

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

| COLUMN NUMBER | 1 | 2 | 3 | 4 |
|---------------------------------------|-----------|-----------|-----------------|--|
| LOADING CONDITION | COMBAT * | COMBAT * | TORPEDO 1MK13-3 | TORPEDO 1MK13-3 Two 100 gal. Tanks External |
| GROSS WEIGHT LBS. | 14160 | 14160 | 16470 | 17895 |
| EMPTY WEIGHT - ACTUAL - LBS. | 10545 | | | |
| FUEL / OIL GALS. | 335/19 | 335/19 | 335/19 | 535/30 |
| FIXED GUNS/AMMUNITION | 2-.50/600 | | | |
| FLEXIBLE GUNS/AMMUNITION | 1--50/400 | | | |
| ENGINE POWER USED FOR PERFORMANCE | MILITARY | NORMAL | NORMAL | NORMAL |
| WING LOADING LBS./SQ.FT. | 28.9 | 28.9 | 33.6 | 36.5 |
| POWER LOADING ① LBS./BHP. | 9.8 | 10.5 | 12.2 | 13.2 |
| V-MAX. SEA LEVEL MPH. | 251 | 243 | 235 | 225 |
| V-MAX./CRITICAL ALT. MPH./FT. | 276/16500 | 271/17400 | 259/17300 | 245/17300 |
| V-STALL GROSS WEIGHT ② MPH. | 81.0 | 81.0 | 87.4 | 91.1 |
| V-STALL WITHOUT FUEL ② MPH. | 75.2 | 75.3 | 81.9 | 82.6 |
| TIME-TO-CLIMB -10000FT- MIN. | 5.4 | 6.2 | 7.9 | 9.5 |
| TIME-TO-CLIMB -20000FT- MIN. | 13.2 | 14.8 | 19.9 | 25.1 |
| SERVICE CEILING FT. | 30100 | 29900 | 27100 | 25200 |
| TAKE-OFF DISTANCE -CALM- FT. | 527 | 527 | 778 | 988 |
| TAKE-OFF DISTANCE -15 KN- FT. | 309 | 309 | 478 | 620 |
| TAKE-OFF DISTANCE -25 KN- FT. | 194 | 194 | 317 | 421 |
| TAKE-OFF DISTANCE -50 FT. OBST. FT. | | | | |
| TAKE-OFF TIME SECONDS | | | | |
| RATE OF CLIMB -SL- FT./MIN. | 2060 | 1830 | 1440 | 1250 |
| MAX. RANGE / V-AV. ③ ST.MI./MPH. | 1145/142 | 1145/142 | 1010/144 | 1485/144 |
| RANGE / V-AV. -60%NSP-③- ST. MI./MPH. | | | | |
| SEARCH RADIUS / V-AV. -20%R- NMI./KN. | | | | |
| A.S.W. RADIUS / V-AV. -20%R- NMI./KN. | | | | |
| SCOUT RADIUS N MI. | | | | |
| COMBAT RADIUS - B - 1 N MI. | | 260 | 225 | 410 |

ENGINE / PROP GEAR RATIO W. A. C. R-2600-20 (16:9) see page 3

| ENGINE RATING BHP/RPM/ALT. | MILITARY | NORMAL | TAKE-OFF |
|-------------------------------|--------------------------|------------------------|----------------|
| | 1750/2600/s.l. - 2500' | 1600/2500/s.l. - 3250' | 1900/2800/s.l. |
| 1450/2600/8000'-14400' | 1350/2500/8500' - 15400' | | |

