

FIAT AVIATION

1914 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934

FARMAN 5 B

S.I.A. 7B1

S.P.3

SVA IDRO AM

S.I.A. 7B2

S.I.A. 9B

SVA 5

SVA 5 B

BR

A 300

A 300/C

A 300/T

SVA BRESCIA (I.F. V6)

SVA BRESCIA (SPA 6A)

R.700

CR

CR.1

BR.2

A 115

A 115 BIS

AC/2

AC/3

A 120

A 120 BIS

CR.20B

A 120 ADY

AS.2

CR.20 BIS

CR.20 A.Q.

C.29

B.R.G.

MF.4

CR.32

MF.5

G 5/1

G 5/2

CR.
32 BI

APR.

S.P.1

S.I.A. 1200

S.P.2

SVA 9

SVA 10

A 1 BALILLA

R.2

A 300/3

A.R.F.

A.L.

A 300/2

A 300/4

A 201

A 202

A 300/5

CR.10

A 400

BR.1

AC/4

SVA 10 MEZZOASSO

CR.20

R.22

CR.2

CR.20 IDRO

AS.1

AS.1 IDRO

AS.1 SCI

AN.1

TR.1

BR.3

G 2/1

CR. ASSO

G 2/2

CR.30

G 2/3

CR.30 B

G 2/4

G 5 BIS

CR.30 IDRO

CR.40

BR.4

CR.40 BIS

G 8

MF 6

1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 194

G 18
MF.10
G 50
G 18V
CR.33
BR.20A
CR.25
BR.20 L
CR.25 QUATER
BR.20 M
CR.42
FC.20 BIS
G 12 T
G 50 TER
BR.20 BIS
G 50 V
CR.42 B
G 12 GONDAR
FC.20
G 12 RT BIS
FC.20 QUATER
G 12 CA
G 12 L
G 12 LP
G 46-1 B
G 212
CR.41
BR.20
CR.32 TER
B.G.A.
CR.32 QUATER
RS.14
ICR.42
G 50 B
C.5
G 12 C
C.5 B
C.5 B/1
FC.12
G 50 BIS
G 55
C.6 B
G 12 GA
G 12 LGA
AS.14
G 12 RT
G 50 BIS A
C.4
G 56
G 55 S
G 55 A
G 55 B

1945

CA

G 55 A

G 55 B

1946

1947

G 12 L

G 12 LB

G 46-1 B

G 212 CA

G 12 LP

G 212 CP

G 59 B

G 46-3 B

G 46-2 B

1948

1949

G 12 LA

G 59-1 A

G 46-3 A

G 212
AULA VOLANTE

G 12
AULA VOLANTE

G 59-2 B

1950

1951

G 46-4 B

G 59-2 A

G 46-5 B

G 46-4 A

G 59-3 A

G 59-4 B

G 59-4 A

G 80-1 B

G 49-2

VAMPIRE
MK 52

1952

1953

G 49-1

G 80-3 B

G 82

F 86 K

1954

1956

FN 333

G 91

G 91 T

1957

# FIAT AVIATION

The FIAT, first established in 1899 as the Fabbrica Italiana Automobili Torino, has become one of the biggest industrial groups in Europe manufacturing motorised production for "land, sea, air".

In 1908 FIAT commenced production of aviation engines and in 1914 that of aircraft.

From that year until the present date FIAT produced 52 types of aviation engines and 162 types of aircraft. Exceptional flights and records of international renown held by Fiat Aircraft and Engines total 70.

The table shown at left indicates the various types of aircraft built by FIAT from 1914 to 1957.

At the present time FIAT's aeronautical activities are directed by the « Divisione Aviazione », which includes

aircraft and aviation engine designing, technical services; aircraft and aviation engine production and testing organizations, committed to the « Stabilimenti Avio »; commercial and administrative, technical liaison, assistance and inspection services.

Aeronautical production is carried on in cooperation with the U.S.A. and European NATO Nations.

## AIRCRAFT

### trainers

FIAT G 46 piston-engined
FIAT G 49 piston-engined
FIAT G 59 piston-engined
FIAT G 82 jet-engined
FIAT G 91T jet-engined

### jet fighters

FIAT G 91 light tactical support
FIAT F 86K all-weather (NAA licence)
FIAT Vampire Mk 52 (D.H. licence)
▪ F 86D all-weather

### touring and executive

FN 333 four-seater amphibian

## ENGINES

### turbojets

FIAT 4002 and its developments
FIAT GHOST (D.H. lic.)
FIAT GOBLIN (D.H. lic.)
✱ ALLISON J35-A-29 (Allison lic.)
✱ ▪ GENERAL ELECTRIC J47 (G.E. lic.)
✱ CURTISS WRIGHT J65 (on behalf of C.W.E.)

### piston engines

✱ ▪ PRATT & WHITNEY R.985 (P. & W. lic.)
✱ ▪ PRATT & WHITNEY R.1830 (P. & W. lic.)
▪ PRATT & WHITNEY R.2800
▪ ROLLS ROYCE MERLIN 500
▪ ROLLS ROYCE-PACKARD V1650/7
▪ CURTISS WRIGHT Turbo compound (C.W. lic.)

## PROPELLERS

### (Hamilton licence)

FIAT 5006 two-bladed
2D 30 two-bladed
23E 50 three-bladed
FIAT 5010 four-bladed (conversion of Hamilton 24D 50 propeller)

## HELICOPTERS

SIKORSKY S-58 (manufacture of mechanical parts on behalf of Sud Aviation)

## ELECTRONIC WORKS

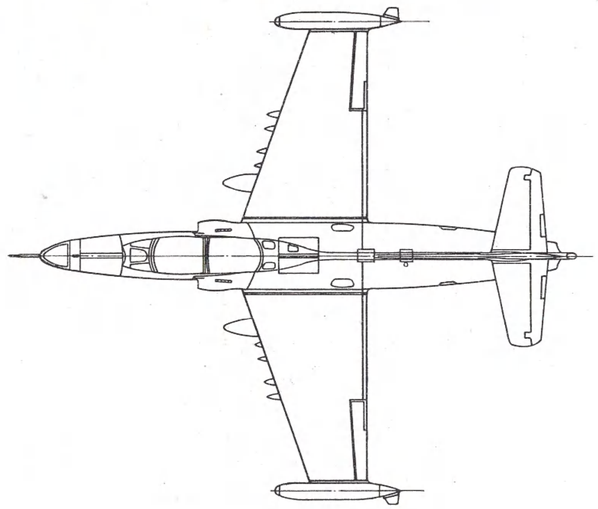
▪ Fire Control System MG4 (N.A.A. licence)
▪ F86 K and F 86D electronic systems and other radio and electronic equipment.

