and shall be replaced with NAS1398M4 monel rivets. Small holes that can be plugged with monel rivets are negligible.

4-138. Crack Repair. See figure 4-8 for repair to cracks found to exist in 32-32081-449, -450; -763, -764 or -765, -766 shroud in area of hydraulic manifold cut out at shear splice web.

4-139. Patch Repairs. See figure 4-96. Damage that exceeds negligible damage but is not great enough to replace the entire shroud or a portion of shroud shall be repaired by patching.

4-140. Tools and Equipment.

Motor, drill, pneumatic

Bits, drill

Gun, rivet

Bits, router

File, rotary

Gun, sealant with cartridges, plungers, and nozzles No. 250 Pyles or Semco

4-141. Materials.

Sheet stock 0.020, 8Mn titanium alloy, Specification MIL-T-9046, Type III, Composition A, annealed

Rivets, NAS1398M4

Adhesive, Specification MIL-A-46146

Primer, Silicone, Specification MIL-A-46146

4-142. Procedure.

a. Cut out damaged area. Polish edges of cutout.

b. Cut patch from 0.020 titanium alloy sheet. Patch shall be large enough to maintain minimum edge distance of 0.31 from edge of hole and edge of patch. The minimum spacing between rivets shall be 0.500 measured from center of rivet hole.

c. Lay out and drill fastener holes.

WARNING

Involved solvents, Specification MIL-A-46146, are extremely volatile. Adequate ventilation must be provided to prevent these vapors from collecting in any given area. Sparks and open flames shall be prohibited during application of materials.

d. Clean entire area including patch and titanium parts per T.O. 1-1-691.

e. After surface has been completely cleaned and dried, apply a coat of primer, Specification MIL-A-46146. The primer may be brushed or sprayed on both shroud and patch and must produce a uniform bright pink color on surface. Either a very light pink or a dark red-pink color will now result in a reliable bond. The primer shall be allowed to air-dry for a minimum of one hour and longer if wet spots are visible in the primer coat.

f. Deleted

g. Best results will be obtained if sealant is used immediately after mixing. It can be stored for 24 hours before using if it is kept refrigerated at temperatures below 0°.

h. Apply sealant with either a spatula or sealant gun in such a manner to form a continuous seal. Voids, pin holes, trapped air, and any possible way of leakage shall be eliminated.

i. Rivet patch in place.

j. Maintain a clean and chip free area around seal for a minimum of six hours after sealant is applied.

k. The sealant should cure to a tough, rubbery, nontacky seal in 24 hours. The complete cure should take about three days.

After the sealant has been completely cured, it shall be inspected for a satisfactory adhesion to metal. The inspection may be made by using the fingernail to pick at the edge of the sealant. Adhesion of the sealant to the metal should be greater than the cohesive strength, toughness, of the sealant.

4-143. Insertion Repair. See figure 4-97. When damage is near the edge of shroud, an insertion repair should be made. For an insertion repair, damaged area is cut out. This leaves a hole that may extend to one, two or three sides of the shroud. For insertion repair, the same equipment and materials used for patch repair are required. The procedure for making a patch repair may be used to make insertion repair except in the manner the damaged area is removed. Type of cutout to be made is shown.

4-143A. Blast Cone Seal Fastener Replacement. For replacement of fasteners, see figure 4-98A

4-144. Replacement. Damage that exceeds negligible damage, but cannot be repaired by patching or insertion, shall be repaired by replacement of the part. Refer to T.O. 1F-4C-3-1-1 for heat damage evaluation

4-145. Insulation Blankets. The insulation blankets are tack-welded to the titanium shroud. These blankets cover the top of the engine compartment from FS 359.66 to FS 515.00 which is in the area of the number five and six fuel cells. The interior surface of the blanket is 0.003 titanium foil. The insulating material is Johns-Manville Thermoflex, Type RF300, from FS 359.66 to FS 414.00 and Johns-Manville Thermoflex, Type RF600, from FS 414.00 to FS 515.00.

4-146. Repairs. Tears, holes or other damage to the foil on the blankets may be repaired by tack welding a piece of foil over the damage. Refer to T.O. 1F-4C-3-1-5 for repair procedure.

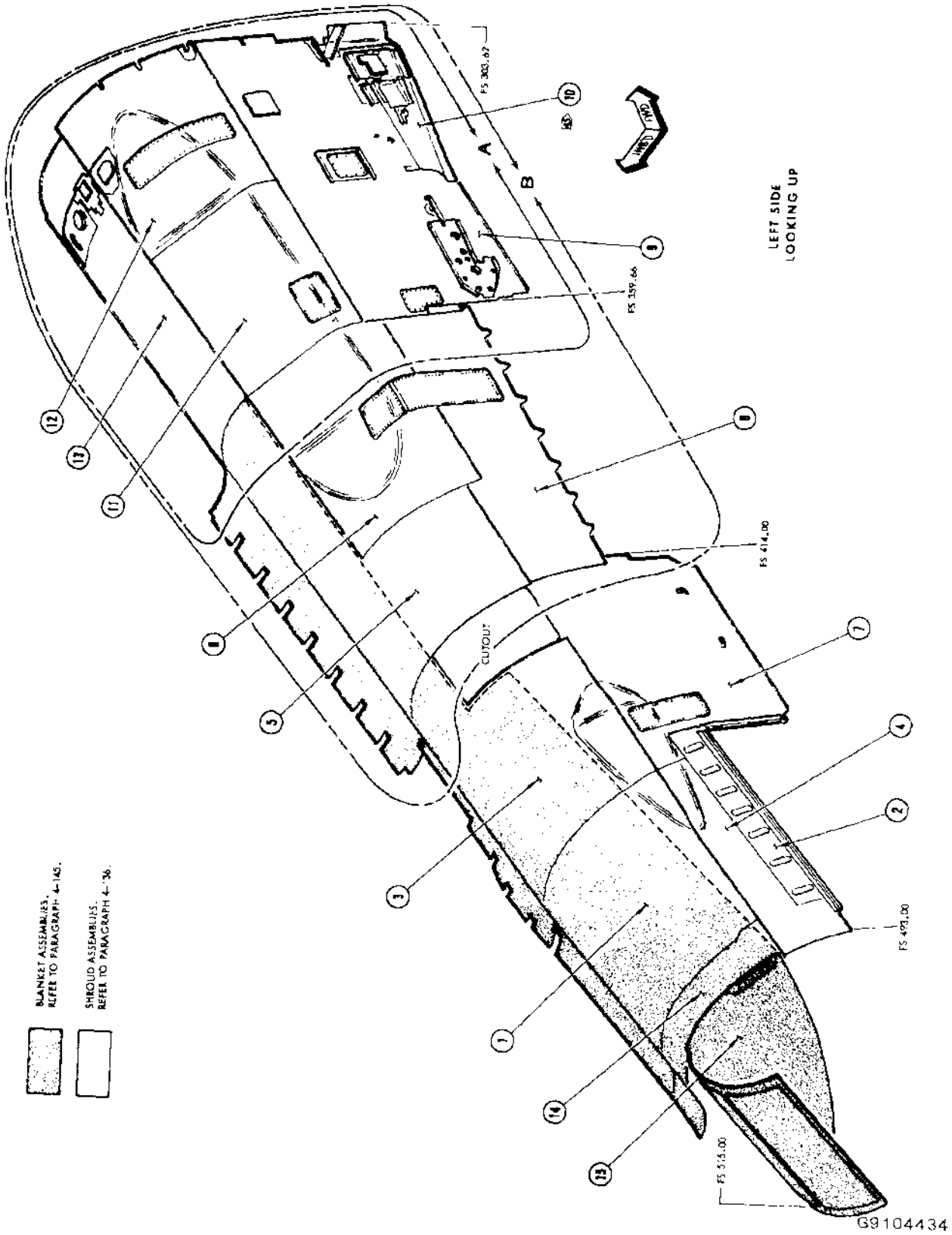


Figure 4 95. Engine Compartment Shroud Repair Index (Sheet 1 of 4)

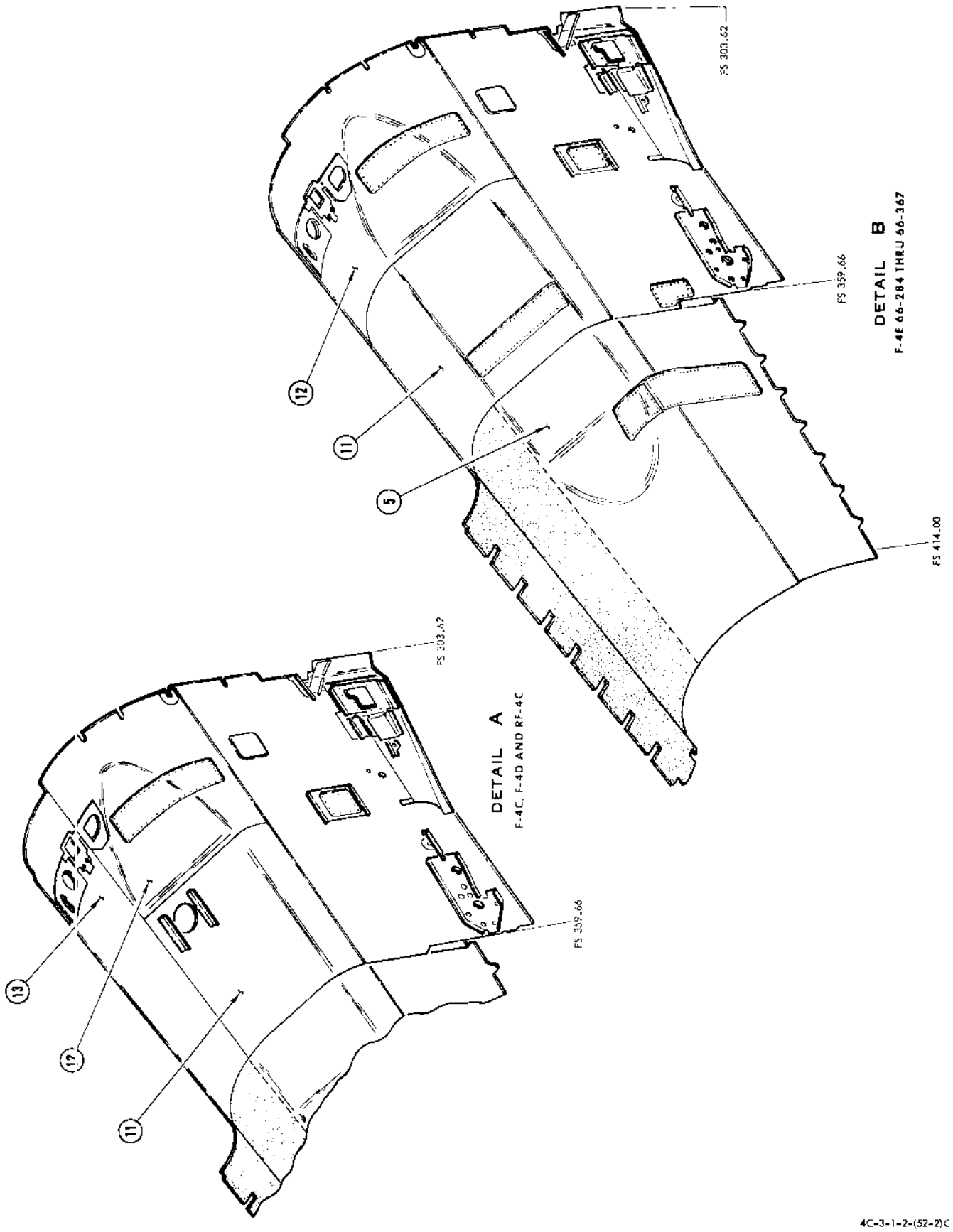


Figure 4-95. Engine Compartment Shroud Repair Index (Sheet 2 of 4)

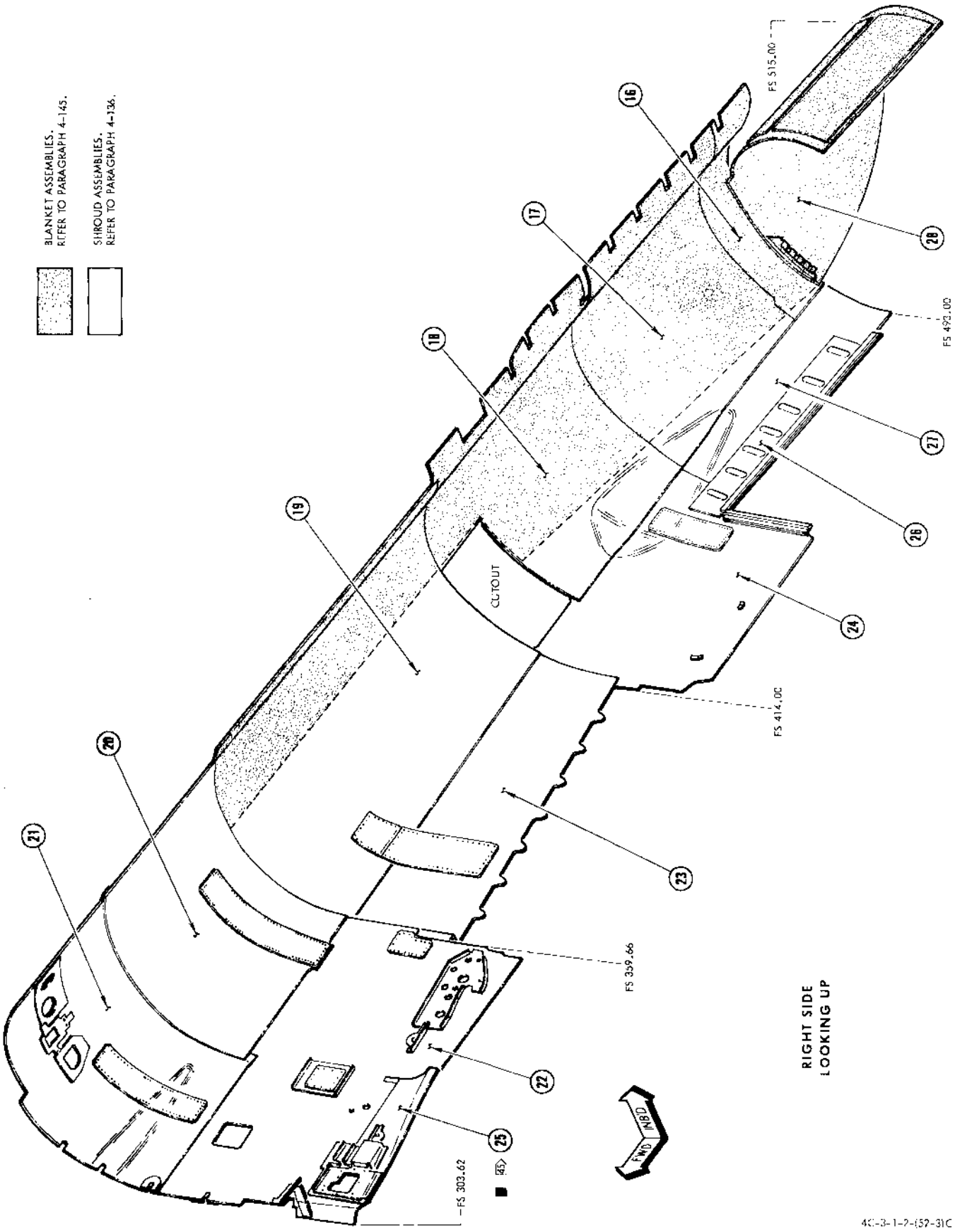


Figure 4-95. Engine Compartment Shroud Repair Index (Sheet 3 of 4)

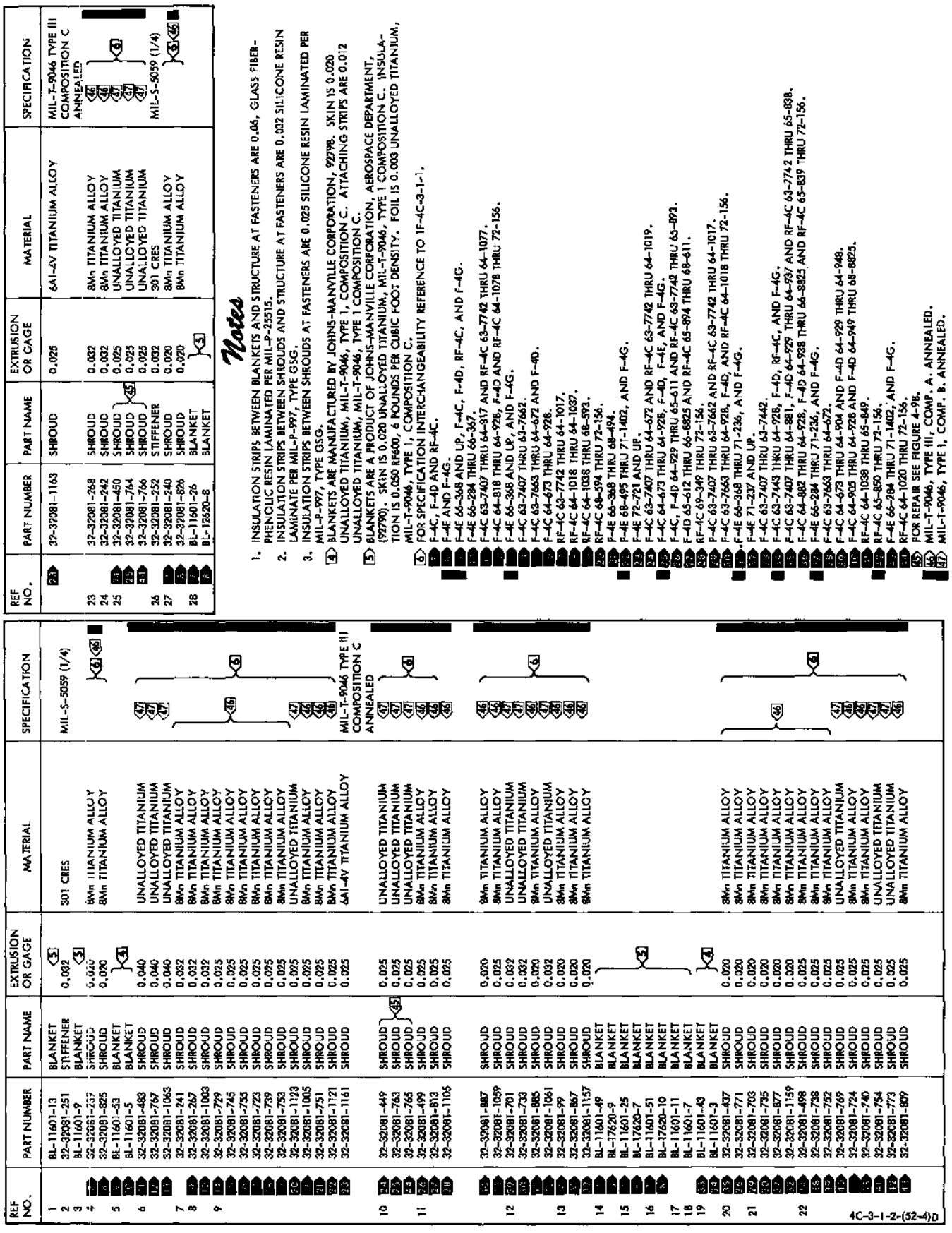


Figure 4-95. Engine Compartment Shroud Repair Index (Sheet 4 of 4)

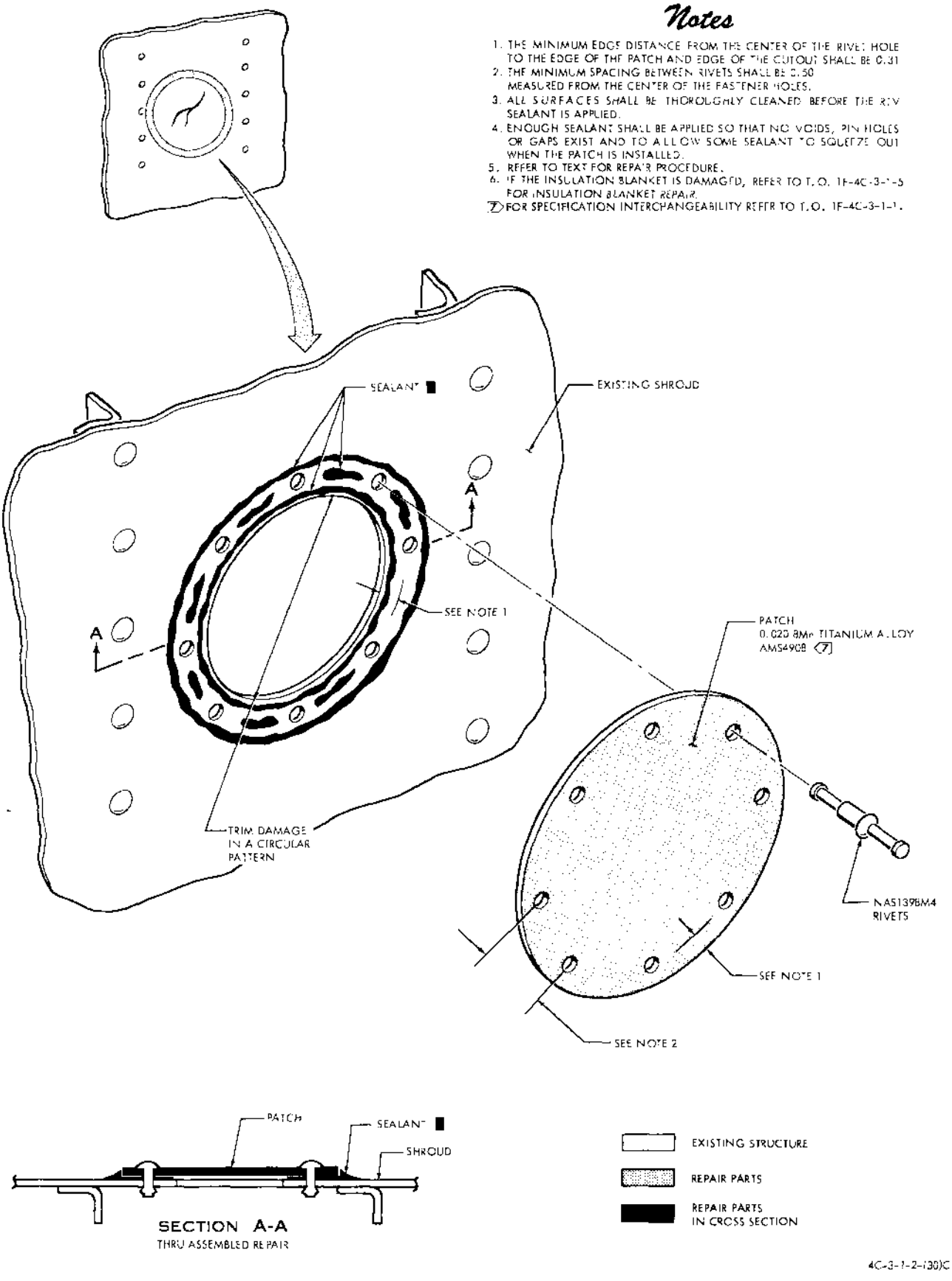


Figure 4-96. Engine Compartment Shroud Patch Repair

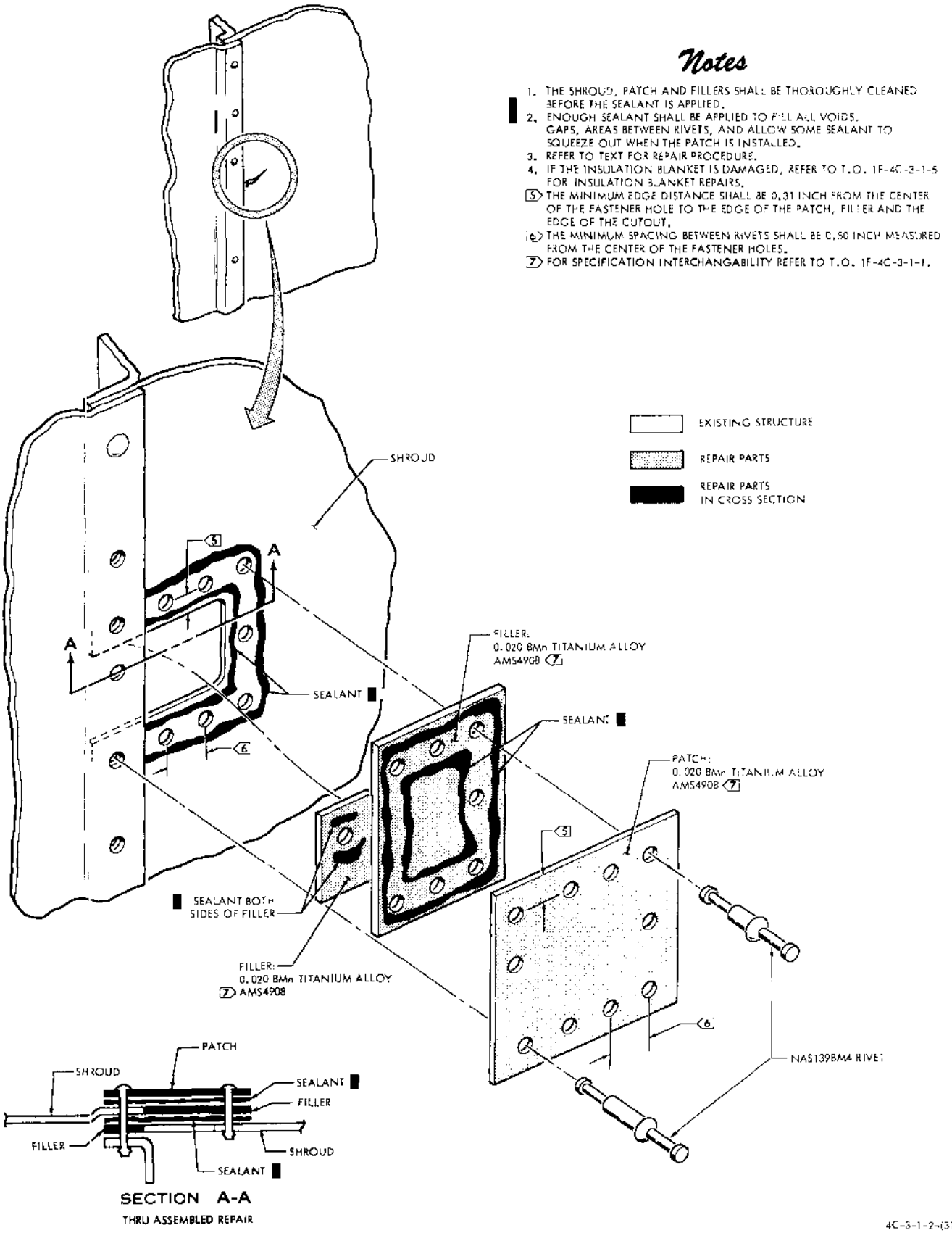


Figure 4-97. Engine Compartment Shroud Insertion Repair

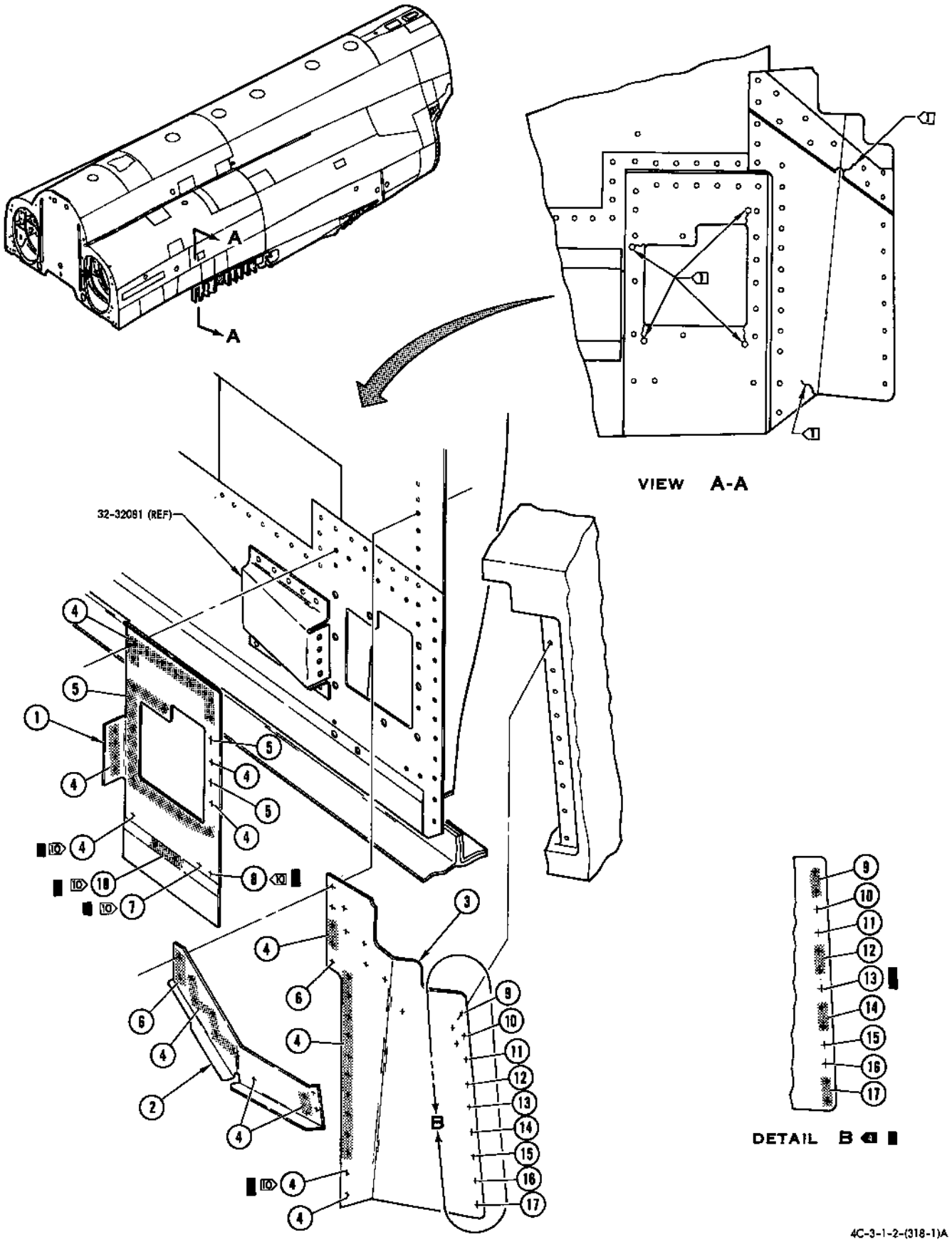


Figure 4-98. Engine Shroud Shear Splice Web Repair (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 ⑤	32-32081-711,-713	DOUBLER	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
⑪	32-32081-853,-855	DOUBLER	0.090	2024-T6 AL ALY	QQ-A-250/4 (T6)
2 ⑤	32-32081-705,-706	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
⑤	32-32081-749,-750	ANGLE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
⑥	32-32081-863,-864	ANGLE	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)
3 ⑤	32-32081-707,-708	PLATE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
⑤	32-32081-747,-748	PLATE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
⑨	32-32081-861,-862	PLATE	0.040	2024-T6 AL ALY	QQ-A-250/4 (T6)

REF NO.	FASTENER	WASHER UNDER HEAD	WASHER UNDER NUT	NUT OR COLLAR	HOLE SIZE
4	MS20615M5-5				0.159 +.013 -.000
5	③			MS21059L3	0.196 +.006 -.000
6	MS20615M5-6				0.159 +.013 -.000
7	MS20615M5-9				0.159 +.013 -.000
8	MS20615M5-10				0.159 +.013 -.000
9	NAS464P3-16	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
10	NAS464P3-15	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
11	NAS464P3-13	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
12	NAS464P3-12	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
13	NAS464P3-11	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
14	NAS464P3-10	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
15	NAS464P3-8	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
16	NAS464P3-7	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
17	NAS464P3-6	AN960D10		RM52LH2935-02 2935-0 ②	0.191 +.006 -.000
18	MS84-4-8	NA51587-4C	AN960D416	H49843-4	0.250 +.007 -.000

INSPECTION PROCEDURE

A. VISUALLY INSPECT 32-32081 ENGINE FIREWALL FOR FATIGUE CRACKS, SEE VIEW A-A.
B. IF CRACKS EXIST PERFORM FLUORESCENT PENETRANT INSPECTION AT LOCATION FLAGGED TO ①, SEE VIEW A-A. INSPECTION PROCEDURE TO BE PERFORMED PER TO 1F-4C-36.
C. REPAIR CRACKED SHROUD OR REPLACED CRACKED PARTS, PER REPAIR PROCEDURE.

REPAIR PROCEDURE

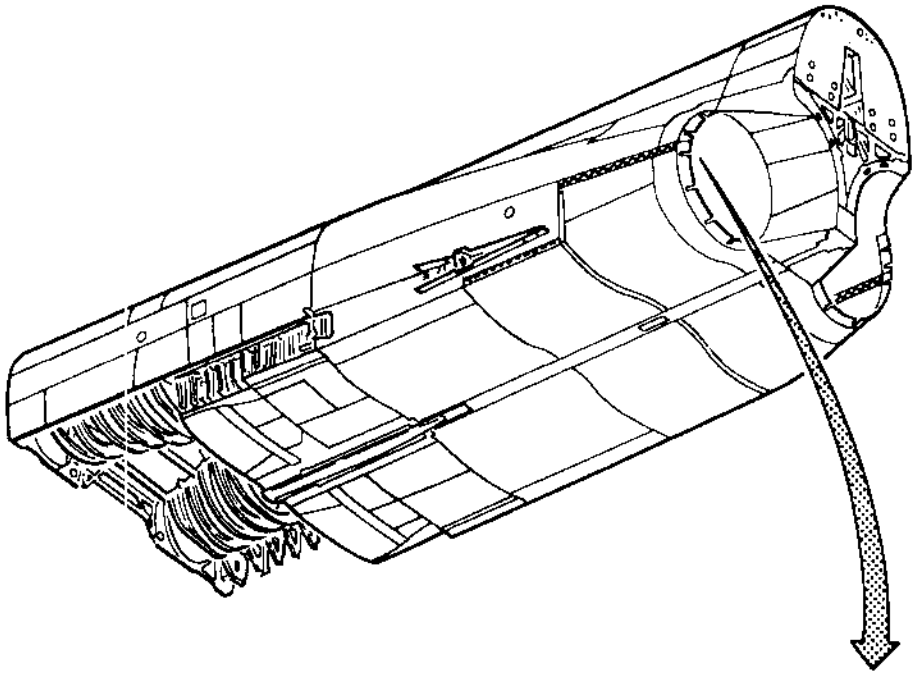
A. REMOVE 32-32081-711,-713 OR -853,-855 DOUBLER IF CRACKED, SEE VIEW A-A.
B. STOP DRILL CRACK IN 32-32081 SHROUD WITH 3/16 DIAMETER DRILL AND ROUT OUT CRACK AREA 0.06 MAXIMUM, SEE VIEW A-A.
C. REMOVE 32-32081-705,-706,-749,-750, OR -863,-864 ANGLE AND 32-32081-707,-708,-747,-748 OR -861,-862 PLATE IF CRACKED.
■ REPLACE WITH NEW ANGLE AND PLATE
D. REPLACE 32-32081-711, -713 DOUBLER WITH 32-32081-853, -855 DOUBLER ON ALL REWORKED ASSEMBLIES.
E. LOCATE NEW PARTS ALL DRILL FASTENER HOLES INDICATED BY CENTERLINE (-) TO SIZE INDICATED IN CHART. METHOD OF LOCATING HOLES TO BE IN ACCORDANCE WITH TO 1F-4C-3-1-1.
F. REFINISHED HOLES IN ACCORDANCE WITH CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

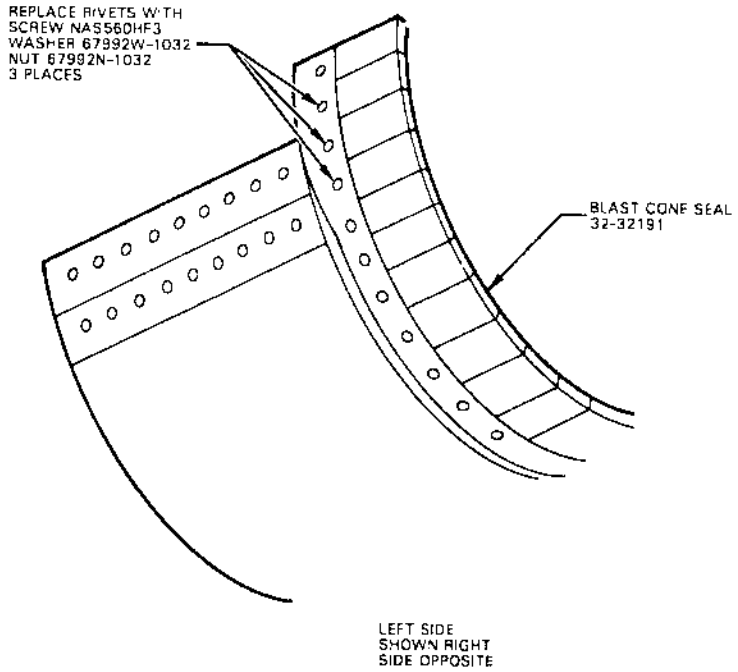
Notes

① POSSIBLE CRACK AREA.
② NUT BASE.
③ FOR HYDRAULIC COMPONENT.
⑤ F-4C 63-7407 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749.
⑥ F-4C 63-7527 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 67-469.
⑦ RF-4C 68-548 THRU 72-156, F-4E, AND F-4G.
⑧ F-4C 63-7527 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 72-156.
⑨ F-4C, F-4D, AND RF-4C.
⑩ F-4E AND F-4G.
⑪ THESE FASTENERS INSTALLED AFTER TO 1F-4-991.

4C-3-1-2-(318-2)C

Figure 4-98. Engine Shroud Shear Splice Web Repair (Sheet 2 of 2)





Note

WHEN REPLACING BLAST CONE SEAL (EITHER BAY) AT 10 O'CLOCK AND 2 O'CLOCK POSITION REPLACE RIVETS WITH SCREWS AS NOTED. LENGTH OF SCREW TO MATCH THICKNESS OF FUSELAGE WALL.

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Figure 4-98A. Blast Cone Seal Fastener Replacement

CENTER FUSELAGE AND COMPONENTS HINGE TOLERANCES

4-147. GENERAL. See figure 4-99.

4-148. The hinge tolerances given in this subsection are maximum wear and negligible damage limitations to ensure safety of flight. To increase life expectancy and ensure proper operations of components, hinges and pins should be properly lubricated as specified in T.O. 1F-4C-3-1-1, as applicable.

4-149. **WEAR TOLERANCES.** Figure 4-99 gives permissible in-service tolerances for hinges and their respective hinge pins. To determine if hinges and pins are within limits, measure pin Outside Diameter (OD) and hinge tang hole Inside Diameter (ID) and subtract difference. Match difference against in-service tolerance and clearance column. If clearance is not sufficient or it is too great, it may be possible to install a different hinge pin and bring clearance within acceptable limits. If a hinge tang hole has been enlarged to such a degree that maximum diameter pin is still insufficient, tang shall be considered a missing tang for evaluating negligible damage.

4-150. **NEGLIGIBLE DAMAGE.** The limits are given for two areas: negligible limits for hinge legs and negligible limits for hinge tangs.

4-151. Negligible Limits for Hinge Legs. The allowable depth of nicks, scratches, corrosion, and gouges is as follows:

a. Unblended damage may be a maximum of 0.005 inch depth and unlimited length.

b. Blended damage may be a maximum of 0.010 inch depth and unlimited length.

For rework procedure, refer to T.O. 1F-4C-3-5-1. Refinish area in accordance with corrosion control procedure in T.O. 1F-4C-3-1-6.

4-152. Negligible Limits for Hinge Tangs. Scratches, nicks, and gouges that do not exceed 0.005 inch depth are negligible. Up to 10 percent of the tangs may have nicks, gouges, and scratches up to 0.010 inch depth and be considered negligible. A broken tang has any damage more than 0.010 inch depth. The hinge may have a maximum of 15 percent of the tangs broken or missing, and may also have up to five consecutive tangs broken or missing. Door 83 is the only exception. Up to three consecutively broken tangs are allowed on the aft 8 inches of the hinge on door 83. All hinges with more than two tangs broken will be replaced at depot. None of the first four tangs on either end of the other hinge halves may be broken or missing. Damaged, missing broken end tangs, on all center fuselage doors, except door 83, may be considered negligible. Areas showing signs of corrosion shall be reworked. If more than 0.010 inch material is removed, that tang shall be considered a broken tang. Refer to T.O. 1F-4C-3-1-5 for blending procedure and to T.O. 1F-4C-3-1-6 for corrosion control and refinishing procedures. Fillet tangs are hinge tangs that are machined out, leaving a small segment of tangs for aerodynamic fairing. Any number of fillet tangs may be damaged or missing in addition to the limits outlined. Damaged fillet tangs shall be blended out and treated per T.O. 1F-4C-3-1-6.

4-153. **FLAP CHATTER DELAY RELAY INSTALLATION.** See figure 4-100 for installation of flap chatter delay relay.

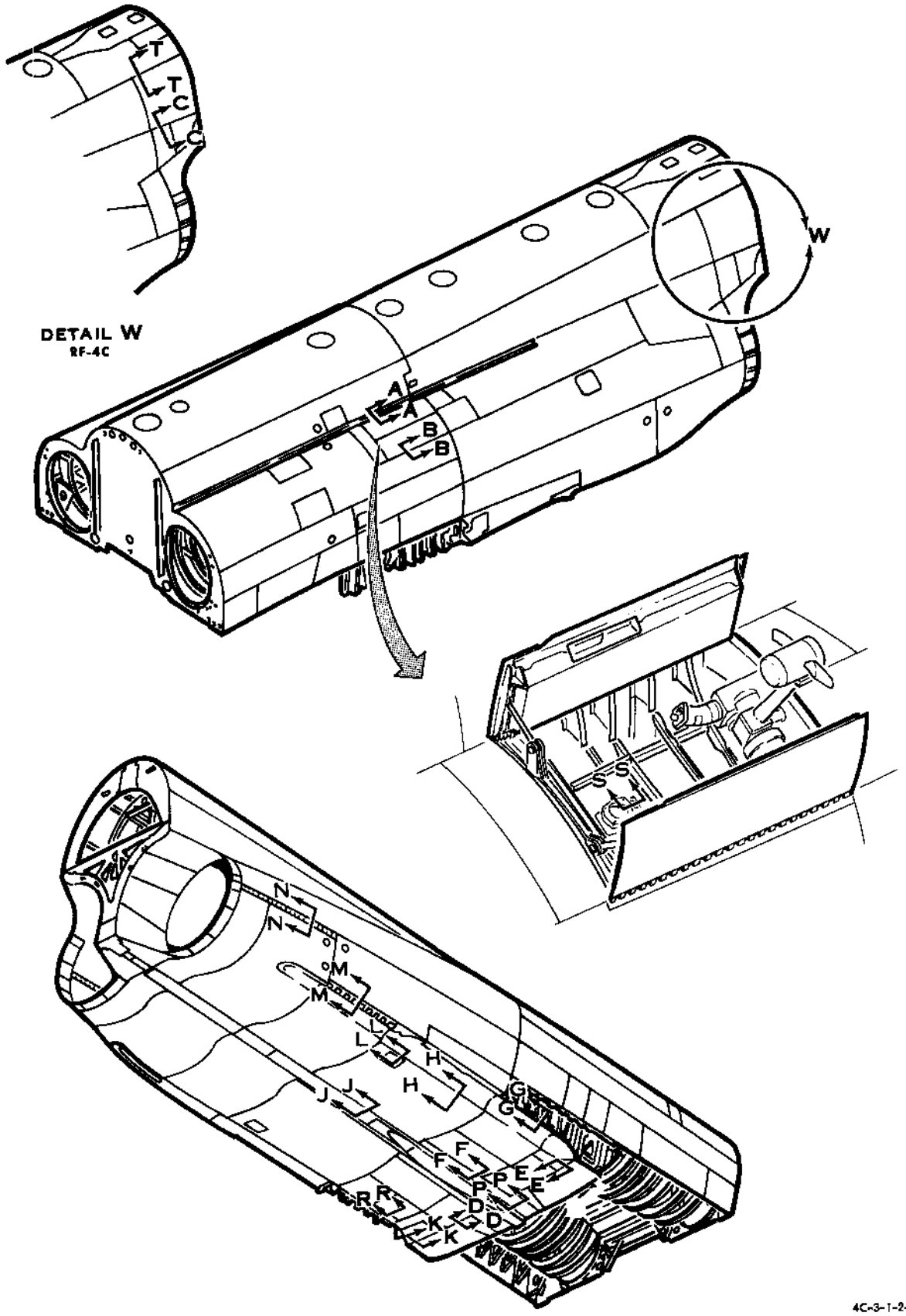
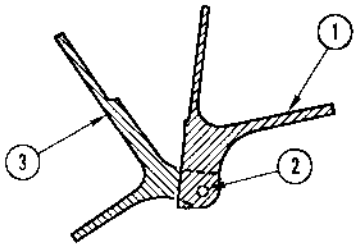
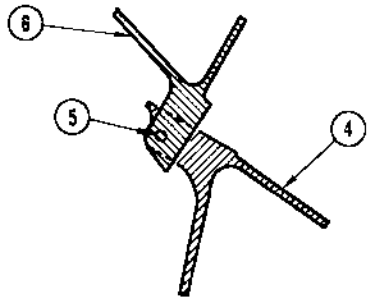


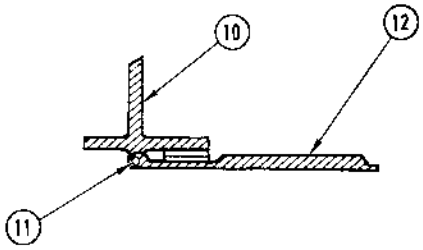
Figure 4-99. Center Fuselage and Components Hinge Tolerance (Sheet 1 of 7)



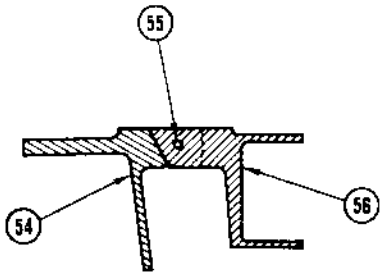
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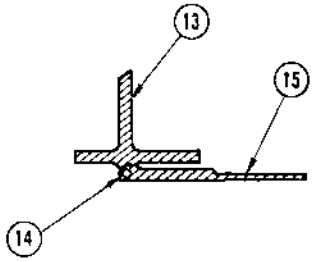
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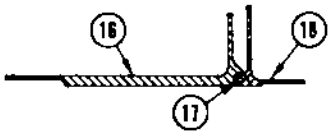
SECTION D-D



SECTION C-C
LEFT SIDE SHOWN RIGHT SIDE OPPOSITE



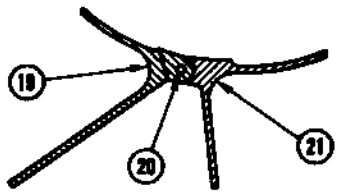
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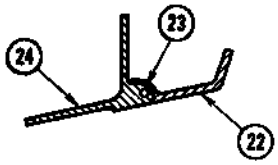
SECTION F-F
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4C-3-1-2-(75-2)D

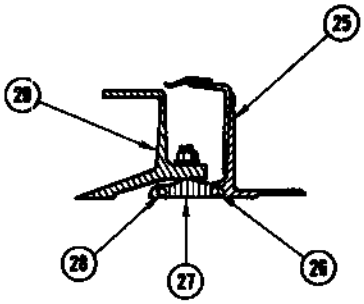
Figure 4-99. Center Fuselage and Components Hinge Tolerance (Sheet 2 of 7)



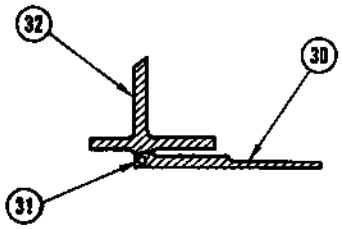
SECTION G-G
RIGHT SIDE SHOWN LEFT SIDE OPPOSITE



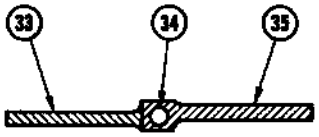
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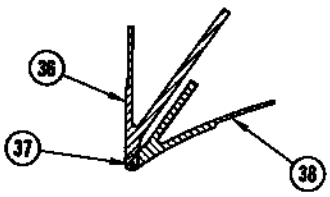
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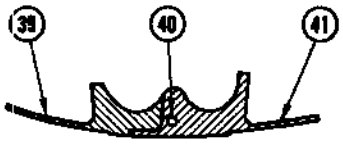
SECTION K-K



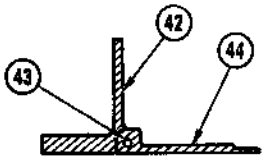
SECTION L-L
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SECTION M-M
RIGHT SIDE SHOWN LEFT SIDE OPPOSITE



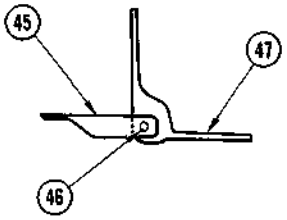
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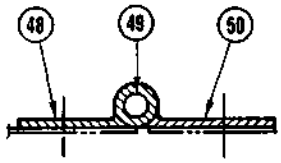
SECTION P-P

4C-3-1-2-(75-3) D

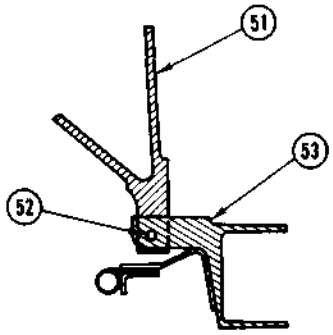
Figure 4-99. Center Fuselage and Components Hinge Tolerance (Sheet 3 of 7)



SECTION R-R



SECTION S-S
LEFT SIDE ONLY



SECTION T-T
LEFT SIDE SHOWN RIGHT SIDE OPPOSITE

4C-3-1-2-(75-4)D

Figure 4-99. Center Fuselage and Components Hinge Tolerance (Sheet 4 of 7)

SECTION	REF NO	PART NUMBER	PART NAME	IN SERVICE TOLERANCE			
				HOLE SIZE		CLEARANCE	
				ALL HOLES	10% HOLES	ALL HOLES	10% HOLES
A-A	1	32-32422-7	HINGE (DOOR)	0.093 +.005 -.000	0.093 +.010 -.000	BETWEEN 1 AND 2 0.012 MAXIMUM	BETWEEN 1 AND 2 0.015 MAXIMUM
	2	MS20253-2-1309 MS20253-2-1261	FORWARD PIN AFT PIN	0.089 ± .001 DIA			
	3 (8) (9) (10)	32-32422-5 32-32422-9 32-32422-11	HINGE (STRUCTURE)	0.093 +.005 -.000	0.093 +.010 -.000	BETWEEN 2 AND 3 0.012 MAXIMUM	BETWEEN 2 AND 3 0.015 MAXIMUM
B-B	4 (11) (12) (13)	32-32423-9 32-32423-11 32-32423-13	HINGE (STRUCTURE)	0.093 +.005 -.000	0.093 +.010 -.000	BETWEEN 4 AND 5 0.012 MAXIMUM	BETWEEN 4 AND 5 0.015 MAXIMUM
	5	MS20253-2-1310	PIN 2 REQUIRED	0.089 ± .001 DIA			
	6	32-32423-5	HINGE (DOOR)	0.093 +.005 -.000	0.093 +.010 -.000	BETWEEN 5 AND 6 0.012 MAXIMUM	BETWEEN 5 AND 6 0.015 MAXIMUM
C-C	54 (14) (15) (16) (17)	53-32539-11,-12 53-32539-17,-18 53-32539-13,-14 53-32539-15,-16	HINGE (FORWARD) (STRUCTURE) HINGE (AFT) (STRUCTURE)	0.098 +.005 -.000	0.098 +.010 -.000	BETWEEN 54 AND 55 0.012 MAXIMUM	BETWEEN 54 AND 55 0.017 MAXIMUM
	55	53-32544-3	PIN (FORE AND AFT) 2 REQUIRED	0.092 DIA			
	56	53-32530-9,-10	HINGE (DOOR)	0.098 +.005 -.000	0.098 +.010 -.000	BETWEEN 55 AND 56 0.012 MAXIMUM	BETWEEN 55 AND 56 0.017 MAXIMUM
D-D	10 (9) (10) (11) (12)	53-32028-3 53-32028-13 53-32028-39 53-32028-35	BEAM (STRUCTURE)	0.093 +.0075 -.0000	0.093 +.010 -.000	BETWEEN 10 AND 11 0.012 MAXIMUM	BETWEEN 10 AND 11 0.015 MAXIMUM
	11	MS20253-2-1415	PIN	0.089 ± .001 DIA			
	12 (11) (7) (12)	53-32031-3 53-32031-03 53-32031-59	DOOR ⟨6⟩	0.093 +.0075 -.0000	0.093 +.010 -.000	BETWEEN 11 AND 12 0.012 MAXIMUM	BETWEEN 11 AND 12 0.015 MAXIMUM
E-E	13 (13) (14) (15) (16)	53-32028-4 53-32028-25 53-32028-29 53-32028-36	BEAM (STRUCTURE)	0.093 +.0075 -.0000	0.093 +.010 -.000	BETWEEN 13 AND 14 0.012 MAXIMUM	BETWEEN 13 AND 14 0.015 MAXIMUM
	14	MS20253-2-860	PIN	0.089 ± .001 DIA			
	15 (14) (15) (17)	53-32032-3 53-32032-03 53-32032-43	DOOR ⟨6⟩	0.093 +.0075 -.0000	0.093 +.010 -.000	BETWEEN 14 AND 15 0.012 MAXIMUM	BETWEEN 14 AND 15 0.015 MAXIMUM
F-F	16 (18) (19) (21) (22)	32-32198-33,-34 32-32198-43,-44 32-32198-49,-50 32-32198-53,-54	HINGE PLATE (STRUCTURE)	0.122 +.0075 -.0000	0.122 +.010 -.000	BETWEEN 16 AND 17 0.014 MAXIMUM	BETWEEN 16 AND 17 0.016 MAXIMUM
	17	32-32562-3,-4 ⟨1⟩	PIN	0.117 ± .001 DIA			
	18	32-32330-7,-8	HINGE DOOR	0.122 +.0075 -.0000	0.122 +.010 -.000	BETWEEN 17 AND 18 0.014 MAXIMUM	BETWEEN 17 AND 18 0.016 MAXIMUM
G-G	19 (17) (18)	32-32331-3,-4 53-32547-603,-604	HINGE (DOOR)	0.125 +.0075 -.0000	0.125 +.010 -.000	BETWEEN 19 AND 20 0.017 MAXIMUM	BETWEEN 19 AND 20 0.019 MAXIMUM
	20 (17) (6)	MS20253-3-27,51 MS20253P3-26,32	PIN	0.117 ± .001 DIA			
	21 (23) (24) (16)	32-32331-11,-12 32-32331-17,-18 53-32511-7,-8	HINGE (STRUCTURE)	0.125 +.0075 -.0000	0.125 +.010 -.000	BETWEEN 20 AND 21 0.017 MAXIMUM	BETWEEN 20 AND 21 0.019 MAXIMUM
H-H	22 (21) (19) (20)	32-32444-11,-12 53-32519-601,-602 53-32519-9,-10	FITTING HINGE (OUTBD B3 DOOR)	0.094 +.0075 -.0000	0.094 +.010 -.000	BETWEEN 22 AND 23 0.013 MAXIMUM	BETWEEN 22 AND 23 0.016 MAXIMUM
	23 (15) (5)	MS20253-2-5150 53-32621-3	PIN	0.089 ± .001 DIA			
	24 (25) (21) (22) (20)	32-32444-15,-16 32-32444-21,-22 53-32519-3,-4 53-32519-7,-8	FAIRING HINGE	0.094 +.0075 -.0000	0.094 +.010 -.000	BETWEEN 23 AND 24 0.013 MAXIMUM	BETWEEN 23 AND 24 0.016 MAXIMUM

