

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1	2	3	4
LOADING CONDITION		COMBAT *	COMBAT *	COMBAT *	FIGHTER One 150 Gal. Fuselage Tank External
GROSS WEIGHT	LBS.	21476	21476	21476	22567
EMPTY WEIGHT	-Calculated- LBS.	16400			
FUEL/OIL	GALS.	375/21	375/21	375/21	525/30
FIXED GUNS/AMMUNITION		4 - 20mm/800 rds			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		COMBAT	MILITARY	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.	47.2	47.2	47.2	49.6
POWER LOADING ①	LBS./BHP.	5.8	6.3	7.1	7.5
V-MAX. SEA LEVEL	MPH.	359	351	327	319
V-MAX./CRITICAL ALT.	MPH./FT.	423/21900	416/22900	400/23100	390/23000
V-STALL GROSS WEIGHT ②	MPH.	90.9	90.9	90.9	93.0
V-STALL WITHOUT FUEL ②	MPH.	86.0	86.0	86.0	86.4
TIME-TO-CLIMB -10000 FT-	MIN.	2.2	2.5	3.2	3.4
TIME-TO-CLIMB -20000 FT-	MIN.	5.2	5.7	6.9	7.5
SERVICE CEILING	FT.	40800	40200	39200	38400
TAKE-OFF DISTANCE -CALM-	FT.	637	637	637	709
TAKE-OFF DISTANCE -15 KN-	FT.	423	423	423	477
TAKE-OFF DISTANCE -25 KN-	FT.	304	304	304	345
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	4580	4200	3260	3030
MAX. RANGE / V-AV. ③	ST. MI./MPH.				
RANGE / V-AV. -60%NSP-③-	ST. MI./MPH.			960/170	1260/179
SEARCH RADIUS / V-AV. -20%R-	NMI./KN.				
A.S.W. RADIUS / V-AV. -20%R-	NMI./KN.				
SCOUT RADIUS	N MI.				
COMBAT RADIUS (P-1)	N MI.			15	180
ENGINE / PROP GEAR RATIO		2 P & W R-2800-34W (.45)			
ENGINE RATING BHP/RPM/ALT.		COMBAT	MILITARY	NORMAL	TAKE-OFF
		2380/2800/S.L.			
		2400/2800/1000'	2100/2800/SL-3400'	1700/2600/SL-8500'	2100/2800/SL
		1790/2800/9500'	1700/2800/9500'-16600'	1500/2600/11700-18300	
		1850/2800/15500			
TANKAGE IN GALLONS		OIL	FUEL	OFFENSIVE ARMAMENT	
AUX. FIXED	PROTECTED	42	375	FUSELAGE - External	
	UNPROTECTED			Bombs - 1-2000# or 1-1600#	
	TOTAL - FIXED INTERNAL	42	375	Torpedoes - 1 MK-13-3	
	DROPPABLE Wings - 2 @ 150		300	Mines - 1-1860# or 1-1600#	
	DROPPABLE Fuse. - 1 @ 300 (alternate - 1 @ 150)		300	Rockets - 1-11.75" A.R.	
TOTAL	42	975	WINGS - External		
NOTE	STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS		Bombs - 2-1000#, 2-500#, 2-250# or 2-100#		
	① BHP AT MAX. CRIT. ALT.		Depth Bombs - 2-650# or 2-325#		
	② STALL - WITH POWER		Mines - 2-1000#		
	③ AT 1500' ALTITUDE (Manual Lean)		Rockets - 2 - 11.75" A.R.		
				WINGS - Outer Panel - MK-9 Rocket Launcher	
				Rockets - 8-5" HVAR or AR	

NAVAER-1519B (Rev. 9-44)

