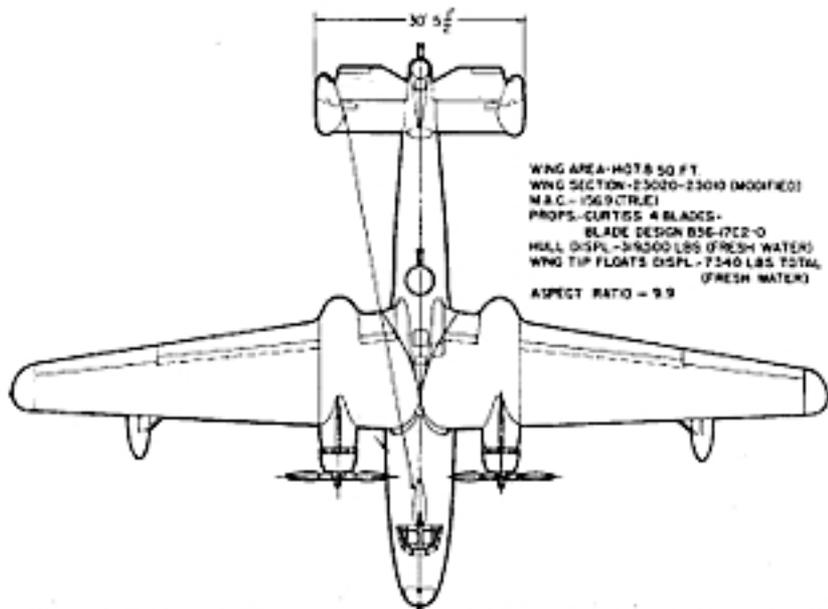


Standard Aircraft Characteristics NAVAIR 1335A (REV. 1-49)

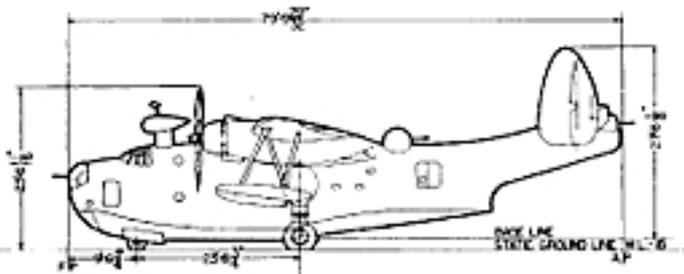
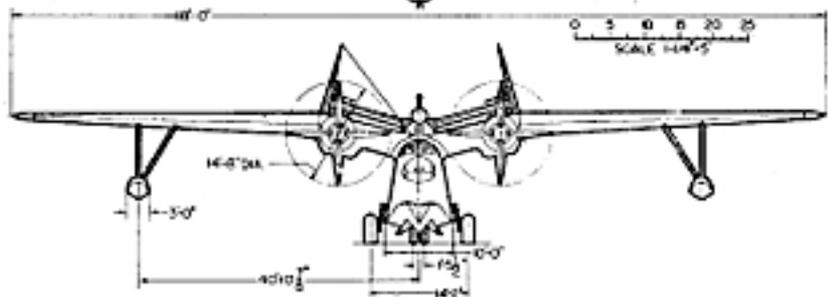
STANDARD AIRCRAFT CHARACTERISTICS

PBM-5A "MARINER"

