NAVAER-1519A (Rev. 9-44)

ISSUE OF 6 PAGES

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1	2	3	4
LOADING CONDITION		COMBAT *	COMBAT *	COMBAT *	FIGHTER One 150 gal. Tank External
GROSS WEIGHT	LBS.	12575	12575	12575	13632
EMPTY WEIGHT - ACTUAL -	LBS.	9207			
FUEL / OIL	GALS.	250/16	250/16	250/16	400/19
FIXED GUNS/AMMUNITION		6-.50 cal./2400 rds.			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		COMBAT	MILITARY	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.	37.6	37.6	37.6	40.8
POWER LOADING ①	LBS./BHP.	6.4	7.6	8.1	8.8
V-MAX. SEA LEVEL	MPH.	314	311	297	283
V-MAX./ CRITICAL ALT	MPH./FT.	372/18000	373/23400	368/24100	348/23900
V-STALL GROSS WEIGHT ②	MPH.	87.2	87.2	87.2	90.8
V-STALL. WITHOUT FUEL ②	MPH.	81.8	81.8	81.8	82.4
TIME-TO-CLIMB -10000 FT.-	MIN.	3.2	3.6	4.2	4.7
TIME-TO-CLIMB -20000 FT.-	MIN.	7.0	7.6	8.7	10.0
SERVICE CEILING	FT.	38800	38800	38100	36600
TAKE-OFF DISTANCE -CALM-	FT.	640	640	640	780
TAKE-OFF DISTANCE -15 KN.-	FT.	418	418	418	519
TAKE-OFF DISTANCE -25 KN.-	FT.	294	294	294	372
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	3250	3110	2510	2210
MAX. RANGE / V-AV. ③	ST. MI. / MPH.			955/160	1340/161
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 (F1)	N MI.			120	335

ENGINE / PROP. GEAR RATIO: P & W R-2800-10W (2:1)

ENGINE RATING BHP/RPM/ALT.			
COMBAT	MILITARY	NORMAL	TAKE-OFF
2250/2700/S.L.	2000/2700/S.L.-1700	1675/2550/S.L.-5500	2000/2700
2075/2700/1800	1755/2700/5400	1570/2550/7200	
2135/2700/12400	1800/2700/15700	1625/2550/16750	
1965/2700/14600	1640/2700/18100	1530/2550/18200	
1975/2700/16900	1650/2700/21000	1550/2550/22000	

See page 3

TANKAGE IN GALLONS		OIL	FUEL
FIXED	PROTECTED	19	250
	UNPROTECTED		
	TOTAL - FIXED INTERNAL	19	250
AUX.	DROPPABLE		
	DROPPABLE -FUSELAGE-		150
	WINGS - 2 @ 100		200
	TOTAL	19	600

NOTE

STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS

① BHP AT MAX. CRIT. ALT.

② STALL-WITHOUT POWER

③ AT 1500' ALTITUDE

OFFENSIVE ARMAMENT

FUSELAGE - external - alternate with droppable tank
Bombs: 1-2000#, 1-1600#, 1-1000#, or 1-500#
Torpedoes: 1 MK13-3
Rockets: 1-11.75" A.R.

WINGS - external - alternate with droppable tanks
Bombs: 2-1000#, 2-500#, 2-250#, or 6-100#
Rockets: 2-11.75" A.R.

WINGS - on MK5-2 rocket launchers
Rockets - 6-5" HVAR, or 6-5" AR

* See page 2

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NAVAER-15198 (Rev. 9-44)