4C-3-1-2-(75-5)D

Figure 4-99. Center Fuselage and Components Hinge Tolerance (Sheet 5 of 7)

SECTION	REF NO	PART NUMBER	PART NAME	IN SERVICE TOLERANCE			
				HOLE SIZE		CLEARANCE	
				ALL HOLES	10% HOLES	ALL HOLES	10% HOLES
J-J	25	32-32489-9,-10 32-32489-17,-18	HINGE (STRUCTURE)	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 25 AND 26 0.012 MAXIMUM	BETWEEN 25 AND 26 0.015 MAXIMUM
	26	MS20253-2-5288	PIN	0.089 ± .001 DIA			
	27	32-32442-5	LINK	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 26 AND 27 0.012 MAXIMUM	BETWEEN 26 AND 27 0.015 MAXIMUM
	28	AN263-2-5284	PIN	0.089 ± .001 DIA			
	29	32-32442-7,-8 32-32442-11,-12	HINGE (DOOR)	0.093 $^{+.0075}_{-.0000}$ 4	0.093 $^{+.010}_{-.000}$	BETWEEN 28 AND 29 0.012 MAXIMUM	BETWEEN 28 AND 29 0.015 MAXIMUM
K-K	30	53-32030-3 53-32030-03	DOOR 6	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 30 AND 31 0.012 MAXIMUM	BETWEEN 30 AND 31 0.015 MAXIMUM
	31	MS20253-2-765	PIN	0.089 ± .001 DIA			
	32	53-32028-3 53-32028-13 53-32028-39 53-32028-35	HINGE BEAM (STRUCTURE)	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 31 AND 32 0.012 MAXIMUM	BETWEEN 31 AND 32 0.015 MAXIMUM
L-L	33	32-32446-7	HINGE	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 33 AND 34 0.012 MAXIMUM	BETWEEN 33 AND 34 0.015 MAXIMUM
	34	MS20253-2-619	PIN	0.089 ± .001 DIA			
	35	32-32446-5	HINGE	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 34 AND 35 0.012 MAXIMUM	BETWEEN 34 AND 35 0.015 MAXIMUM
M-M	36	32-32332-49,-50 32-32332-59,-60 32-32332-63,-64	HINGE (STRUCTURE)	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 36 AND 37 0.012 MAXIMUM	BETWEEN 36 AND 37 0.015 MAXIMUM
	37	MS20253-P2-32.60	PIN	0.089 ± .001 DIA			
	38	32-32332-47,-48 32-32332-61,-62 53-32521-1,-2	HINGE (DOOR,	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 37 AND 38 0.012 MAXIMUM	BETWEEN 37 AND 38 0.015 MAXIMUM
N-N	39	32-32334-15,-16 32-32334-21,-22 32-32334-31,-32 32-32334-45,-46 32-32334-37,-38	HINGE (STRUCTURE)	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 39 AND 40 0.012 MAXIMUM	BETWEEN 39 AND 40 0.015 MAXIMUM
	40	MS20253-2-2029 2 MS20253-2-2022 3	PIN	0.089 ± .001 DIA			
	41	32-32334-5,-6 32-32334-33,-34 32-32334-39,-40 32-32334-49,-50 53-32546-3,-4 53-32546-5,-6	HINGE (DOOR)	0.093 $^{+.0075}_{-.0000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 40 AND 41 0.012 MAXIMUM	BETWEEN 40 AND 41 0.015 MAXIMUM
P-P	42	32-32198-33,-34 32-32198-43,-44 32-32198-49,-50 32-32198-53,-54	HINGE (STRUCTURE)	0.122 $^{+.0075}_{-.0000}$	0.122 $^{+.010}_{-.000}$	BETWEEN 42 AND 43 0.012 MAXIMUM	BETWEEN 42 AND 43 0.016 MAXIMUM
■	43	53-32021-25 5	PIN	0.117 ± .001 DIA			
	44	53-32021-5 53-32021-05 53-32021-29	DOOR SKIN 6	0.122 $^{+.0075}_{-.0000}$	0.122 $^{+.010}_{-.000}$	BETWEEN 43 AND 44 0.012 MAXIMUM	BETWEEN 43 AND 44 0.016 MAXIMUM
R-R	45	53-32039-3 53-32039-29	DOOR 140 6	0.125 $^{+.0075}_{-.0000}$	0.125 $^{+.010}_{-.000}$	BETWEEN 45 AND 46 0.016 MAXIMUM	BETWEEN 45 AND 46 0.019 MAXIMUM
	46	MS20253-3-1435	PIN	0.117 ± .001 DIA			
	47	53-32040-601 53-32040-5	DOOR 86L HINGE (STRUCTURE)	0.125 $^{+.0075}_{-.0000}$	0.125 $^{+.010}_{-.000}$	BETWEEN 46 AND 4 0.016 MAXIMUM	BETWEEN 46 AND 47 0.019 MAXIMUM

4C-3-1-2-(75-6)F

Figure 4-99. Center Fuselage and Components Hinge Tolerance (Sheet 6 of 7)

SECTION	REF NO	PART NUMBER	PART NAME	IN SERVICE TOLERANCE			
				HOLE SIZE		CLEARANCE	
				ALL HOLES	10% HOLES	ALL HOLES	10% HOLES
S-S	48	MS20257-XP2-349	HINGE (DOOR)	0.093 $^{+0.010}_{-0.001}$	0.093 $^{+0.014}_{-0.001}$	BETWEEN 48 AND 49 0.015 MAXIMUM	BETWEEN 48 AND 49 0.019 MAXIMUM
	49	MS20253-2-336	PIN	0.089 ± .001 DIA			
	50	MS20257-XP2-400	HINGE (STRUCTURE)	0.093 $^{+0.010}_{-0.001}$	0.093 $^{+0.014}_{-0.001}$	BETWEEN 49 AND 50 0.015 MAXIMUM	BETWEEN 49 AND 50 0.019 MAXIMUM
T-T	51	53-32540-3, -4 53-32540-5, -6	HINGE (FORWARD) HINGE (AFT) (STRUCTURE)	0.098 $^{+0.005}_{-0.000}$	0.098 $^{+0.010}_{-0.000}$	BETWEEN 51 AND 52 0.012 MAXIMUM	BETWEEN 51 AND 52 0.017 MAXIMUM
	52	53-32554-17 53-32554-15	PIN (FORWARD) PIN (AFT)	0.092 DIA			
	53	53-32529-5, -6	HINGE (DOOR)	0.098 $^{+0.005}_{-0.000}$	0.098 $^{+0.010}_{-0.000}$	BETWEEN 52 AND 53 0.012 MAXIMUM	BETWEEN 52 AND 53 0.017 MAXIMUM

Notes

1. MAKE FROM JS20253-3-2995.
2. FORWARD HINGE PIN.
3. AFT HINGE PIN.
4. ALL TANGS IN THE AFT EIGHT INCHES OF THE HINGE SHALL NOT EXCEED THIS TOLERANCE.
5. MAKE FROM MS20253-3-1447.
6. THE HINGE IS AN INTEGRAL PART OF THE DOOR.
7. F-4C 63-7412 THRU 64-817.
8. F-4C 63-7527 THRU 64-928; RF-4C 63-7750 THRU 72-156, F-4D, F-4E, AND F-4G.
9. F-4C 63-7407 THRU 63-7442.
10. F-4C 63-7443 THRU 64-928, F-4D, RF-4C 63-7742 THRU 68-611 AND F-4E 66-284 THRU 68-494.
11. F-4C 63-7407 THRU 63-7411.
12. F-4C 63-7407 THRU 63-7412.
13. F-4C, F-4D, F-4E, AND F-4G.
14. F-4C 63-7412 THRU 63-7526 AND RF-4C 63-7742 THRU 63-7749.
15. F-4C 63-7413 THRU 64-928; F-4D, F-4E, AND F-4G.
16. RF-4C.
17. F-4C 64-818 THRU 64-928, RF-4C 64-1078 THRU 72-156, F-4D, F-4E, AND F-4G.
18. F-4C 63-7407 THRU 64-817 AND RF-4C 63-7742 THRU 64-1077.
19. RF-4C 63-7742 THRU 65-841.
20. RF-4C 63-842 THRU 72-156.
21. RF-4C 63-7742 THRU 63-7747.
22. RF-4C 63-7748 THRU 72-156.
23. F-4C 63-7407 THRU 63-7565.
24. F-4C 63-756 THRU 64-928; F-4D.
25. F-4C 63-7407 THRU 63-7662 AND RF-4C 63-7742 THRU 64-1017.
26. F-4C 63-7663 THRU 64-653 AND RF-4C 64-1018 THRU 64-996.
27. F-4C, F-4D AND F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-257.
28. F-4E/G 69-258 THRU 69-7588, F-4E 69-7589 AND UP.
29. F-4C, F-4D 64-929 THRU 66-7760, RF-4C 63-7742 THRU 66-448.
30. RF-4C 64-449 THRU 72-156, F-4D 66-7761 THRU 66-8825.
31. F-4E 66-284 THRU 66-289.
32. F-4E 66-290 AND UP AND F-4G.
33. F-4C 63-7407 THRU 64-903, F-4D 64-929 THRU 64-948 AND RF-4C 63-7742 THRU 65-849.
34. F-4C 64-904 THRU 64-928; F-4D 64-949 THRU 66-8825; RF-4C 65-850 THRU 68-611.
35. RF-4C 63-7742 THRU 64-1005.
36. RF-4C 64-1006 THRU 72-156.
37. RF-4C 63-7742 THRU 64-1001.
38. RF-4C 64-1002 THRU 72-156.
39. F-4E 66-495 THRU 68-538, F-4E/G 69-236 THRU 69-7260, AND RF-4C 69-349 THRU 69-375.
40. RF-4C 69-376 THRU 72-156 AND F-4E/G 69-7261 THRU 69-7588, F-4E 69-7589 AND UP.
41. F-4C 64-818 THRU 64-928, RF-4C 64-1078 THRU 67-447, F-4D, AND F-4E 66-284 THRU 67-238.
42. RF-4C 67-448 THRU 69-375 AND F-4E 67-239 THRU 68-538, F-4E/G 69-236 THRU 69-7260.
43. F-4C, F-4E 64-929 THRU 66-8698 AND F-4E 66-284 THRU 66-297.
44. F-4D 66-8699 THRU 66-8825 AND F-4E 66-298 AND UP AND F-4G.
45. F-4C, F-4D 64-929 THRU 66-8790 AND RF-4C 63-7742 THRU 66-475.
46. F-4D 66-8791 THRU 66-8825, F-4E, RF-4C 66-476 THRU 72-156, AND F-4G.
47. F-4C AND F-4D.
48. F-4E AND F-4G.
49. F-4C 64-654 THRU 64-928, RF-4C 64-997 THRU 65-864 AND F-4D 64-929 THRU 66-963.
50. F-4D 64-964 THRU 66-8825 AND RF-4C 65-865 THRU 72-156.
51. RF-4C 69-349 THRU 72-156.
52. F-4C, F-4D AND RF-4C 63-7742 THRU 67-442.
53. RF-4C 67-443 THRU 67-469.
54. RF-4C 68-548 THRU 72-156.
55. DELETED
56. DELETED
57. F-4E 66-284 THRU 68-345.
58. F-4E 68-346 AND UP AND F-4G.

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Figure 4-99. Center Fuselage and Components Hinge Tolerance (Sheet 7 of 7)

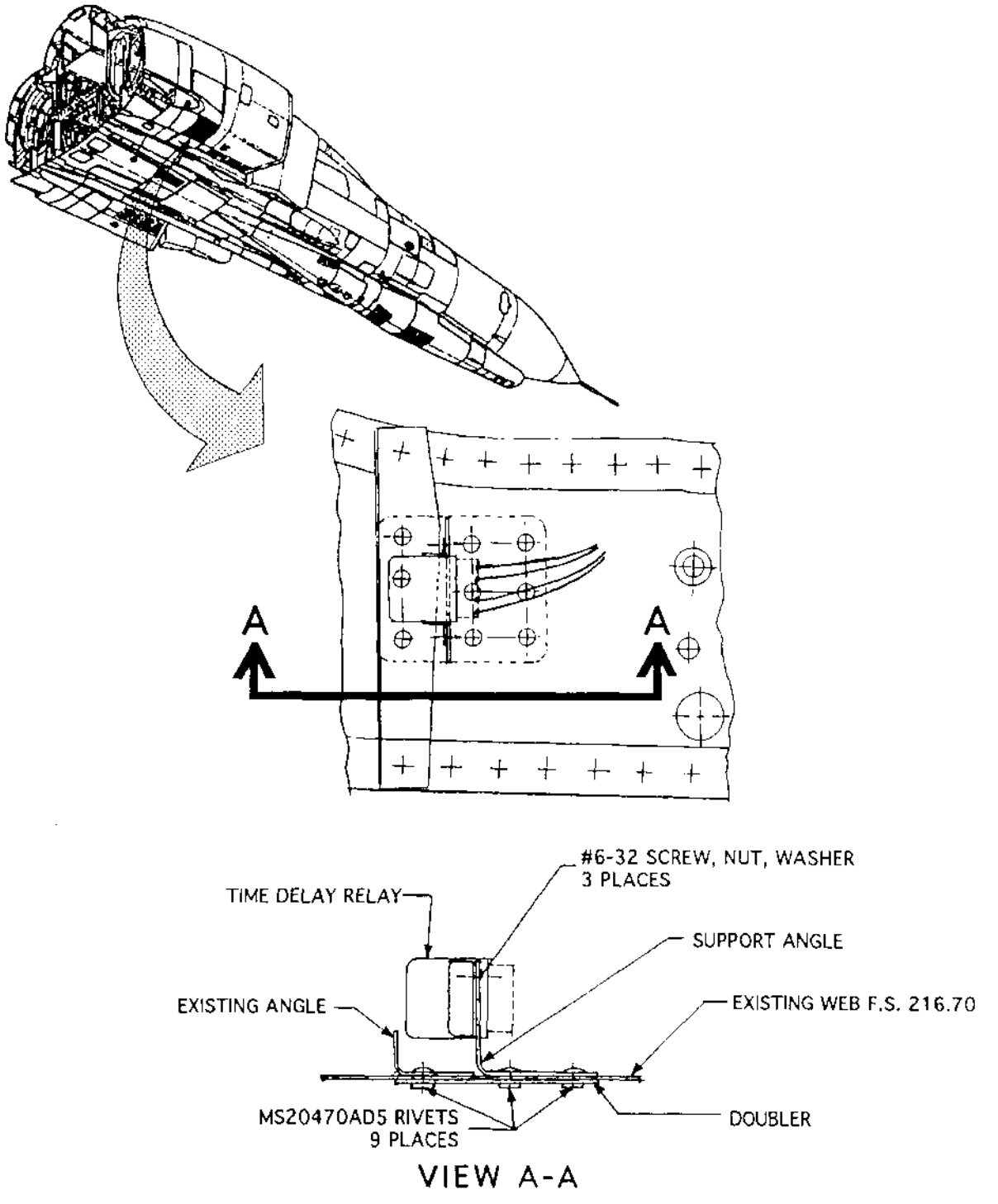


Figure 4-100. Flap Chatter Delay Relay Installation (Sheet 1 of 2)

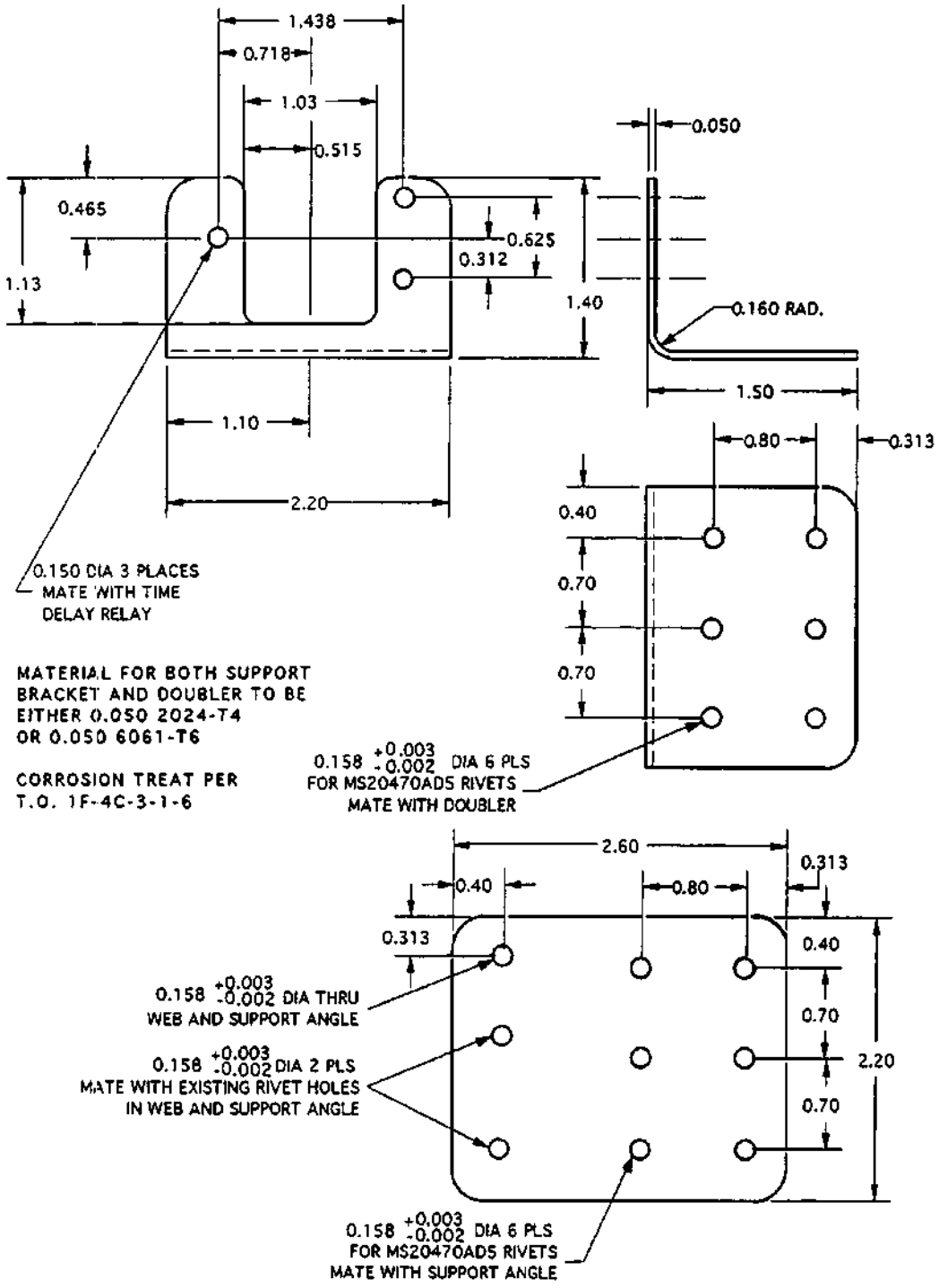


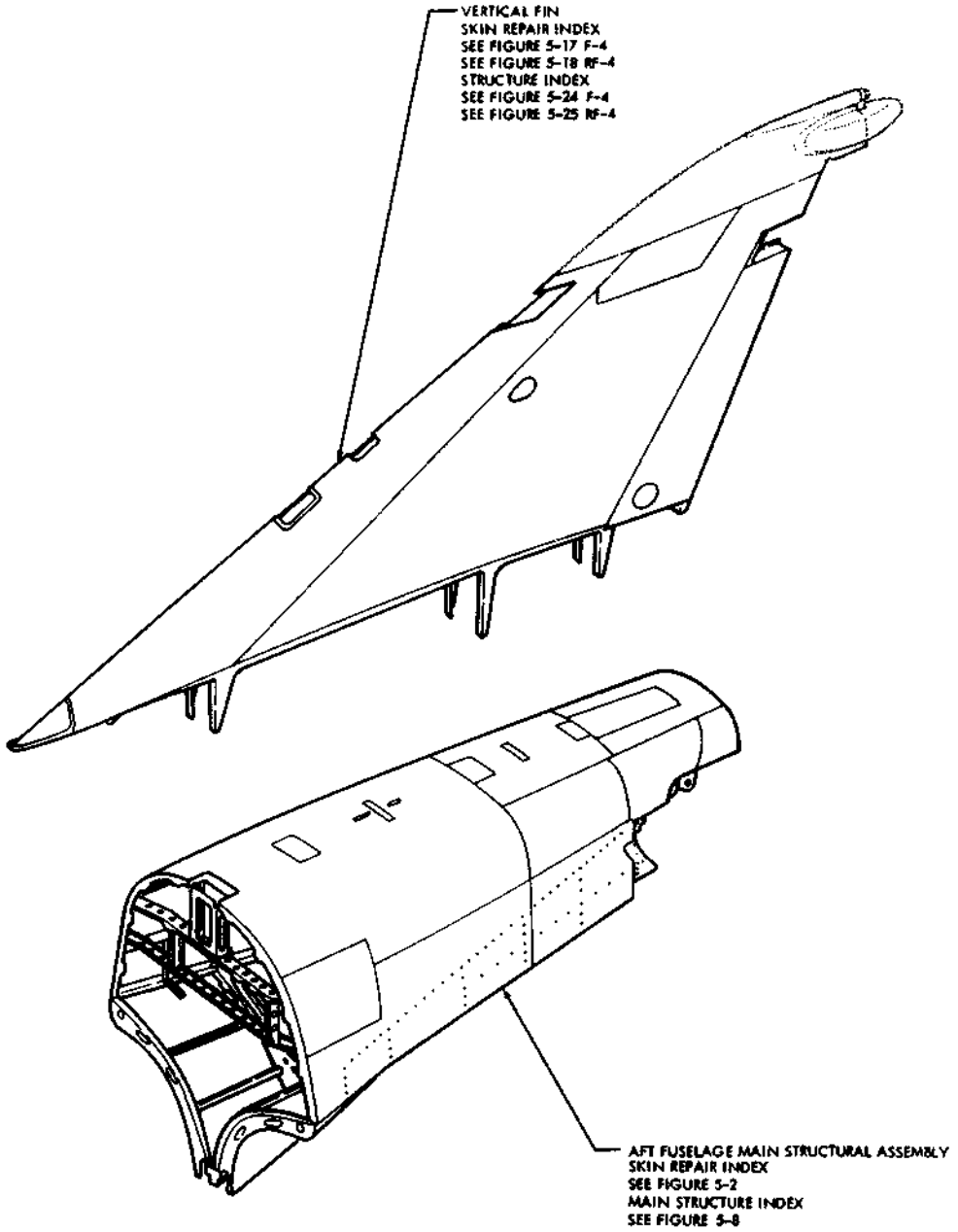
Figure 4-100. Flap Chatter Delay Relay Installation (Sheet 2 of 2)

SECTION V

AFT FUSELAGE

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Figure 5-1. Aft Fuselage Index

INTRODUCTION

5-1. **GENERAL.** See figure 5-1.

5-2. The aft fuselage section begins at FS 515.00 and extends to FS 624.40. For ease of reference, FS 515.00 is at the leading edge of door 61, FS 624.40 is at the upper splice point of the tail cone. The aft and center fuselage sections are joined together at FS 515.00 by a butt splice. This is a manufacturing splice and cannot be accomplished at organizational/ field maintenance. The tail cone is spliced to the aft fuselage section by an overlap splice and can be accomplished at organizational/field maintenance. Refer to T.O. 1F-4( )-2-2 for tail cone removal and installation procedure. The vertical fin is attached to the aft fuselage by match angles and three spars. Removal of the vertical fin cannot be accomplished at organizational/field maintenance. Aft fuselage fixed structure is divided into two areas: main structural assembly and vertical fin. The breakdown of the aft fuselage can be found in the following manuals:

a. Jet Blast Panels and Shingles, Insulation Blankets, and Aft Fuselage Access Panels - T.O. 1F-4C-3-1-3.

b. Vertical Fin Tip and Tail Cone Assembly T.O. 1F-4C-3-1-4.

5-2A. **STRUCTURAL INFORMATION DATA CHANGES.**

5-2B. Personnel should be familiar with the following data changes contained in this manual:

a. When alodine is specified in this manual, change to chemical conversion coating, Specification MIL-C-5541.

b. When sealant, Specification MIL-S-8802, is specified in this manual, change to sealant, Specification MIL-S-81733, except in the integral fuel cell areas.

5-2C. **SAFETY SUMMARY.**

5-2D. Personnel should be familiar with the following warnings before using chemical conversion coating, sealants, cements, solvents, and primers.

WARNING

- When using chemical conversion coating, Specification MIL-S-8802/81733 sealants, cements, solvents, and primers, ensure adequate ventilation. Avoid skin and eye contact. Approved respirators will be worn when applying these substances. The local bioenvironmental engineer will furnish information concerning specific respiratory requirements and protective clothing.
- When involved with vac-cadmium operations, the local bioenvironmental engineer will provide specific requirements concerning protective equipment.

5-3. **REPAIR CONSIDERATIONS.**

5-4. When making repairs on the main structural assembly, repairs must be as strong as or stronger than the original part. Forming and heat treating of some parts is required. Refer to T.O. 1F-4C-3-1-1, for heat treat requirements and sheet metal forming techniques. Whenever possible, the repair material shall be of same type, thickness, and have the same hardness conditions as the part being replaced.

5-4A. **FASTENER REQUIREMENTS DURING FLIGHT.** See figure 4-7A for allowable loose and missing door and panel fasteners during flight.

MAIN STRUCTURAL ASSEMBLY

5-5. **DESCRIPTION.**

5-6. The aft fuselage is constructed of stressed skins over ribs, frames, and bulkheads. Formed and extruded longerons and stringers act as load carrying members and skin stiffeners. In high temperature engine blast area, protection is afforded to the primary structure by insulated blast panels.

5-7. **ACCESS FOR REPAIR.**

5-8. When making repairs, accessibility to the back side of the repair is a factor in the type of repair to be made. Access for repair to the main structural assembly can be gained by removing access doors or the tail cone assembly. Refer to T.O. 1F-4C-3-1-3 for access door removal and installation and T.O. 1F-4( )-2-2 for removal and installation of the tail cone assembly. When access is gained for the purpose of making a structural repair, a thorough inspection of the surrounding structure is to be made for damage or corrosion.

5-9. **SKIN PANELS.** See figures 5-2 and 5-3.

5-10. Fixed skin panels are constructed of 7178 alclad and 8Mn titanium alloy. The single skin between FS 573.60 and FS 603.50 on the upper surface of the main structural assembly, is a machined skin constructed of 7178 aluminum alloy. For land and bay thicknesses, see figure 5-3.

5-11. **NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS, GENERAL.** Negligible damage and corroded areas that do not exceed 0.015 in depth and six inches in length are negligible, after blending. Nicks or gouges in edge of panel that can be blended and not reduce fastener edge distance less than one and one-half times fastener diameter are negligible. Dents that do not exceed 0.060 in depth are negligible, provided radius of depression is not less than two inches. If a rivet seems tilted, remove paint and measure tilt as shown in T.O. 1F-4C-3-1-5. When less than five percent of fasteners in a row or pattern are titled, less than eight percent of the rivet diameter, damage is negligible. When 10 percent or less of a row or pattern of rivets are tilted, more than eight percent of rivet diameter, rivets should be replaced with Cherry monel rivets. When more than 10 percent of a row or pattern is tilted, more than eight percent or when five to 20 percent of a row or pattern is tilted between four and eight percent of the rivet diameter, the row or pattern shall be replaced with same size and type rivet. Rivet tilt of less than four percent of rivet diameter is negligible. For rework of damage, refer to T.O. 1F-4C-3-1-5. For negligible damage and corrosion removal limits on skins, 32-33002-11, -469, and 32-33069, refer to paragraph 5-12.

5-12. **NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS, SPECIAL.** Negligible damage and corrosion removal limits are shown on figures 5-4 and 5-5 for skins, 32-33069 and 32-33002-11, -469, respectively, except for dents. Dents that do not exceed 0.060 inch in depth are negligible, provided radius of depression is not less than two inches. For rework of damage, refer to T.O. 1F-4C-3-1-5.

5-13. **PATCH REPAIR.** Refer to T.O. 1F-4C-3-1-5 for skin repairs, except skins, 32-33069 and 32-33072, which require disposition from depot engineering. When making repairs, seal mating surfaces of skin and substructure and wet fasteners. Refer to T.O. 1F-4C-3-1-6 for sealant information.

5-14. **INSERTION REPAIR.** Refer to T.O. 1F-4C-3-1-5 for skin repair, except for skins called out in paragraph 5-16.

5-15. Stabilator Cover Interference Modification, Skin and Angle Rework. See figure 5-8 for this rework.

5-16. Skin Repair, 32-33002-255, -256 and -835, -836. See figure 5-7. When skin is cracked along the lower edge, it can be repaired by removing the lower portion and replacing that section with an angle, 32-015451-3, -4. The angle, 32-015451-7, -8 and gusset, 32-015451-5, -6 strengthen the repair. For method of locating holes, installing fasteners, and sheet metal forming, refer to T.O. 1F-4C-3-1-1 and for corrosion control, refer to T.O. 1F-4C-3-1-6. This repair is for F-4C, F-4D, F-4E 66-284 thru 68-358, and RF-4C 63-7742 thru 69-357.

5-16A. Deck, 32-33052-11 Repair. See figure 5-2. When damaged through improper removal of stabilator the following repairs will be accomplished:

a. Dents. No repair required if dent is less than 0.15 deep and has a radius greater than 1.00 inch. If these limits are exceeded, contact responsible structural engineering organization for disposition.

b. Cracks. The repair for cracks are to be placed in three categories:

(1) Less than 0.50 long. Drill a 0.50 diameter hole to remove all of crack and finish per T.O. 1F-4C-3-1-6.

(2) Between 0.50 and 1.00 long. Stop drill each end of crack with 0.250 drill. Finish per T.O. 1F-4C-3-1-6.

(3) Longer than 1.00. Contact responsible structural engineer for disposition.

c. Gouges. If gouge is less than 20 percent of panel thickness, blend out damage and finish per T.O. 1F-4C-3-1-6. If gouge is greater than 20 percent of panel thickness, contact responsible structural engineer for disposition.

5-17. **REPLACEMENT.** Replacement requires depot facilities.

5-18. **STRUCTURE.** See figure 5-8.

5-19. Internal structure on the main structural assembly is divided into four subsections: longerons and stringers, bulkheads and frames, hinge, and armor plating. Bulkheads at FS 515.00, FS 573.60, and FS 600.00 are attachment points for main spar of vertical fin assembly.

5-20. **LONGERONS AND STRINGERS.** See figure 5-9. Longerons and stringers in the upper portion of the main structural assembly are fabricated from 7178 aluminum alloy extrusions. Longerons and stringers in the engine blast area are fabricated from 8Mn titanium alloy sheet.

5-21. Negligible Damage and Corrosion Removal Limits. Negligible damage and corroded areas parallel or across the edge of the part, that do not

exceed 0.010 in depth and six inches in length parallel or one inch in length across, are negligible after blending. Damage that decreases fastener edge distance to less than one and one-half times fastener diameter is not negligible and shall be repaired. For rework of damage, refer to T.O. 1F-4C-3-1-5.

5-22. Patch Repairs. Repairs require disposition from depot engineering, except for longerons, 32-33049, 32-33050, stringers, 32-33051, 32-33169, and separator, 32-33044. See figure 5-10 for stringer repair, 32-33051, figures 5-11 and 5-12 for stringer repairs, 32-33169, figure 5-13 for beef-up repair of longerons, 32-33049 and 32-33050 and figure 5-14 for separator repairs, 32-33044. Stringer repair is outlined in paragraphs 5-23 through 5-25, longeron beef-up in paragraph 5-26, and separator repair in paragraph 5-27.

5-23. Tools and Equipment.

Motor, drill, pneumatic.
Bits, drill, Nos. 11 and 21.
File, rotary.

5-24. Materials.

Sheet stock, 0.050 or 0.070, 7178-T6 aluminum alloy, QQ-A-250/14 (T6).
Extrusion, 1M5703, 1M617 or equivalent.
Rivets, MS20426AD5.
Rivets, MS20470AD5.
Rivets, MS20470DD6.
Primer, epoxy, refer to T.O. 1F-4C-3-1-6.
Fluorescent-penetrant.
Sealant, refer to T.O. 1F-4C-3-1-6.

5-25. Procedure.

a. Perform a fluorescent-penetrant inspection of damaged area in accordance with T.O. 33B-1-1.

b. Trim out damaged area, be sure damage has been completely removed.

c. Polish edges of cutout.

d. Make fillers to fill trimmed out area. If piece of extrusion is available, use it for filler material.

e. Fabricate repair angles from same type of extrusion. If extrusion material is not available, extrusion equivalent shall be obtained from extrusion chart in T.O. 1F-4C-3-1-5.

f. Lay out fastener pattern and drill holes.

g. Disassemble and clean area of chips and dirt.

WARNING

Provide adequate ventilation when using epoxy primer. Avoid skin and eye contact. Spray apply primer in an approved exhaust ventilated booth.

h. Apply two coats of epoxy primer to bare metal surfaces.

i. Seal mating surfaces of skin and substructure and wet fasteners. Refer to T.O. 1F-4C-3-1-6 for sealant information.

5-26. Beef-up and Repair of Longerons, 32-33049 and 32-33050. Damage can be repaired per figure 5-13. Damage that exceeds the damage shown on figure 5-13 requires disposition from depot engineering.

5-27. Separator, 32-330044, Repair. See figure 5-14. Cracked or broken separators may be repaired per 32-015490 drawing and the following:

a. Remove door 65.

CAUTION

Do not enlarge fastener holes. Holes will be used for reinstallation.

b. Remove fasteners attaching separator to fuselage structure.

c. Trim off damaged portion of separator.

d. Locate and drill fastener holes in clip, 32-015490-7, -9, as applicable and in separator. Refer to chart for hole size.

e. Treat parts for corrosion prevention per T.O. 1-4C-3-1-6.

f. Install clip using called out fasteners.

g. Reinstall separator in fuselage structure.

h. Install door 65. For door fasteners, refer to T.O. 1F-4C-3-1-3.

5-28. Insertion Repairs. Repairs require disposition from depot engineering.

5-29. Replacement. Replacement requires depot facilities except for zee, 32-33026-3, -4. For replacement see figure 5-14A.

5-30. **BULKHEADS AND FRAMES.** See figure 5-15. Bulkheads and frames are fabricated from 7178 alclad and aluminum alloy, 2024 aluminum alloy, 7075 aluminum alloy, and 8Mn titanium alloy.

5-31. Negligible Damage and Corrosion Removal Limits. Small, smooth, isolated dents less than 0.062 in depth, are negligible. Nicks, scratches, and corroded areas less than 10 percent of material thickness are negligible, after blending. Edge damage when trimmed or blended, that does not decrease rivet edge distance, less than one and one-half times rivet diameter, is negligible. For rework of damage, refer to T.O. 1F-4C-3-1-5.

5-32. Repairs. Refer to T.O. 1F-4C-3-1-5 for patch repair procedure. When making patch repairs, seal mating surfaces of skin and substructure and wet fasteners. Refer to T.O. 1F-4C-3-1-6 for sealant information. For stabilator fitting assembly, 32-33129, elongated hole repair procedure, see figure 5-15A.

5-33. Insertion Repairs. Repairs require disposition from depot engineering.

5-34. Replacement. Replacement requires depot facilities, except for clips, doublers, and brackets.

5-35. Drag Chute Cable Fairlead, 32-33175, Replacement. The drag chute cable fairlead located on former at FS 600.00, see figure 5-15, should be replaced when fairlead wear allows cable sheath to approach within 1/16-inch of the former and doubler. When replacing fairlead on F-4C, F-4D 64-929 through 66-7762, F-4E 66-284 through 66-287, and RF-4C 63-7742 through 66-449, use the superseding part which will require slight enlargement of existing holes in the former and doubler.

5-36. **ARMOR PLATING.** See figure 5-16. F-4E 68-452 and up, RF-4C 68-594 through 72-156, and F-4G have seven pieces of armor plating installed between FS 573.60 and FS 600.00 to provide protection for critical components in the aft fuselage. Armor plates are made of 0.40 hot pressed boron carbide with a 0.25 backing of woven glass fiber. The boron carbide is covered with ballistic nylon cloth. When plates are installed, the ballistic nylon cloth must face outward.

5-37. Repairs. Repairs are not practical.

5-38. Replacement. For fasteners, refer to figure 5-16.

5-39. HINGE. The hinge mates with door 62 and is a 2024 aluminum alloy extrusion. To increase life and ensure proper operation of components, hinge and pin shall be properly lubricated as specified in maintenance manuals.

5-40. Negligible Damage and Wear Tolerances. For negligible damage and wear tolerance limits, refer to paragraphs 5-72 and 5-73.

5-41. Repairs. Local engineering shall be consulted for repair disposition.

5-42. Replacement. Replace hinges damaged beyond repair. For fasteners refer to T.O. 1F-4C-3-1-3.

5-42A. Tail Hook Actuator Fitting Repair.

a. Remove actuator fitting.

b. Measure all hole diameters in both fitting and bulkhead. Hole tolerance is 0.312 (+0.007/ -0.000) inch.

c. Eddy-current inspect fastener holes for cracks.

d. If out-of-tolerance or cracked holes are found in the fitting, replace fitting.

e. If out-of-tolerance or cracked holes are found in the bulkhead, ream holes oversize to remove damage.

f. Maximum allowable diameter of bulkhead holes after reaming is 0.45 inches. If damage will not clean up at this diameter, contact engineering for disposition.

g. Fabricate repair bushing from 4130 steel. Heat treat to 160 to 180 ksi. Fabricate bushing to 0.002 to 0.003 interference fit. Bushing length to fit blush to 0.010 sub-flush.

h. Corrosion treat repair area per T.O. 1F-4C-3-1-6.

i. Torque fitting mount bolts to 140 inch-pounds.

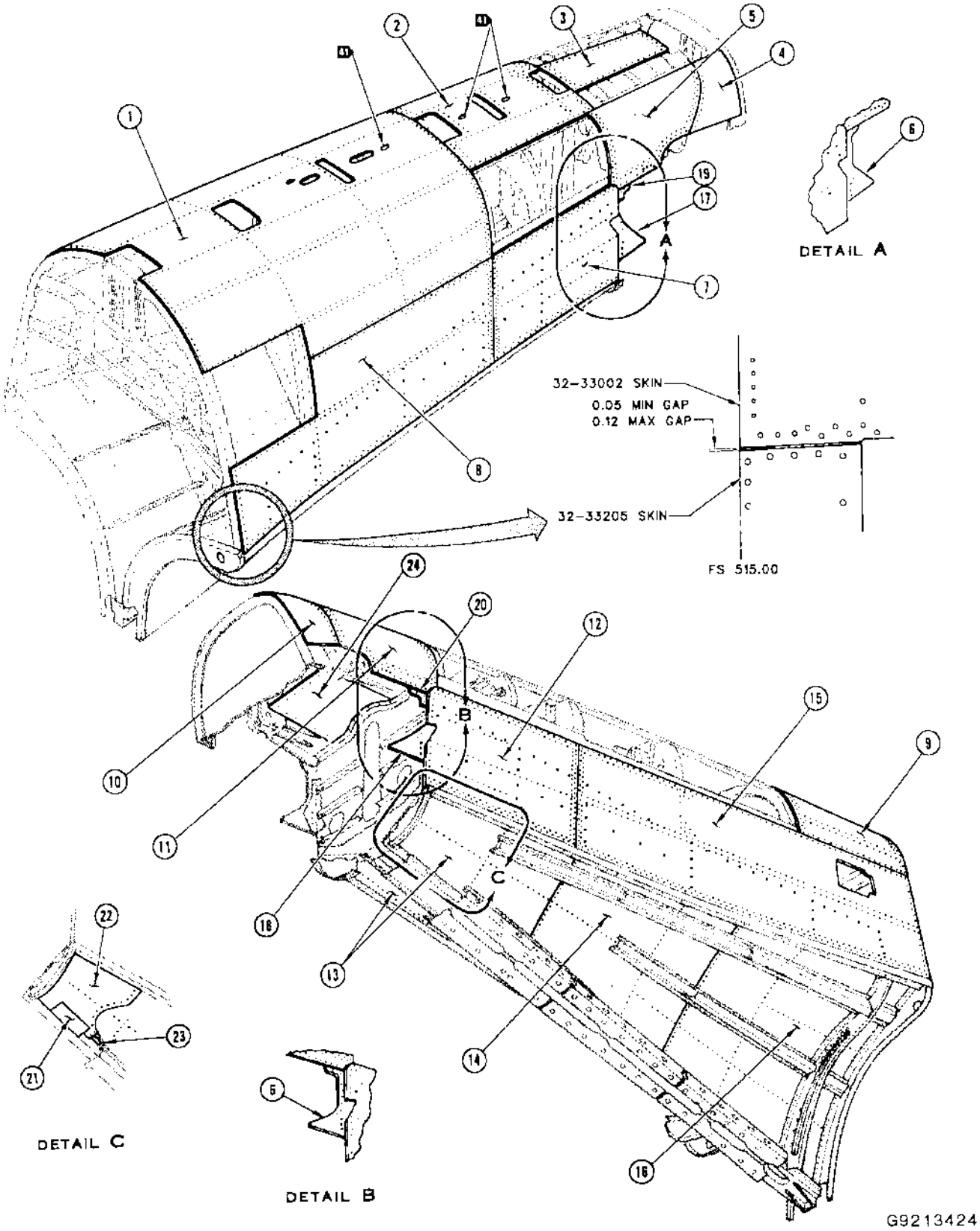


Figure 5-2. Aft Fuselage Skin Repair Index (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1 (9)	32-33002-11	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(10)	32-33002-777	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(11)	32-33002-829	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(12)	32-33002-779 [4]	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(13)	32-33002-831	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(14)	32-33002-469	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(15)	32-33002-781	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2 (16)	32-33069-9 [3]	SKIN	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(17)	32-33069-3	SKIN	0.125	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	32-33002-21	SKIN	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4 (18)	32-33002-255 [6]	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(19)	32-33002-835	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
5 (20)	32-33072-3	SKIN	0.180	8Mn TITANIUM ALLOY	AMS4908
(21)	32-33072-5	SKIN	0.180	8Mn TITANIUM ALLOY	AMS4908
(22)	32-33072-9	SKIN	0.180	8Mn TITANIUM ALLOY	AMS4908
6 (23)	32-33002-195 [39]	SKIN	0.040	8Mn TITANIUM ALLOY	AMS4908
(24)	32-33002-623	SKIN	0.040	8Mn TITANIUM ALLOY	AMS4908
(25)	32-33002-875	SKIN	0.040	8Mn TITANIUM ALLOY	AMS4908 [5]
(26)	32-33002-876	SKIN	0.040	8Mn TITANIUM ALLOY	AMS4908
7 (27)	32-33002-273	SKIN	0.050	8Mn TITANIUM ALLOY	AMS4908
(28)	32-33002-443	SKIN	0.050	8Mn TITANIUM ALLOY	AMS4908
(29)	32-33002-763	SKIN	0.050	8Mn TITANIUM ALLOY	AMS4908
8 (30)	32-33002-271	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(31)	32-33002-459 [7]	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(32)	32-33002-743	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(33)	32-33002-863	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 [38]
(34)	32-33002-297	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908 [5]
(35)	32-33002-463	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
9 (36)	32-33002-251	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(37)	32-33002-769	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(38)	32-33002-401	SKIN	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10 (39)	32-33002-256 [6]	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(40)	32-33002-836	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
17 (41)	32-33072-4	SKIN	0.180	8Mn TITANIUM ALLOY	AMS4908
(42)	32-33072-10	SKIN	0.180	8Mn TITANIUM ALLOY	AMS4908
12 (43)	32-33002-274 [7]	SKIN	0.050	8Mn TITANIUM ALLOY	AMS4908
(44)	32-33002-767	SKIN	0.050	8Mn TITANIUM ALLOY	AMS4908
13	32-33002-10, -9	SKIN	0.040	8Mn TITANIUM ALLOY	AMS4908 [5]
14	32-33002-248, -247	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
15 (45)	32-33002-275	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(46)	32-33002-467	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(47)	32-33002-403 [7]	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(48)	32-33002-465	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(49)	32-33002-745	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(50)	32-33002-865	SKIN	0.032	8Mn TITANIUM ALLOY	MIL-T-9046 [38]
16 (51)	32-33002-250, -249	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
(52)	32-33002-406, -405	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908 [5]
(53)	32-33002-719, -720	SKIN	0.032	8Mn TITANIUM ALLOY	AMS4908
17 (54)	32-33002-1001	SKIN	0.040	8Mn TITANIUM ALLOY	MIL-T-9046
18 (55)	32-33002-1002	SKIN	0.040	8Mn TITANIUM ALLOY	MIL-T-9046 [38]
19 (56)	32-33002-1003 [37]	SKIN	0.040	8Mn TITANIUM ALLOY	MIL-T-9046
20 (57)	32-33002-1004	SKIN	0.040	8Mn TITANIUM ALLOY	MIL-T-9046
21	32-33147-601, -602	SKIN	0.025	HASTELLOY X	AMS5536
22	32-33145-4, -3	SKIN	0.040	8Mn TITANIUM ALLOY	MIL-T-9046 [38]
23	32-33026-4, -3 [40]	ZEE	0.040	8Mn TITANIUM ALLOY	MIL-T-9046
■ 24	32-33052-11	DECK	0.100	7178-T6 ALCLAD	QQ-A-250/15(T6)

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. REFERENCE TO 1F-4C-3-1-1 FOR CONTOUR SMOOTHNESS REQUIREMENTS, UNLESS OTHERWISE NOTED.

[3] SEE FIGURE 5-3 FOR SKIN DIAGRAM AND FIGURE 5-4 FOR NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS.

[4] SEE FIGURE 5-5 FOR NEGILIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS.

[5] FOR INTERCHANGEABLE SPECIFICATION REFERENCE TO 1F-4C-3-1-1.

[6] FOR REPAIR, SEE FIGURE 5-7.

[7] FOR AREAS REQUIRING SEALING AND REPLACEMENT OF P-211 TAPE REFERENCE TO 1F-4C-3-1-6.

(8) F-4E 68-303 AND UP AND F-4G.

(9) F-4C, AND F-4D 64-929 THRU 66-7719.

(10) F-4D 66-7720 THRU 66-8698.

(11) F-4D 66-8699 THRU 66-8825.

(12) F-4E 66-284 THRU 66-367.

(13) F-4E 66-368 AND UP AND MODIFIED ON F-4G.

(14) RF-4C 63-7742 THRU 65-864.

(15) RF-4C 65-865 THRU 72-156.

(16) F-4C 63-7407 THRU 64-702 AND RF-4C 63-7742 THRU 64-1033.

(17) F-4C 64-703 THRU 64-928, RF-4C 64-1034 THRU 72-156, F-4D, F-4E, AND MODIFIED ON F-4G.

(18) F-4C, F-4D 64-929 THRU 66-8707, F-4E 66-284 THRU 66-314, AND RF-4C 63-7742 THRU 66-459.

(19) F-4D 66-8708 THRU 66-8825, F-4E 66-315 AND UP, RF-4C 66-460 THRU 72-156 AND F-4G.

(20) F-4C 63-7407 THRU 63-7527 AND RF-4C 63-7742 THRU 63-7749.

(21) F-4C 63-7528 THRU 64-928, F-4D 64-929 THRU 66-8707, F-4E 66-284 THRU 66-314, AND RF-4C 63-7750 THRU 66-459.

(22) F-4C 63-7407 THRU 64-672 AND RF-4C 63-7742 THRU 64-1037.

(23) F-4C 64-673 THRU 64-928, F-4D, F-4E 66-284 THRU 68-315, AND RF-4C 64-1038 THRU 68-549.

(24) F-4C 63-7528 THRU 64-928, F-4D, AND RF-4C 63-7750 THRU 72-156.

(25) F-4E AND F-4G.

(26) F-4C 63-7407 THRU 63-7610.

(27) F-4C 63-7611 THRU 64-928 AND F-4D.

(28) RF-4C 63-7742 THRU 63-7759.

(29) RF-4C 63-7760 THRU 72-156.

(30) F-4C AND F-4D.

(31) RF-4C.

(32) F-4C, F-4D 64-929 THRU 66-8707, F-4E 66-284 THRU 66-314, AND RF-4C 63-7742 THRU 66-459.

(33) F-4C, F-4D, AND RF-4C.

(34) F-4E 68-316 THRU 68-538, F-4E/G 69-236 THRU 69-7253, AND RF-4C 68-550 THRU 69-371.

(35) F-4E 66-284 THRU 67-398.

(36) F-4E/G 69-7254 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 69-372 THRU 72-156.

[37] 32-33002-1001, -1003 TOGETHER SUPERSEDE 32-33002-875, 32-33002-1002, -1004 TOGETHER SUPERSEDE 32-33002-876. SEE FIGURE 5-5A FOR MODIFICATION OF 32-33002-875 AND -876.

[38] TYPE III, COMPOSITION A, ANNEALED.

[39] FOR FUTURE PROCUREMENT USE 32-33002-1001, -1003 AND 32-33002-1002, -1004.

[40] FOR REPLACEMENT SEE FIGURE 5-14A.

(41) F-4G.

4C-3-1-2-(122-2)G

Figure 5-2. Aft Fuselage Skin Repair Index (Sheet 2 of 2)

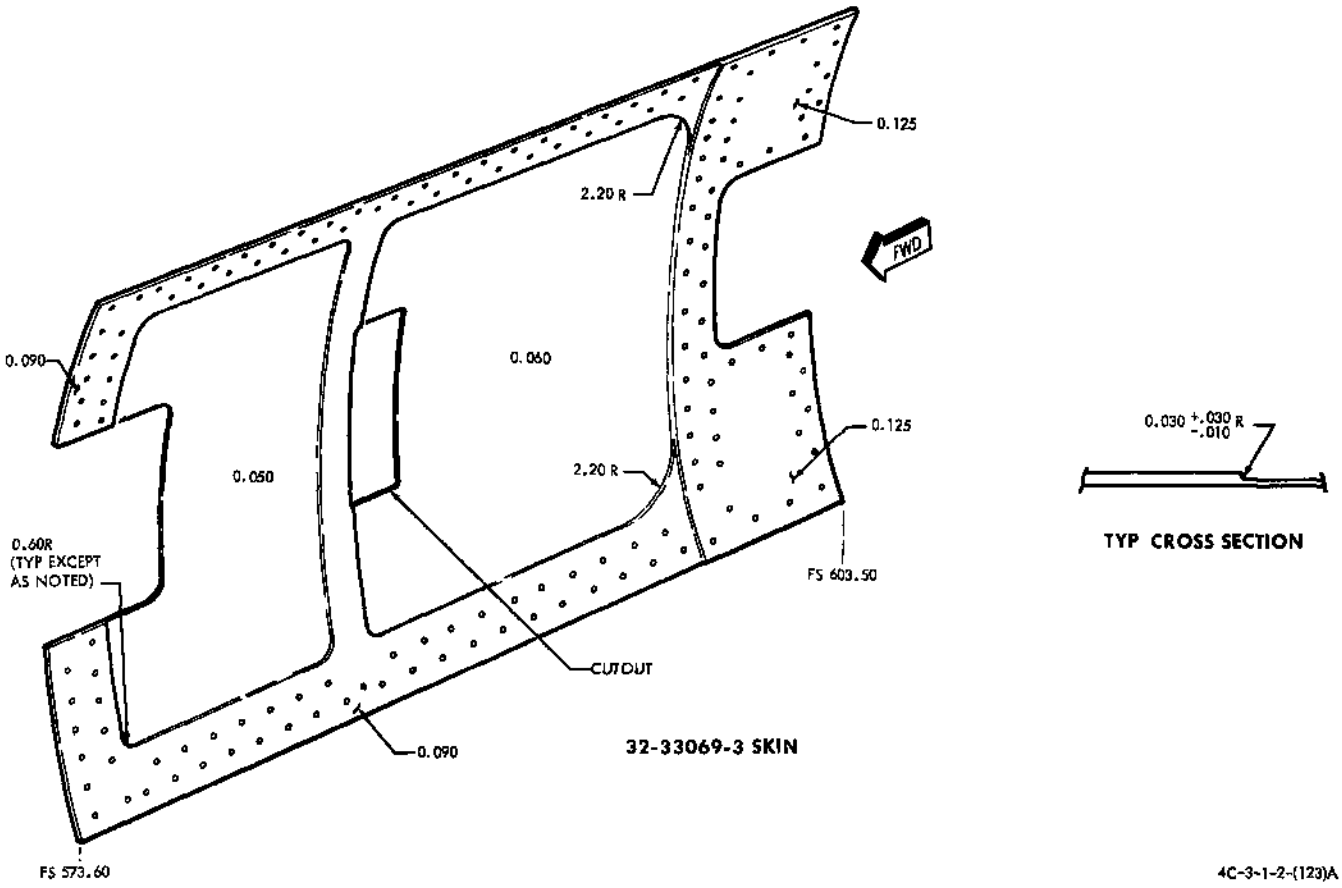
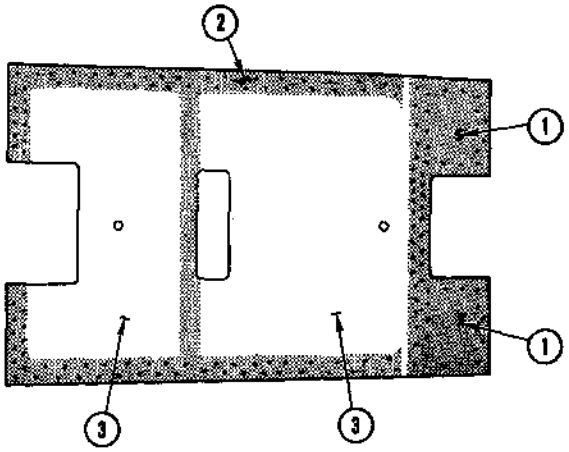


Figure 5-3. Upper Center Skin Diagram, 32-33069



LEGEND

1 0.025 AT 40 PERCENT OF FASTENERS PLUS 0.041 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. AS AN ALTERNATE: 0.041 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.