| AUX. FIXED | TANKAGE IN GALLONS | OIL | FUEL | OFFENSIVE ARMAMENT |
|---|--------------------|-----|------|--|
| | PROTECTED | | | 335 |
| UNPROTECTED | | 32 | | Torpedoes - 1 Mk13-3 |
| TOTAL - FIXED INTERNAL | 32 | 335 | | Bombs - 1-2000#, 1-1600#, 2-1000#, 4-500#, 4-250#, 12-100# |
| DROPPABLE - WINGS - 2 @ 100 | | 200 | | Depth Bombs - 1-650#, 4-325# |
| DROPPABLE B. B. | | 275 | | Mines: 1-2000#, or 1-1000# |
| TOTAL | 32 | 810 | | WINGS - (inboard bomb-racks)(alt. with tanks) |
| STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS | | | | Bombs - 2-1000# 2-500#, 2-250#, 6-100# |
| ① BHP AT MAX. CRIT. ALT. | | | | Depth Bombs - 2-650#, or 2-325# |
| ② STALL - WITHOUT POWER | | | | Mines - 2 - 1000# |
| ③ AT 1500' ALTITUDE | | | | WING - outboard bomb-rack)(alt. with radar) |
| | | | | Bombs - 1-500#, 1-250#, 3-100# |
| | | | | Depth Bombs - 1-325# |

*See page 2

SUPERSEDES 1 AUGUST 1944

NAVAER-15100 (Rev. 9-48)

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BUREAU OF AERONAUTICS, NAVY DEPT.

| COLUMN NUMBER | | 5 | 6 | 7 | 8 |
|-----------------------------------|---------------|-------------------|---------------------------|--------------------------------|--|
| LOADING CONDITION | | BOMBER 1-1000# | SCOUT Bomb-bay Tank | ROCKET 1-1000# 8 -5"HVAR | FERRY B.B. Tank Two 100 gal. Wing Tanks |
| GROSS WEIGHT | LBS. | 15298 | 16263 | 16442 | 16861 |
| EMPTY WEIGHT - ACTUAL - | LBS. | | 10545 | | 10450 |
| FUEL/OIL | GALS. | 335/19 | 610/32 | 335/19 | 810/32 |
| FIXED GUNS/AMMUNITION | | 2 - .50/600 | | | None |
| FLEXIBLE GUNS/AMMUNITION | | 1-.50/400 | | | None |
| ENGINE POWER USED FOR PERFORMANCE | | NORMAL | NORMAL | NORMAL | NORMAL |
| WING LOADING | LBS./SQ.FT. | 31.3 | 33.2 | 33.5 | 34.4 |
| POWER LOADING ① | LBS./BHP | 11.3 | 12.0 | 12.2 | 12.5 |
| V-MAX. SEA LEVEL | MPH | 236 | 235 | 227 | 231 |
| V-MAX./ CRITICAL ALT. | MPH./ FT. | 261/17300 | 260/17300 | 249/17300 | 254/17300 |
| V-STALL. GROSS WEIGHT ② | MPH | 84.3 | 87.0 | 87.4 | 88.6 |
| V-STALL. WITHOUT FUEL ② | MPH | 78.6 | 76.5 | 81.5 | 74.6 |
| TIME-TO-CLIMB -10000FT.- | MIN. | 7.0 | 7.7 | 8.0 | 8.3 |
| TIME-TO-CLIMB -20000FT.- | MIN. | 17.1 | 19.3 | 20.3 | 21.0 |
| SERVICE CEILING | FT. | 28400 | 27400 | 27100 | 26900 |
| TAKE-OFF DISTANCE -CALM- | FT. | 641 | 750 | 788 | 837 |
| TAKE-OFF DISTANCE -15 KN- | FT. | 385 | 459 | 484 | 518 |
| TAKE-OFF DISTANCE -25KN- | FT. | 248 | 302 | 321 | 345 |
| TAKE-OFF DISTANCE -50 FT. OBST. | FT. | | | | |
| TAKE-OFF DISTANCE | SECONDS | | | | |
| RATE OF CLIMB -SL- | FT./MIN. | 1630 | 1480 | 1440 | 1390 |
| MAX. RANGE / V-AV. ③ | ST. MI. / MPH | 1085/142 | 1920/142 | 965/142 | 2480/141 |
| RANGE / V-AV. -80%NSP-③- | ST. MI. / MPH | | | | |
| SEARCH RADIUS/V-AV. -20%R- | NMI./KN. | | | | |
| A. S. W. RADIUS/V-AV. -20%R- | NMI./KN. | | | | |
| SCOUT RADIUS | S - 1 NMI. | | 580 | | |
| COMBAT RADIUS | B - 1 NMI. | 230 | | 210 | |

