

AIRPLANE CHARACTERISTICS & PERFORMANCE

COLUMN NUMBER		1	2	3	4
LOADING CONDITION		COMBAT *	COMBAT *	COMBAT *	COMBAT (Fighter) *
GROSS WEIGHT	LBS.	9386	9386	9386	9334
EMPTY WEIGHT - ACTUAL -	LBS.	7070			
FUEL/OIL	GALS.	183/10	183/10	183/10	183/10
FIXED GUNS/AMMUNITION		4-.50 cal./1200 rds.			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		COMBAT	MILITARY	NORMAL	COMBAT
WING LOADING	LBS./SQ.FT.	38.4	38.4	38.4	38.2
POWER LOADING ①	LBS./BHP.	5.1	5.5	6.3	5.1
V-MAX. SEA LEVEL	MPH.	382	370	344	391
V-MAX./CRITICAL ALT.	MPH./FT.	421/19700	414/20600	406/22200	429/19900
V-STALL GROSS WEIGHT ②	MPH.	92.1	92.1	92.1	91.8
V-STALL WITHOUT FUEL ②	MPH.	86.6	86.6	86.6	86.3
TIME-TO-CLIMB -10000 FT.-	MIN.	2.6	2.7	3.0	2.5
TIME-TO-CLIMB -20000 FT.-	MIN.	5.7	6.1	6.7	5.7
SERVICE CEILING	FT.	38700	38600	38200	38900
TAKE-OFF DISTANCE -CALM-	FT.	360	360	360	352
TAKE-OFF DISTANCE -15 KN-	FT.	222	222	222	217
TAKE-OFF DISTANCE -25 KN-	FT.	148	148	148	144
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	4570	4110	3280	4600
MAX. RANGE / V-AV. ③	ST. MI. / MPH.			1105/163	1140/165
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.				
COMBAT RADIUS F-1 **	N MI.			0	0
COMBAT RADIUS F-1	N MI.			0	0
ENGINE / PROP. GEAR RATIO		P. & W. R-2800-34W (.45)			
ENGINE RATING BHP/RPM/ALT.	COMBAT	MILITARY	NORMAL	TAKE-OFF	
	2380/2800/s. l.	2100/2800/s. l. - 3400	1700/2600/s. l. - 8500		
	2400/2800/1000'	1700/2800/9500 - 16600	1500/2600/11700-18300	2100/2800/s. l.	
	1790/2800/9500'				
	1850/2800/15500'				
TANKAGE IN GALLONS		OIL	FUEL	OFFENSIVE ARMAMENT	
AUX. FIXED	PROTECTED	15	183	FUSELAGE: - external - alternate with droppable tank.	
	UNPROTECTED			Bombs: - 1-1600#, 1-1000#, 1-500#, 1-250#, or 3-100#	
	TOTAL - FIXED INTERNAL	15	183	Depth Bombs: - 1-650#, or 1-325#	
	DROPPABLE - Fuselage - ext -		150	Mines: - 1-1000#	
	DROPPABLE - Wings - ext -			Rockets: - 1-11.75" A.R. (Tiny Tim)	
	2 @ 100		200		
	TOTAL	15	533	WINGS: - external - alternate with droppable tanks	
NOTE	STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS		Bombs: - 2-1000#, 2-500#, 2-250#, or 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 (MANUAL LEAN)		Rockets: - 2-11.75" A.R.		
4-5" HVAR may be carried on outer panel MK9-1 launchers					
* & ** See page 2 & 4					