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER			5	6	7	8
LOADING CONDITION			BOMBER 1-1000# One 150 gal. Tank External	TORPEDO 1MK13-3	ROCKET 1-11.75"AR Two 100 gal. Tanks External	ROCKET 6-5"HVAR One 150 gal. Tank External
GROSS WEIGHT		LBS.	14632	14760	15248	14496
EMPTY WEIGHT	- ACTUAL -	LBS.	9207			
FUEL / OIL		GALS.	400/19	250/16	450/19	400/19
FIXED GUNS / AMMUNITION			6-.50 cal/2400 rds.			
FLEXIBLE GUNS / AMMUNITION			None			
ENGINE POWER USED FOR PERFORMANCE			NORMAL	NORMAL	NORMAL	NORMAL
WING LOADING		LBS/SQ.FT.	43.8	44.2	45.6	43.4
POWER LOADING (1)		LBS./BHP.	9.4	9.5	9.8	9.4
V-MAX. SEA LEVEL		MPH.	271	269	265	269
V-MAX. / CRITICAL ALT.		MPH. / FT.	331/23700	325/23600	323/23600	329/23600
V-STALL. GROSS WEIGHT (2)		MPH.	94.0	94.4	96.0	96.0
V-STALL. WITHOUT FUEL (2)		MPH.	86.0	89.4	87.0	87.7
TIME-TO-CLIMB	-10000 FT.-	MIN.	5.4	5.9	5.8	5.3
TIME-TO-CLIMB	-20000 FT.-	MIN.	11.5	12.9	12.6	11.4
SERVICE CEILING		FT.	35100	33600	34400	35300
TAKE-OFF DISTANCE	-CALM-	FT.	943	965	1070	922
TAKE-OFF DISTANCE	-15 KN.-	FT.	638	656	733	622
TAKE-OFF DISTANCE	-25KN.-	FT.	466	479	540	452
TAKE-OFF DISTANCE	-50 FT. OBST.	FT.				
TAKE-OFF DISTANCE		SECONDS				
RATE OF CLIMB	-SL-	FT. / MIN.	1950	1800	1810	1980
MAX. RANGE / V-AV.	(3)	ST. MI. / MPH.	1170/159	630/180	1240/162	1175/161
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		NMI.				
COMBAT RADIUS	(F-1)	NMI.	310	95	365	305

PERFORMANCE IS BASED ON - FLIGHT TEST OF F6F-3 AIRPLANE

RANGE & RADIUS ARE BASED ON FLIGHT TEST OF F6F-5 AIRPLANE FUEL CONSUMPTION DATA INCREASED BY 5 PERCENT TO CONFORM WITH PAST EXPERIENCE.

*COMBAT CONDITION:	Fuselage bomb shackles & "T" bracing, faired wing bomb-racks and sway bracing aboard. Rocket launchers not aboard. Addition of 6 MK5-2 rocket launchers reduces Vmax/S.L. by 4 mph at Combat Power.
CLEAN CONDITION:	Combat Condition with all racks, shackles, and bracing removed, at combat power Vmax/S.L. -321; Vmax - 384 mph/18000 ft.
ROCKET CONDITION:	Col. 7-11.75" AR on fuselage; droppable tanks on wings Col. 8 - Rockets suspended from MK5-2 rocket launchers.
FERRY CONDITION:	Armor & Armament removed; Gross Weight - 12132, Fuel = 400 gals. Max. Range = 1540 st. mi./149 mph at 1500 ft.

NOTE: MK 4 fuselage shackles & T-bracing, faired MK51-7 wing bomb-racks and sway-bracing aboard in all conditions except CLEAN.
Rocket launchers carried on rocket condition only.
Water available for approximately 15 min. at combat power.
Cols. 4, 5, & 8 - 150 gal. tank carried on fuselage ℄

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AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

FIGHTER COMBAT RADIUS FORMULA NO. F-1-CONDITIONS NOS.- 3 to 8 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.	and BOMBS	20 min. at 15000 ft.	at 1500 ft.	60 min. at
TAKE-OFF	at	at	Vel.for	FIRE	10 min. WEP.	170 kts.TAS	Vel.for
1 min.	60% N.S.P.	60% N.S.P.	Max. Range	ROCKETS	10 min.Mil.Pr.		Max. Range
	Auto Lean.	Auto Rich.	Auto Lean.		and descend	Auto Lean.	Auto Lean.

NOTE: (1) Engine ratings are AEL ratings. These ratings do not conform to engine data obtained from F6F flight test. The flight test data are used in performance calculations.

(2) Rammed engine ratings for performance from flight test clean condition.