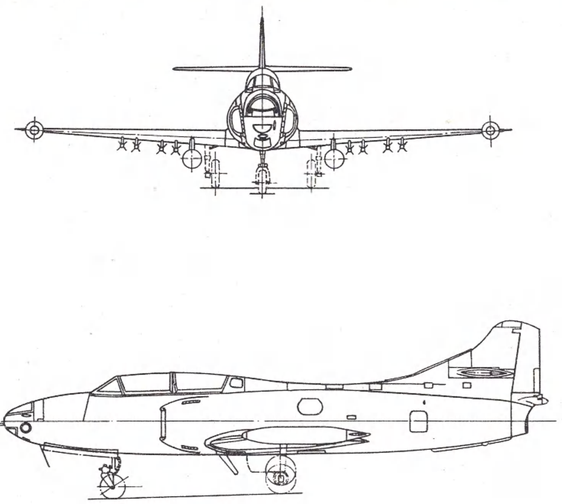
New aircraft, helicopter and engine designs and production programs are in course of development.

▪ *overhauling*
✱ *manufacture of parts*







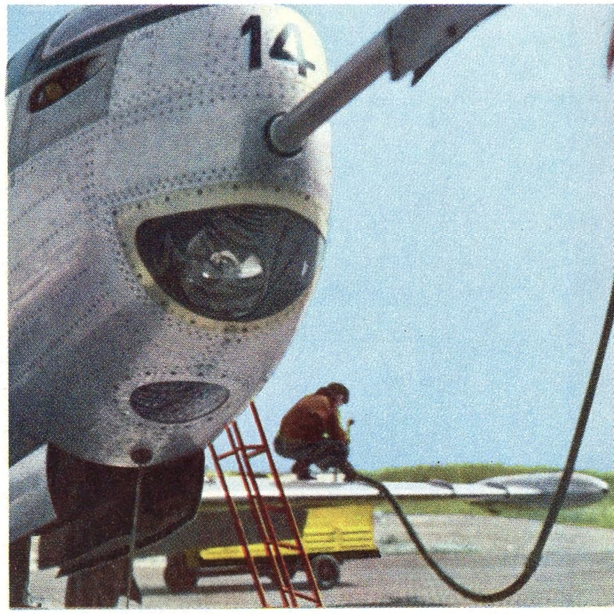


# FIAT G 82

The FIAT G 82 is a jet aircraft expressly designed for advanced and operational training. It has been tested and evaluated by NATO International Evaluation Teams, which have particularly appreciated it and expressed very favourable comments on the performance of this aircraft. It is fully comparable with the other similar types produced all over the world.

Its overall formula and particularly the tandem seating arrangement for pupil and instructor must be considered as most satisfactory for the special purposes for which the aircraft is intended. In effect it is an aircraft with the same flight characteristics as those of standard fighters.

The FIAT G 82, besides the excellent characteristics and extremely good manoeuvrability, offers several armament combinations, which render the aircraft, when necessary, operational and particularly suitable for those Nations that wish to train their pilots and strengthen their military air fleet at the same time.



The FIAT G 82 is a single-jet monoplane with dual control, all metal construction, cantilever low wing of the laminar boundary type, slotted type flaps, oval-section fuselage detachable in three sections, pressurized cockpit, canopies and seats jettisonable in flight by automatic control, ailerons fitted with hydraulic servo-controls, linkage by rigid rods for both rudder and ailerons, retractable tricycle type landing gear, automatically locked both in the landing and retracted positions, hydraulic wheel brakes controlled from rudder pedals, air brakes retractable in the central section of the fuselage, antispin parachute in the rear end of the fuselage.

FIAT is manufacturing and overhauling the FIAT G 82.

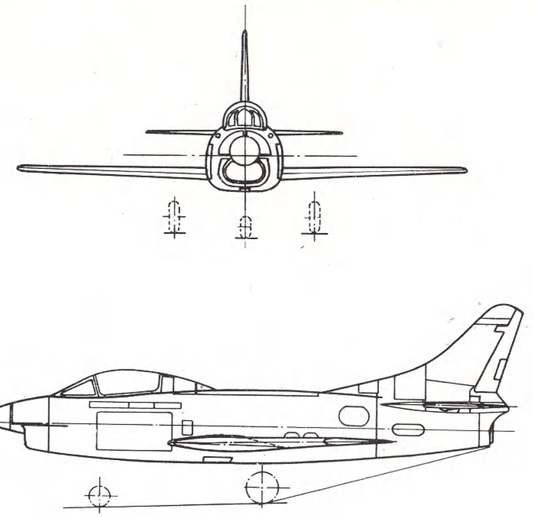
Rolls-Royce NENE type RN 6/21 turbojet engine of 5,400 lbs. static thrust.
Basic Armament - Two. 05'' Browning machine guns with 220 rounds each and eight rocket racks; two bomb racks; one gyro gunsight.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total weight | lbs. | 13,780 | Max. Mach number | | 0.88 | Time to: | |
| Span | 38 ft. 9 1/2 in. | | | | | 19,700 ft. | 4'30'' |
| Wing area | sq.ft. | 270.6 | Range with normal tankage | | | 29,530 ft. | 8'15'' |
| Take-off thrust | lbs. | 5,400 | at 29, 530 ft. (including take- | | | Service ceiling | ft. 42,600 |
| Max. level speed | knots | 500 | off, climb and descent) and | | | Take-off run | ft. 1,970 |
| Stalling speed | knots | 100 | V = 313 kts. | naut. miles | 620 | Landing run | ft. 2,790 |
| | | | | | | Normal fuel tank capacity | Imp. gals. 386 |