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		5	6	7	8
LOADING CONDITION		FIGHTER	FIGHTER	BOMBER	ROCKET
		One Tank External	One Tank External	2-1000# One Tank External	4-5" HVAR One Tank External
GROSS WEIGHT	LBS.	10447	10395	12447	11019
EMPTY WEIGHT - ACTUAL -	LBS.	7070			
FUEL/OIL	GALS.	333/15	333/15	333/15	333/15
FIXED GUNS/AMMUNITION		4-.50 cal/1200 rds.			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		NORMAL	NORMAL	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.	42.8	42.5	51.0	45.1
POWER LOADING ①	LBS./BHP	7.0	6.9	8.3	7.3
V-MAX. SEA LEVEL	MPH.	330	335	294	318
V-MAX./ CRITICAL ALT.	MPH./ FT.	391/21900	397/22000	342/21100	375/21600
V-STALL. GROSS WEIGHT ②	MPH.	97.1	97.0	105.9	99.8
V-STALL. WITHOUT FUEL ②	MPH.	87.4	87.2	97.2	90.4
TIME-TO-CLIMB -10000FT.-	MIN.	3.6	3.5	4.7	3.8
TIME-TO-CLIMB -20000FT.-	MIN.	7.8	7.7	10.8	8.6
SERVICE CEILING	FT.	36400	36700	33000	35200
TAKE-OFF DISTANCE -CALM-	FT.	461	455	753	551
TAKE-OFF DISTANCE -15 KN.-	FT.	293	289	504	358
TAKE-OFF DISTANCE -25KN.-	FT.	201	199	364	251
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF DISTANCE	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	2860	2890	2200	2650
MAX. RANGE / V-AV. ③	ST. MI. / MPH.	1775/168	1830/169	1265/170	1590/169
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.				
COMBAT RADIUS F-1 **	NMI.	320 (a)	340 (c)	300	320 (f)
COMBAT RADIUS F-1	NMI.	140 (b)	150 (d)	140 (e)	140 (g)

PERFORMANCE IS BASED ON -

FLIGHT TEST

RANGE & RADIUS ARE BASED ON

PRELIMINARY AEL

FUEL CONSUMPTION DATA INCREASED

BY 15 PERCENT TO CONFORM WITH PAST EXPERIENCE.

*COMBAT CONDITION: One MK51-9 fuselage bomb-rack and sway-bracing, and two faired MK51-9 faired wing (Cols. 1, 2, and 3) bomb-racks and sway-bracing aboard, Rocket launchers not aboard. Addition of 4 MK9-1 rocket launchers reduces Vmax./S.L. to 377 mph to Vmax to 416/19600 (Combat Power)

(Col. 4) One MK51-9 fuselage bomb-rack and sway bracing. Wing bomb-racks and rocket launchers not aboard. This condition is representative of the airplane of Col. 6 upon entering combat.

CLEAN CONDITION: Combat condition with all bomb-racks and sway-bracing removed. Vmax/S.L. = 394 mph; Vmax = 434/19800 (Combat Power)

NOTE: Two faired MK51-9 wing bomb-racks and sway-bracing and one fuselage MK51-9 bomb-rack and sway-bracing in all conditions except Col. 4 and 6

Col. 6 - Wing bomb-racks are not aboard

Col. 8 - Rackets suspended from MK9-1 launchers.

Col. 9 - 11.75" Rockets suspended from wing bomb-racks.

Provisions are incorporated for fuel transfer from droppable to main tanks after take-off.

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		9	10		
LOADING CONDITION		ROCKET 2-11.75" A.R. One Tank External	FERRY One Tank External		
GROSS WEIGHT	LBS.	12947	9530		
EMPTY WEIGHT - Actual -	LBS.	7070	6893		
FUEL/OIL	GALS.	333/15	333/15		
FIXED GUNS/AMMUNITION		4-.50/1200	None		
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		NORMAL	NORMAL		
WING LOADING	LBS/SQ.FT.	53.1	39.0		
POWER LOADING ①	LBS./BHP	8.6	6.3		
V-MAX. SEA LEVEL	MPH.	305			
V-MAX./ CRITICAL ALT.	MPH./ FT.	356/21300			
V-STALL. GROSS WEIGHT ②	MPH.	108.2			
V-STALL. WITHOUT FUEL ②	MPH.	99.4			
TIME-TO-CLIMB -10000FT.-	MIN.	4.9			
TIME-TO-CLIMB -20000FT.-	MIN.	11.3			
SERVICE CEILING	FT.	32800			
TAKE-OFF DISTANCE -CALM-	FT.	855			
TAKE-OFF DISTANCE -15 KN.-	FT.	583			
TAKE-OFF DISTANCE -25KN.-	FT.	428			
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF DISTANCE	SECONDS				
RATE OF CLIMB -SL-	FT./ MIN.	2100			
MAX. RANGE / V-AV. ③	ST. MI./ MPH.	1295/184	1965/155		
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.				
COMBAT RADIUS F-1**	NMI.	300			
COMBAT RADIUS F-1	NMI.	140 (h)			

PERFORMANCE IS BASED ON -

RANGE & RADIUS ARE BASED ON

FUEL CONSUMPTION DATA INCREASED

BY PERCENT TO CONFORM WITH PAST EXPERIENCE.

