

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.	12175	12175	12175	13265
EMPTY WEIGHT	- ACTUAL - LBS.	9014			
FUEL/OIL	GALS.	237/13	237/13	237/13	387/22
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.	38.8	38.8	38.8	42.3
POWER LOADING ①	LBS./BHP.	6.2	7.4	7.9	8.6
V-MAX. SEA LEVEL	MPH.	358	343	321	305
V-MAX./CRITICAL ALT.	MPH./FT.	409/19900	396/23900	394/24800	374/24600
V-STALL GROSS WEIGHT ②	MPH.	87.5	87.5	87.5	92.5
V-STALL WITHOUT FUEL ②	MPH.	82.2	82.2	82.2	84.0
TIME-TO-CLIMB -10000FT-	MIN.	3.3	3.8	4.6	5.2
TIME-TO-CLIMB -20000FT-	MIN.	7.1	8.3	9.7	11.2
SERVICE CEILING	FT.	40000	39800	39300	37800
TAKE-OFF DISTANCE -CALM- **	FT.	653(621)	653(621)	653(621)	840(795)
TAKE-OFF DISTANCE -15 KN- **	FT.	412(391)	412(391)	412(391)	546(516)
TAKE-OFF DISTANCE -25 KN- **	FT.	282(267)	282(267)	282(267)	382(362)
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	3370	2730	2280	2010
MAX. RANGE / V-AV. ③	ST. MI. / MPH.			980/182	1500/176
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 - P-1 -	N MI.			100	345(a)
ENGINE / PROP GEAR RATIO		P & W R-2800-8W (21)			
ENGINE RATING BHP/RPM/ALT.	COMBAT	MILITARY	NORMAL	Prasecilla TAKE OFF OR Public Inform 2000/2700/3000 By direction of the Commander ** EMERGENCY TAKE-OFF RATING	
	2250/2700/S.L.	2000/2700/S.L.-1700	1675/2550/S.L.-5500	1850/2800/S.L.	
	2075/2700/1800	1755/2700/5400	1570/2550/7200	One Minute Only	
	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		
TANKAGE IN GALLONS		OIL	FUEL	OFFENSIVE ARMAMENT	
AUX. FIXED	PROTECTED		237	WING PYLONS -	
	UNPROTECTED	24		Bombs - 2-1000#, 2-500#, 2-250#, or 6-100#	
	TOTAL-FIXED INTERNAL	24	237	Rockets - 2-11.75" A.R. (Alternate with dropp. tanks)	
	DROPPABLE - Wing Pylons - 2@150		300	FUSELAGE	
	DROPPABLE Fuselage - 1 @ 175		175	Bombs - 1-1000#, 1-500#, 1-250#	
	(Alternate 1 @ 100 or 1 @ 150)			(Alternate with droppable tanks)	
TOTAL	24	712	WINGS - MK5-2 rocket launchers		
NOTE	STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS			Rockets - 8-5" HVAR, or 8-5" A.R.	
	① BHP AT MAX. CRIT. ALT.				
	② STALL-WITHOUT POWER				
	③ AT 1500" ALTITUDE				
** See page 2					