COMBAT	MILITARY	NORMAL	TAKE-OFF
2030/2700/S.L.	1960/2700/S.L.-3400	1710/2550/S.L.-6200	2000/2700/S.L.
2110/2700/13100	1790/2700/6100	1690/2550/6500 -19000	
1930/2700/15700	1840/2700/18200	1580/2550/20800-24100	
1940/2700/18000	1660/2700/21000		
	1670/2700/23400		

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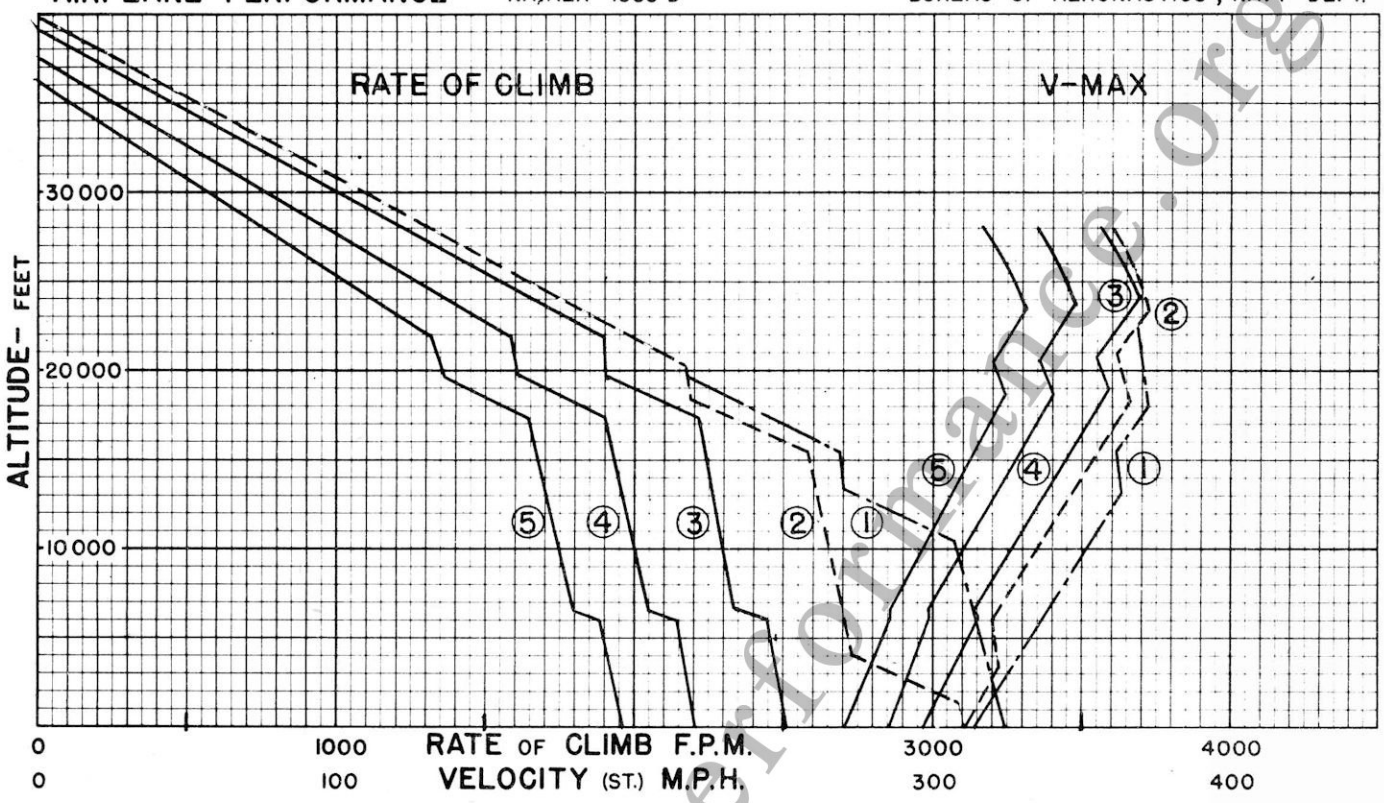
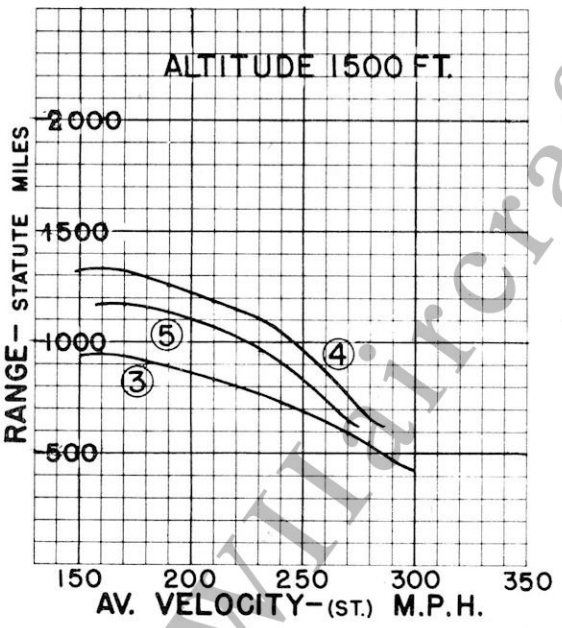
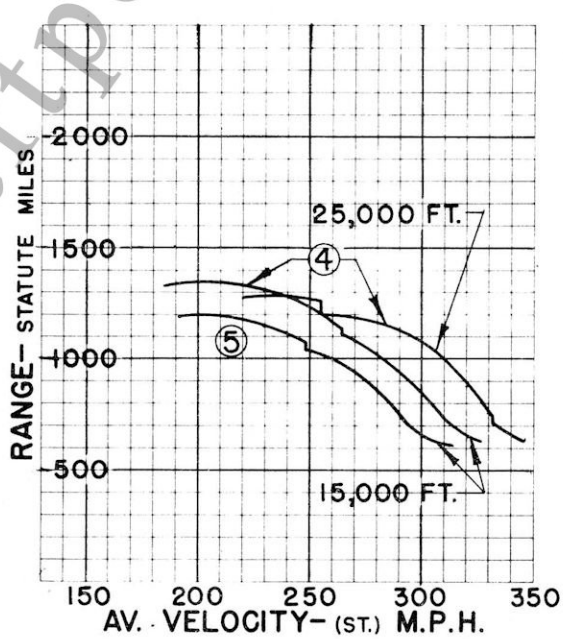
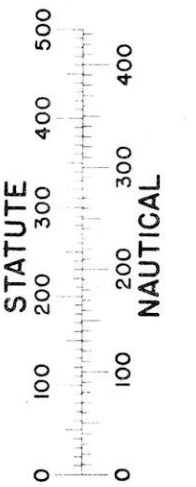
AIRPLANE PERFORMANCE NAVAER-1335 D BUREAU OF AERONAUTICS, NAVY DEPT.