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COLUMN NUMBER		5	6	7	8
	LOADING CONDITION	FIGHTER One 300 Gal. Fuselage Tank External	TORPEDO 1 MK13-3 Two 150 Gal. Wing Tanks Ext.	BOMBER 1-2000# Fuse. 2-1000# Wings	ROCKET 8-5" HVAR One 300 Gal. Fuse. Tank Ext.
	GROSS WEIGHT LBS.	23537	25846	25476	24681
	EMPTY WEIGHT -Calculated- LBS.	16400			
	FUEL/OIL GALS.	675/39	675/39	375/21	675/39
	FIXED GUNS/AMMUNITION	4 - 20mm/800 rds			
	FLEXIBLE GUNS/AMMUNITION	None			
	ENGINE POWER USED FOR PERFORMANCE	NORMAL	NORMAL	NORMAL	NORMAL
	WING LOADING LBS./SQ.FT.	51.7	56.8	56.0	54.2
	POWER LOADING ① LBS./BHP.	7.8	8.6	8.5	8.2
	V-MAX. SEA LEVEL MPH.	319	292	294	304
	V-MAX./ CRITICAL ALT. MPH./ FT.	389/23000	354/22700	357/22700	370/22900
	V-STALL. GROSS WEIGHT ② MPH.	95.1	99.6	99.0	97.4
	V-STALL. WITHOUT FUEL ② MPH.	86.4	91.5	94.6	89.0
	TIME-TO-CLIMB -10000FT.- MIN.	3.7	4.4	4.2	3.9
	TIME-TO-CLIMB -20000FT.- MIN.	8.1	9.9	9.5	8.9
	SERVICE CEILING FT.	37700	35900	36000	36700
	TAKE-OFF DISTANCE -CALM- FT.	799	1053	1013	962
	TAKE-OFF DISTANCE -15 KN.- FT.	544	730	700	667
	TAKE-OFF DISTANCE -25KN.- FT.	397	544	521	496
	TAKE-OFF DISTANCE -50 FT. OBST. FT.				
	TAKE-OFF DISTANCE SECONDS				
	RATE OF CLIMB -SL- FT./ MIN.	2850	2410	2470	2630
	MAX. RANGE / V-AV. ③ ST. MI. / MPH.				
	RANGE / V-AV. -60%NSP-③- ST. MI. / MPH.	1595/181	1270/179	700/181	1430/181
	SEARCH RADIUS/V-AV. -20%R- NMI./KN.				
	A. S. W. RADIUS/V-AV. -20%R- NMI./KN.				
	SCOUT RADIUS NMI.				
	COMBAT RADIUS NMI.	330	295	0	310

PERFORMANCE IS BASED ON- Flight Tests of F7F-1 & F7F-3N Airplanes

RANGE & RADIUS ARE BASED ON PRELIMINARY A.E.L.

FUEL CONSUMPTION DATA INCREASED

BY 15 PERCENT TO CONFORM WITH PAST EXPERIENCE.

- *COMBAT CONDITION: Two faired MK51-7 wing bomb racks and sway-bracing plus fuselage shackle and sway-bracing aboard; rocket launchers not aboard. At Combat Power - Combat Condition plus 8 MK-9 launchers - Vmax/SL - 355; Vmax - 418/21900.
- CLEAN CONDITION: Combat Condition with all bomb racks and sway-bracing removed. At Combat Power - Vmax/SL - 369; Vmax - 435/22000.
- ROCKET CONDITION: Rockets suspended from MK-9 launchers.
- FERRY CONDITION: Armor & Armament removed; Gross Weight - 23444, Fuel - 975 Gals. Maximum range at 1500 ft. is 2370 st. mi. at 173 mph.
- FUEL TRANSFER: Provisions are incorporated for fuel transfer from droppable to main tanks after take-off.
- SPOTTING: 210 ft. length is required to spot 15 airplanes on the 96 ft. wide deck immediately aft of the forward ramp on CV-9 Class Carriers.
- WATER CAPACITY: Water available for approximately 12 minutes at Combat Power.

NOTE: Rocket launchers carried in rocket condition only.

Two faired wing bomb racks and sway bracing plus fuselage shackle and sway bracing aboard in all conditions except CLEAN.

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BUREAU OF AERONAUTICS, NAVY DEPT.

