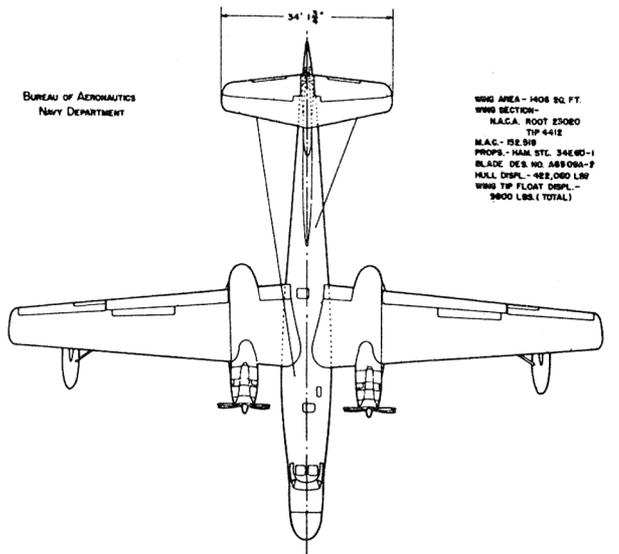


# STANDARD AIRCRAFT CHARACTERISTICS

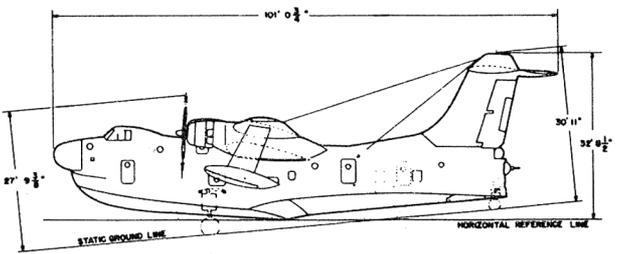
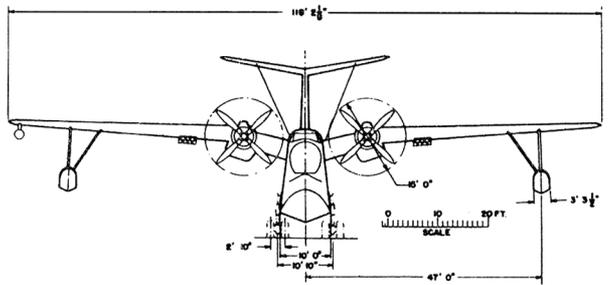
## P-5B MARLIN

MARTIN



BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

WING AREA - 1408 SQ. FT.  
WING SECTION -  
N.A.C.A. HOOT ES080  
TIP 4412  
M.A.C. - 152.519  
PROP. - 1444 STE. 34645-1  
BLADE DES. NO. A49084-P  
HULL DISPL. - 428,080 LBS  
WING TIP FLOAT DISPL. -  
3900 LBS. (TOTAL)



MODEL P5M-2

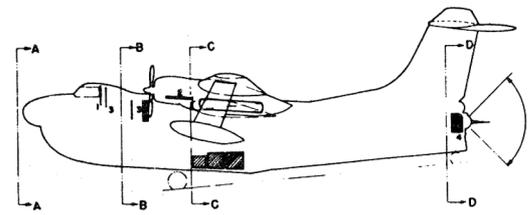
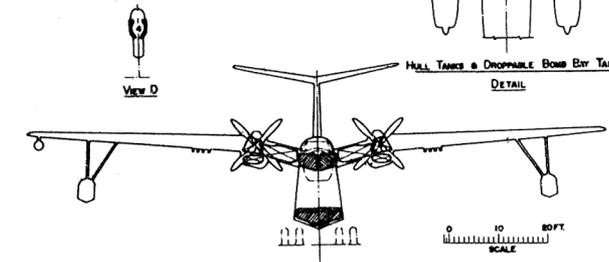
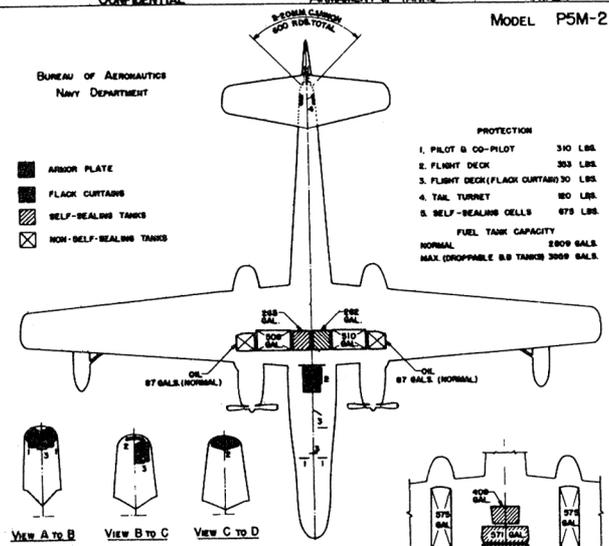
CONFIDENTIAL DESCRIPTIVE ARRANGEMENT NAVAR

