AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER			1	2	3	4
LOADING CONDITION			FIGHTER	FIGHTER	FIGHTER	FIGHTER One 150 gal. fuse. tank External
GROSS WEIGHT		LBS.	21425	21425	21425	22560
EMPTY WEIGHT - Calculated -		LBS.	15943			
FUEL / OIL		GALS.	426/28	426/28	426/28	576/36
FIXED GUNS/AMMUNITION			4-20M.M./800 rds plus 4-.50/1200 rds.			
FLEXIBLE GUNS/AMMUNITION			None			
ENGINE POWER USED FOR PERFORMANCE			WAR EMERGENCY	MILITARY	NORMAL	NORMAL
WING LOADING		LBS./SQ.FT.	47.1	47.1	47.1	49.6
POWER LOADING ①		LBS./BHP.	5.8	6.7	7.4	7.8
V-MAX. SEA LEVEL		MPH.	394	375	348	342
V-MAX. AIRPLANE CRIT. ALT.		MPH.	427/19200	412/20900	414/23400	403/23100
V-STALL. GROSS WEIGHT ②		MPH.	89.1	89.1	89.1	91.4
V-STALL. WITHOUT FUEL ②		MPH.	83.6	83.6	83.6	84.2
TIME-TO-CLIMB -10000 FT.-		MIN.	2.6	3.0	3.4	3.6
TIME-TO-CLIMB -20000 FT.-		MIN.	6.1	6.8	7.5	8.0
SERVICE CEILING		FT.	36200	35600	36100	35200
TAKE-OFF DISTANCE	-CALM-	FT.			692	784
TAKE-OFF DISTANCE	-15 KN.-	FT.			467	533
TAKE-OFF DISTANCE	-25 KN-	FT.			340	394
TAKE-OFF TIME		SECONDS				
RATE OF CLIMB	-SL-	FT/MIN.	4360	3830	3070	2880
MAX. RANGE / V-AV.	③	ST.MI/MPH.			1170/177	1485/178
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		N MI.				
COMBAT RADIUS		N MI.			115	280

ENGINE / PROP. GEAR RATIO: 2 P.&W. R-2800-22W (.45:1)

ENGINE RATING BHP/RPM/ALT.	WAR EMERGENCY	MILITARY	NORMAL	TAKE-OFF
	2380/2800/SL	2100/2800/SL-1000	1700/2600/SL-7000	2100/2800
	2400/2800/1000	1600/2800/8800-16000	1450/2600/11000-18500	
	1790/2800/9500			
	1850/2800/14000			

TANKAGE IN GALLONS		OIL	FUEL
FIXED	PROTECTED	42	426
	UNPROTECTED		
	TOTAL - FIXED INTERNAL	42	426
AUX.	DROPPABLE - Wings - 2@150		300
	DROPPABLE - Fuselage - 1@150 or 1@300		300
	TOTAL	42	1026

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

WINGS: (External)
Bombs:- 2-1000#, or 2-500#
FUSELAGE: (External)
Bombs:- 1-2000#, 1-1600#, or 1-1000#
TORPEDO: - 1 MK13-2

NOTE: Two Wing bomb-racks available for either bombs or 150 gal. drop, tanks. Fuselage bomb-rack available for bombs, torpedo, or one droppable tank

WWIIaircraftperformance.org

NAVAER-1519B (Rev. 4-44)