FERRY CONDITION: Armor and Armament removed. Addition of 2-100 gal wing tanks (total fuel 533 gals gals) increases max. ferry range to 2510 st. mi. at 160 mph at 1500 ft.

203 ft. length is required to spot 35, airplanes on the 96 ft wide deck immediately aft of the forward ramp on CV-9 class carriers.

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DATE 1 JUNE 1945

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ALSO-F3M-1
MODEL-F8F-1

AIRPLANE CHARACTERISTICS & PERFORMANCE

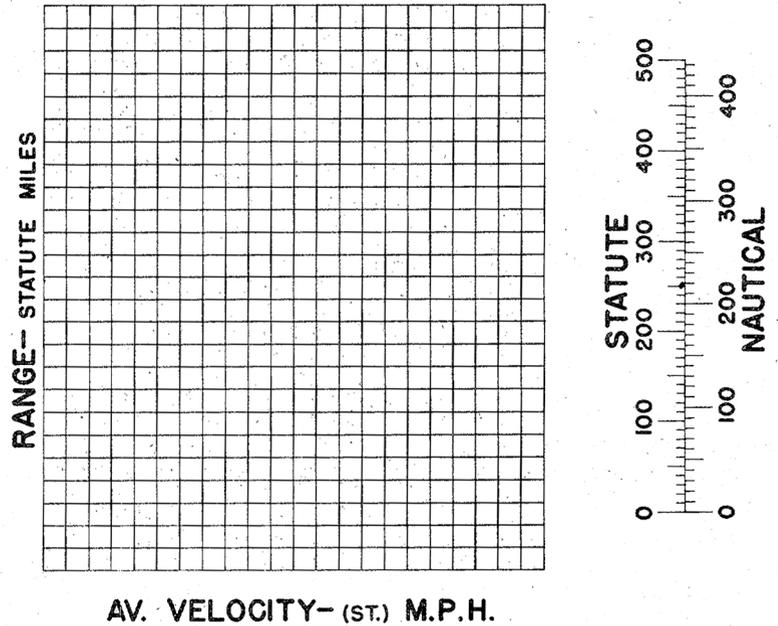
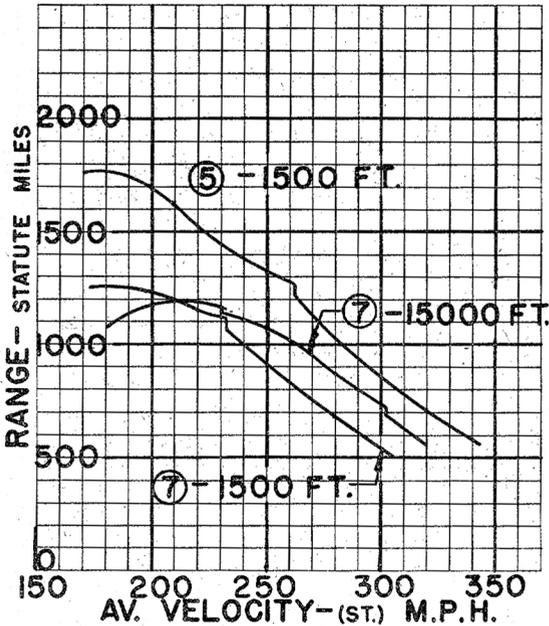
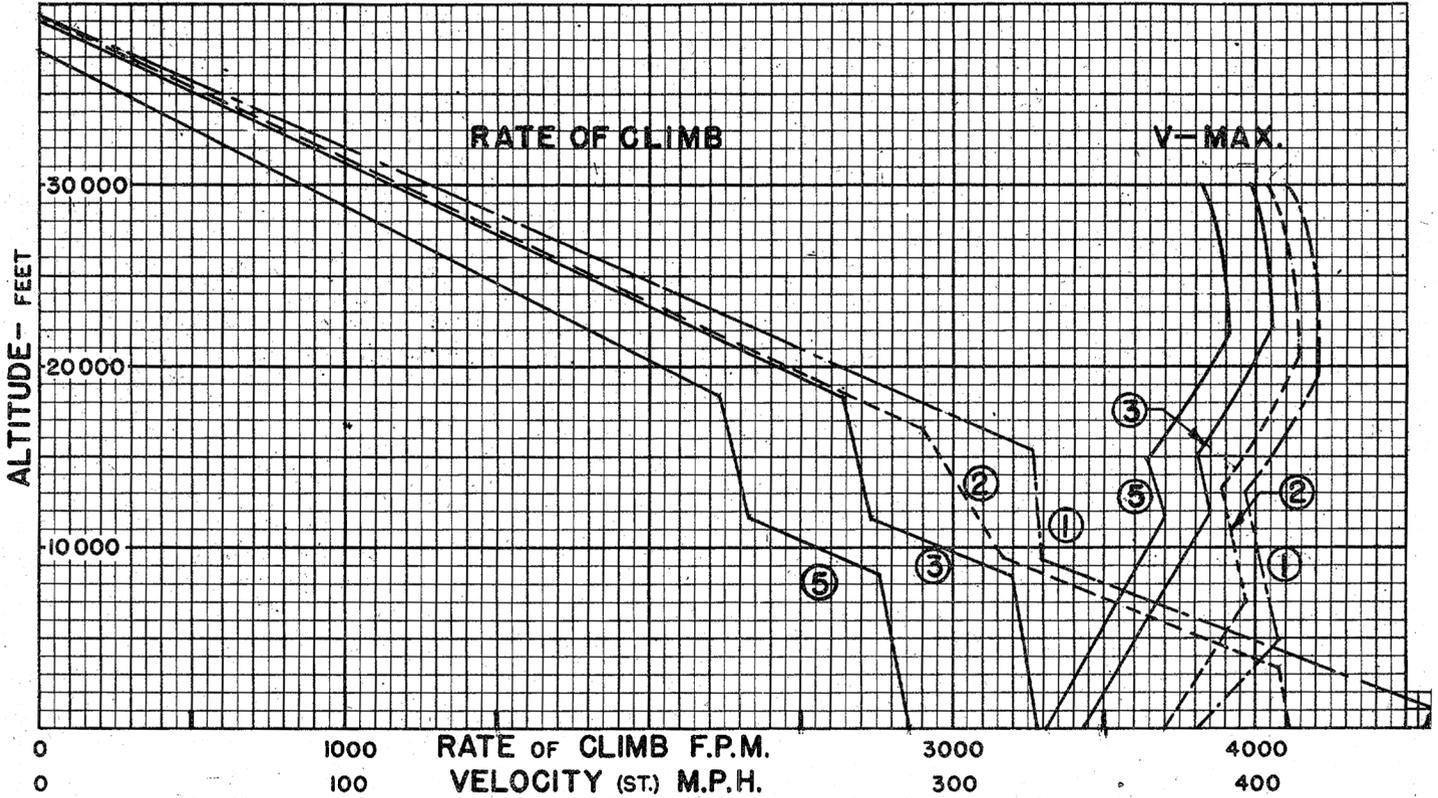
BUREAU OF AERONAUTICS, NAVY DEPT.