2 0.018 AT 40 PERCENT OF FASTENERS PLUS 0.030 AT 15 PERCENT OF FASTENERS IN ANY SINGLE ROW. AS AN ALTERNATE: 0.030 AT 40 PERCENT OF FASTENERS IN ANY SINGLE ROW.

3 0.005 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS, UNBLENDED. 0.010 AND UNLIMITED IN LENGTH IN OPEN BAY AREAS, BLENDED.

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS SHALL COMPLY WITH THE FOLLOWING RESTRICTIONS:
   - A. METAL REMOVAL AROUND FASTENERS SHOULD, IN GENERAL, NOT EXCEED THE FOLLOWING DISTANCES FROM CENTERLINE OF FASTENERS:
     1. THREE TIMES FASTENER DIAMETER IN THE DIRECTION PARALLEL TO THE ROW OF FASTENERS.
     2. ONE AND ONE HALF TIMES FASTENER DIAMETER IN THE DIRECTION PERPENDICULAR TO THE ROW OF FASTENERS.
   - B. IN NO CASE SHALL REMOVAL LIMITS APPLICABLE TO LAND AREA BE EXTENDED INTO THE BAY AREA.
   - C. SIGNIFICANT REMOVAL OF FASTENER HEADS IS NOT PERMISSIBLE.
   - D. METAL REMOVAL SHALL BE FOLLOWED BY PROTECTIVE TREATMENT IN ACCORDANCE WITH T.O. 1F-4C-3-1-6.
   - E. GENERAL SKIN REWORK ALONG A ROW OF FASTENERS, FOR EASE OF REWORK, IS NOT PERMISSIBLE.

4C-3-1-2-(124)A

Figure 5-4. Upper Center Skin, 32-33069, Negligible Damage and Corrosion Removal Limits

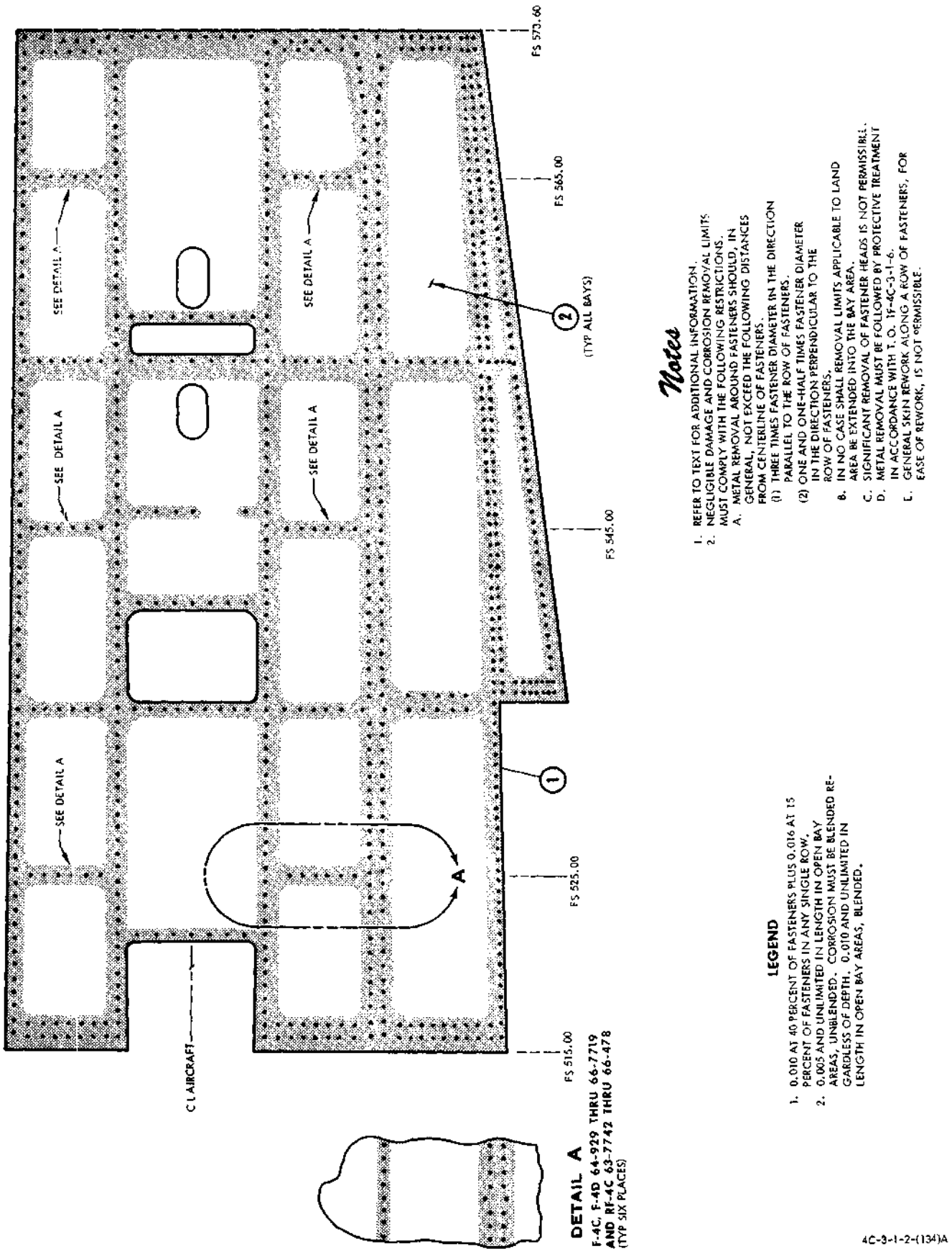
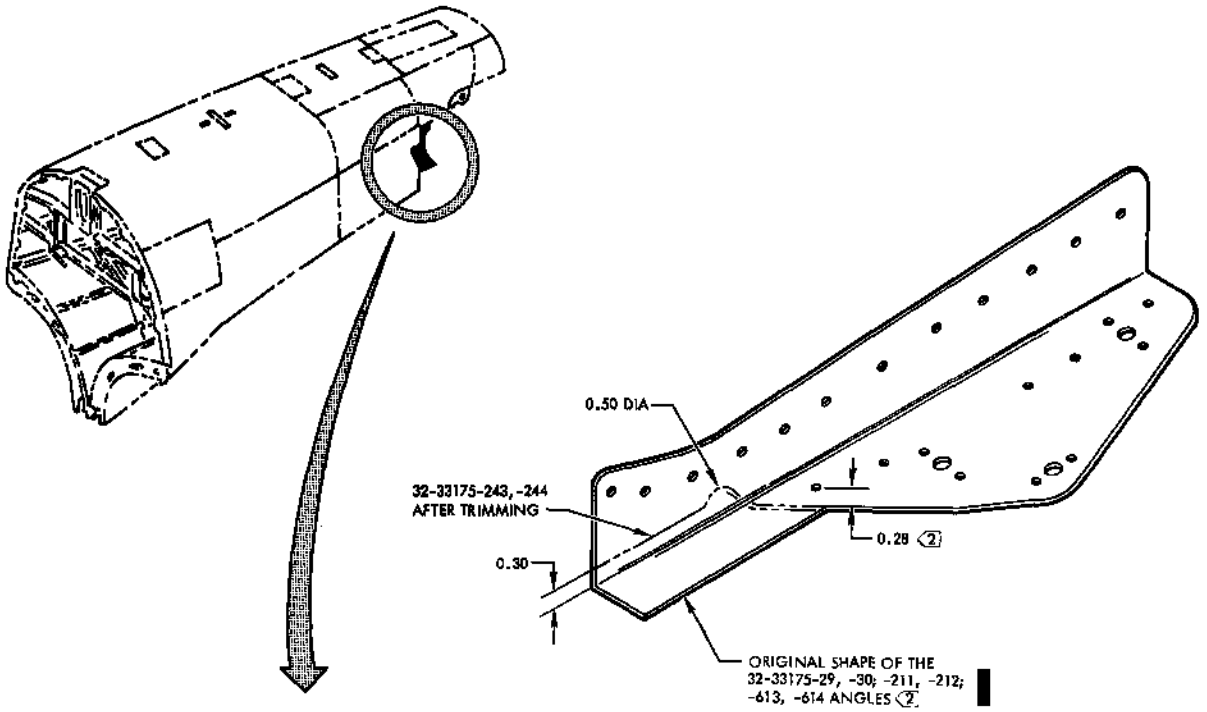
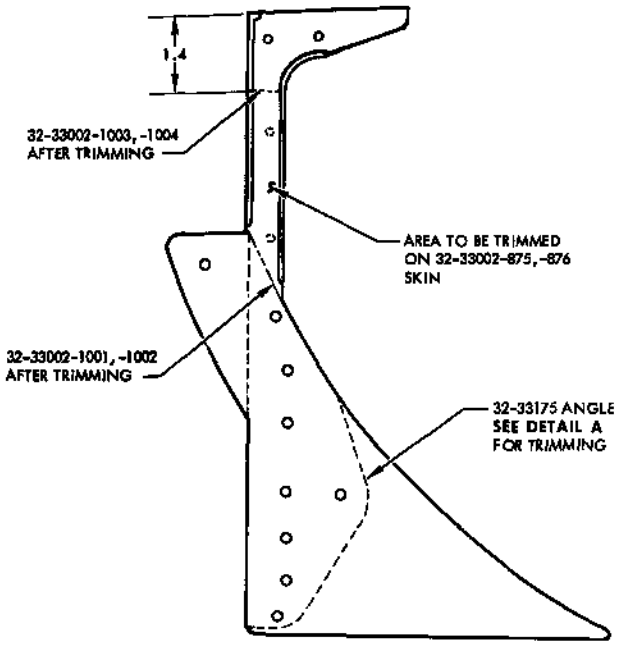


Figure 5-5. Upper Forward Skin, 32-33002, Negligible Damage and Corrosion Removal Limits



DETAIL A



CAUTION

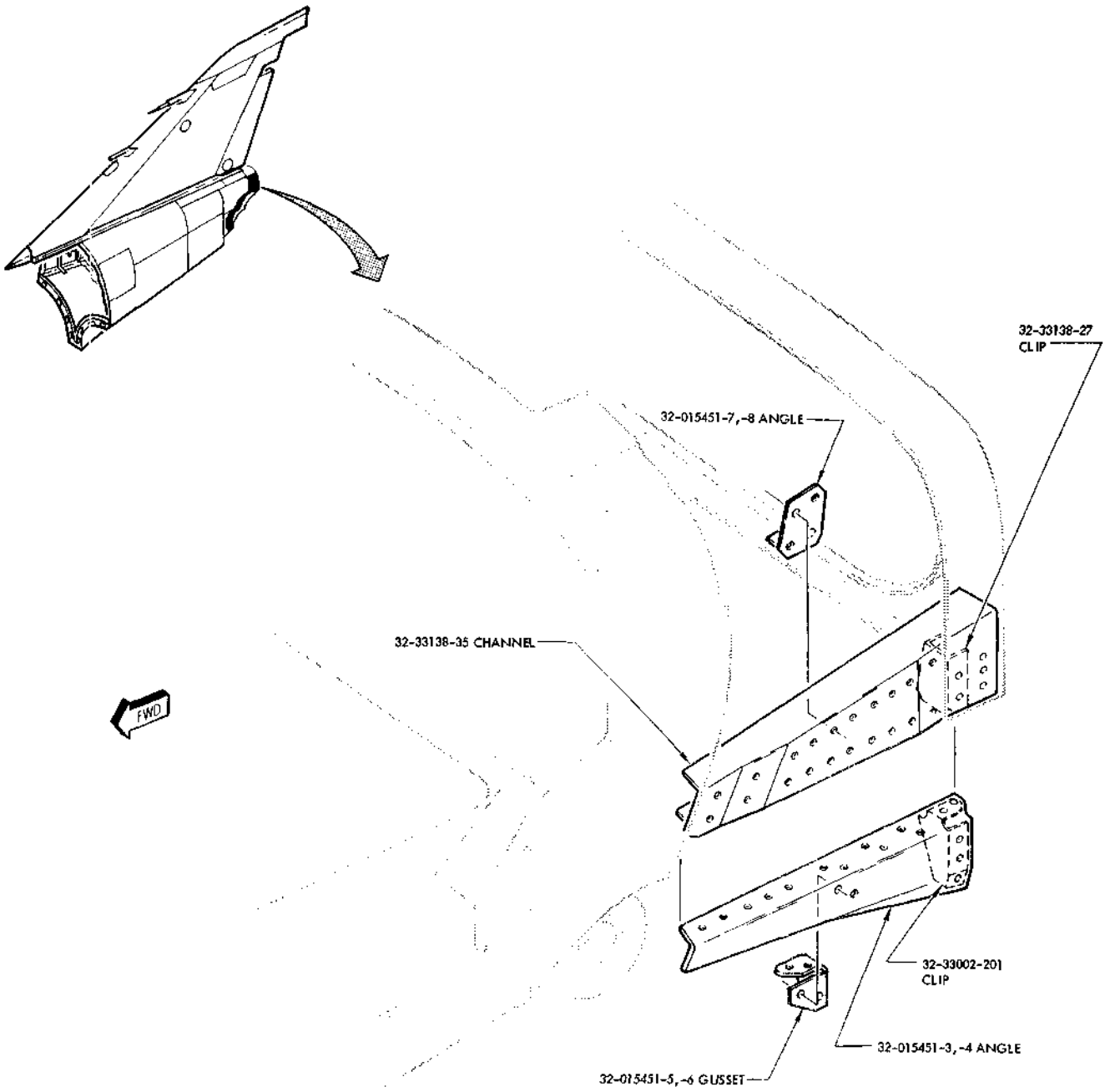
USE EXTREME CARE NOT TO DAMAGE SUBSTRUCTURE WHILE TRIMMING.

Notes

1. TRIM AWAY ORIGINAL SHAPE AS SHOWN TO MAKE NEW PARTS.
2. 32-33175-29, -30 WILL REQUIRE 0.28 DIMENSION.

4C-3-1-2-(253)A

Figure 5-6. Stabilator Cover Interference Modification, Skin and Angle Rework



REPAIR PROCEDURE

■ A. REMOVE TAIL CONE ASSEMBLY. REFER TO T.O. 1F-4( )-2-2.
B. REMOVE 32-33002-201 CLIP.
C. TRIM OFF CRACKED SKIN TO LOWER SIDE OF 32-33138-35 CHANNEL.

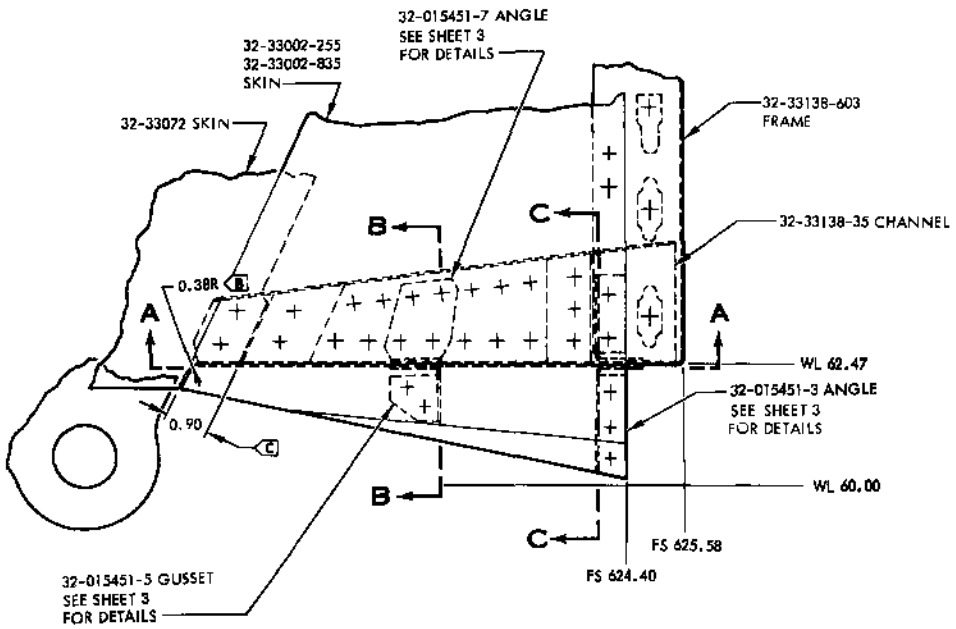
CAUTION

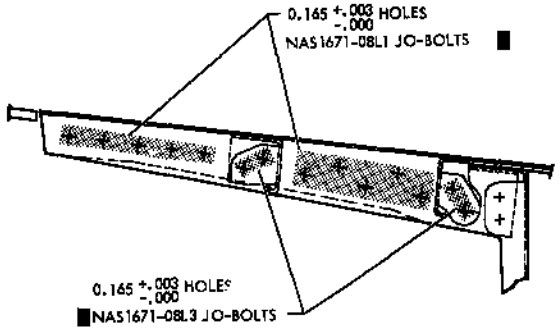
WHEN SKIN IS TRIMMED, CARE SHALL BE TAKEN THAT EDGE OF SKIN DOES NOT PROTRUDE OUTBOARD OF FUSELAGE MOLDING, INTERFERENCE WITH STABILATOR WIPER BLADE WILL OCCUR DURING STABILATOR OPERATION.

D. TRIM LOWER AFT SECTION OF 32-33072 SKIN TO ALLOW FOR INSTALLATION OF 32-015451-3 ANGLE.
E. FABRICATE 32-015451-3, -4 ANGLE, 32-015451-5, -6 GUSSET AND 32-015451-7, -8 ANGLE. REFER TO T.O. 1F-4C-3-1-1 FOR METAL FORMING.
F. LOCATE AND DRILL FASTENER HOLES.
G. INSTALL FIBERGLASS TAPE BETWEEN TITANIUM AND ALUMINUM PARTS.
H. INSTALL 32-015451-3, -4 ANGLE, 32-33002-201 CLIP, 32-015451-7, -8 ANGLE AND 32-015451-5, -6 GUSSET. REFER TO T.O. 1F-4C-3-1-1 FOR FASTENER INSTALLATION.

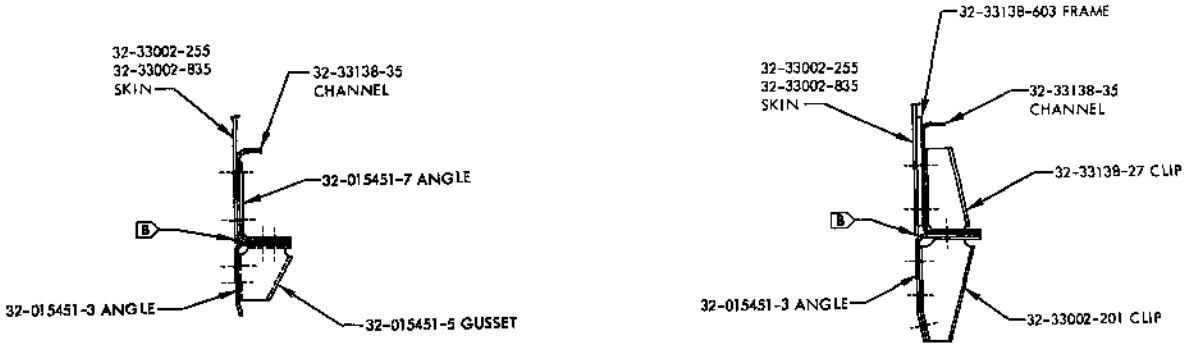
4C-3-1-2-(135-1)B

Figure 5-7. Skin Repair, 32-33002-255, -256; -835, -836 - F-4C, F-4D, F-4E 66-284 THRU 68-538, RF-4C 63-7742 THRU 69-357 (Sheet 1 of 3)





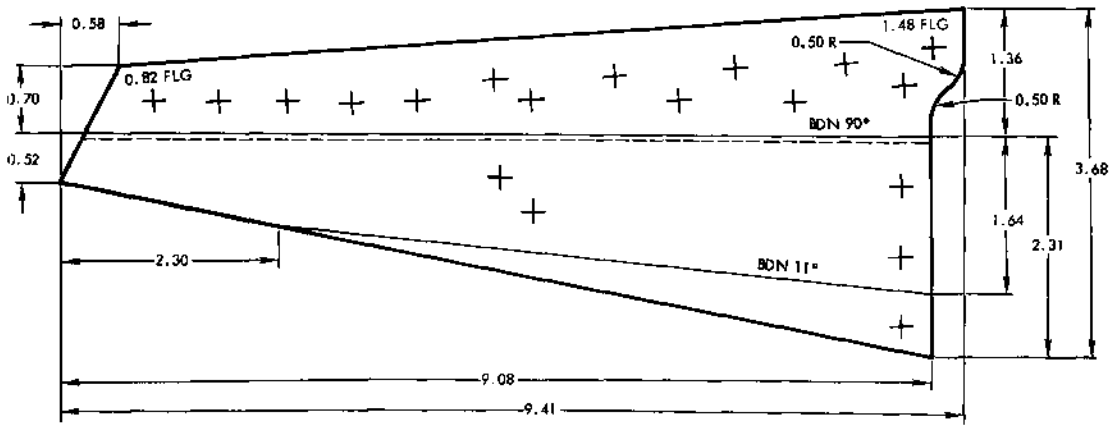
SECTION A-A



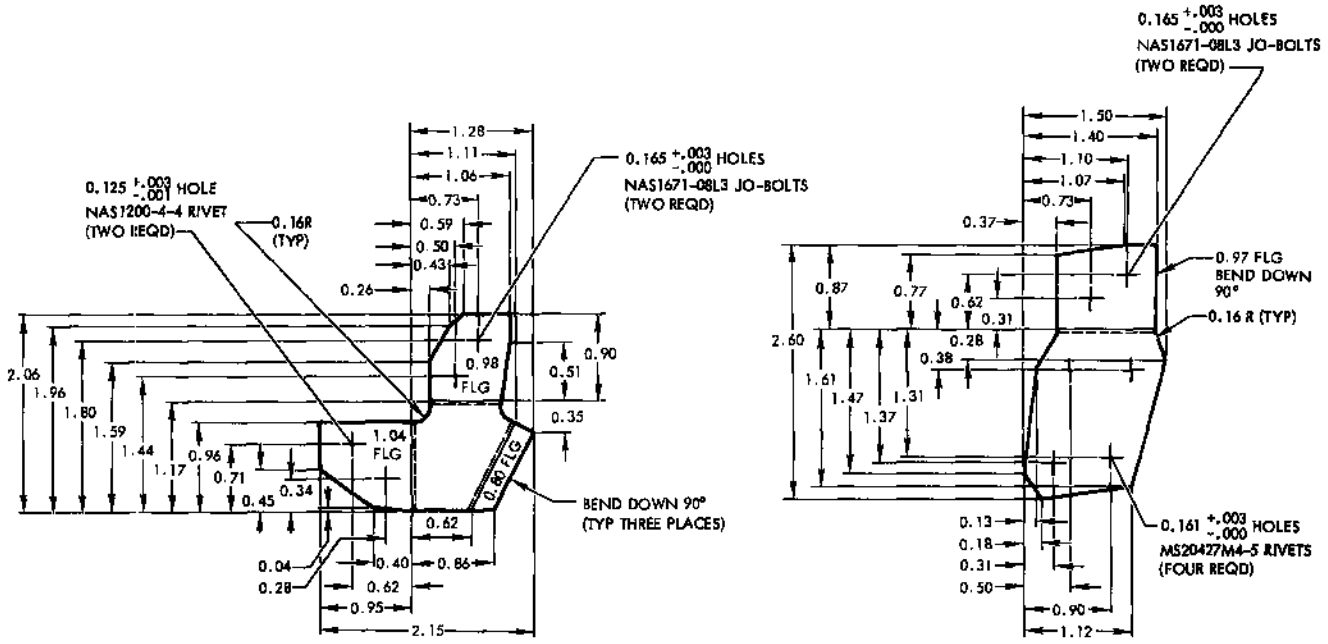
SECTION B-B

4C-3-1-2-(135-2

Figure 5-7. Skin Repair, 32-33002-255, -256; -835, -836 - F-4C, F-4D, F-4E 66-284 THRU 68-538, RF-4C 63-7742 THRU 69-357 (Sheet 2 of 3)



32-015451-3, -4
0.040 8Mn TITANIUM ALLOY
MIL-T-9046, TYPE III, COMPOSITION A, ANNEALED



32-015451-5, -6
0.040 301 CRES
MIL-S-5059 1/4 HARD

32-015451-7, -8
0.050 301 CRES
MIL-S-5059 1/4 HARD

4C-3-1-2-(135-3)C

Figure 5-7. Skin Repair, 32-33002-255, -256; -835, -836 - F-4C, F-4D, F-4E 66-284 THRU 68-538, RF-4C 63-7742 THRU 69-357 (Sheet 3 of 3)

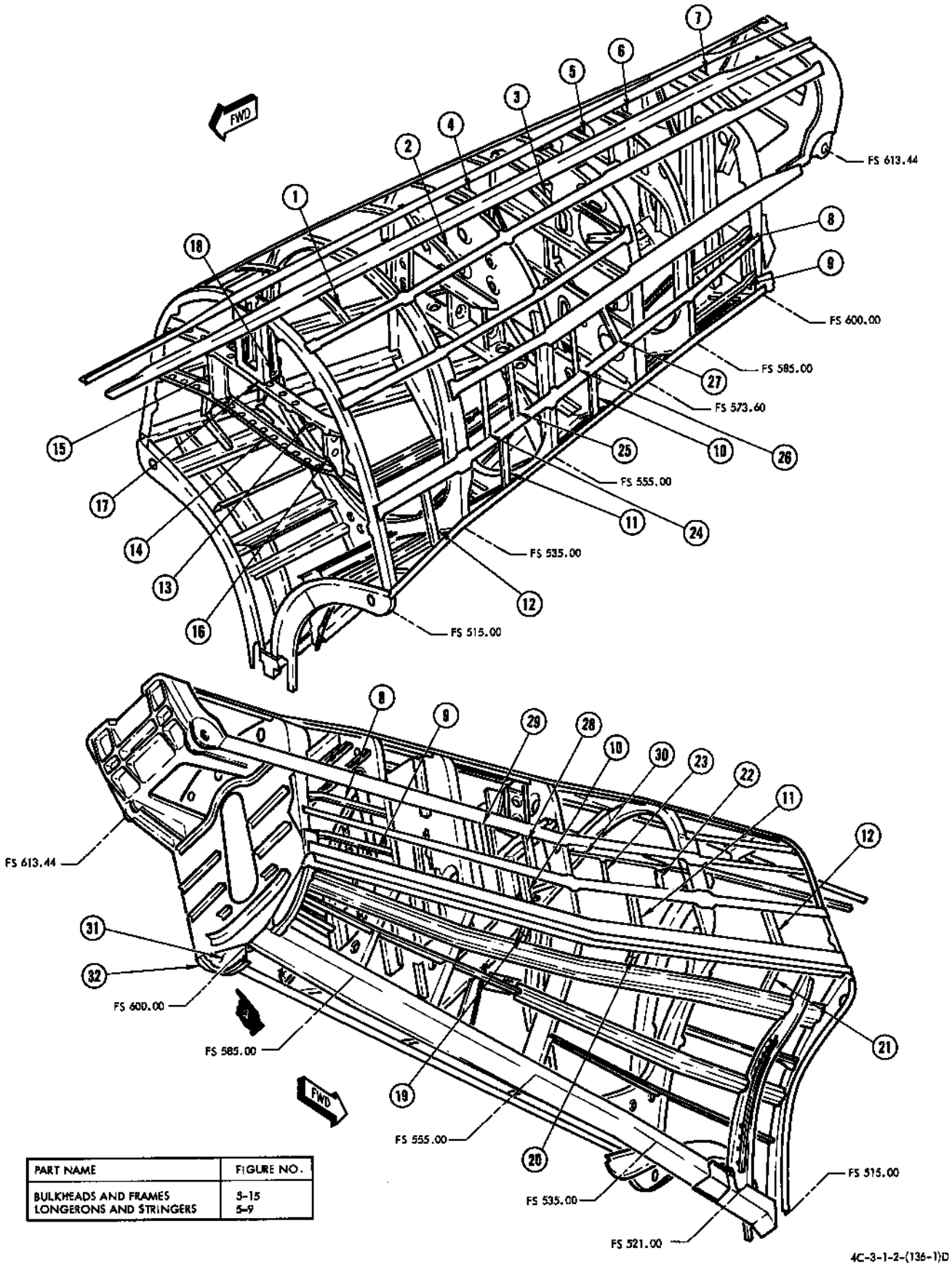
EXTERNAL DOORS AND PANELS					
DOOR NUMBER	PART NUMBER	F–4C	F–4D	RF–4C	F–4E/G
60	32–32029	X	X		
61L	32–33167	X	X		X
61R	53–33512			X	
63	32–33108	X	X	X	X
64	32–33066	X	X	X	X
65	32–33108	X	X	X	X
66L	32–33116	X	X	X	X
66R	32–33116	X	X	X	X
68L	32–23036	X		X	X
68R	53–23251		X		X

Notes

1. DOORS LISTED ABOVE CAN HAVE LOOSE OR MISSING FASTENERS IN FLIGHT SUBJECT TO THE FOLLOWING LIMITATIONS:
   A. LOOSE FASTENERS ARE CONSIDERED MISSING FASTENERS.
   B. NO CORNER FASTENERS CAN BE MISSING.
   C. WHEN MISSING FASTENERS ARE ALLOWED, ONE IN TEN FASTENERS IN A STRAIGHT LINE PATTERN CAN BE MISSING, BUT MUST HAVE MINIMUM OF TEN FASTENER SEPARATION.
   D. REPLACE ALL MISSING FASTENERS AT NEW DOOR REMOVAL.
2. NO LOOSE OR MISSING FASTENERS ARE ALLOWED IN DOORS WITH LESS THAN 30 FASTENERS.

4C–3–1–2–(420)

Figure 5-7A. Allowable Loose and Missing Fasteners in Flight



PART NAME	FIGURE NO.
BULKHEADS AND FRAMES LONGERONS AND STRINGERS	5-15 5-9

Figure 5-8. Aft Fuselage Main Structure Index (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1 [D]	32-33002-755, -756	CHANNEL	0.050	2024-T4 AL ALY	QQ-A-250/4 (T4)
2 [F]	32-33002-757, -758	CHANNEL	0.050	2024-T4 AL ALY	QQ-A-250/4 (T4)
3 [16]	32-33002-759, -760	CHANNEL	0.050	2024-T4 AL ALY	QQ-A-250/4 (T4)
4	32-33002-185	STIFFENER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
5	32-33002-51	STIFFENER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
6	32-33002-49	STIFFENER	0.063	7075-T6 ALCLAD	QQ-A-250/13 (T6)
7 [1]	32-33002-199	TEE	AND10136-3001	7178-T651 AL ALY	QQ-A-200/13 (T651)
[2]	32-33002-617	TEE	AND10136-3001	7178-T651 AL ALY	QQ-A-200/13 (T651)
[3]	32-33002-711	TEE	AND10136-3001	7178-T651 AL ALY	QQ-A-200/13 (T651)
8 [7]	32-33002-29, -30	STIFFENER	AND10135-1004	7075-T651 AL ALY	QQ-A-200/11 (T651)
[5]	32-33002-475, -476	STIFFENER	AND10135-1004	7075-T651 AL ALY	QQ-A-200/11 (T651)
[4]	32-33002-735, -736	STIFFENER	AND10135-1004	7075-T651 AL ALY	QQ-A-200/11 (T651)
9 [8]	32-33002-31, -32	STIFFENER	AND10135-1004	7075-T651 AL ALY	QQ-A-200/11 (T651)
[6]	32-33002-293, -294	STIFFENER	AND10135-1004	7075-T651 AL ALY	QQ-A-200/11 (T651)
[9]	32-33002-733, -734	STIFFENER	AND10135-1004	7075-T651 AL ALY	QQ-A-200/11 (T651)
10 [11]	32-33154-13, -14	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[12]	32-33154-25, -26	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[13]	32-33154-43, -44	ANGLE	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
11 [10]	32-33154-11, -12	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[14]	32-33154-31, -32	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[15]	32-33154-41, -42	ANGLE	0.050	2024-T6 AL ALY	QQ-A-250/4 (T6)
[17]	32-33154-37, -38	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12 [18]	32-33154-27, -28	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[19]	32-33154-45, -46	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[20]	32-33154-39, -40	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13 [A]	32-33203-33	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[C]	32-33203-43	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[B]	32-33203-75	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14 [E]	32-33203-35	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[G]	32-33203-61	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[H]	32-33203-69, -71, -73	CHANNEL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-33203-7	INTERCOSTAL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-33203-21	INTERCOSTAL	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17 [J]	32-33038-3	CHANNEL	1M7573	7178-T6 AL ALY	QQ-A-200/13 (T6)
[K]	32-33038-11	CHANNEL	1M7648	7178-T6 AL ALY	QQ-A-200/13 (T6)
18 [L]	32-33038-9	WEB	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[M]	32-33038-29	WEB	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[N]	32-33038-15	WEB	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19 [10]	32-33154-29, -30	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20 [21]	32-33002-482, -481	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21 [P]	32-33154-34, -33	ANGLE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22 [S]	32-33002-849	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23 [T]	32-33002-847	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24 [U]	32-33002-851	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25 [V]	32-33002-853	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26 [W]	32-33002-857	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27 [X]	32-33002-855	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28 [Y]	32-33002-859	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29 [Z]	32-33002-861	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30 [R]	32-33002-263	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[17]	32-33002-741	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
[18]	32-33002-845	BRACKET	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-33126-21, -22	FRAME	0.040	8Mn TITANIUM ALLOY	AMS4908 } 20
32	32-33126-23, -24	ANGLE	0.040	8Mn TITANIUM ALLOY	AMS4908 } 20

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
[F] F-4C 63-7407 THRU 64-676 AND RF-4C 63-7742 THRU 64-1033.
[1] F-4C 64-677 THRU 64-928, F-4D, AND RF-4C 64-1034 THRU 72-156.
[2] F-4E AND F-4G.
[3] F-4C 63-7407 THRU 63-7543 AND RF-4C 63-7742 THRU 63-7752.
[5] F-4C 63-7544 THRU 64-928, F-4D, AND RF-4C 63-7753 THRU 72-156.
[4] F-4C, F-4D, F-4E, AND F-4G.
[6] F-4C AND F-4D.
[9] RF-4C.
[10] F-4C 63-7421 THRU 64-928, F-4D, F-4E, RF-4C, AND F-4G.
[7] F-4C 63-7407 THRU 63-7416.
[8] F-4C 63-7417 THRU 64-911, F-4D 64-929 THRU 64-945, AND RF-4C 63-7742 THRU 65-848.
[11] F-4C 64-912 THRU 64-928, F-4D 64-946 THRU 66-8825, RF-4C 65-849 THRU 72-156, F-4E, AND F-4G.
[A] F-4C 63-7407 THRU 63-7488.
[B] F-4C 63-7489 THRU 64-928, F-4D, AND RF-4C.
[C] F-4C 63-7489 THRU 64-928 AND F-4D.
F-4C, F-4D, AND RF-4C.
[12] F-4E 68-303 AND UP AND F-4G.
[13] F-4E 66-284 THRU 67-398.
20 FOR INTERCHANGABLE SPECIFICATION REFERENCE TO 1F-4C-3-1-1.
21 F-4G MODIFICATION DRAWING NUMBER FOR STRUCTURE ASSEMBLY IS 32G33002.

STRUCTURE ASSEMBLY NO.	EFFECTIVITY
32-33002-613	F-4C 63-7407 THRU 63-7420.
32-33002-619	F-4C 63-7421 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
32-33002-321	F-4D 66-8699 THRU 66-8825.
32-33002-821	F-4E 66-284 THRU 66-367.
32-33002-325	F-4E 66-368 THRU 67-398.
32-33002-347	F-4E 68-303 THRU 68-365.
32-33002-341	F-4E 68-366 THRU 68-409.
32-33002-355	F-4E 68-410 THRU 68-451.
32-33002-351	F-4E 68-452 THRU 68-538.
32-33002-357 21	F-4E 69-236 THRU 72-168
32-33002-359	F-4E 72-1476 AND UP.
32-33002-0295	RF-4C 63-7742 THRU 67-442.
32-33002-329	RF-4C 67-443 THRU 68-561.
32-33002-343	RF-4C 68-562 THRU 68-593.
32-33002-353	RF-4C 68-594 THRU 72-156.

4C-3-1-2-(136-2)E

Figure 5-8. Aft Fuselage Main Structure Index (Sheet 2 of 2)

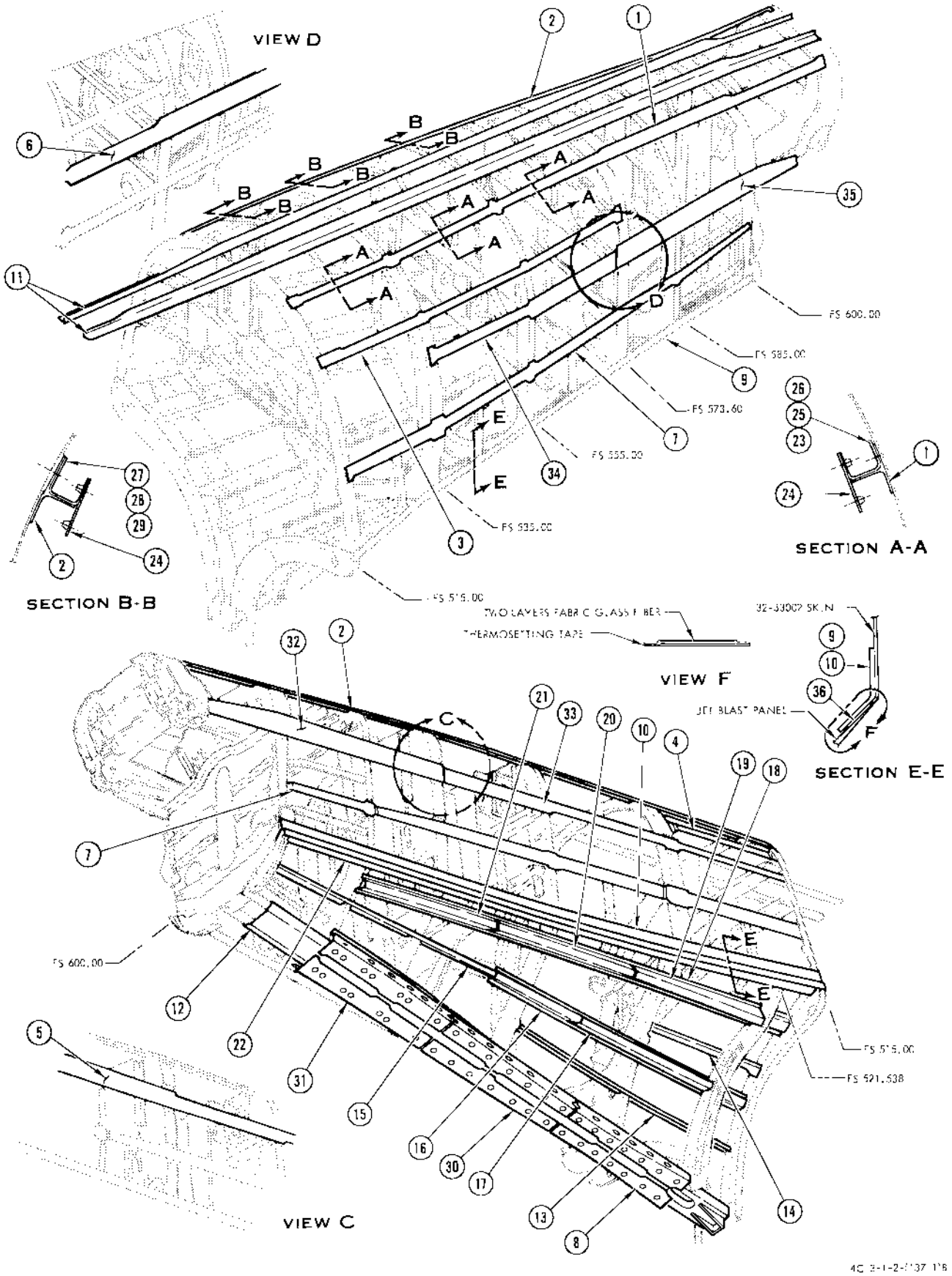


Figure 5-9. Aft Fuselage Longeron and Stringer Repair Index (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-33049-3	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33049-9	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33049-13	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33049-17	LONGERON	IM5626	7075-T73 AL ALY	QQ-A-200/11 (T73)
	32-33049-11	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33049-19	LONGERON	IM5626	7075-T73 AL ALY	QQ-A-200/11 (T73)
2	32-33050-3	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33050-7	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33050-11	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33050-15	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33050-17	LONGERON	IM5626	7075-T73 AL ALY	QQ-A-200/11 (T73)
	32-33050-9	LONGERON	IM5626	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33050-19	LONGERON	IM5626	7075-T73 AL ALY	QQ-A-200/11 (T73)
3	32-33051-5	STRINGER	IM5703	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-33051-15	STRINGER	IM5703	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33051-13	STRINGER	IM57542	2024-T6 AL ALY	QQ-A-200/3 (T6)
	32-33051-9	STRINGER	IM5703	7178-T651 AL ALY	QQ-A-200/13 (T651)
4	32-33054-3	STRINGER	IM5703	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33054-7	STRINGER	IM57542	2024-T6 AL ALY	QQ-A-200/3 (T6)
	32-33054-5	STRINGER	IM5703	7178-T651 AL ALY	QQ-A-200/13 (T651)
5	32-33171-5	STRINGER	IM57114	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-33171-7	STRINGER	IM57114	7178-T651 AL ALY	QQ-A-200/13 (T651)
6	32-33170-5	STRINGER	IM57114	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33170-7	STRINGER	IM57114	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33170-13	STRINGER	IM57114	7178-T651 AL ALY	QQ-A-200/13 (T651)
7	32-33169-4, -3	STRINGER	IM617	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33169-6, -5	STRINGER	IM642	2024-T6 AL ALY	QQ-A-200/3 (T6)
	53-33511-4, -3	STRINGER	IM617	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	32-33142-4, -3	CHANNEL	0.040	8Mn TITANIUM ALLOY	⟩ 3 13
	32-33142-11, -12	CHANNEL	0.040	8Mn TITANIUM ALLOY	
9	32-33060-5	STRINGER	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-33060-7	STRINGER	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
10	32-33060-6	STRINGER	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-33060-8	STRINGER	0.160	7178-T6 AL ALY	QQ-A-250/14 (T6)
11	32-23040-11, -12	ANGLE	0.125	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23040-15, -16	ANGLE	0.125	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23040-19, -20	ANGLE	0.125	7075-T6 ALCLAD	QQ-A-250/13 (T6)
12	32-33079-5	LONGERON	0.190	8Mn TITANIUM ALLOY	AMS4908 3
13	32-33002-610, -609	STIFFENER	AND10134-1006	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33002-702, -701	STIFFENER	AND10134-1006	7178-T6 AL ALY	QQ-A-200/13 (T6)
14	32-33002-80, -79	STIFFENER	AND10134-1006	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33002-498, -497	STIFFENER	AND10134-1006	7178-T6 AL ALY	QQ-A-200/13 (T6)
15	32-33002-36, -35	STIFFENER	AND10139-1004	7178-T6 AL ALY	QQ-A-200/13 (T6)
16	32-33127-4, -3	HAT	0.040	8Mn TITANIUM ALLOY	
	32-33127-8, -7	HAT	0.040	8Mn TITANIUM ALLOY	
17	32-33127-6, -5	CHANNEL	0.040	8Mn TITANIUM ALLOY	
18	32-33128-4, -3	HAT	0.040	8Mn TITANIUM ALLOY	
19	32-33128-6, -5	CHANNEL	0.040	8Mn TITANIUM ALLOY	
20	32-33128-8, -7	CHANNEL	0.040	8Mn TITANIUM ALLOY	⟩ 3 13
21	32-33128-10, -9	CHANNEL	0.040	8Mn TITANIUM ALLOY	
22	32-33031-8, -7	SUPPORT	0.040	8Mn TITANIUM ALLOY	
	32-33031-12, -11	SUPPORT	0.040	8Mn TITANIUM ALLOY	
23	32-33002-783	SUPPORT	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
24	32-33002-799	PLATE	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
25	32-33002-789	SUPPORT	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
26	32-33002-787	SUPPORT	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
27	32-33002-785	SUPPORT	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
28	32-33002-791	SUPPORT	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
29	32-33002-795	SUPPORT	0.050	2024-T3 ALCLAD	QQ-A-250/5 (T3)
30	32-33142-6, -5	CHANNEL	0.040	8Mn TITANIUM ALLOY	⟩ 3 13
31	32-33142-8, -7	CHANNEL	0.040	8Mn TITANIUM ALLOY	
32	32-33171-11	STRINGER	IM5807	6Al-6V2Sn TITANIUM ALLOY	MIL-T-9046, TYPE 3, COMP. E, ANNEALED
33	32-33171-9	STRINGER	IM641	2024-T6 AL ALY	QQ-A-200/3 (T6)
34	32-33170-9	STRINGER	IM640	2024-T6 AL ALY	QQ-A-200/3 (T6)
35	32-33170-11	STRINGER	IM5807	6Al-6V-2Sn TITANIUM ALLOY	MIL-T-9046, TYPE 3, COMP. E, ANNEALED
36	32-33060-501, -502	TAPE ASSY			

Notes

1. REFER TO TEXT FOR ADDITIONAL INFORMATION.
2. REPUBLIC AIRCRAFT COMPANY PART NUMBER.
3. FOR INTERCHANGEABLE SPECIFICATION REFERENCE TO 1F-4C-3-1-1.
4. RF-4.
5. F-4C AND F-4D 64-929 THRU 66-7644.
6. F-4D 66-7645 THRU 66-8825.
7. F-4C, F-4D, F-4E, AND F-4G.
8. F-4C AND F-4D.
9. F-4E AND F-4G.
10. F-4C 63-7421 THRU 63-7524 AND RF-4 63-7742 THRU 63-7748.
11. F-4C 63-7528 THRU 64-928, F-4D 64-929 THRU 66-7644, AND RF-4 63-7750 THRU 66-422.
12. F-4C, F-4D, AND RF-4.
13. MIL-T-9046, TYPE III, COMP. A, ANNEALED.
14. DELETED.
15. F-4D 65-771 THRU 66-7720, F-4E 66-284, AND RF-4 66-387 THRU 67-467.
16. F-4D 66-7720 THRU 66-8825 AND F-4E 66-285 THRU 66-366.
17. F-4E 66-367 AND UP AND F-4G.
18. RF-4 63-7742 THRU 66-477.
19. RF-4 66-478 THRU 72-156.
20. F-4C 63-7457 THRU 64-928 AND F-4D 64-929 THRU 66-7719.
21. F-4E 66-284 THRU 66-366.
22. F-4D 66-7645 THRU 66-8825 AND RF-4 66-423 THRU 72-156.
23. F-4C 63-7407 THRU 63-7456.
24. F-4C 63-7457 THRU 64-928, F-4D 64-929 THRU 66-7719, AND F-4E 66-284.
25. DELETED.

4C-3-1-2-(137-2)D

Figure 5-9. Aft Fuselage Longeron and Stringer Repair Index (Sheet 2 of 2)

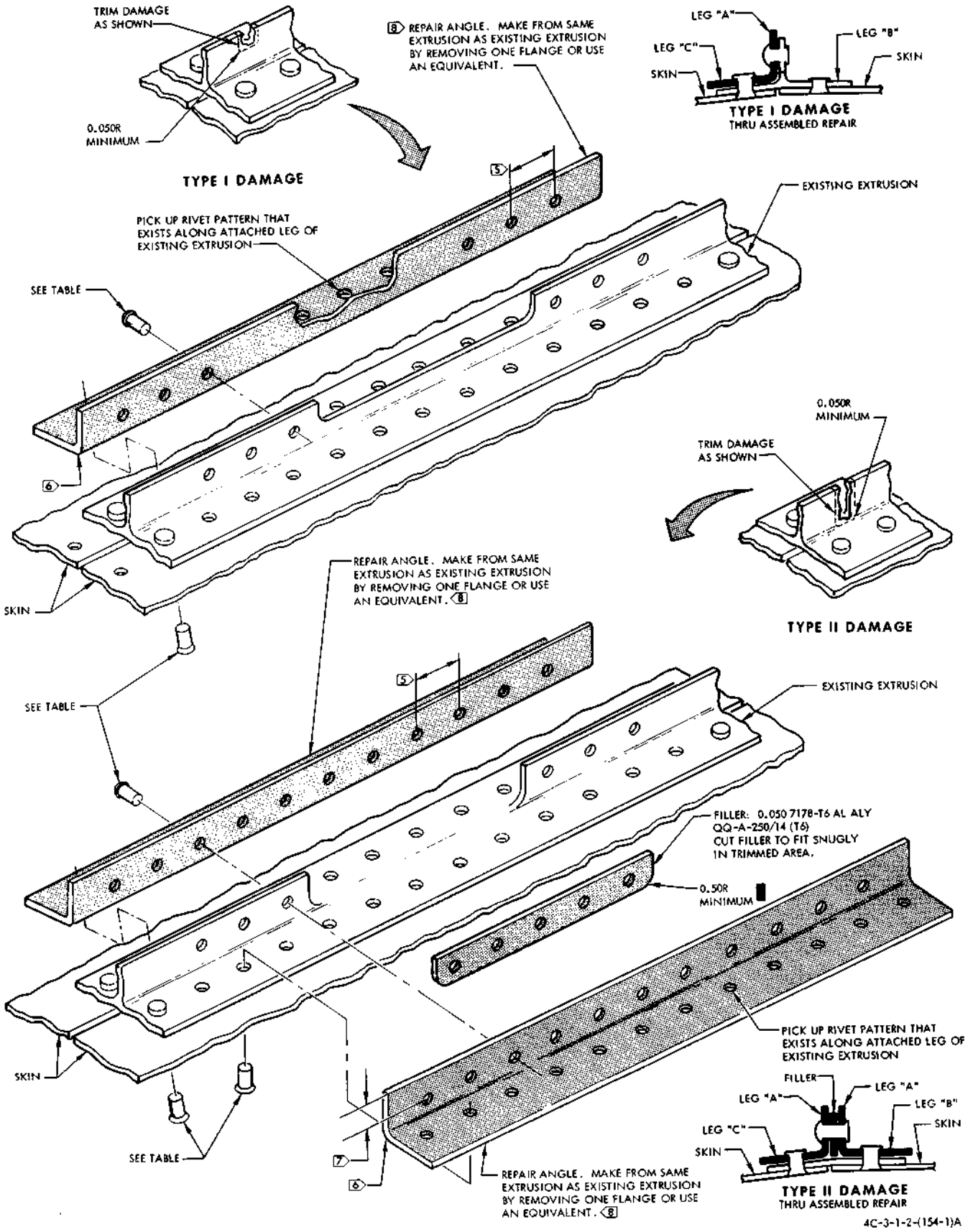
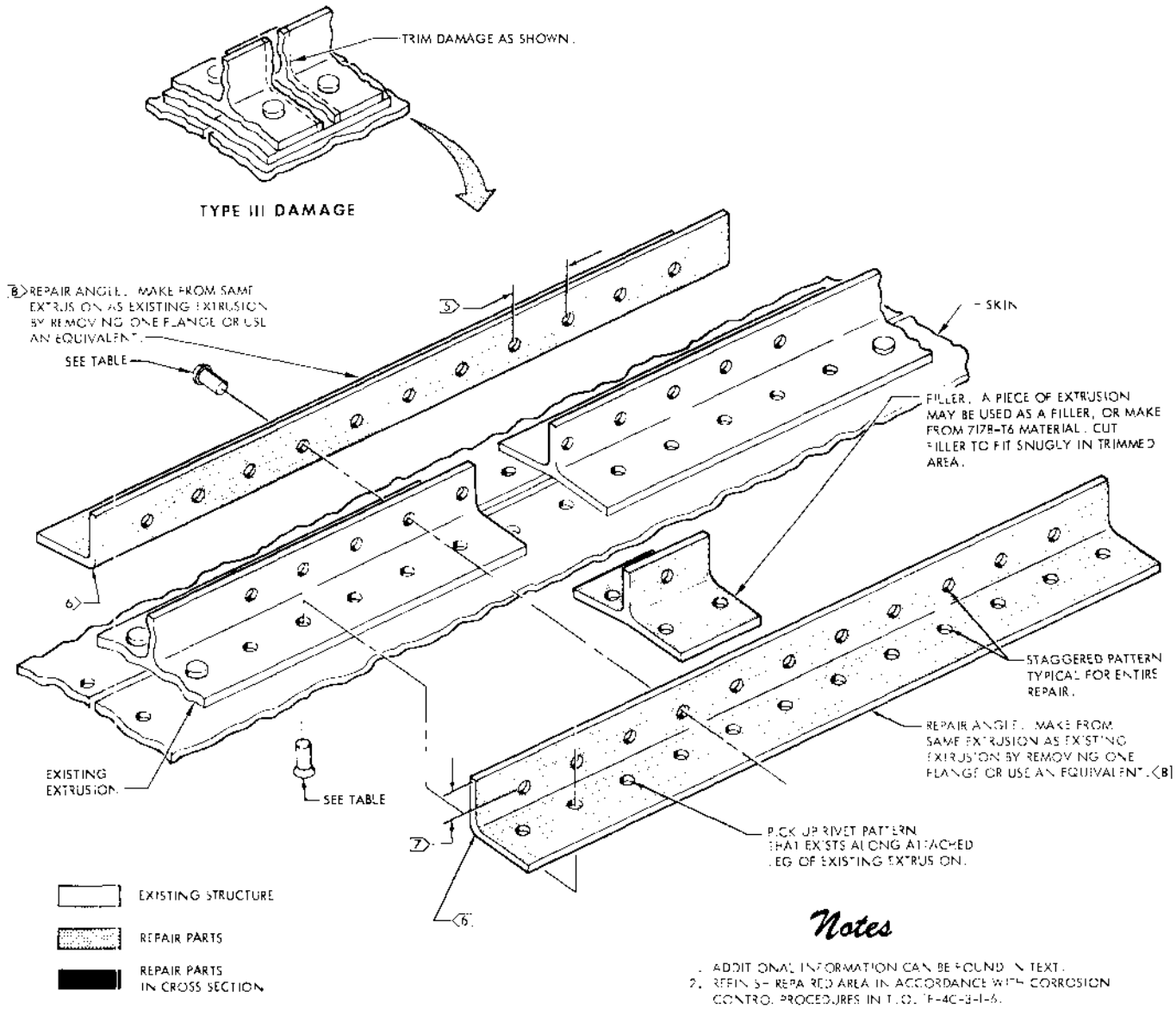
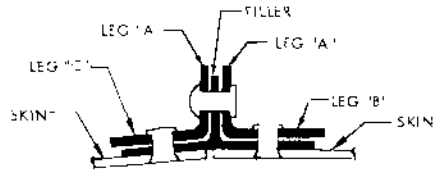


Figure 5-10. Stringer 32-33051 Patch Repair (Sheet 1 of 2)



Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. REFINISH REPAIRED AREA IN ACCORDANCE WITH CORROSION CONTROL PROCEDURES IN T.O. 1F-4C-3-1-6.
3. CAUTION: DO NOT MIX STEEL RIVETS AND ALUMINUM RIVETS IN ANY GIVEN PATTERN.
4. DO NOT MAKE THIS REPAIR CUT AT INTERSECTIONS OF STRINGER WITH FRAME OR BULKHEAD.
5. MINIMUM SPACING FOR PROTRUDING AND COUNTERSINK FLUSH RIVETS IS FOUR RIVET DIAMETERS CENTER TO CENTER.
6. ROUND OFF CORNER TO MATE WITH RADIUS OF EXISTING EXTRUSION. THICKNESS AT CORNER SHOULD NOT BE LESS THAN MINIMUM THICKNESS OF ENTIRE LEG.
7. MINIMUM EDGE DISTANCE IS TWO RIVET DIAMETERS MEASURED FROM CENTER OF RIVET. TYPICAL FOR ENTIRE REPAIR.
8. REFER TO T.O. 1F-4C-3-1-8 FOR EXTRUSION EQUIVALENT.