PERFORMANCE IS BASED ON - FLIGHT TEST OF TBM-3

RANGE & RADIUS ARE BASED ON FLIGHT TEST OF TBM-3

FUEL CONSUMPTION DATA INCREASED

BY 5 PERCENT TO CONFORM WITH PAST EXPERIENCE.

*COMBAT CONDITION: Three wing bomb-racks and sway bracing aboard; Radar and rocket launchers not aboard. At Military Power, Combat Condition plus 8 MK5-2 launchers - Vmax/S.L. 249, Vmax 274 16500; Combat Condition plus AN/APS-4 radar - Vmax/S.L.=243, V-max=267/16400

CLEAN CONDITION: Combat Condition with all bomb-racks removed. At Combat Power, Vmax/S.L.=255, Vmax=280/16500.

ROCKET CONDITION: Rockets suspended from Mk 5-2 launchers

FUEL TRANSFER: Provisions are not incorporated for fuel transfer from droppable to main tanks after take-off

RADAR: AN/APS-4 (on outboard bomb-rack) carried in conditions 3 thru 7.

SPOTTING: 200 ft. length is required to spot 25 airplanes on the 96 ft. wide deck immediately aft of the forward ramp on CV-9 class carriers.

BOMB-RACKS: Two inboard Mk51-7 and one outboard Mk51-7 Bomb-racks are carried in all conditions except "CLEAN."

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BOMBER COMBAT RADIUS FORMULA NO. B-1-CONDITIONS NOS. - 2,3,4,5,7 RADIUS = CLIMB + CRUISE-OUT = CRUISE BACK

| WARM-UP | RENDEZVOUS | CLIMB | CRUISE OUT | DROP TANKS | COMBAT | CRUISE BACK | RESERVE |
|---------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|--------------------------------------|
| 20 min. | 20 min. at sea level | to 15000 ft. | at 15000 ft. | <u>DESCEND</u> to 1500 ft. | 15 min. at 1500 ft. | at 1500 ft. | 60 min. at |
| <u>TAKE-OFF</u> 1 min. | at 60% N.S.P. Auto Lean. | at 60% N.S.P. Auto Rich. | 180 kts.TAS Auto Lean. | DROP BOMBS FINE ROCKETS | 5 min. WEP. 10 min. Hor. Pr. | 170 kts.TAS Auto Lean. | Vel. for Max. Range Auto Lean. |

SCOUTING RADIUS FORMULA NO. S-1-CONDITIONS NOS. - 7

RADIUS IS 1/3 RANGE AT VEL. FOR MAX. RANGE AT 1500 FT. Fuel for 20 min. warm-up, 1 min. T.O. used at start of flight. Allowance for 60 min. at V. for max. range for rendezvous, landing and reserve carried ent. distance.

Practical Scout Radius is reduced 5 nautical miles for each minute of rated power operation at 1500 ft.

Engine ratings listed on page one are AEL ratings. These ratings do not conform to engine data obtained from TBM flight test. The flight test ratings are used for performance computations .