○ LOADING CONDITION COLUMN NUMBER

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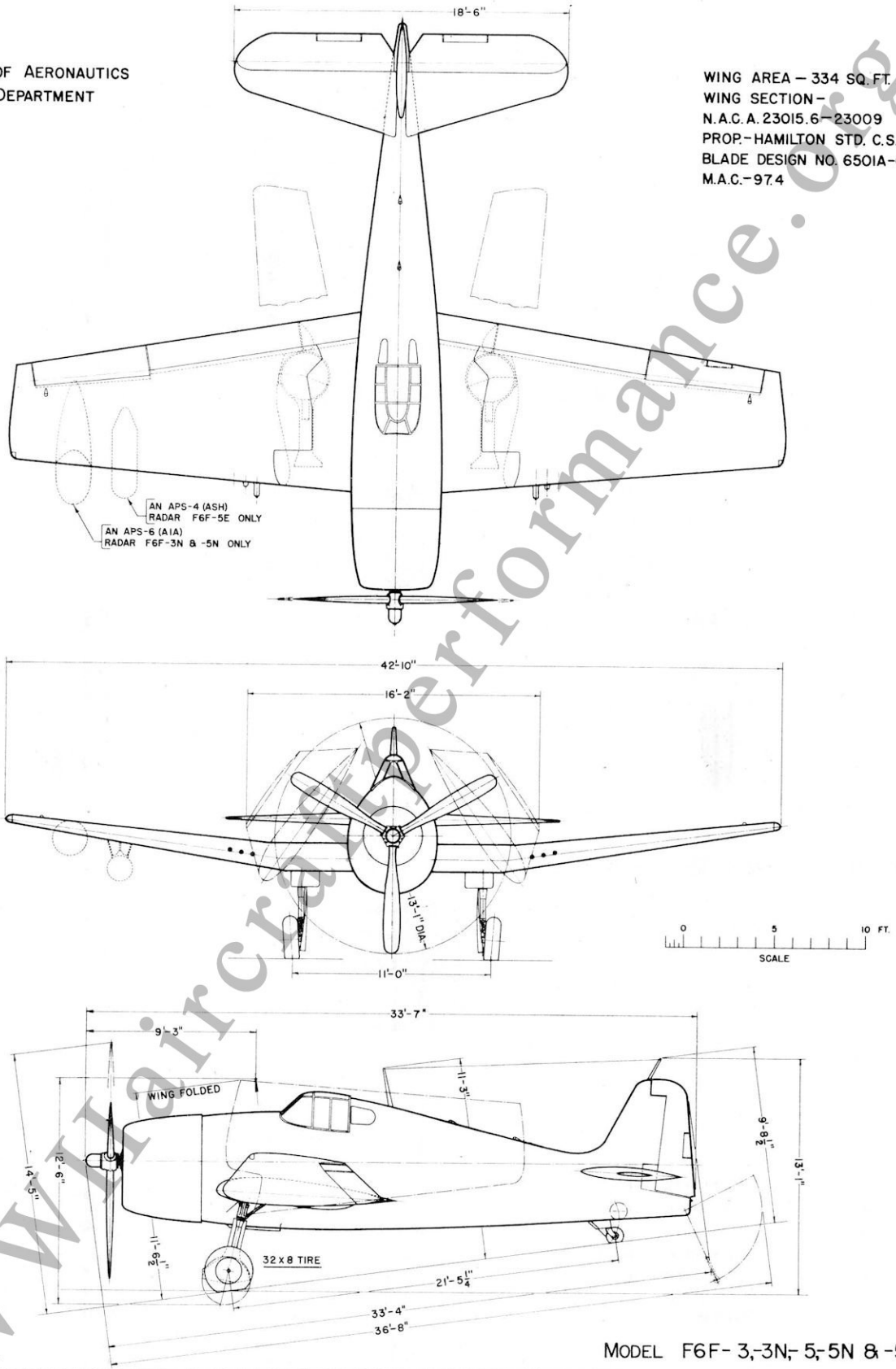
BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA – 334 SQ. FT.
WING SECTION –
N.A.C.A. 23015.6–23009
PROP.–HAMILTON STD. C.S.
BLADE DESIGN NO. 6501A-0
M.A.C.–97.4



MODEL F6F-3,-3N,-5,-5N & -5E

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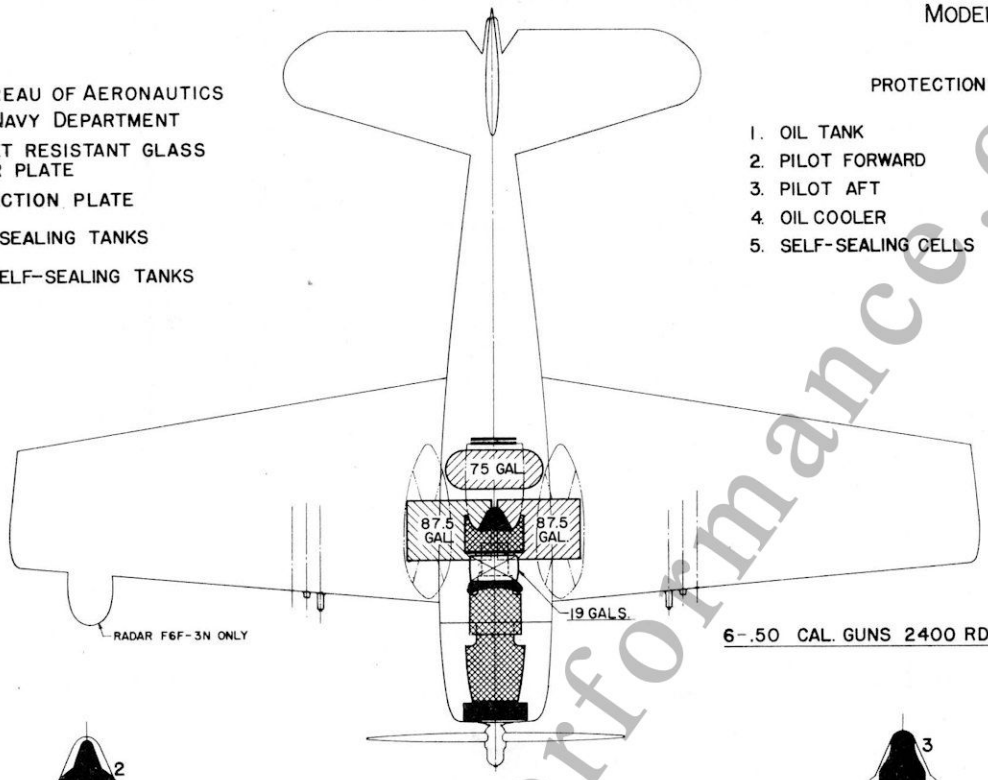
MODEL F6F-3 & 3N