Supersedes 1 Jan. 1945

DATE

1 AUGUST 1945

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UNCLASSIFIED

ALSO FG-ID
MODEL-F4U-ID-IG

Archives of M. Williams

AIRPLANE CHARACTERISTICS & PERFORMANCE

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BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		5	6	7	8
LOADING CONDITION		FIIGHTER 1 SS+1 Unprot. 150 gal.tanks External	BOMBER 1-1000# One 150 gal. Tank External	BOMBER 2-1000#	ROCKET 8-5" HVAR One 150 gal. Tank External
GROSS WEIGHT	LBS.	14370	14260	14170	14415
EMPTY WEIGHT - ACTUAL -	LBS.	9014			
FUEL/OIL	GALS.	537/24	387/22	237/13	387/22
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.	45.8	45.4	45.1	45.9
POWER LOADING ①	LBS./BHP	9.3	9.2	9.2	9.3
V-MAX. SEA LEVEL	MPH.	290	290	290	286
V-MAX./ CRITICAL ALT.	MPH./ FT.	353/24200	353/24200	353/24200	349/24200
V-STALL. GROSS WEIGHT ②	MPH.	97.5	97.2	97.0	99.1
V-STALL. WITHOUT FUEL ②	MPH.	85.8	89.0	92.0	90.7
TIME-TO-CLIMB -10000FT.-	MIN.	6.0	6.0	6.0	6.1
TIME-TO-CLIMB -20000FT.-	MIN.	13.1	13.1	13.1	13.2
SERVICE CEILING	FT.	36500	36500	36500	36200
TAKE-OFF DISTANCE -CALM- **	FT.	1105(1046)	1078(1014)	1056(995)	1120(1060)
TAKE-OFF DISTANCE -15 KN- **	FT.	736(697)	717(674)	701(660)	747(708)
TAKE-OFF DISTANCE -25KN- **	FT.	525(502)	512(482)	501(472)	538(509)
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF DISTANCE	SECONDS				
RATE OF CLIMB -SL-	FT./ MIN.	1770	1780	1790	1740
MAX. RANGE / V-AV ③	ST. MI. / MPH.	1895/176	1340/176	805/176	1320/176
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.	*** 555	330	85	315

PERFORMANCE IS BASED ON - FLIGHT TEST

RANGE & RADIUS ARE BASED ON FLIGHT TEST FUEL CONSUMPTION DATA INCREASED

BY 5 PERCENT TO CONFORM WITH PAST EXPERIENCE.

*COMBAT CONDITION: Two capped pylons aboard; Fuse, drop, tank rack aboard. Rocket launchers not aboard.

Combat condition plus 8 Mk 5-1 launchers-V-max/SL 350mph, V-max 400/19900 (Comp. Power)

Combat condition less pylon caps-V-max/SL 351mph, V-max 401/19900 (Comb. Power)

CLEAN CONDITION: Same as Combat Condition except pylons and Fuse, drop tank rack removed-

V-max/S.L. 366mph, V-max 417/20000 (Combat Power)

ROCKET CONDITION: Rockets are suspended from Mk 5-1 launchers

FERRY CONDITION: Armament removed: Gross Weight 13106, 537 gals fuel. Max. Range at 1500 ft. is 1980 st.mi. at 176 mph. Addition of 175 gal. fuselage droppable tank increases this range to 2510 st.mi. at 176 mph.

NOTES: Two pylons (capped when not in use) and one fuse, drop, tank rack aboard in all conditions except "CLEAN"

Rocket launchers are carried in rocket condition only

Droppable tanks are carried on pylons in conditions 4,5,6,8, and 10. For condition 4, installation of the 175 gal. fuselage droppable tank in lieu of the wing tank (pylons retained) increases max. range at 1500 ft. to 1630/176, increases v-max/SL to 309 mph and has no effect on the combat radius (limited by amount of protected fuel)

** Parenthesized take-off figures are calculated using the 2800 rpm Emergency Take-Off Rating

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ISSUE OF 8 PAGES
AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		9	10		
LOADING CONDITION		COMBAT F4U-1C	FIGHTER F4U-1C One 150 gal. Tank External		
GROSS WEIGHT	LBS.	12470	13560		
EMPTY WEIGHT - CALCULATED -	LBS.	9000			
FUEL/OIL	GALS.	237/13	387/22		
FIXED GUNS/AMMUNITION		4-20 mm/924			
FLEXIBLE GUNS/AMMUNITION		None			
ENGINE POWER USED FOR PERFORMANCE		COMBAT	NORMAL		
WING LOADING	LBS./SQ.FT.	39.7	43.2		
POWER LOADING ①	LBS./BHP.	6.3	8.8		
V-MAX. SEA LEVEL	MPH.	356	303		
V-MAX./CRITICAL ALT.	MPH./FT.	408/19900	371/24500		
V-STALL GROSS WEIGHT ②	MPH.	88.6	93.6		
V-STALL WITHOUT FUEL ②	MPH.	83.4	85.2		
TIME-TO-CLIMB -10000FT-	MIN.	3.4	5.7		
TIME-TO-CLIMB -20000FT-	MIN.	7.3	12.0		
SERVICE CEILING	FT.	39400	37400		
TAKE-OFF DISTANCE -CALM-	FT.	694(660)	900(855)		
TAKE-OFF DISTANCE -15 KN-	FT.	440(419)	590(560)		
TAKE-OFF DISTANCE -25 KN-	FT.	302(288)	414(393)		
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	3250	1930		
MAX. RANGE / V-AV. ③	ST. MI. / MPH.	970/178	1480/176		
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 F-1	N MI.	100	330(b)		