TYPE III DAMAGE
THRU ASSEMBLED REPAIR

EXTRUSION NUMBER	ENGINEERING DRAWING NUMBER	MATERIAL ALUMINUM ALLOY	NUMBER OF FASTENERS REQUIRED ON EACH SIDE OF DAMAGE		
			THRU LEG 'A'	THRU LEG 'B'	THRU LEG 'C'
1M5703	32-33051	7178 T6	MS20470AD-5	MS20426AD-5	MS20426AD-5
			TYPE I 3	TYPE I 5	TYPE I 5
			TYPE II 3	TYPE II 5	TYPE II 5
			TYPE III 7	TYPE III 9	TYPE III 9

1F-4C-3-1-2-154-2

Figure 5-10. Stringer 32-33051 Patch Repair (Sheet 2 of 2)

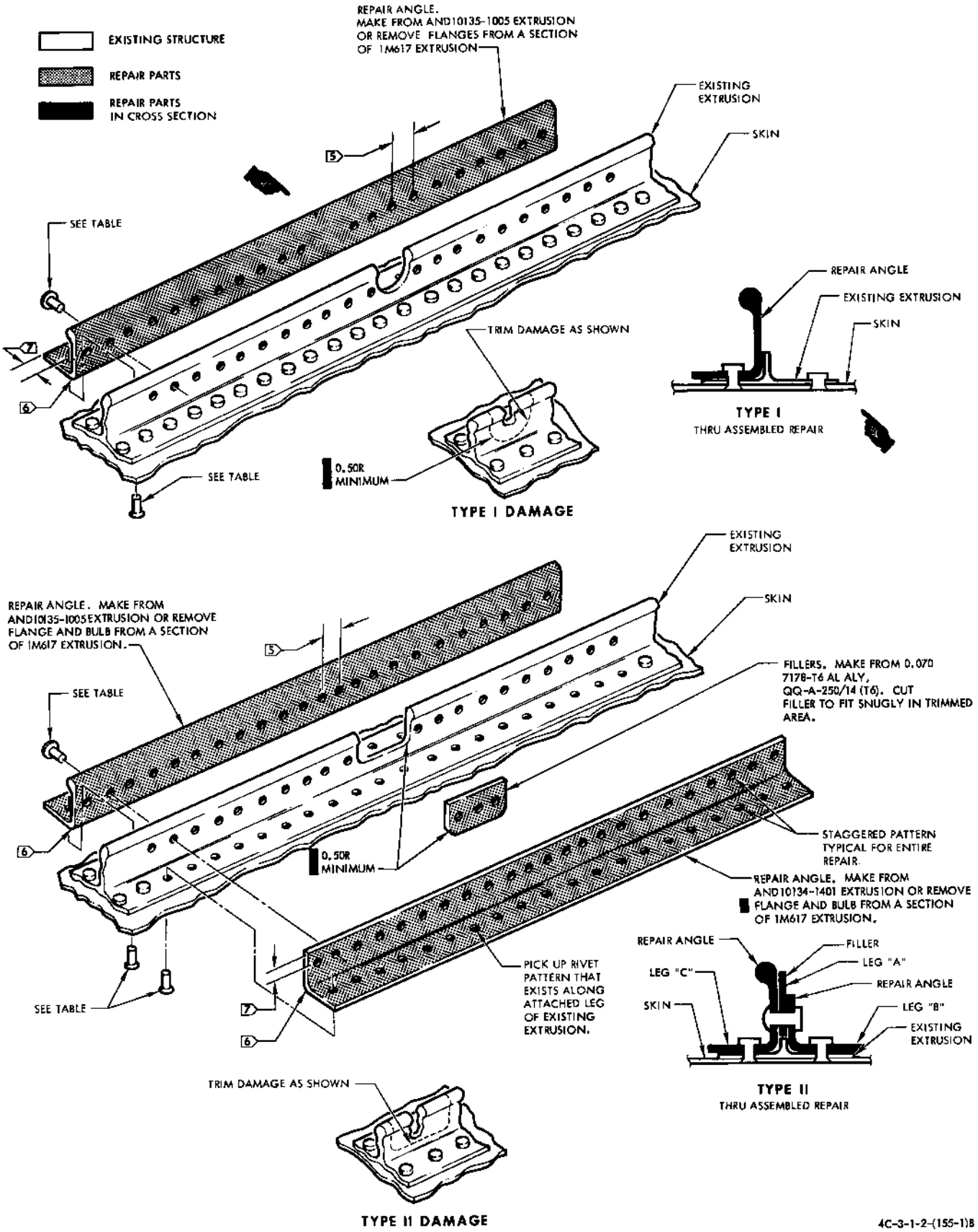
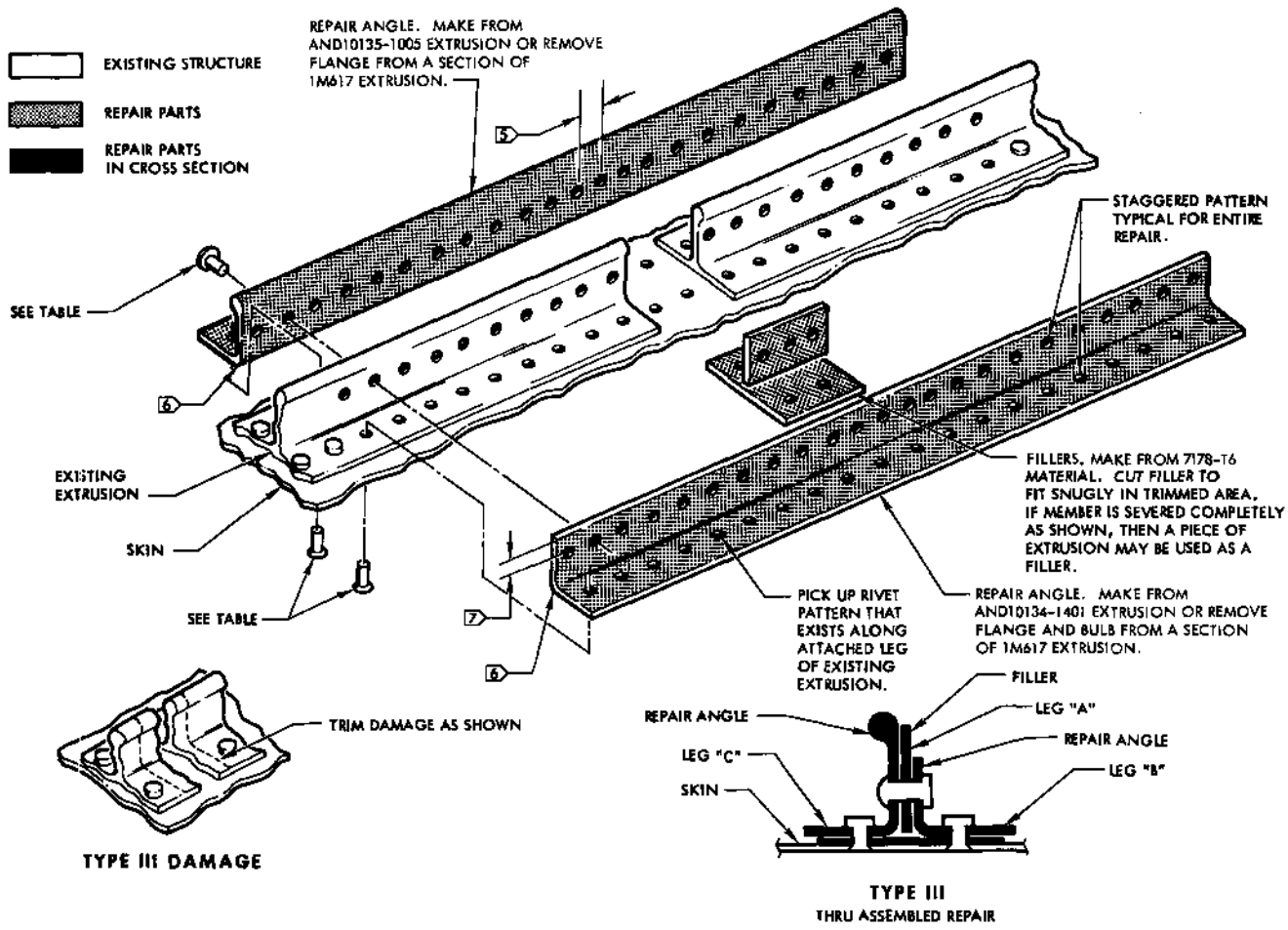


Figure 5-11. Stringer 32-33169 Patch Repair (Sheet 1 of 2)



EXTRUSION NUMBER	ENGINEERING DRAWING NUMBER	MATERIAL: ALUMINUM ALLOY	NUMBER OF FASTENERS REQUIRED ON EACH SIDE OF DAMAGE		
			THRU LEG "A"	THRU LEG "B"	THRU LEG "C"
1M617 TYPE I AND II	32-33169	7178-T6	MS20470DD-6 10	MS20426AD-5 9	MS20426AD-5 13
1M617 TYPE III	32-33169	7178-T6	MS20470AD-5 11	MS20426AD-5 12	MS20426AD-5 12

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. EXTRUSION EQUIVALENT MAY BE OBTAINED FROM THE EXTRUSION CHART IN T.O. 1F-4C-3-1-5.
3. *CAUTION: DO NOT MIX STEEL RIVETS AND ALUMINUM "AD" RIVETS IN ANY* GIVEN PATTERN.
4. DO NOT MAKE THIS REPAIR CUT AT INTERSECTIONS OF STRINGER WITH FRAME OR BULKHEAD.
5. MINIMUM SPACING FOR PROTRUDING AND COUNTERSUNK FLUSH RIVETS IS FOUR RIVET DIAMETERS CENTER TO CENTER.
6. ROUND OFF CORNER TO MATE WITH RADIUS OF EXISTING EXTRUSION. THICKNESS AT CORNER SHOULD NOT BE LESS THAN MINIMUM THICKNESS OF EITHER LEG.
7. MINIMUM EDGE DISTANCE IS TWO RIVET DIAMETERS MEASURED FROM CENTER OF RIVET TO EDGE OF ANGLE.
8. *FOR SEALING INFORMATION REFER TO T.O. 1F-4C-3-1-6.*

4C-3-1-2-(155-2)B

Figure 5-11. Stringer 32-33169 Patch Repair (Sheet 2 of 2)

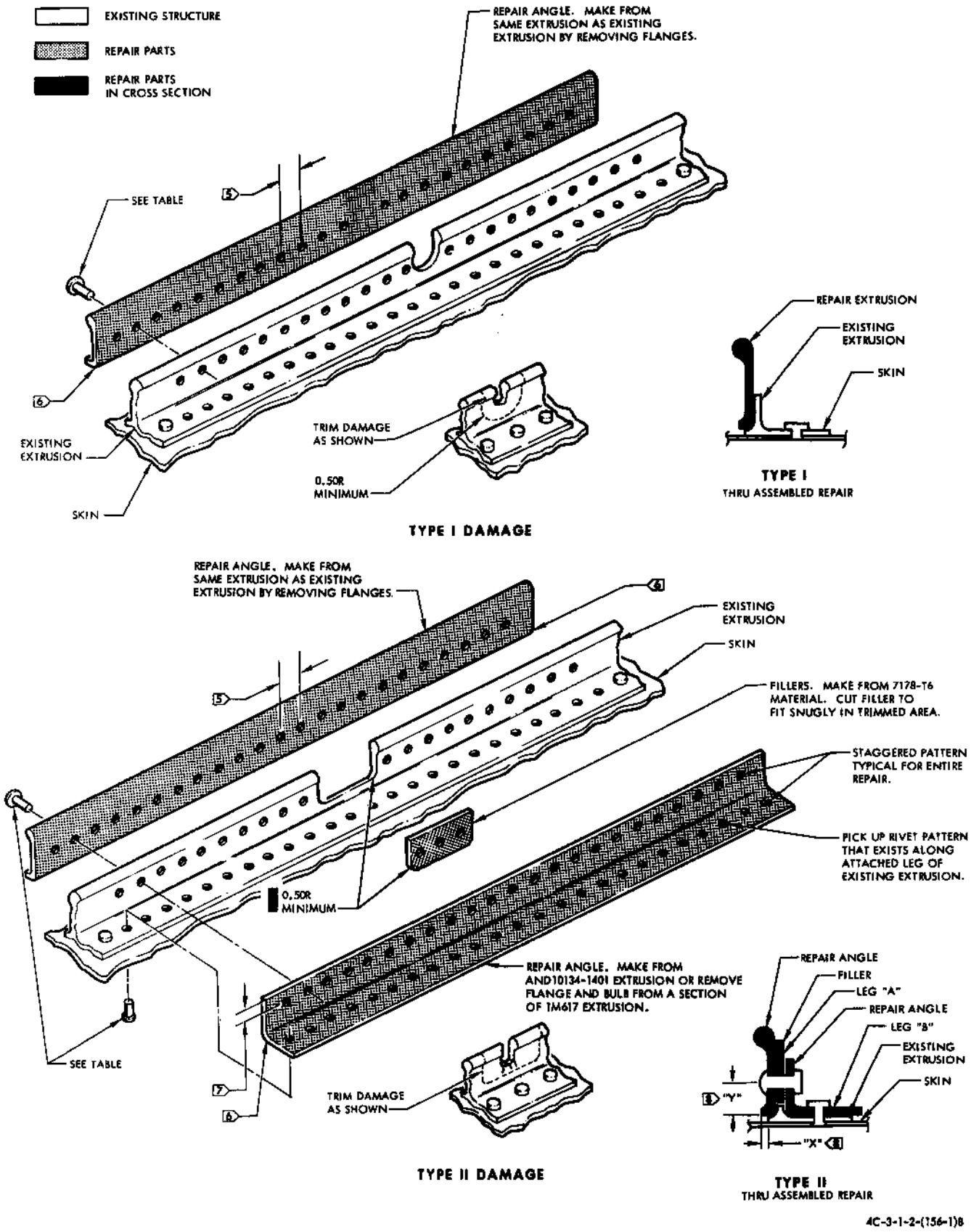
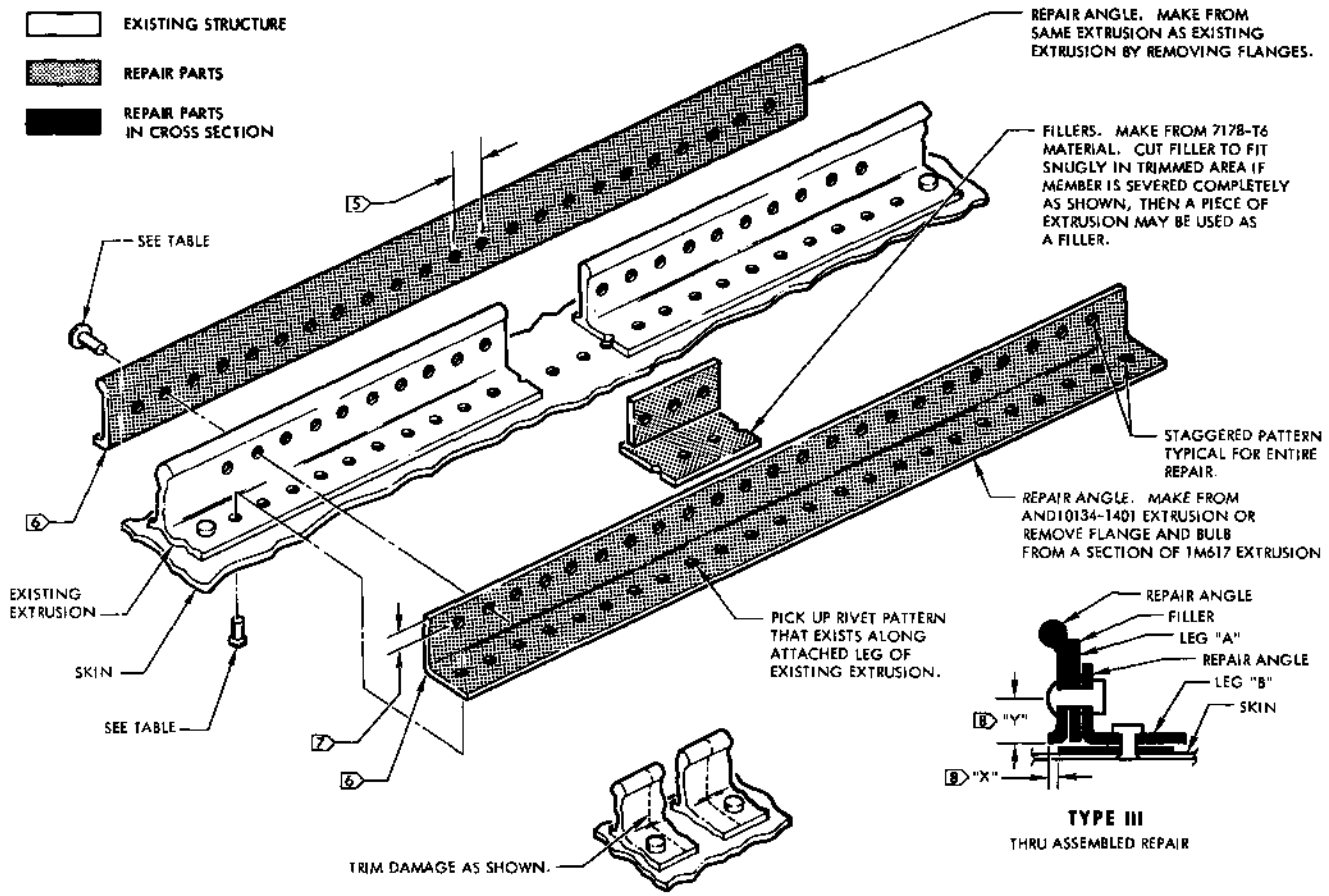


Figure 5-12. Stringer 32-33169 Altered Patch Repair (Sheet 1 of 2)



TYPE III DAMAGE

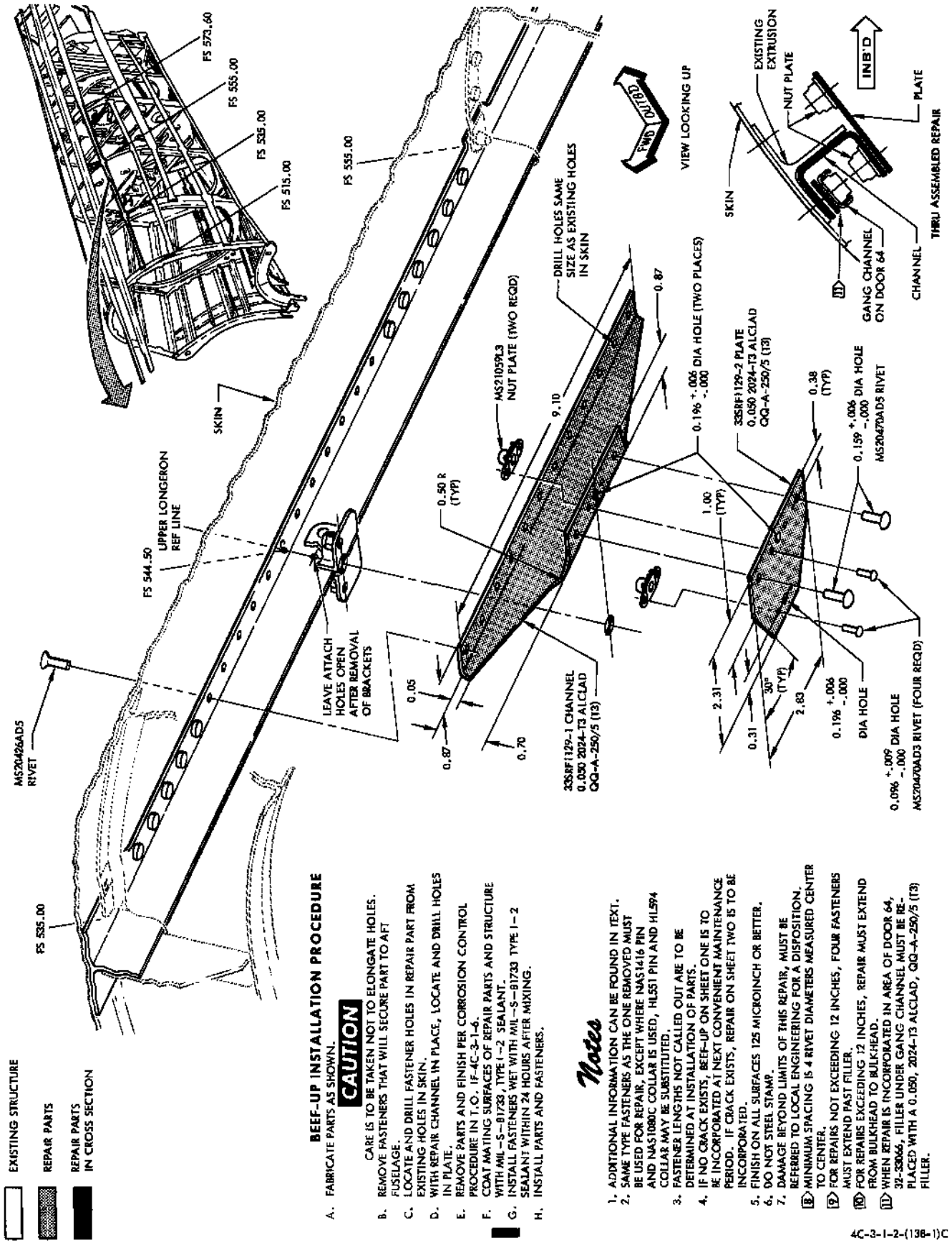
EXTRUSION	ENGINEERING DRAWING NUMBER	MATERIAL: ALUMINUM ALLOY	NUMBER OF FASTENERS REQUIRED ON EACH SIDE OF DAMAGE	
			THRU LEG "A"	THRU LEG "B"
1M617 TYPE I AND III	32-33169	7178-T6	MS20470DD-6 10 MS20426DD-6 10	MS20470AD-5 10 MS20426AD-5 10
1M617 TYPE III	32-33169	7178-T6	MS20470AD-5 9	MS20470AD-5 10

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. EXTRUSION EQUIVALENT MAY BE OBTAINED FROM THE EXTRUSION CHART IN T.O. 1F-4C-3-1-5.
3. CAUTION: DO NOT MIX STEEL RIVETS AND ALUMINUM "AD" RIVETS IN ANY GIVEN PATTERN.
4. DO NOT MAKE THIS REPAIR CUT AT INTERSECTIONS OF STRINGER WITH FRAME OR BULKHEAD.
5. MINIMUM SPACING FOR PROTRUDING AND COUNTERSUNK FLUSH RIVETS IS FOUR RIVET DIAMETERS CENTER TO CENTER.
6. ROUND OFF CORNER TO MATE WITH RADIUS OF EXISTING EXTRUSION. THICKNESS AT CORNER SHOULD NOT BE LESS THAN MINIMUM THICKNESS OF EITHER LEG.
7. MINIMUM EDGE DISTANCE IS TWO RIVET DIAMETERS MEASURED FROM CENTER OF RIVET TO EDGE OF ANGLE.
8. "X" + "Y" MUST EQUAL TWO RIVET DIAMETERS.
9. FOR SEALING INFORMATION REFER TO T.O. 1F-4C-3-1-6.

4C-3-1-2-(156-2)B

Figure 5-12. Stringer 32-33169 Altered Patch Repair (Sheet 2 of 2)



BEEF-UP INSTALLATION PROCEDURE

A. FABRICATE PARTS AS SHOWN.

CAUTION

CARE IS TO BE TAKEN NOT TO ELONGATE HOLES.

B. REMOVE FASTENERS THAT WILL SECURE PART TO AFT FUSELAGE.
C. LOCATE AND DRILL FASTENER HOLES IN REPAIR PART FROM EXISTING HOLES IN SKIN.
D. WITH REPAIR CHANNEL IN PLACE, LOCATE AND DRILL HOLES IN PLATE.
E. REMOVE PARTS AND FINISH PER CORROSION CONTROL PROCEDURE IN T.O. 1F-4C-3-1-6.
F. COAT MATING SURFACES OF REPAIR PARTS AND STRUCTURE WITH MIL-S-81733, TYPE I-2 SEALANT.
G. INSTALL FASTENERS WET WITH MIL-S-81733 TYPE I-2 SEALANT WITHIN 24 HOURS AFTER MIXING.
H. INSTALL PARTS AND FASTENERS.

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. SAME TYPE FASTENERS AS THE ONE REMOVED MUST BE USED FOR REPAIR, EXCEPT WHERE NAS1416 PIN AND NAS1080C COLLAR IS USED, HL551 PIN AND HL594 COLLAR MAY BE SUBSTITUTED.
3. FASTENER LENGTHS NOT CALLED OUT ARE TO BE DETERMINED AT INSTALLATION OF PARTS.
4. IF NO CRACK EXISTS, BEEF-UP ON SHEET ONE IS TO BE INCORPORATED AT NEXT CONVENIENT MAINTENANCE PERIOD. IF CRACK EXISTS, REPAIR ON SHEET TWO IS TO BE INCORPORATED.
5. FINISH ON ALL SURFACES 125 MICROINCH OR BETTER.
6. DO NOT STEEL STAMP.
7. DAMAGE BEYOND LIMITS OF THIS REPAIR, MUST BE REFERRED TO LOCAL ENGINEERING FOR A DISPOSITION.

(8) MINIMUM SPACING IS 4 RIVET DIAMETERS MEASURED CENTER TO CENTER.

(9) FOR REPAIRS NOT EXCEEDING 12 INCHES, FOUR FASTENERS MUST EXTEND PAST FILLER.

(10) FOR REPAIRS EXCEEDING 12 INCHES, REPAIR MUST EXTEND FROM BULKHEAD TO BULKHEAD.

(11) WHEN REPAIR IS INCORPORATED IN AREA OF DOOR 64, 32-33066, FILLER UNDER GANG CHANNEL MUST BE REPLACED WITH A 0.050, 2024-T3 ALCLAD, QQ-A-250/5 (T3) FILLER.

4C-3-1-2-(138-1)C

Figure 5-13. Longerons 32-33049 and 32-33050 Beef-Up and Repair (Sheet 1 of 2)

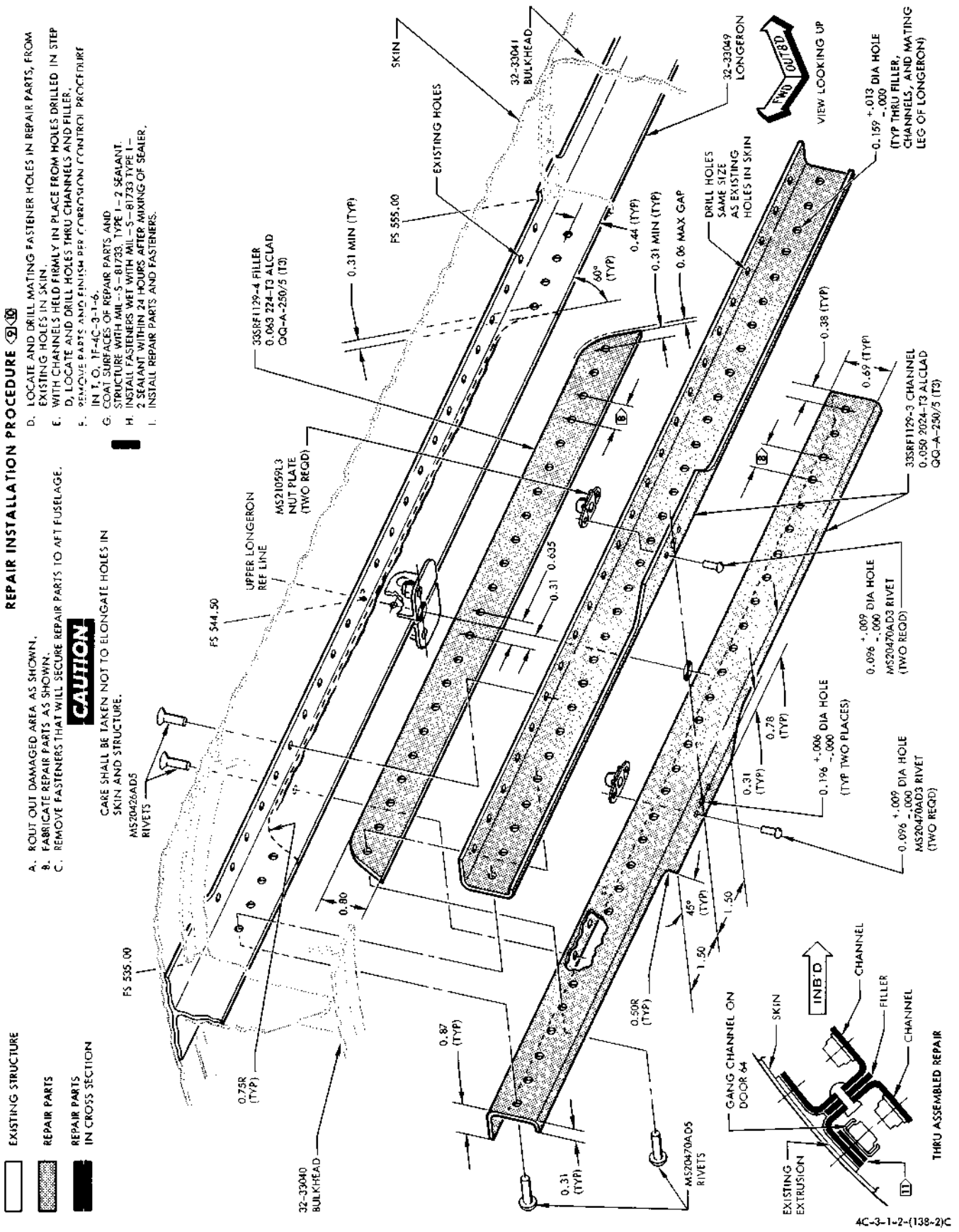
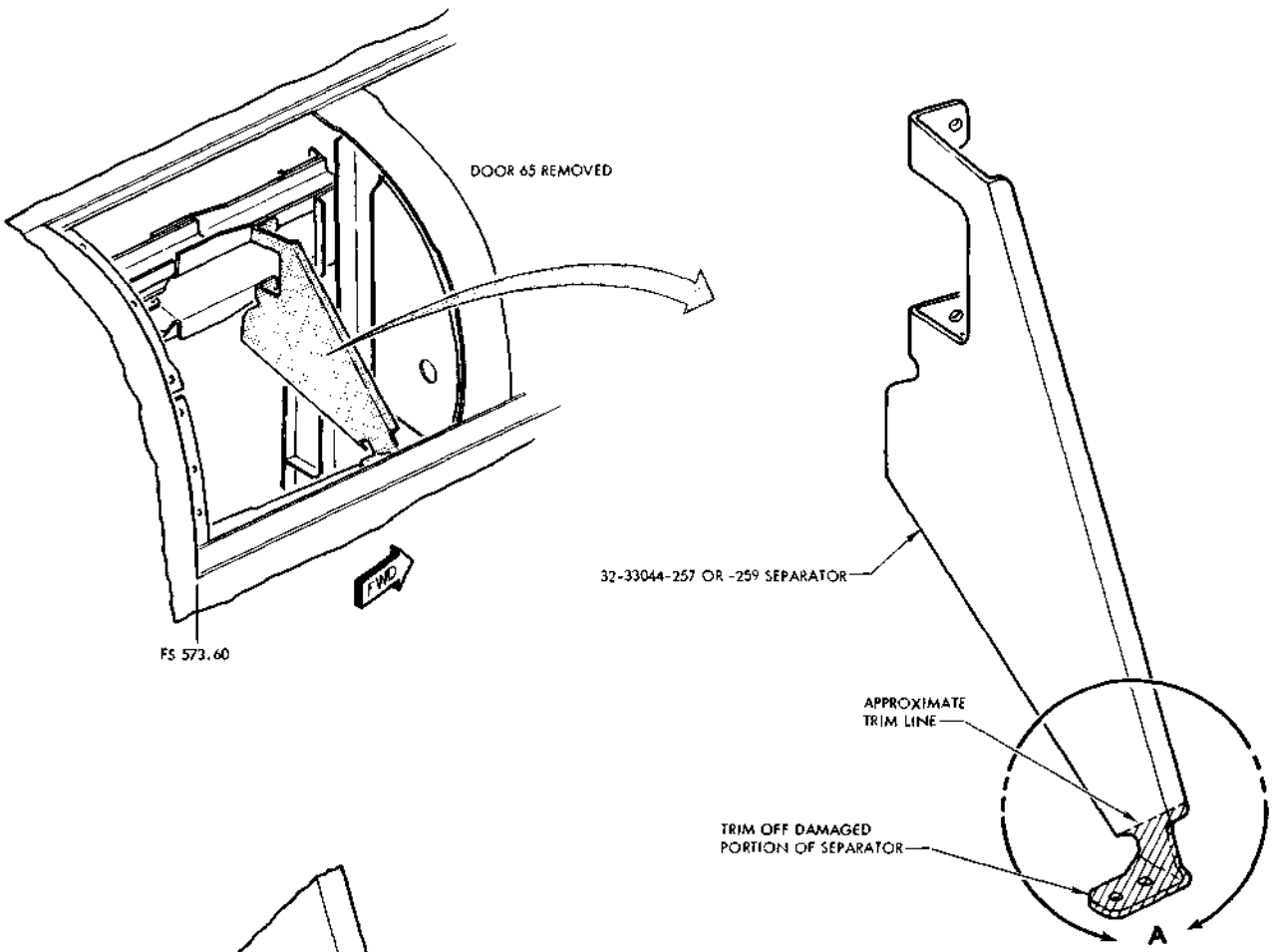
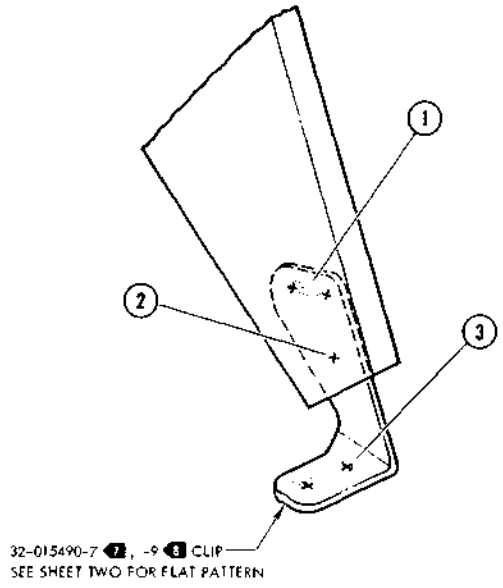


Figure 5-13. Longerons 32-33049 and 32-33050 Beef-Up and Repair (Sheet 2 of 2)





DETAIL A

REF NO.	FASTENER	HOLE SIZE
1	MS20470AD5 4	0.159 +.013 -.000
2 3	MS20470DD6 4	0.191 +.017 -.000
3	MS20470AD4 4	0.128 +.014 -.000

Notes

1. DRAWING NUMBER FOR THIS REPAIR IS 32-015490.
2. REFER TO TEXT FOR REPAIR PROCEDURE.
3. PICK UP EXISTING TOOLING HOLE IN SEPARATOR FOR THIS FASTENER. IF TOOLING HOLE IS NOT IN SEPARATOR USE FASTENER CALLED OUT IN REFERENCE NUMBER ONE.
4. FASTENER LENGTH TO BE DETERMINED ON INSTALLATION.
5. REFERENCE TO 1F-4C-3-1-1 FOR INFORMATION ON SHEET METAL FORMING.
6. HEAT TREAT TO 2024-T42 AFTER FORMING.
7. F-4C, F-4D AND RF-4C.
8. F-4E AND F-4G.

4C-3-1-2-(139-1)8

Figure 5-14. Separator 32-33044 Repair- FS 573.60 (Sheet 1 of 2)

U.S. GOVERNMENT PRINTING OFFICE: 1987 - 754-017/60717

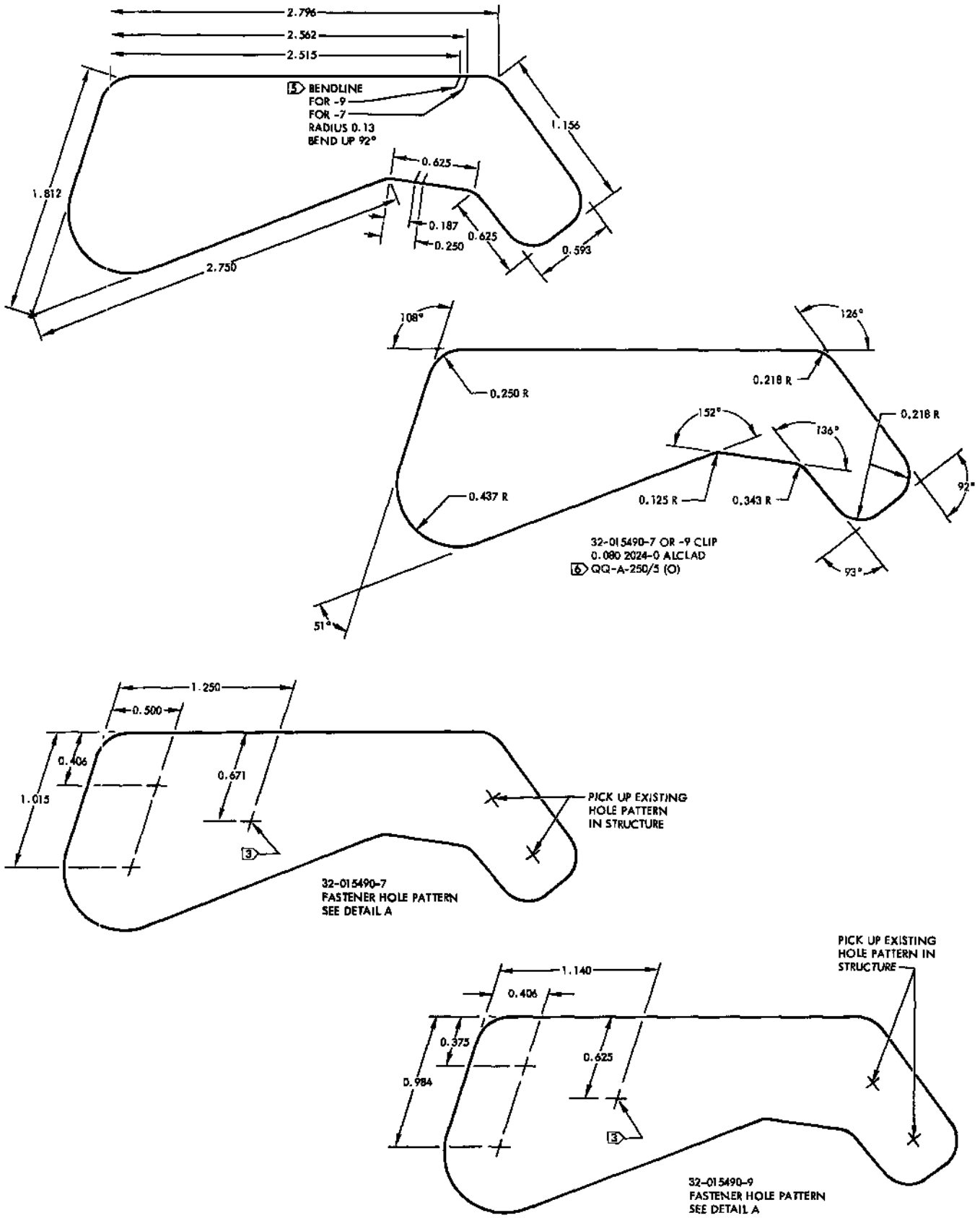
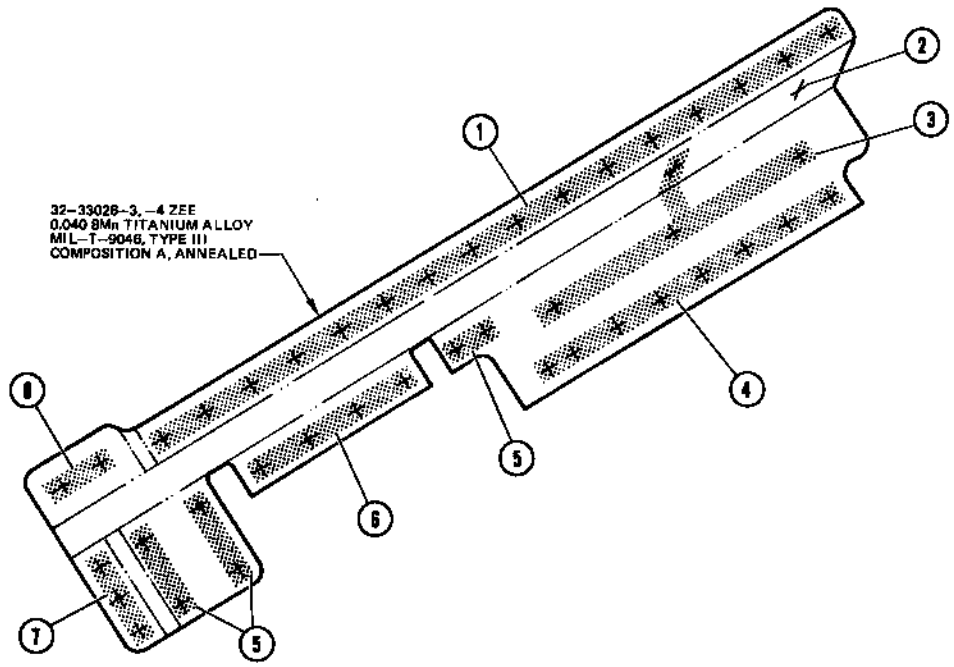


Figure 5-14. Separator 32-33044 Repair- FS 573.60 (Sheet 2 of 2)



REF NO.	FASTENER	NUT OR COLLAR	HOLE SIZE
1	MS20616M4-4		0.128 +.006 -.000
2	32-33027-41	F50218-3	0.221 +.007 -.000
3	32-33027-57	F50218-3	0.221 +.007 -.000
4	NAS1398M4A2		0.129 +.003 -.000
5	MS20427M4-4		0.128 +.006 -.000
6	MS20615M4-5		0.128 +.006 -.000
7	MS20427M4-5		0.128 +.006 -.000
8	HS62-6-3	HS60M6	0.189 +.006 -.000

INSTALLATION PROCEDURE FOR NEW PART

LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES REFERENCE TO 1F-4C-3-1-1. COUNTERSINK HOLES AS REQUIRED.

4C-3-1-2-(373)

Figure 5-14A. Zee, 32-33026, Fastener Index

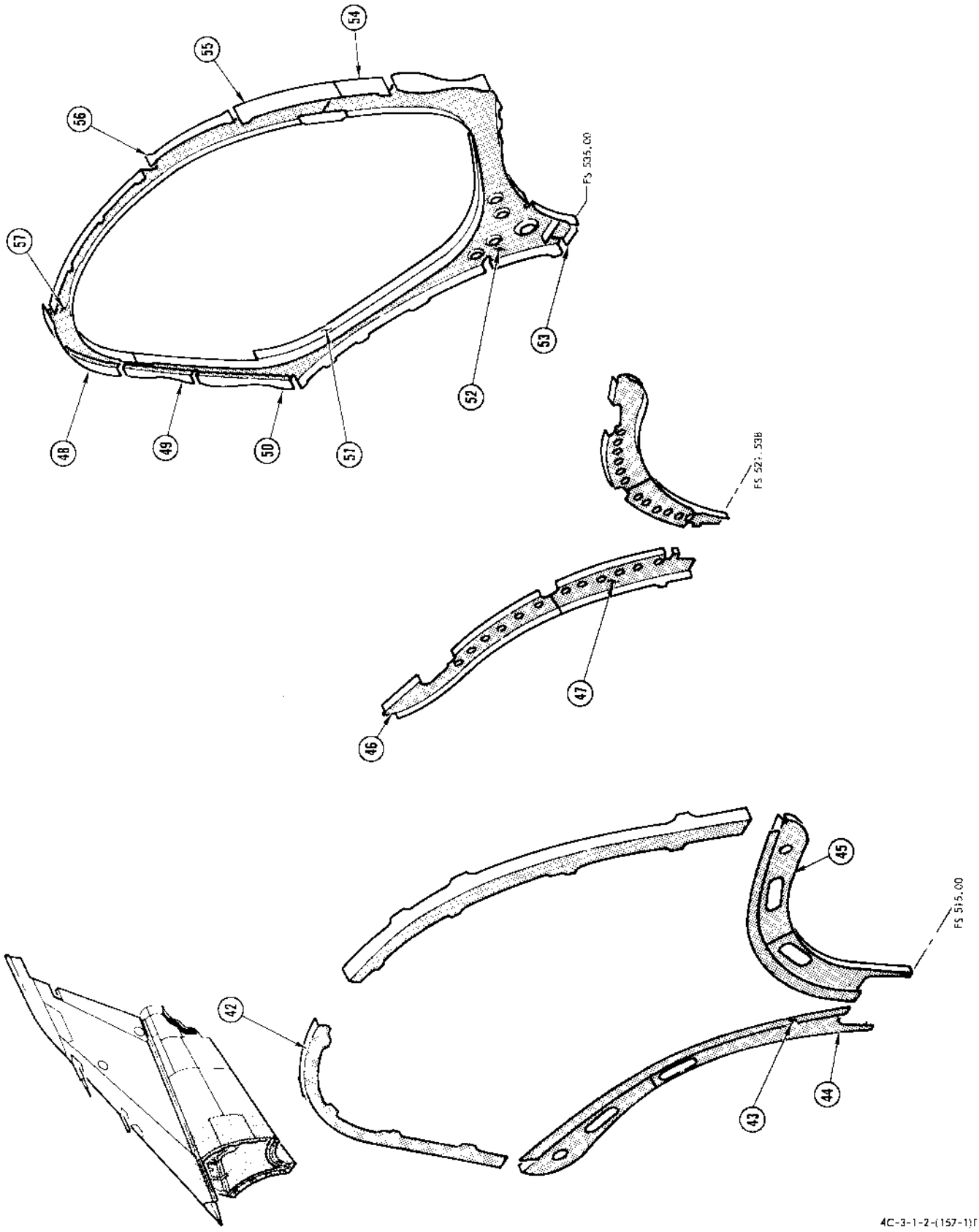
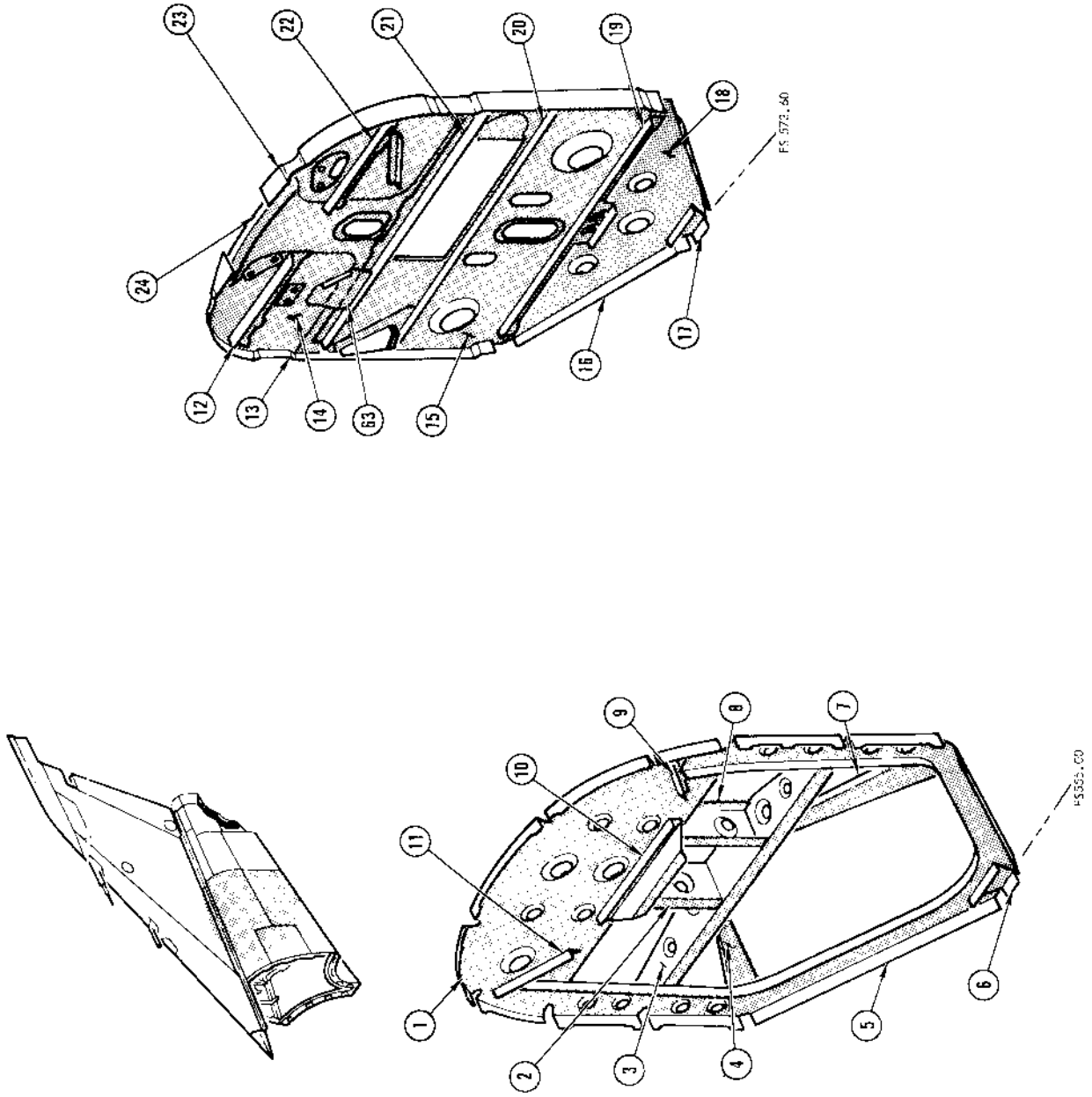


Figure 5 15. Aft Fuselage Bulkhead and Frame Repair Index (Sheet 1 of 6)



4C-3-1-2-(157-2)0

Figure 5-15. Aft Fuselage Bulkhead and Frame Repair Index (Sheet 2 of 6)