CONFIDENTIAL ARMAMENT & TANKS NAVAR  
MODEL P5M-2

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

- ARMOR PLATE
- FLACK CURTAINS
- SELF-SEALING TANKS
- NON-SELF-SEALING TANKS

- PROTECTION
1. PILOT & CO-PILOT 310 LBS.
  2. FLIGHT DECK 303 LBS.
  3. FLIGHT DECK (FLACK CURTAIN) 30 LBS.
  4. TAIL TURRET 180 LBS.
  5. SELF-SEALING CELLS 878 LBS.
- FUEL TANK CAPACITY  
NORMAL 2809 GALS.  
MAX (DROPPABLE B.B. TANKS) 3000 GALS.



**POWER PLANT**

NO. & MODEL....(2) R-3350-32W  
 MRF.....Wright  
 SUPERCHARGER..1 stage,2 speed  
 RED. GEAR RATIO.....0.4375  
 PROP. MFR.....Ham. Standard  
 PROP. BLADE DES.NO....A6925B-2  
 NO. BL./DIA.....4/15'-0"

**RATINGS**

|       | <u>BHP</u> | <u>RPM</u> | <u>ALT.</u> |
|-------|------------|------------|-------------|
| T.O.  | 3,400      | 2,900      | S.L.        |
| MIL.  | 3,400      | 2,900      | S.L.        |
|       | 3,420      | 2,900      | 2,400       |
|       | 2,550      | 2,600      | 17,000      |
| NORM. | 2,800      | 2,600      | S.L.        |
|       | 2,850      | 2,600      | 4,100       |
|       | 2,450      | 2,600      | 18,000      |

SPEC. WAD NO. N878-A

**ORDNANCE**GUNS

| <u>NO.</u> | <u>SIZE</u> | <u>LOCATION</u> | <u>RDS.</u> |
|------------|-------------|-----------------|-------------|
| 2          | 20mm        | Tail            | 600         |

FIRE CONTROL

Radar AN/APA-16

BOMBS AND ROCKETS

| <u>RACKS</u> | <u>NO.</u> | <u>LOCATION</u> | <u>CAP.</u> |
|--------------|------------|-----------------|-------------|
| Aero 14A     | 8          | Wing            | 500 lb      |

Bombs, mines and torpedoes  
 also carried in bomb bay.

Max. Bomb Capacity 10,000 lbs.

**MISSION AND DESCRIPTION**

The P5M-2 is an all weather long-range patrol and Electronic Reconnaissance flying boat designed primarily for ASW. Secondary missions are long range, low altitude radar mapping, mine laying and open sea rescue.

It is a modified P5M-1 incorporating a tee tail, low chine bow and more powerful engine.

The seaplane is of semi-monocoque construction, has gull wings, single slotted flaps, and is equipped with hydro-flaps for water maneuvering and handling. It carries a crew of seven.

Provisions for four JATO units is provided on the aft fuselage.

**DEVELOPMENT**

First flight.....April 1954

Service use.....October 1954

**WEIGHTS**

| <u>LOADINGS</u>      | <u>LBS.</u> | <u>L.F.</u> |
|----------------------|-------------|-------------|
| EMPTY.....           | 48,383      | .....       |
| BASIC(ASW)....       | 51,413      | .....       |
| DESIGN.....          | 70,000      | 3.0..       |
| COMBAT.....          | 62,987      | .....       |
| MAX.TAKE-OFF..       | 78,000      | 2.7..       |
| MAX.LANDING...75,000 | .....       | 2.8..       |

All weights are calculated.

