

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. 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 -10000FT-	MIN.	2.2	2.5	3.2	3.4
TIME-TO-CLIMB -20000FT-	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 (F-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		

DATE 1 MARCH 1946

MODEL-F7F-3N

NAVAER-1519B (Rev. 9-44)

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

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.

AIRPLANE CHARACTERISTICS & PERFORMANCE

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 ROCKETS	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.		10 min. Mil. Pr. and descend	MANUAL LEAN	Max. Range MANUAL LEAN

NOTE ON COMBAT RADIUS:

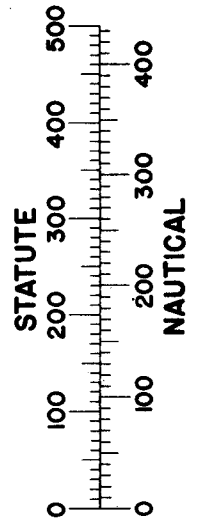
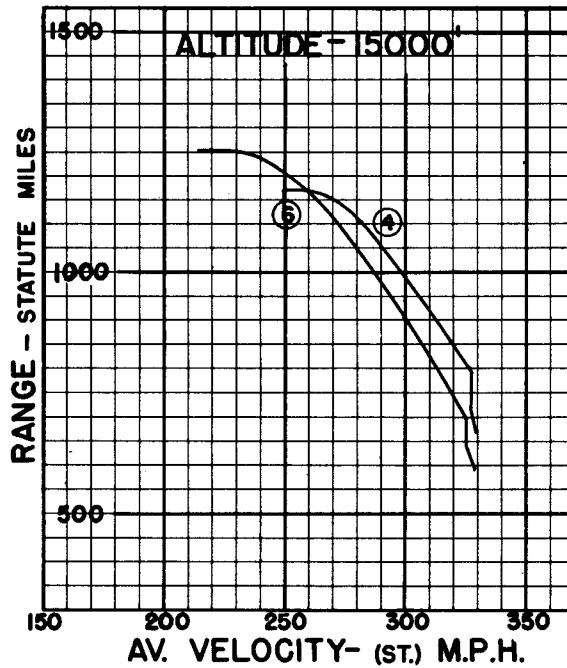
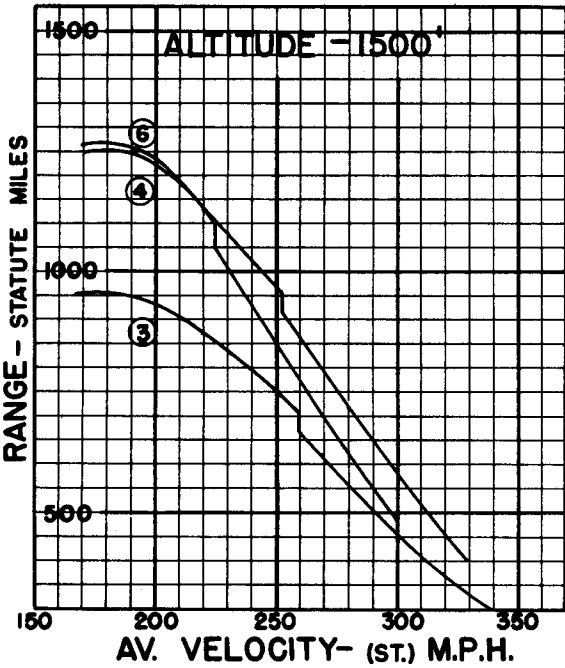
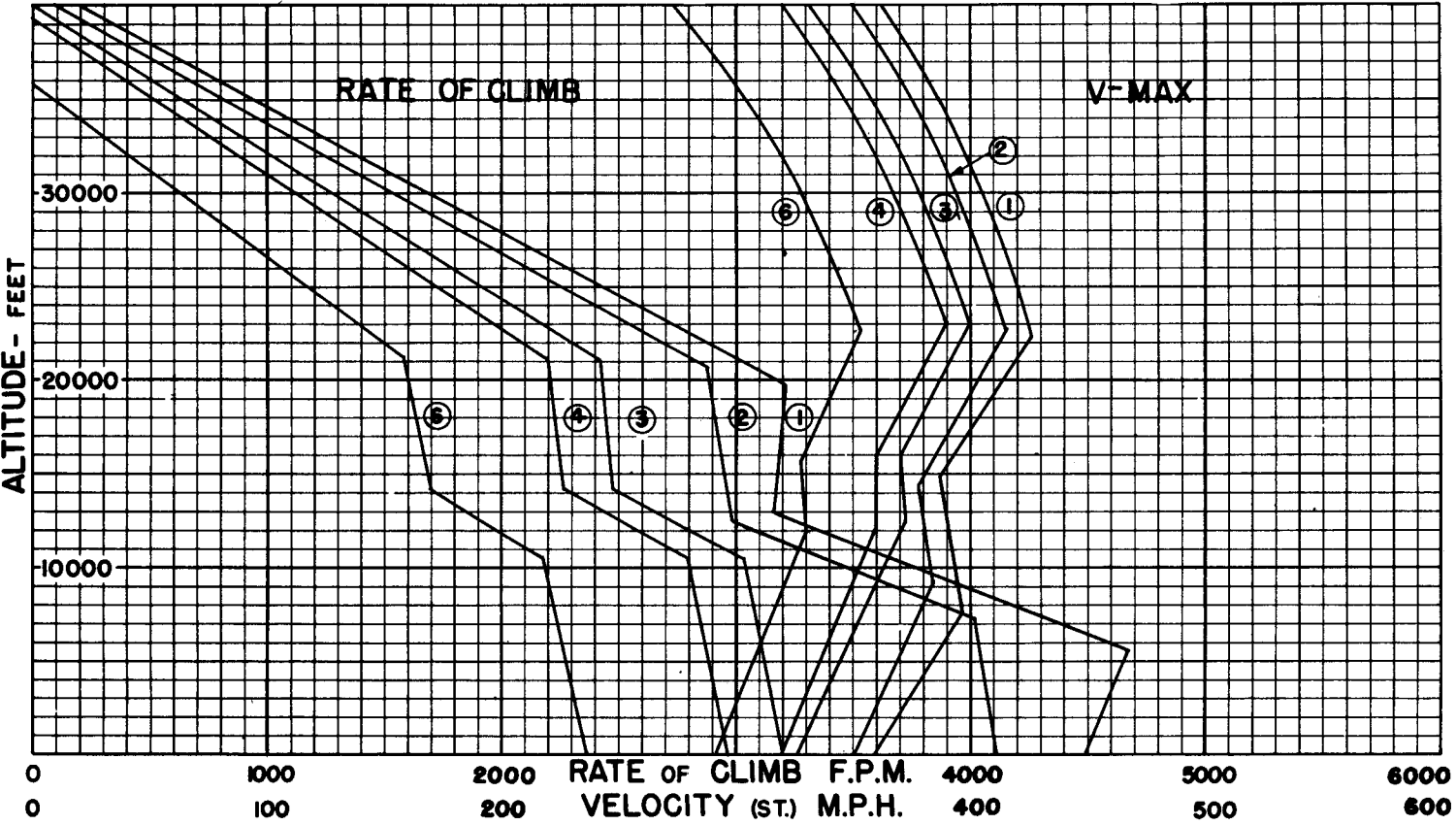
The present carburetor on the R-2800-22W and -34W engines is designed to give sufficient enrichment at low power in automatic lean setting to provide satisfactory engine operation and entails a penalty in specific fuel consumption increasing rapidly below 635 H.P. Therefore, in order to obtain greater combat radii, it will be necessary to use manual lean adjustment during cruise back and rendezvous.

DECLASSIFIED

AIRPLANE PERFORMANCE

NAVAER - 1335 B

BUREAU OF AERONAUTICS, NAVY DEPT.