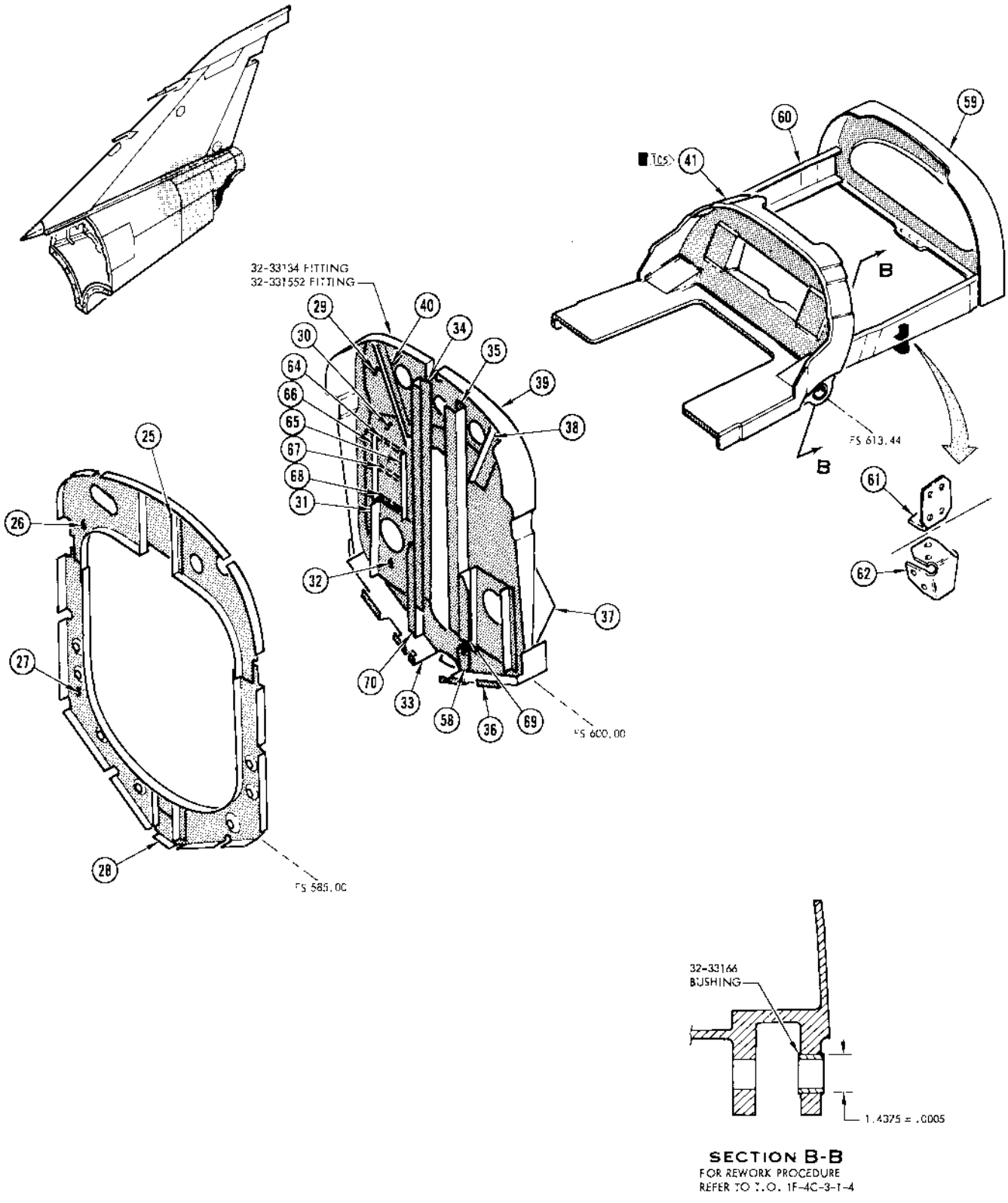


Figure 5-15. Aft Fuselage Bulkhead and Frame Repair Index (Sheet 3 of 6)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-33041-51	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-631	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-83	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-113	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-115	WEB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-33041-19	CHANNEL	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-629	CHANNEL	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-33041-45	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-91	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-33041-55	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-93	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-33041-69	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-85	FRAME	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-33041-33	CLIP	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-33041-56	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33041-94	STIFFENER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-33041-17	CHANNEL	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-33041-67	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	32-33041-21	CHANNEL	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-33041-37	CLIP	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-33044-30	STIFFENER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13	32-33044-163	CAP	1M57309	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33044-251	CAP	1M57309	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33044-223	CAP	1M57543	2024-T6 AL ALY	QQ-A-200/3 (T6)
14	32-33119-7	FITTING	[2]	7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-33119-9	FITTING		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-33119-11	FITTING		7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-33119-19	FITTING		7178-T651 AL ALY	QQ-A-250/14 (T651)
15	32-33044-165	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-225	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-265	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-287	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-267	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-291	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
16	32-33044-133, -134	CAP	1M5272	7178-T6 AL ALY	QQ-A-200/13 (T6)
17	32-33044-11	BRACKET	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-33044-149	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-289	WEB	0.025	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-33044-145	TEE	1M7308	7178-T6 AL ALY	QQ-A-200/13 (T6)
20	32-33044-121	ANGLE	AND10133-0601	7178-T651 AL ALY	QQ-A-200/13 (T651)
	32-33044-219	ANGLE	AND10133-0601	7178-T651 AL ALY	QQ-A-200/13 (T651)
21	32-33044-171	ANGLE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-229	ANGLE	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	32-33044-29	STIFFENER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-189	STIFFENER	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
23	32-33044-161	CAP	1M57309	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33044-249	CAP	1M57309	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33044-221	CAP	1M57543	2024-T6 AL ALY	QQ-A-200/3 (T6)
24	32-33044-169	DOUBLER	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33044-227	DOUBLER	0.080	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25	32-33046-11, -12	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26	32-33046-45	FRAME	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33046-91	FRAME	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33046-77	FRAME	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27	32-33046-43	FRAME	0.072	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33046-69	FRAME	0.072	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33046-101	FRAME	0.072	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33046-79	FRAME	0.072	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33046-133	FRAME	0.072	7178-T6 ALCLAD	QQ-A-250/15 (T6)
28	32-33046-17	BRACKET	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	32-33150-7	WEB	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-33150-15	WEB	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-33150-9	WEB	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-33150-21	WEB	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G33150-3	WEB	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G33150-5	WEB	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G33150-7	WEB	0.190	7178-T6 AL ALY	QQ-A-250/14 (T6)
30	32-33175-83	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33175-205	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33175-213	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33175-177	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33175-189	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G33175-75	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G33175-93	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G33175-95	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G33175-111	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32G33175-113	WEB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
31	32-33175-87	ANGLE	AND10134-1003	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33175-203	ANGLE	AND10134-1003	7178-T6 AL ALY	QQ-A-200/13 (T6)
32	32-33175-89, -90	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-33175-207, -208	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
33	32-33175-123	FORMER	0.032	8Mn TITANIUM ALLOY	AMS4908 [3]
	32-33175-131	FORMER	0.032	8Mn TITANIUM ALLOY	AMS4908 [3]
	32-33175-161	FORMER	0.032	8Mn TITANIUM ALLOY	AMS4908 [3]
34	32-33175-111	CHANNEL	NAS345-52	7178-T6 AL ALY	QQ-A-200/13 (T6)

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Figure 5-15. Aft Fuselage Bulkhead and Frame Repair Index (Sheet 4 of 6)

REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
35		32-33175-109	CHANNEL	NAS345-52	7178-T6 AL ALY	QQ-A-200/13 (T6)
36	52	32-33175-103	ANGLE	AND10134-1003	7178-T6 AL ALY	QQ-A-200/13 (T6)
	69	32-33175-191	ANGLE	AND10134-1003	7178-T6 AL ALY	QQ-A-200/13 (T6)
37	53	32-33175-29, -30 <78	ANGLE }	0.063	8Mn TITANIUM ALLOY	AMS4908 }
	70	32-33175-613, -614 <78	ANGLE } <77	0.063	8Mn TITANIUM ALLOY	AMS4908 } <3
	71	32-33175-211, -614 <78	ANGLE }	0.063	8Mn TITANIUM ALLOY	AMS4908 }
	72	32-33175-243, -244	ANGLE	0.063	8Mn TITANIUM ALLOY	AMS4908
38		32-33175-77	ANGLE	AND10134-1205	7178-T6 AL ALY	QQ-A-200/13 (T6)
39	11	32-33134-11, -12	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	12	32-33134-13, -14	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	13	32-33134-15, -16	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	14	32-33134-19, -20	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	82	32-33134-21, -20	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	83	32-33134-24, -25	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	84	32-331552-3, -4	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	85	32-331552-5, -4	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
40	86	32-33175-27	ANGLE	AND10134-1205	7178-T6 AL ALY	QQ-A-200/13 (T6)
	87	32G33175-91	ANGLE	AND10134-1205	7178-T6 AL ALY	QQ-A-200/13 (T6)
41	88	32-33129-13	FITTING }	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	89	32-33129-15	FITTING } <105	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
	15	32-33129-19	FITTING }	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
		32G6973046-3	FITTING <139	FORGING	7075-T73	QQ-A-367(T73)
42	16	32-33035-13, -14	FITTING	1M2385	2024-T4 AL ALY	QQ-A-200/3 (T4)
	17	32-33035-23, -24	FITTING	1M2251	2024-T4 AL ALY	QQ-A-200/3 (T4)
	18	53-33510-7, -8	FITTING	1M2551	2024-T4 AL ALY	QQ-A-200/3 (T4)
	19	53-33510-9, -10	FITTING	1M2551	2024-T4 AL ALY	QQ-A-200/3 (T4)
43	20	32-33035-6, -5	FITTING	AND10134-1408	2024-T4 AL ALY	QQ-A-200/3 (T4)
	21	32-33035-20, -19	FITTING	AND10134-1408	2024-T4 AL ALY	QQ-A-200/3 (T4)
	22	53-33510-6, -5	FITTING	AND10134-1408	2024-T4 AL ALY	QQ-A-200/3 (T4)
44	90	32-33033-32, -31	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
	1	32-33033-64, -63	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
	10	32-33033-66, -65	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
45	12	32-33033-33, -34	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
	13	32-33033-43, -44	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
	10	32-33033-73, -74	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
	10	32-33033-69, -70	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
	45	32-33033-47, -48	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908 <3
	46	32-33033-72, -71	FRAME	0.032	8Mn TITANIUM ALLOY	AMS4908
46	23	32-33034-32, -31	FRAME	0.040	8Mn TITANIUM ALLOY	AMS4908
	13	32-33034-44, -43	FRAME	0.040	8Mn TITANIUM ALLOY	AMS4908
	10	32-33034-64, -65	FRAME	0.040	8Mn TITANIUM ALLOY	AMS4908
47	24	32-33034-34, -33	FRAME	0.040	8Mn TITANIUM ALLOY	AMS4908
	58	32-33034-46, -45	FRAME	0.040	8Mn TITANIUM ALLOY	AMS4908
	10	32-33034-66, -65	FRAME	0.040	8Mn TITANIUM ALLOY	AMS4908
48	25	32-33040-103	CAP	1M5175	7075-T6 AL ALY	QQ-A-200/11 (T6)
	10	32-33040-181	CAP	1M5755	7178-T6 AL ALY	QQ-A-200/13 (T6)
49	26	32-33040-101	CAP	1M5175	7075-T6 AL ALY	QQ-A-200/11 (T6)
	10	32-33040-207	CAP	1M57551	7178-T6 AL ALY	QQ-A-200/13 (T6)
	28	32-33040-127	CAP	1M5175	7075-T6 AL ALY	QQ-A-200/11 (T6)
50	29	32-33040-80, -79	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
	16	32-33040-174, -173	CAP	1M57551	7178-T6 AL ALY	QQ-A-200/13 (T6)
	30	32-33040-129, -125	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
51	31	32-33040-9	FORMER	0.090	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	5	32-33040-167	FORMER	0.090	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	10	32-33040-157	FORMER	0.090	7075-T6 ALCLAD	QQ-A-250/13 (T6)
52	91	32-33040-85	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	92	32-33040-155	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	33	32-33040-227	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	34	32-33040-165	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	35	32-33040-223	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	94	32-33040-133	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	95	32-33040-153	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
53		32-33040-11	BRACKET	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
54	37	32-33040-115	CAP	1M5175	7178-T6 AL ALY	QQ-A-200/13 (T6)
	10	32-33040-175	CAP	1M57551	7178-T6 AL ALY	QQ-A-200/13 (T6)
	38	32-33040-141	CAP	1M5175	7178-T6 AL ALY	QQ-A-200/13 (T6)
55	4	32-33040-117	CAP	1M5175	7178-T6 AL ALY	QQ-A-200/13 (T6)
	10	32-33040-177	CAP	1M57551	7178-T6 AL ALY	QQ-A-200/13 (T6)
56	9	32-33040-29	CAP	1M5608	7178-T6 AL ALY	QQ-A-200/13 (T6)
	10	32-33040-179	CAP	1M57551	7178-T6 AL ALY	QQ-A-200/13 (T6)
57	96	32-33040-83	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	97	32-33040-605	FRAME	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
58	98	32-33175-95	FAIRLEAD	0.125	PLASTIC	MIL-P-997 TYPE GS6
	99	32-33175-159	FAIRLEAD	0.250	PLASTIC	MIL-P-997 TYPE GS6
	100	32-33175-171	FAIRLEAD	0.250	PLASTIC	MIL-P-997 TYPE GS6
59	101	32-33138-25	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	30	32-33138-603	FRAME	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
60		32-33138-35, -36	CHANNEL	0.040	8Mn TITANIUM ALLOY	AMS4908 <3
61	39	32-33138-45, -46	ANGLE	0.050	301 CRES	MIL-S-5059 1/4 HARD
62	40	32-33002-885, -886	GUSSET	0.040	301 CRES	MIL-S-5059 1/4 HARD
63		32-33044-427	DOUBLER	0.063	2024-T4 ALCLAD	QQ-A-250/5 (T4)
64	102	32-33175-225	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/15 (T6)
65	41	32-33175-217	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/15 (T6)
66	42	32-33175-215	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/15 (T6)
	43	32-33175-237	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/15 (T6)
	44	32-33175-247	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/15 (T6)
	21	53-012982-3	ANGLE	0.063	7178-T6 AL ALY	QQ-A-250/15 (T6)
	103	32-33175-77 <104	ANGLE	AND10134-1205	7178-T6 AL ALY	QQ-A-200/13 (T6)

4C-3-1-2-1157-51H

Figure 5-15. Aft Fuselage Bulkhead and Frame Repair Index (Sheet 5 of 6)

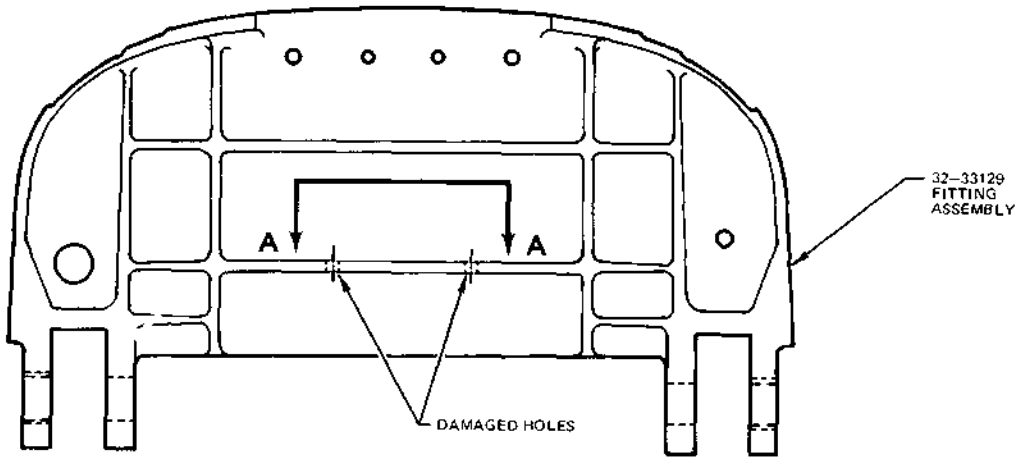
REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
67	32-33175-18	ANGLE	AND10133-1001	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33175-140	ANGLE	AND10133-1001	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33175-239	ANGLE	AND10133-1001	7178-T6 AL ALY	QQ-A-200/13 (T6)
68	32-33175-16	ANGLE	AND10133-1001	7178-T6 AL ALY	QQ-A-200/13 (T6)
	32-33175-138	ANGLE	AND10133-1001	7178-T6 AL ALY	QQ-A-200/13 (T6)
69	32-33201-5	BEAM	0.032	17-7PH STEEL ALLOY	MIL-S-25043
	32-33201-7	BEAM	0.032	17-7PH STEEL ALLOY	MIL-S-25043
	32-33201-9	BEAM	0.032	17-7PH STEEL ALLOY	MIL-S-25043
70	32-33201-6	BEAM	0.032	17-7PH STEEL ALLOY	MIL-S-25043
	32-33201-8	BEAM	0.032	17-7PH STEEL ALLOY	MIL-S-25043
	32-33201-11	BEAM	0.032	17-7PH STEEL ALLOY	MIL-S-25043

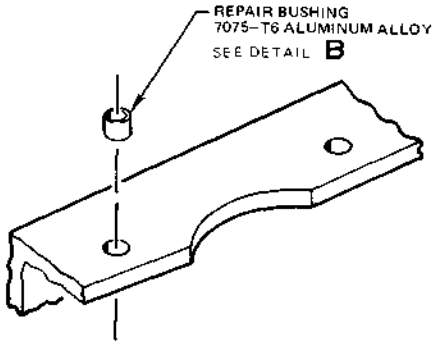
Notes

1. F-4E 66-368 AND UP AND MODIFIED ON F-4G.
2. MACHINED.
3. FOR INTERCHANGEABLE SPECIFICATION REFERENCE TO 1F-4C-3-1-1.
4. F-4C 63-7470 THRU 63-7709 AND RF-4C 63-7742 THRU 64-1021.
5. F-4E 66-284 THRU 66-367.
6. F-4E 66-368 AND UP AND F-4G.
7. F-4D 66-8699 THRU 66-8825.
8. F-4C 63-7407 THRU 63-7468, 63-7710 THRU 64-928, RF-4C 63-7742 THRU 64-1021 F-4D, F-4E, AND F-4G.
9. F-4C, F-4D AND RF-4C.
10. F-4E AND F-4G.
11. F-4C, F-4D 64-929 THRU 66-7644 AND RF-4C 63-7742 THRU 66-422.
12. F-4D 66-7645 THRU 66-8825 AND RF-4C 66-423 THRU 72-156.
13. F-4C 63-7407 THRU 63-7495 AND RF-4C 63-7742.
14. F-4C 63-7496 THRU 64-928, F-4D AND RF-4C 63-7743 THRU 67-442.
15. RF-4C 67-443 THRU 72-156 BEFORE T.O. 1F-4(R)C-655.
16. F-4C, F-4D 64-929 THRU 66-8692 AND RF-4C 63-7742 THRU 66-449.
17. F-4E 66-284 THRU 66-297.
18. F-4D 66-8693 THRU 66-8825 AND RF-4C 66-450 THRU 68-593.
19. F-4E 66-298 THRU 68-451.
20. F-4C 63-7407 THRU 63-7574 AND RF-4C 63-7742 THRU 63-7757.
21. F-4C 63-7575 THRU 64-928, RF-4C 63-7758 THRU 72-156, F-4D, F-4E, AND F-4G.
22. F-4C 63-7407 THRU 64-764 AND RF-4C 65-7742 THRU 64-1067.
23. F-4C 64-765 THRU 64-928, F-4D, RF-4C 64-1068 THRU 68-593.
24. F-4C, F-4D, F-4E 66-284 THRU 68-451 BEFORE T.O. 1F-4E-591, AND RF-4C 63-7742 THRU 67-442 BEFORE T.O. 1F-4(R)C-655.
25. F-4C AND F-4D.
26. F-4C 63-7407 THRU 63-7524 AND RF-4C 63-7742 THRU 63-7748.
27. F-4C 63-7528 THRU 64-928, F-4D 64-929 THRU 66-7650 AND RF-4C 63-7750 THRU 66-428.
28. F-4D 66-7651 THRU 66-8825, RF-4C 66-429 THRU 72-156, F-4E AND F-4G.
29. F-4C 63-7407 THRU 64-673 AND RF-4C 63-7742 THRU 64-1037.
30. F-4C 64-674 THRU 64-928, F-4D, F-4E 66-284 THRU 68-451 AND RF-4C 64-1038 THRU 68-593.
31. F-4C 63-7407 THRU 63-7543 AND RF-4C 63-7742 THRU 63-7752.
32. F-4C 63-7544 THRU 64-676 AND RF-4C 63-7753 THRU 64-1033.
33. F-4C 64-677 THRU 64-928, F-4D 64-929 THRU 66-7644 AND RF-4C 64-1034 THRU 66-422.
34. F-4D 66-7645 THRU 66-8825 AND RF-4C 66-423 THRU 68-593.
35. F-4C 63-7407 THRU 64-891, F-4D 64-929 THRU 64-936 AND RF-4C 63-7742 THRU 65-817.
36. F-4C 64-892 THRU 64-928, F-4D 64-937 THRU 66-8825, RF-4C 65-818 THRU 67-442, F-4E, AND F-4G.
37. RF-4C 63-7742 THRU 64-1035.
38. RF-4C 64-1036 THRU 72-156.
39. RF-4C.
40. F-4C, F-4D 64-929 THRU 65-685 AND RF-4C 63-7742 THRU 65-935.
41. F-4D 65-686 THRU 66-8825 AND RF-4C 65-936 THRU 72-156.
42. F-4C 63-7407 THRU 63-7420.
43. F-4C 63-7421 THRU 64-928 F-4D 64-929 THRU 65-787.
44. F-4D 65-788 THRU 66-8825.
45. RF-4C 63-7742 THRU 66-477.
46. RF-4C 63-478 THRU 72-156.
47. F-4C 63-7407 THRU 63-7684 AND RF-4C 63-7742 THRU 64-1014.
48. F-4C 63-7685 THRU 64-928, F-4D AND RF-4C 64-1015 THRU 72-156.
49. F-4C 63-7407 THRU 63-7569 AND RF-4C 63-7742 THRU 63-7755.
50. F-4C 63-7570 THRU 64-928, F-4D AND RF-4C 63-7756 THRU 72-156.
51. F-4C 63-7407 THRU 63-7568.
52. F-4C 63-7569 THRU 64-928 AND F-4D 64-929 THRU 66-8698.
53. F-4D 66-8699 THRU 66-8825.
54. RF-4C 63-7742 THRU 63-7755.
55. RF-4C 63-7756 THRU 72-156.
56. F-4C 63-7407 THRU 63-7468.
57. F-4C 63-7470 THRU 64-928.
58. F-4C, F-4D 64-929 THRU 66-7650 AND RF-4C 63-7742 THRU 66-428.
59. F-4D 66-7651 THRU 66-7762, F-4E 66-284 THRU 66-287 AND RF-4C 66-429 THRU 66-449.
60. F-4D 66-7763 THRU 66-8825, F-4E 66-288 AND UP, RF-4C 66-450 THRU 72-156 AND F-4G.
61. F-4C 63-7407 THRU 63-7468; 63-7710 THRU 64-928, F-4D 64-929 THRU 66-8698 AND RF-4C 64-1022 THRU 72-156.
62. RF-4C 68-594 THRU 72-156.
63. F-4E 68-452 AND UP AND F-4G.
64. F-4C, F-4D, F-4E 66-284 THRU 68-451, RF-4C 62-7742 THRU 68-593.
65. F-4E 68-452 AND UP, RF-4C 68-594 THRU 72-156, AND F-4G.
66. F-4E 66-284 THRU 68-451.
67. F-4C, F-4D RF-4C 63-7742 THRU 67-442 BEFORE TO 1F-4(R)C-655.
68. RF-4C 67-443 THRU 68-593 BEFORE TO 1F-4(R)C-655.
69. F-4C 63-7407 THRU 64-687 AND RF-4C 63-7742 THRU 64-1037.
70. F-4C 64-688 THRU 64-928, RF-4C 64-1038 THRU 72-156, F-4D, F-4E, AND F-4G.
71. F-4E 69-236 AND UP, RF-4C 69-358 THRU 72-156, AND F-4G.
72. F-4E 68-452 THRU 68-538 BEFORE TO 1F-4E-591.
73. F-4E 69-236 AND UP BEFORE TO 1F-4E-591 AND F-4G.
74. F-4E AND MODIFIED ON F-4G.
75. F-4E/G 69-7254 THRU 69-7588, F-4E 69-7589 AND UP, AND RF-4C 69-372 THRU 72-156.
76. RF-4C 69-349 THRU 72-156.
77. FOR MODIFICATION OF THIS ANGLE DUE TO STABILATOR COVER INTERFERENCE SEE FIGURE 5-6.
78. FOR FUTURE PROCUREMENT USE 32-33175-243, -244 ANGLE.
79. F-4E 68-452 THRU 68-538, F-4E/G 69-236 THRU 69-7253, AND RF-4C 68-594 THRU 69-371.
80. F-4E 66-284 THRU 72-167, 72-1407 AND 72-168 BEFORE TO 1F-4E-591, AND F-4G.
81. F-4E 72-1476 AND UP.
82. F-4E 66-289, 66-296 THRU 66-367, AND 66-369 THRU 68-451 AFTER TO 1F-4E-591 AND RF-4C 63-7742 THRU 67-442 AFTER TO 1F- 4(R)C-655.
83. F-4E 68-452 THRU 68-538 AFTER TO 1F-4E-591.
84. F-4E 69-236 THRU 72-168 AFTER TO 1F-4E-591 AND F-4G.
85. RF-4C 67-443 THRU 68-593 AFTER TO 1F-4(R)C-655.
86. RF-4C 68-594 THRU 72-156 AFTER TO 1F-4(R(C)-655.
87. RF-4C 68-594 THRU 72-156 BEFORE TO 1F-4(R)C-655.
88. F-4E 66-284 THRU 68-538 BEFORE TO 1F-4E-591.
89. F-4E 69-236 THRU 72-138 BEFORE TO 1F-4E-591 AND F-4G.
90. F-4E 72-139 AND UP BEFORE TO 1F-4E-591.
91. F-4E 66-289, 66-291, 66-296 THRU 66-367, AND 66-369 THRU 68-538 AFTER TO 1F-4E-591, AND RF-4C 63-7742 THRU 72-156 AFTER TO 1F-4(R)C-655.
92. F-4C 63-7407 THRU 63-7598 AND RF-4C 63-7742 THRU 64-997.
93. F-4C 63-7599 THRU 64-928, F-4E 66-284 THRU 68-538, AND RF-4C 64-998 THRU 72-156.
94. F-4E 69-236 AND UP AND F-4G, ALSO F-4D AFTER TO 1F-4D-578.
95. F-4C 63-7599 THRU 64-928, RF-4C 64-998 THRU 72-156, F-4E, AND F-4G.
96. RF-4C 63-7742 THRU 67-442 AFTER TO 1F-4(R)C-655.
97. F-4E 66-289, 66-291, 66-296 THRU 66-367, AND 66-369 THRU 72-168 AFTER TO 1F-4E-591 AND F-4G.
98. RF-4C 67-443 THRU 72-156 AFTER TO 1F-4(R)C-655.
99. F-4C, F-4D, 64-929 THRU 65-679, AND RF-4C 63-7742 THRU 65-933.
100. F-4D 65-680 THRU 66-8825, F-4E 66-284 THRU 68-451, AND RF-4C 65-934 THRU 68-593.
101. F-4E 68-452 AND UP, RF-4C 68-594 THRU 72-156, AND F-4G.
102. F-4E 68-452 AND UP, AND MODIFIED ON F-4G.
103. F-4D AFTER TO 1F-4D-578.
104. 32-33175-77 ANGLE IS FURNISHED WITH 32-33175-249 DOUBLER ATTACHED.
105. FOR REPAIR OF STABILATOR ATTACH FITTING ASSEMBLY, 32-33129, SEE FIGURE 5-15A.
106. FUTURE PROCUREMENT USED ON ALL AIRCRAFT AFTER TCTO 1F-4-1300.

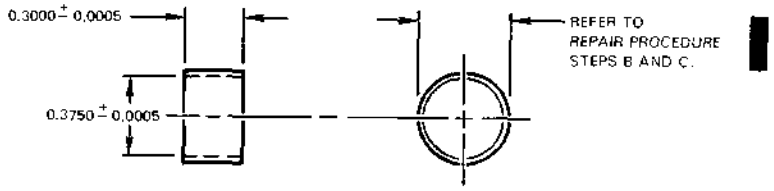
4C-3-1-2-(157-61)H

Figure 5-15. Aft Fuselage Bulkhead and Frame Repair Index (Sheet 6 of 6)





DETAIL A



DETAIL B

REPAIR PROCEDURE

A. REMOVE 32-24028-1 SUPPORT ASSEMBLY.

B. DRILL OR REAM HOLES TO A MAXIMUM OF 0.600. MINIMUM OF 0.500 TO CLEAN UP HOLES

C. FABRICATE BUSHINGS FROM 7075-T6, 0.0005 TO 0.0010 DIAMETER LARGER THAN HOLES FOR A PRESS FIT. MINIMUM BUSHING WALL THICKNESS 0.0625

D. INSTALL BUSHING IN FITTING ASSEMBLY AND DRILL 0.3750 ± 0.0005 DIAMETER HOLES FOR EXISTING FASTENERS.

E. TREAT PARTS FOR CORROSION PREVENTION PER TO 1F-4C-3-1-6.

4C-3-1-2-(401)A

Figure 5-15A. Stabilator Attach Fitting Assembly, 32-33129 or 32G973046 AFTER TCTO 1F-4-1300 Repair

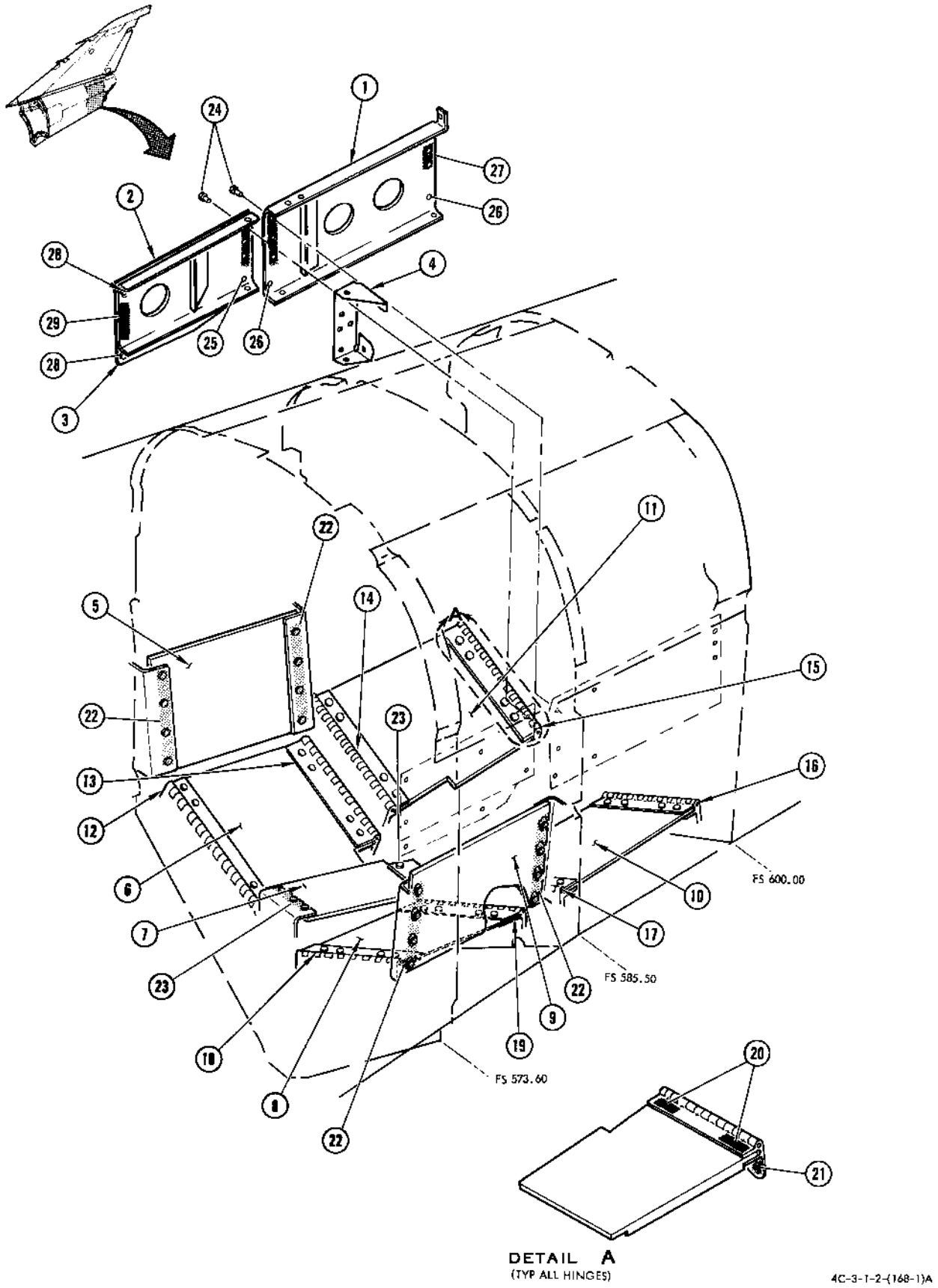


Figure 5-16. Aft Fuselage Armor Plate Installation - F-4E 68-452 AND UP, RF-4C 68-594 THRU 72-156, AND F-4G (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	53-33053-37	CHANNEL	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2 (7)	53-33053-33	TEE	1M5511	7178-T651 AL ALY	QQ-A-200/13 (T651)
(8)	53-33053-47	TEE	1M5511	7178-T651 AL ALY	QQ-A-200/13 (T651)
3	53-33053-31 (4)	ANGLE	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4 (7)	53-33053-7	BRACKET	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
(8)	53-33053-45	BRACKET	0.063	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-33051-18	ARMOR PLATE	0.650	BORON CARBIDE	
6	53-33051-7	ARMOR PLATE	0.650	BORON CARBIDE	
7	53-33051-15	ARMOR PLATE	0.650	BORON CARBIDE	
8	53-33051-9	ARMOR PLATE	0.650	BORON CARBIDE	
9	53-33051-17	ARMOR PLATE	0.650	BORON CARBIDE	
10	53-33051-13	ARMOR PLATE	0.650	BORON CARBIDE	
11	53-33051-11	ARMOR PLATE	0.650	BORON CARBIDE	
12	53-33052-15 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-17 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)
13	53-33052-31 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-33 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)
14	53-33052-69 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-25 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)
15	53-33052-39 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-81 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)
16	53-33052-83 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-73 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)
17	53-33052-85 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-81 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)
18	53-33052-65 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-18 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)
19	53-33052-71 (5)	HINGE HALF	1M96260	7178-T6 AL ALY	QQ-A-200/13 (T6)
	53-33052-29 (6)	HINGE HALF	1M9668	2024-T851 AL ALY	QQ-A-200/3 (T851)

REF NO.	FASTENER	NUT OR COLLAR	WASHER	TORQUE (INCH-LB)	HOLE SIZE
20	NAS464P4A7	MS21059L4	AN960C416	30-40	$0.257^{+0.007}_{-0.000}$
21	NAS464P4A3	NS103074-048	AN960C416	30-40	$0.257^{+0.007}_{-0.000}$
22	NAS464P4A8	MS21059-4	AN960C416	30-40	$0.257^{+0.007}_{-0.000}$
23	NAS464P4A8	MS21064L4-9-3	AN960C416	30-40	$0.257^{+0.007}_{-0.000}$
24	NAS333CFA5	G29504-2-6-3		20-25	$0.191^{+0.004}_{-0.000}$
25	NAS333CFA5	F1972-3-2		20-25	$0.191^{+0.004}_{-0.000}$
26	AN3-5A	F1972-3-2	AN960D10	20-25	$0.191^{+0.004}_{-0.000}$
27	AN3-5A	G29504-2-6-3	AN960D10	20-25	$0.191^{+0.004}_{-0.000}$
28	AN3-5A	NS103074-02	AN960D10	20-25	$0.191^{+0.004}_{-0.000}$
29	AN3-5A	F1934-3-2	AN960D10	20-25	$0.191^{+0.004}_{-0.000}$

Notes

1. DRAWING NUMBER OF THIS ASSEMBLY IS 52-33002.
2. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
3. ARMOR MUST BE INSTALLED WITH BALLISTIC NYLON CLOTH FACING OUT. FAILURE TO COMPLY WILL DEFEAT PURPOSE OF ARMOR.

(4) STABILATOR APU SUPPORT STRUCTURE.
(5) STRUCTURAL HINGE HALF.
(6) PLATE HINGE HALF.
(7) F-4E 68-452 THRU 68-538; F-4E/G 69-236 THRU 69-7260, AND RF-4C 68-594 THRU 69-375.
(8) F-4E/G 69-7261 THRU 69-7588; F-4E 69-7589 AND UP, AND RF-4C 69-376 THRU 72-156.

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Figure 5-16. Aft Fuselage Armor Plate Installation - F-4E 68-452 and up, RF-4C 68-594 through 72-156, and F-4G (Sheet 2 of 2)

VERTICAL FIN

5-43. DESCRIPTION.

5-44. The vertical fin is a four bay, three primary spar structure with ribs parallel to WL stations, except for the aft bay where the ribs are perpendicular to the rudder hinge line. The three primary spars parallel the 22.76, 53.71, and 68.92 percent chord lines. The assembly is spliced to the aft fuselage main assembly at the fin root by match angles. Primary spars are attached to primary bulkheads at FS 515.00, FS 573.00, and FS 600.00. For vertical fin tip refer to T.O. 1F-4C-3-1-4.

5-45. ACCESS FOR REPAIR.

5-46. Access for repair is limited. For access openings refer to T.O. 1F-4C-3-1-3. If an access opening is made in skin to accomplish a repair, the opening shall be repaired in accordance with T.O. 1F-4C-3-1-5.

5-47. SKIN PANELS. See figures 5-17 and 5-18.

5-48. Skins on F-4 are 7178 aluminum alloy and alclad sheet stock. Skins on RF-4 are 7178 aluminum alloy and alclad, 7075 aluminum alloy, 2024 alclad, and glass fabric laminate. The glass fabric laminate skin is between the 22.76 percent chord line spar and leading edge spar.

5-49. NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS. Negligible damage and corrosion removal limits are shown on figure 5-18 for 32-23002-23, -24, -25, -26, -37 and -615 skins, except for dents. Dents to 0.060 in depth are negligible, provided radius of depression is not less than two inches. For negligible damage and corrosion limits on glass fabric laminate skin, refer to T.O. 1F-4C-3-1-5. For F-4 skins 32-23002-91, -92, -135, -136, -140, -149, -150; 32G23002-57 through -64, -67, -68; 53-09472-153, -154; RF-4 skins 32-23002-45, -46, -133, -134, -151, -152; 32G23002-65, -66, -69, -70, and 53-23511 the following limits apply: negligible damage and corrosion that do not exceed 0.010 in depth and six inches in length are negligible after blending; nicks or gouges in the edge of panels, that can be blended and not reduce fastener edge distance, below one and one-half times fastener diameter, are negligible; dents that do not exceed 0.060 in depth are negligible, provided radius of depression is not less than two inches. For rework of damage, refer to T.O. 1F-4C-3-1-5.

5-50. PATCH REPAIR. For repairs to glass fabric laminated skins, refer to T.O. 1F-4C-3-1-5. For repairs to aluminum alloy and alclad skins, refer to T.O. 1F-4C-3-1-5. For access for stabilator feel system repair, see figure 5-18A.

5-51. INSERTION REPAIR. For repairs to glass fabric laminated skins, refer to T.O. 1F-4C-3-1-5. For repairs to aluminum alloy and alclad skins, refer to T.O. 1F-4C-3-1-5, except on 32-23002-37 or -615 skins. When corrosion exists on upper edge near 32-23015-3 rib, see figure 5-20. Refer to paragraph 5-52, when corrosion to pitot fitting, 32-23047-3, requires repair.

5-52. Pitot Fitting, 32-23047-3, Insertion Repair. When corrosion is discovered in pitot fitting, repair as outlined in paragraphs 5-53 through 5-55.

5-53. Tools and Equipment.

Motor, drill, pneumatic

Reamer and pilot, 1.250 diameter

Reamer and pilot, 1.181 diameter

Bit, drill, number 27

5-54. Materials.

NOTE

Tubing alloy is optional. However, it must be in a hardened condition and have a minimum wall thickness of 0.035.

Tubing, aluminum, 1.250 OD

Anodize, Specification MIL-A-8625, Type II

Adhesive, epoxy, Specification MIL-A-8623, Type I

Sealant, refer to T.O. 1F-4C-3-1-6

5-55. Procedure.

a. Remove pitot tube assembly. Refer to T.O. 1F-4( )-2-12.

b. Cut off 0.75 of forward end of fitting.

c. Bore out remaining tube to accept a 3/4-inch length of 1.25 OD aluminum tubing, with 0.005 to 0.010 fit clearance on diameter.

WARNING

Provide adequate ventilation when using brush conversion coating and epoxy adhesive. Avoid skin and eye contact.

d. After boring, finish new ID of fitting tube per T.O. 1-1-691.

e. Anodize insert tube.

f. Install insert tube in bored diameter of fitting tube, flush at forward end with epoxy structural adhesive, and cure at 150 to 160° for one hour.

g. Bore ID of insert tube to 1.181 (+0.002/ -0.001). Bore axis should be maintained within ±1/2 degree of fitting tube axis.

h. Drill pitot mount holes, 0.144 (+0.006/-0.000), four holes, 45 degrees from vertical and horizontal axis and 0.250 from forward end of fitting.

i. Reinstall pitot tube assembly. Refer to T.O. 1F-4( )-2-2. For sealing procedure, refer to T.O. 1F-4C-3-1-6.

5-55A. Pilot Fitting, 32-23047-3, Replacement. See figure 5-20A. If pitot fastener holes become elongated or fitting is damaged beyond repair, fitting should be replaced.

5-55B. Feel Tube 32-23008-35, -89 Repair. See figure 5-18C.

5-56. REPLACEMENT. Because of extensive trimming, fitting, and disassembly involved, it is not practical to replace the skins at organizational/field maintenance. If 53-010715 panel and 53-09472 plate are removed, refer to figures 5-21 and 5-22, respectively, for fasteners.

5-57. FORMATION LIGHT DOUBLER INSTALLATION. See figure 5-23. Capsule formation lights are installed on F-4E 66-284 THRU 69-7578, F-4C, F-4D, AND RF-4C AFTER TO 1F-4-776; ALSO ON F-4E 69-7579 AND UP AND F-4G. The lights are mounted on the left and right side of the vertical fin. For installation of capsule formation lights, refer to TO 1F-4C-3-1-4.

5-58. STRUCTURE. See figures 5-24 and 5-25.

5-59. Structure basically consists of metal ribs and spars. On RF-4, a phenolic base honeycomb assembly extends from WL 85.00 to WL 129.00 between 22.76 percent chord line primary spar and leading edge spar.

5-60. RIBS. See figure 5-26 for F-4 and figure 5-27 for RF-4. Ribs on F-4 and RF-4 are basically sheet metal formed ribs of 7178 alclad. The aft rib at WL 115.00 is a 7075 aluminum alloy forging. On RF-4, ribs forward of 22.76 percent chord line primary spar are glass fabric laminate constructed.

5-61. Negligible Damage and Corrosion Removal Limits. For glass fabric laminated ribs, refer to TO 1F-4C-3-1-5. Small and smooth isolated dents, less than 0.060 deep are negligible, without rework. Dents greater than 0.060 deep, sharp dents, nicks, scratches, and corroded areas are negligible, after blending, including cracks and punctures if the following criteria can be maintained:

a. Damage is less than 20 percent of material thickness.

b. Damaged edges after trimming and blending that do not extend inward from edge, more than one-eighth inch where fasteners are not present. When fasteners are present, distance is 0.060, providing after rework, fastener edge distance is not reduced less than one and one-half times fastener diameter.

c. Damage after stop drilling, blending, or trimming, excluding edge damage, that is enclosed by a 3/4-inch diameter circle in material thickness of 0.032 to 0.040. For material thicker than 0.040, the enclosed diameter circle is 1-inch. Damage must be four or more diameters of enclosed circle from edge of part and existing fasteners. Maximum of two damages may exist, providing damages are 3 inches apart. For rework of damage, refer to TO 1F-4C-3-1-5.

5-62. Repairs. For glass fabric laminated ribs and sheet metal ribs refer to TO 1F-4C-3-1-5.

5-63. Bracket, 32-23015-31, Repair. See figure 5-28 for repair.

5-64. Replacement. Replacement of ribs, generally, are limited to depot facilities. If 32-23015-31 bracket is damaged beyond repair, replace per figure 5-28.

5-65. SPAR, STABILATOR ACTUATOR ATTACH FITTING, AND RUDDER ACTUATOR ATTACH FITTING. See figures 5-29 thru 5-31B. Spars are basically 7178 alclad sheet stock and 7075 aluminum alloy extrusions, formed to channels, angles, and T beams. The root spar is machined from 7178 aluminum alloy plate stock. The stabilator and rudder actuator attach fitting is 7075 aluminum alloy forging.

5-66. Negligible Damage and Corrosion Removal Limits. Small and smooth isolated dents less than 0.060 deep are negligible, without rework. Dents greater than 0.060 deep, sharp dents, nicks, scratches, and corroded areas are negligible, after blending including cracks and punctures, if following criteria can be maintained:

a. Damage is less than 20 percent of material thickness for material less than 0.063 and not greater than 10 percent of material thickness on 0.063 or greater.

b. Damaged edges after trimming and blending that do not extend inward from edge, more than one-eighth inch where fasteners are not present. When fasteners are present, distance is 0.060, providing after rework, fastener edge distance is not reduced less than one and one-half times fastener diameter.

c. Damage after stop drilling, blending, or trimming, excluding edge damage, that is enclosed by a three-quarter inch diameter circle in material thickness of 0.032 to 0.040. For material thicker than 0.040, the enclosed diameter circle is 1-inch. Damage must be four or more diameters of enclosed circle from edge of part and existing fasteners. Maximum of two damages may exist, providing damages are 3 inches apart. For rework of damage, refer to TO 1F-4C-3-1-5.

5-67. Repairs. For sheet metal spars refer to TO 1F-4C-3-1-5, and for extruded spars and plate spar refer to depot engineering. For fastener repair in 32-33076 fitting, see figure 5-31A.

5-68. Replacement. Replacement of spars is not practical. Replacement of stabilator actuator attach fitting can be accomplished per figure 5-31 and the following procedure: Replacement of 32-33076 fitting, see figure 5-31B.

5-69. Procedure.

a. Remove doors 63, 64, and 65. Refer to TO 1F-4C-3-1-3.

b. Remove stabilator actuator. Refer to TO 1F-4( )-2-4.

c. To remove and install fitting, two holes should be cut in the skin.

(1) A 2 inch by 3 inch hole in fuselage skin, center at FS 570.00.

(2) A 3 inch by 5 inch hole on either side of vertical fin at FS 576.00.

d. Working through door openings and holes, remove fasteners that attach fitting and remove fitting.

e. Treat replacement fitting for corrosion control. Refer to TO 1F-4C-3-1-6.

f. Install fitting.

g. Repair holes cut in skin. Refer to TO 1F-4C-3-1-5 for repair procedure.

h. Install stabilator actuator cylinder per TO 1F-4( )-2-4.

i. Reinstall doors 63, 64, and 65.

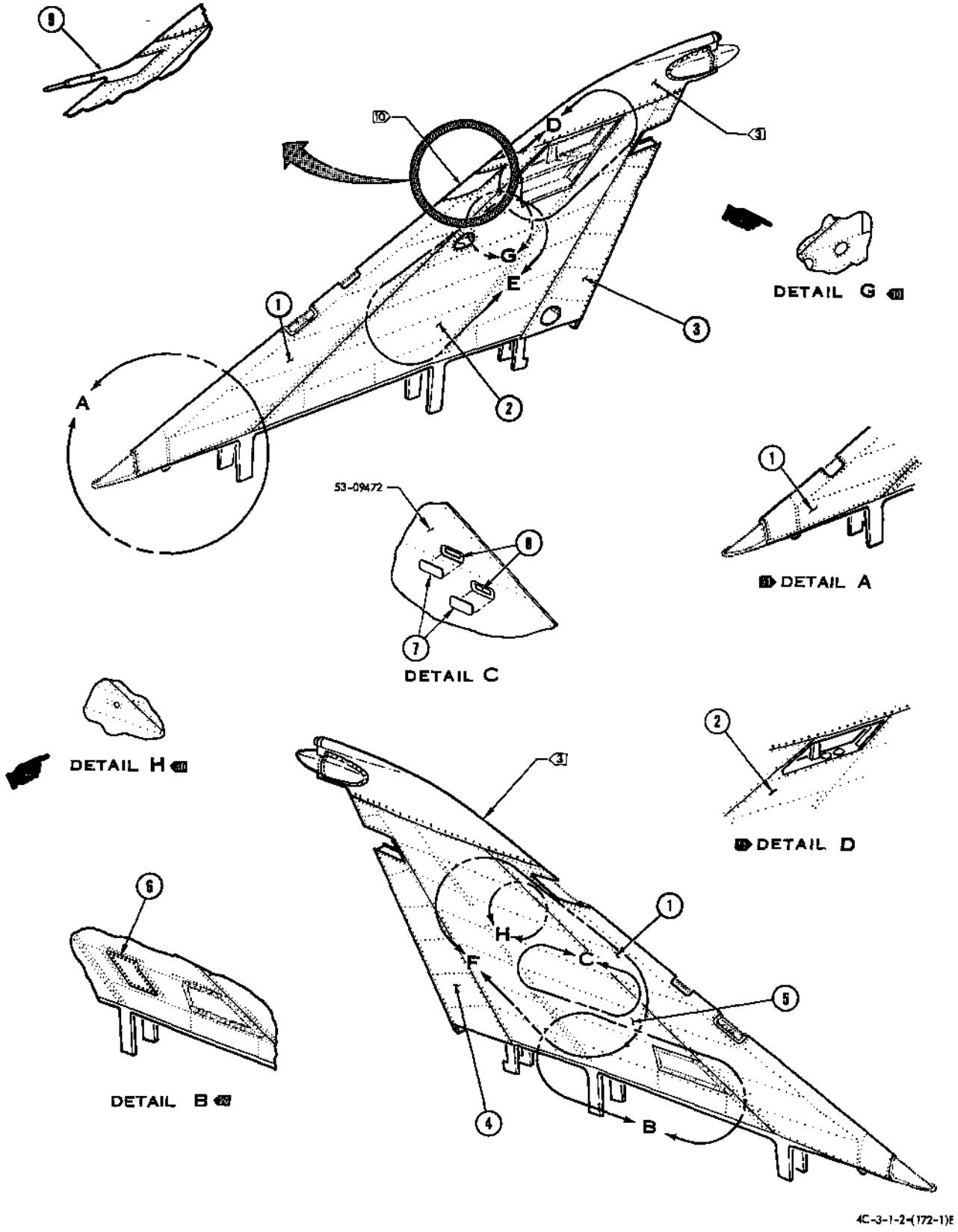
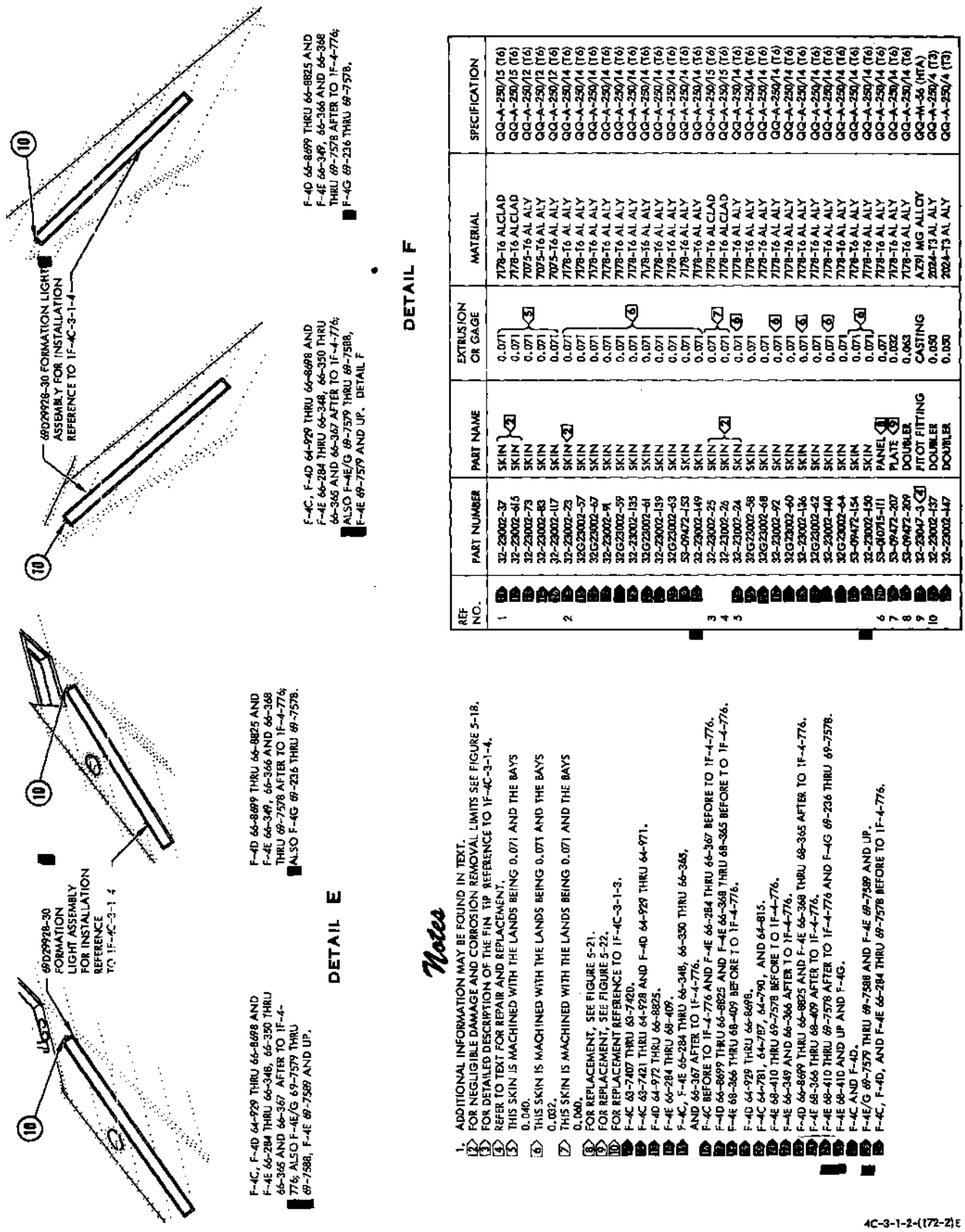


Figure 5-17. Vertical Fin Skin Repair Index - F-4 (Sheet 1 of 2)



Notes

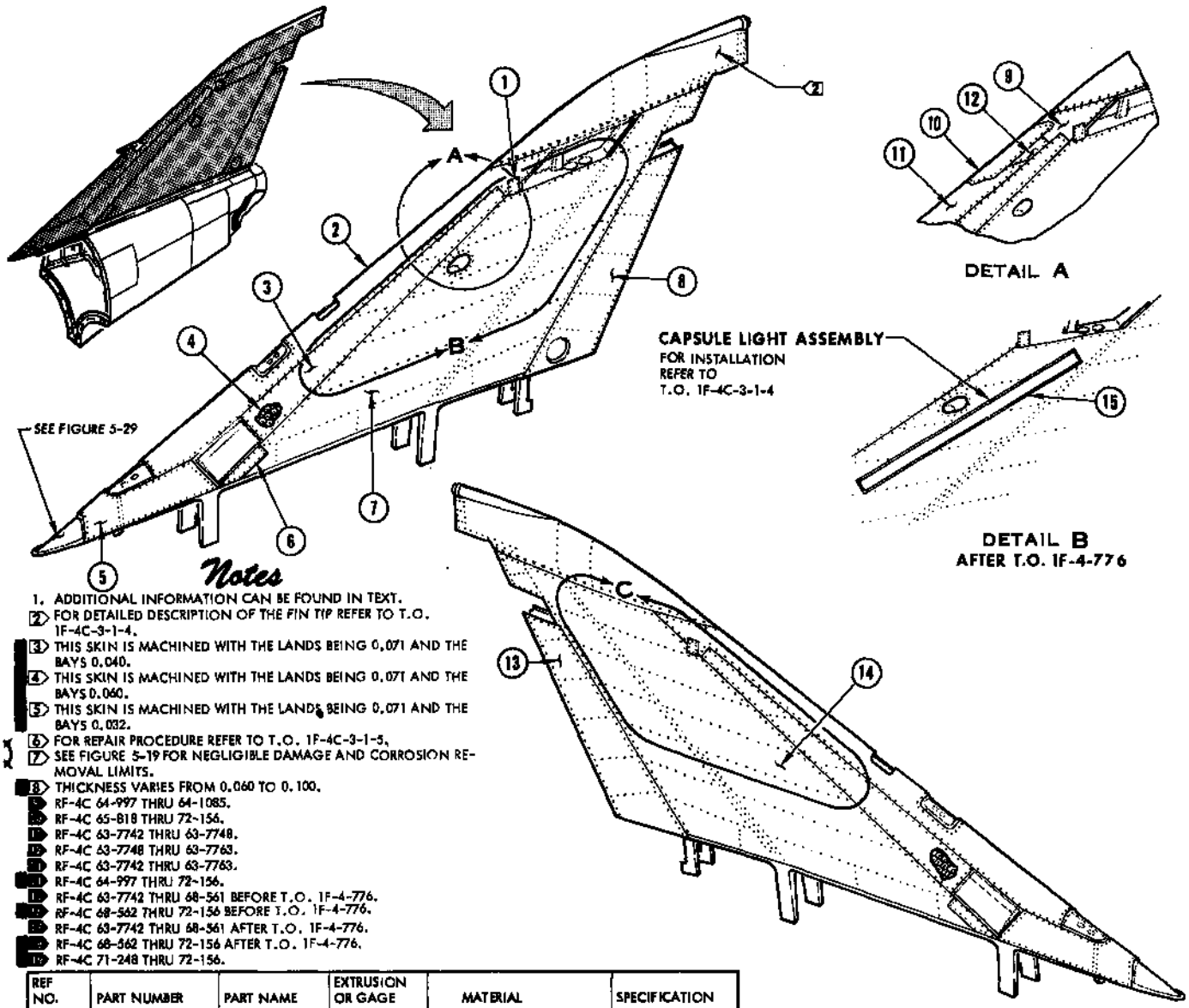
1. ADDITIONAL INFORMATION MAY BE FOUND IN TEXT.
2. FOR NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS SEE FIGURE 5-18.
3. FOR DETAILED DESCRIPTION OF THE FIN TIP REFERENCE TO 1F-4C-3-1-4.
4. REFER TO TEXT FOR REPAIR AND REPLACEMENT.
5. THIS SKIN IS MACHINED WITH THE LANDS BEING 0.071 AND THE BAYS 0.040.
6. THIS SKIN IS MACHINED WITH THE LANDS BEING 0.071 AND THE BAYS 0.032.
7. THIS SKIN IS MACHINED WITH THE LANDS BEING 0.071 AND THE BAYS 0.040.
8. FOR REPLACEMENT, SEE FIGURE 5-21.
9. FOR REPLACEMENT, SEE FIGURE 5-22.
10. FOR REPLACEMENT REFERENCE TO 1F-4C-3-1-3.