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER			5	6	7	8
LOADING CONDITION			FIGHTER One 300 gal. fuse, tank external	BOMBER 2-1000# *	TORPEDO 1MK13-2 *	FERRY
GROSS WEIGHT		LBS.	23636	25669	25879	23477
EMPTY WEIGHT - Calculated -		LBS.	15943			15443
FUEL/OIL		GALS.	726/42	726/42	726/42	1026/42
FIXED GUNS/AMMUNITION			4-20mm/800 + 4-.50/1200			None
FLEXIBLE GUNS/AMMUNITION			None			None
ENGINE POWER USED FOR PERFORMANCE			NORMAL	NORMAL	NORMAL	NORMAL
WING LOADING		LBS/SQ.FT.	52.0	56.5	57.0	51.6
POWER LOADING (1)		LBS./BHP.	8.2	8.8	8.9	8.4
V-MAX. SEA LEVEL		MPH.	338	308	303	
V-MAX. AIRPLANE CRIT. ALT.		MPH.	397/23000	356/22300	350/22100	
V-STALL. GROSS WEIGHT (2)		MPH.	93.6	97.6	98.0	
V-STALL. WITHOUT FUEL (2)		MPH.	84.5	88.8	89.2	
TIME-TO-CLIMB	-10000 FT.-	MIN.	3.8	4.4	4.4	
TIME-TO-CLIMB	-20000 FT.-	MIN.	8.6	10.1	10.2	
SERVICE CEILING		FT.	34300	32400	32200	
TAKE-OFF DISTANCE	-CALM-	FT.	878	1118	1133	
TAKE-OFF DISTANCE	-15 KN.-	FT.	603	783	793	
TAKE-OFF DISTANCE	-25KN.-	FT.	449	592	601	
TAKE-OFF TIME		SECONDS.				
RATE OF CLIMB	-SL-	FT./MIN.	2710	2380	2340	
MAX. RANGE / V-AV.	(3)	ST. MI./MPH.	1790/180	1450/80	1405/180	2370/168
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.	435	435	425	

PERFORMANCE IS BASED ON - FLIGHT TEST

RANGE & RADIUS ARE BASED ON ENGINE REQUIREMENT FUEL CONSUMPTION DATA INCREASED BY 15 PERCENT TO CONFORM WITH PAST EXPERIENCE.

*SEE PAGE 3 for Combat Radius Problems.

CONDITION 6: With one 300 gallon fuselage droppable tank.

CONDITION 7: With two 150 gallon wing droppable tanks.

CONDITION 8: With two 150 gallon wing droppable tanks and one 300 gallon fuselage droppable tank.

Anti-detonant fluid available for 12 min. at War Em Power.

