

**NAVAER ISSUE OF 8 PAGES
AIRPLANE CHARACTERISTICS & PERFORMANCE**

BUREAU OF AERONAUTICS-NAVY DEPT.

COLUMN NUMBER		1	2	3	4
LOADING CONDITION		TORPEDO 1-MK13-2	TORPEDO 1-MK13-2	TORPEDO 1-MK13-2 TWO TANKS EXTERNAL	BOMBER 4-500#
GROSS WEIGHT	LBS.	16412	16412	17364	16425
EMPTY WEIGHT (ACTUAL)	LBS.	10555			
FUEL/OIL	GALS.	335/19	335/19	451/25	335/19
FIXED GUNS/AMMUNITION		2-.50/400 rds		2-.50/600 rds	
FLEXIBLE GUNS/AMMUNITION		1-.50/200, 1-.30/500		1-.50/400, 1-.30/500	
ENGINE POWER USED FOR PERFORMANCE		MILITARY	NORMAL	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.	33.4	33.4	35.4	33.4
POWER LOADING ①	LBS./BHP.	11.3	12.1	12.8	12.1
V-MAX. SEA LEVEL	MPH.	249	238	227	238
V-MAX. AIRPLANE CRIT. ALT.	MPH.	257/12000	254/11700	241/11700	254/11700
V-STALL. GROSS WEIGHT. ②	MPH.	76.9	76.9	79.2	77.0
V-STALL. WITHOUT FUEL ②	MPH.	72.0	72.0	72.6	72.0
TIME-TO-CLIMB -10000FT.-	MIN.		13.0	15.9	13.0
TIME-TO-CLIMB -20000FT.-	MIN.		41.6	59.7	41.9
SERVICE CEILING	FT.	21400	20900	19400	20900
TAKE-OFF DISTANCE -CALM-	FT.		1071	1383	1076
TAKE-OFF DISTANCE -15 KN-	FT.		650	850	653
TAKE-OFF DISTANCE -25 KN-	FT.		435	563	438
TAKE-OFF TIME	SECONDS	-	-	-	-
MAX. RANGE /V-AV. ③	ST.MI/MPH.		1105/153	1390/152	1105/153
BOMBING RADIUS /V-AV.-20% R-	NMI/KN.				
BOMBING RADIUS /V-AV.-33% R-	NMI/KN.				
PATROL RADIUS /V-AV.-20% R-	NMI/KN.				
PATROL RADIUS /V-AV.-33% R-	NMI/KN.				
SCOUT. RADIUS	NMI.				
COMBAT RADIUS	NMI.		225	340	225
ENGINE /PROP.GEAR RATIO		W.A.C. R-2600-8 (16:9)			
ENGINE RATING BHP/RPM/ALT.		NORMAL		MILITARY	
		1500/2400/SL-5800		1700/2600/SL-3000	
		1350/2400/8900-13000		1450/2600/7800-12000	
		1700/2600/Take-off			
NOTE	STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS.				
	① BHP AT MAX.CRIT.ALT. ② STALL-WITHOUT POWER ③ AT 5000' ALTITUDE				

	TANKAGE IN GALLONS	OIL	FUEL	OFFENSIVE ARMAMENT
FIXED	PROTECTED	32	335	Fuselage Bomb Bay
	UNPROTECTED			Torpedoes: 1 MK13-1, or -2
	TOTAL-INCL.PROT.	32	335	Bombs : 1-1600#, 1-1000#
	INCREASE-REMOVED PROTECTION (Not Removable)			4-500#, 12-100#
AUX.				D. Bombs : 1-650# or 4-325#
	DROPPABLE Bomb Bay (Unprot.)		275	NOTE: Torpedoes or Bombs can not
	DROPPABLE Wing: 2@ 58 (Unprot.)		116	be carried if internal
	PROTECTED+UNPROTECTED+DROPPABLE.	32	726	droppable tank is installed.

REMARKS- Ferry Range is 2685 miles with gross weight 15770 lbs.; 726 gals. fuel; and having ASB, Guns, Ammunition and Armor removed.

TBF-1 & TBM-1 have only 1-.30 cal. fixed gun & are 354 lbs. lighter for max. ammunition load conditions. Weight & Performance given for -1C Model.

SUPERSEDES 8/8/42

DATE-1 JULY 1943

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ALSO TBM-1C & I
MODEL-TBF-1C & I

NAVAER
AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS-NAVY DEPT.