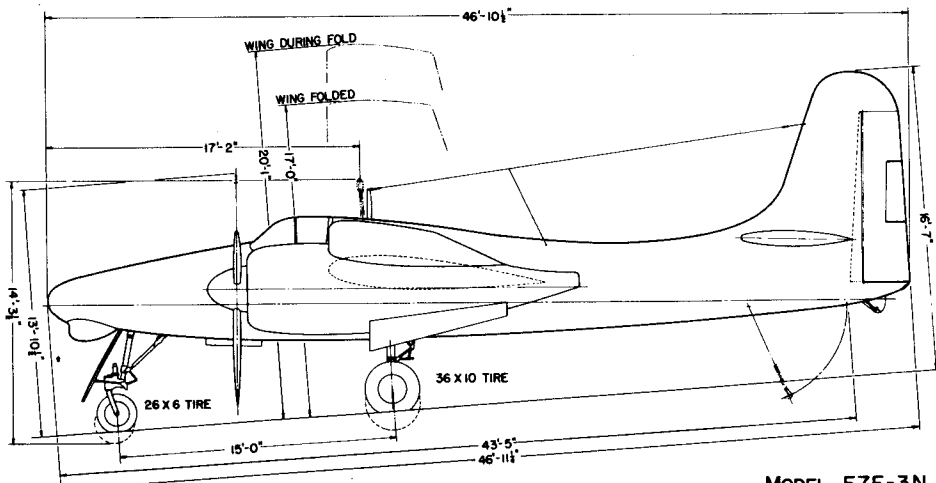
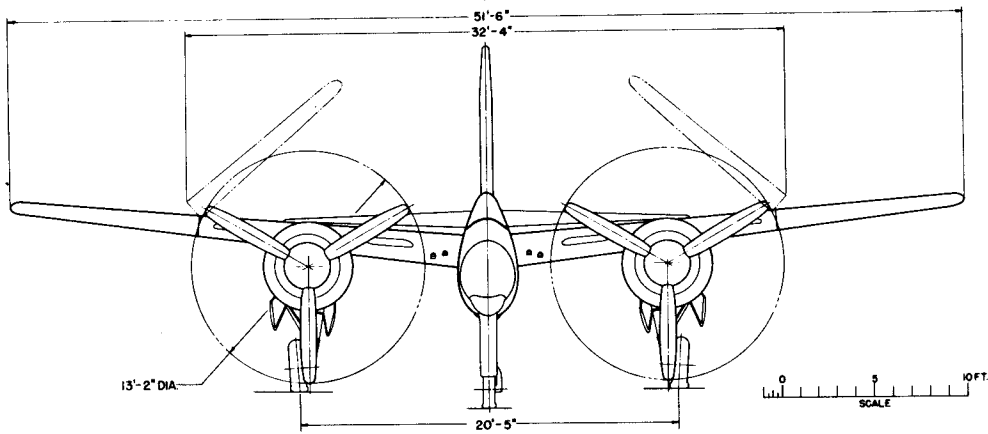
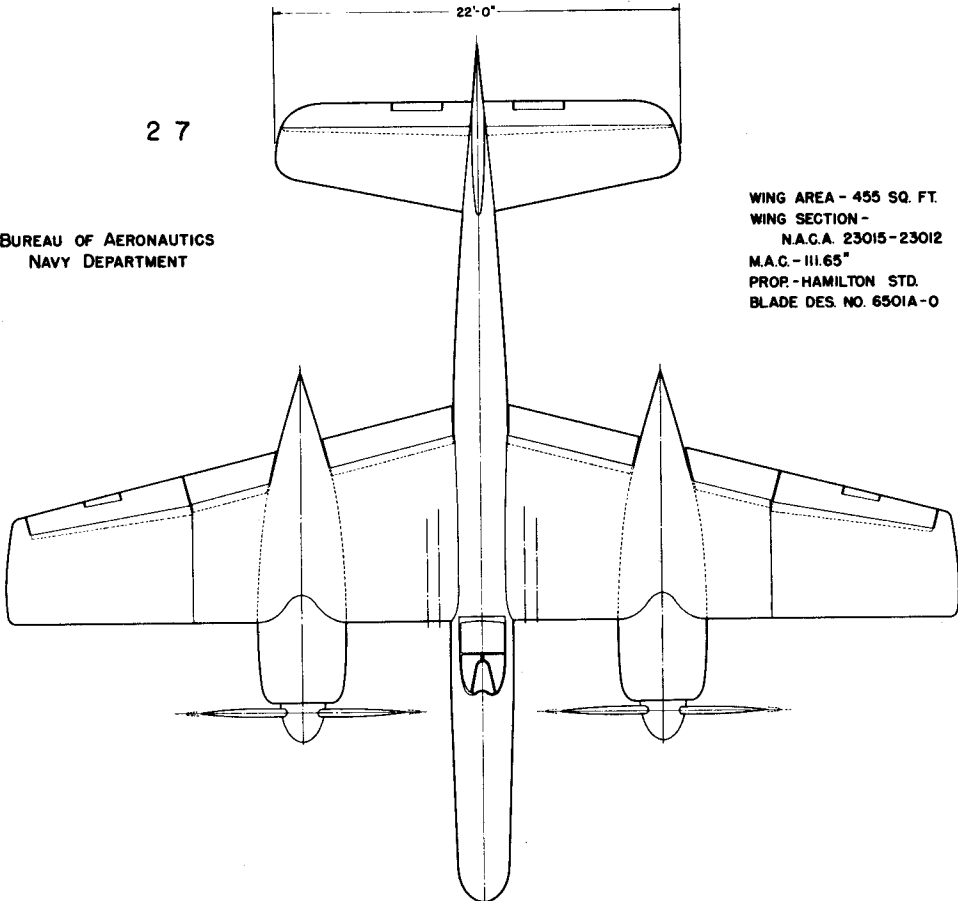
○ LOADING CONDITION COLUMN NUMBER