*NOTE: It is possible to considerably increase the range by fitting auxiliary pylons.*



# FIAT
# G 91



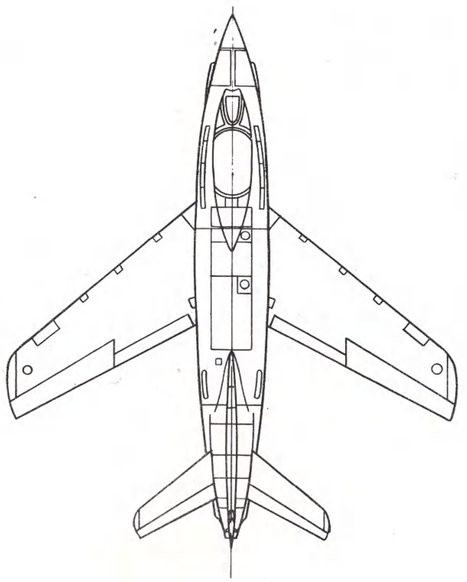


The FIAT G 91 is a light ground attack fighter, the design of which resulted winner in an international competition held by the NATO (North Atlantic Treaty Organization) among all the European Nations in the Atlantic Treaty.

It is capable of operating on grass or semi-prepared airfields, with take-off and landing distances extremely reduced and of quickly refuelling and reloading. Of extremely good manoeuvrability and powerfully armed, the G 91 is an aircraft fully respondent to the modern ground attack requirements.

In view of the above mentioned employment of the aircraft, particular care has been devoted to pilot's and most essential parts protection, with special regard to attack from the ground. The aircraft is however also suitable for air-to-air combat.

Of this aircraft, powered by a Bristol Orpheus B. Or. 3 turbojet engine of 4,850 lbs. thrust, no characteristics can be disclosed due to security reasons. It is however known that, in the course of its flight tests, the aircraft easily exceeded Mach 1 and has shown that it possesses really remarkable flight characteristics and performances.



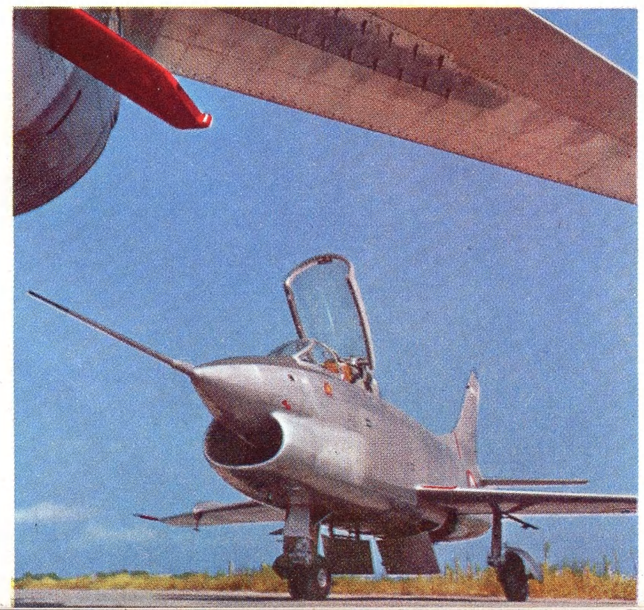
The aircraft has cantilever low swept-back wings of the laminar boundary layer type and cantilever swept-back tail unit.

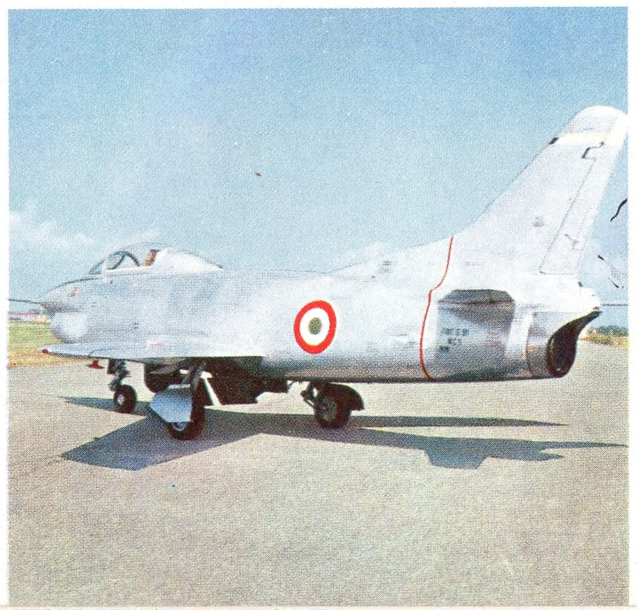
The undercarriage, of the tricycle type, is hydraulically retractable. The cockpit is quite comfortable for the pilot, nothwithstanding the small size of the aircraft, and visibility is excellent. The cockpit is sealed, pressurized and provided with air ventilation, conditioning and oxygen systems.

The aircraft is fitted with automatically controlled Martin Baker ejection seat.