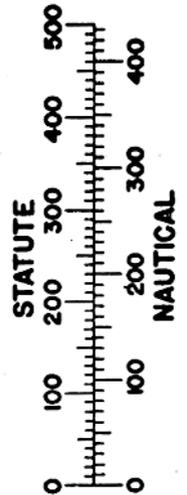
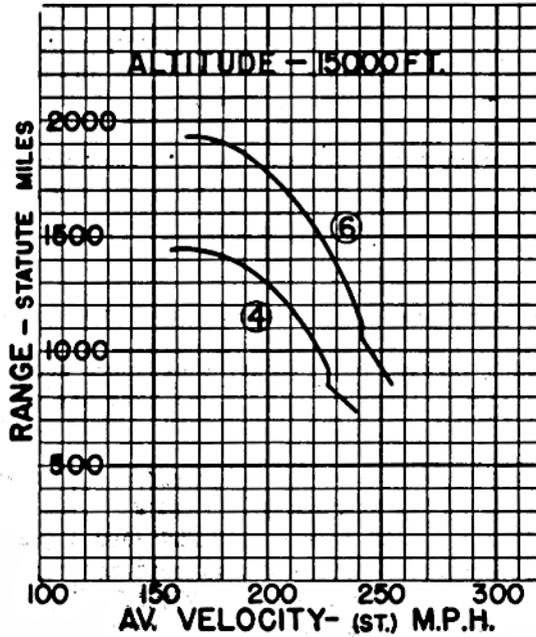
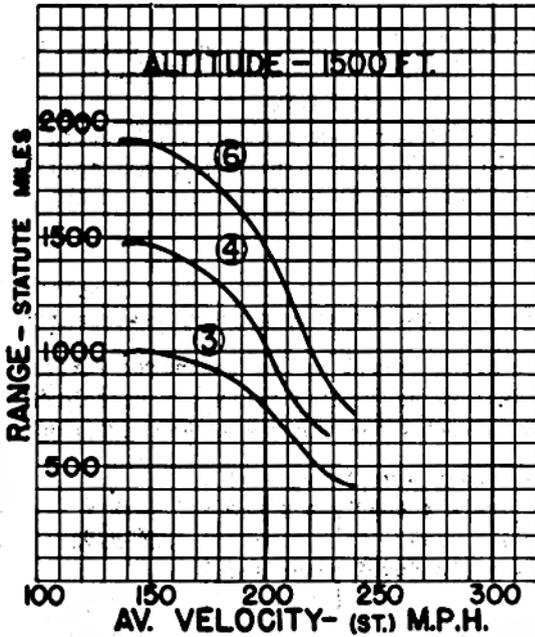
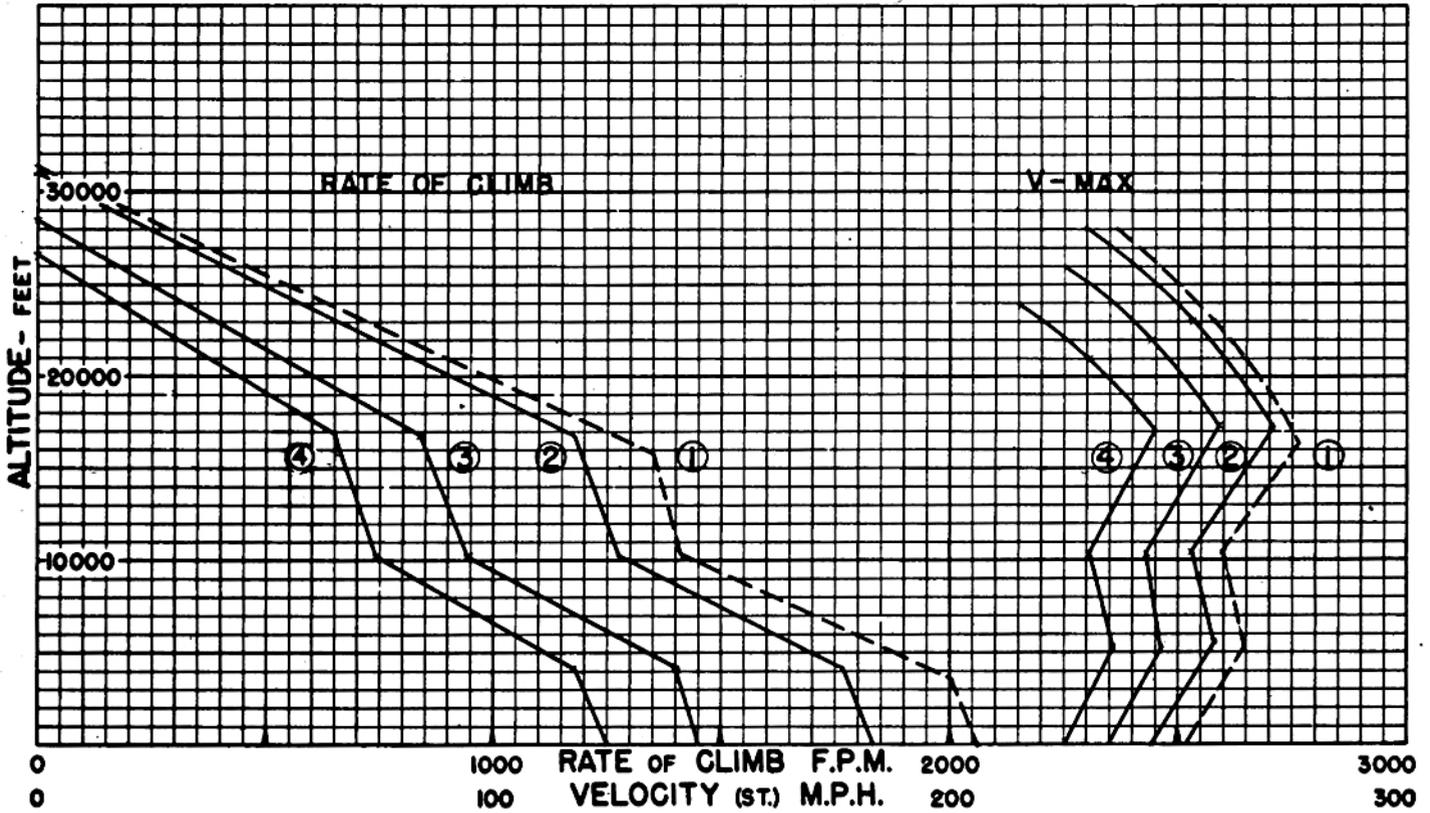
Flight Test Ratings are as follows:

Military

1750BHP/2600rpm/S.L. - 5300ft.
1450 /2600 /10500 - 16500ft.

Normal

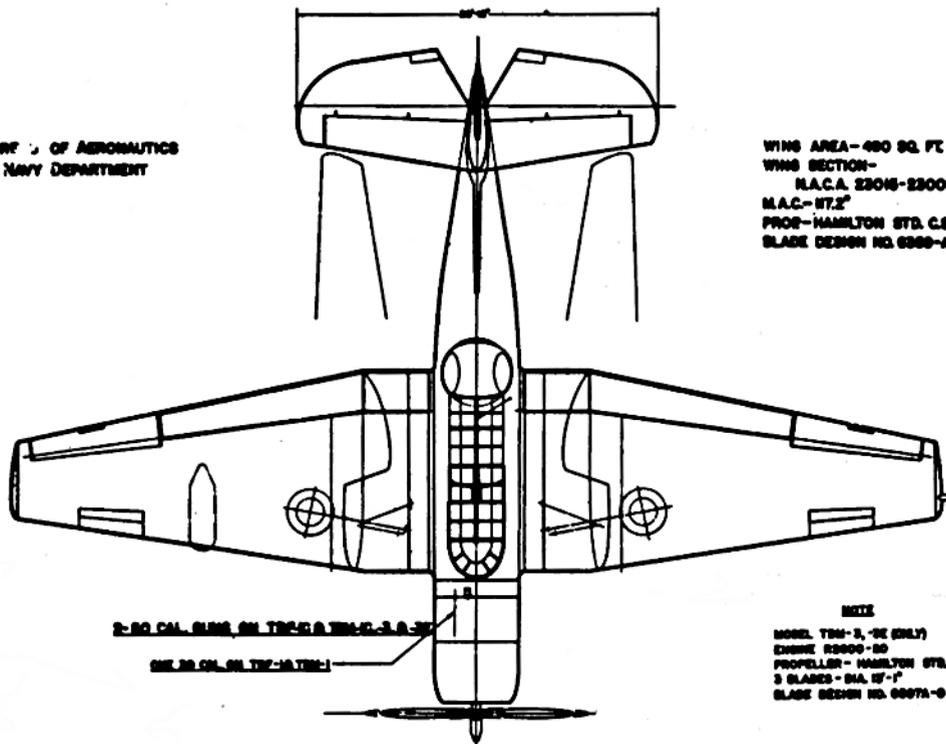
1600BHP/2400rpm/S.L. - 5700ft.
1350 /2400 /10400 - 17400ft.



