

## AIRPLANE CHARACTERISTICS &amp; PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

| COLUMN NUMBER                               |                                | 1   | 2   | 3  | 4  |
|---|--------------------------------|---|---|--|--|
| LOADING CONDITION                           |                                | SEARCH<br>MK-35 TORPEDO<br>8-5" HVAR<br>AN/APS/31 | SEARCH<br>MK-35 TORPEDO<br>8-5" HVAR<br>AN/APS/31 | SEARCH<br>MK-35 TORPEDO<br>8-5" HVAR<br>AN/APS/31<br>1-150 GAL. TANK | SEARCH<br>MK-35 TORPEDO<br>8-5" HVAR<br>AN/APS/31<br>2-150 GAL. TANK |
| GROSS WEIGHT                                | LBS.                           | 20554   | 20554   | 21645  | 22698  |
| EMPTY WEIGHT - SPECIFICATION                | LBS.                           | 13733   |   |  |  |
| FUEL/OIL                                    | GALS.                          | 420/23  | 420/23  | 570/32   | 720/36   |
| FIXED GUNS/AMMUNITION                       |                                | NONE  |   |  |  |
| FLEXIBLE GUNS/AMMUNITION                    |                                | NONE  |   |  |  |
| ENGINE POWER USED FOR PERFORMANCE           |                                | MILITARY  | NORMAL  | NORMAL   | NORMAL   |
| WING LOADING                                | LBS./SQ.FT.                    | 37.4  | 37.4  | 39.4   | 41.3   |
| POWER LOADING ①                             | LBS./BHP.                      | 8.9   | 11.4  | 12.0   | 12.6   |
| V-MAX. SEA LEVEL                            | KN.                            | 232   | 211   | 206  | 200  |
| V-MAX.                                      | KN./FT.                        | 237/2100  | 228/7900  | 222/7800   | 216/7700   |
| V-STALL GROSS WEIGHT ②                      | KN.                            | 73.4  | 73.4  | 76.2   | 79.0   |
| V-STALL WITHOUT FUEL ②                      | KN.                            | 68.7  | 68.7  | 70.0   | 71.1   |
| TIME-TO-CLIMB -10000FT-                     | MIN.                           | 6.6   | 7.3   | 7.9  | 8.7  |
| TIME-TO-CLIMB -20000FT-                     | MIN.                           | 28.8  | 30.3  |  |  |
| SERVICE CEILING                             | FT.                            | 20400   | 20200   | 19000  | 17900  |
| TAKE-OFF DISTANCE -CALM-                    | FT.                            | 817   | 817   | 966  | 1126   |
| TAKE-OFF DISTANCE -15 KN-                   | FT.                            | 518   | 518   | 624  | 739  |
| TAKE-OFF DISTANCE -25 KN-                   | FT.                            | 355   | 355   | 435  | 523  |
| TAKE-OFF DISTANCE -50 FT. OBST.             | FT.                            |   |   |  |  |
| TAKE-OFF TIME                               | SECONDS                        |   |   |  |  |
| RATE OF CLIMB -SL-                          | FT./MIN.                       | 1990  | 1490  | 1370   | 1260   |
| MAX. RANGE /V-AV. ③                         | N MI./KN.                      |   | 995/135   | 1260/136   | 1495/133   |
| RANGE /V-AV. -80% NSP-③-                    | N MI./KN.                      |   |   |  |  |
| SEARCH RADIUS /V-AV. -20% R-                | N MI./KN.                      |   |   |  |  |
| A.S.W. RADIUS/V-AV. -20% R-                 | N MI./KN.                      |   | 250/150   | 320/150  | 395/150  |
| SCOUT RADIUS                                | N MI.                          |   |   |  |  |
| COMBAT RADIUS                               | N MI.                          |   |   |  |  |
| ENGINE / PROP. GEAR RATIO R-2800-46W/.450:1 |                                |   |   |  |  |
| ENGINE RATING<br>BHP/RPM/ALT.               | MILITARY                       | NORMAL  |   | TAKE OFF   |  |
|   | 2300/2800/S.L. -600'           | 1800/2600/S.L. -6500'                             |   | 2300/2800/S.L.   |  |
|   |                                |   |   |  |  |
|   |                                |   |   |  |  |
| TANKAGE IN GALLONS                          |                                | OIL   | FUEL  | OFFENSIVE ARMAMENT   |  |
| AUX. FIXED                                  | PROTECTED                      | 36  | 420   | Bomb Bay:  |  |
|   | UNPROTECTED                    |   |   | 1-MK-35 Torpedo  |  |
|   | TOTAL-FIXED INTERNAL           |   |   |  |  |
|   | DROPPABLE (Wings) 2 @ 150 GAL. |   | 300   | Rockets:   |  |
|   | DROPPABLE                      |   |   | 8-5" HVAR (Ex-9 head) on MK9-2 launchers                             |  |
| TOTAL                                       | 36                             | 720   |   |  |  |
| NOTE  | ① BHP AT MAX. CRIT. ALT.       |   |   |  |  |
|   | ② STALL - WITHOUT POWER        |   |   |  |  |
|   | ③ AT 1500' ALTITUDE            |   |   |  |  |