F-4C 63-7407 THRU 63-7420.
F-4C 63-7421 THRU 64-928 AND F-4D 64-929 THRU 64-971.
F-4D 64-972 THRU 66-8825.
F-4E 66-284 THRU 68-409.
F-4C, F-4E 66-284 THRU 66-348, 66-350 THRU 66-365, AND 66-367 AFTER TO 1F-4-776.
F-4C BEFORE TO 1F-4-776 AND F-4E 66-284 THRU 66-367 BEFORE TO 1F-4-776.
F-4D 66-8699 THRU 66-8825 AND F-4E 66-368 THRU 68-365 BEFORE TO 1F-4-776.
F-4E 68-366 THRU 68-409 BEFORE TO 1F-4-776.
F-4D 64-929 THRU 66-8698.
F-4C 64-781, 64-787, 64-790, AND 64-815.
F-4E 68-410 THRU 69-7578 BEFORE TO 1F-4-776.
F-4E 66-349 AND 66-366 AFTER TO 1F-4-776.
F-4D 66-8699 THRU 66-8825 AND F-4E 66-368 THRU 68-365 AFTER TO 1F-4-776.
F-4E 68-366 THRU 68-409 AFTER TO 1F-4-776.
F-4E 68-410 THRU 69-7578 AFTER TO 1F-4-776 AND F-4G 69-236 THRU 69-7578.
F-4E 68-410 AND UP AND F-4G.
F-4C AND F-4D.
F-4E/G 69-7579 THRU 69-7588 AND F-4E 69-7589 AND UP.
F-4C, F-4D, AND F-4E 66-284 THRU 69-7578 BEFORE TO 1F-4-776.

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-23002-37	SKIN (2)	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23002-615	SKIN	0.071 (3)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23002-73	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-23002-83	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
	32-23002-117	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
2	32-23002-23	SKIN (2)	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-57	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-67	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-23002-91	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-59	SKIN	0.071 (6)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-23002-135	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-61	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-23002-139	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-63	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-09472-153	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
3	32-23002-149	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
4	32-23002-25	SKIN (1) (2)	0.071 (7)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-23002-26	SKIN	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23002-24	SKIN (J)	0.071 (8)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-58	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-68	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-23002-92	SKIN	0.071 (6)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-60	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-23002-136	SKIN	0.071 (4)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-62	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-23002-140	SKIN	0.071 (5)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32G23002-64	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
	53-09472-154	SKIN	0.071 (6)	7178-T6 AL ALY	QQ-A-250/14 (T6)
	32-23002-150	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
6	53-60715-111	PANEL (1) (9)	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
7	53-09472-207	PLATE (9)	0.022	7178-T6 AL ALY	QQ-A-250/14 (T6)
8	53-09472-209	DOUBLER	0.063	7178-T6 AL ALY	QQ-A-250/14 (T6)
9	32-23047-3 (4)	FITOT FITTING	CASTING	AZ91 MG ALLOY	QQ-M-56 (HTA)
	32-23002-137	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
10	32-23002-147	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)

4C-3-1-2-(172-2)E

Figure 5-17. Vertical Fin Skin Repair Index - F-4 (Sheet 2 of 2)

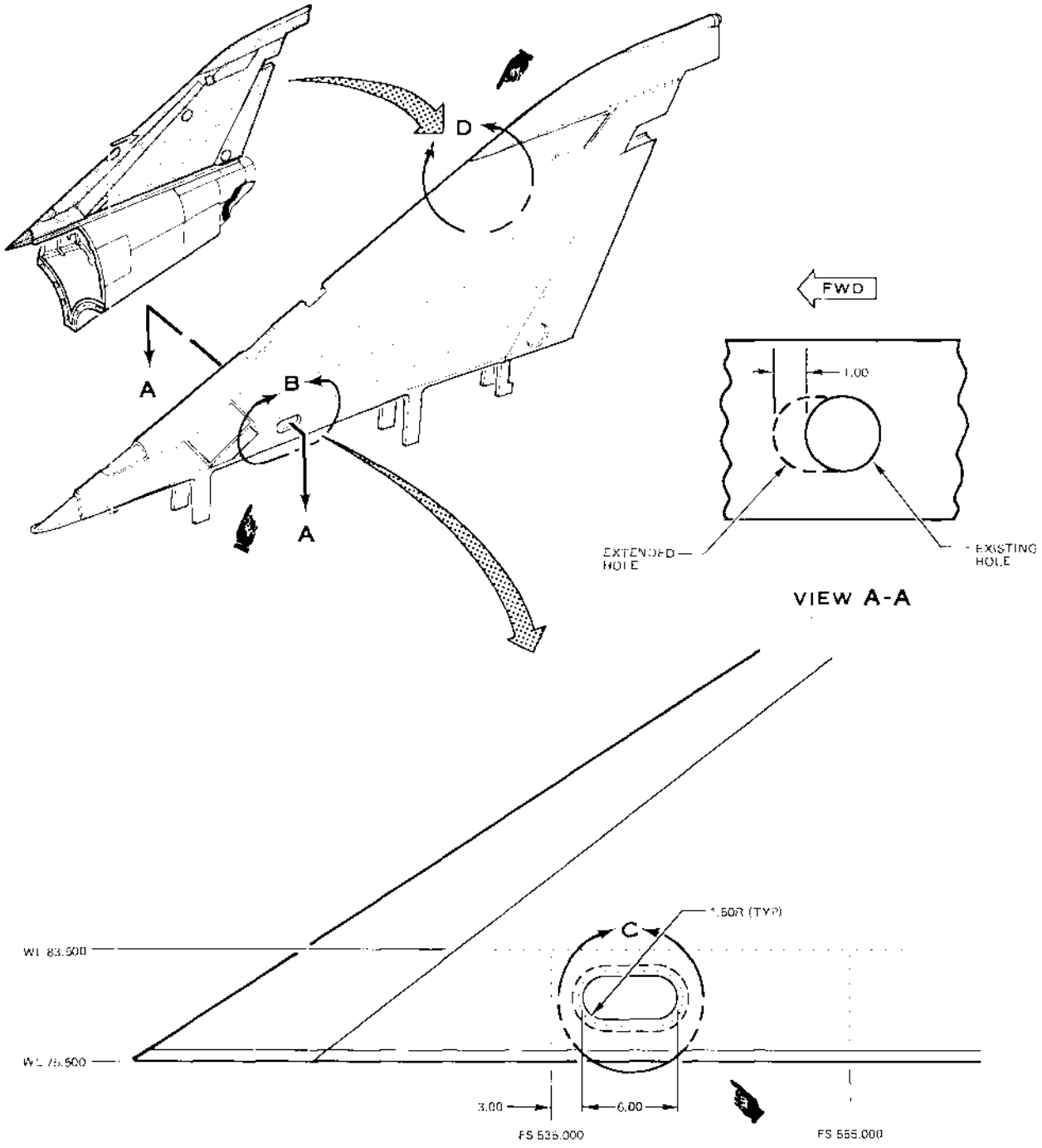


Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. FOR DETAILED DESCRIPTION OF THE *FIN TIP* REFER TO T.O. 1F-4C-3-1-4.
3. THIS SKIN IS MACHINED WITH THE LANDS BEING 0.071 AND THE BAYS 0.040.
4. THIS SKIN IS MACHINED WITH THE LANDS BEING 0.071 AND THE BAYS 0.060.
5. THIS SKIN IS MACHINED WITH THE LANDS BEING 0.071 AND THE BAYS 0.032.
6. FOR REPAIR PROCEDURE REFER TO T.O. 1F-4C-3-1-5.
7. SEE FIGURE 5-19 FOR NEGLIGIBLE DAMAGE AND CORROSION REMOVAL LIMITS.
8. THICKNESS VARIES FROM 0.060 TO 0.100.
- RF-4C 64-997 THRU 64-1085.
- RF-4C 65-818 THRU 72-156.
- RF-4C 63-7742 THRU 63-7748.
- RF-4C 63-7748 THRU 63-7763.
- RF-4C 63-7742 THRU 63-7763.
- RF-4C 64-997 THRU 72-156.
- RF-4C 63-7742 THRU 68-561 BEFORE T.O. 1F-4-776.
- RF-4C 68-562 THRU 72-156 BEFORE T.O. 1F-4-776.
- RF-4C 63-7742 THRU 68-561 AFTER T.O. 1F-4-776.
- RF-4C 68-562 THRU 72-156 AFTER T.O. 1F-4-776.
- RF-4C 71-248 THRU 72-156.

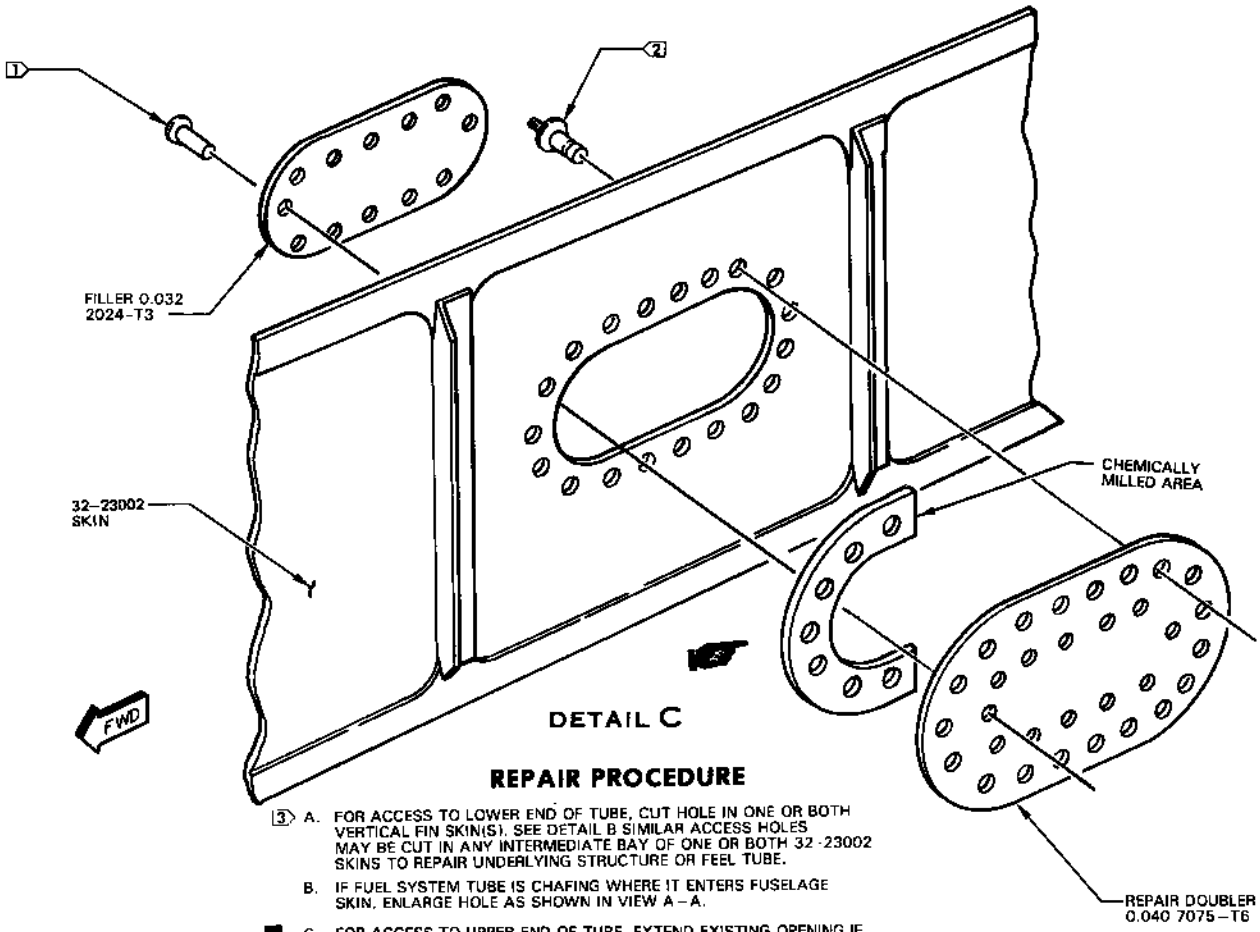
REF NO.		PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1		32-23002-59,-60	PLATE	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
2		53-23511-7	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
		53-23511-11	SKIN	0.071 (3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
		53-23511-13	SKIN	0.071	7075-T6 AL ALY	QQ-A-250/12 (T6)
3		53-23519-3,-4	SKIN	(8)	GLASS FABRIC LAMINATE	MIL-C-9084
		53-23519-5,-6	SKIN		GLASS FABRIC LAMINATE	MIL-C-9084
4		53-23520-5,-6	HONEYCOMB CORE	0.187	PHENOLIC CELLS	MMS-703
		53-23520-7	HONEYCOMB CORE	0.187 (6)	PHENOLIC CELLS	MMS-703
5		53-23514-9	SKIN	0.120	GLASS FABRIC LAMINATE	MIL-C-9084
6		32-23002-61,-62	PLATE	0.032	2024-T3 ALCLAD	QQ-A-250/5 (T3)
7		32-23002-45	SKIN (7)	0.071 (3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32G23002-65	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32-23002-133	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32G23002-69	SKIN	0.071 (5)	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32-23002-151	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
8		32-23002-25	SKIN (7)	0.071 (4)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9		53-23511-5	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
10		32-23002-63	SKIN	0.032	2024-T6 ALCLAD	QQ-A-250/5 (T6)
11		53-23511-3	SKIN	0.071 (3)	7178-T6 AL ALY	QQ-A-250/14 (T6)
12		32-23002-47	SKIN	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13		32-23002-26	SKIN (7)	0.071 (4)	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14		32-23002-46	SKIN	0.071 (5)	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32G23002-66	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32-23002-134	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32G23002-70	SKIN	0.071 (5)	7178-T6 AL ALY	QQ-A-250/14 (T6)
		32-23002-152	SKIN	0.071	7178-T6 AL ALY	QQ-A-250/14 (T6)
15		32-23002-137	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)
		32G23002-33	DOUBLER	0.050	2024-T3 AL ALY	QQ-A-250/4 (T3)

Figure 5-18. Vertical Fin Skin Repair Index-RF-4



4C 3 1 2 (404 1)

Figure 5-18A. Access for Stabilator Feel System Repair (Sheet 1 of 3)



DETAIL C

REPAIR PROCEDURE

3 A. FOR ACCESS TO LOWER END OF TUBE, CUT HOLE IN ONE OR BOTH VERTICAL FIN SKIN(S). SEE DETAIL B SIMILAR ACCESS HOLES MAY BE CUT IN ANY INTERMEDIATE BAY OF ONE OR BOTH 32-23002 SKINS TO REPAIR UNDERLYING STRUCTURE OR FEEL TUBE.

B. IF FUEL SYSTEM TUBE IS CHAFING WHERE IT ENTERS FUSELAGE SKIN, ENLARGE HOLE AS SHOWN IN VIEW A-A.

C. FOR ACCESS TO UPPER END OF TUBE, EXTEND EXISTING OPENING IF NECESSARY AS SHOWN IN DETAIL D. IF THIS IS DONE A NEW REPAIR DOUBLER, DOUBLER SHIM, AND REPAIR DOOR MUST BE FABRICATED AS SHOWN. CONTINUE EXISTING HOLE PATTERNS AS NOTED USING ORIGINAL TYPE AND SIZE FASTENERS.

D. FABRICATE REPAIR DOUBLER AND FILLER TO MATCH HOLE(S) CUT IN VERTICAL FIN SKIN(S). SEE DETAIL C OR DETAIL D.

E. MATCH DRILL FASTENER HOLES IN DOUBLER, SHIM, FILLER AND SKIN(S) APPROXIMATELY AS SHOWN IN DETAIL C. HOLE DIAMETERS ARE 0.128+.006-.000 FOR MS20426D4 RIVETS AND 0.160+.004 .000 FOR NAS1670 08L, CR3212-5 OR NAS1399C5A RIVETS.

F. REMOVE AND DEBURR REPAIR PARTS.

G. FINISH REPAIR PARTS PER TO 1F-4C-3- 1 -6.

H. REFINISH REWORKED AREA PER CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.

I. THE MINIMUM DISTANCE FROM THE CENTER OF THE RIVET HOLE TO THE EDGE OF THE CUTOUT IS 0.310. LENGTH TO BE DETERMINED AT INSTALLATION, SEE DETAIL C.

J. THE MINIMUM DISTANCE FROM THE CENTER OF THE RIVET HOLE AND THE EDGE OF THE DOUBLER IS 0.370. RIVET SPACING IS 0.620. LENGTH TO BE DETERMINED AT INSTALLATION.

NOTE

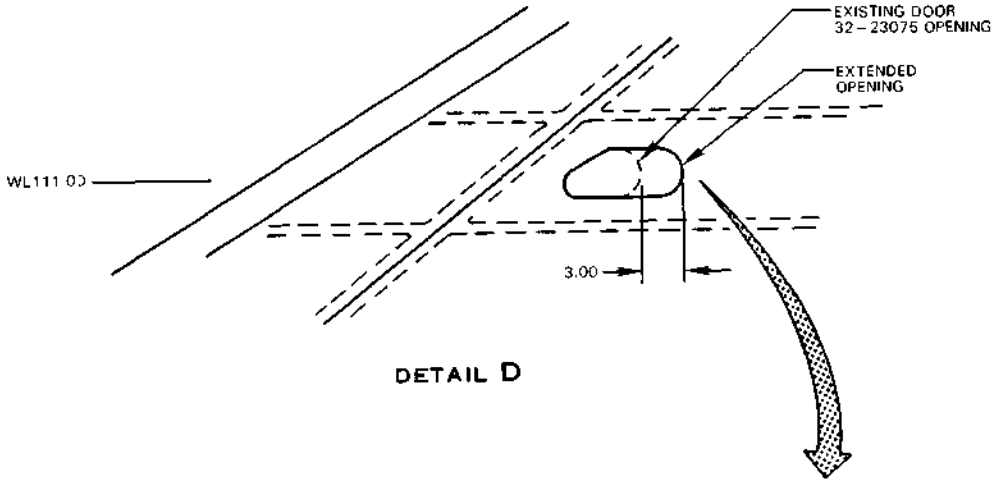
TEMPORARILY SECURE DOUBLER BEFORE COUNTERSINKING, EXTEND COUNTERSINK INTO DOUBLER. REMOVE KNIFE EDGE FROM PATCH AND SKIN BEFORE FINAL INSTALLATION.

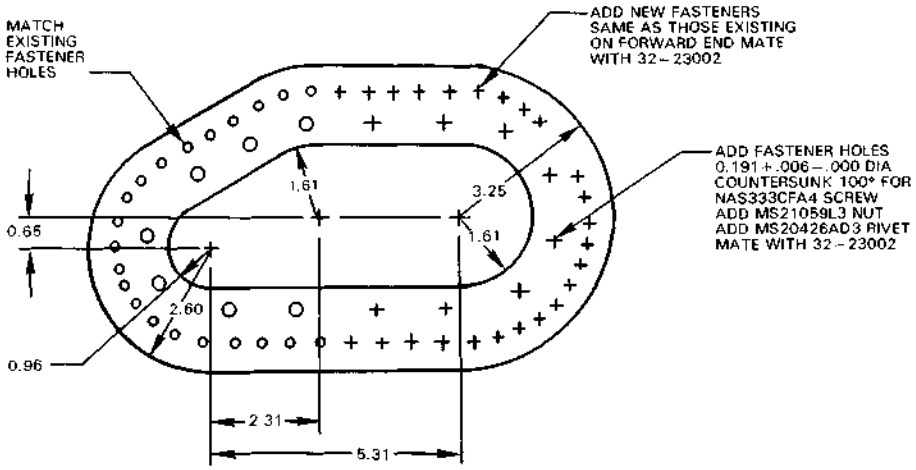
Notes

1 USE MS20426AD4 FASTENER.
2 USE NAS1670-08L, CR3212-5, OR NAS1399C5A FASTENER.
3 SEE FIGURE 5-18C FOR FEEL TUBE SPLICE REPAIR

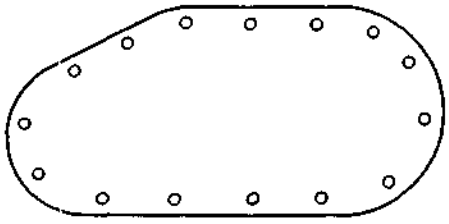
4C-3-1-2-(404-2)91

Figure 5-18A. Access for Stabilator Feel System Repair (Sheet 2 of 3)

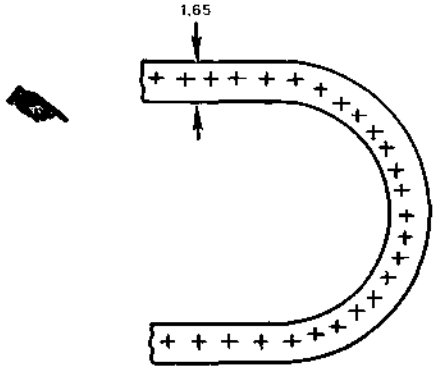




REPAIR DOUBLER
0.050 2024-T3



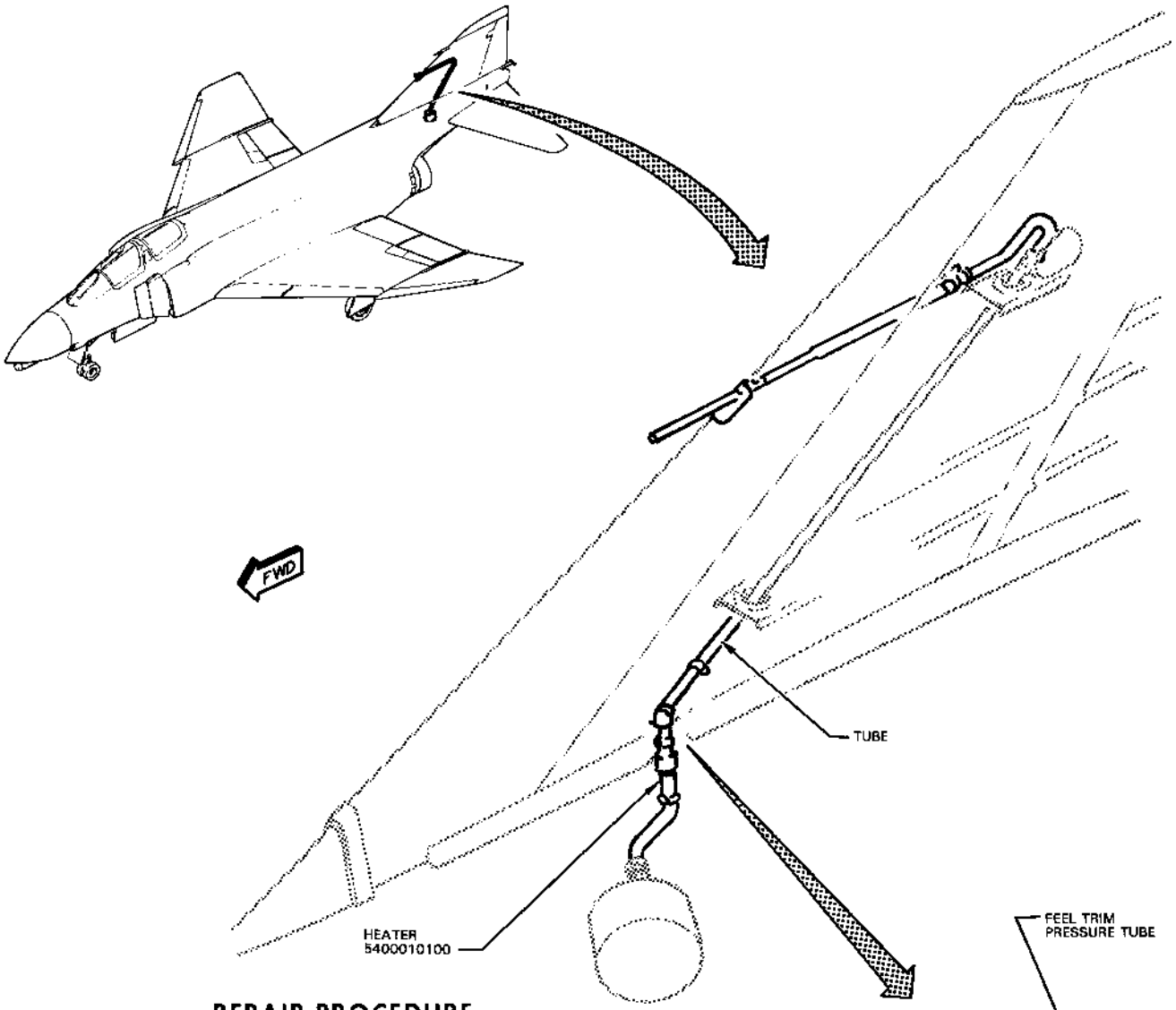
REPAIR DOOR
0.071 2024-T3
TO MATCH EXTENDED OPENING



REPAIR DOUBLER SHIM
0.030 2024-T3
(1) TRIM TO FIT
MATCH FASTENER HOLES TO DOUBLER

4C-3-1-2-(404-3)91

Figure 5-18A. Access for Stabilator Feel System Repair (Sheet 3 of 3)



REPAIR PROCEDURE

1. FOR REPLACEMENT OF THE LOWER ELBOW SECTION OF TUBE, OR FOR REPAIR OF A LOOSE FIT AT THE ELBOW CONNECTION, CUT ACCESS HOLES PER FIGURE 5-18A.

NOTE

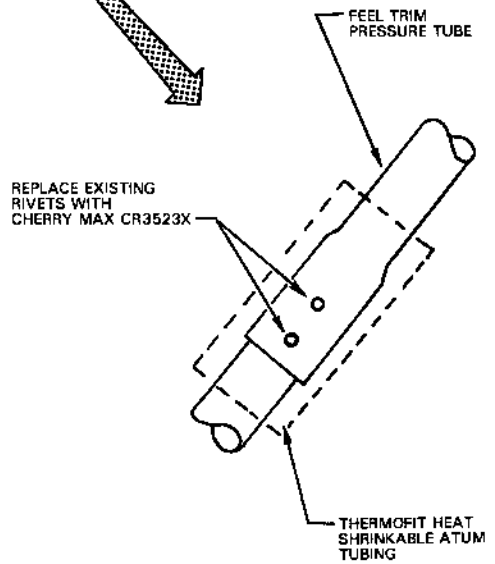
REMOVE HEATER ASSY BEFORE WORKING ON THIS CONNECTION. THIS WILL PREVENT MATERIAL FROM FALLING INTO THE VENTURI.

2. REMOVE HEATER ASSY, 5400010100.
3. REMOVE EXISTING RIVETS AT CONNECTION.
4. REPLACE LOWER TUBE ELBOW IF IT IS TORN, CRACKED, OR BADLY DAMAGED. MATCH DRILL TO EXISTING HOLES.
5. ENLARGE FASTENER HOLES IF NECESSARY TO PROVIDE A TRUE ROUND HOLE.

WARNING

DO NOT USE SEALANT OF ANY TYPE TO SEAL JUNCTURES OR PROBE, PLUG AND PIPING. USE OF SEALANT MAY RESULT IN DAMAGE AND LOSS OF AIRCRAFT CONTROL.

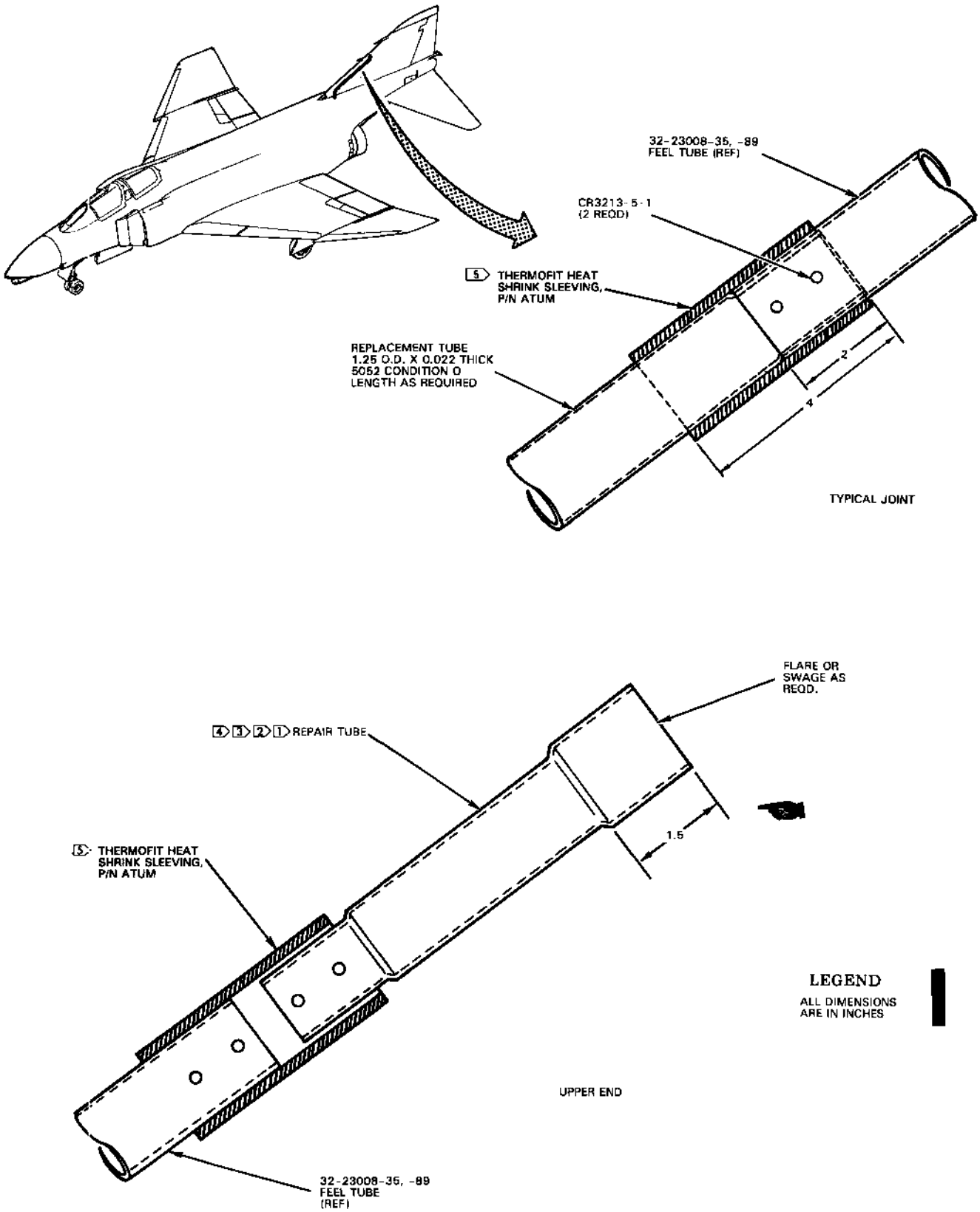
6. SLIDE HEAT SHRINKABLE TUBING OVER TUBE.
7. REASSEMBLE DUCT AND INSTALL CHERRY MAX CR3523P RIVETS AS REQUIRED.
8. INSTALL HEAT SHRINKABLE TUBING PER TO 1F-4(C/D)-2-4 OR TO 1F-4(E/G)-2-4, 1F-4(R)C-2-4.
9. ALL OTHER REPAIRS TO THE FEEL TRIM PRESSURE PICKUP PROBE SYSTEM ARE TO BE DONE TO 1F-4(C/D)-2-4, OR TO 1F-4(E/G)-2-4, 1F-4(R)C-2-4.



4C-3-1-2-(447)A

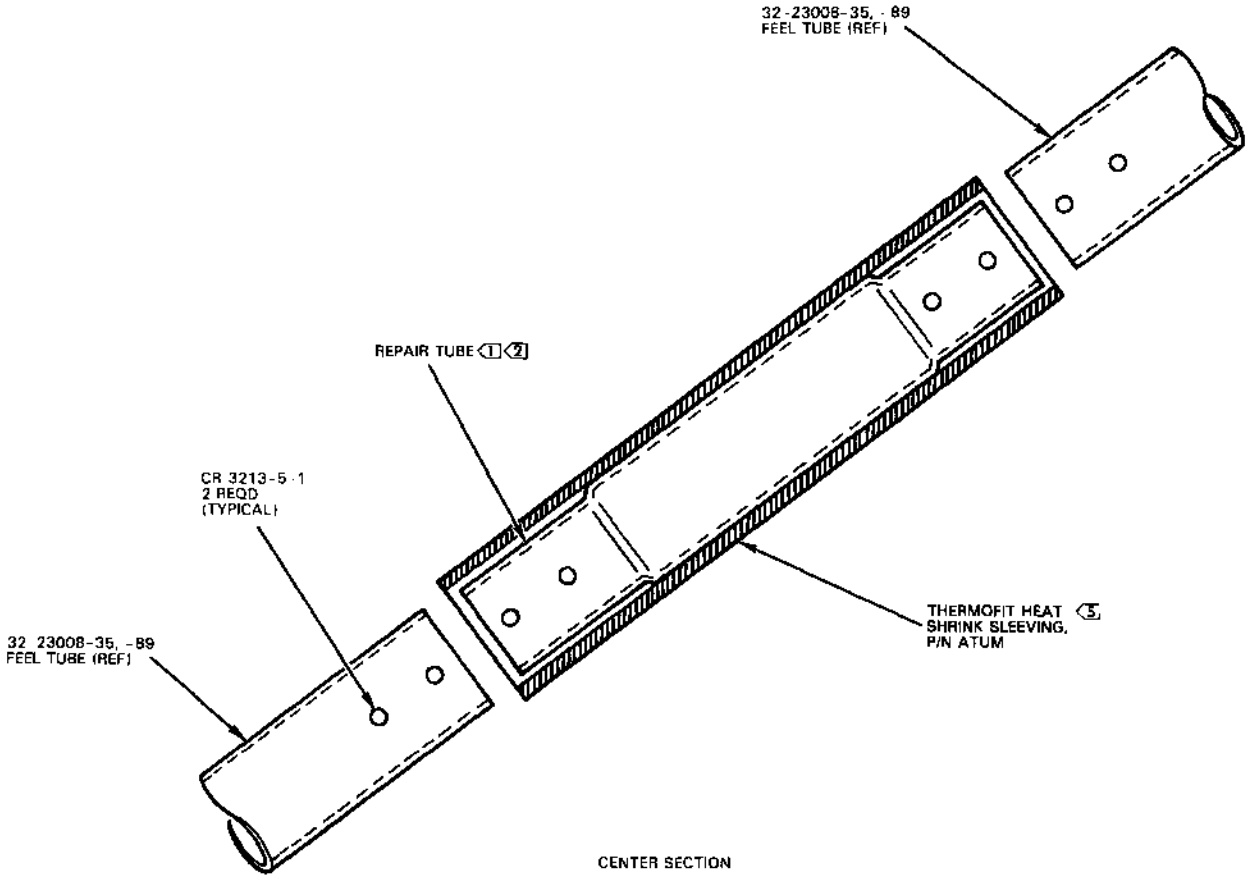
Figure 5-18B. Feel Trim Pressure Pickup Tube, Repair

★U.S. GOVERNMENT PRINTING OFFICE: 1989-754-016/20094



4C-3-1-2-(448-1189

Figure 5-18C. Repair of Vertical Fin Feel Tube, P/N 32-23008-35, -89 (Sheet 1 of 2)



REPAIR PROCEDURE

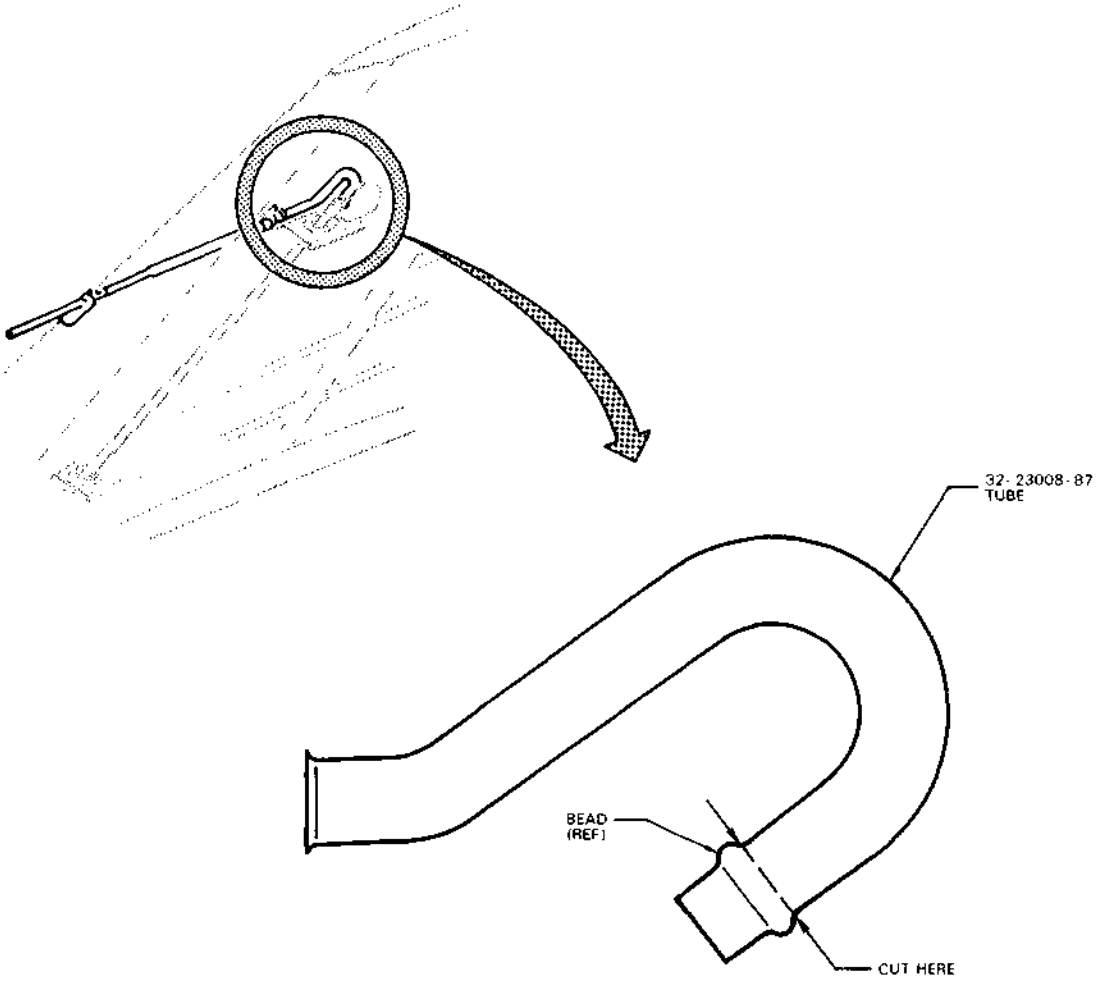
A. THIS REPAIR IS TO BE USED FOR REPLACING A DAMAGED SECTION OF THE 32-23008-35, 89 FEEL TUBE LOCATED IN LEADING EDGE OF VERTICAL FIN.
B. LOCATE DAMAGED AREA OF TUBE AND CUT AN ACCESS HOLE IN THE SKIN IF NECESSARY PER FIGURE 5-18A. DOOR 609 OR 176 PROVIDE ACCESS TO LOWER END OF TUBE IF REQUIRED.
C. CUT DAMAGED TUBE AND REMOVE DAMAGED SECTION.
D. FABRICATE REPAIR TUBE TO REPLACE THE SECTION THAT WAS REMOVED. FLARE OR SWAGE MATING ENDS OF REPAIR TUBE ENOUGH TO ALLOW INSTALLATION INTO (OR OVER) THE ENDS OF THE INSTALLED FEEL TUBE. SLIDE SHRINK SLEEVE ONTO FEEL TUBE ENDS BEFORE FINAL INSTALLATION OF REPAIR TUBE.
E. INSTALL FASTENERS TO SECURE JOINTS TOGETHER.
F. POSITION SHRINK SLEEVE AND SHRINK IN PLACE.
G. REATTACH ALL CLAMPS AND FITTINGS.
H. INSTALL DOORS OR ACCESS PLATES.

Notes

1. MATERIAL: 1.25 OD X 0.022 WALL, 5052 COND. "O".
2. LENGTH AS REQUIRED.
3. SWAGE OR FLARE UPPER END TO MATCH CONFIGURATION OF UPPER TUBE 32-23008-33, -87, -603.
4. LOWER END MAY BE EITHER SWAGED (1.180 $\pm \frac{.000}{.010}$ OD) OR FLARED (1.250 $\pm \frac{.010}{.000}$ ID) 1.5 INCHES ALONG LENGTH OF REPAIR TUBE.
5. CENTER SLEEVE OVER JOINT.

4C-3-1-2-(448-2)89

Figure 5-18C. Repair of Vertical Fin Feel Tube, P/N 32-23008-35, -89 (Sheet 2 of 2)



DETAIL A

MODIFICATION OF TUBE FOR INSTALLATION ON VERTICAL FIN TUBE ASSEMBLY 32-23008-601, -609.

REPLACEMENT PROCEDURE

A. REMOVE SEALANT, TAPE, FASTENERS, ETC., FROM JOINTS.

B. REMOVE DAMAGED UPPER TUBE SECTION.

Note

THE REPLACEMENT TUBE PART NUMBER IS 32-23008-87. THE REMOVED TUBE MAY BE OF A DIFFERENT CONFIGURATION AT THE LOWER OPEN END. IF THE OLD TUBE DOES NOT HAVE THE BEAD AT THE LOWER END THEN PERFORM STEP C. AND ON. IF THE OLD TUBE DOES HAVE A BEAD AT THE LOWER END SKIP TO STEP D.

C. CUT OFF LOWER END OF REPLACEMENT TUBE AS SHOWN IN DETAIL A.

D. INSTALL NEW TUBE (32-23008-87) USING PROPER FASTENERS AND USING HEAT SHRINK TUBING AT LOWER JOINT AS SHOWN IN TYPICAL JOINT OF FIGURE 5-18C.

E. INSTALL PROPER CLAMPS AND FITTINGS.

F. REINSTALL ACCESS DOOR.

4C-3-1-2-(455)86

Figure 5-18D. Replacement of Vertical Fin Feel Tube, 32-23008-87, -603.

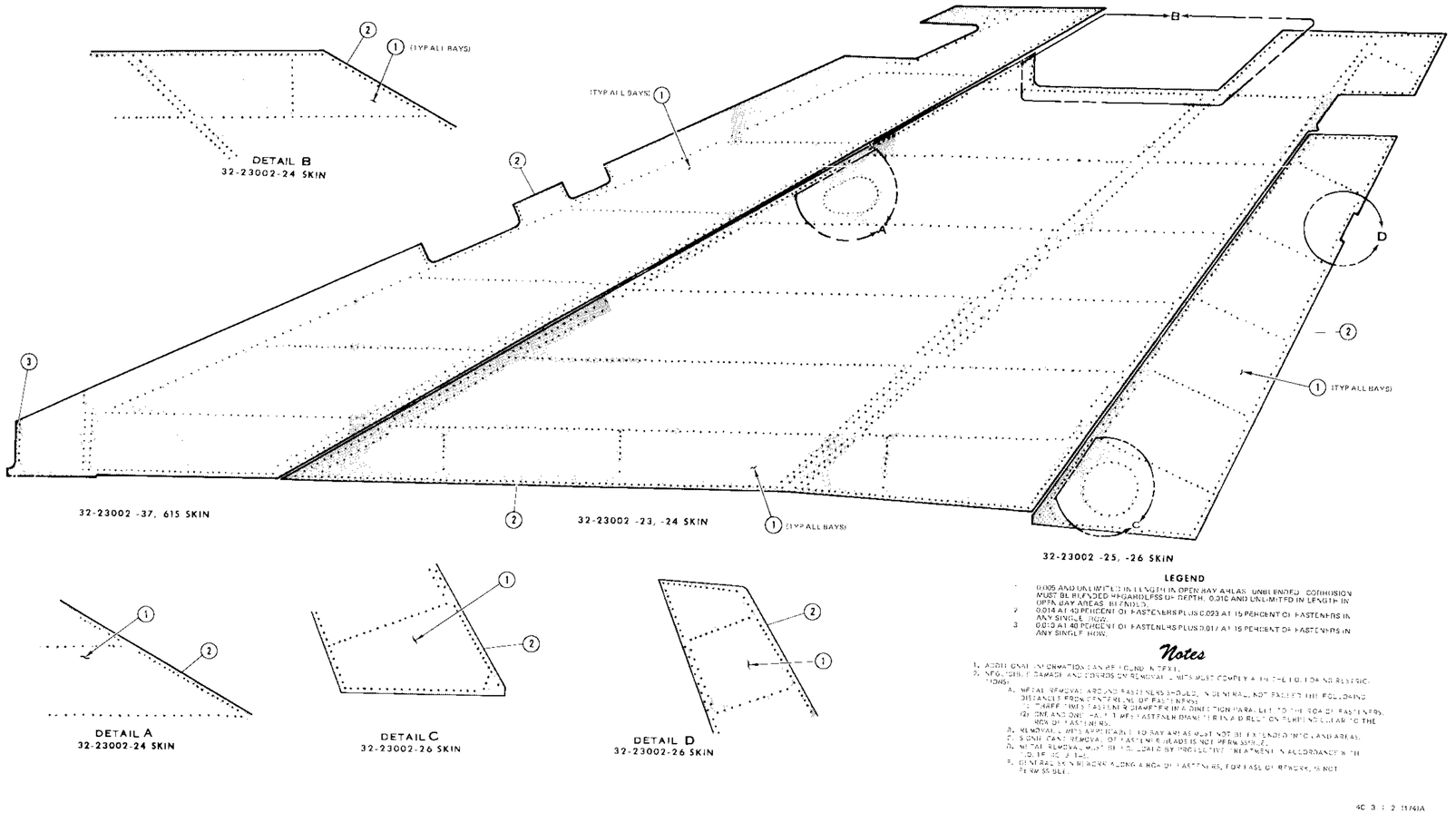


Figure 5-19. Vertical Fin Skins Negligible Damage and Corrosion Removal Limits

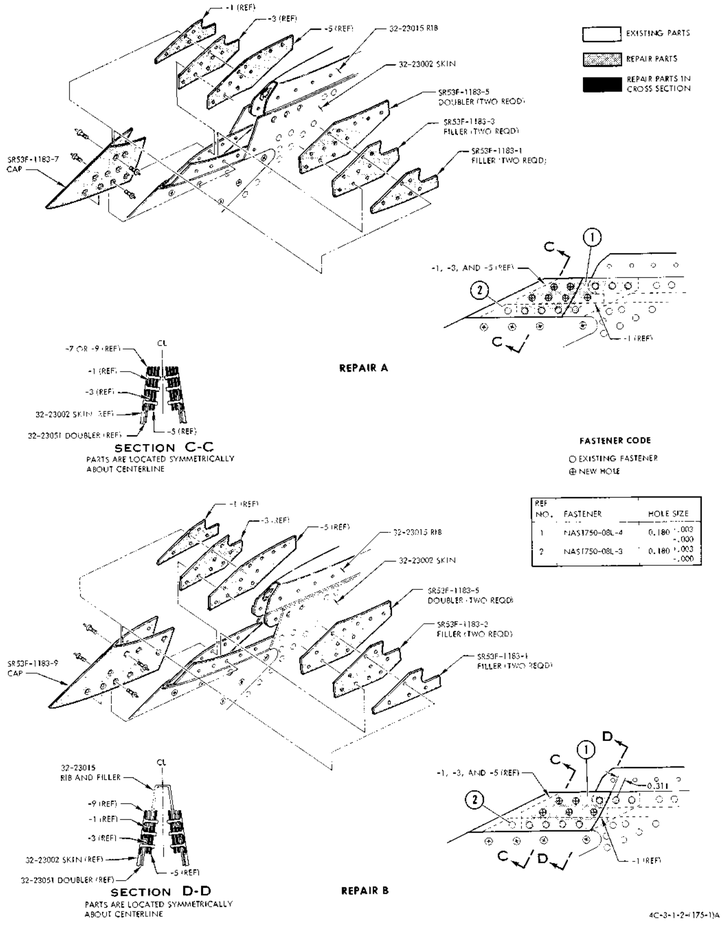
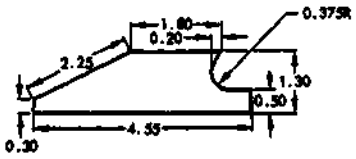
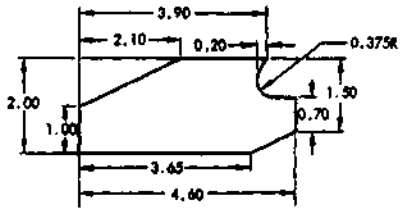


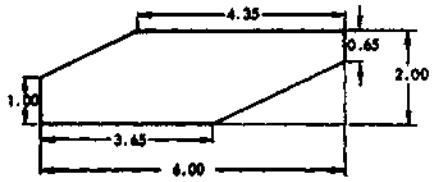
Figure 5-20. Repair of Corroded Skin on Both Sides of Vertical Fin (Sheet 1 of 2)



SR53F-1183-1 FILLER
0.090 7075-T6 AL ALY
QQ-A-250/12 (T6)



SR53F-1183-3 FILLER
0.090 7075-T6 AL ALY
QQ-A-250/12 (T6)



SR53F-1183-5 DOUBLER
0.071 7075-T6 AL ALY
QQ-A-250/12 (T6)

REPAIR PROCEDURE

A. REMOVE VERTICAL FIN TIP. REFER TO T.O. 1F-4C-3-1-4.
B. TRIM 32-23002 SKIN AS SHOWN FOR REPAIR A.
C. FLUORESCENT PENETRANT INSPECT SKIN TO ASSURE CORROSION IS COMPLETELY REMOVED. REFER TO T.O. 33B-1-1 FOR FLUORESCENT PENETRANT INSPECTION PROCEDURE. IF CORROSION STILL EXISTS, TRIM SKIN TO REPAIR B LIMITS. REPEAT FLUORESCENT PENETRANT INSPECTION. IF CORROSION STILL EXISTS, CONTACT DEPOT ENGINEERING FOR DISPOSITION.
D. FABRICATE SR53F-1183-1 FILLER, -3 FILLER AND -5 DOUBLER AS SHOWN ON SHEET 2. TWO OF EACH REQUIRED.
E. FABRICATE SR53F-1183-7 CAP FOR REPAIR A OR -9 CAP FOR REPAIR B FROM 0.071 7178-T6 ALUMINUM ALLOY, QQ-A-250/14 (T6). USE THE EXISTING TRIM LINES AND DAMAGED SKIN TO FORM CAP CONTOUR.
F. REMOVE EIGHT RIVETS FOR REPAIR A AND FOUR RIVETS FOR REPAIR B IN 32-23015 CLOSURE RIB AND/OR 32-23002 SKIN TO ALLOW -5 DOUBLER TO REST NEXT TO THE RIB INNER SURFACE. TYPICAL FOR LEFT AND RIGHT SIDES.
G. TACK RIVET ONE EACH, -1 FILLER, -3 FILLER AND, -5 DOUBLER TOGETHER, ALIGNING PARTS BY THE UPPER AND FORWARD EDGES. TWO OF THESE ASSEMBLIES ARE REQUIRED, ONE LEFT SIDE, ONE RIGHT SIDE.
H. POSITION, AND CLAMP, FILLERS AND DOUBLER PLACE.
J. DRILL EXISTING SKIN FASTENER HOLES TO 0.180 + 0.003 - 0.000 EIGHT PLACES FOR REPAIR A AND FOUR PLACES FOR REPAIR B AND THRU REPAIR PARTS. CLECO AND REMOVE CLAMPS.
K. INSTALL -7 CAP OR -9 CAP AS APPLICABLE AND UTILIZING A HOLE FINDER, TRANSFER EXISTING HOLES THRU REPAIR PARTS. CLECO AND OPEN HOLES FULL SIZE PER CHART.