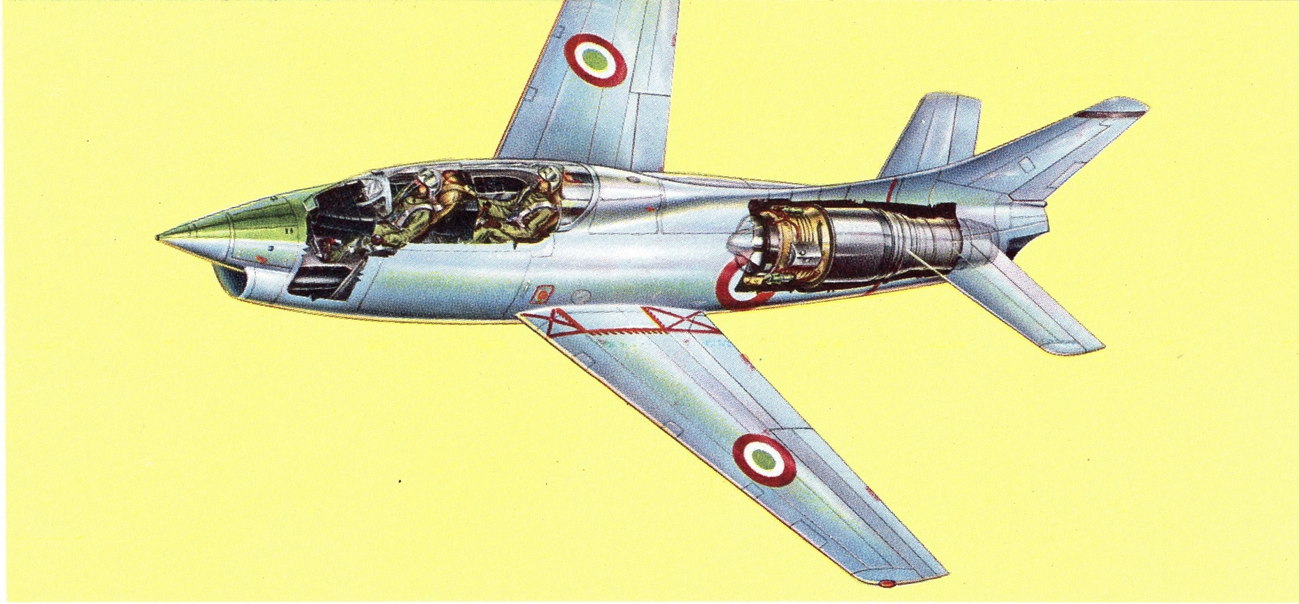
Besides the basic armament, provision is made for several alternative combinations of fuselage and wing armament loads.

The photographic version is called G 91 R and the two-seater training version G 91 T.



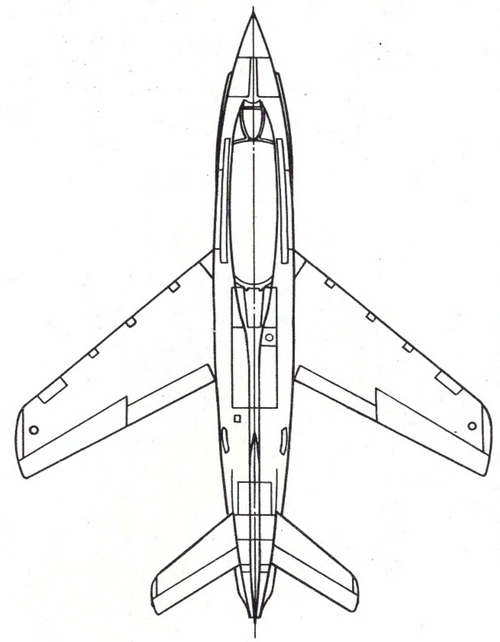






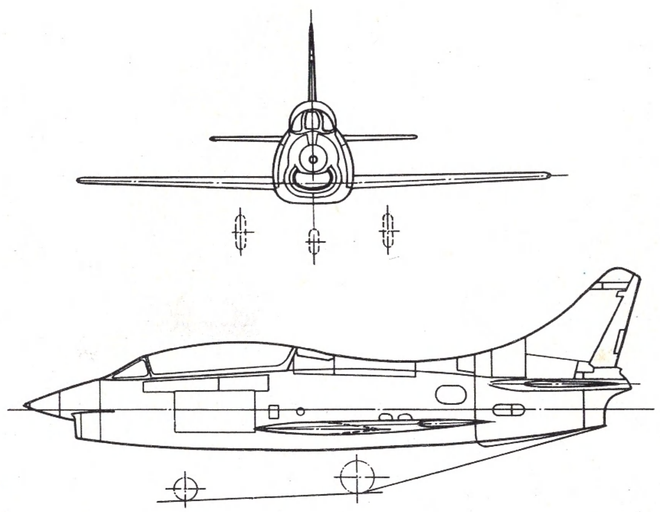
# FIAT G 91 T

It is an advanced, operational jet training aircraft for the transonic region. It may be considered as a development of the G 91 lightweight fighter, and it takes advantage of the experience acquired from the latter. As the G 91, it is an aircraft capable of taking off from short distances, also from grass or semiprepared fields. The tyre and brake dimensions have been adequately proportioned according to this requirement. Its overall dimensions are reduced; its manufacturing and operating costs are considerably low. The formula adopted for the construction of this aircraft is the classical one based on structural lines almost universally tested; the seating accomodation is of the tandem type, which is the only one that allows the pupil to find himself in almost identical flying conditions as those of the single-seater fighter planes. The rear seat, intended for the instructor, is in a slightly raised position in order to improve latter's visibility.
Powerplant: Bristol Orpheus B. Or. 4.

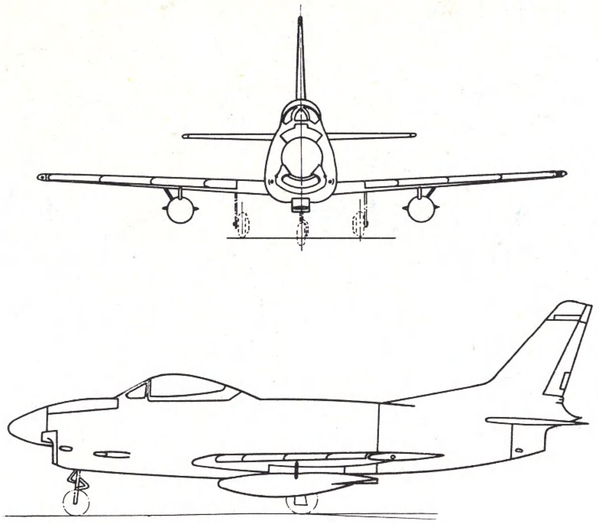


| | | |
|---|---|---|
| Gross weight | lbs. | 11,025 |
| Emergency static thrust | lbs. | 4,230 |
| Max. level speed, class | knots | 565 |
| Endurance | | 1h 40′ |

