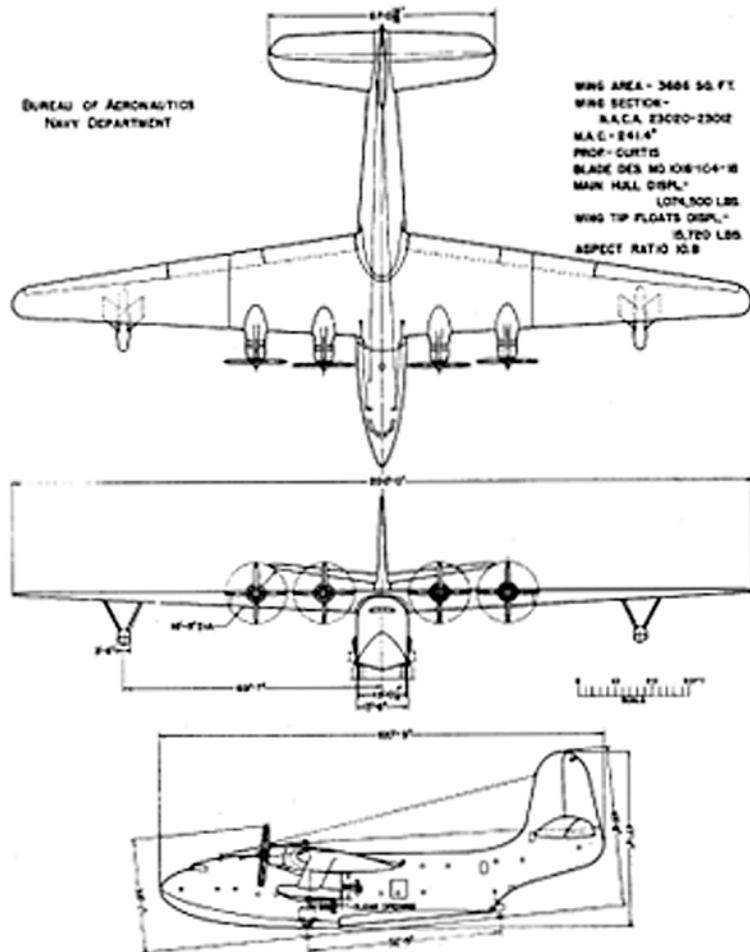




STANDARD AIRCRAFT CHARACTERISTICS  
JRM-2 "MARS"

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT



DESCRIPTIVE ARRANGEMENT

**MISSION AND DESCRIPTION**

Identical to the JRM-1 except for engine installation of higher power which adds 20,000 pounds to gross weight thereby increasing payload and range. No jato provisions.

Primary mission is for cargo and personnel transport. It is also designed for employment as troop (138 fully equipped men) and for casualty transport (100 litters plus ten attendants). The airplane takes off and lands on water and can be handled ashore using beaching gear.

This airplane is a development of the Model XPE2M-1R airplane (MARS) which was originally designed in 1935. It is a high-wing, all-metal, four-engine seaplane of conventional design. Numerous large hatches and hull doors with powered cargo hoist facilitate loading. Tie down fittings are provided in cargo compartments. Built for the U. S. Navy by Glenn L. Martin Co., to meet Navy and CAA transport specifications. Elevator and rudder control systems have boost assist. Inboard engines have reversible pitch propellers.

Rearward moving slotted flaps are fitted.

**DIMENSIONS**

SPAN.....200'-0"  
 LENGTH.....120'-3"  
 HEIGHT.....43'-8"  
 WING AREA.....3686 sq. ft.  
 M.A.C.....20'-1"

\*Height is for airplane on beaching gear.

**WEIGHTS**

Loadings	Lbs.	L.F.
EMPTY.....	80701	
BASIC.....	83915	
DESIGN.....	165000	2.5
MAX. T.O.....	165000	2.5
MAX. LD.....	155000	

Max. Wt. on Beaching Gear  
 .....100000  
 All weights are actual.

**FUEL AND OIL**

Gal. - No. Tanks - Location
1220.....2.....Wing
12000.....6.....Hull
FUEL GRADE.....100/130
FUEL SPEC.....AN-F-48

**OIL**

CAPACITY (gal.).....	616
SPEC.....	AN-O-8
GRADE.....	1100-1120

**ELECTRONICS**

VHF COMMAND.....AN/ARC-1  
 ICRAN.....AN/APN-4  
 COMPASS.....SCR-269  
 LP-LF-HF LIAISON...AN/ART-13  
 and AN/ARC-5  
 P/A SYSTEM.....  
 MARKER BEACON REC...AN/ARN-8  
 ALTIMETER.....AN/APN-1  
 IFF.....AN/APX-2

**POWER PLANT**

NO. & MODEL.....(4) R-4360-24  
 MFR.....P. & W.  
 SUPERCH.....1 Stage, Var. Spd.  
 PROP.GEAR RATIO.....375:1  
 PROP. MFR.....Curtis  
 PROP DESIGN NO...1052-20C4-18  
 NO.BL./DIA.....4/16'-8"