These loading conditions show performance for the F4U-1C which is identical to the F4U-1D except for the installation of 4-20mm/924 in lieu of 6-.50/2400

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ALSO FG-1D
MODEL-F4U-ID-1C

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FIGHTER COMBAT RADIUS FORMULA NO. F-1-CONDITIONS NOS. - 3 thru 10 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	8.5 min. WEP	170 kts. TAS	Vel. for
1 min.	60% N.S.P. Auto Lean.	60% N.S.P. Auto Rich.	Max. Range Auto Lean.	ROCKETS	11.2 min. Mil. Pr. and descend	Auto Lean.	Max. Range Auto Lean.

Water available for approximately 8.5 min. at Combat Power

Provisions are not incorporated for fuel transfer from droppable to main tanks after take-off.

*** Condition 5- One of the wing droppable tanks is self-sealing and is carried the entire distance.

Combat Radii noted with () are limited by the amount of protected fuel available for combat and return. In the following conditions the listed amounts of fuel remain in the droppable tanks on entering contact and must be dropped or used to search or increase the cruise-out speed.

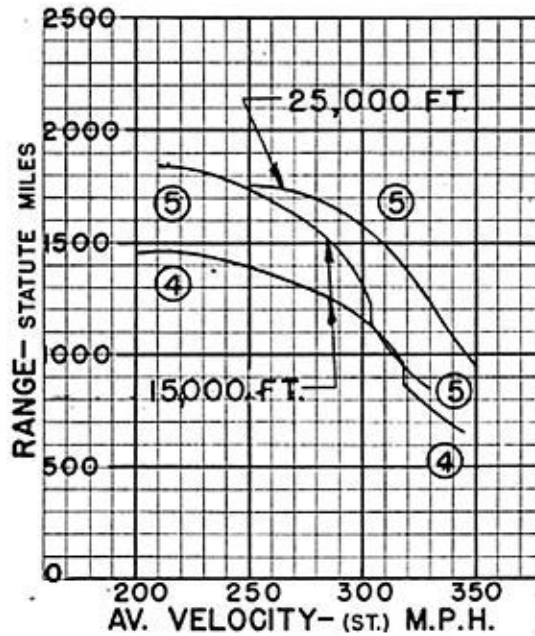
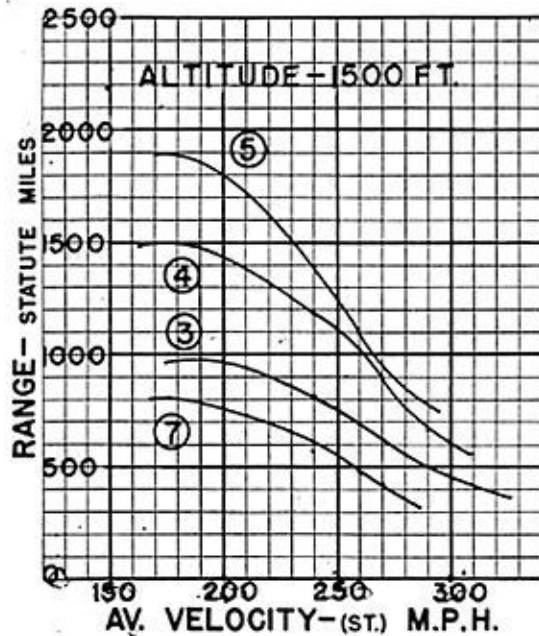
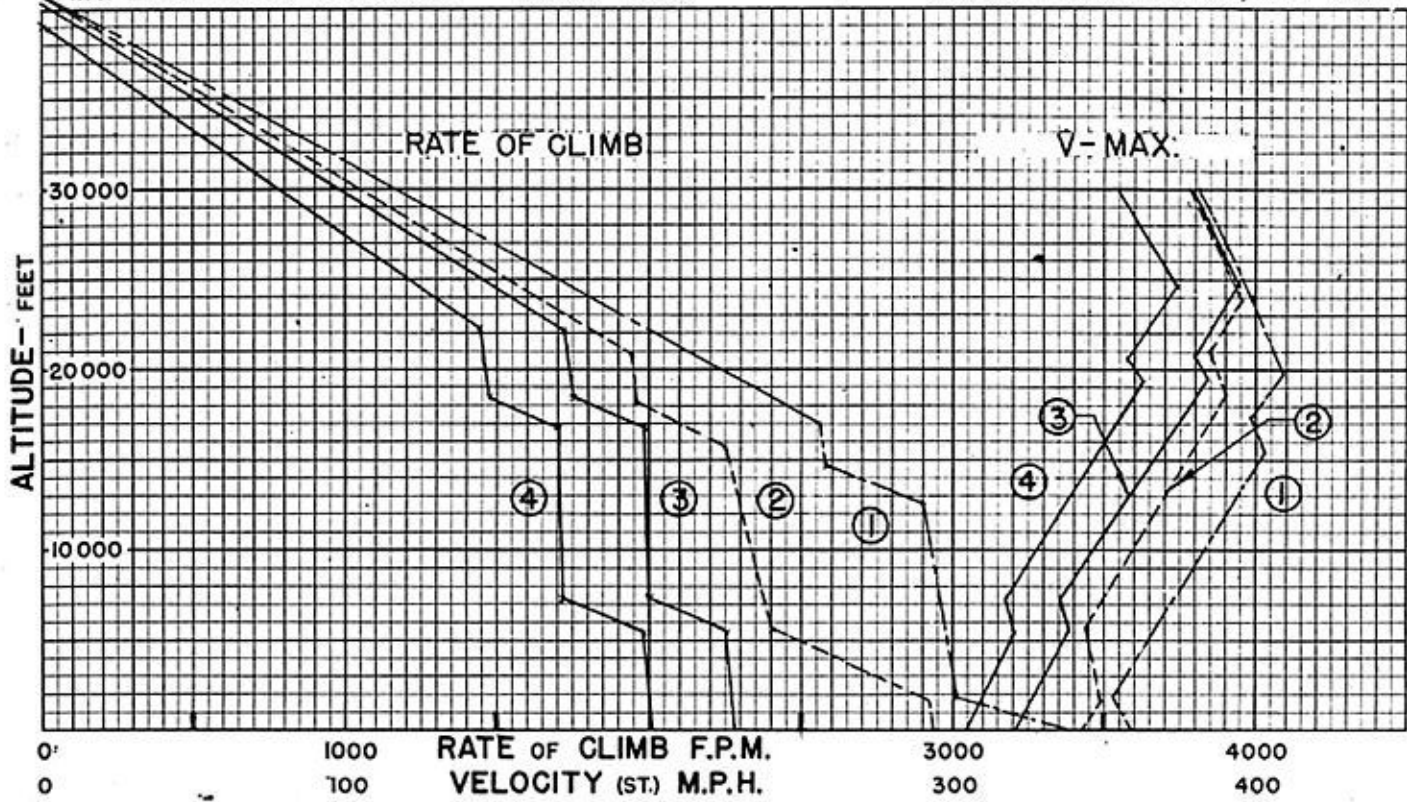
Col. 4(a) 5.7 gals, may be used to increase cruise-out speed to 215 kn or used for 6 min. search at Vel. for max. Range

Col. 10(b) 9.5 gals, may be used to increase cruise-out speed to 237 kn or used for 10 min. search at Vel. for max. Range

