

**AIRPLANE CHARACTERISTICS & PERFORMANCE**

BUREAU OF AERONAUTICS, NAVY DEPT.

| COLUMN NUMBER                       |             | 1                     | 2                     | 3                 | 4         |
|-------------------------------------|-------------|-----------------------|-----------------------|-------------------|-----------|
| LOADING CONDITION                   |             | PATROL<br>4-325# D.B. | PATROL<br>4-325# D.B. | PATROL<br>4-1000# | PATROL    |
| GROSS WEIGHT                        | LBS.        | 60000                 | 60000                 | 60000             | 60000     |
| EMPTY WEIGHT (SPECIFICATION)        | LBS.        | 39075                 |                       |                   |           |
| FUEL/OIL                            | GALS.       | 1113/74               | 1113/74               | 663/74            | 1330/74   |
| FIXED GUNS/AMMUNITION               |             | None                  |                       |                   |           |
| FLEXIBLE GUNS/AMMUNITION            |             | None                  |                       |                   |           |
| ENGINE POWER USED FOR PERFORMANCE   |             | MILITARY              | NORMAL                | NORMAL            | NORMAL    |
| WING LOADING                        | LBS./SQ.FT. | 42.6                  | 42.6                  | 42.6              | 42.6      |
| POWER LOADING ①                     | LBS./BHP.   | 28.6                  | 31.6                  | 31.6              | 31.6      |
| V-MAX. SEA LEVEL                    | KN.         | 203                   | 193                   | 193               | 193       |
| V-MAX./Airplane Critical Altitude   | KN./FT.     | 216/15700             | 212/18100             | 212/18100         | 212/18100 |
| V-STALL GROSS WEIGHT ②              | KN.         | 65.6                  | 65.6                  | 65.6              | 65.6      |
| V-STALL WITHOUT FUEL ②              | KN.         | 61.8                  | 61.8                  | 63.4              | 61.1      |
| TIME-TO-CLIMB -10000FT.-            | MIN.        | 8.6                   | 9.8                   | 9.8               | 9.8       |
| TIME-TO-CLIMB -20000FT.-            | MIN.        | 22.8                  | 25.3                  | 25.3              | 25.3      |
| SERVICE CEILING                     | FT.         | 24000                 | 24000                 | 24000             | 24000     |
| TAKE-OFF DISTANCE -CALM-            | FT.         |                       |                       |                   |           |
| TAKE-OFF DISTANCE -15 KN-           | FT.         |                       |                       |                   |           |
| TAKE-OFF DISTANCE -25 KN-           | FT.         |                       |                       |                   |           |
| TAKE-OFF DISTANCE -50 FT. OBST.     | FT.         |                       |                       |                   |           |
| TAKE-OFF TIME                       | SECONDS     | 31                    | 31                    | 31                | 31        |
| RATE OF CLIMB -SL-                  | FT./MIN.    | 1310                  | 1080                  | 1080              | 1080      |
| MAX. RANGE / V-AV. ③                | N MI./KN.   |                       | 990/122               | 570/122           | 1180/120  |
| RANGE / V-AV. -60% NSP-③-           | N MI./KN.   |                       |                       |                   |           |
| SEARCH RADIUS / V-AV. -20% R- (P-1) | N MI./KN.   |                       | 310/121               | 180/122           | 375/120   |
| A.S.W. RADIUS/V-AV. -20% R- (PA-1)  | N MI./KN.   |                       | 260/121               |                   |           |
| SCOUT RADIUS                        | N MI.       |                       |                       |                   |           |
| COMBAT RADIUS                       | N MI.       |                       |                       |                   |           |

ENGINE / PROP. GEAR RATIO 2- Wright 3350-26W / .4375

| ENGINE RATING<br>BHP/RPM/ALT. | MILITARY          | NORMAL         | TAKE-OFF       |
|-------------------------------|-------------------|----------------|----------------|
|                               | 2700/2900/SL-3700 | 2300/2600/S.L. | 2700/2900/S.L. |
| 2100/2600/14500               | 2300/2600/6200    |                |                |
|                               | 1900/2600/17000   |                |                |