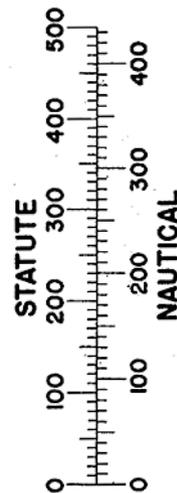
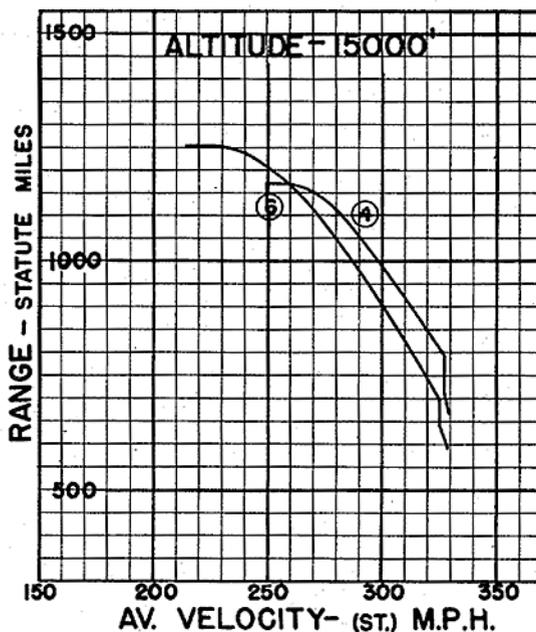
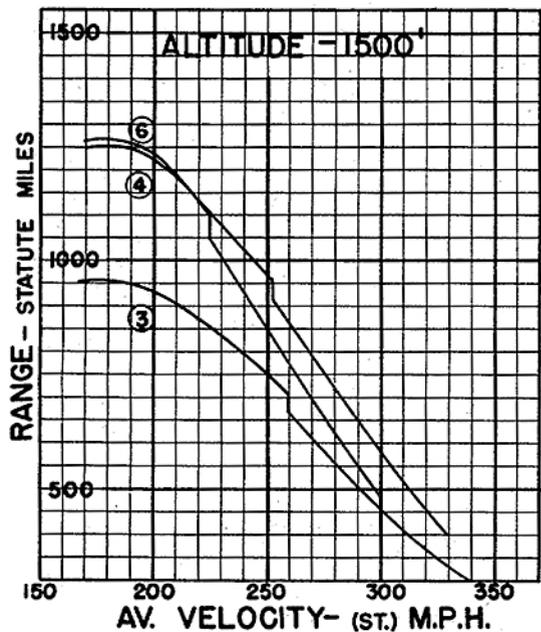
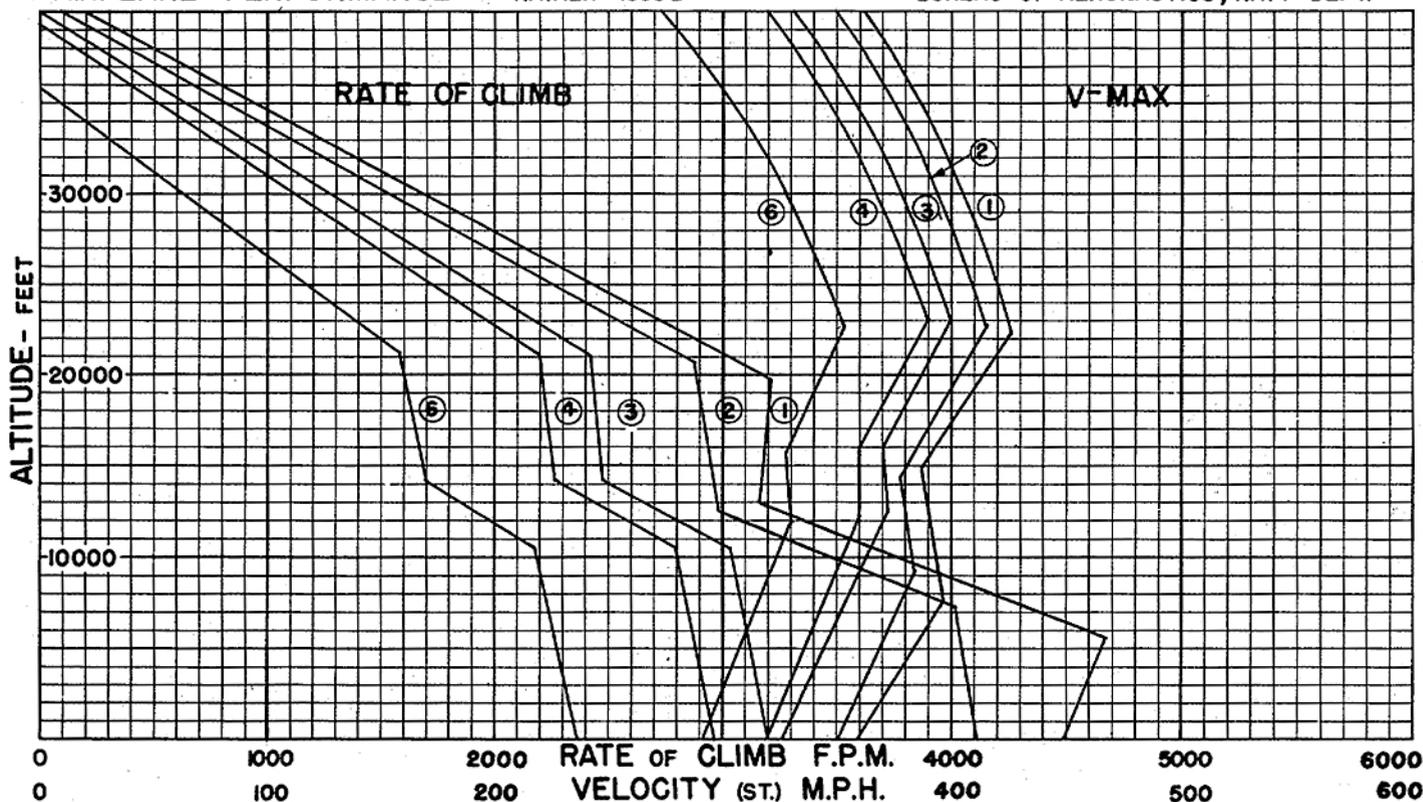
FIGHTER COMBAT RADIUS FORMULA NO. F-1-CONDITIONS NOS.