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

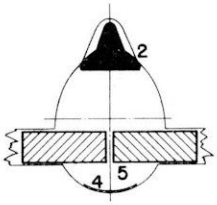
- BULLET RESISTANT GLASS ARMOR PLATE
- DEFLECTION PLATE
- SELF-SEALING TANKS
- NON SELF-SEALING TANKS

PROTECTION

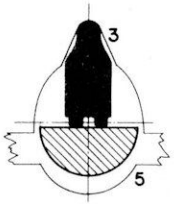
1. OIL TANK	19 LBS.
2. PILOT FORWARD	62 LBS.
3. PILOT AFT	103 LBS.
4. OIL COOLER	16 LBS.
5. SELF-SEALING CELLS	190 LBS.



6-.50 CAL. GUNS 2400 RDS. AMMUNITION



VIEW B TO C



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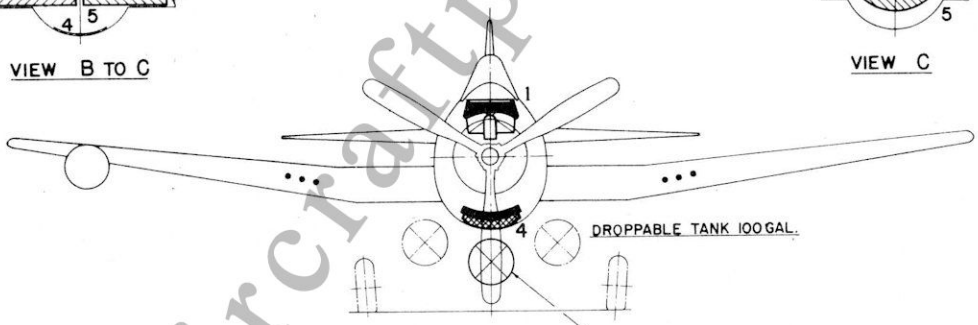

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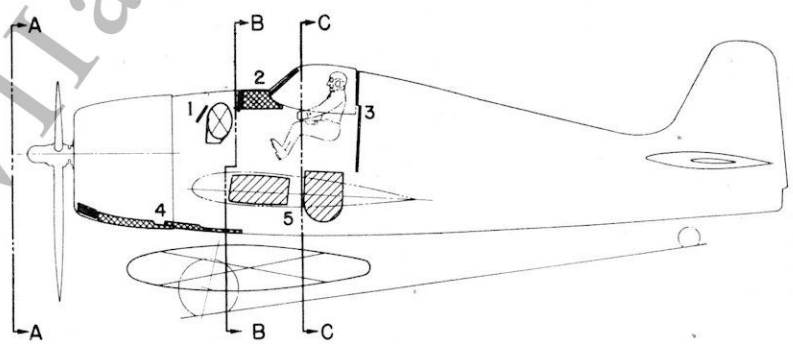

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