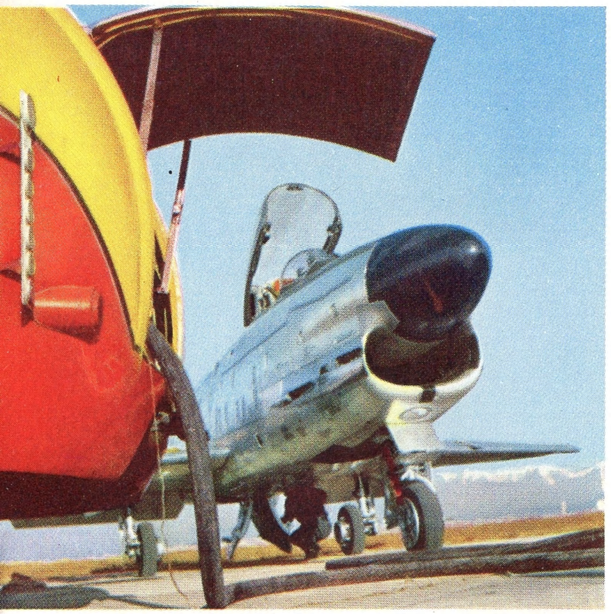
The design diving speed is 600 knots E.A.S. or M = 1.06







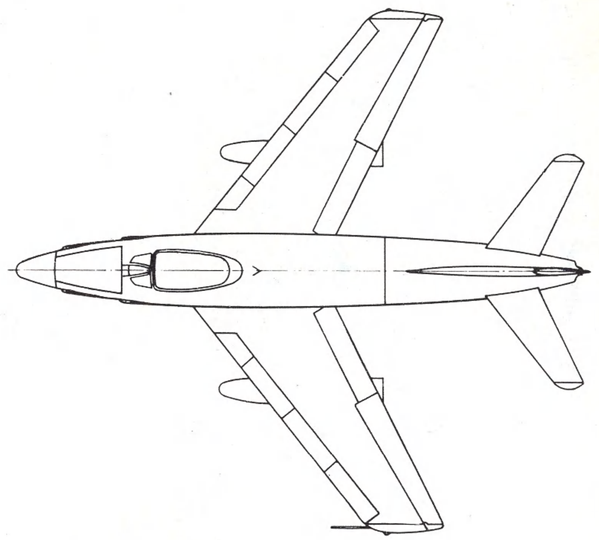
# FIAT
# F 86 K



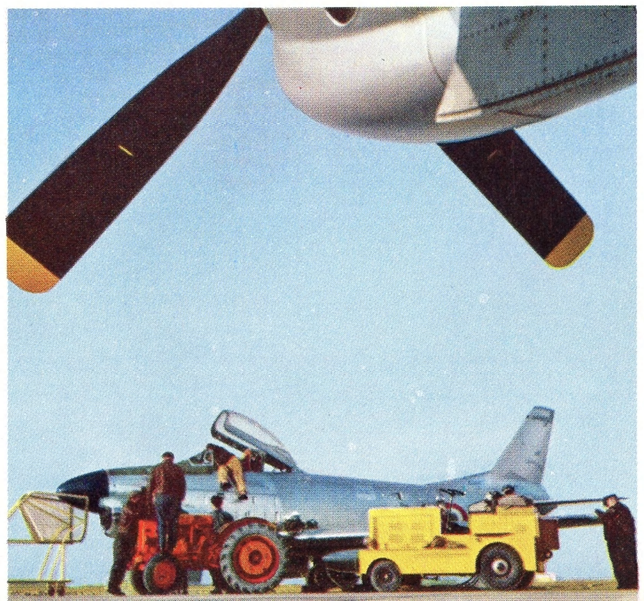
F 86K is the latest development of the famous SABRE series, various versions of which are in service in the U.S.A. and 10 Western European Nations, as well as in Asia, Africa and South America.

This aircraft, mass-produced by Fiat Works over a considerable period, is a single-jet engine all-weather fighter plane for night/day interception, has swept-back low wing with symmetrical profile, leading and trailing edge flaps, statically and aerodynamically balanced ailerons. Monocoque fuselage consisting of two detachable portions. Pressurized, air-conditioned and heated cockpit. Ejection seat. Swept-back tailplanes; statically and aerodynamically balanced rudder; horizontal plane, devoid of elevator, controllable in flight. Combined rigid and cable transmissions. Power-controlled ailerons and stabilizer. Rudder trim tab. Retractable tricycle landing gear with steerable nose wheel. Hydraulically operated wheel brakes. Air brakes and braking parachute.

Power plant: General Electric J47-GE-17 B turbojet engine, equipped with afterburner. Thrust: 7,350 lbs. with afterburner.