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	at	Vel. for	FIRE	10 min. WEP.	170 kts. TAS	Vel. for
1 min.	60% N.S.P. Auto Lean.	60% N.S.P. Auto LEAN.	Max. Range Auto Lean.	ROCKETS	10 min. Mil. Pr. and descend	MANUAL LEAN	Max. Range MANUAL LEAN

NOTE ON COMBAT RADIUS:

The present carburetor on the R-2800-22W and -34W engines 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. Therefore, in order to obtain greater combat radii, it will be necessary to use manual lean adjustment during cruise back and rendezvous.



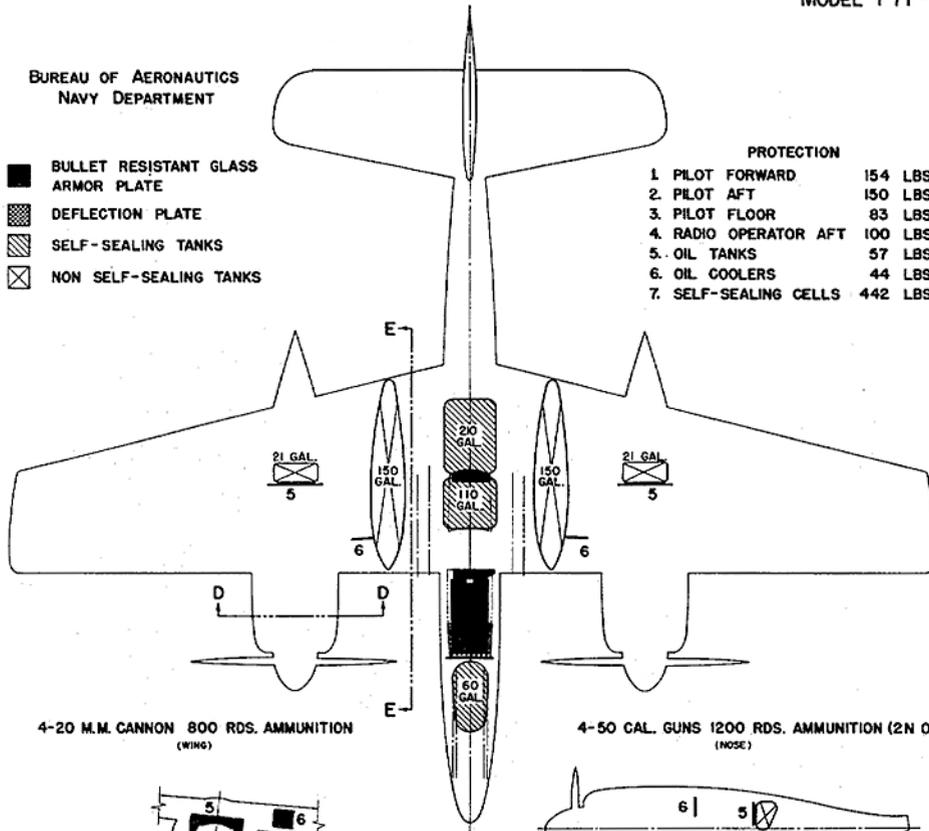
○ LOADING CONDITION COLUMN NUMBER

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

- BULLET RESISTANT GLASS ARMOR PLATE
- ▨ DEFLECTION PLATE
- ▧ SELF-SEALING TANKS
- ⊗ NON SELF-SEALING TANKS

PROTECTION