FIGHTER COMBAT RADIUS FORMULA NO. F-1**-CONDITIONS NOS. 3 to 9					RADIUS = CLIMB + CRUISE-OUT = CRUISE BACK		
WARM-UP	RENDEZVOUS	CLIMB	CRUISE OUT	DROP TANKS and BOMBS	COMBAT	CRUISE BACK	RESERVE
20 min.	20 min. at sea level	to 15000 ft.	at 15000 ft.		20 min. at 15000 ft.	at 1500 ft.	60 min. at
TAKE-OFF	at 60% N.S.P.	at 60% N.S.P.	Vel. for Max. Range	FIRE ROCKETS	10 min. WEP.	170 kts. TAS	Vel. for Max. Range
1 min.	Auto Lean.	Auto Rich.	Auto Lean.		10 min. Mil. Pr. and descend	MANUAL LEAN	MANUAL LEAN
FIGHTER COMBAT RADIUS FORMULA NO. F-1-CONDITIONS NOS. - 3 to 9					RADIUS = CLIMB + CRUISE-OUT = CRUISE BACK		
WARM-UP	RENDEZVOUS	CLIMB	CRUISE OUT	DROP TANKS and BOMBS	COMBAT	CRUISE BACK	RESERVE
20 min.	20 min. at sea level	to 15000 ft.	at 15000 ft.		20 min. at 15000 ft.	at 1500 ft.	60 min. at
TAKE-OFF	at 60% N.S.P.	at 60% N.S.P.	Vel. for Max. Range	FIRE ROCKETS	10 min. WEP.	Vel. for Max. Range	Vel. for Max. Range
1 min.	Auto Lean.	Auto Rich.	Auto Lean.		10 min. Mil. Pr. and descend	Auto Lean.	Auto Lean.

Combat Radii noted with () are limited by amount or protected fuel for use in combat and return. In the following conditions the listed amounts of fuel remain in the droppable tank on entering combat must be dropped or may be used to increase cruise-out speed or to search.

- Col. 5a; 17 gals. may be used to increase cruise out speed to 249 kts. or for .33 hrs. search at V for max. range.
- Col. 5b; 61 gals. may be used to increase cruise out speed to V max. or for 1.17 hrs. search at V for max. range.
- Col. 6c; 15 gals. may be used to increase cruise out speed to 248 kts or for .29 hrs. search at V for max. range
- Col. 6d; 60 gals. may be used to increase cruise out speed to V max. or for 1.17 hrs. search at V for max. range.
- Col. 7e; 33 gals. may be used to increase cruise out speed to V max. or for .75 hrs. search at V for max. range.
- Col. 8f; 11 gals. may be used to increase cruise out speed to 231 kts. or for .21 hrs. search at V for max. range.
- Col. 8g; 58 gals. may be used to increase cruise out speed to V max. or for 1.08 hrs. search at V for max. range.
- Col. 9h; 47 gals. may be used to increase cruise out speed to V max. or for .75 hrs. search at V for max. range.