○ LOADING CONDITION COLUMN NUMBER

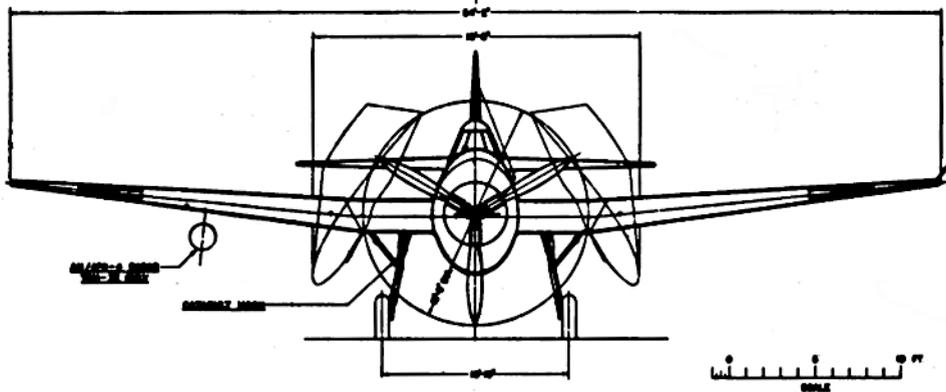
BURO OF AERONAUTICS
NAVY DEPARTMENT

WING AREA-480 SQ. FT.
WING SECTION-
N.A.C.A. 23016-23009
M.A.C.-17.2"
PROP-HAMILTON STD. C.S.
BLADE DESIGN NO. 6369-A12



2-50 CAL. GUNS ON TAIL & TAIL-3 & 3"
ONE 30 CAL. ON TAIL-10 TWIN

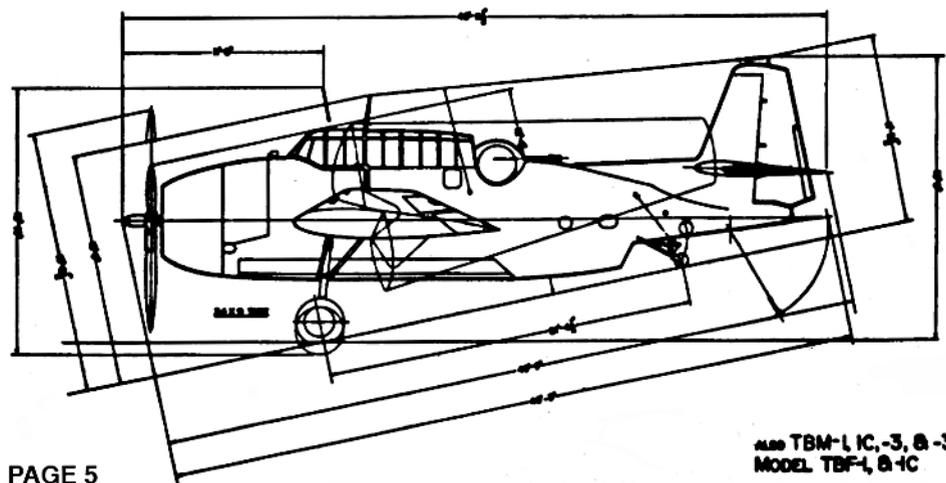
NOTE
MODEL TBM-3, -3E (ONLY)
ENGINE R5000-80
PROPELLER-HAMILTON STD.
3 BLADED-DIA. 17'-1"
BLADE DESIGN NO. 6007A-0