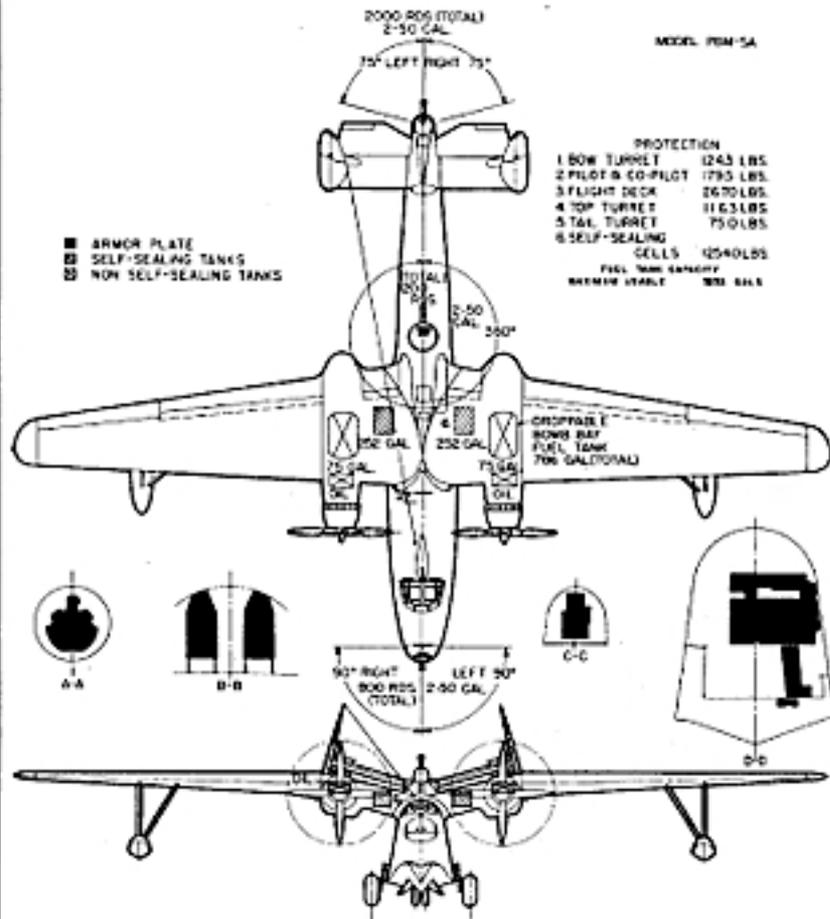
MARTIN



WING AREA - 4078 SQ FT
 WING SECTION - 23020-23040 (MODIFIED)
 M.A.C. - 156.9 (TRUE)
 PROPS. - CURTISS 4 BLADES -
 BLADE DESIGN B36-17C2-D
 HULL DISPL. - 31900 LBS (FRESH WATER)
 WING TIP FLOATS DISPL. - 7340 LBS. TOTAL
 (FRESH WATER)
 ASPECT RATIO - 9.9

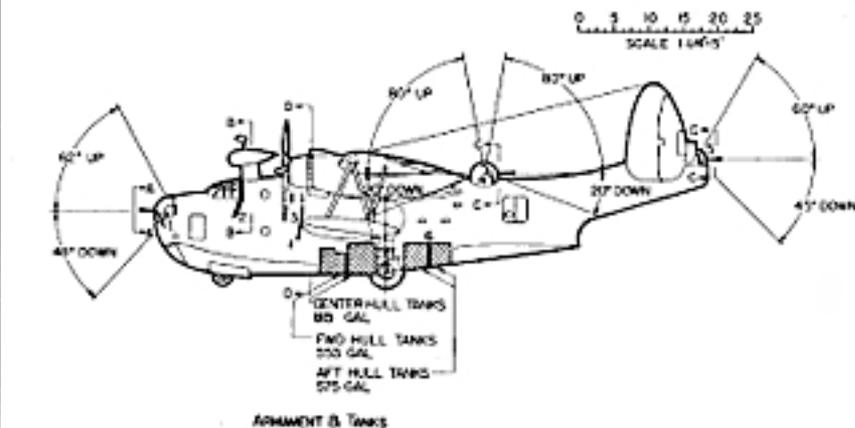


DESCRIPTIVE ARRANGEMENT



MODEL 70M-5A

PROTECTION
 1 BOW TURRET 1243 LBS
 2 PILOT & CO-PILOT 1793 LBS
 3 FLIGHT DECK 2670 LBS
 4 TOP TURRET 1163 LBS
 5 TAIL TURRET 750 LBS
 6 SELF-SEALING CELLS 12540 LBS
 FUEL TANK CAPACITY 14000 GALS
 BOMBING WEIGHT 30000 LBS



ARMAMENT & TANKS

Standard Aircraft Characteristics NUMBER 19358 (REV. 1-49)

MISSION AND DESCRIPTION

The PBM-5A is a two-engine high wing, medium range amphibian flying boat that may be used as a patrol or bomber airplane or in a demilitarized version as a utility transport. It is a modified version of the PB5-5, modified so that it may take off from or alight upon water or a landing field.

The hull is divided into five water-tight compartments by bulkheads provided with water-tight doors. The plane can be equipped with JATO for quick take-offs in small areas and rough water.

It carries a crew of nine.