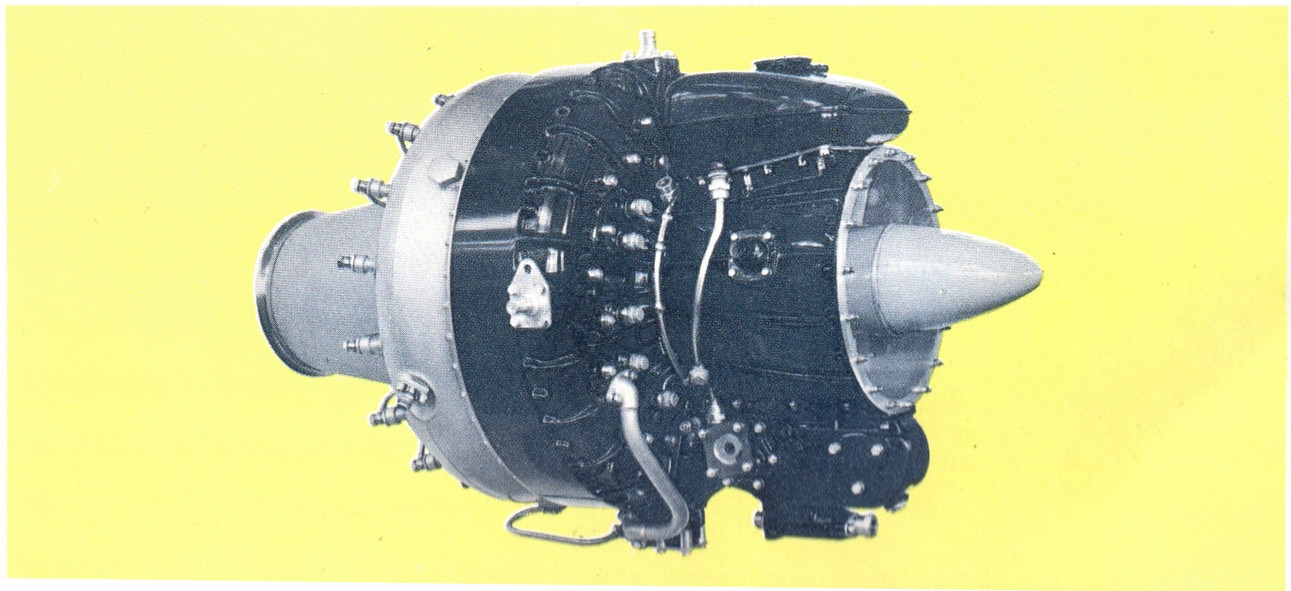


| | | |
|---|---|---|
| Wing area | sq. in. | 287.90 |
| Speed | m.p.h. | 650 class |
| Total normal take-off weight | lbs. | 18,000 |
| Maximum ceiling | ft. over | 45,000 |



# engines

With this jet engine FIAT started its designing and productive activities in the field of small jet-powered engines.
The design of this engine has been governed by following safety and lightness considerations through a simple construction, so as to develop a prototype of low cost coupled with ease of mass-production.
The air intake, cast in Magnesium-Zirconium alloy, has inside a hub with the supporting bearing of the main shaft. The compressor is of the single-stage centrifugal type, and has a compression ratio of about 4 : 1 with an airflow of 11 lbs. per sec. at 25,000 RPM. The combustion chamber is of the annular type with Simplex fuel spray nozzles. The whole unit has minimum length and radial dimensions and is fu'ly respondent to lightness, compactness, simplicity and easy accessibility requirements. The turbine is a single-stage axial flow machine of alloy steel with 47 Nickel Alloy blades attached to the disc by « fir-tree » coupling. The exhaust cone is of the fixed area type. Starting can be by compressed air or electrical.

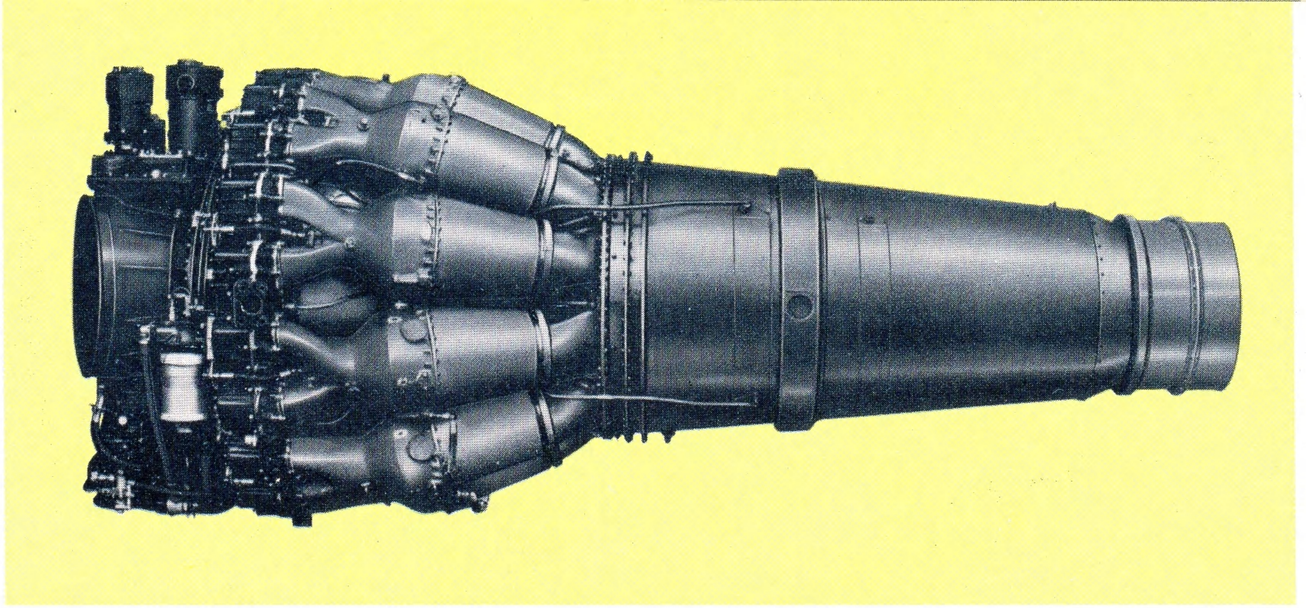


## FIAT 4002.001

| | |
|---|---|
| Diameter | in. 22.5 |
| Length | in. 34.8 |
| Weight | lbs. 194 |
| Frontal area | sq. ft. 2.8 |
| Wt./max. thrust | lb./lb.t. 0,27 |
| Fuel used | Kerosene |
| Fuel consumption | lbs./lb.t./h. 1.21 |
| Oil used | Aeroshell Turbine 9 |
| Max thrust at 25,000 RPM | lbs. 716 |

Of this engine there is also a version with 595 lbs. static thrust (4002.000)