**FUEL AND OIL**

| <u>NO.TANKS</u> | <u>TOT.GAL.</u> | <u>LOCATION</u> |
|-----------------|-----------------|-----------------|
| 4               | 1545            | Wing            |
| 3               | 1264            | Hull            |
| 2               | 1150            | Bombay          |

Fuel Grade.....115/145

Fuel Spec.....MIL-F-5572

**OIL**

Capacity (Gals).....174  
 Grade.....1100  
 Spec.....MIL-O-6082A

**DIMENSIONS**WING

AREA.....1406 sq. ft.  
 SPAN.....118' - 2"  
 M.A.C.....12' - 8"  
 LENGTH.....101' - 1"  
 HEIGHT.....30' - 11"  
 TREAD.....10' - 1"  
 PROP.WATER CLEAR....4' - 8"

**ELECTRONICS**

UHF.....AN/ARC-27A  
 Transmitter.....AN/ART-13  
 Receiver.....AN/ARB-15A  
 Radio Compass.....AN/ARN-6  
 Radio Altimeter.....AN/APN-22  
 Marker Beacon Rec...AN/ARN-12  
 Loran.....AN/APN-4  
 Interphone System...AN/AIC-5B  
 ECM Receiver.....AN/APR-9B  
 ECM Hom.Adapter...AN/APA-70C  
 Range Rec.....B-23A/ARC-5  
 Continued on NOTE Page

| PERFORMANCE SUMMARY               |            |  |             |                                 |  |            |
|-----------------------------------|------------|--|-------------|---------------------------------|--|------------|
| TAKE-OFF LOADING CONDITION        |            | (1) PATROL ASW<br>2-MK 41-1 Torps.<br>8-HPAG Rockets |             | (4) PATROL<br>MINING<br>4-MK 39 | (5) PATROL<br>MINING<br>4-MK 39<br>Full Internal Hel | (6) FERRY  |
| TAKE-OFF WEIGHT                   | lb.        | 74,302   |             | 76,860                          | 77,680   | 76,748     |
| Fuel                              | lb.        | 16,854   |             | 16,034                          | 16,854   | 22,649     |
| Payload                           | lb.        | 4,575  |             | 8,200                           | 8,200  | 0          |
| Wing loading                      | lb./sq.ft. | 52.9   |             | 54.6                            | 55.2   | 54.6       |
| Stall speed - power-off           | kn.        | 86   |             | 87.5                            | 87.8   | 87.5       |
| Take-off run at S.L. - calm (B)   | secs.      | 47   |             | 54                              | 56   | 53.0       |
| Take-off run at S.L. kn. wind     | ft.        | --   |             | --                              | --   | --         |
| Take-off to clear 50 ft. - calm   | ft.        | --   |             | --                              | --   | --         |
| Max. speed/altitude (A)           | kn./ft.    | 228/18,000   |             | 231/18,000                      | 230/18,000   | 231/18,000 |
| Rate of climb at S.L. (A)         | fpm        | 860  |             | 817                             | 800  | 819        |
| Time: S.L. to 10,000 ft. (A)      | min.       | 14.0   |             | 15.0                            | --   | 14.7       |
| Time: S.L. to 20,000 ft. (A)      | min.       | 38.7   |             | 42.5                            | --   | 41.6       |
| Service ceiling (100 fpm) (A)     | ft.        | 21,900   |             | 21,300                          | 21,100   | 21,300     |
| Combat range                      | n.mi.      | 2,070  |             | 1,925                           | 2,015  | 2,940      |
| Average cruising speed            | kn.        | 149  |             | 153                             | 153.5  | 151        |
| Cruising altitude(s)              | ft.        | 1,500  |             | 1,500                           | 1,500  | 1,500      |
| Combat radius                     | n.mi.      | 830  |             | 770                             | 805  | 1,175      |
| Average cruising speed            | kn.        | 149  |             | 153                             | 153  | 151        |
| Mission time (range) (C)          | hrs.       | 13.93  |             |                                 |  |            |
| COMBAT LOADING CONDITION          |            | (2) Clean  | (3) Clean   |                                 |  |            |
| COMBAT WEIGHT                     | lb.        | 62,987   | 62,987      |                                 |  |            |
| Engine power                      |            | Military   | Normal      |                                 |  |            |
| Fuel                              | lb.        | 10,112   | 10,112      |                                 |  |            |
| Combat speed/altitude             | kn./ft.    | 231/1,500  | 216/1,500   |                                 |  |            |
| Rate of climb/altitude            | fpm/ft.    | 1,580/1,500  | 1,220/1,500 |                                 |  |            |
| Combat ceiling (500 fpm)          | ft.        | 20,900   | 20,900      |                                 |  |            |
| Rate of climb at S.L.             | fpm        | 1,590  | 1,230       |                                 |  |            |
| Max. speed at S.L.                | kn.        | 227  | 212         |                                 |  |            |
| Max. speed/altitude               | kn./ft.    | 240/17,000   | 239/18,000  |                                 |  |            |
| LANDING WEIGHT                    | lb.        | 53,982   | 53,982      |                                 |  |            |
| Fuel                              | lb.        | 1,106  | 1,106       |                                 |  |            |
| Stall speed - power-off           | kn.        | 73.3   | 73.3        |                                 |  |            |
| Stall speed - with approach power | kn.        | 67.0   | 67.0        |                                 |  |            |