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

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

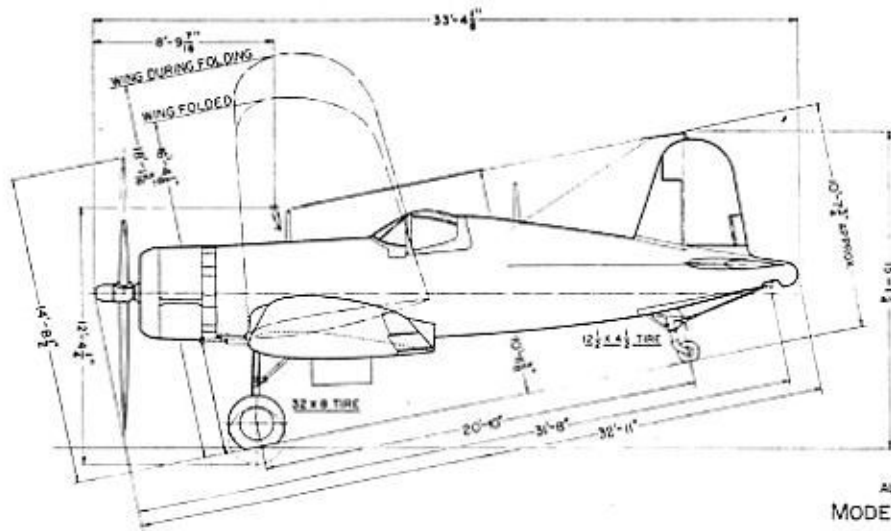
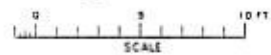
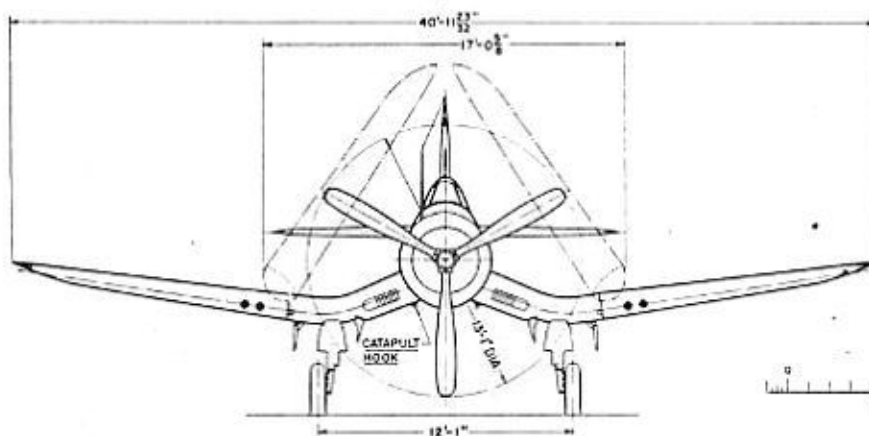
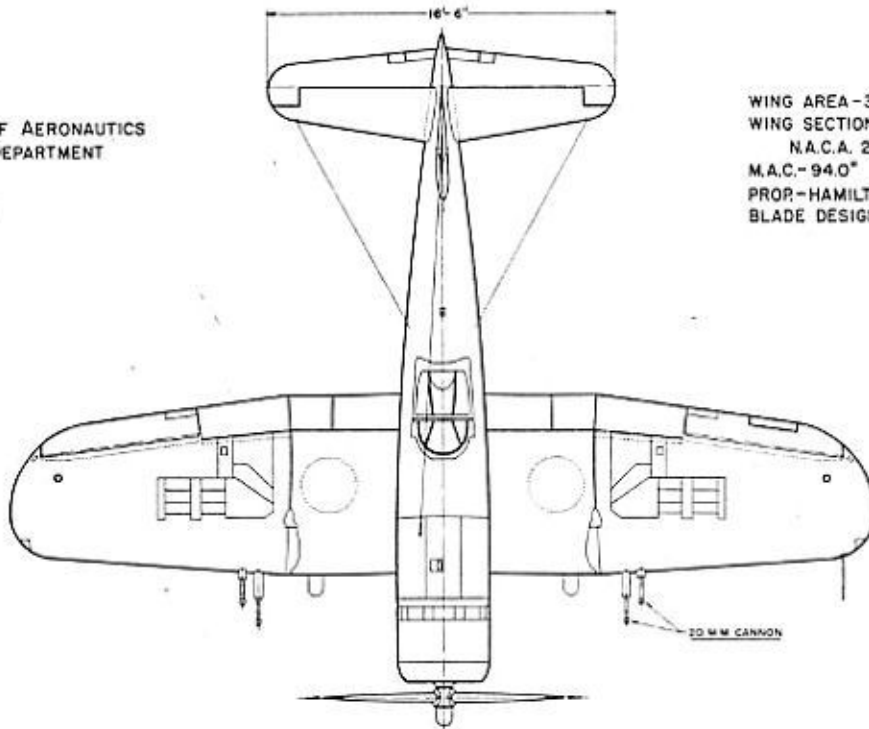