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## NOTES:

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

## Search Condition:

1-MK-35 torpedo, 4-MK-51 wing bomb racks, AN/APS-31 radar, 8-MK-9 rocket launchers, 8-5" HVAR, 2-sonobuoys and 2-MK-6 float lights aboard.

- (1) AN/APS-31 radar carried on outboard starboard wing rack.  
 (2) XL-22 searchlight on outboard port wing rack as alternate to 8-5" HVAR affects performance of Condition 1 as follows:

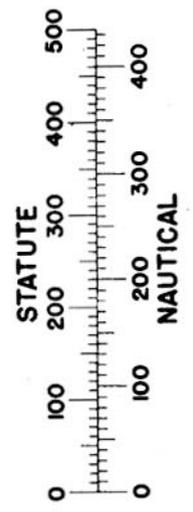
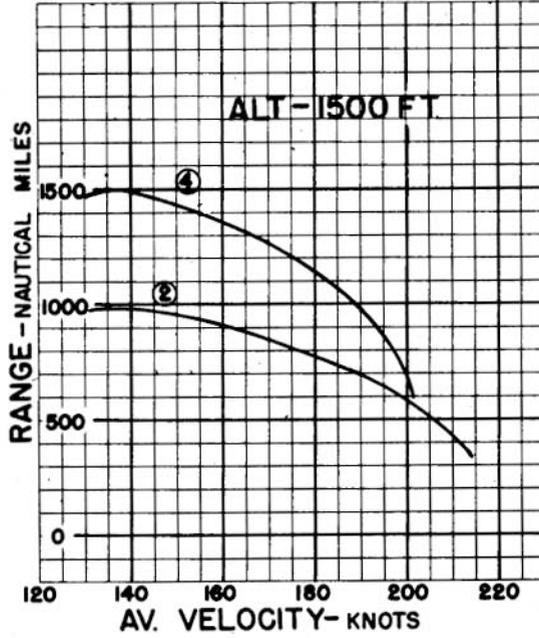
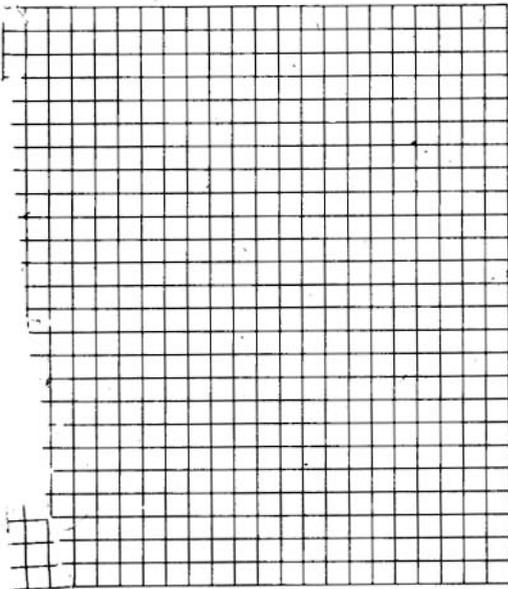
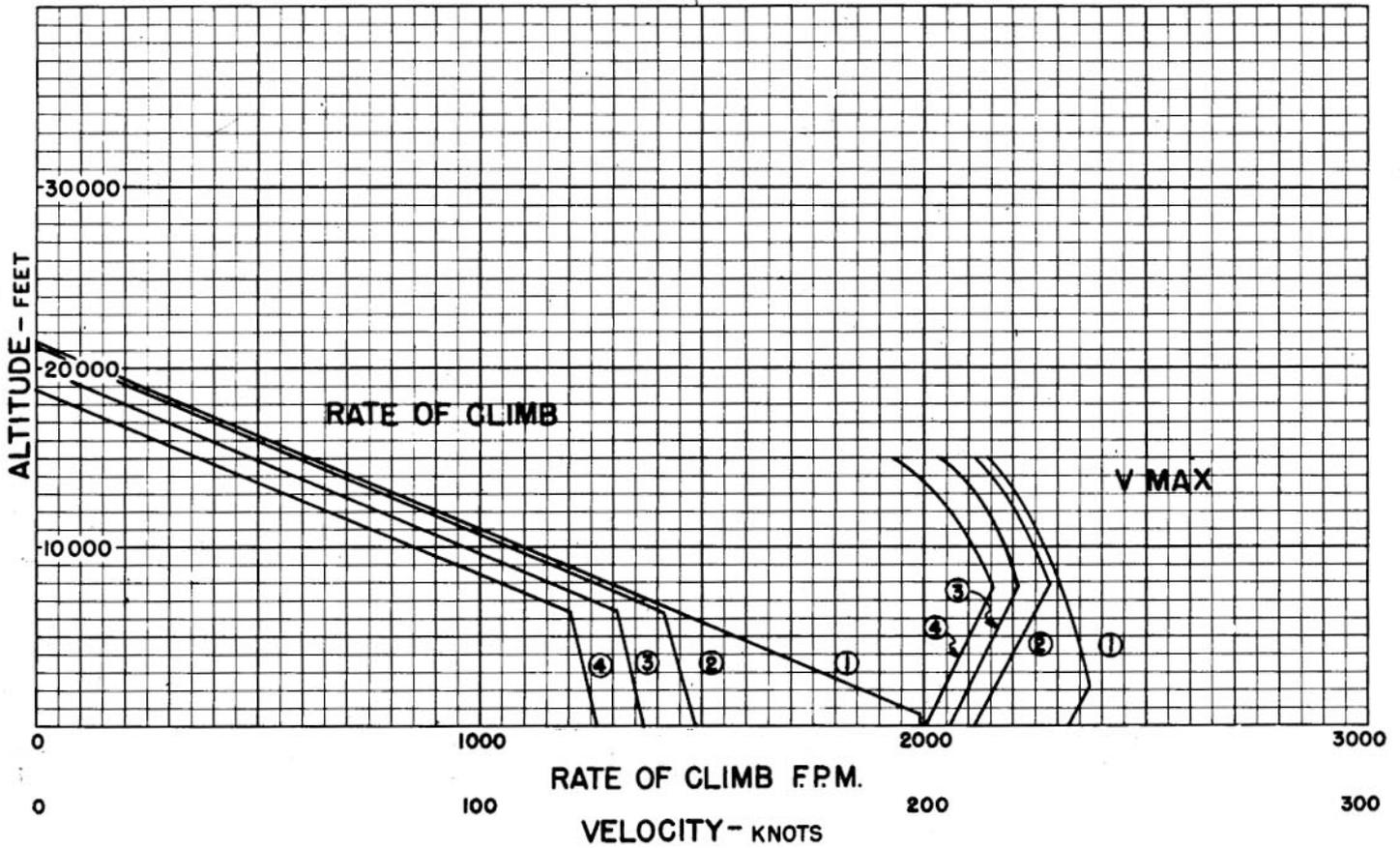
|                    |       |                            |      |
|--------------------|-------|----------------------------|------|
| Gross weight, lbs. | 19538 | Take-off, 25 Kn. wind, ft. | 314  |
| Empty wt., lbs.    | 12717 | Rate of climb, SL, ft/min. | 2130 |
| Vmax., S.L., Kn.   | 233   |                            |      |

- (3) Drop tanks carried on inboard wing bomb racks.  
 (4) In all conditions, swaybracing is aboard only for stores actually carried.  
 (5) Condition 1 less rockets but with launchers: Vmax SL = 241 Kn., Vmax/ACA = 246 kn/2200 ft.

A.S.W. Radius Formula No. PA-1 (Mod.) Condition Nos. 2, 3, 4.

Radius is 1/3 range at 150 kn. at 1500 ft. altitude. Allowance of 20% of initial fuel load for warm-up, take-off, climb and reserve is carried entire distance. AN/APS-31 radar, MK-35 torpedo, rockets, launchers and drop tanks are carried entire distance.

205 ft. length is required to spot 20 airplanes on the 96 ft. wide deck immediately aft of the forward ramp on CV-9 class carriers.



○ LOADING CONDITION COLUMN NUMBER

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

SELF-SEALING TANKS

NON SELF-SEALING TANKS

WING AREA - 548.7  
WING SECTION - NACA 23018-23012  
M.A.C. - 118.07