**RATINGS**

	Exp. G	Rps.	Alt.
T. O.	3000	2700	S.L.
WIL.	3000	2700	SL-1500
	2400	2700	13500
NORMAL	2500	2550	SL-5000
	2200	2550	14500

SPEC. W-7039-C

**ACCOMMODATIONS**

CREW.....11  
 TROOPS.....138  
 LITTERS.....100  
 plus 10 seats  
 PASSENGERS.....63  
 CARGO SPACE.....455 sq. ft.  
 FLOOR LOAD.....300 psf

Miniature bridge crane under wing root, with 5000# electric hoist.



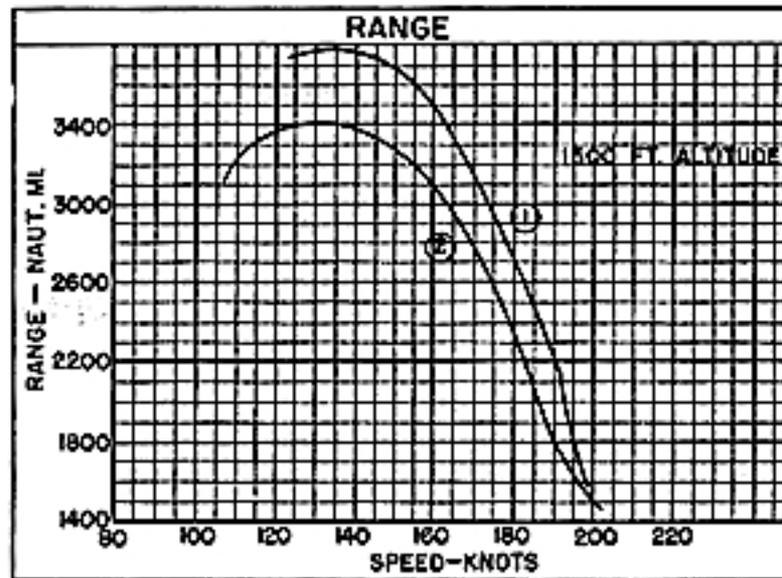
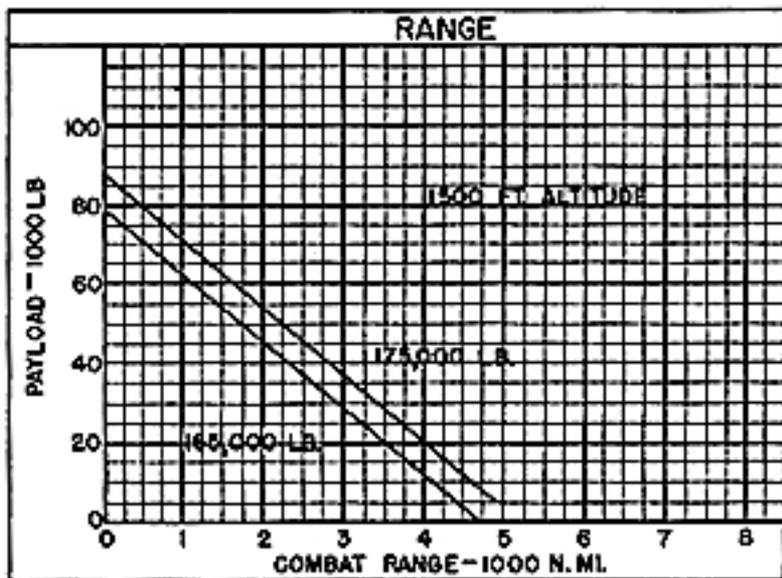
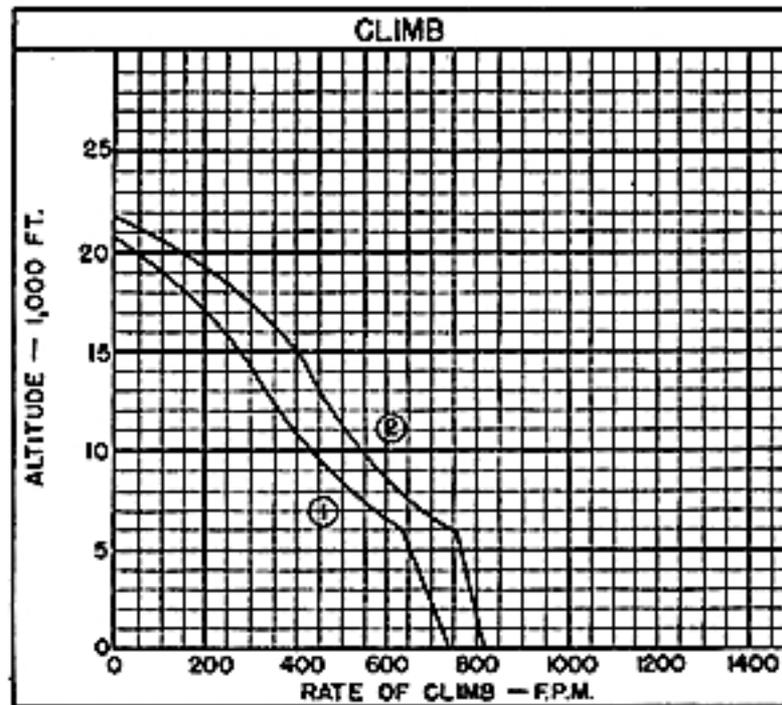
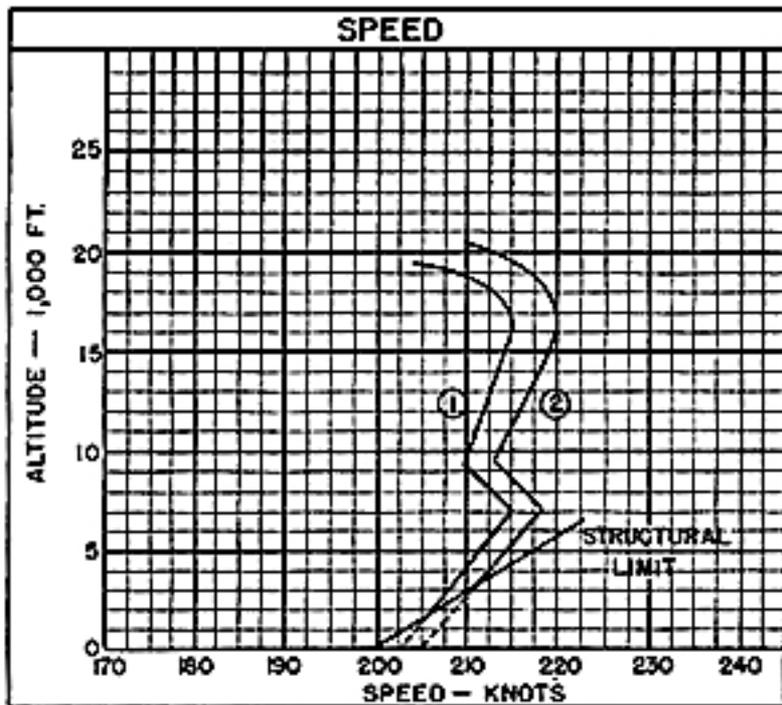
PERFORMANCE SUMMARY				
LOADING CONDITION		(1) CARGO	(2) CARGO- TRANSPORT	(3) TROOP- TRANSPORT 132 TROOPS
TAKE-OFF WEIGHT	lbs	175,000	165000	165000
Fuel	lbs	64728	55062	41970
Bombs	lbs			
Payload	lbs	20000	20000	34000
Wing/Power Loading (A) lbs/so. ft. lbs/ bhp		17.5/17.5	14.8/16.5	14.8/16.5
Stall Speed--Power off	kn	82.3	80.0	80.0
Stall Speed--Power off - No Fuel	kn	65.4	63.8	69.1
Stall Speed--Power on	kn	69.5	67.5	67.5
Maximum Speed/Alt (B)	kn/ft	215/15800	220/15800	220/15800
Take-off Distance, deck -- calm	ft			
Take-off Distance, deck	kn. ft			
Take-off Time	secs.	100.0	66.0	66.0
Rate of climb -- sea level (B)	ft/min	740	820	820