DIMENSIONS

WING AREA.....1,408 sq. ft.
SPAN.....118' - 0"
LENGTH.....79' - 10"
HEIGHT.....29' - 0"
TREAD.....14' - 2"
M.A.C.....13' - 1"

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY.....	39,749.....	
BASIC.....	40,354.....	
DESIGN.....	60,300.....	2.25
COMBAT.....	52,650.....	2.6
MAX.T.O.....	60,300.....	2.25
MAX.LAND.....	51,000.....	

All weights are actual.

FUEL AND OIL

Gals.	No. Tanks	Location
1,943	8	Hull, S.S.
504	2	Wing, S.S.
786	2	Bomb Bay (Drop)
FUEL GRADE.....100/130		
FUEL SPEC.....AN-F-48		

OIL

CAPACITY (Gals.).....150
GRADE.....1100 or 1120
SPEC.....AN-O-8

ELECTRONICS

LIAISON TRANS.....AN/ART-13
LIAISON RECEIVER.....AN/AR-15
LF RECEIVER.....R-23A/ARC-5
A.D.F.....AN/ARN-7
COMMAND VHF.....AN/ARC-1
RADIO ALTIMETER.....AN/APN-1
MARKER BEACON REC.....AN/APN-8
SEARCH RADAR.....AN/APS-31
IFF EQUIPMENT.....AN/APX-8
LORAN EQUIPMENT.....AN/APN-4

POWER PLANT

NO. & MODEL.....(2) R-2800-34
MFR.....Pratt & Whitney
SUPERCH.....1 Stage, 2 Speed
PROP. GEAR RATIO.....0.450
PROP. MFR.....Curtiss
PROP. DES. NO.....836-17C2-0
NO. PL./DIA.....4/14'-8"

RATINGS

	Hhp @	Rpm @	Alt.
T. O.	2,100	2,800	S. L.
MIL.	2,100	2,800	3,000'
	1,700	2,800	16,000'
NORM.	1,700	2,600	8,500'
	1,500	2,600	18,500'
SPEC. NO. N-8081 (SEE NOTE)			

ORDNANCE**GUNS**

No.	Size	Location	Rds.
2	.50 Cal.	Bow	800
2	.50 Cal.	Deck	1,200
2	.50 Cal.	Tail	2,000
Each with Mk. 18 sight.			

BOMBS

Type	Size	Location	No.
Bombs	1,000#	Bomb Bay	8
Mines	1,000#	Bomb Bay	4
D.B.	325#	Bomb Bay	8
Smoke			
Tank	980#	Bomb Bay	1

FIRE CONTROL

Radar Bombing Equipment...
.....AN/APA-5A
MAX. BOMB CAP.....8,000 lbs.



PERFORMANCE SUMMARY				
LOADING CONDITION		(1) PATROL 4-650# D. B.	(4) PATROL 4-1,000# Bombs	(5) SEARCH
TAKE-OFF WEIGHT	lbs.	60,300	60,300	60,300
Fuel (Fixed/Drop)	lbs.	12,624/-	11,688/-	14,682/612
Bombs	lbs.	2,600	4,000	--
Wing/Power Loading (A) lbs/sq.ft; lbs/bhp.		42.8/20.1	42.8/20.1	42.8/20.1
Stall Speed--Power off (See Note)	kn.	85.0	85.0	85.0
Stall Speed--Power off - No Fuel	kn.	75.5	76.3	73.5
Stall Speed--Power on	kn.	69.5	69.5	69.5
Maximum Speed/Alt (B)	kn/ft.	178/9,500	178/9,500	178/9,500
Take-off Distance, deck -- calm	ft.	2,270	2,270	2,270
Take-off Time	sec.	56.5	56.5	56.5
Take-off Distance, Airport	ft.	3,640	3,640	3,640
Rate of climb -- sea level (B)	ft/min.	570	570	570
Service Ceiling (B)	ft.	20,100	20,100	20,100
Time-to-climb 10,000 ft. (B)	min.	20.5	20.5	20.5
Time-to-climb 20,000 ft. (B)	min.	59.2	59.2	59.2
Combat Range/V av 1,500 ft. n.mi/kn.		1,500/113	1,370/114	1,870/113
Combat Radius/V av (ASH-1) ft. n.mi/kn.		600/113	550/114	750/113
LOADING CONDITION		(2) COMBAT	(3) COMBAT	
GROSS WEIGHT	lbs.	52,650	52,650	
Engine power		Military	Normal	
Fuel	lbs.	7,572	7,572	
Bombs/Tanks		None	None	
Max. speed at sea level	kn.	188	169	
Max. speed/Alt	kn/ft.	191/2,100	184/9,500	
Combat speed/Alt	kn/ft.	190/1,500	171/1,500	
Rate of climb SL	ft/min.	1,310	820	
Ceiling for 500 fpm R/C	ft.	19,100	17,800	
Time-to-climb/Alt.	min/ft.	--	--	