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

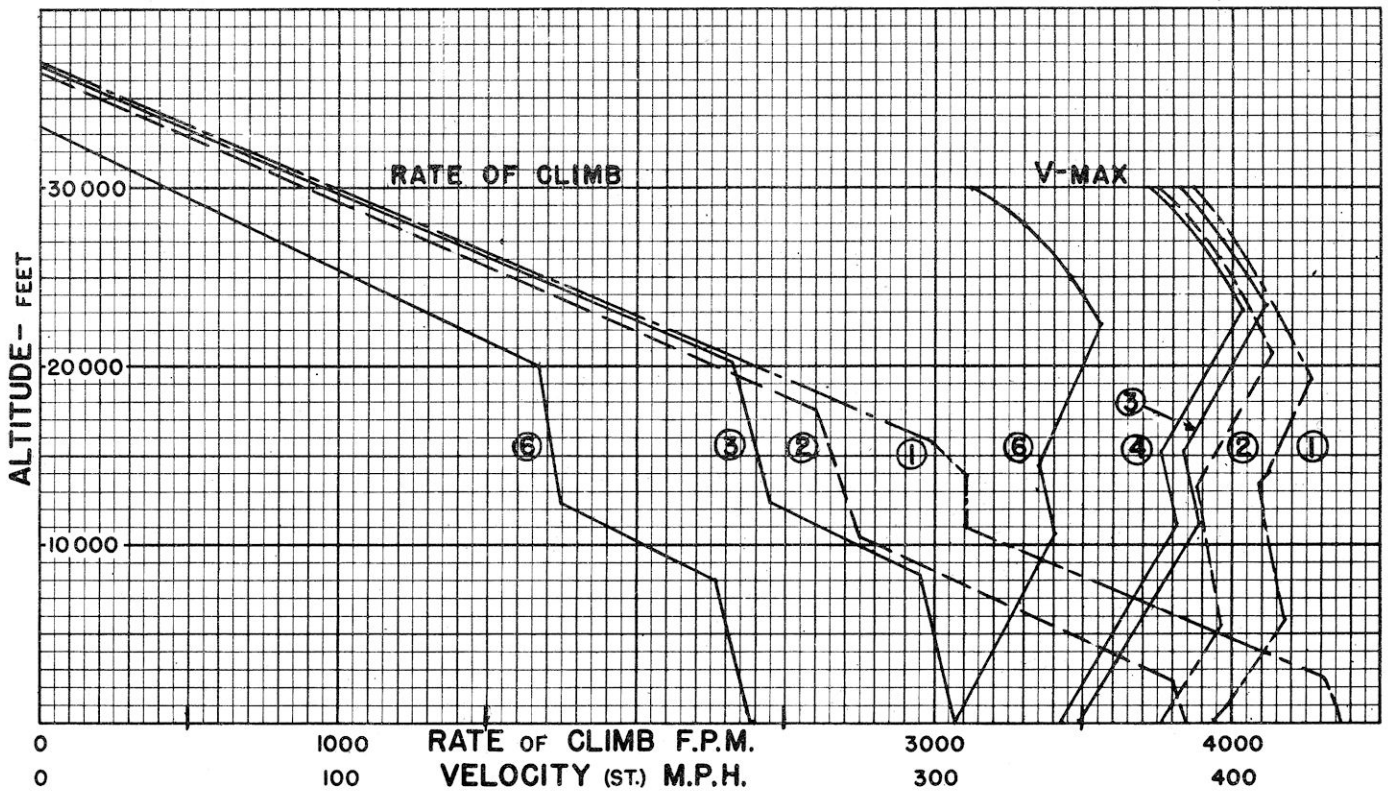
FOR CONDITIONS ONE THRU FIVE, INCLUSIVE

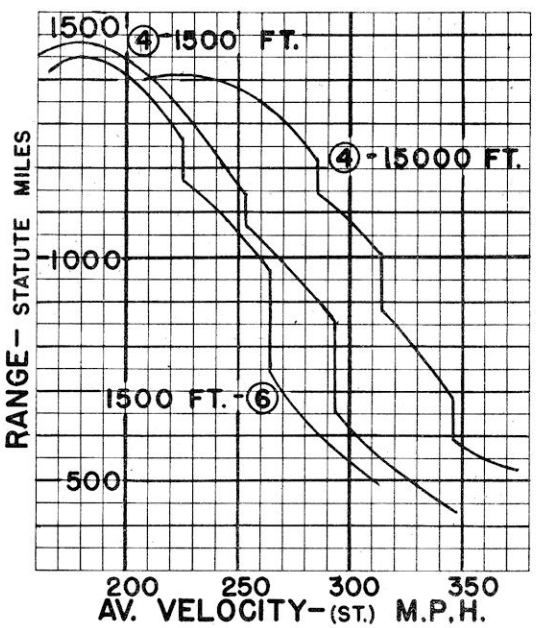
PRACTICAL COMBAT RADIUS is based on 20 min. warm-up and idle; 1 min. take-off; 10 min. rendezvous at 60% normal sea-level power (nsp) and auto-rich; climb to 15000 ft. at 60% nsp and auto-rich; cruise-out at 15000 ft at V for max. range and auto-lean; drop bombs and unprotected droppable tanks; combat at 15000 ft for 10 min. at war em power plus 10 min. at military rated power; descend; cruise back at 1500 ft. at 170 knots true air speed and auto-lean; 60 min. at V for max. range and auto-lean allowance for rendezvous, landing and reserve. Radius includes distance covered in climb, but not in descent.