UNCLASSIFIED

27

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 455 SQ. FT.
WING SECTION -
N.A.C.A. 23015-23012
M.A.C. - 111.65°
PROP. - HAMILTON STD.
BLADE DES. NO. 6501A-0



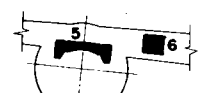
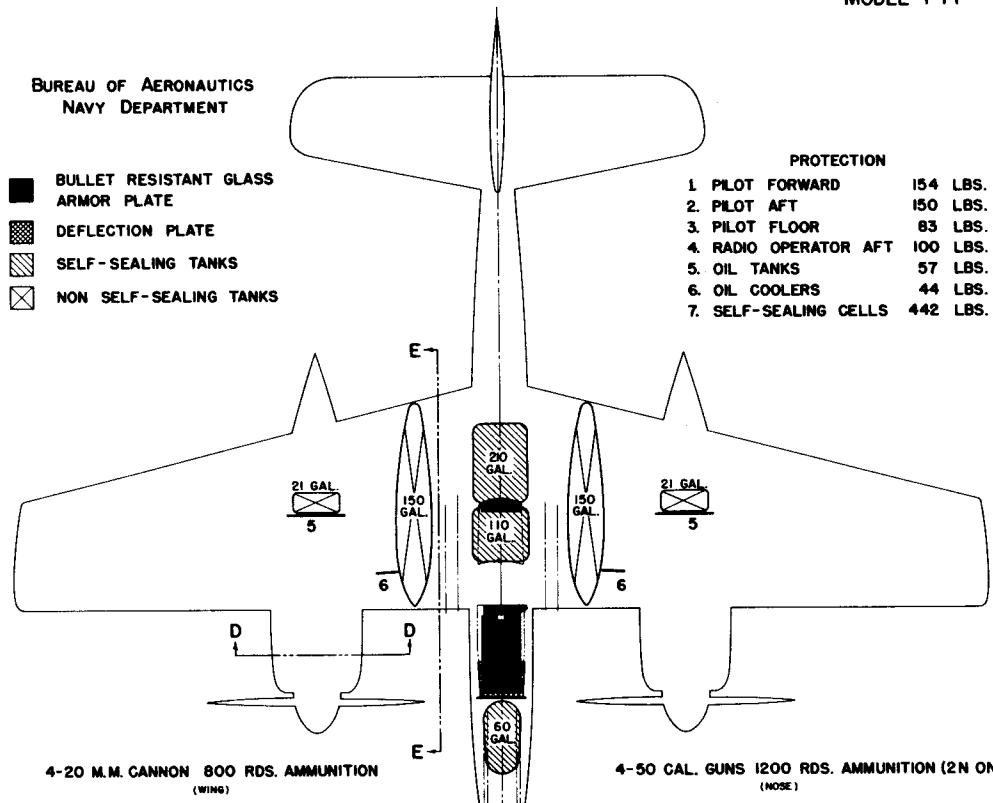
DECLASSIFIED