COLUMN NUMBER	5	6	7	8
LOADING CONDITION	BOMBER 1-1000#	SCOUT	SCOUT	SCOUT
GROSS WEIGHT LBS.	15422	14358	16334	17121
EMPTY WEIGHT (ACTUAL) LBS.	10555			
FUEL/OIL GAL.	335/19	335/19	610/32	726/32
FIXED GUNS/AMMUNITION	2-.50/600			
FLEXIBLE GUNS/AMMUNITION	1-.50/400		1-.30/500	
ENGINE POWER USED FOR PERFORMANCE	NORMAL	NORMAL	NORMAL	NORMAL
WING LOADING LBS/SQ.FT.	31.4	29.3	33.3	34.8
POWER LOADING ① LBS/BHP.	11.4	10.6	12.1	12.7
V-MAX. SEA LEVEL MPH.	239	241	238	228
V-MAX. AIRPLANE CRIT. ALT. MPH.	256/11700	258/11700	254/11700	242/11700
V-STALL. GROSS WEIGHT. ② MPH.	74.6	72.0	76.8	78.6
V-STALL. WITHOUT FUEL ② MPH.	69.5	66.8	67.6	67.8
TIME-TO-CLIMB -10000FT.- MIN.	10.9	9.2	12.8	15.1
TIME-TO-CLIMB -20000FT.- MIN.	32.5	25.8	41.0	54.2
SERVICE CEILING FT.	22200	23600	21000	19600
TAKE-OFF DISTANCE -CALM- FT.	880	718	1055	1285
TAKE-OFF DISTANCE -15 KN- FT.	520	418	640	796
TAKE-OFF DISTANCE -25 KN- FT.	340	262	428	532
TAKE-OFF TIME SECONDS.	-	-	-	-
MAX. RANGE/V-AV. ③ ST.MI/MPH.	1180/148	1300/142	2135/149	2335/146
BOMBING RADIUS/V-AV.-20% R- NMI/KN.				
BOMBING RADIUS/V-AV.-33% R- NMI/KN.				
PATROL RADIUS/V-AV.-20% R- NMI/KN.				
PATROL RADIUS/V-AV.-33% R- NMI/KN.				
SCOUT. RADIUS NMI.		340	580	645
COMBAT RADIUS NMI.	235			

PERFORMANCE IS BASED ON- Flight Test

RANGE & RADIUS ARE BASED ON Flight Test FUEL CONSUMPTION DATA INCREASED BY 5 PERCENT TO CONFORM WITH PAST EXPERIENCE.