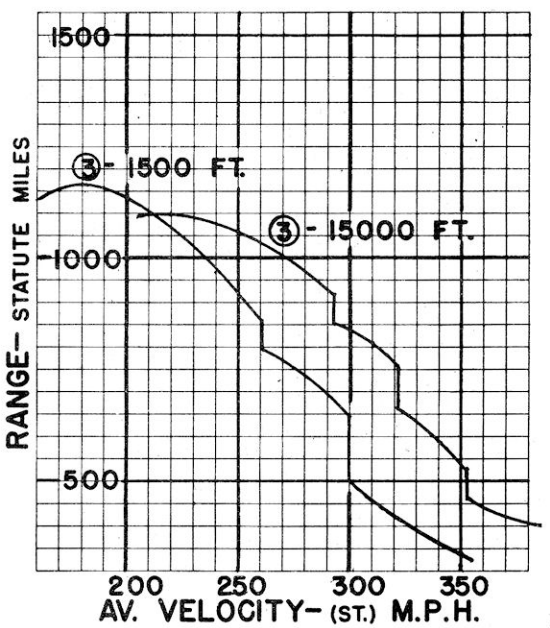
FOR CONDITIONS SIX AND SEVEN *

PRACTICAL COMBAT RADIUS is based on 20 min. warm-up and idling; one min. take-off; 10 min. rendezvous at 60% nsp and auto-rich; climb to 15000 ft. at 60% nsp and auto-rich; cruise out at 15000 ft. at 180 knots true air speed and auto-rich; drop unprotected droppable tanks; dive; drop bombs and torpedoes; combat at 1500 ft. for 5 min. at war em power plus 10 min. at rated military power; cruise back at 1500 ft. at 170 knots true air speed and auto-lean; 60 min. at V for max. range and auto-lean as allowance for rendezvous, landing and reserve. Radius includes distance covered in climb but not in dive.