Service Ceiling	(B) ft	19000	20600	20600
Time-to-climb 10000 ft. (B)	min	16.4	14.3	14.3
Time-to-climb ft. (B)	min			
Combat Range/V av	ft. n.mi/kn	3790/135	3410/130	2430/135
Combat Radius/V av	ft. n.mi/kn			
LOADING CONDITION				
GROSS WEIGHT	lbs			
Engine power				
Fuel	lbs			
Bombs/Tanks				
Max. speed at sea level	kn			
Max. speed	ft. kn			
Combat speed/Alt.	kn/ft			
Rate of climb SL	ft/min			
Ceiling for 500 fpm R/C	ft			
Time-to-climb/Alt.	min/ft			

## NOTES

- (A) HF at Maximum Critical Altitude  
 (B) Normal HF

Performance is based on flight test of the JRM-2 airplane. Range is based on flight test fuel consumption increased by 5%.

Performance is without deicing equipment. Addition of deicing equipment reduces V max. by 4 knots and maximum combat range by 2.5%.



○ LOADING CONDITION COLUMN NUMBER

# NOTES

Performance with one engine inoperative, flaps neutral and feathered propeller is estimated to be:

Gross weight	165000 lbs.
Rate of Climb, S.L., T.O. Power	580 ft./min.
Service Ceiling, Normal Power	17500 ft.

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Take-off weight is currently limited to 165000 lbs. pending service experience.