- | | |
|-----------------------|----------|
| 1. PILOT FORWARD | 154 LBS. |
| 2. PILOT AFT | 150 LBS. |
| 3. PILOT FLOOR | 83 LBS. |
| 4. RADIO OPERATOR AFT | 100 LBS. |
| 5. OIL TANKS | 57 LBS. |
| 6. OIL COOLERS | 44 LBS. |
| 7. SELF-SEALING CELLS | 442 LBS. |

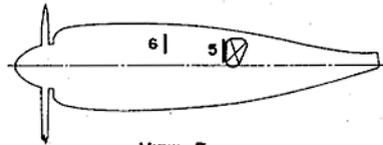


4-20 M.M. CANNON 800 RDS. AMMUNITION (WING)

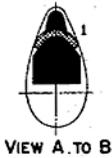
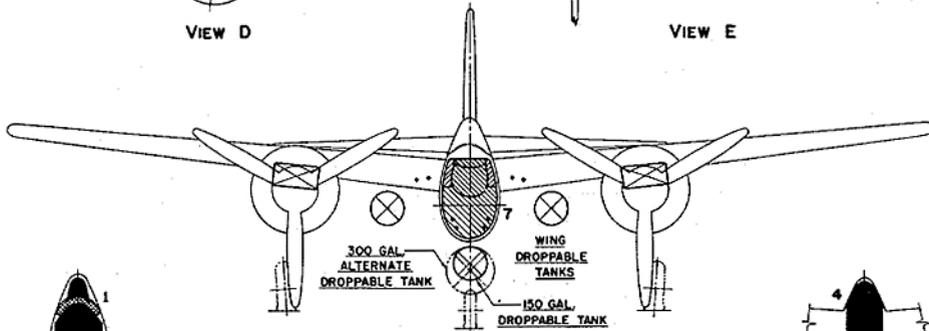
4-50 CAL. GUNS 1200 RDS. AMMUNITION (2N ONLY) (NOSE)



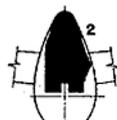
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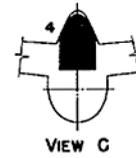
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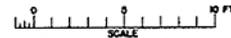
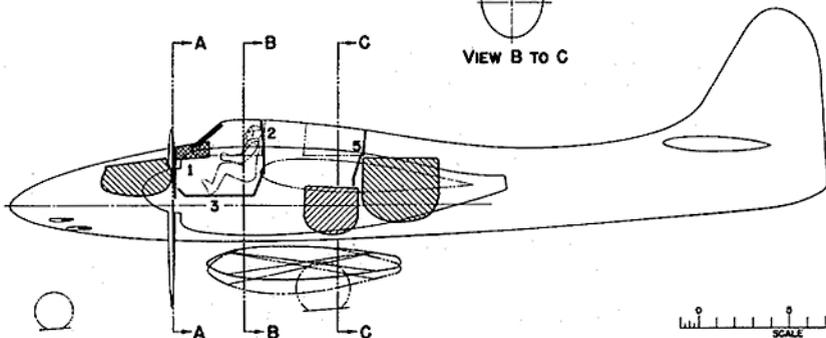
VIEW A TO B



