

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1	2	3	4
LOADING CONDITION		COMBAT *	COMBAT *	COMBAT *	COMBAT *
GROSS WEIGHT	LBS.	9958	9958	9958	9958
EMPTY WEIGHT	ACTUAL LBS.	7689			
FUEL/OIL	GALS.	180/9	180/9	180/9	180/9
FIXED GUNS/AMMUNITION		4-.50 cal./1200 rds			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		Mil. Jet \checkmark COMBAT	COMBAT	MILITARY	NORMAL
WING LOADING	LBS./SQ.FT.	36.2	36.2	36.2	36.2
POWER LOADING ①	LBS./BHP.	-	10.0	10.0	11.1
V-MAX. SEA LEVEL	MPH.	378	287	280	271
V-MAX./CRITICAL ALT.	MPH./FT.	404/17800	295/16500	295/16500	291/19100
V-STALL GROSS WEIGHT ②	MPH.	90.9	90.9	90.9	90.9
V-STALL WITHOUT FUEL ②	MPH.	85.8	85.8	85.8	85.8
TIME-TO-CLIMB -10000FT-	MIN.	2.5	5.0	5.5	5.9
TIME-TO-CLIMB -20000FT-	MIN.	5.7	12.6	13.5	14.5
SERVICE CEILING	FT.	43100	29000	29000	29000
TAKE-OFF DISTANCE -CALM- (4) FT.		945 (620)	945(620)	945(620)	945 (620)
TAKE-OFF DISTANCE -15 KN- (4) FT.		633 (415)	633(415)	633(415)	633 (415)
TAKE-OFF DISTANCE -25 KN- (4) FT.		456 (300)	456(300)	456(300)	456 (300)
TAKE-OFF DISTANCE -50 FT. OBST. FT.					
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL- FT./MIN.		4650	2390	2190	1980
MAX. RANGE / V-AV. ③ ST. MI. / MPH.					930/160
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.					
INTERCEPTOR RADIUS I-2 N MI.					55
COMBAT RADIUS F-2 N MI.					

ENGINE / PROP GEAR RATIO		W.A.C. R-1820 - 72W(3:2) plus G. E. I. - 16 Jet Unit			
ENGINE RATING BHP/RPM/ALT.	COMBAT	MILITARY	NORMAL	TAKE-OFF	
	1400/2700/S.L. -400'	1300/2600/S.L. -1600'	1200/2500/S.L. -2700'		
	1200/2600/5000-8200	1000/2600/9000-14800	900/2500/11000-17500	1350/2700/ S.L.	
	1000/2600/-14800				
Jet Unit Ratings - lbs. static thrust/rpm/alt.					
MILITARY - 1610/16500/S.L.		NORMAL -1425/16000/S.L.			

TANKAGE IN GALLONS		OIL	FUEL	OFFENSIVE ARMAMENT
AUX. FIXED	PROTECTED		180	
	UNPROTECTED	12		WINGS - alternate with dropp. tanks
	TOTAL-FIXED INTERNAL	12	180	Bombs: 2-1000#, 2-500#, 2-250#, or 6-100#
	DROPPABLE			
	DROPPABLE - Wings - 2@100		200	WINGS - MK9 launchers
TOTAL	12	200	Rockets - 4-5" HVAR, or 4-5" A.R.	
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			
	④ () includes military jet			

*See page 2

SUPERSEDES 1 JANUARY 1945

11652

NAVAER-15198 (Rev. 9-44)