| TANKAGE IN GALLONS |                          | OIL | FUEL | OFFENSIVE ARMAMENT  |
|--------------------|--------------------------|-----|------|---|
| AUX. FIXED         | PROTECTED                | 74  | 1330 | Wing Bomb Bays - Internal space provisions have been made for 8-1000# bombs, but it is not intended that the experimental airplane will carry armament loadings. The data given under "Loading Condition" presents information applicable, if such loadings were carried. |
|                    | UNPROTECTED              |     |      |   |
|                    | TOTAL-FIXED INTERNAL     | 74  | 1330 |   |
|                    | DROPPABLE                |     |      |   |
| AUX. DROPPABLE     | DROPPABLE                |     |      |   |
|                    | TOTAL                    | 74  | 1330 |   |
| NOTE               | ① BHP AT MAX. CRIT. ALT. |     |      |   |
|                    | ② STALL - WITH POWER     |     |      |   |
|                    | ③ AT 1500' ALTITUDE      |     |      |   |

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Performance is based on calculations. Range and radius are based on engine specification fuel consumption data increased by 15% to conform with past experience.

## Notes:

- (1) Structural limitations imposed by use of PBM-5 wing restricts maximum gross weight to 60,000 pounds.
- (2) Provision is made for nacelle bomb bay tanks (droppable) of 786 gals total capacity but these tanks are omitted due to the weight limitation.
- (3) The XP5M-1 airplane is being ballasted for additional tankage (hull tanks) to a total fixed internal capacity of 2763 gals fuel and 150 gals oil.
- (4) Ballast is used to simulate the weight of the following turrets:
 

|            |                        |
|------------|------------------------|
| Bow        | - Emerson X220SE-101   |
| Upper Deck | - Martin 250CH-1C      |
| Tail       | - Martin 250CH-3(Mod.) |