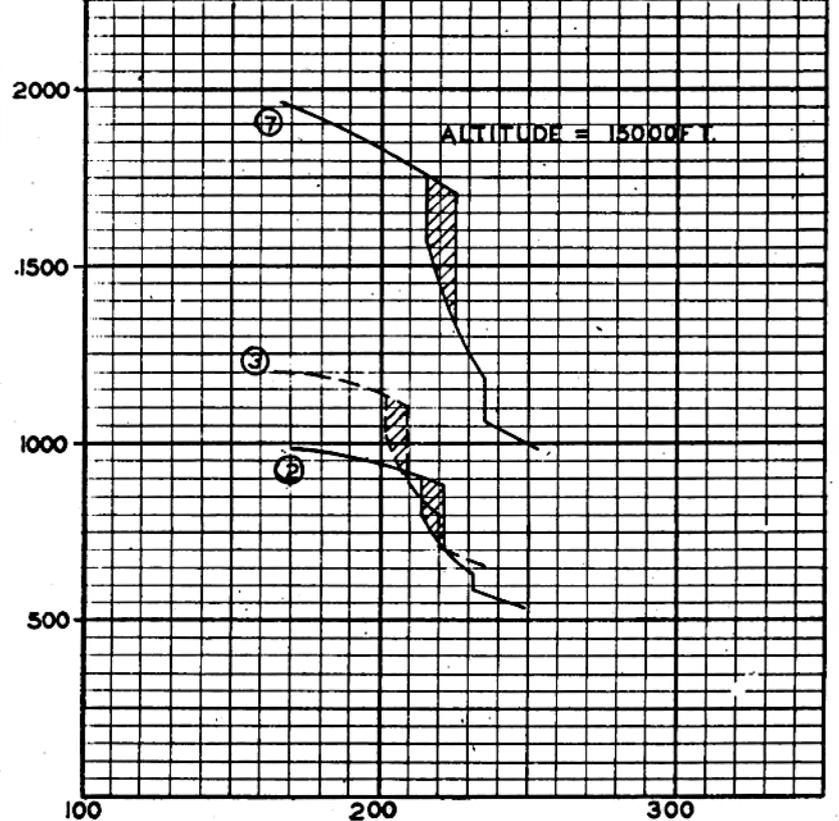
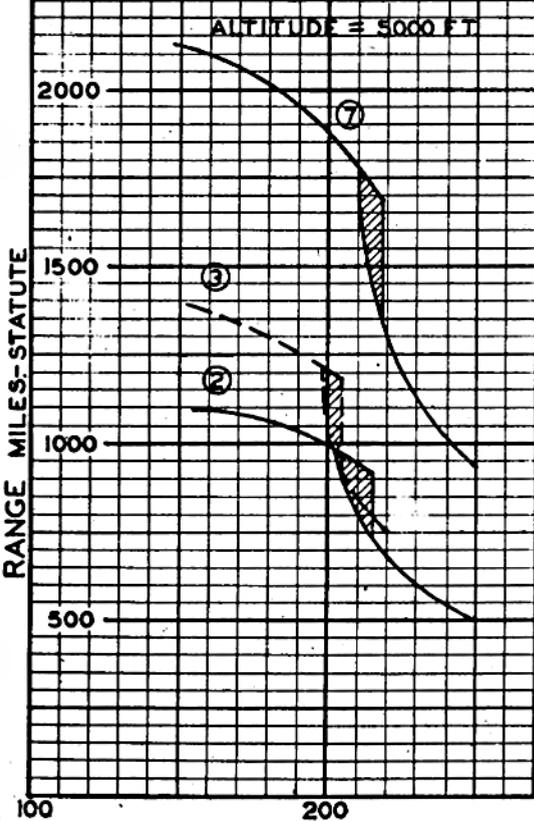
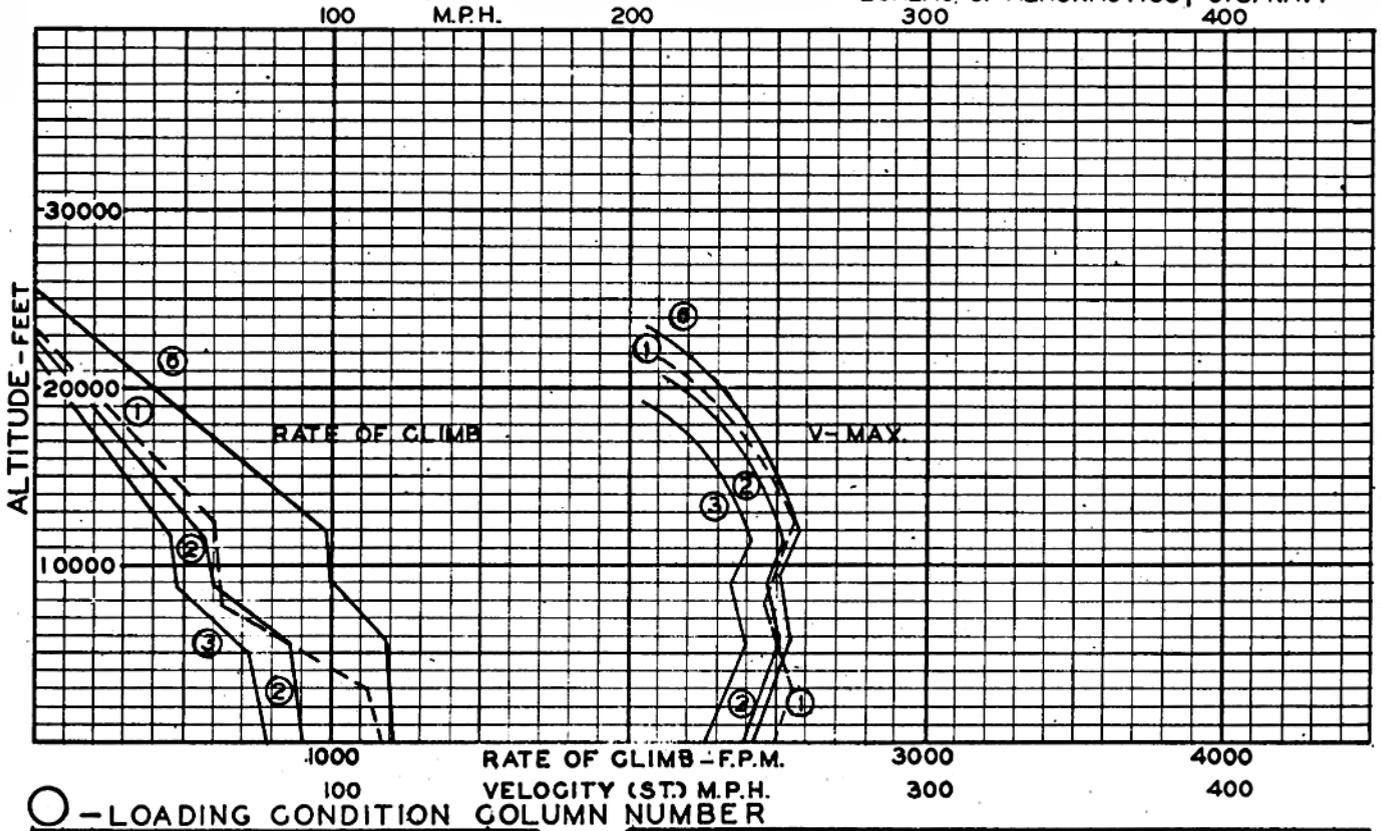
Practical combat radius is based on 20 min. warm-up and idling; 1 min. take-off; 10 min. rendezvous at 60% normal sea level power (n.s.p.) and auto-rich; climb to 15000' at 60% n.s.p. and auto-lean unless auto-rich is required for cooling; cruise out at 15000' at 60% n.s.p. and required mixture; dive, drop bombs, torpedoes and external tanks; combat at 1500' for 5 min. with full military power plus 10 min. with full normal power; cruise-back at 1500' at 60% n.s.p. and auto-lean; 60 min. rendezvous, landing and reserve at V for max. range and auto-lean. Radius includes distance covered in climb but not in dive.