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		5	6	7	8
LOADING CONDITION		FIGHTER	FIGHTER	BOMBER F-1000#	ROCKET 14-5" HVAR
		One 100 gal. Tank External	Two 100 gal. Tanks External	One 100 gal. Tank External	One 100 gal. Tanks External
GROSS WEIGHT	LBS.	10652	11324	11652	11224
EMPTY WEIGHT	- ACTUAL - LBS.	7689			
FUEL/OIL	GALS.	280/12	380/12	280/12	280/12
FIXED GUNS/AMMUNITION		4-.50/1200			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		NORMAL	NORMAL	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.	38.8	41.2	42.4	40.9
POWER LOADING ①	LBS./BHP	11.8	12.6	13.0	12.5
V-MAX. SEA LEVEL	MPH	259	249	246	250
V-MAX./ CRITICAL ALT.	MPH./ FT.	276/19000	261/18800	257/18800	262/18800
V-STALL. GROSS WEIGHT ②	MPH	94.0	97.1	98.3	96.6
V-STALL. WITHOUT FUEL ②	MPH	86.3	86.9	91.0	89.0
TIME-TO-CLIMB -10000FT.-	MIN.	6.7	7.7	8.1	7.6
TIME-TO-CLIMB -20000FT.-	MIN.	16.9	20.4	22.0	20.0
SERVICE CEILING	FT.	27500	26000	25300	26100
TAKE-OFF DISTANCE -CALM- (4)	FT.	1142(735)	1390(870)	1488(925)	1338(844)
TAKE-OFF DISTANCE -15 KN- (4)	FT.	777(500)	960(600)	1030(642)	920(581)
TAKE-OFF DISTANCE -25KN- (4)	FT.	570(366)	710(445)	768(478)	681(431)
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF DISTANCE	SECONDS				
RATE OF CLIMB -SL-	FT./ MIN.	1780	1580	1510	1600
MAX. RANGE / V-AV. ③	ST. MI. / MPH.	1320/157	1620/152	1130/153	1180/153
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.				
INTERCEPTOR RADIUS	I-2 NMI.	190	310		
COMBAT RADIUS	R-2 NMI.	175 (a)	175 (b)	160	165

PERFORMANCE IS BASED ON - Flight Test of FR-1

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

FUEL CONSUMPTION DATA INCREASED

BY 15 PERCENT TO CONFORM WITH PAST EXPERIENCE.

*COMBAT CONDITION: Two faired Mk 51-9 bomb-racks and sway-bracing aboard; Rocket launchers not aboard. Addition of 4 mk 9 launchers reduces Vmax./S.L. to 374 mph and Vmax to 400/17800 at Mil. Jet. plus combat power.

CLEAN CONDITION:- Combat Condition with all bomb-racks and sway-bracing removed; at Mil. jet plus Combat Power - Vmax/S.L. = 387 mph; Vmax = 414/17900.

ROCKET CONDITION:- Rockets suspended from MK9 launchers .

FERRY CONDITION:- Armor and Armament removed - Gross Weight 10347, 380 gals. fuel - Max. range at 1500 ft is 1785stmi/148 mph.

NOTE: - Two wing bomb-racks and sway bracing carried in all conditions except CLEAN. Rocket launchers carried in rocket condition only.

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

INTERCEPTOR RADIUS FORMULA NO. I-2 Conditions Nos. 4,5,6 RADIUS=CLIMB+CRUISE-OUT=CRUISE-BACK

<u>WARM-UP</u>	<u>CLIMB</u>	<u>CRUISE-OUT</u>	<u>DROP TANKS</u>	<u>COMBAT</u>	<u>CRUISE-BACK</u>	<u>RESERVE</u>
Eng.-5 min.	to	20000 ft.		20 min. at 20000 ft.	descend	45 min. at
Jet 30 sec.	20000 ft	15 min.-Mil.Pr.		5 min.-V-max; Eng.-Com. Pr.	to 1500 ft.	1500 ft.
	at	Remaining cruise-		Jet -Mil. Thr.	Return at	Vel. for
<u>TAKE-OFF</u>	Comb.	out time at Norm.		5 min.-V-max; Eng.-Mil. Pr.	Vel. for	Max. Range
Eng.-1 min.	Pr.	Pr.; Jet off		Jet -Mil. Thr.	Max. Range	
Jet 30 sec.				10 min.-	Jet Off	Jet Off
				Eng.-Mil. Pr.		
				Jet -Idling		