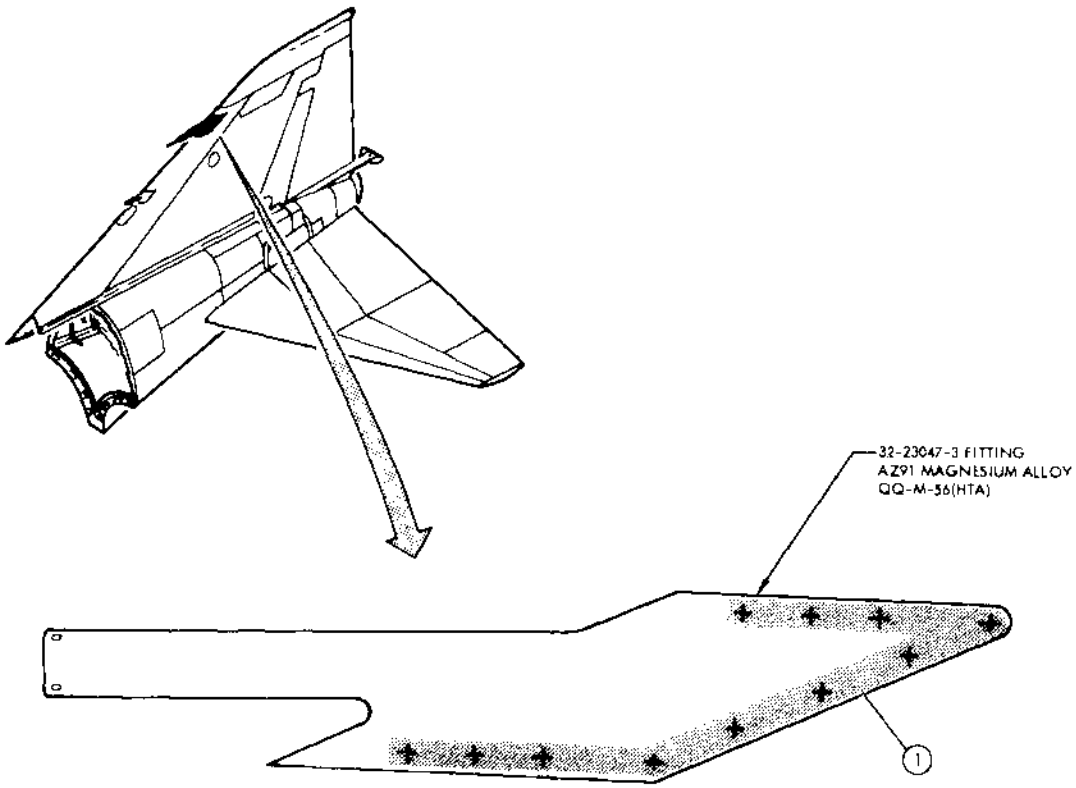
CAUTION

LEADING EDGE FASTENERS ON EACH SIDE OR REPAIR PARTS SHALL BE STAGGERED TO AVOID INTERFERENCE.

L. LAYOUT ADDED FASTENER PATTERN APPROXIMATELY AS SHOWN AND DRILL HOLES.
M. REMOVE REPAIR PARTS AND TREAT NEW AND EXISTING STRUCTURE TO CORROSION CONTROL, REFER TO T.O. 1F-4C-3-1-6.
N. INSTALL PARTS PER THE FASTENER CHART, BUTT SEALING JOINTS WITH SEALANT, SPECIFICATION MIL-S-81733.
P. INSTALL VERTICAL FIN TIP, REFER TO T.O. 1F-4C-3-1-4.

G9104125

Figure 5-20. Repair of Corroded Skin on Both Sides of Vertical Fin (Sheet 2 of 2)



F-4C AND F-4D

REF NO.	FASTENER	NUT	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1221-3-3P	MS21059L3	15-25	0.191 $^{+0.006}_{-0.000}$

REPLACEMENT PROCEDURE

A. REMOVE PITOT TUBE, REFERENCE T.O.1F-4( )-2-12.
B. REMOVE 32-23047-3 FITTING.

WARNING

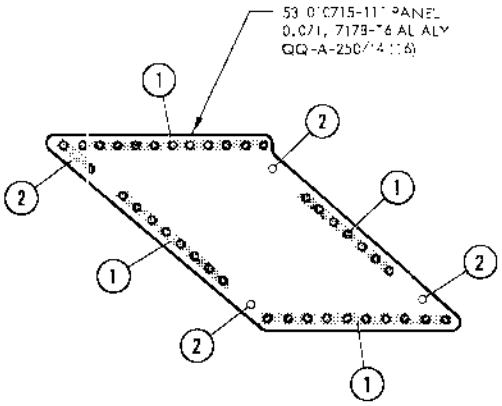
TO BE SURE OF ACCURATE AIR SPEED READINGS, FITTING MUST BE PROPERLY ALIGNED WITH LATERAL AND LONGITUDINAL AXIS OF THE AIRCRAFT.

C. LOCATE AND DRILL HOLES INDICATED BY CENTERLINE MARK (+) TO SIZE INDICATED IN CHART. FOR METHOD OF LOCATING HOLES REFERENCE T.O.1F-4C-3-1-1. COUNTERSINK HOLES TO RECEIVE FASTENERS.
D. REFINISH FASTENER COUNTERSINKS ACCORDING TO THE CORROSION CONTROL PROCEDURE IN T.O.1F-4C-3-1-6.
E. REMOVE EXISTING FORM IN PLACE SEAL FROM MATING STRUCTURE AND INSTALL A NEW FORM IN PLACE SEAL TO FIT THE NEW FITTING. FOR REPLACEMENT OR INSTALLATION OF FORM IN PLACE SEAL REFERENCE T.O.1F-4C-3-1-6.
F. INSTALL FITTING USING FASTENERS CALLED OUT IN CHART.
G. INSTALL PITOT TUBE, REFERENCE T.O.1F-4( )-2-12.

G9104126

Figure 5-20A. Pitot Fitting, 32-23047-3, Replacement Index

☆U.S. GOVERNMENT PRINTING OFFICE: 1990 - 673-346/20164

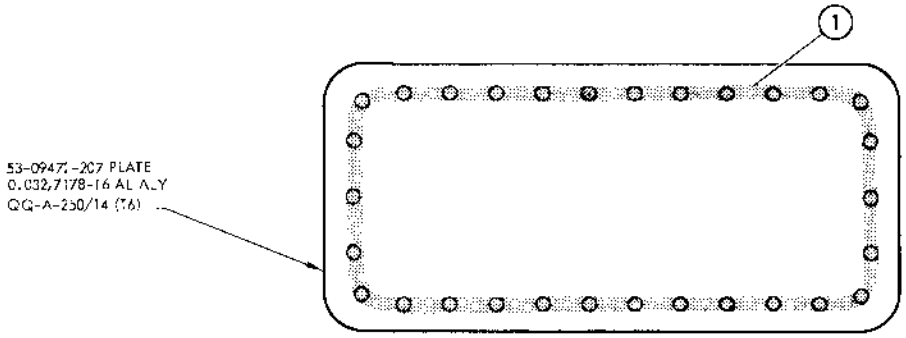


F-4C 64-781, 64-787, 64-790 AND 64-815

REF NO.	FASTENER	HOLE SIZE
1	NAS1670-08L2	0.165 +.003 -.000
2	NAS1670-08L3	0.165 +.003 -.000

4C-3-1-2-(176)B

Figure 5-21. Panel, 53-010715, Vertical Fin



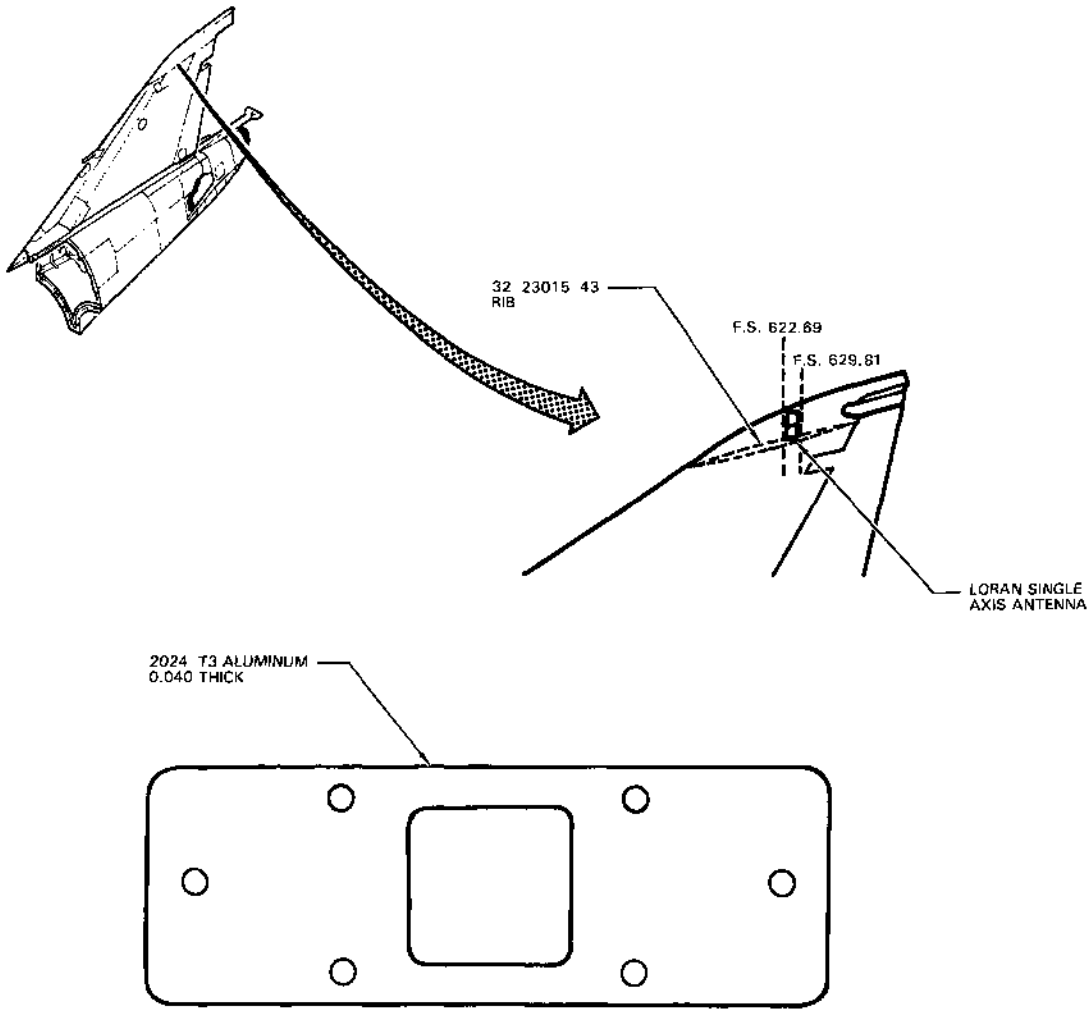
REF NO.	FASTENER	HOLE SIZE
1	NAS1670-08L2 (3)	0.165 +.003 .000

Notes

1. FOR INSTALLATION OR REPAIR OF FORM IN PLACE SEAL REFERENCE TO 1F-4C-3-1-6.
2. FOR GAP AND MISMATCH LIMITATIONS, REFERENCE TO 1F-4C-3-1-1.
3. BEFORE INSTALLING FASTENERS, APPLY PROXY PRIMER TO FASTENERS AND INSTALL WET.

4C-3-1-2-(177)D

Figure 5-22. Plate, 53-09472, Vertical Fin



PROCEDURE

A. ACCESS FOR ANTENNA IS FROM DOOR 88.
B. REMOVE EXISTING ANTENNA AND CLEAN UP AREA.
C. NO. 1 INSPECT RIB 32 23015 43 BETWEEN FS 621 AND FS 631 FOR CRACKS. IF CRACKS ARE FOUND REFER TO PARAGRAPH 5 60 FOR REPAIR OR REPLACEMENT.
D. LOCAL MANUFACTURE SHIM TO MATCH MOUNTING AREA OF ANTENNA. MATCH DRILL SHIM TO EXISTING HOLES.
E. INSTALL ANTENNA AND SHIM WITH ORIGINAL SIZE AND TYPE FASTENERS, LENGTH AS REQUIRED.
F. USE CORROSION CONTROL PROCEDURES PER TO 1F 4C 3 1 6.

4C 3 1 2 (456)

Figure 5-22A. Vertical Fin, Shim Under Loran Single Axis Antenna, F-4E RF-4C.

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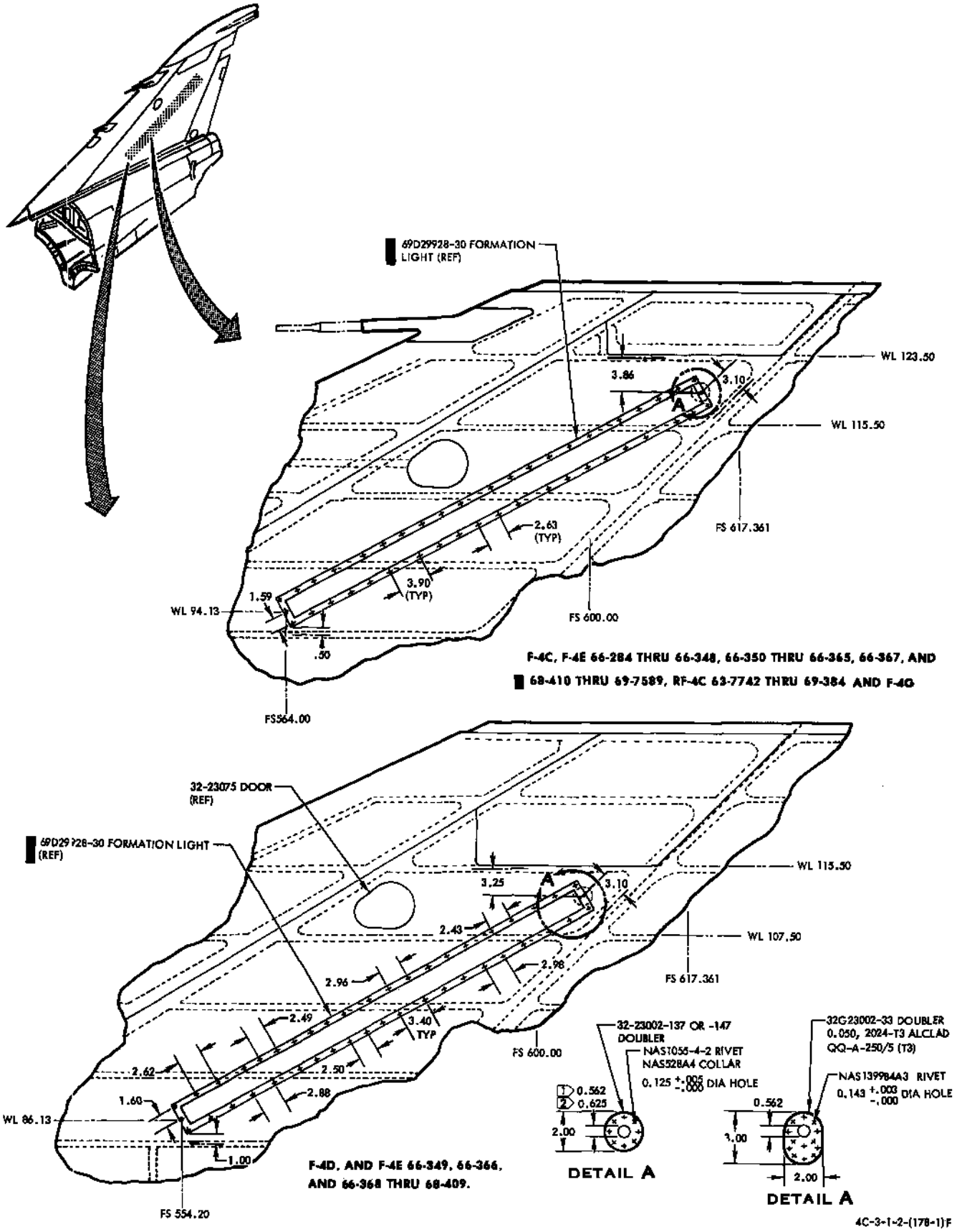
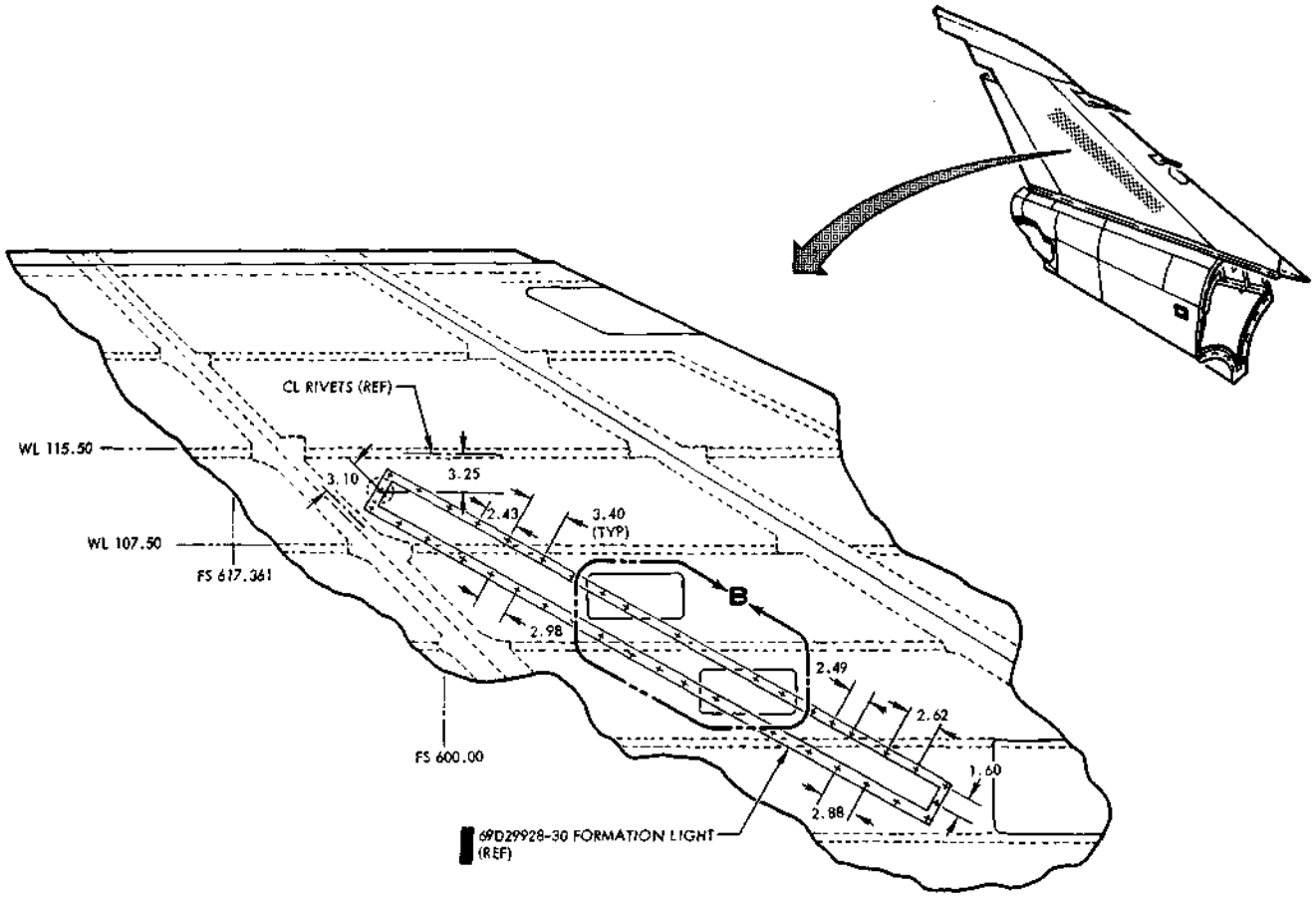
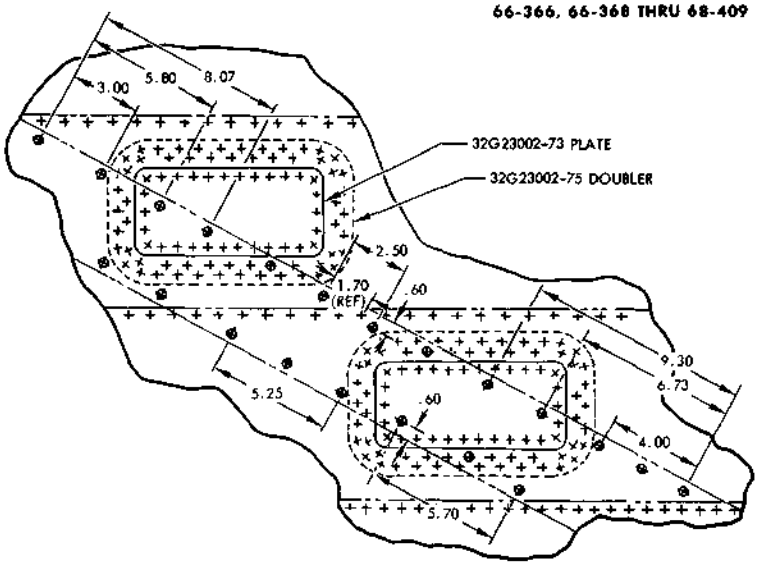


Figure 5-23. Vertical Fin Capsule Light Doubler Installation (Sheet 1 of 2)



F-4D 64-929 THRU 68-6919, F-4E 66-349, 66-366, 66-368 THRU 68-409



DETAIL B

INSTALLATION PROCEDURE

A. LOCATE AND DRILL 0.562 DIAMETER HOLE IN LEFT AND RIGHT SKIN PANELS. REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLE.

B. ON F-4C, F-4D, F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7578 AND RF-4C 63-7742 THRU 68-561, INSTALL 32-23002-137 DOUBLERS. ON RF-4C 68-562 THRU 69-384 INSTALL 32G23002-33 DOUBLERS.

1. ON F-4C, F-4D 64-929 THRU 66-8698, F-4E 66-284 THRU 66-348, 66-350 THRU 66-354 AND 66-367 AND RF-4C 64-7742 THRU 69-384, DOUBLERS MAY BE INSTALLED THRU CUT OUT MADE IN 32G23016 RIB.
2. ON F-4D 66-8699 THRU 66-8825, F-4E 66-349, 66-366, 66-368 THRU 68-538, F-4E/G 69-236 THRU 69-7303, DOUBLERS MAY BE INSTALLED THRU 32-23075 DOOR.

REFER TO T.O. 1F-4C-3-1-1 FOR METHOD OF LOCATING HOLES AND INSTALLING FASTENERS. REFER TO T.O. 1F-4C-3-1-6 FOR CORROSION CONTROL.

Notes

(1) 0.562 DIAMETER HOLE IN 32-23003-137.
(2) 0.625 DIAMETER HOLE IN 32-23003-147.

4C-3-1-2-(178-2)F

Figure 5-23. Vertical Fin Capsule Light Doubler Installation (Sheet 2 of 2)

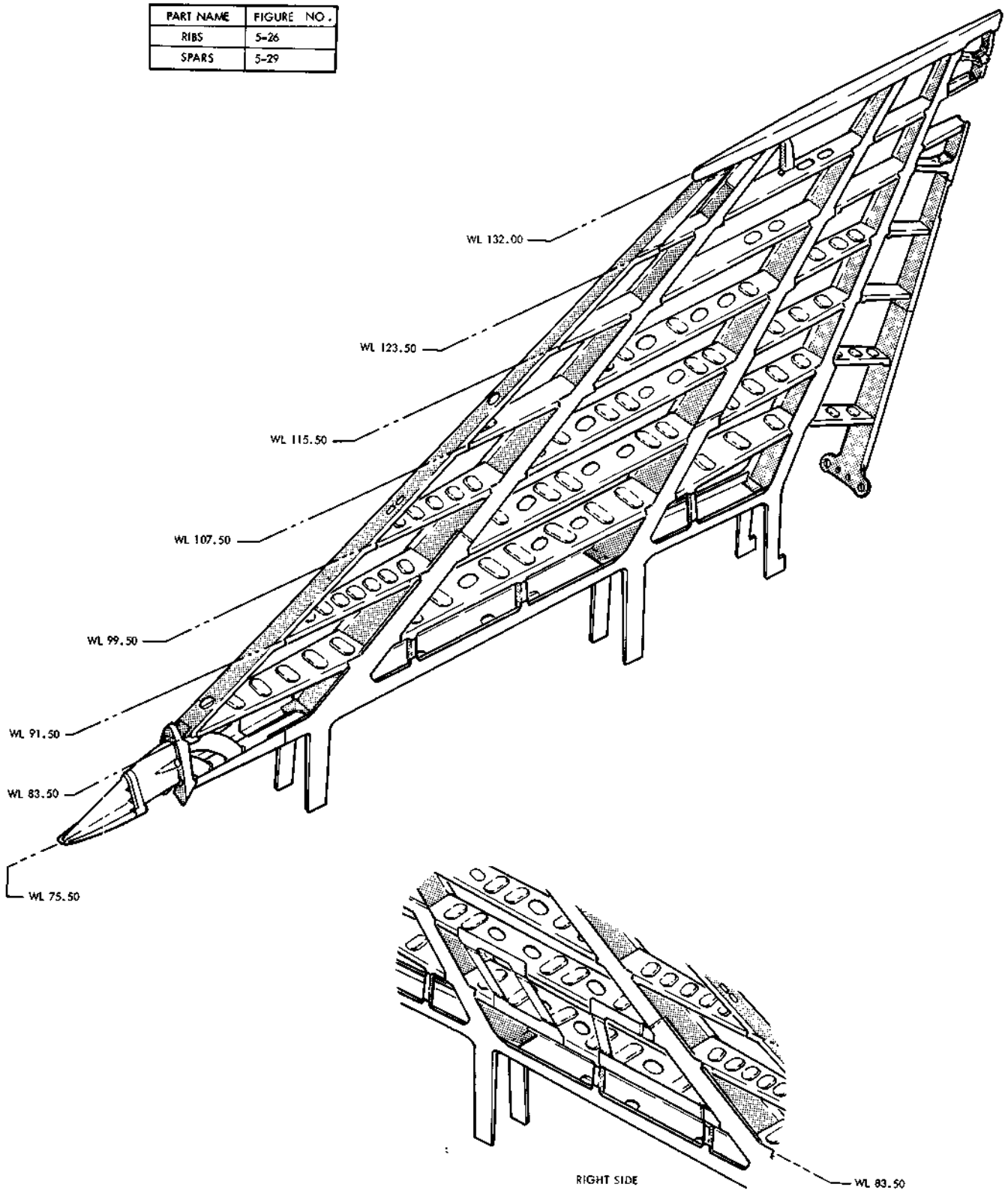
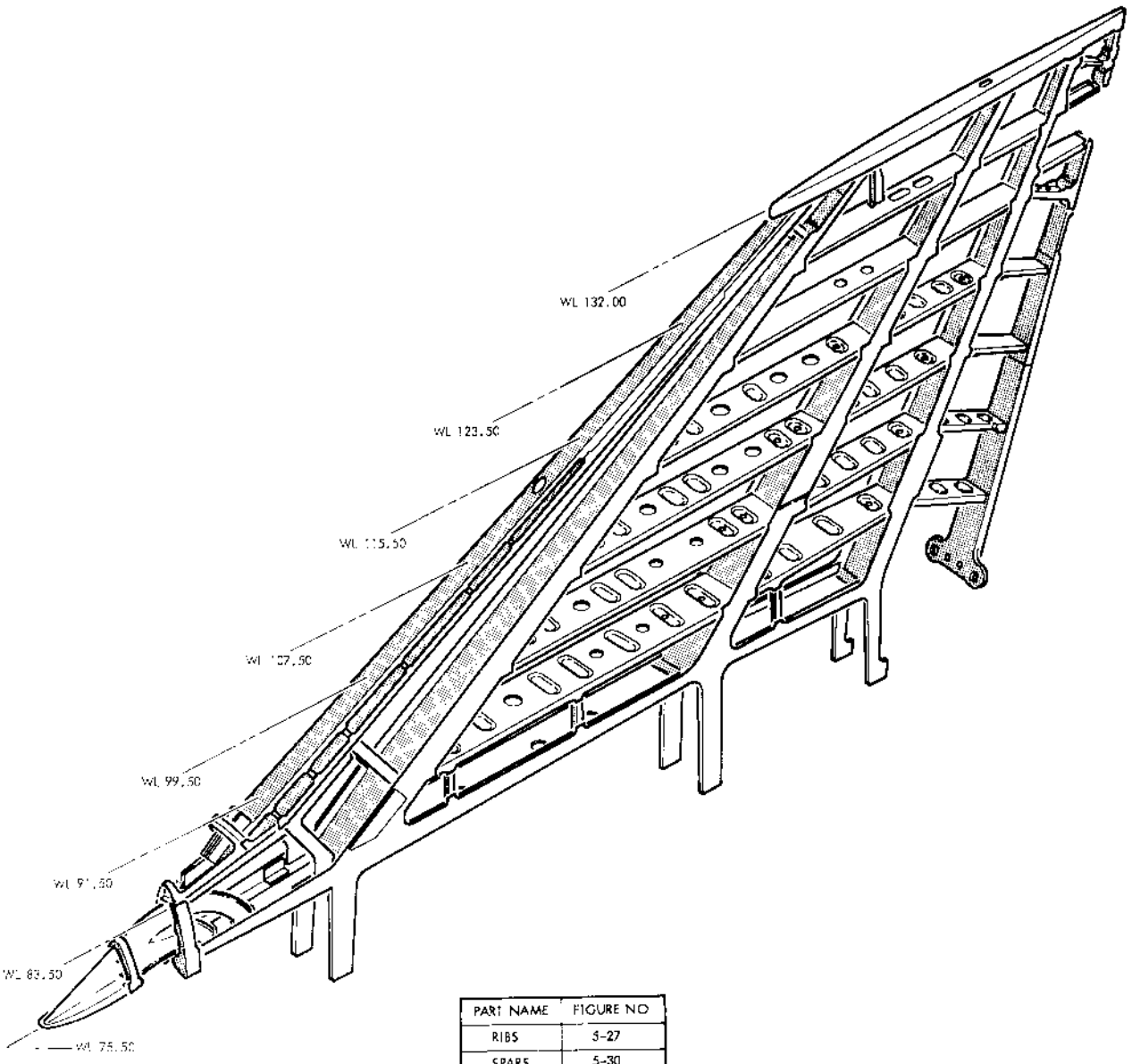


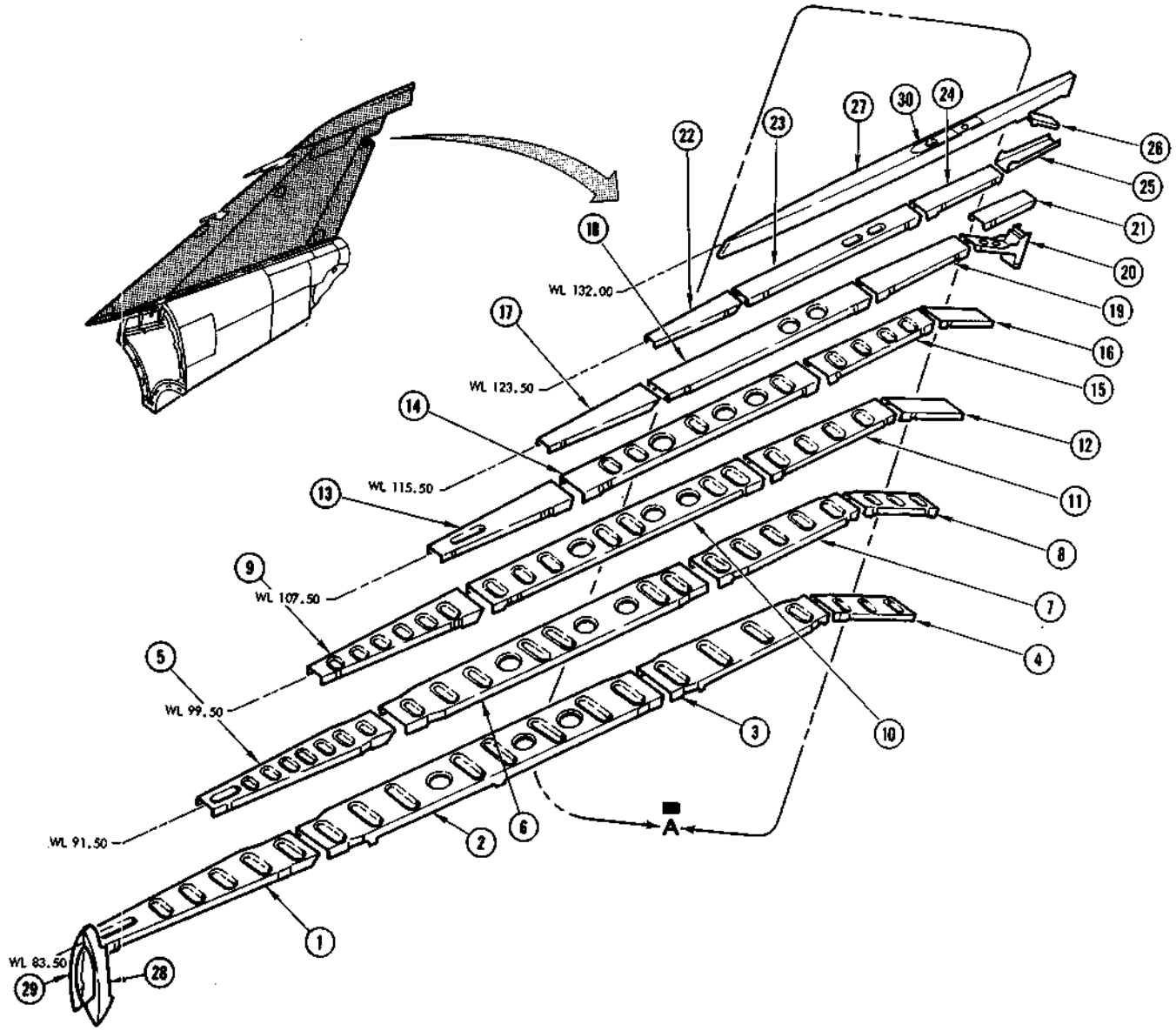
Figure 5-24. Vertical Fin Structure Index - F-4



PART NAME	FIGURE NO
RIBS	5-27
SPARS	5-30

4C-3-1-2-(180)A

Figure 5-25. Vertical Fin Structure Index - RF-4



4C-3-1-2-(211-1)F

Figure 5-26. Vertical Fin Rib Repair Index - F-4 (Sheet 1 of 4)

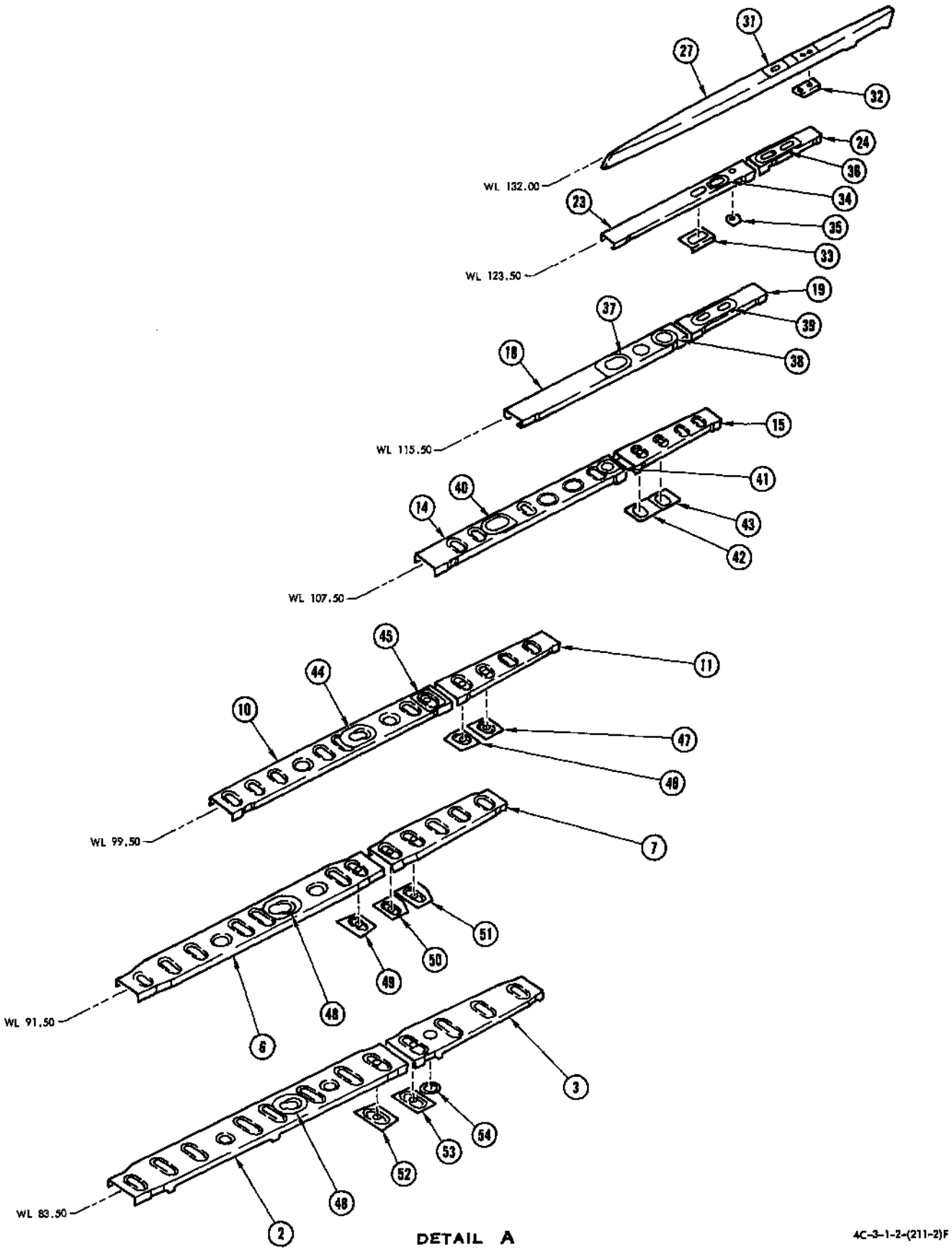


Figure 5-26. Vertical Fin Rib Repair Index - F-4 (Sheet 2 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1 (17)	32-23021-67	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(18)	32-23021-601	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(19)	32-23021-123	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
2 (20)	32-23021-65	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(21)	32-23021-93	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(22)	53-09472-143	RIB	[7]	7178-T6 ALCLAD	QQ-A-250/15(T6)
(23)	53-010715-113	RIB	[10]	7178-T6 ALCLAD	QQ-A-250/15(T6)
(24)	32-23021-139	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
3	32-23021-63	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
4	32-23050-13	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
5	32-23020-53	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
6 (26)	32-23020-51	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(27)	32-23020-75	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(28)	53-09472-145	RIB	[6]	7178-T6 ALCLAD	QQ-A-250/15(T6)
(29)	53-010715-115	RIB	[11]	7178-T6 ALCLAD	QQ-A-250/15(T6)
(30)	32-23020-97	RIB	0.040	7178-T6 AL ALY	QQ-A-250/15(T6)
(31)	32-23020-101	RIB	0.040	7178-T6 AL ALY	QQ-A-250/15(T6)
7	32-23020-49	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
8	32-23020-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
9	32-23019-29	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
10 (32)	32-23019-15	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(33)	32-23019-57	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(34)	32-23019-61	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(35)	32-23019-71	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(36)	53-09742-141	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
11 (37)	32-23019-9	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(38)	32-23019-65	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
12	32-23019-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
13	32-23018-603	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
14 (39)	32-23018-7	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(40)	32-23018-53	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(41)	53-09472-127	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(42)	32-23018-61	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
15	32-23018-5	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
16	32-23018-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
17	32-23017-3	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
18 (43)	32-23017-5	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(44)	53-09472-119	RIB	[9]	7178-T6 ALCLAD	QQ-A-250/15(T6)
(45)	32-23017-53	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(46)	32-23017-119	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
19 (47)	32-23017-7	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(48)	32-23017-73	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
20	32-23011-3	RIB	[5]	7075-T6 AL ALY	QQ-A-367(T6)
21	32-23052-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
22 (49)	32-23016-7	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(50)	32-23016-53	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
23 (51)	32-23016-5	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(52)	53-09472-129	RIB	[8]	7178-T6 ALCLAD	QQ-A-250/15(T6)
(53)	32-23016-81	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
(54)	32-23016-141	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
24	32-23016-3	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
25 (55)	32-23016-17	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
(56)	32-23016-77	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15(T6)
26	32-23046-3	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15(T6)
27 (57)	32-23015-3	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15(T6)
(58)	32-23015-43	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15(T6)
(59)	53-09472-147	RIB	[3]	7178-T6 ALCLAD	QQ-A-250/15(T6)
(60)	53-070084-107	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15(T6)
(61)	53-070084-121	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15(T6)
(62)	32-23015-59	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15(T6)
28 (63)	32-23038-5	RIB	[4]	7075-T6 AL ALY	QQ-A-367(T6)
(64)	32-23038-7	RIB	[4]	7075-T6 AL ALY	QQ-A-367(T6)
29 (65)	32-23038-6	RIB	[4]	7075-T6 AL ALY	QQ-A-367(T6)
(66)	32-23038-8	RIB	[4]	7075-T6 AL ALY	QQ-A-367(T6)
30 (67)	53-09472-163	DOUBLER	0.071	7178-T6 AL ALY	QQ-A-250/14(T6)

4C 3-1-2 (211 3)G

Figure 5-26. Vertical Fin Rib Repair Index - F-4 (Sheet 3 of 4)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
31 (20)	53-070084-93	PLATE	0.063	4130 STEEL (2)	MIL-S-18729, CONDA
32 (34)	53-070086-95	CHANNEL	0.050	4130 STEEL (2)	MIL-S-18729, CONDN
(35)	53-070084-117	CHANNEL	0.050	4130 STEEL (2)	MIL-S-18729 CONDN
33 (24)	53-070086-177	DOUBLER	0.050	2024-T62 AL ALY	QQ-A-250/4(T62)
34 (51)	32-23016-31	DOUBLER	0.050	7178-T6 ALCLAD	QQ-A-250/15(T6)
35 (52)	32-23016-139	DOUBLER	0.040	2024-T3 ALCLAD	QQ-A-250/5(T3)
(26)	53-070086-151	DOUBLER	0.080	7178-T6 AL ALY	QQ-A-250/14(T6)
36 (24)	53-070086-87	DOUBLER	0.063	7178-T6 AL ALY	QQ-A-250/14(T6)
37 (33)	32-23017-17	DOUBLER	0.051	7178-T6 ALCLAD	QQ-A-250/15(T6)
(26)	53-070086-173	DOUBLER	0.063	7178-T6 AL ALY	QQ-A-250/14(T6)
38 (20)	53-070086-127	DOUBLER	0.063	7178-T6 AL ALY	QQ-A-250/14(T6)
39 (22)	53-070086-73	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
40 (21)	53-070086-169	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
41 (20)	53-070086-119	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
42 (23)	53-070086-61	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
43 (23)	53-070086-63	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
44 (24)	53-070086-165	DOUBLER	0.100	7178-T6 AL ALY	QQ-A-250/14(T6)
45 (24)	53-070086-113	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
46 (24)	53-070086-49	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
47 (24)	53-070086-51	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
48 (24)	53-070086-159	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
49 (23)	53-070086-107	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
50 (23)	53-070086-41	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
51 (23)	53-070086-43	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
52 (23)	53-070086-101	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
53 (24)	53-070086-29	DOUBLER	0.050	7178-T6 AL ALY	QQ-A-250/14(T6)
54 (20)	53-070086-31	DOUBLER	0.063	7178-T6 AL ALY	QQ-A-250/14(T6)

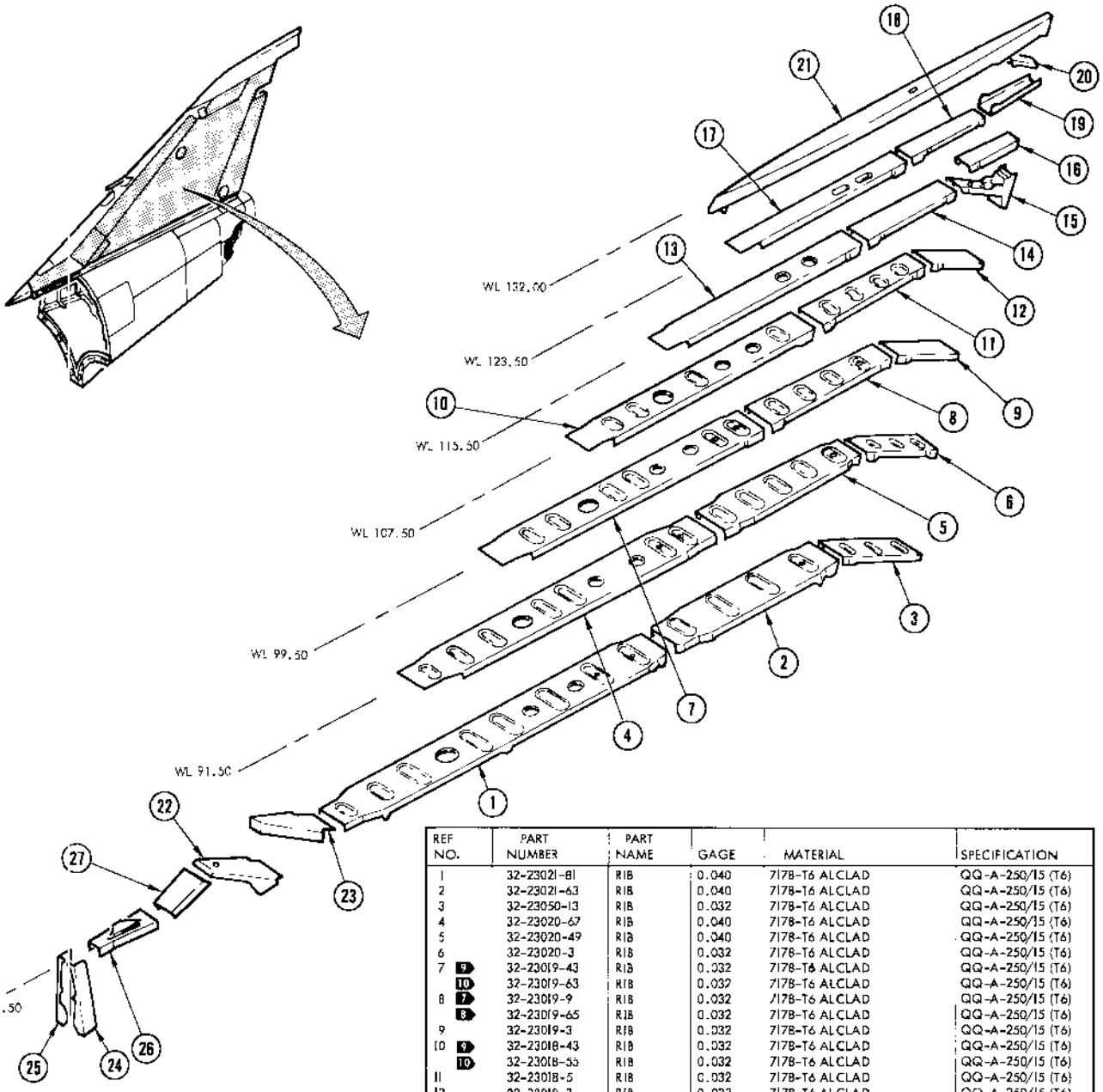
Notes

1. DRAWING NUMBER FOR VERTICAL FIN STRUCTURE IS 32-23002.
(2) HEAT TREAT TO 125 TO 150 KSI. VACUUM CADMIUM PLATE CLASS 2, TYPE II.
(3) FORGING.
(4) MACHINED FROM HAND FORGED BILLET.
(5) MAKE FROM 32-23015-1 RIB ASSEMBLY.
(6) MAKE FROM 32-23020-301 RIB ASSEMBLY.
(7) MAKE FROM 32-23021-603 RIB ASSEMBLY.
(8) MAKE FROM 32-23016-1 RIB ASSEMBLY.
(9) MAKE FROM 32-23017-1 RIB ASSEMBLY.
(10) MAKE FROM 32-23021-93 RIB.
(11) MAKE FROM 32-23020-75 RIB.
(12) DELETE
(13) DELETE
(14) DELETE
(15) DELETE
(16) DELETE
(17) F-4C 63-7407 THRU 63-7420.
(18) F-4C 63-7421 THRU 64-928 AND F-4D.
(19) F-4E AND F-4G.
(20) F-4C 63-7407 THRU 63-7529.
(21) F-4C 63-7530 THRU 64-928.
(22) F-4D 64-929 THRU 66-8698.
(23) F-4C.
(24) F-4G.
(25) F-4D 66-8699 THRU 66-8825, F-4E 66-368 AND UP, AND F-4G.
(26) F-4C 63-7407 THRU 63-7534.
(27) F-4C 63-7535 THRU 64-928.
(28) F-4D 66-8699 THRU 66-8825 AND F-4E 66-368 THRU 67-269.
(29) F-4E 67-270 AND UP AND F-4G.
(30) F-4C 63-7535 THRU 64-700.
(31) F-4C 64-701 THRU 64-928.
(32) F-4C 63-7407 THRU 63-7699.
(33) F-4C 63-7700 THRU 64-928, F-4D, F-4E, AND F-4G.
(34) F-4C 63-7407 THRU 64-687.
(35) F-4C 64-688 THRU 64-928.
(36) F-4C AND F-4E 66-284 THRU 66-367.
(37) F-4C, F-4D 64-929 THRU 66-8698 AND F-4E 66-284 THRU 66-367.
(38) F-4C, F-4D 64-929 THRU 65-674.
(39) F-4D 65-675 THRU 66-8825, F-4E, AND F-4G.
(40) F-4C, F-4D 64-929 THRU 66-8698 AND F-4E 66-284 THRU 67-219.
(41) F-4E 67-220 AND UP AND F-4G.
(42) F-4C 63-7407 THRU 63-7448.
(43) F-4C 63-7449 THRU 64-928.
(44) F-4C 63-7407 THRU 63-7597.
(45) F-4C 63-7598 THRU 64-928, F-4D, F-4E, AND F-4G.
(46) F-4D 64-929 THRU 66-8698 AND F-4E 66-284 THRU 66-367.
(47) F-4D 66-8699 THRU 66-8825 AND F-4E 66-368 THRU 68-365
(48) F-4E 68-366 AND UP AND F-4G.
(49) F-4D 66-8699 THRU 66-8825 AND F-4E 66-368 THRU 68-409.
(50) F-4E 68-410 AND UP AND F-4G.
(51) F-4C, F-4D, RF-4, F-4E, AND MODIFIED ON F-4G.
(52) F-4E 68-410 AND UP.
(53) F-4C, F-4D, RF-4, AND F-4E.
(54) F-4G EXCEPT 69-244, 69-249, 69-260, 69-264, 69-278, 69-290, 69-291, 69-303, 69-305, 69-307, 69-7252, 69-7261, 69-7267, 69-7294, 69-7297, 69-7551, 69-7557
(55) F-4G 69-244, 69-249, 69-260, 69-264, 69-278, 69-290, 69-291, 69-303, 69-305, 69-307, 69-7252, 69-7261, 69-7267, 69-7294, 69-7297, 69-7551, 69-7557

4C-3-1-2-(211-4)G

Figure 5-26. Vertical Fin Rib Repair Index - F-4 (Sheet 4 of 4)

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REF NO.		PART NUMBER	PART NAME	GAGE	MATERIAL	SPECIFICATION
1		32-23021-81	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2		32-23021-63	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3		32-23050-13	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4		32-23020-67	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5		32-23020-49	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6		32-23020-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	5	32-23019-43	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	10	32-23019-63	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	7	32-23019-9	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	8	32-23019-65	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9		32-23019-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
10	5	32-23018-43	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	10	32-23018-55	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11		32-23018-5	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12		32-23018-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
13		32-23017-33	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14		32-23017-7	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15		32-23011-3	RIB	<3>	7075-T6 AL ALY	QQ-A-367 (T6)
16		32-23052-3	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
17	11	32-23016-49	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	16	32G23016-25	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	12	32-23016-137	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	17	32G23016-37	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32G23016-11	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18		32-23016-3	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	13	32-23016-17	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	14	32-23016-77	RIB	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
20		32-23046-3	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
21	5	32-23015-45	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	6	32-23015-51	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	15	32G23015-9	RIB	0.050	7178-T6 ALCLAD	QQ-A-250/15 (T6)
22	18	53-23522-601	RIB	0.120	GLASS FABRIC LAMINATE	MIL-F-9084
	19	53-23522-13	RIB	0.120	GLASS FABRIC LAMINATE	MIL-F-9084
23		53-23506-3	RIB	0.140	GLASS FABRIC LAMINATE	MIL-F-9084
24		53-23517-7	RIB	<4>	GLASS FABRIC LAMINATE	MIL-F-9084
25		53-23517-9	RIB	<4>	GLASS FABRIC LAMINATE	MIL-F-9084
26		53-23512-5	SUPPORT	<3>	2014-T6 AL ALY	QQ-A-367 (T6)
27		53-23516-3	RIB	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)

4C-3-1-2-(171)B

Notes

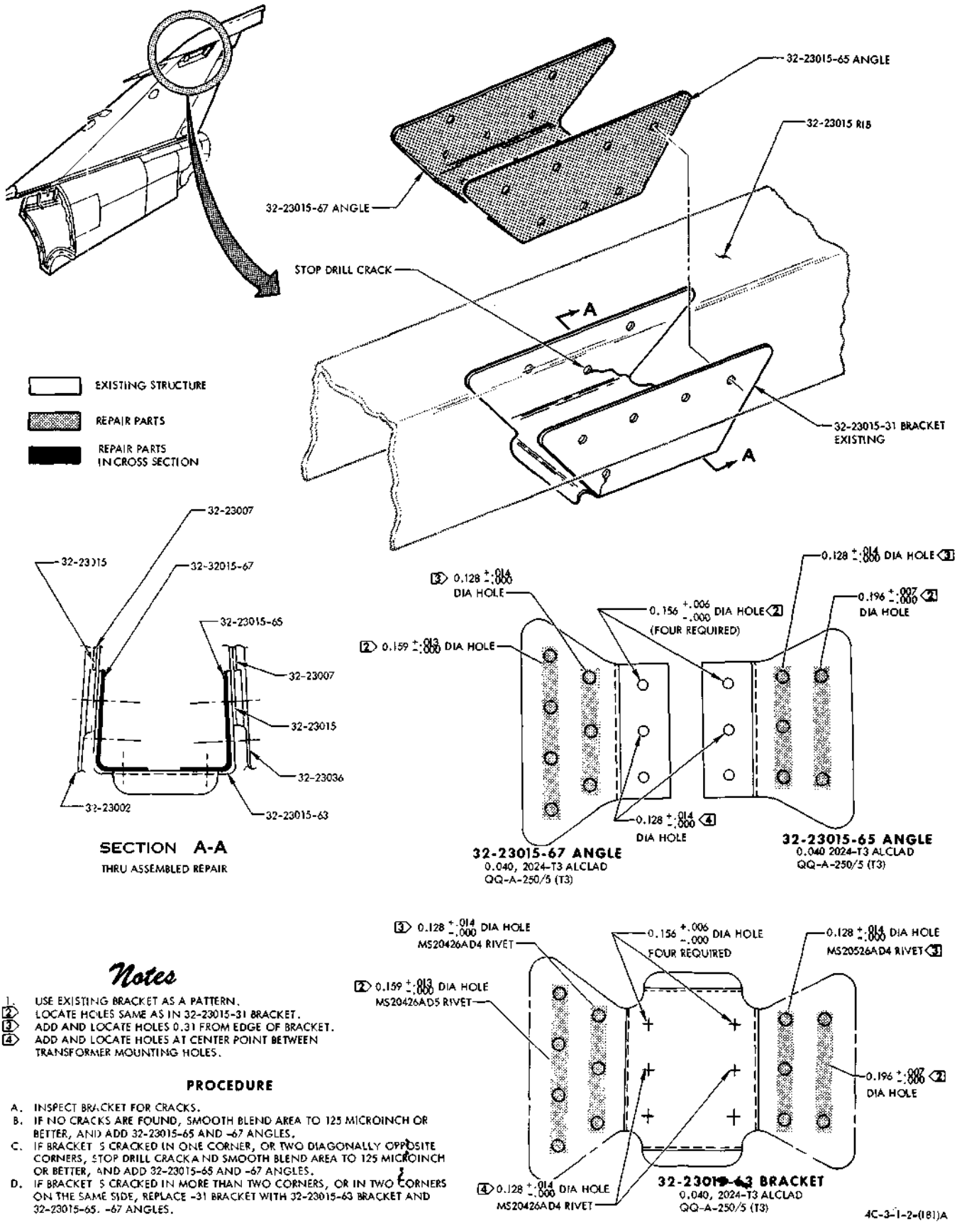
1. FOR REPAIR OF GLASS FABRIC LAMINATE PARTS, REFER TO T.O. 1F-4C-3-1-5.
2. FOR ADDITIONAL INFORMATION REFER TO TEXT.