VIEW B TO C



VIEW C

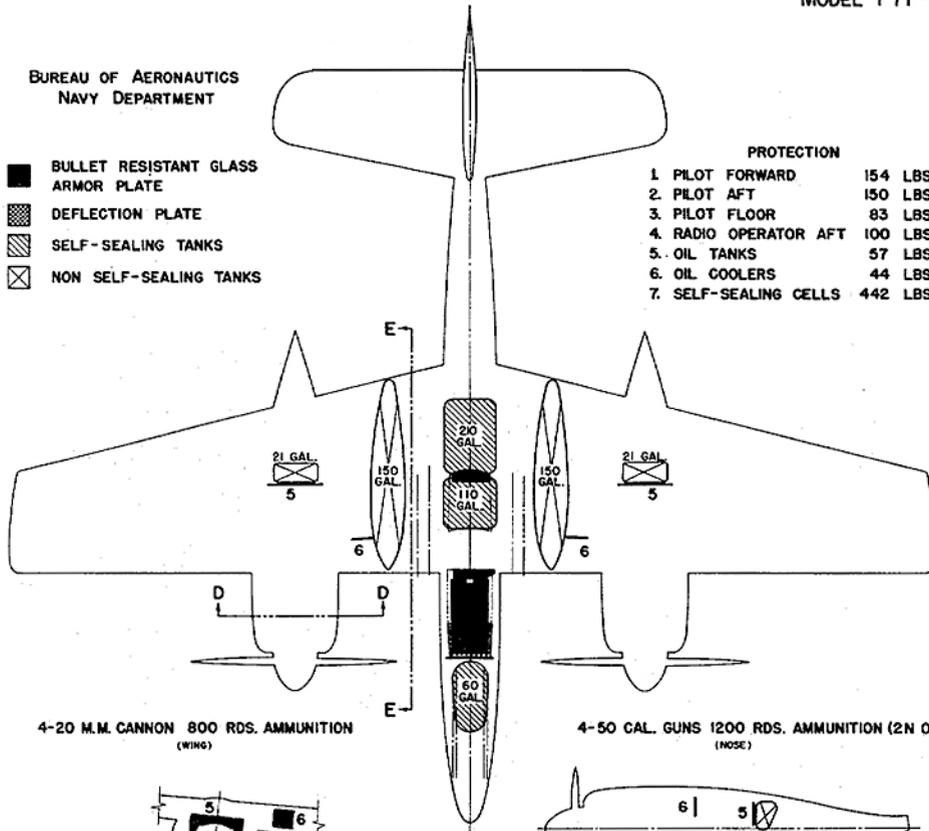


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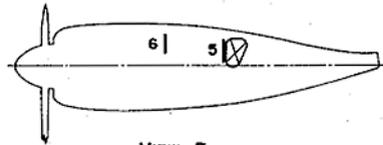


4-20 M.M. CANNON 800 RDS. AMMUNITION (WING)

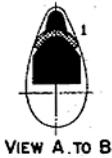
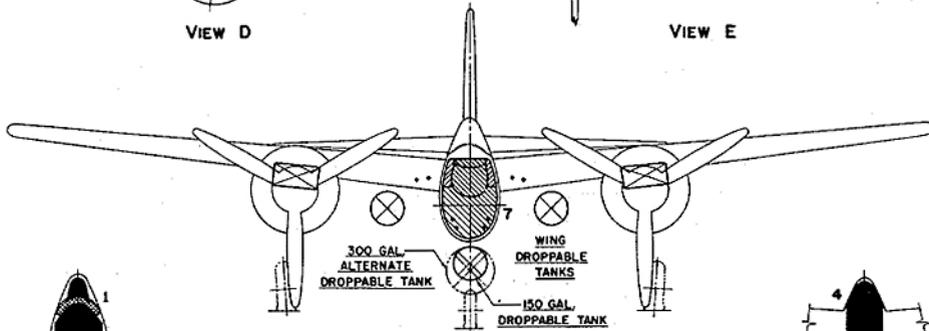
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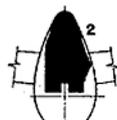
VIEW D



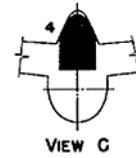
VIEW E



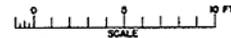
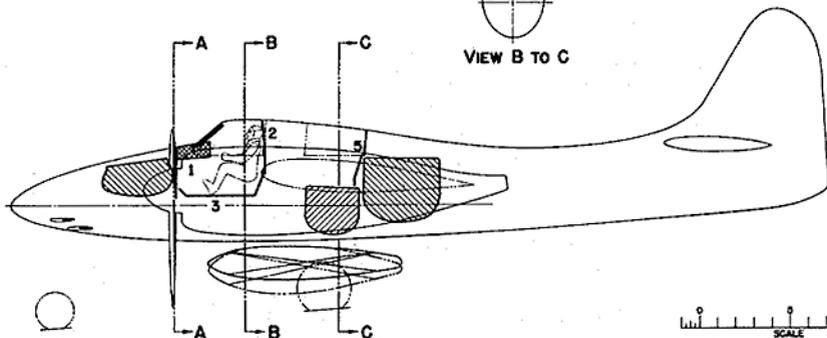
VIEW A TO B