FIGHTER COMBAT RADIUS FORMULA NO. F-2-CONDITIONS NOS.- 4 thru 8 RADIUS=CLIMB+CRUISE-OUT=CRUISE BACK

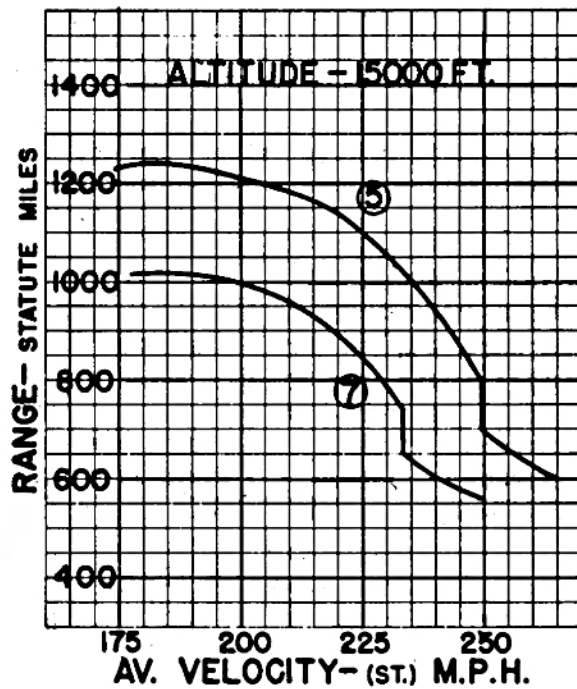
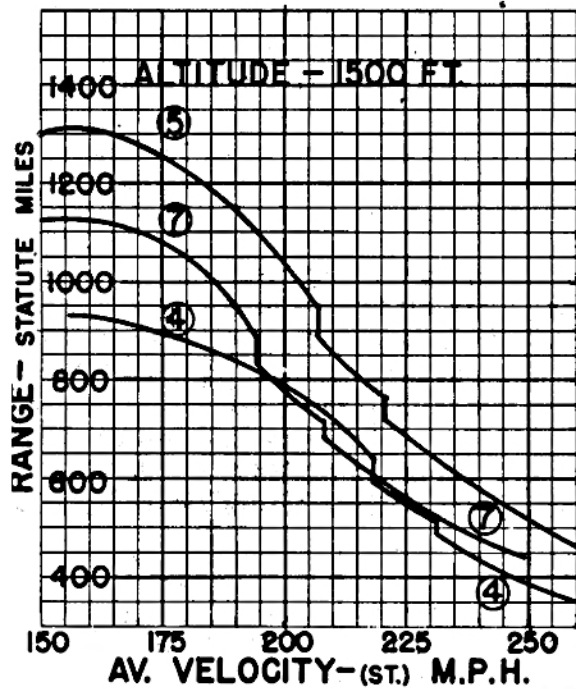
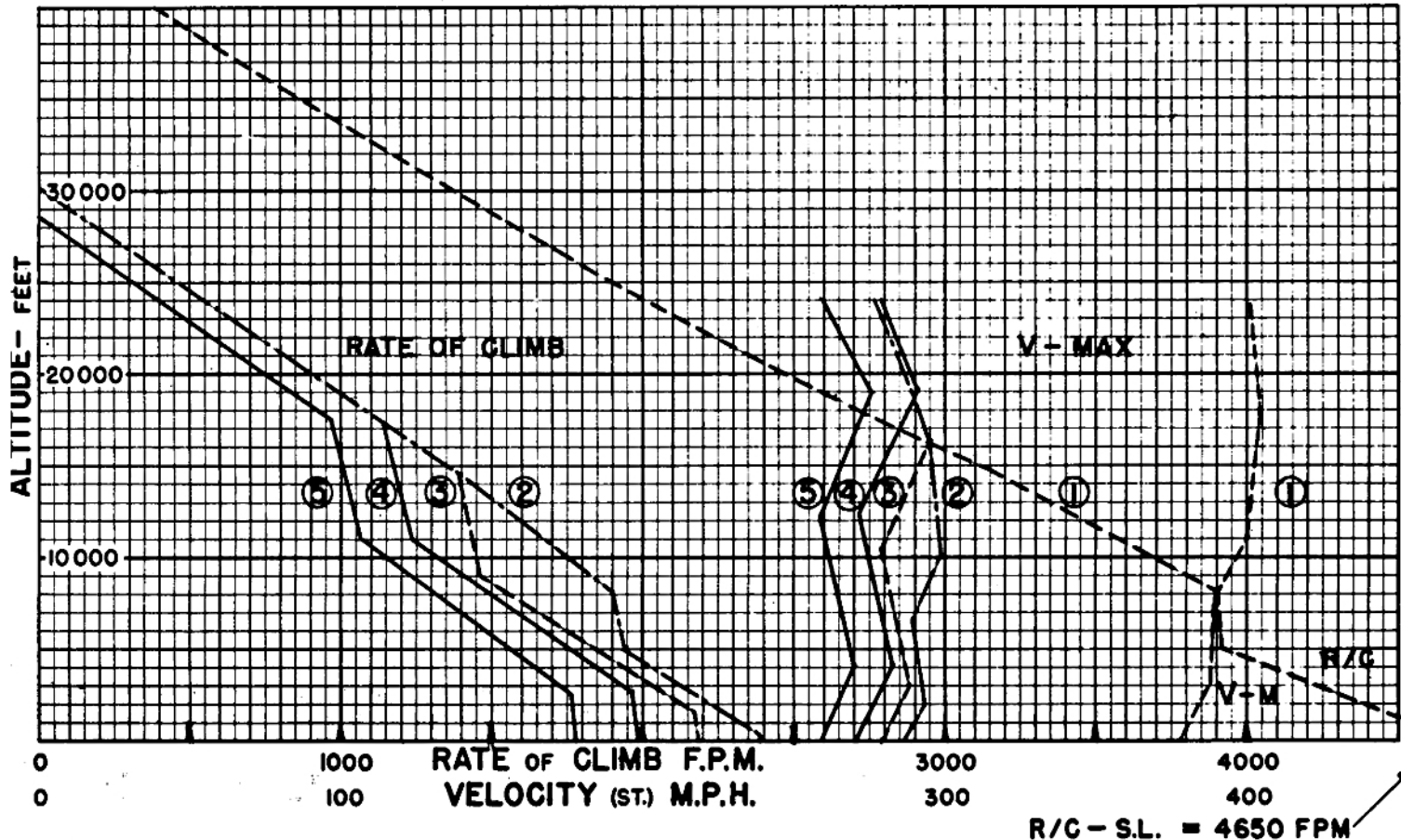
<u>WARM-UP</u>	<u>RENDZVOUS</u>	<u>CLIMB</u>	<u>CRUISE OUT</u>	<u>DROP TANKS and BOMBS</u>	<u>COMBAT</u>	<u>CRUISE BACK</u>	<u>RESERVE</u>
Eng. 20 min.	20 min. at	to			20 min.	descend to	60 min.
Jet 30 sec.	sea level	15000 ft.	at 15000 ft.		at 15000 ft.	1500 ft. &	at
	at	at	Vel.for	<u>FIRE</u>	10 min. WFP.	return at	Vel.for
<u>TAKE-OFF</u>			Max. Range	<u>ROCKETS</u>	Jet Mil.Thr.	170 kts.TAS	Max. Range
Eng. 1 min.	60% N.S.P.	60% N.S.P.	Auto Lean.		10 min.Mil.Pr.	Auto Lean.	Auto Lean.
Jet 30 sec.	Auto Lean.	Auto Rich.	Auto Lean.		Jet Idling	Jet off	Jet off
	Jet off	Jet off	Jet off				