○ LOADING CONDITION COLUMN NUMBER

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BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 314 SQ. FT.
WING SECTION -
N.A.C.A. 23018-23009
M.A.C. - 94.0°
PROP. - HAMILTON STD. C.S.
BLADE DESIGN NO. 6501A-0



FG - 1,81D
ALSO F3A-1
MODEL - F4U-1, ID, 81C

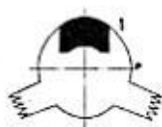
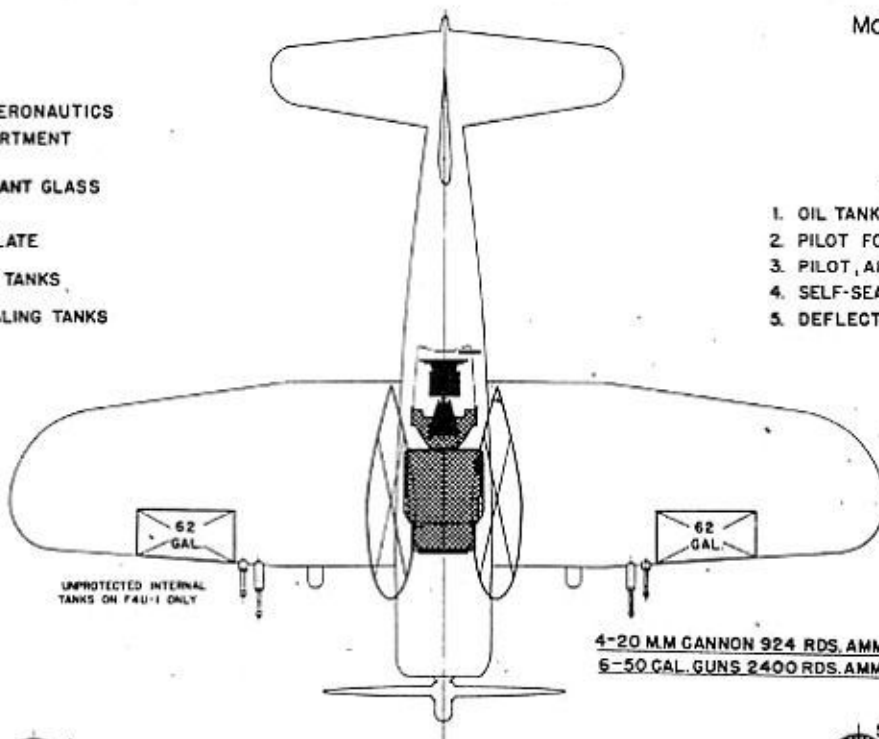
MODEL-F4U-1, ID, & IC
 ALSO F3A-1
 FG-1, & ID

BUREAU OF AERONAUTICS
 NAVY DEPARTMENT

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

PROTECTION

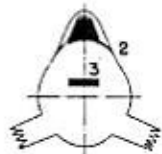
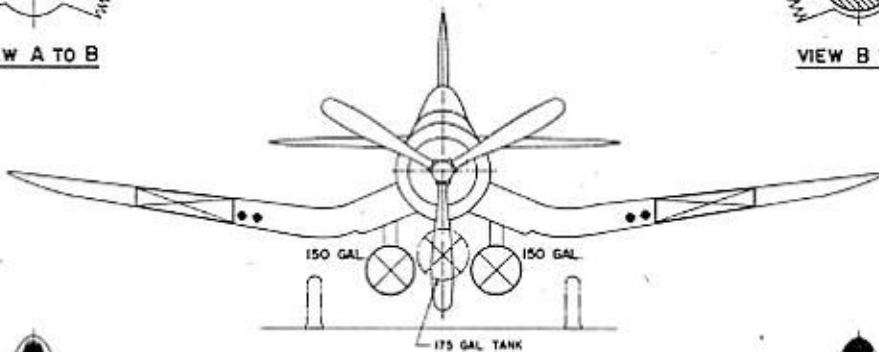
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|--------------------------|----------|
| 1. OIL TANK (F4U-1 ONLY) | 32 LBS. |
| 2. PILOT FORWARD | 35 LBS. |
| 3. PILOT, AFT | 155 LBS. |
| 4. SELF-SEALING CELLS | 179 LBS. |
| 5. DEFLECTION PLATE | 25 LBS. |



VIEW A TO B



VIEW B TO C



VIEW C TO D



VIEW D