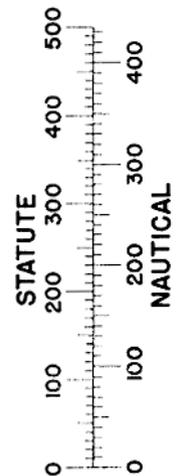
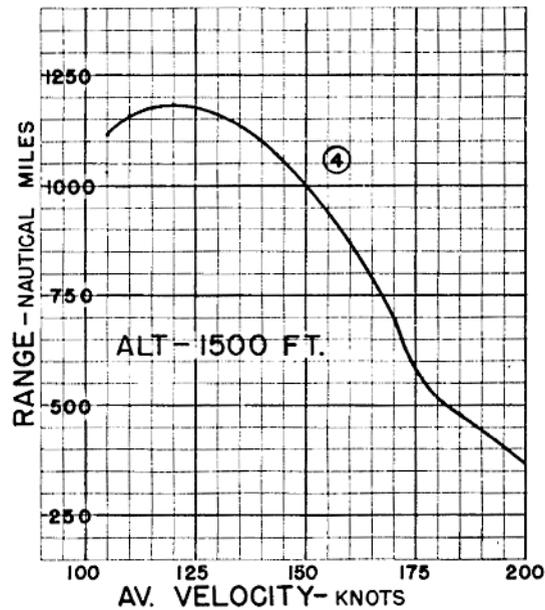
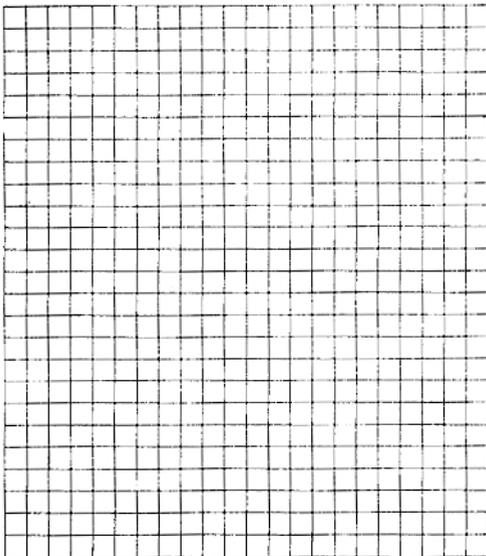
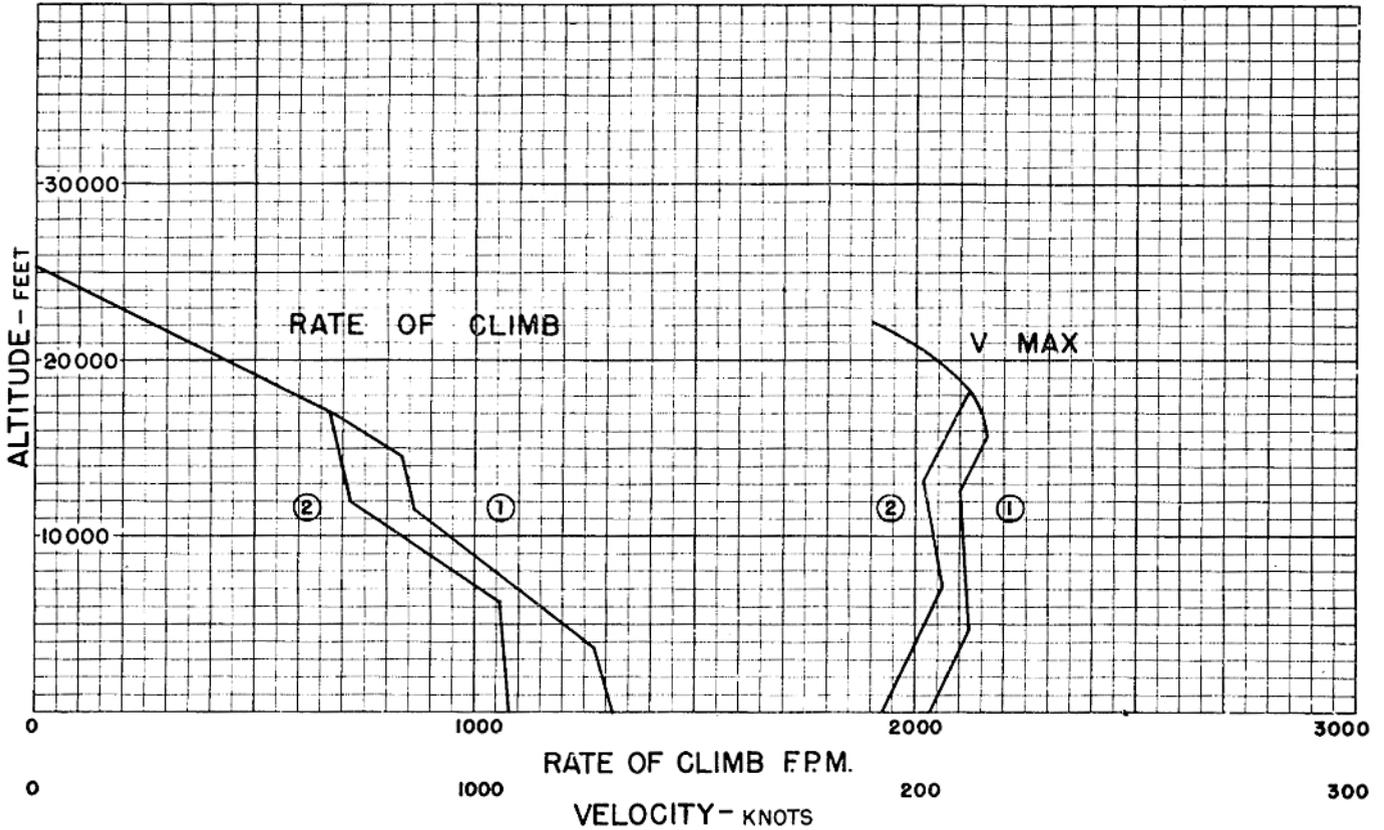
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 Search Radius Formula No. P-1 - Condition Nos. 2, 3, & 4.

Radius is 40% range at velocity for maximum range at 1500 ft. Allowance of 20% of initial fuel load for warm-up, take-off, climb and reserve is carried entire distance. Bombs and radar are also carried entire distance.

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 A.S.W. Radius Formula No. PA-1 - Condition No. 2

Radius is 1/3 range at velocity for maximum range at 1500 ft. Allowance of 20% of initial fuel load for warm-up, take-off, climb and reserve is carried entire distance. Bombs and radar are also carried entire distance.

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 Search and A.S.W. radius are reduced approximately 5 nautical miles for each minute of military rated power operation at 1500 ft. altitude.



○ LOADING CONDITION COLUMN NUMBER

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

MODEL-XR5M-1

WING AREA - 1407 SQ. FT.  
WING SECTION - N.A.C.A. 23020, 23010  
M.A.C. 156.7"  
PROPELLER: HAMILTON STD. C.S.  
BLADE DESIGN - NO. 2H17C