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

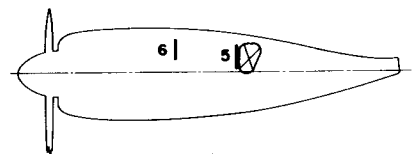
- BULLET RESISTANT GLASS ARMOR PLATE
- ▨ DEFLECTION PLATE
- ▧ SELF-SEALING TANKS
- ⊠ NON SELF-SEALING TANKS

PROTECTION

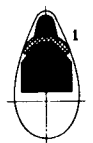
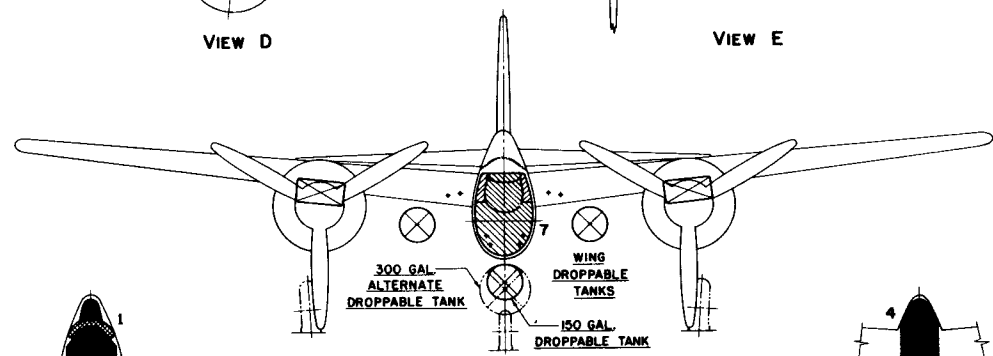
- 1. PILOT FORWARD 154 LBS.
- 2. PILOT AFT 150 LBS.
- 3. PILOT FLOOR 83 LBS.
- 4. RADIO OPERATOR AFT 100 LBS.
- 5. OIL TANKS 57 LBS.
- 6. OIL COOLERS 44 LBS.
- 7. SELF-SEALING CELLS 442 LBS.



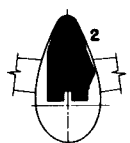
VIEW D



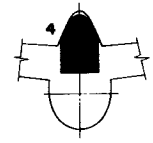
VIEW E



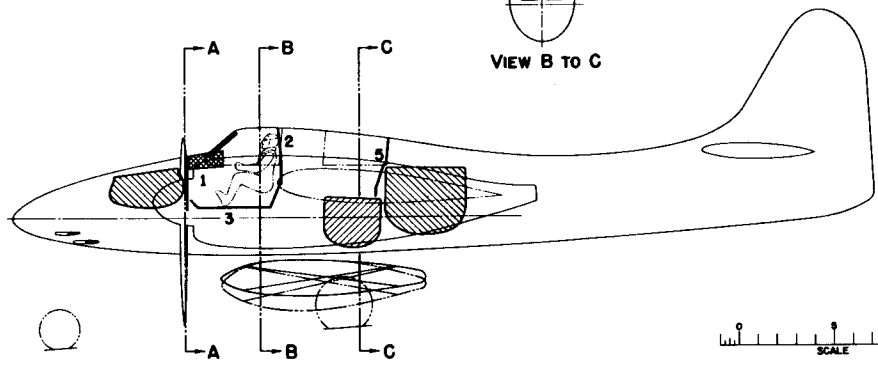
VIEW A TO B



VIEW B TO C



VIEW C



DECLASSIFIED