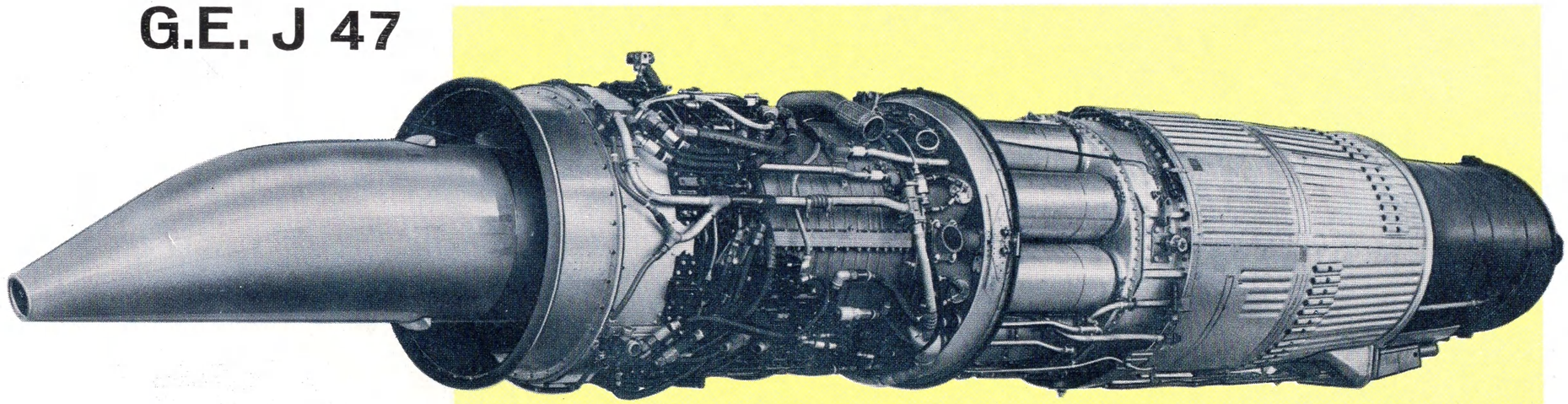
## FIAT GHOST



| | | |
|---|---|---|
| Diameter | in. | 53 |
| Length | in. | 130.5 |
| Weight | lb. | 2,175 |
| Frontal area | sq. ft. | 15.3 |
| Ratio weight/max. thrust | lb./lb.t. | 0.448 |
| Fuel consumption (normal) | lb./lb.t./hr. | 1.09 |
| Take-off thrust, static, at 10,250 RPM at sea level | lbs. | 4,850 |

The FIAT GHOST 48 Mk 1 is of the single-stage centrifugal compressor type, has a pressure ratio of 4,4 : 1 and an air mass flow, static, at 10,250 RPM and at sea level, of 88 lb/sec. The combustion chambers are of the conical straight-through flow type, with downstream fuel injection.

## G.E. J 47



| | | |
|---|---|---|
| Diameter at firewall | in. | 36.75 |
| Approximate length | in. | 226 |
| Approximate weight | lbs. | 3,276 |
| Approximate frontal area | sq. ft. | 8.63 |
| Ratio engine weight/max. thrust (reheat) | lb./lb.t. | 0.43 |
| Maximum fuel consumption (reheat) (sea level conditions at 7,950 RPM) | lb./lb.t./hr. | 2.3 |
| Thrust at 7,950 RPM with sea level conditions on reheat | lbs. | 7,500 |

The General Electric J-47-GE-17B is of the straight-through axial flow type. The compressor has a pressure ratio of 5.5 : 1 and an air mass flow of approximately 100 lbs. sec. at 7,950 RPM and at sea level. The combustion chambers are of the tubular, straight-through flow type and inside each inner chamber one Duplex fuel nozzle with downstream injection is fitted. The engine has an electronic control system operated by a single lever control, comprising automatic starting, acceleration control, exhaust nozzle area control and electronic exhaust temperature control.

# FIAT G 46

# FIAT G 49

# FIAT G 59









## FIAT G 46
(*primary trainer*)

Single-engined, dual control two-seater plane with two-bladed, constant speed type propeller, low box-spar cantilever wings, the G 46, designed for acrobatic training, normal training and touring, is in service, with fully satisfactory results with the Italian, Argentinian, Syrian and Austrian Air Forces.
Five version of the G 46 have been built.

## FIAT G 49
(*basic trainer*)

Single-engined, dual control two-seater monoplane with two-bladed, constant speed type propeller, low box-spar cantilever wings, the G 49, has been designed in compliance with the specifications issued by the Italian Air Force competition in which this airplane resulted winner.
Two version of the G 49 have been built.

## FIAT G 59
(*advanced trainer*)

Single-engined, dual control two-seater monoplane with four-bladed, constant type propeller, low cantilever box wings, the G 59, designed for the advanced training stage of pilots in high speed, high altitude and acrobatic flying, is in service with the Italian, Argentinian and Syrian Air Forces.
Four version of the G 59 have been built.