WING-1000
WING-1000

WING-1000

SCALE



WING-1000

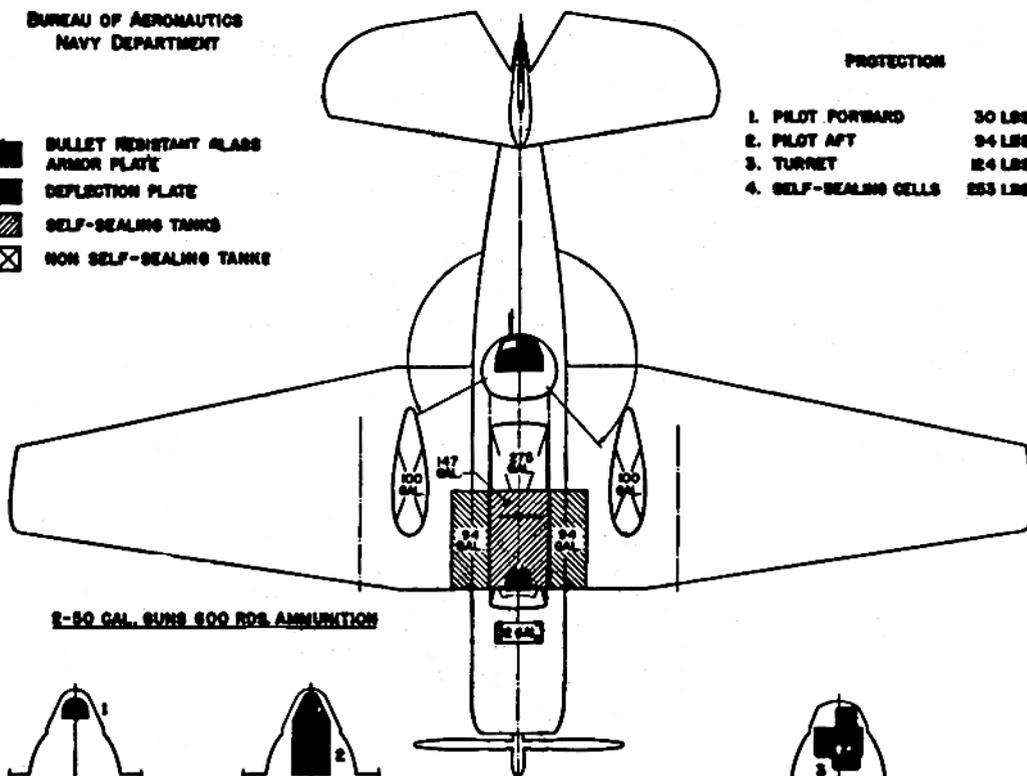
ALSO TBM-1, IC, -3, & -3E
MODEL TBF-1, & -1C

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

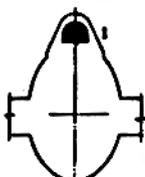
-  BULLET RESISTANT GLASS
-  ARMOR PLATE
-  DEFLECTION PLATE
-  SELF-SEALING TANKS
-  NON SELF-SEALING TANKS

PROTECTION

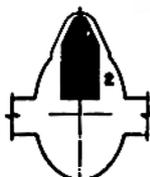
- 1. PILOT FORWARD 30 LBS.
- 2. PILOT AFT 94 LBS.
- 3. TURRET 124 LBS.
- 4. SELF-SEALING CELLS 253 LBS.



2-50 CAL. GUNS 800 RDS AMMUNITION



VIEW A TO B



VIEW B TO C



VIEW G TO D

