
PHILIPPINE MARS
NAVAL AIR TRANSPORT SERVICE


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UNITED STATES NAVY
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PHILIPPINE WARS
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MARTIN INFORMATION SERVICES
BALTIMORE 3, MARYLAND

FACT SHEET: MARS FLYING BOATS

The prototype XPB2M-1 (the "Old Lady") and six JRM aircraft were built for the Navy, although the end of World War II resulted in cancellation of a contract for a total of twenty of the giant seaplanes. The first Mars entered Naval Air Transport Service on 31 December 1943 and completed 78 roundtrips between San Francisco Bay and Honolulu before being retired at the end of the war. The Old Lady transported over 3,000,000 lbs. of payload to the Pacific and, during the Iwo Jima campaign alone, delivered 120 cargo-tons of whole blood in a single month.

Of six JRM aircraft built, the first was destroyed before delivery in Chesapeake Bay near Baltimore, and another, the Marshall Mars, was destroyed by fire near Honolulu on 5 April 1950. The aircraft was on a test flight and the crew escaped without injury. The record of the remaining aircraft, which became the "Big Four" in naval air transport service for more than a decade, is as follows:

Aircraft	Date Delivered	Date Retired	Elapsed Months	Flight Time	Average Hrs/Day
Philippine JRM-1	6-26-46	5-7-56	118	18,661.8 hrs.	5.3
Marianas "	2-28-46	8-31-56	125	19,654.6 hrs.	5.2
Hawaii "	4-23-46	8-16-56	123	20,038.2 hrs.	5.4
Caroline JRM-2	5- ?-48	7-27-56	95	10,116.8 hrs.	3.2

Operating Statistics

During their entire period of operation, each of the Mars seaplanes remained in the water for 6 - 8 months at a time, except when on a trans-Pacific journey. Official Navy figures from Air Transport Squadron Two, operator of the four seaplanes, are available only for the years 1950-1956. These are as follows:

Year	Passengers	Cargo (tons)	Mail (tons)	Roundtrips
1950	8,188	892.2	154.3	262
1951	19,348	1,329.1	206.3	331
1952	20,340	1,101.8	274.3	453
1953	24,283	1,226.3	199.7	437
1954	12,877	506.9	300.6	175
1955	14,975	917.1	237.4	197
1956 (Aug.)	8,187	314.9	122.5	85
TOTALS:	108,198	6,288.3	1,495.1	1,940

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Comparative Data

In a speech on 9 August 1955, Rear Admiral James S. Russell, then Chief of the Bureau of Aeronautics, stated: "The Martin JRM Mars seaplane on the Alameda-Honolulu route has compared favorably cost-wise with its landplane competitor of the same vintage, the Douglas DC-4, or Skymaster. A survey of costs per ton mile at one time indicated that the Mars was more economical to operate by 28 per cent than the Skymaster on the same route. Similarly, Mars transportation was even more economical compared to commercial carriers on the same route by a saving of 51 per cent."

At the end of their first year of operation, Rear Admiral J. W. Reeves, Jr., Commander of Naval Air Transport Service, said of the Mars in an official memorandum that they were carrying 3 1/2-4 times as much cargo as the largest landbased aircraft on the same run, and in only 3 1/2 hours greater time. The JRMs, he said, used thirty per cent less fuel per ton mile than any other transport aircraft then in existence, while having a useful load (fuel, crew, passengers, cargo) of forty-nine per cent of the gross weight -- or 10 per cent higher than any other landbased transport.

The following comparative data was presented in an address to the Society of Automotive Engineers at Los Angeles in October, 1948, by Captain C. H. Schildhauer, USN (Ret.), World War II coordinator of JRM operations for the U. S. Navy:

Weight (in lbs.)	Martin JRM Mars	Douglas DC6-A	Boeing Stratofreighter
Maximum take-off	175,000	100,000	142,500
Operating empty	90,674	49,696	75,430
Maximum landing	175,000	85,000	124,000

In a comparison of Mars operations from San Francisco Bay with those of military and commercial landbased aircraft at nearby Oakland Municipal Airport, officers of Air Transport Squadron Two provided the following information:

Take-off & Landing Area	Minimums
San Francisco Bay (for Mars)	300-foot ceiling, 1-mile visibility
Oakland Municipal Airport	600-foot ceiling, 1 1/2 mile visibility (without GCA)

Aircraft Data

	JRM-1	JRM-2
Engines	Curtiss-Wright R-3350	Pratt & Whitney 4360-4T
Max. speed	238 mph	238 mph
Cruise speed	185 mph	215 mph
Range	5,800 miles	6,750 miles
Cargo volume	4,000 cubic ft.	4,000 cubic ft.
Troop capacity	133 men	133 men
Gross Weight	148,000 lbs.	165,000 lbs.
Payload	18,000 lbs.	30,000 lbs.
Passengers	40	40
Wing Span	200 ft.	200 ft.
Length	120 ft.	120 ft.
Height (on beaching gear)	44 ft. 7 in.	44 ft. 7 in.
Service ceiling	17,000 feet	17,000 feet

During their decade of service, the four JRMs were the world's largest operational flying boats in active military service. The Caroline Mars established a world's non-stop flight record for seaplanes on a 4,748-mile flight from Honolulu direct to Chicago on August 27, 1948, with a payload of 14,049 lbs. and 42 persons aboard. A few days later, the Caroline established a world's seaplane record for the amount of cargo carried, transporting a payload of 68,263 lbs. on a flight from Patuxent River, Maryland to Cleveland. A sister ship, the Marshall Mars, which was destroyed by fire in 1950, achieved a world's record for the number of passengers carried by air, transporting 301 passengers and seven crew members between San Diego and Alameda on May 19, 1949.

The JRMs were constructed of 7 1/2 miles of wiring, 3,000,000 rivets, 60,000 lbs. of aluminum, 25,000 lbs. of steel, 750 lbs. of rubber, 890 lbs. of plastics, 800 square feet of plywood, 650 cubic yards of fabric, 2,000 lbs. of copper, tin, zinc, and other metals, 300 gallons of paint, and contained 24 telephones.

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BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 3686 SQ. FT.
WING SECTION -
N.A.C.A. 23020-23012
M.A.C. - 241.4"
PROP. - CURTIS
BLADE DES. NO. 1016-1C4-18
MAIN HULL DISPL. -
1,074,500 LBS.
WING TIP FLOATS DISPL. -
15,720 LBS.
ASPECT RATIO 10.8