(A) Normal Rated Power

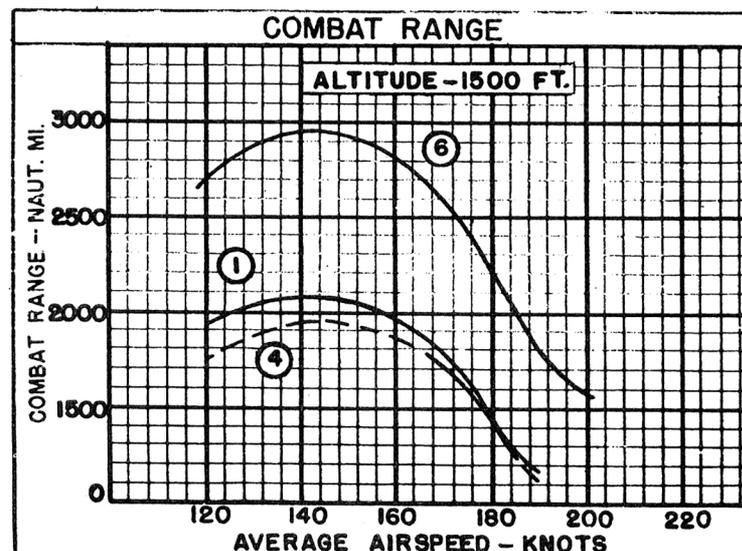
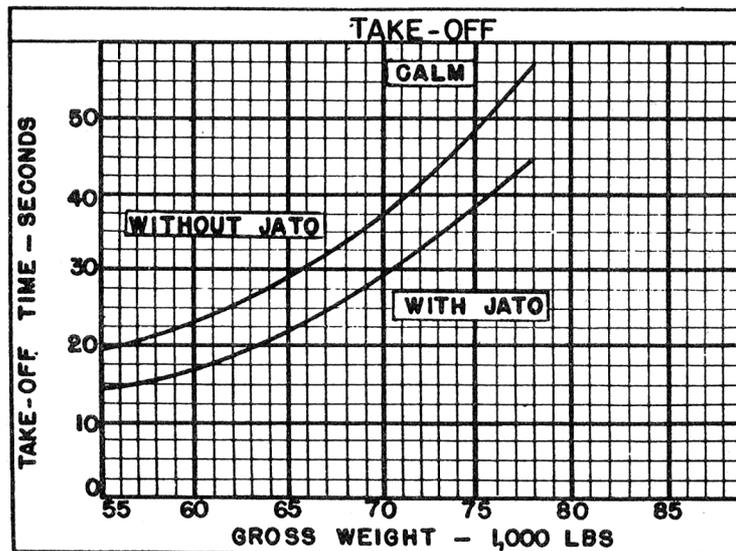
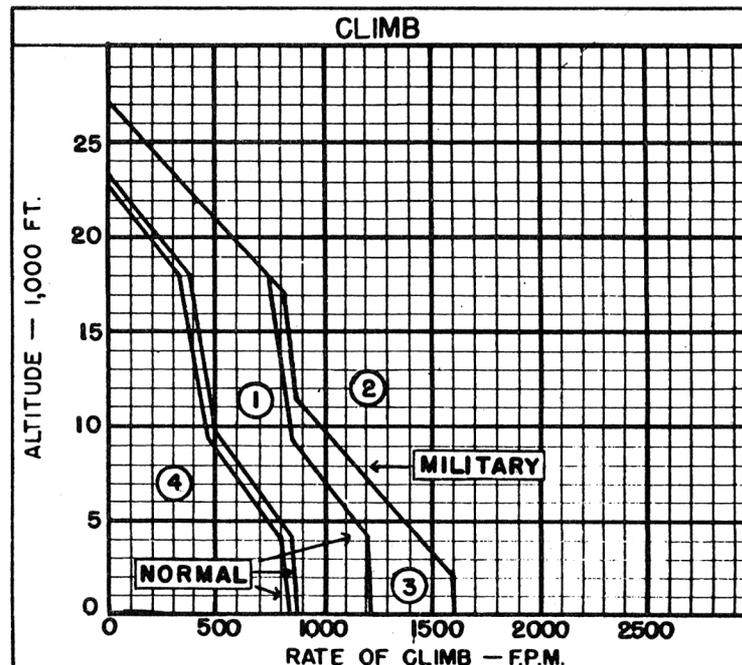
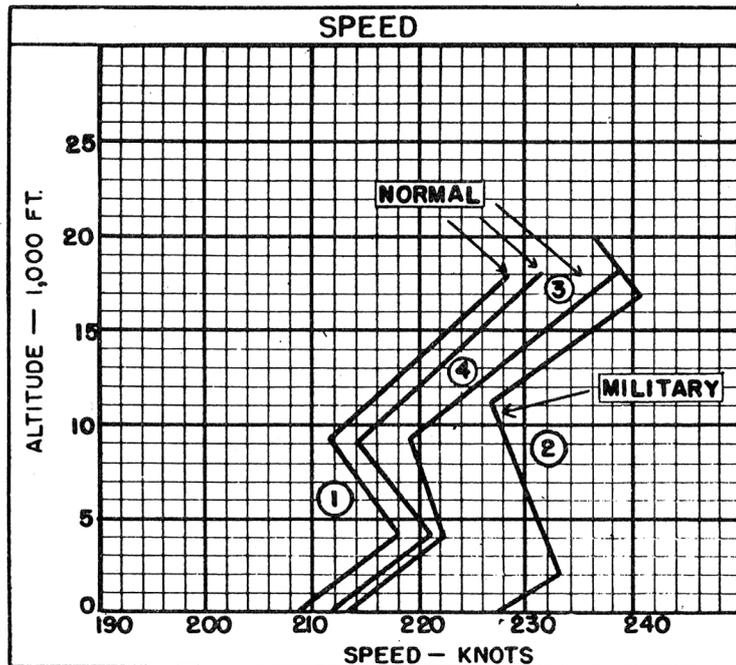
(B) Military Rated Power