Practical scouting radius is 1/3 of range at V for max. range at 1500' with fuel taken out for 20 min. warm-up and idle, 1 min. take-off and 60 min. for rendezvous, landing and reserve.

The following changes are incorporated: Contract - thru AQ; Service - thru #121; Pending - (1) 2-.50 Cal. wing guns installation (2) provisions for 2-58 gal. droppable wing tanks.

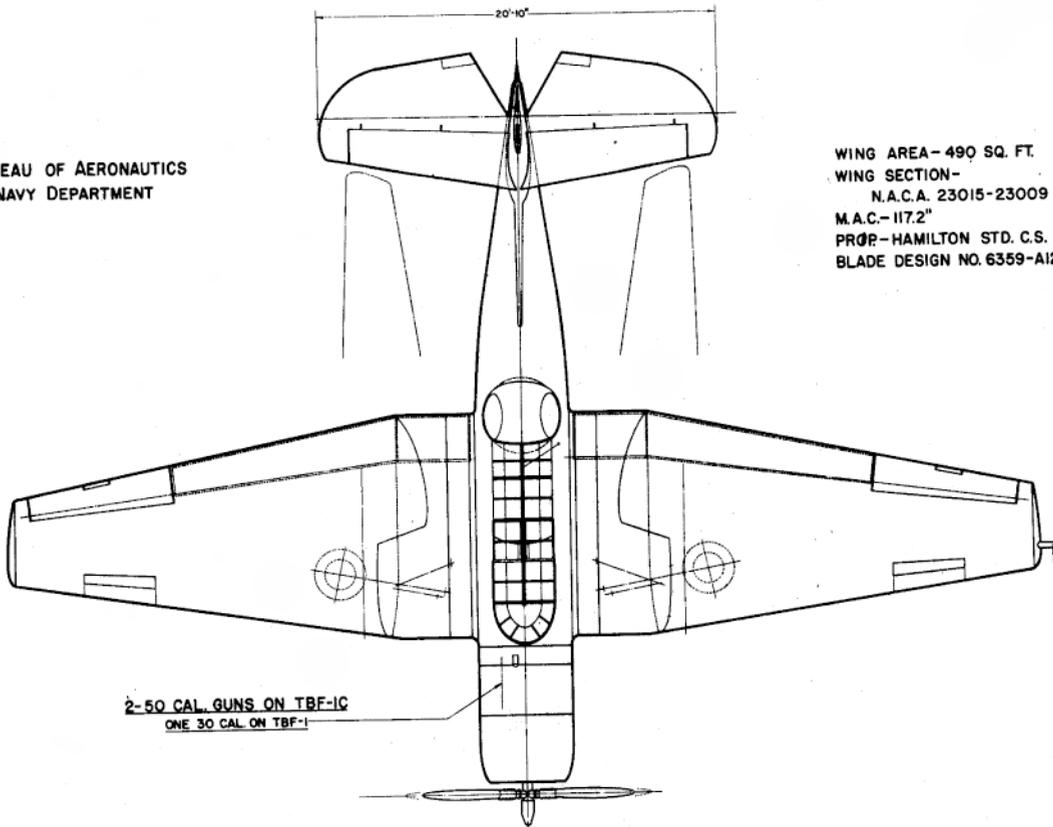
Col. (7) - Internal Droppable Fuel Tank Installed.