- (a) Condition 5 - 2 gals. fuel remain in unprot. droppable tanks when entering combat and must be dropped, used for approx. 3 min. search at V for max. range, or used to increase speed in cruise-out from 164 to 187 Kn.
- (b) Condition 6 - 95 gals. fuel remain in unprot. droppable tanks when entering combat and must be dropped, used for approx. 2.1 hrs. search at V for max. range, or used to increase speed in cruise-out from 167 Kn. to V-max

WATER - Water available for approx. 11 min. at Combat Power.

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

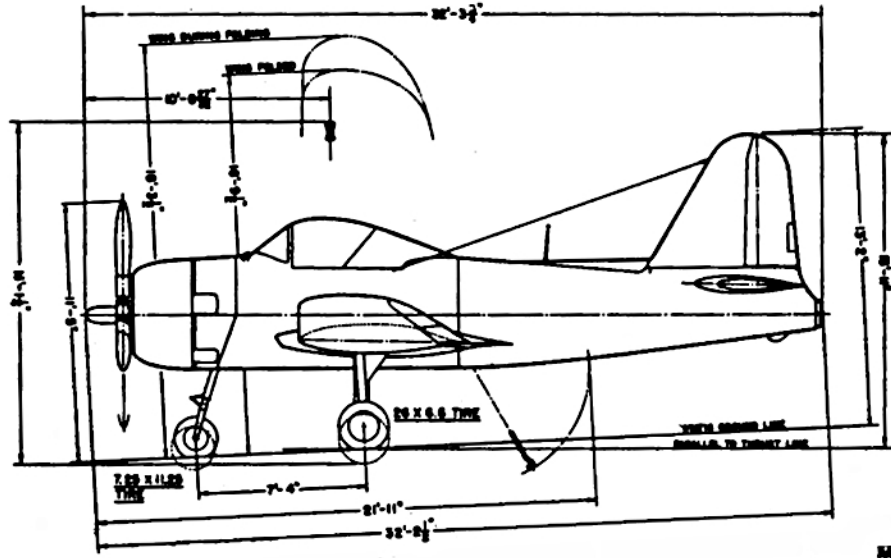
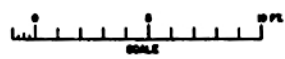
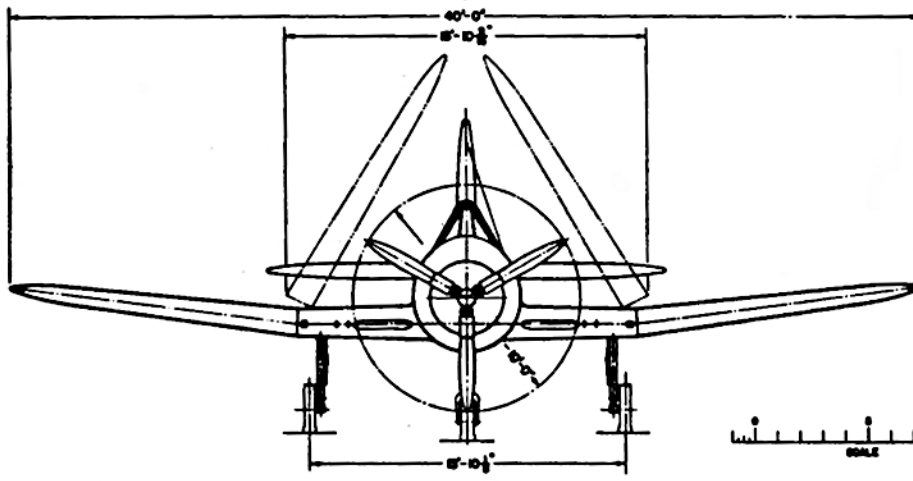
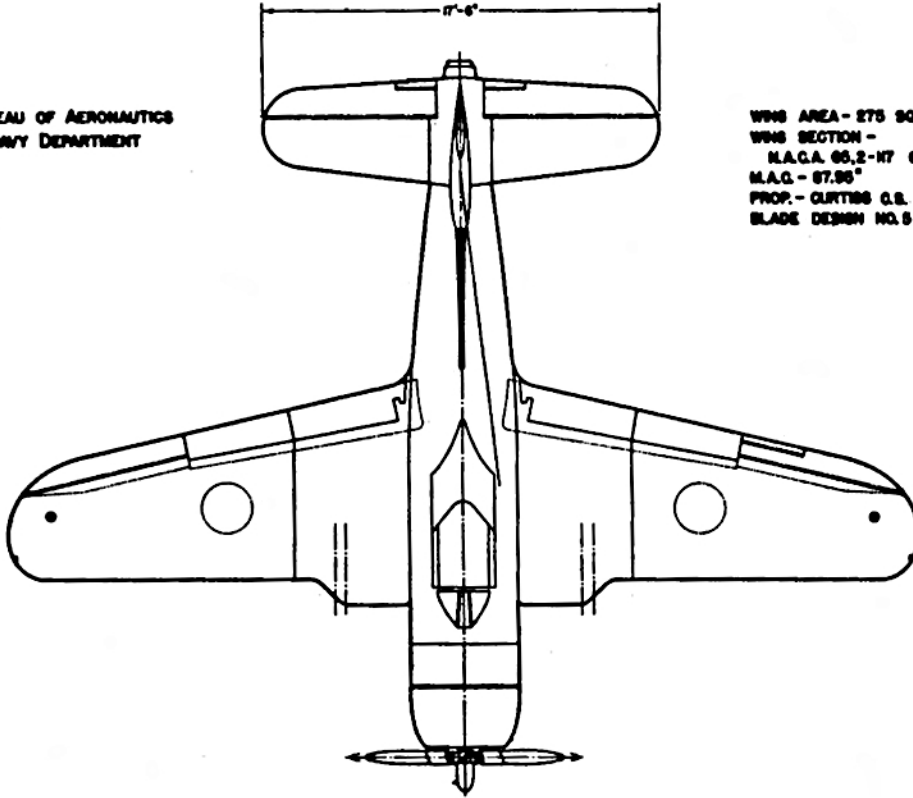
SPOTTING - 200 ft. length is required to spot 30 airplanes on the 96 ft. wide deck immediately aft of the forward ramp on CV-9 class carriers.