(C) Mission time = total time for climb and cruise.

Performance Basis: Calculations

Combat range and radius are based on engine specification fuel consumption data increased by 5%.

NOTES



○ LOADING CONDITION COLUMN NUMBER

# NOTES

## ASW RADIUS PROBLEM

Combat Radius = 40% of combat range at 1,500 ft. altitude.

-----  
 Rate-of-climb at Sea Level, military power, one engine inoperative, propeller feathered on unused engine,  
 flaps and gear up.  
 -----

| <u>Gross Weight - Lbs.</u> | <u>Rate-of-Climb - Ft./min.</u> |
|----------------------------|---------------------------------|
| 50,000                     | 640                             |
| 60,000                     | 375                             |
| 70,000                     | 175                             |
| 74,300                     | 100                             |

## ELECTRONICS (Continued)

MAD Equipment.....AN/ASQ-8  
 Search Radar.....AN/APS-44A  
 Searchlight.....AN/AVQ-2A  
 IFF Equipment.....AN/APX-6B  
 Wire Recorder.....IC/VRW-7  
 Sonobuoy Rec.....AN/ARR-26  
 VOR.....AN/ARN-14E  
 Pulse Analyzer.....AN/APA-74  
 UHF Direction Find.....AN/ARA-25  
 IFF Equipment.....AN/APX-7