Col. (8) - Internal Droppable & Wing Droppable (2) Fuel Tanks Installed.

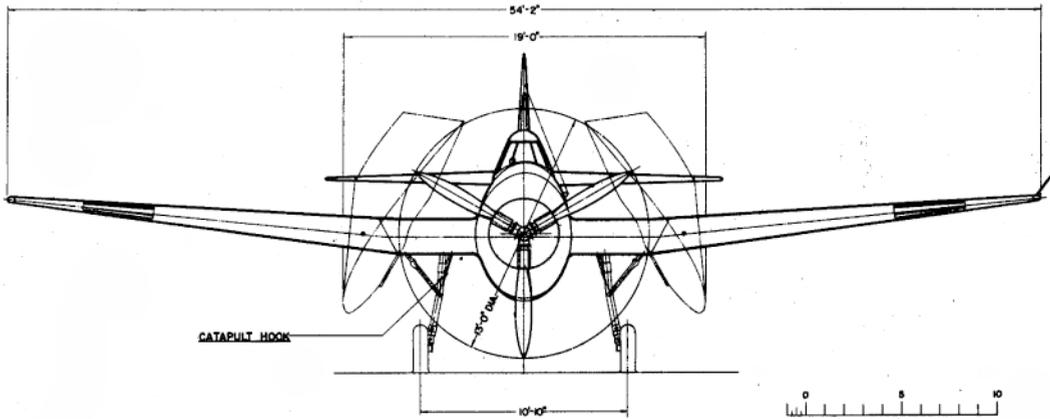


BUREAU OF AERONAUTICS
NAVY DEPARTMENT

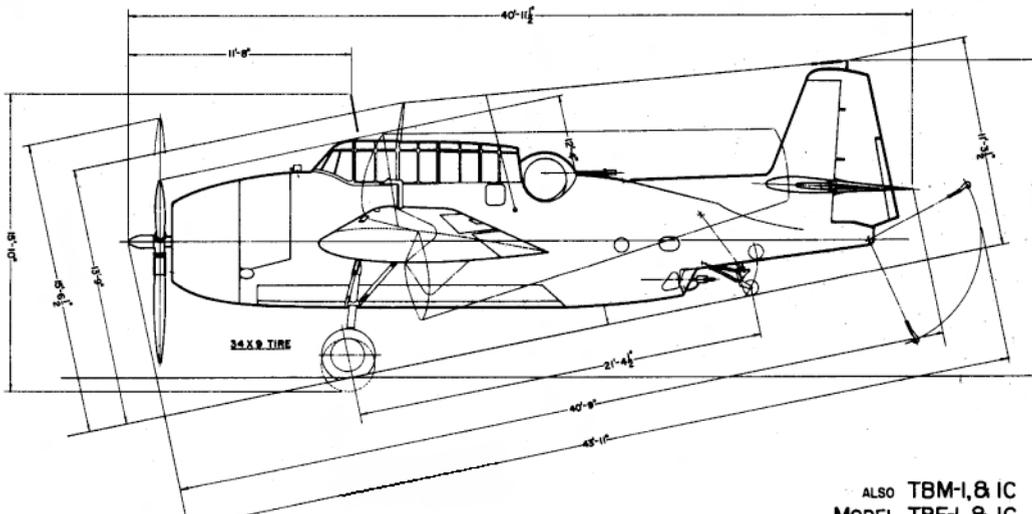
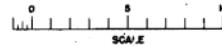
WING AREA - 490 SQ. FT.
WING SECTION -
N.A.C.A. 23015-23009
M.A.C. - 117.2"
PROP - HAMILTON STD. C.S.
BLADE DESIGN NO. 6359-A12



2- 50 CAL. GUNS ON TBF-1C
ONE 30 CAL ON TBF-1



CATAPULT HOOK



24 X 8 TIRE

ALSO TBM-1, & IC
MODEL TBF-1, & IC

MODEL TBF-1, & IC
ALSO TBM-1, & IC

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

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

PROTECTION

- | | |
|------------------------|----------|
| 1. OIL TANK | 57 LBS. |
| 2. PILOT AFT | 92 LBS. |
| 3. TURRET | 94 LBS. |
| 4. TUNNEL | 88 LBS. |
| 5. SELF-SEALING CELLS | 260 LBS. |
| 6. GUNNER'S B.R. GLASS | 34 LBS. |
| (TBF-IC ONLY) | |