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



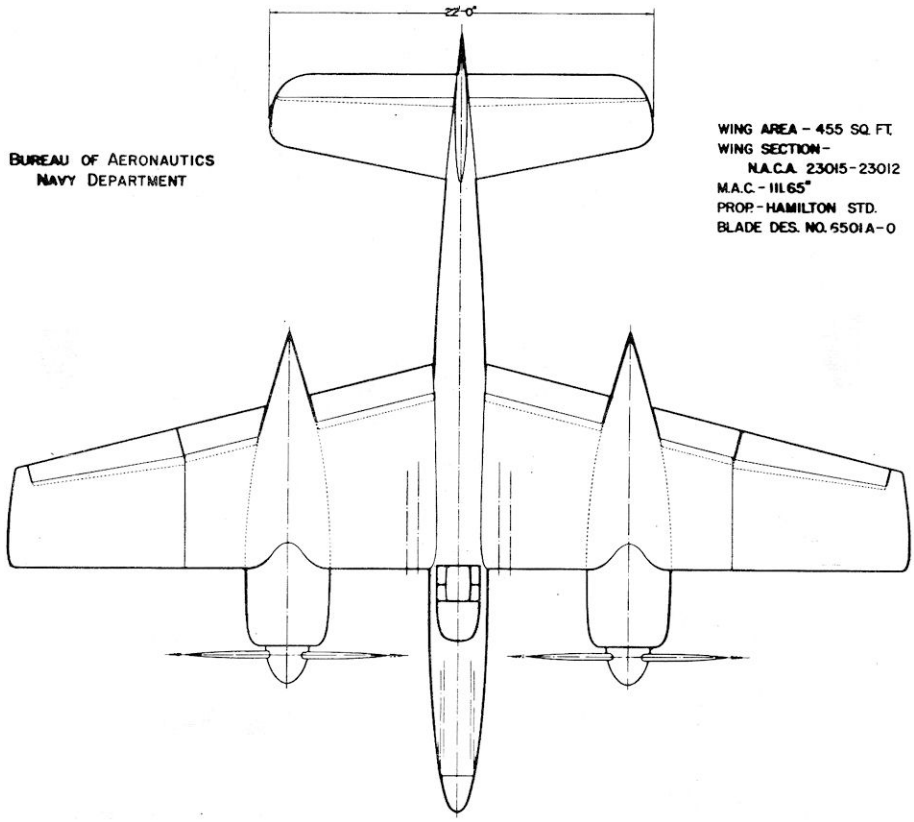


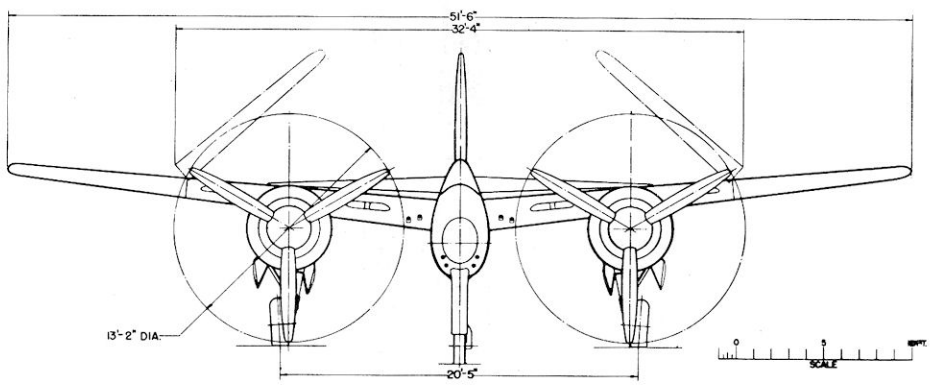


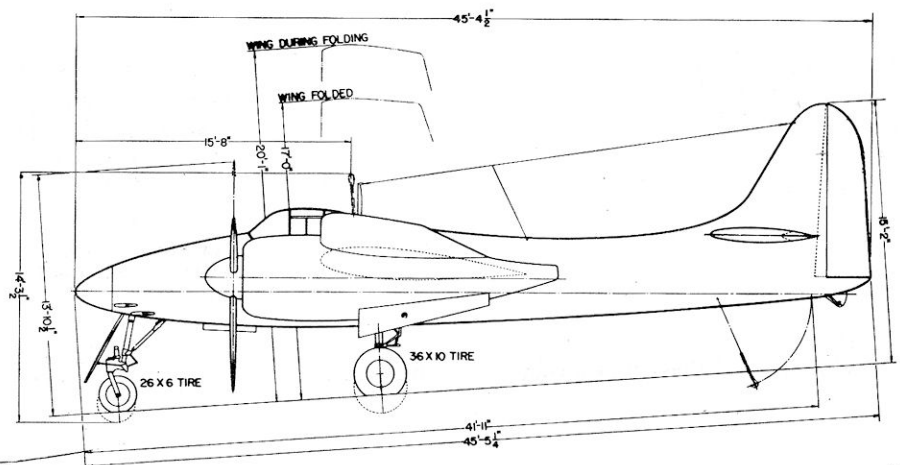
○ LOADING CONDITION COLUMN NUMBER

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. 5501A-0







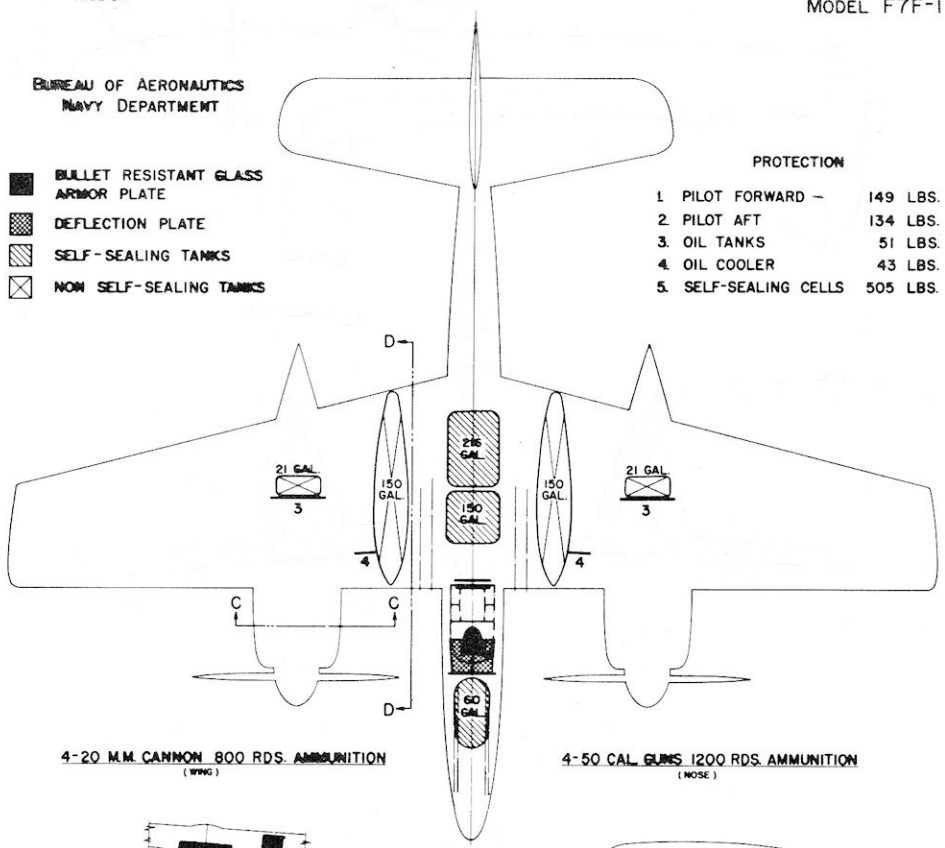
MODEL F7F-1

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

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

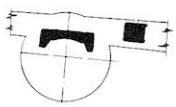
PROTECTION

1.	PILOT FORWARD –	149 LBS.