VIEW B TO C



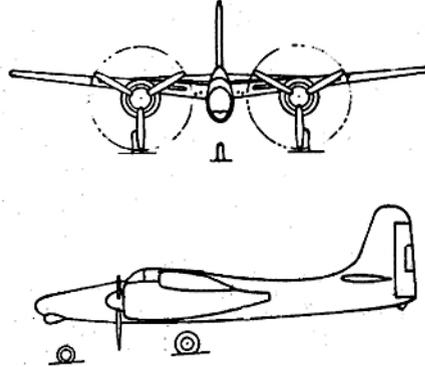
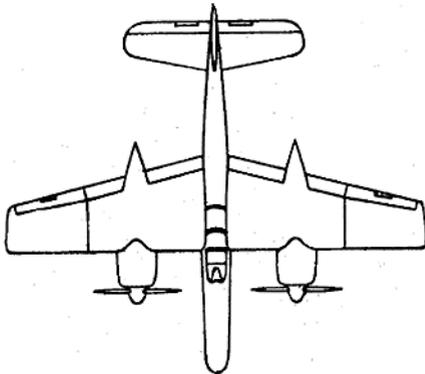
VIEW C



CHARACTERISTICS SUMMARY

NIGHT FIGHTER VERSION

F7F-3N



WING AREA 455 Sq. Ft.
WING SPAN 51'-6"

LENGTH 46'-10"
HEIGHT 16'-7"

AVAILABILITY			PROCUREMENT				
NUMBER AVAILABLE			NUMBER DELIVERED				
2/29/48			IN FISCAL YEARS				
ACTIVE	RESERVE	TOTAL	March- June/48	1949	1950		
73	27	100	0	0	0		

STATUS	
Night fighter modification of F7F-3	SERVICE
Service use started in 1946	

ENGINES	
2 P & W R2800-34W	
T.O.	2100 BHP
Combat	2380/SL 1850/15500
Normal	1700/SL 1500/18300

FEATURES
Crew - 2
Large intercept radar
Folding wings
Tricycle gear
Arresting gear
Catapulting prov.

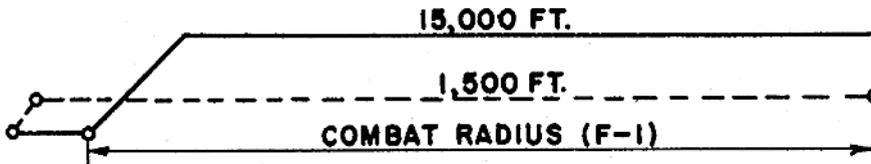
ARMAMENT
4-20mm Cannon
800 Rds. Amm.
8-5" HVAR
3 - Bomb or Tank Stations

15 May 1948

A-16147-2

CHARACTERISTICS SUMMARY

BASIC MISSION F7F-3N



PERFORMANCE

COMBAT RADIUS	COMBAT RANGE	COMBAT SPEED
300 N.Ml. at 198 Kn. in 5.1 Hr.	1055 N.Ml. at 210 Kn. in 5.3 Hr.	343 Kn. at 15000 Ft., Max. Power
		MAX. SPEED
		375 Kn. at 21900 Ft., Max. Power
CLIMB	CEILING	TAKE OFF
2810 F.P.M. S.L.-T.O. Wt.-Normal	37500 Ft. 100 fpm-T.O. Wt.-Normal	878 Ft. - Calm No assist.
4500 F.P.M. S.L.-Comb.Wt.-Max. Power	37800 Ft. 500 fpm-Combat-Max.Power	439 Ft. - 25 Kn. No assist.
LOAD	WEIGHTS	STALLING SPEED
Fuel Fixed 375 Gal. Drop 300 Gal. Bombs 0 Lbs. (Cargo) Ammunition 800 Rd.	Empty 17289 Lbs. Combat 21848 Lbs. Take-off 23896 Lbs.	112.5 Kn. T.O. Wt. - Flaps down
		TIME TO CLIMB
		20000 ft. in 5.3 min. Combat Wt. - Max.Power

NOTES

Performance is based on flight tests of F7F-1 and F7F-3N.
Range and radius are based on preliminary AEL test fuel consumption increased by 5%.