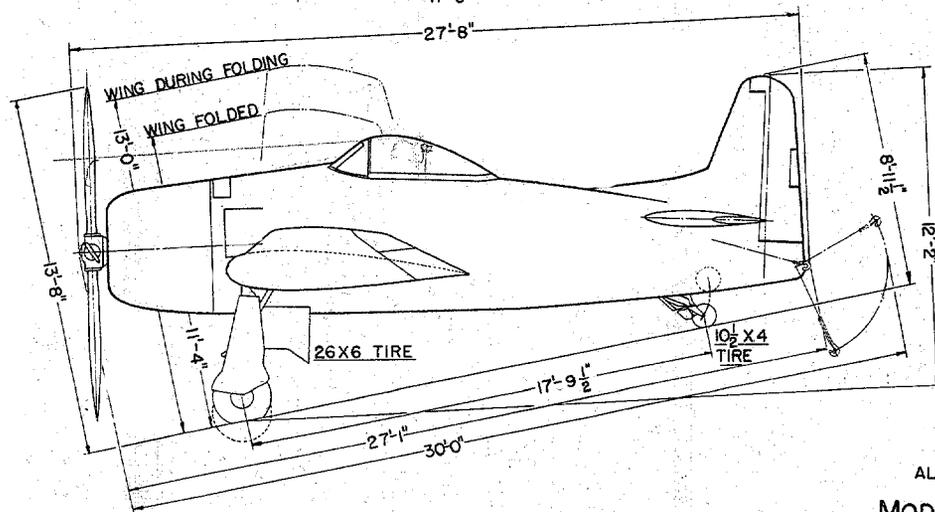
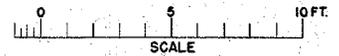
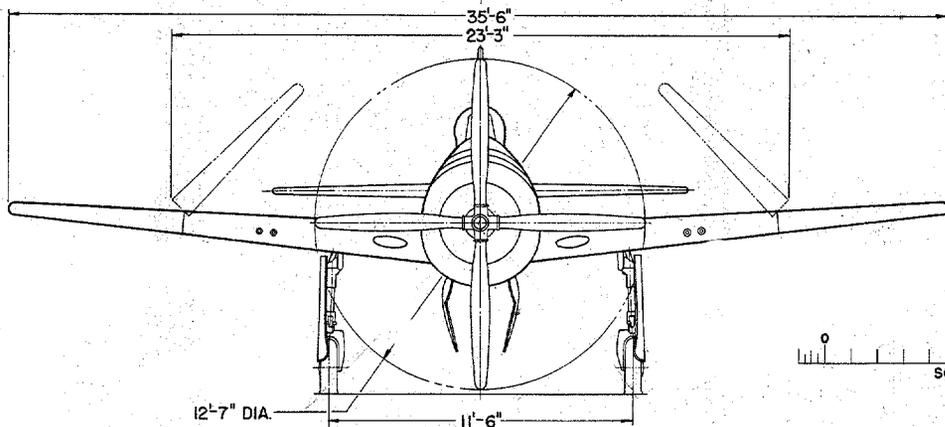
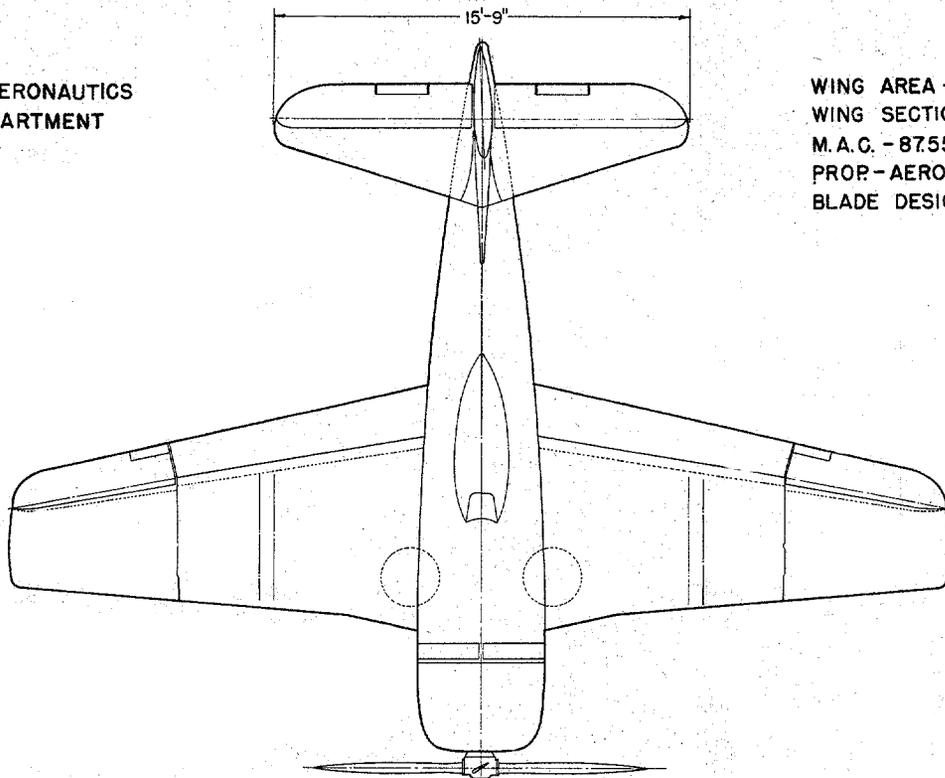
NOTE ON COMBAT RADIUS: The present carburetor on the R-2800-34W engine used in this airplane is designed to give sufficient enrichment at low power in automatic lean setting to provide satisfactory engine operation and entails a penalty in specific fuel consumption increasing rapidly below 635 H.P. The F8F, with its exceedingly low power loading, will cruise on the return flight and during rendezvous at powers well below 635 H.P. Therefore, in order to obtain greater combat radii it will be necessary to use manual lean adjustment during cruiseback and rendezvous. The effect of this operation is shown in the two values of combat radius shown.