<3> FORGING.

<4> MANUFACTURED FROM PRE-IMPREGNATED GLASS FABRIC MATERIALS. THICKNESS RANGES FROM 0.120 TO 0.211.

5 RF-4C 63-7742 THRU 63-7748.
6 RF-4C 63-7750 THRU 66-593, 69-338 THRU 72-156.
7 RF-4C 63-7742 THRU 64-1019.
8 RF-4C 64-1020 THRU 72-156.
9 RF-4C 63-7742 THRU 64-1035.
10 RF-4C 64-1036 THRU 72-156.
11 RF-4C 63-7742 THRU 68-561 BEFORE T.O. 1F-4-776.
12 RF-4C 68-562 THRU 72-156 BEFORE T.O. 1F-4-776.
13 RF-4C 63-7742 THRU 67-442.
14 RF-4C 67-443 THRU 72-156.
15 RF-4C 68-594 THRU 69-357.
16 RF-4C 63-7742 THRU 68-561 AFTER T.O. 1F-4-776.
17 RF-4C 68-562 THRU 72-156 AFTER T.O. 1F-4-776.
18 RF-4C 63-7742 THRU 65-853.
19 RF-4C 65-854 THRU 72-156.

Figure 5-27. Vertical Fin Rib Repair Index - RF-4



Notes

1. USE EXISTING BRACKET AS A PATTERN.
2. LOCATE HOLES SAME AS IN 32-23015-31 BRACKET.
3. ADD AND LOCATE HOLES 0.31 FROM EDGE OF BRACKET.
4. ADD AND LOCATE HOLES AT CENTER POINT BETWEEN TRANSFORMER MOUNTING HOLES.

PROCEDURE

A. INSPECT BRACKET FOR CRACKS.
B. IF NO CRACKS ARE FOUND, SMOOTH BLEND AREA TO 125 MICROINCH OR BETTER, AND ADD 32-23015-65 AND -67 ANGLES.
C. IF BRACKET S CRACKED IN ONE CORNER, OR TWO DIAGONALLY OPPOSITE CORNERS, STOP DRILL CRACK A ND SMOOTH BLEND AREA TO 125 MICROINCH OR BETTER, AND ADD 32-23015-65 AND -67 ANGLES.
D. IF BRACKET S CRACKED IN MORE THAN TWO CORNERS, OR IN TWO CORNERS ON THE SAME SIDE, REPLACE -31 BRACKET WITH 32-23015-63 BRACKET AND 32-23015-65. -67 ANGLES.

Figure 5-28. Bracket 32-23015-31 Repair

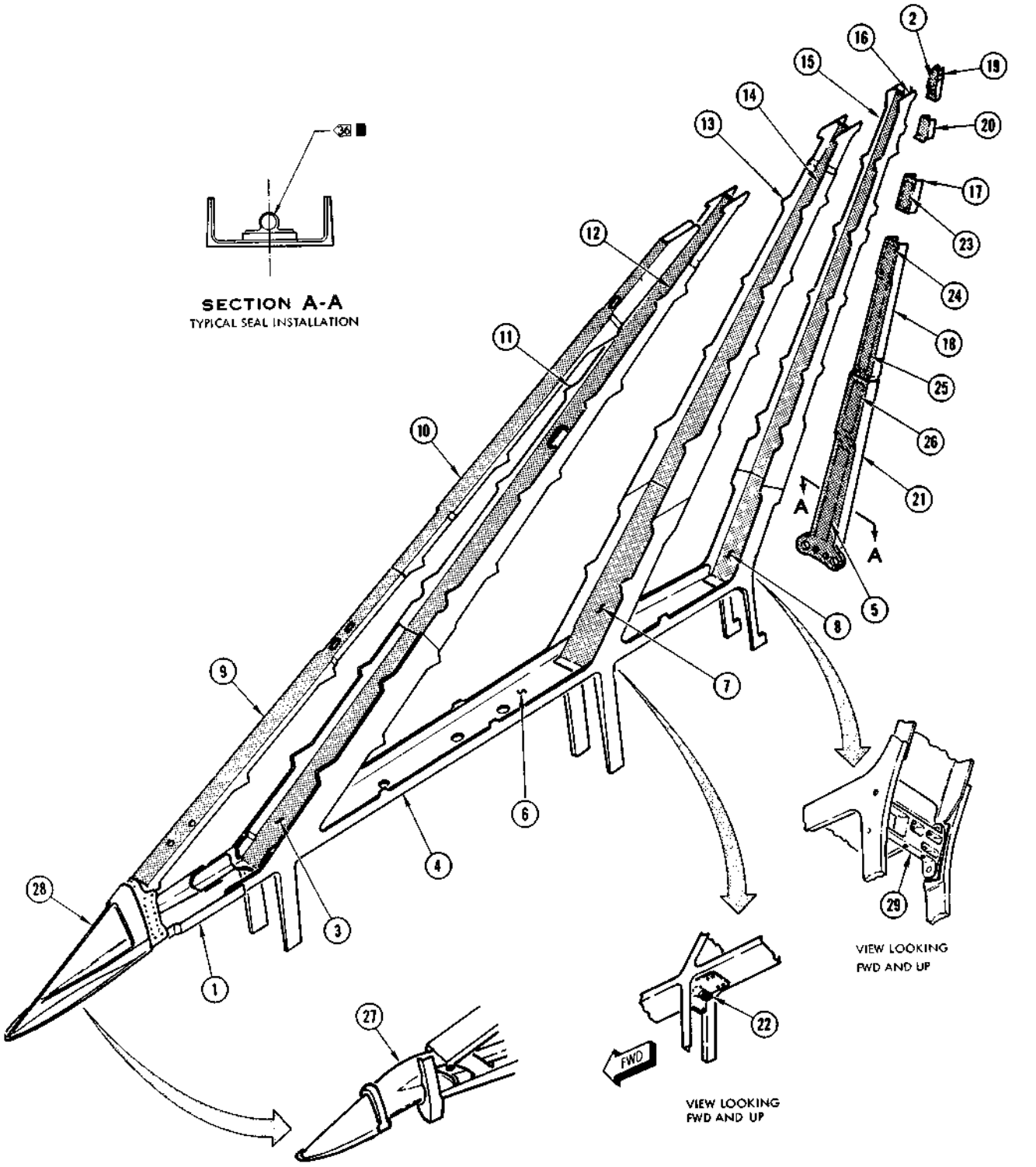


Figure 5-29. Vertical Fin Spars and Closures Repair Index - F-4 (Sheet 1 of 2)

REF NO.	PART NUMBER	PART NAME	EXTRUSION OR GAGE	MATERIAL	SPECIFICATION
1	32-23064-3,-4	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23064-15, -16	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23064-17, -18	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-23058-3	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III, GRADE 50
3	32-23068-3	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23068-5	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-23073-3,-4	PLATE	0.500	7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-23073-9, -10	PLATE	0.500	7178-T651 AL ALY	QQ-A-250/14 (T651)
	32-23073-11, -13	PLATE	0.500	7178-T651 AL ALY	QQ-A-250/14 (T651)
5	32-23058-15	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III, GRADE 50
6	32-23065-3	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23065-67	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23065-55	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23065-69	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
7	32-23070-3	CHANNEL	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
8	32-23071-3	CHANNEL	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
9	32-23006-13	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23006-613	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23006-15	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23006-19	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
10	32-23006-609	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23006-619	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23006-25	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
	32-23006-27	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
11	32-23032-21	CAP	1M5617	7075-T651 AL ALY	QQ-A-200/11 (T651)
	32-23032-25	CAP	1M5617	7075-T651 AL ALY	QQ-A-200/11 (T651)
12	32-23032-19	CAP	1M5618	7075-T651 AL ALY	QQ-A-200/11 (T651)
	32G23032-3	CAP	[2]	7075-T651 AL ALY	QQ-A-200/11 (T651)
	32-23032-27	CAP	1M5618	7075-T651 AL ALY	QQ-A-200/11 (T651)
13	32-23030-21	CAP	1M5694	7075-T651 AL ALY	QQ-A-200/11 (T651)
	32-23030-31	CAP	1M5694	7075-T651 AL ALY	QQ-A-200/11 (T651)
14	32-23030-19	CAP	1M5620	7075-T651 AL ALY	QQ-A-200/11 (T651)
	DELETED				
	32-23030-29	CAP	1M5620	7075-T651 AL ALY	QQ-A-200/11 (T651)
15	32-23029-17	CAP	1M5622	7075-T6 AL ALY	QQ-A-200/11 (T6)
16	32-23029-15	CAP	1M5693	7075-T6 AL ALY	QQ-A-200/11 (T6)
17	32-23005-5	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
18	32-23005-3	BEAM	0.064	7178-T6 ALCLAD	QQ-A-250/15 (T6)
	32-23005-19	BEAM	0.064	7178-T6 ALCLAD	QQ-A-250/15 (T6)
19	32-23055-5	BEAM	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
20	32-23055-3	BEAM	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
21	32-23033-7	FITTING	1M7325	7075-T6 AL ALY	QQ-A-200/11 (T6)
22	32-23034-7 [4]	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
23	32-23058-5	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III, GRADE 50
24	32-23058-7	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III, GRADE 50
25	32-23058-9	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III, GRADE 50
26	32-23058-11	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III, GRADE 50
27	32-23013-7	FITTING	CASTING	AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
28	32-231550-7	INLET	CASTING	AZ91C MAGNESIUM ALLOY	QQ-M-56 (T6)
29	32-33076-7	FITTING	1M97113	7075-T6 AL ALY	QQ-A-200/11 (T6)
	32-33076-9 [31] [32]	FITTING	1M97113	7075-T6 AL ALY	QQ-A-200/11 (T6)

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. MAKE FROM 32-23032-19 CAP.
3. DELETED.
4. FOR REPLACEMENT, SEE FIGURE 5-31.
5. F-4E 66-284 THRU 67-211.
6. F-4E 67-212 AND UP AND F-4G.
7. F-4C, F-4D 64-929 THRU 66-8698 AND F-4E 66-284 THRU 66-367.
8. F-4D 66-8699 THRU 66-8825, F-4E 66-368 AND UP, AND F-4G.
9. F-4C AND F-4D 64-929 THRU 65-793.
10. F-4D 65-794 THRU 66-8698.
11. F-4C 63-7421 THRU 63-7468.
12. F-4D 66-8699 THRU 66-8825.
13. F-4E 66-284 THRU 66-367.
14. F-4E 66-368 AND UP AND F-4G.
15. F-4C 63-7407 THRU 63-7420.
16. F-4C AND F-4D.
17. F-4C 63-7469 THRU 64-928 AND F-4D.
18. F-4E AND F-4G.
19. F-4C 63-7407 THRU 63-7468.
20. F-4C 63-7469 THRU 64-928, F-4D 64-929 THRU 66-8825, AND F-4E 66-284 THRU 67-208.
21. F-4C AND F-4D 64-929 THRU 66-8698.
22. F-4E 66-284 THRU 66-367.
23. F-4C 63-7407 THRU 64-764.
24. F-4C 64-765 THRU 64-928, F-4D, F-4E, AND F-4G.
25. F-4E 67-238 AND UP, AND F-4G.
26. F-4E 67-209 THRU 67-237.
27. F-4D 65-794 THRU 66-8825 AND F-4E 66-284 THRU 68-409.
28. F-4E 68-410 AND UP AND F-4G.
29. F-4E 66-284 THRU 68-538, F-4E/G 69-236 THRU 69-7260, F-4C AND F-4D. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
30. F-4E/G 69-7261 THRU 69-7588, F-4E 69-7589 AND UP. FUTURE PROCUREMENT FOR PRECEDING PART.
31. FOR REPAIR, SEE FIGURE 5-31A.
32. FOR REPLACEMENT, SEE FIGURE 5-31B.
33. F-4D 64-929 THRU 66-8698, F-4E 66-284 THRU 66-367; ALSO F-4E 68-410 AND UP, F-4G, F-4C, AND RF-4C.
34. F-4D 66-8699 THRU 66-8825 AND F-4E 66-368 THRU 68-409.
35. F-4C, F-4D, F-4E, RF-4C, AND MODIFIED ON F-4G.
36. INSTALL LOWER SEAL WITH MIL-S-8802.

4C-3-1-2-(182-2)F

Figure 5-29. Vertical Fin Spars and Closures Repair Index - F-4 (Sheet 2 of 2)

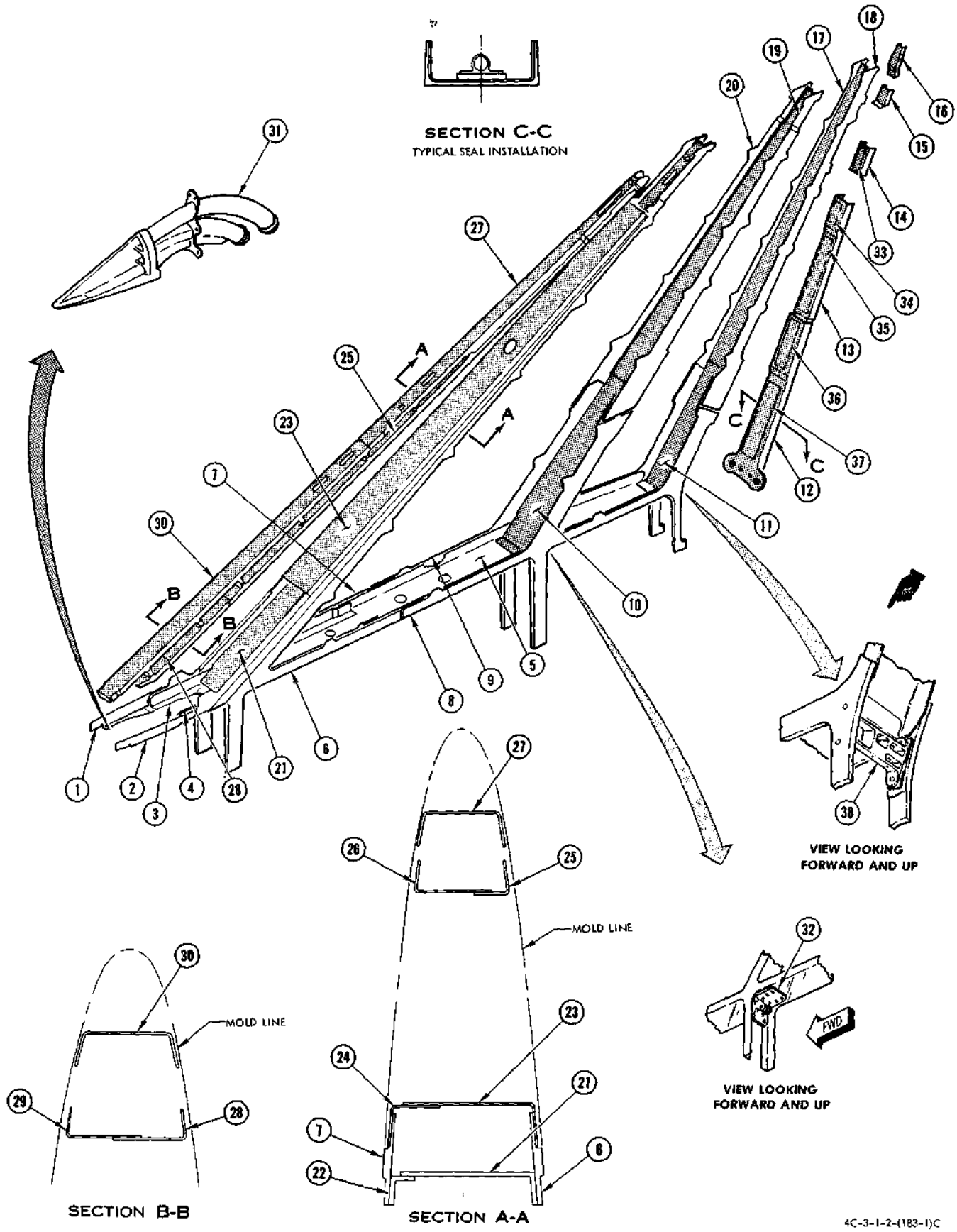


Figure 5-30. Vertical Fin Spars and Closures Repair Index - RF-4 (Sheet 1 of 2)

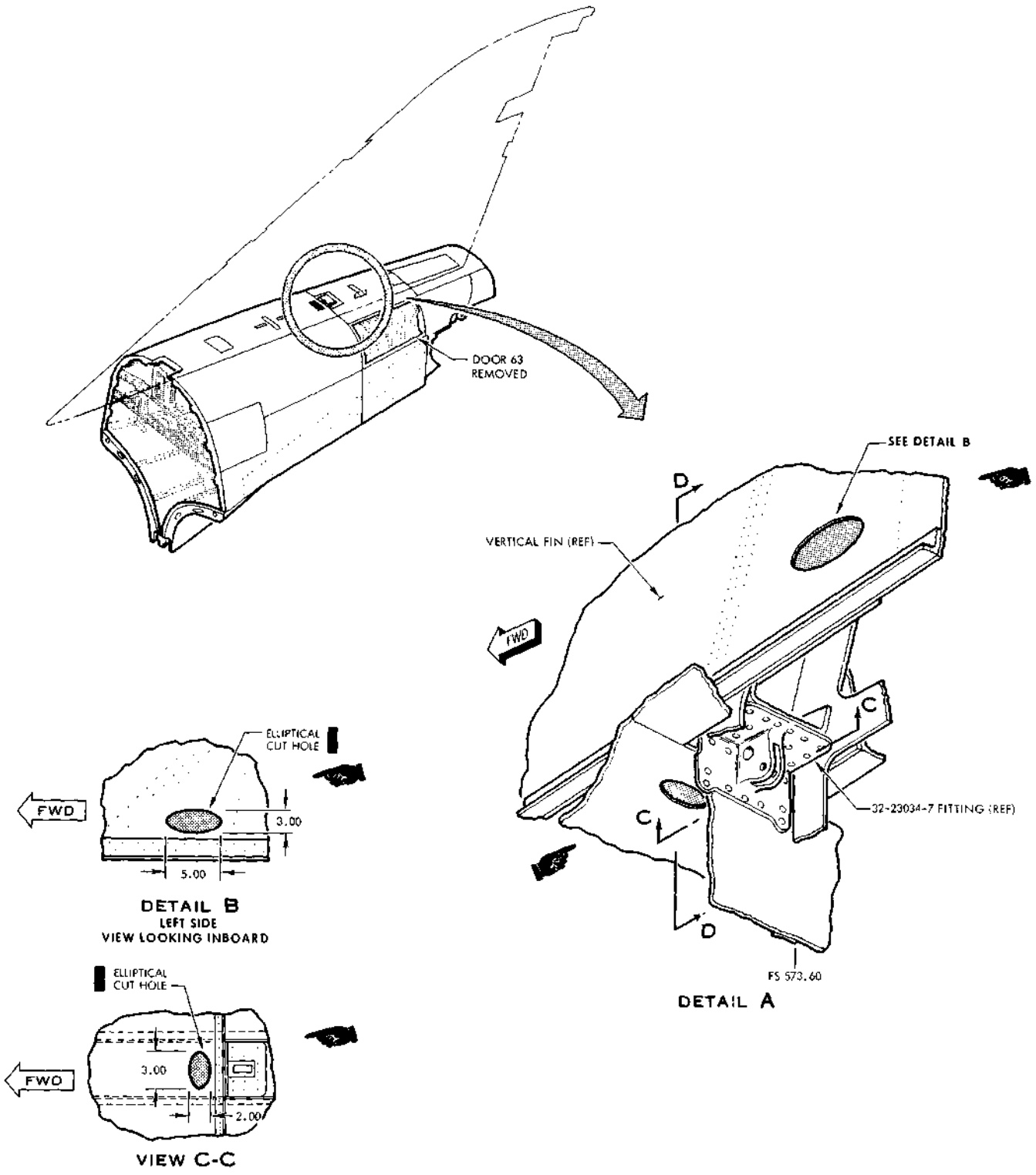
REF NO.	PART NUMBER	PART NAME	GAGE OR EXTRUSION	MATERIAL	SPECIFICATION
1	32-23064-8	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
2	32-23064-7	ANGLE	0.071	7178-T6 ALCLAD	QQ-A-250/15 (T6)
3	32-23065-22	CAP	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	32-23065-21	CAP	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	32-23065-35	CHANNEL	0.125	7178-T6 ALCLAD	QQ-A-250/15 (T6)
6	32-23073-7	PLATE	0.625	7178-T651 AL ALY	QQ-A-250/14 (T651)
7	32-23073-8	PLATE	0.625	7178-T651 AL ALY	QQ-A-250/14 (T651)
8	32-23073-5	PLATE	0.500	7178-T651 AL ALY	QQ-A-250/14 (T651)
9	32-23073-6	PLATE	0.500	7178-T651 AL ALY	QQ-A-250/14 (T651)
10	32-23070-3	CHANNEL	0.100	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-23071-3	CHANNEL	0.090	7178-T6 ALCLAD	QQ-A-250/15 (T6)
12	32-23033-7	FITTING	1M7325	7075-T6 AL ALY	QQ-A-200/11 (T6)
13 10	32-23005-3	BEAM	0.064	7178-T6 ALCLAD	QQ-A-250/15 (T6)
11	32-23005-19	BEAM	0.064	7178-T6 ALCLAD	QQ-A-250/15 (T6)
14	32-23005-5	BEAM	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
15	32-23055-3	BEAM	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
16	32-23055-5	BEAM	0.040	7075-T6 AL ALY	QQ-A-250/13 (T6)
17	32-23029-17	CAP	1M5622	7075-T6 AL ALY	QQ-A-200/11 (T6)
18	32-23029-15	CAP	1M5693	7075-T6 AL ALY	QQ-A-200/11 (T6)
19	32-23030-19	CAP	1M5620	7075-T6 AL ALY	QQ-A-200/11 (T6)
20	32-23030-21	CAP	1M5694	7075-T6 AL ALY	QQ-A-200/11 (T6)
21 7	53-23507-3	CAP	1M2548	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	53-23507-15	CAP	1M2548	7178-T6 AL ALY	QQ-A-200/13 (T6)
22 7	53-23507-5	CAP	1M2548	7178-T6 AL ALY	QQ-A-200/13 (T6)
8	53-23507-17	CAP	1M2548	7178-T6 AL ALY	QQ-A-200/13 (T6)
23	53-23521-35	CLOSURE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
24	53-23521-37	CLOSURE	0.040	7178-T6 ALCLAD	QQ-A-250/15 (T6)
25 14	53-23521-31	CLOSURE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	53-23521-39	CLOSURE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-23521-43	CLOSURE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
26 14	53-23521-33	CLOSURE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
4	53-23521-41	CLOSURE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
5	53-23521-45	CLOSURE	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
27 14	53-23518-5	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
6	53-23518-11	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
9	53-23518-13	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
28	53-23521-11	CAP	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
29	53-23521-13	CAP	0.032	7178-T6 ALCLAD	QQ-A-250/15 (T6)
30	53-23518-3	SPAR	0.040	7075-T6 ALCLAD	QQ-A-250/13 (T6)
31 12	53-23513-1	DUCT ASSY	2	RESIN LAMINATED GLASS FABRIC	MIL-C-9084
13	53-23513-301	DUCT ASSY	2	RESIN LAMINATED GLASS FABRIC	MIL-C-9084
32	32-23034-7 3	FITTING	FORGING	7075-T6 AL ALY	QQ-A-367 (T6)
33	32-23058-5	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III GRADE 50
34	32-23058-7	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III GRADE 50
35	32-23058-9	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III GRADE 50
36	32-23058-11	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III GRADE 50
37	32-23058-15	SEAL	0.020	RUBBER AND FIBERGLASS LAMINATE	MIL-R-5847D CLASS III GRADE 50
38 15	32-33076-7 17	FITTING	1M97113	7075-T6 AL ALY	QQ-A-200/11 (T6)
16	32-33076-9 17	FITTING	1M97113	7075-T6 AL ALY	QQ-A-200/11 (T6)

Notes

1. FOR ADDITIONAL INFORMATION REFER TO TEXT.
2. FOR REPAIR PROCEDURES REFERENCE TO 1F-4C-3-1-5.
3. FOR REPLACEMENT, SEE FIGURE 5-31.
4. RF-4C 63-7749 THRU 63-7763.
5. RF-4C 64-997 THRU 72-156.
6. RF-4C 63-7750 THRU 64-1011.
7. RF-4C 63-7742 THRU 64-1035.
8. RF-4C 64-1036 THRU 72-156.
9. RF-4C 64-1012 THRU 72-156.
10. RF-4C 63-7742 THRU 64-1067.
11. RF-4C 64-1068 THRU 72-156.
12. RF-4C 63-7742 THRU 64-1083.
13. RF-4C 64-1084 THRU 72-156.
14. RF-4C 63-7742 THRU 63-7748.
15. RF-4C 63-7742 THRU 69-375. FOR FUTURE PROCUREMENT USE FOLLOWING PART.
16. RF-4C 69-376 THRU 72-156. FUTURE PROCUREMENT FOR PRECEDING PART.
17. FOR REPAIR, SEE FIGURE 5-31A. FOR REPLACEMENT, SEE FIGURE 5-31B.

4C-3-1-2-(183-2)C

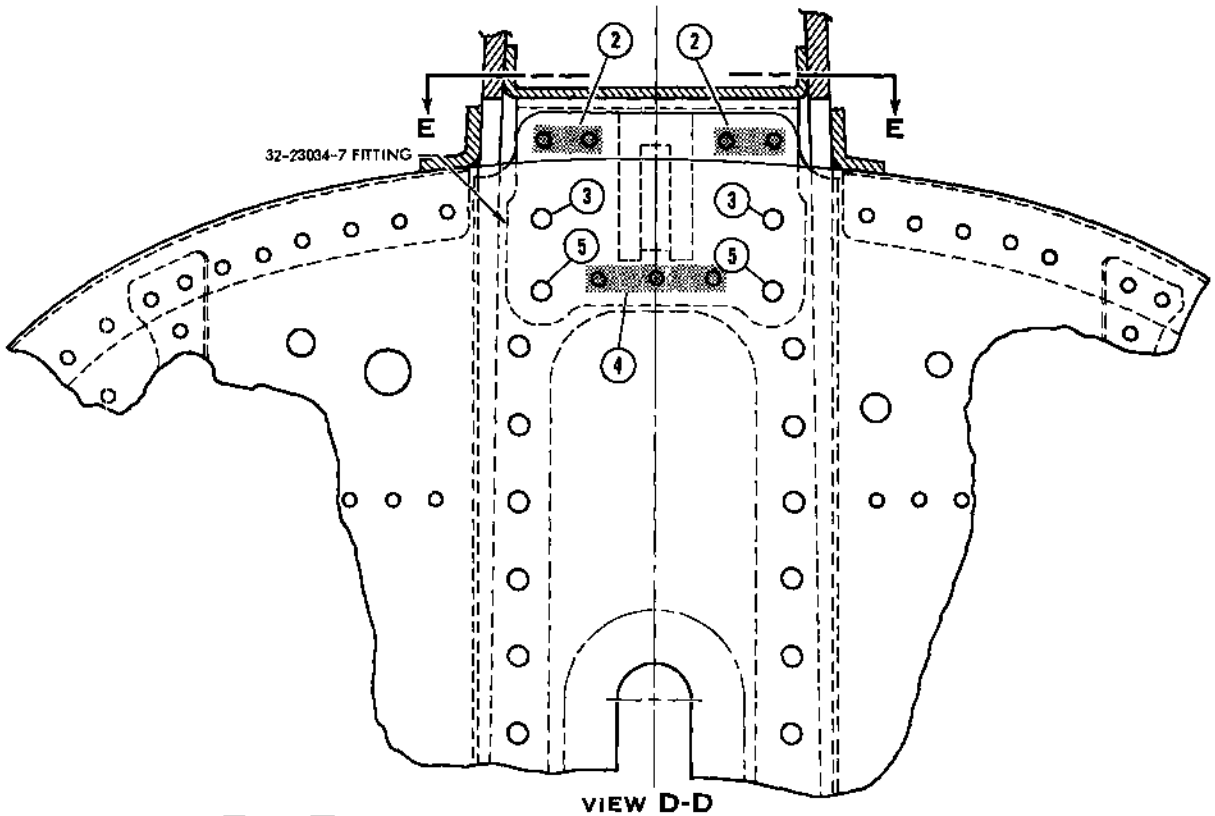
Figure 5-30. Vertical Fin Spars and Closures Repair Index - RF-4 (Sheet 2 of 2)



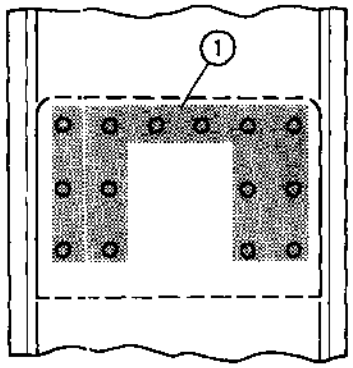
4C 3 1-2-(184-1)C

Figure 5-31. Stabilator Actuator Attach Fitting, 32-23034-7, Replacement (Sheet 1 of 2)

★U.S. GOVERNMENT PRINTING OFFICE 1987-754-017/60543



VIEW D-D
LOOKING AFT
FS 573.60
32-23034-7 FITTING



VIEW E-E

REF NO	FASTENER	COLLAR OR WASHER	NUT	TORQUE (INCH-LB)	HOLE SIZE
1	NAS1054-8-5 (6)	NAS528A-A8			0.250 +.006 -.000
	NAS464P4A (7)	AN960C416 (3) AN960C416L (4)	MS21042-4	30-40	0.250 +.006 -.000
2	NAS464P4A-8	AN960C416 (5) AN960C416L (3)	MS21042-4	30-40	0.2500 +.0012 -.0005
3	NAS464P6L-12	AN960C616 (4) AN960C616L (5)	MS21042-6	95-110	0.3750 +.0012 -.0005
4	NAS464P4A-10	AN960C416 (3) AN960C416L (4)	MS21042-4	30-40	0.2500 +.0012 -.0005
5	NAS464P6L-10	AN960C616 (5)	MS21042-6	95-110	0.3750 +.0012 -.0005

REPLACEMENT PROCEDURE

NOTE

EXTENT OF DAMAGE TO ATTACH FITTING SHOULD BE DETERMINED BY FLUORESCENT PENETRANT INSPECTION PER T.O. 1F-4C-36.

A. REMOVE DOORS 63, 64, AND 65.
B. REMOVE STABILATOR ACTUATOR CYLINDER, REFER TO T.O. 1F-4( )-2-4, AND NECESSARY HARDWARE TO ALLOW ACCESS TO WORK AREA.
C. TO FACILITATE REMOVAL AND INSTALLATION OF THE FITTING, CUT TWO HOLES IN SKIN AS FOLLOWS:

(1) HOLE IN AFT FUSELAGE SKIN SHALL BE CUT IN SKIN ONLY FROM INSIDE ON THE CENTERLINE OF THE AIRCRAFT. HOLE IS REQUIRED TO OBTAIN ACCESS TO THE TOP ROW OF FASTENERS IN THE VERTICAL LEG OF THE FITTING.
(2) HOLE IN DETAIL B CAN BE CUT ON EITHER SIDE OF VERTICAL FIN.

D. UTILIZING HOLES CUT INTO SKIN, REMOVE ALL FASTENERS FROM FITTING AND REMOVE FITTING.
E. INSTALL NEW FITTING USING FASTENER AS SHOWN.
F. REPAIR HOLES CUT INTO THE SKIN. USE EITHER PATCH REPAIR OR INSERTION REPAIR PER T.O. 1F-4C-3-1-5.
G. REINSTALL STABILATOR ACTUATOR CYLINDER, REFER TO T.O. 1F-4( )-2-4, AND HARDWARE REMOVED IN STEP B.
H. REINSTALL DOORS 63, 64, AND 65.

Notes

1. ADDITIONAL INFORMATION CAN BE FOUND IN TEXT.
2. FASTENER LENGTHS NOT CALLED OUT ARE TO BE DETERMINED AT INSTALLATION OF FITTING.

(3) ONE UNDER HEAD.
(4) ONE UNDER NUT.
(5) ONE UNDER HEAD AND ONE UNDER NUT.
(6) FASTENER USED BEFORE FITTING REPLACEMENT.
(7) FASTENER USED AFTER FITTING REPLACEMENT.

4C-3-1-2-(184-2)B

Figure 5-31. Stabilator Actuator Attach Fitting, 32-23034-7, Replacement (Sheet 2 of 2)

AFT FUSELAGE AND COMPONENTS HINGE TOLERANCES

5-70. GENERAL.

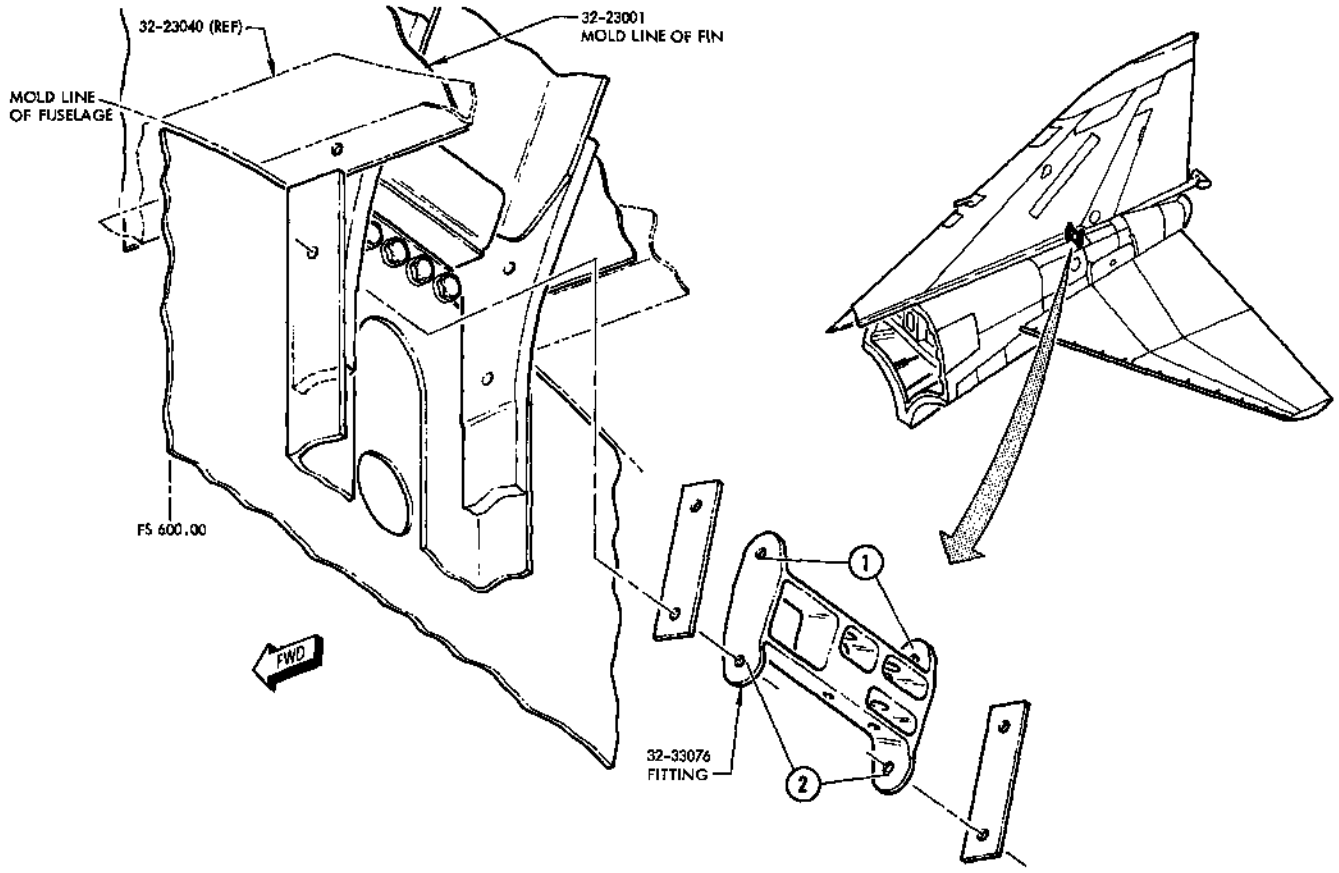
5-71. The hinge tolerances given in this section are the maximum wear and negligible damage limitations that can be given to insure safety of flight. To increase the life expectancy and insure proper operation of components, hinges and pins should be lubricated per TO 1F-4( )-2-2.

5-72. **WEAR TOLERANCES.** See figure 5-32. To determine if hinges and pins are within limits, measure the pin OD, and hinge tang hole ID, and subtract the difference against the in-service tolerance clearance column. If the clearance is not sufficient or it is too great, it may be possible to install a different hinge pin and bring the clearance within acceptable limits. If a hinge tang hole has been enlarged to such a degree that the maximum diameter pin is still insufficient, the tang shall be considered a missing tang for evaluating negligible damage.

5-73. **NEGLIGIBLE DAMAGE.** Nicks, scratches, gouges, or corrosion that is less than 0.005 in depth, after blending, are negligible.

5-74. **Negligible Limits for Hinge Legs.** Nicks, scratches, gouges, or corrosion that are less than 0.005 in depth, after blending, are negligible.

5-75. **Negligible Limits for Hinge Tangs.** Nicks, scratches, gouges, or corrosion that do not exceed 0.010 in depth, after blending, are negligible, on 10 percent of total number of tangs. Number of missing, cracked, or severly corroded hinge tangs shall not exceed 10 percent of total number of tangs. If a crack cannot be blended out within negligible damage limits, replace hinge. For rework of negligible damage refer to TO 1F-4C-3-1-5.



REF NO.	FASTENER	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	TORQUE (INCH-LB)	NUT OR COLLAR	HOLE SIZE
1	NAS1704T15 [1]			AN960D416 [5]		40-60	MS21042-4	0.266 +.005 -.000
	NAS1604T15 [2]			AN960D416 [5]		40-60	MS21042-4	0.282 +.005 -.000
	HT4024L5-15 [3]			AN960D516L		65-95	MS21042-5	0.312 +.007 -.000
	HT4010-5-15 [4]			AN960D516L [5]		65-95	MS21042-5	0.329 +.006 -.000
2	NAS2904-14W [1]			AN960D416 [5]		40-60	MS21042-4	0.266 +.005 -.000
	NAS3004-14W [2]			AN960D416 [5]		40-60	MS21042-4	0.282 +.005 -.000
	AN5-13A [3]		AN960D516	AN960D516L		65-95	MS21042-5	0.312 +.005 -.000
	NAS2905-14W [4]		AN960D516	AN960D516L		65-95	MS21042-5	0.329 +.005 -.000

REPAIR PROCEDURE

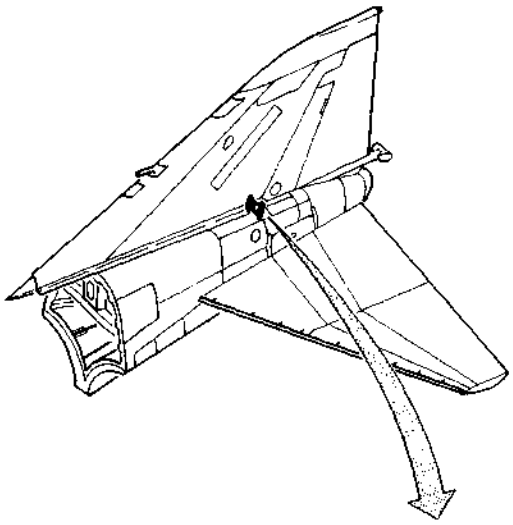
A. REMOVE FASTENERS FROM 32-33076 FITTING AND MATING STRUCTURE.
B. CHECK HOLE DIAMETER IN 32-33076 FITTING AND MATING STRUCTURE.
C. IF HOLES ARE WITHIN TOLERANCE 0.250 +.006, -.000 IN STRUCTURE AND OVERSIZE IN 32-33076 FITTING, REPLACE FITTING PER FIGURE 5-31B. RETAIN SHIMS FOR REINSTALLATION.
D. IF HOLES ARE OVERSIZE IN STRUCTURE AND EDGE DISTANCE CAN BE MAINTAINED ON FITTING USE REPAIR FASTENERS PER THE FOLLOWING CONDITION:
   (1) CONDITION I. USE OVERSIZE FASTENER PER NOTE [1]
   (2) CONDITION II. USE OVERSIZE FASTENER PER NOTE [2]
   (3) CONDITION III. USE OVERSIZE FASTENER PER NOTE [3]
   (4) CONDITION IV. USE OVERSIZE FASTENER PER NOTE [4]
E. IF EDGE DISTANCE CANNOT BE MAINTAINED, ADD BLANK FITTING WITH EXTRA TRIM. NEW FITTING WILL HAVE TO BE HOGGED OUT.
F. LOCATE NEW FITTING AND DRILL HOLES TO SIZE IN MATING STRUCTURE AND FASTENER CHART.
G. REMOVE FITTING AND DEBURR HOLES.
H. REFINISH TRIMMED EDGES, HOLES, AND COUNTERSINKS IN ACCORDANCE WITH CORROSION PROCEDURE TO 1F-4C-3-1-6.
I. INSTALL NEW FITTING AND SHIMS WITH FASTENER CALLED OUT IN FASTENER CHART AS APPLICABLE.

Notes

[1] USE IF 0.34 EDGE DISTANCE CAN BE MAINTAINED.
[2] USE IF 0.36 EDGE DISTANCE CAN BE MAINTAINED.
[3] USE IF 0.40 EDGE DISTANCE CAN BE MAINTAINED.
[4] USE IF 0.42 EDGE DISTANCE CAN BE MAINTAINED.
[5] USE NEXT SIZE WASHER IF REQUIRED TO FIT OVERSIZE FASTENER.

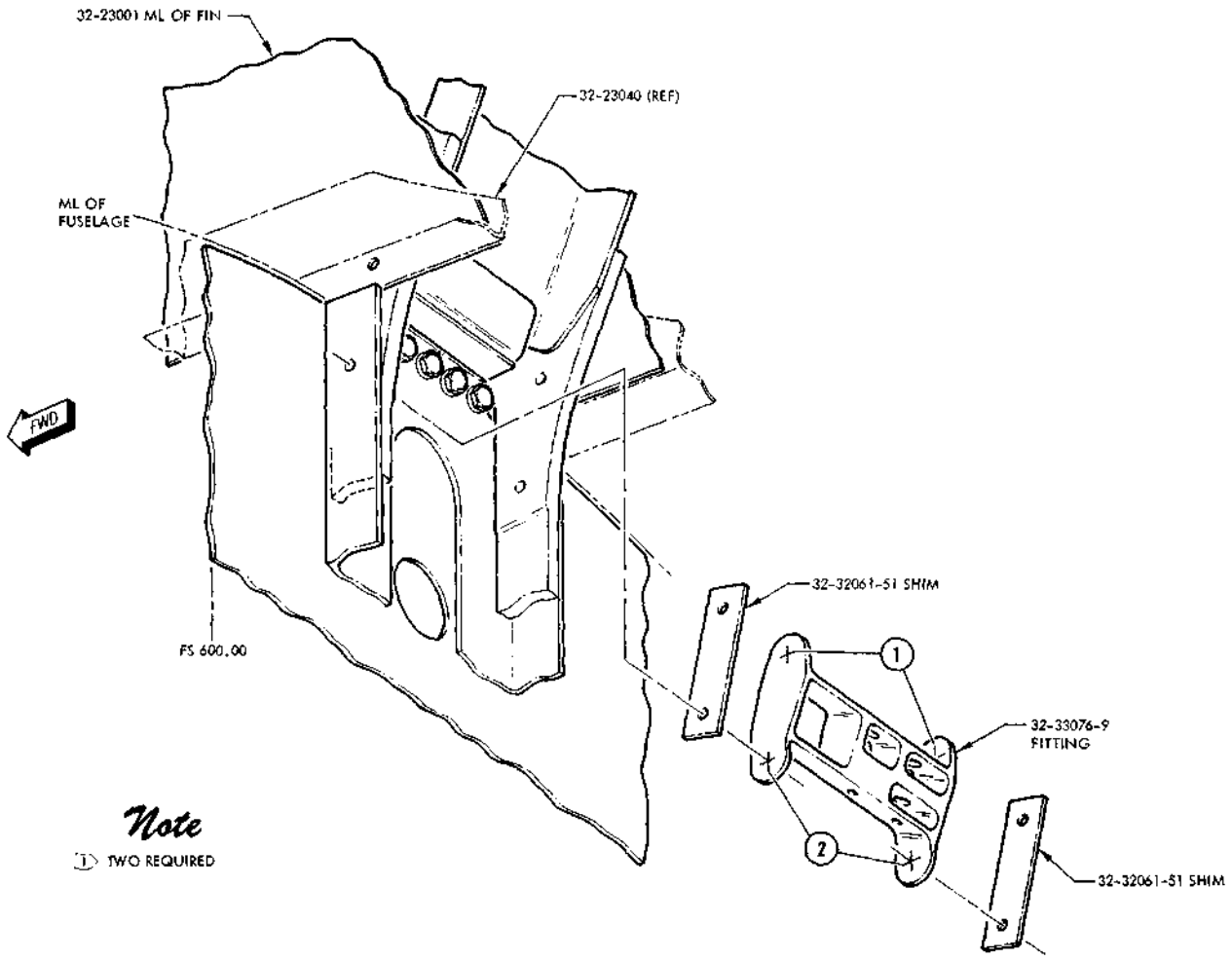
4C-3-1-2-(57)

Figure 5-31A. Fitting, 32-33076, Fastener Repair



REPLACEMENT PROCEDURE

A. REMOVE DOOR 66 REFERENCE TO 1F-4C-3-1-3.
B. REMOVE RUDDER ACTUATOR CYLINDER, REFERENCE TO 1F-4( )-2-4.
C. REMOVE 32-33076-7 OR -9 FITTING AND 32-32061-51 SHIMS. RETAIN SHIMS FOR REINSTALLATION.
D. WHEN REPLACING 32-33076-7 FITTING USE 32-33076-9 FITTING.
E. LOCATE NEW FITTING AND DRILL FASTENER HOLES (INDICATED BY CENTERLINE MARK (+) TO SIZE IN CHART.
F. REMOVE FITTING AND DEBURR HOLES.
G. REFINISH HOLES IN ACCORDANCE WITH CORROSION CONTROL PROCEDURE IN TO 1F-4C-3-1-6.
H. INSTALL NEW FITTING AND REINSTALL SHIMS WITH FASTENERS CALLED OUT IN CHART.
I. REINSTALL RUDDER ACTUATOR CYLINDER, REFERENCE TO 1F-4( )-2-4.
J. REINSTALL DOOR 66, REFERENCE.



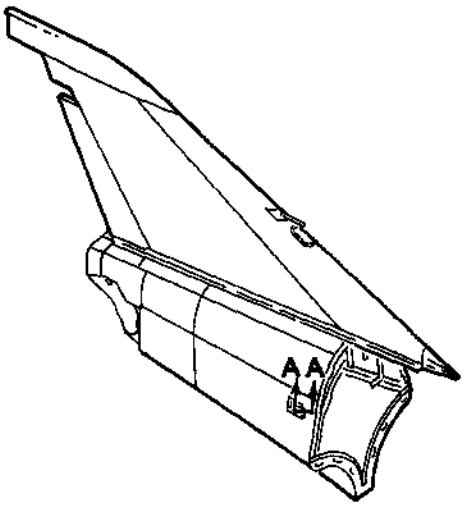
Note

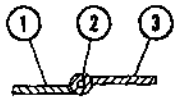
(1) TWO REQUIRED

REF NO.	FASTENER	GASKET	WASHER UNDER HEAD	WASHER UNDER NUT	SHIM OR SPACER	TORQUE (INCH-LB)	NUT OR COLLAR	HOLE SIZE
1	MS24694S109			AN960D416L		40-60	MS21042-4	0.250 +.006 -.000
2	AN4-13A		AN960D416 (1)	AN960D416L (1)		40-60	MS21042-4	0.250 +.006 -.000

4C-3-1-2-(95)

Figure 5-31B. Fitting, 32-33076, Replacement Index





SECTION A-A

Notes

1. ADDITIONAL INFORMATION MAY BE FOUND IN TEXT.
2. FOR HINGE REPLACEMENT, REFER TO T.O. 1F-4C-3-1-3.
3. HINGE PIN SIZE 0.089 ±.001 DIAMETER, CORROSION RESISTANT STEEL, QQ-W-423 OR EQUIVALENT.

■ ▶ F-4E 66-284 THRU 69-7589, F-4C, F-4D, AND F-4G.
▶ RF-4C AND F-4E 71-224 AND UP.

REF NO	PART NUMBER	PART NAME	IN SERVICE TOLERANCE			
			HOLE SIZE		CLEARANCE	
			ALL HOLES	10% OF HOLES	ALL HOLES	10% OF HOLES
1	■ 32-33137-19 ▶ 53-33509-17	HINGE DOOR	0.093 $^{+.007}_{-.000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 1 AND 2 0.011 MAXIMUM	BETWEEN 1 AND 2 0.014 MAXIMUM
2	MS20253P2-300	HINGE PIN 3				
3	■ 32-33137-611 ▶ 53-33509-15	HINGE STRUCTURE	0.093 $^{+.007}_{-.000}$	0.093 $^{+.010}_{-.000}$	BETWEEN 2 AND 3 0.011 MAXIMUM	BETWEEN 2 AND 3 0.014 MAXIMUM

4C-3-1-2-(169)C

Figure 5-32. Aft Fuselage and Component Hinge Tolerances

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