2.	PILOT AFT	134 LBS.
3.	OIL TANKS	51 LBS.
4.	OIL COOLER	43 LBS.
5.	SELF-SEALING CELLS	505 LBS.

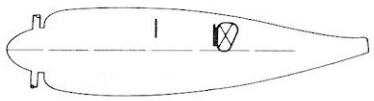


4-20 M.M. CANNON 800 RDS. AMMUNITION (WING)

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



VIEW C



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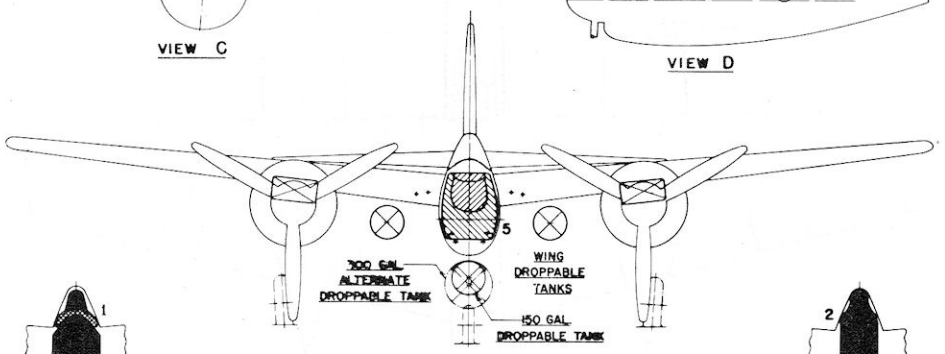
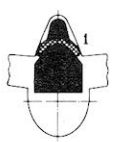
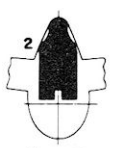
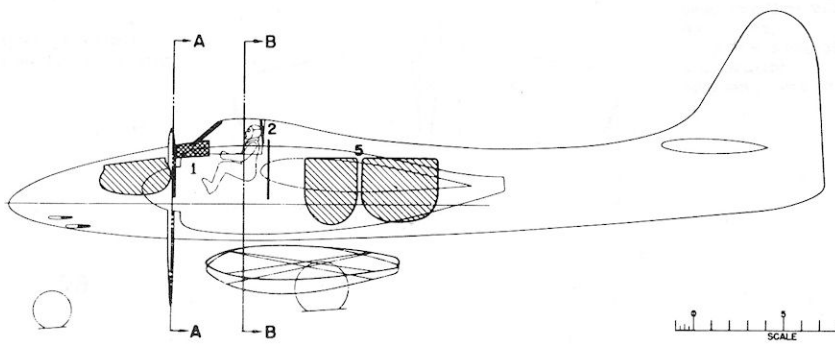
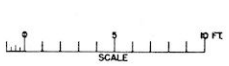




VIEW A TO B



VIEW B