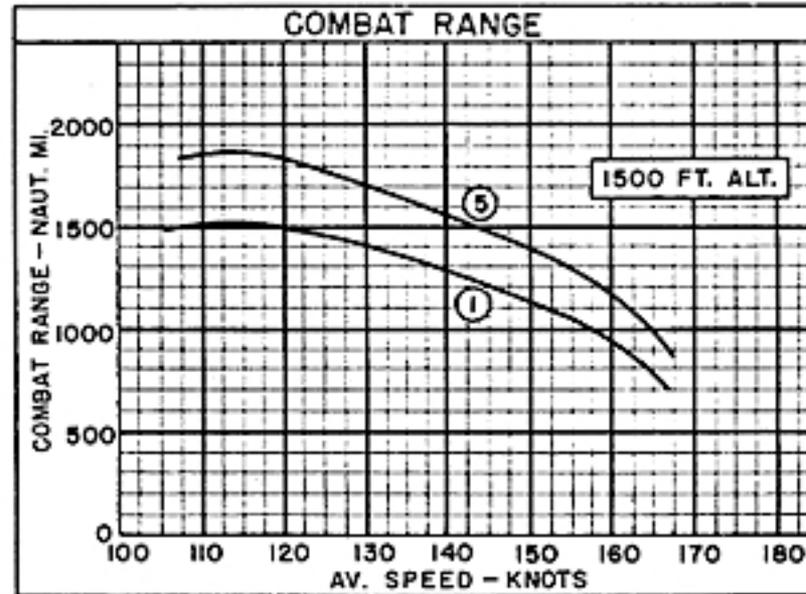
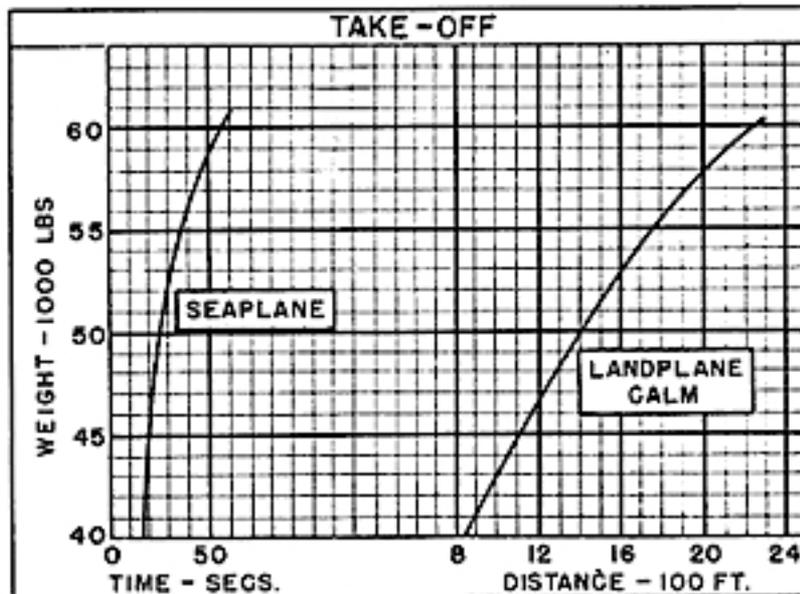
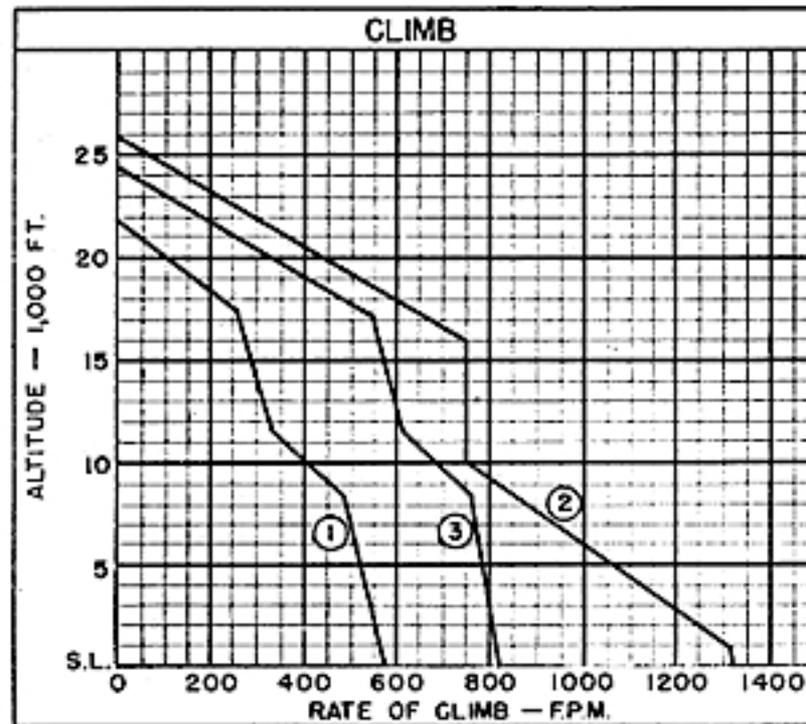
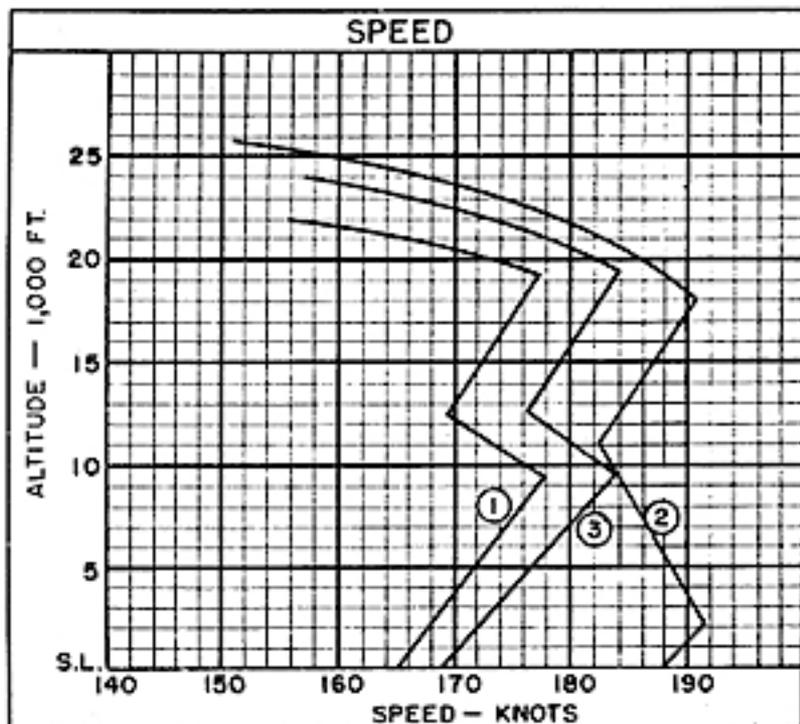
NOTES

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

Performance is based on flight test of PBM-5A airplane.

Range and radius are based on flight test fuel consumption data increased by 5%.

Airplane could not be stalled in these configurations because of insufficient elevator control.
Minimum speeds shown.



Standard Aircraft Characteristics NAVAER 5335C (REV. 2-50)

○ LOADING CONDITION COLUMN NUMBER

NOTES

GENERAL ASH PATROL PROBLEM NO. ASK-1

COMBAT RADIUS = 40% of combat range at 1,500 ft. altitude.

 Take-off and military power are based on the use of AN-F-48 115/145 fuel resulting in 2300 Ehp at 2800 Rpm at Sea Level.

The following engine ratings from flight test were used in preparation of performance data:

	Ehp @	Rpm @	Alt.
T. O.	2,300	2,800	S. L.
NORMAL	1,700	2,600	S. L.- 8,300
	1,500	2,600	11,400-17,300

 With port engine inoperative, port propeller feathered, cowl flaps one-half open and oil cooler flaps fully open, the maximum gross weight at which 1,000 feet altitude can be maintained with NRP is 47,700 pounds.