○ LOADING CONDITION COLUMN NUMBER

ALSO - F3M-1
MODEL - F8F-1

WING AREA - 244. SQ. FT.
WING SECTION - N.A.C.A. 23018-230
M.A.C. - 87.55"
PROP - AEROPRODUCTS
BLADE DESIGN NO. H-20G-156-5M5



ALSO F3M-1
MODEL F8F-1

MODEL F8F-1

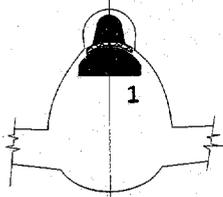
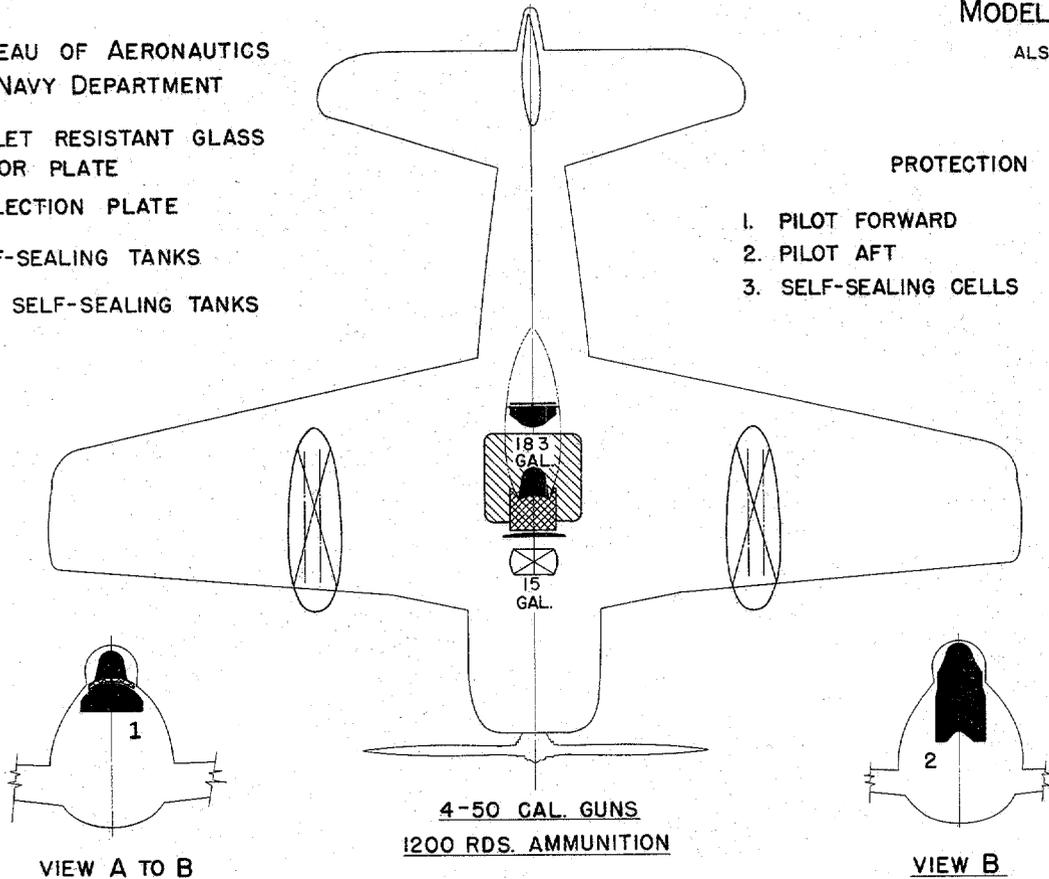
ALSO F3M-1

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

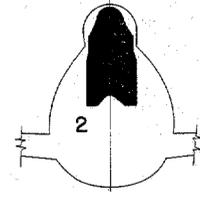
-  BULLET RESISTANT GLASS ARMOR PLATE
-  DEFLECTION PLATE
-  SELF-SEALING TANKS
-  NON SELF-SEALING TANKS

PROTECTION

- 1. PILOT FORWARD 64 LBS.
- 2. PILOT AFT 109 LBS.
- 3. SELF-SEALING CELLS 162 LBS.



VIEW A TO B



VIEW B