○ LOADING CONDITION COLUMN NUMBER

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 275 SQ. FT.
WING SECTION -
N.A.C.A. 65,2-N7 65,2-N5
M.A.C. - 67.96"
PROP. - CURTIS G.E.
BLADE DESIGN NO. 526



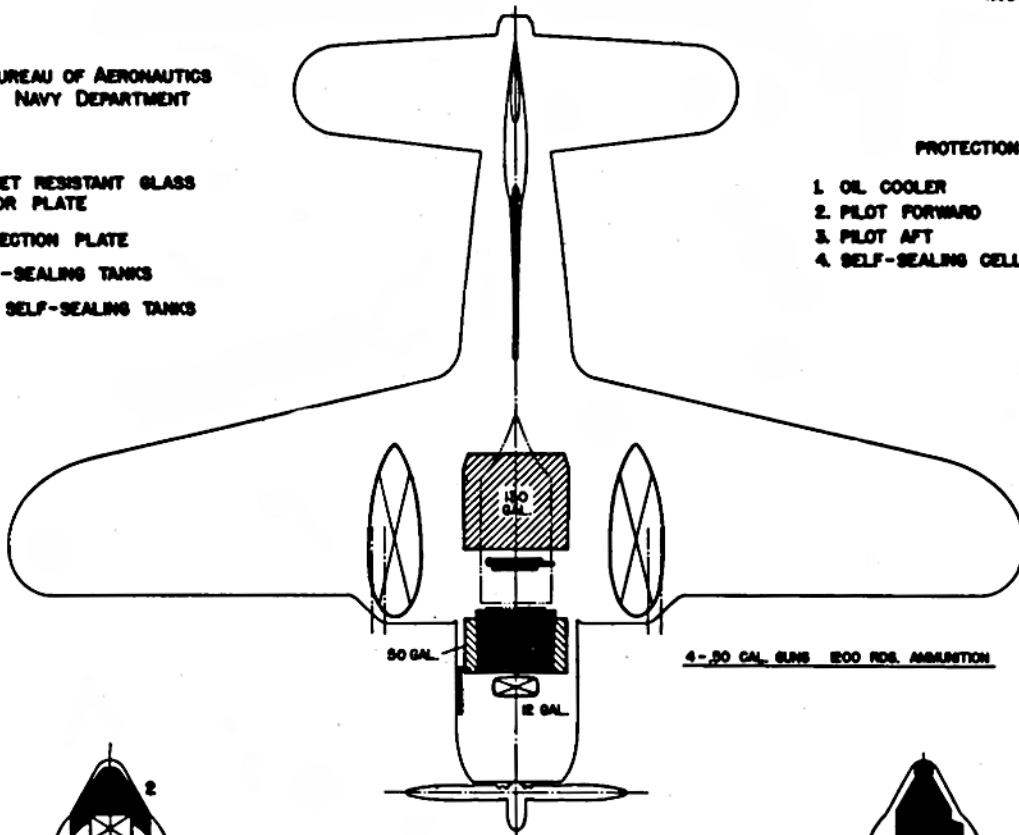
MODEL FR-1

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

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

PROTECTION

- | | |
|-----------------------|----------|
| 1. OIL COOLER | 14 LBS. |
| 2. PILOT FORWARD | 93 LBS. |
| 3. PILOT AFT | 82 LBS. |
| 4. SELF-SEALING CELLS | 184 LBS. |



VIEW A TO B



VIEW B