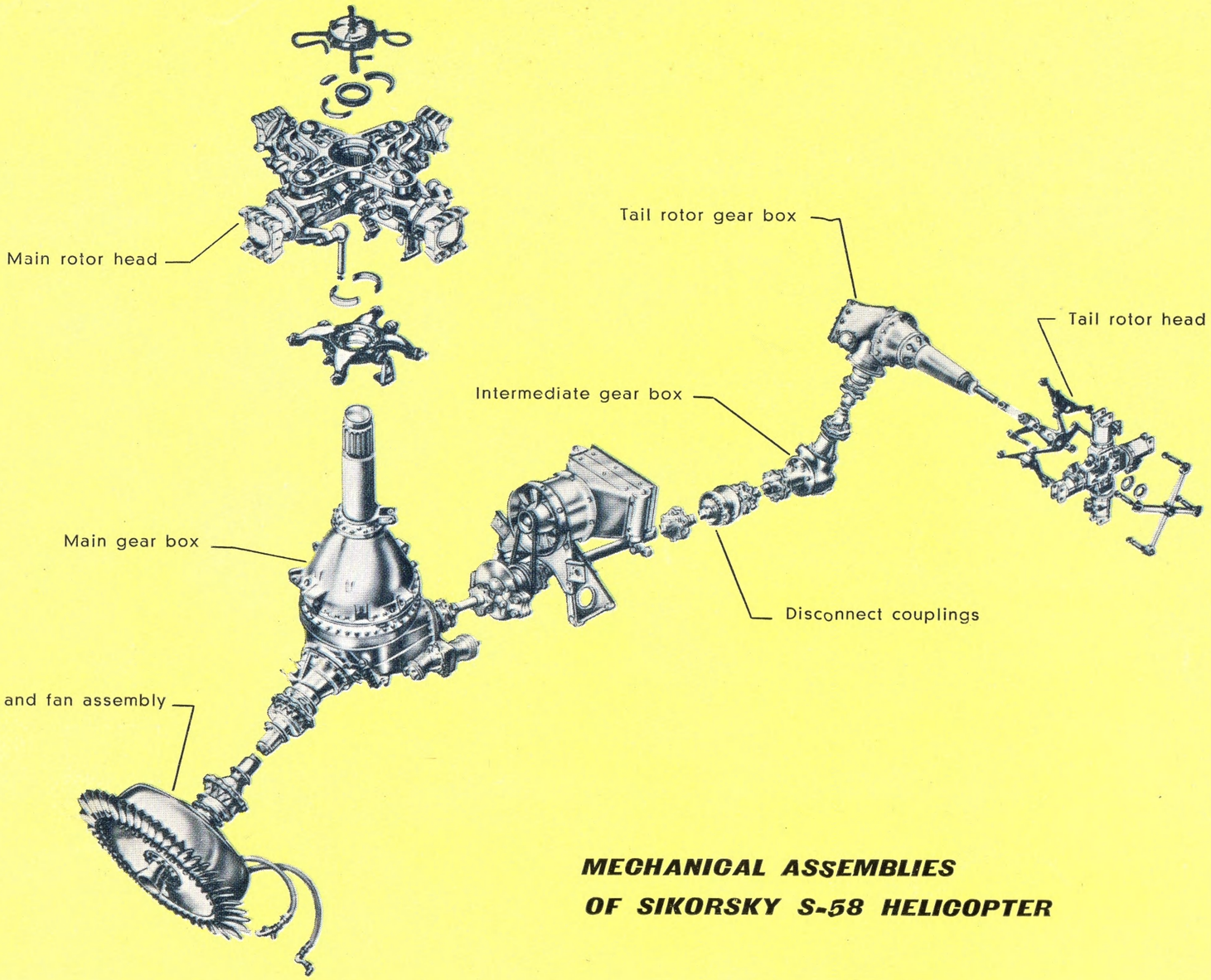

# FN 333

The FN. 333 has been designed mainly following the structural simplicity formula. It is a four-seater, dual control, all-metal amphibious aircraft, of remarkable handling qualities, suitable for many uses, both in the field of touring and executive flying, as well as any other light civilian air transport.

It is easily manoeuvrable on both land (steerable front wheel) and water and it needs no specially prepared landing strips; any small meadow or sheet of water is sufficient for its use. It is easy to pilot. It can easily approach, on water, quays and boats for transhipments, thanks to the high wing and wide-opening door, up to 180°. Cabin is comfortable and of easy access, with a luggage space of approximately 15 cu.ft.

For its good characteristics and performance the FN. 333 is quite in conformity with the requirements of the modern light transport aircraft of the same class.

| | |
|---|---|
| Span | 34'0" |
| Length | 23'11 1/2" |
| Height on the ground | 10'6" |
| Empty weight | 1,962 lbs. |
| Gross weight, fully laden | 2,975 lbs. |
| Wing area | 163 sq. ft. |
| Wing loading | 18 lbs/sq. ft. |
| Fuel, with auxiliary tanks | 46 Imp. gals. |
| Maximum speed | 180 m.p.h. |
| Cruising speed at 8000 ft. | 165 m.p.h. |
| Practical ceiling | 20,000 ft. |
| Maximum range | 775 miles |
| Take-off run on land | 300 yards |
| Take-off run on water | 460 yards |




***MECHANICAL ASSEMBLIES***
***OF SIKORSKY S-58 HELICOPTER***



# helicopters

Fiat is particularly interested in the field of vertical flight of its own and undertaking projects directed to improve the use of helicopter for air transportation, Fiat is carrying on production of components of S-58's mechanical units, in accordance with and on behalf of Sud Aviation, licensee for Sikorsky. The S-58 is a single-rotor powered by a 1525 BHP Wright Cyclone 989 C9HE-2 engine, and it may carry 12 passengers and two pilots. Technical data: main rotor, of the articulated type, has four all-metal blades individually interchangeable; main transmission, of simplified design provides maximum time between overhauls; hydraulic clutch provides smooth power engagement and permits running the engine disengaged at any speed; fuselage, of semi-monocoque construction, has non-structural clamshell doors forward to provide easy ground-level access to engine and its accessories; possible quick replacement of complete mechanical units (which may be repaired and overhauled in the workshops, thus reducing ground stopping time to a minimum).

| | | |
|---|---|---|
| Gross weight | 12,700 | lbs. |
| Weight empty, with standard equipment | 7,560 | lbs. |
| Useful Load | 5,140 | lbs. |
| High Speed at Sea Level | 130 | m.p.h. |
| Cruising Speed at 67% N.R.P. | 101 | m.p.h. |
| Fuel Consumption (Cruising) | 82 | gal./hr. |
| Hovering Ceiling with Ground Effect | 4,000 | ft. |
| Hovering Ceiling without Ground Effect | 2,100 | ft. |
| Service Ceiling | 12,900 | ft. |
| Max. Range without additional tanks | 196 | naut. miles |
| Max. Range with additional tanks | 310 | naut. miles |

FIAT - DIVISIONE AVIAZIONE
CORSO G. AGNELLI, 200
TURIN (ITALY)

*The descriptions and illustrations in this catalogue are given merely as general information and are not binding.*

FIAT - Press & Propaganda - Edition 1369 - May 1957
ILTE - Torino
Printed in Italy