

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER			1	2	3
LOADING CONDITION			COMBAT	COMBAT	FIGHTER ONE TANK EXTERNAL
GROSS WEIGHT	LBS.		9820	9820	11816
EMPTY WEIGHT	SPECIFICATION LBS.		6480		
FUEL / OIL	GALS.		375/10	375/10	670/10
FIXED GUNS/AMMUNITION			4 - .50 Cal./1600 rds.		
FLEXIBLE GUNS/AMMUNITION			None		
ENGINE POWER USED FOR PERFORMANCE			MILITARY	NORMAL	NORMAL
WING LOADING	LBS./SQ.FT.		35.8	35.8	43.1
POWER LOADING ①	LBS./BHP.				
V-MAX. SEA LEVEL	MPH.		479	397	368
V-MAX./ 20000'	MPH./FT.		476	425	390
V-STALL GROSS WEIGHT ②	MPH.		87.2	87.2	95.7
V-STALL WITHOUT FUEL ②	MPH.		76.6	76.6	77.7
TIME-TO-CLIMB -10000 FT.-	MIN.		2.8	4.4	6.0
TIME-TO-CLIMB -20000 FT.-	MIN.		4.2	10.2	14.6
SERVICE CEILING	FT.		41100	38400	32000
TAKE-OFF DISTANCE * -CALM-	FT.		1340 (705)	1340 (705)	2150 (1222)
TAKE-OFF DISTANCE * -15 KN-	FT.		912 (478)	912 (478)	1523 (834)
TAKE-OFF DISTANCE * -25 KN-	FT.		670 (336)	670 (336)	1160 (590)
TAKE-OFF RATE OF CLIMB -S.L.-	FT./MIN.				285
WAVE-OFF RATE OF CLIMB -S.L.-	FT./MIN.			650	
RATE OF CLIMB -SL-	FT./MIN.		4230	2610	1930
MAX. RANGE / V-AV. ③	ST. MI. / MPH.			695/248	980/290
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-3 N.MI.			110	295
COMBAT RADIUS	F-3 N.MI.			70	260
ENGINE / PROP. GEAR RATIO			2 Westinghouse 19XB -2B Jet Units		
ENGINE RATING BHP/RPM/ALT.	MILITARY		NORMAL		
	1600# static thrust/17000 rpm/SL		1300# static thrust/15600 rpm/SL		
TANKAGE IN GALLONS			OIL	FUEL	OFFENSIVE ARMAMENT
AUX. FIXED	PROTECTED			375	None
	UNPROTECTED		10		
	TOTAL - FIXED INTERNAL		10	375	
	DROPPABLE				
	DROPPABLE - Fuselage - (Unprotected)			295	
TOTAL		10	670		
NOTE	STATUTE MILES USED-EXCEPT-RADIUS IS GIVEN IN NAUTICAL MILES & KNOTS			Performance is based on calculations Range and radius are based on specification fuel consumption increased 7.5% to conform with past experience	
	① BHP AT MAX. CRIT. ALT.				
	② STALL WITH POWER (Idling Jet)				
③ AT 20000 ALTITUDE					
* Parenthesized figures include effect of 2-8AS-1000 JATO Units (ΔW = 300#)					

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

INTERCEPTOR COMBAT RADIUS FORMULA NO. I-3 Conditions Nos. 2 & 3 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>
30 sec. at Rated Take-off Thrust	to 20000 ft.	at 20000 ft.		at 20000 ft.	at 20000 ft.	10 min. at 10000 ft.
<u>TAKE-OFF</u> 1 min. at Rated Take-off Thrust	at Mil. Rated Thrust	at Norm. Rated Thrust		15 min. at Mil. Rated Thrust V-max	at Vel. for Max. Range	15 min. at S.L. Vel. for Max. End.

FIGHTER COMBAT RADIUS FORMULA NO. F-3-CONDITIONS NOS.- 2 and 3 RADIUS = CLIMB + CRUISE-OUT = CRUISE BACK

<u>WARM-UP</u>	<u>RENDEZVOUS</u>	<u>CLIMB</u>	<u>CRUISE OUT</u>	<u>DROP TANKS and BOMBS</u>	<u>COMBAT</u>	<u>CRUISE BACK</u>	<u>RESERVE</u>
30 sec. at Max Stat. Thrust	Climb to 5000 ft.	to 20000 ft.	at 20000 ft.	and and	15 min. -V max. at 15000 ft.	at 20000 ft.	15 min. at 10000 ft.
<u>TAKE-OFF</u> 1 min. at T.O. Thrust	Mil. Thrust 10 min. REND. Vel. for Max. Range	Mil. Thrust	at Vel. for Max. Range	<u>DESCEND</u> to 15000 ft. <u>FIRE</u> <u>ROCKETS</u>	Mil. Thrust <u>RETURN</u> to 20000 ft. Mil. Thr.	at Vel. for Max. Range	15 min. at S.L. Vel. for max. End.

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.

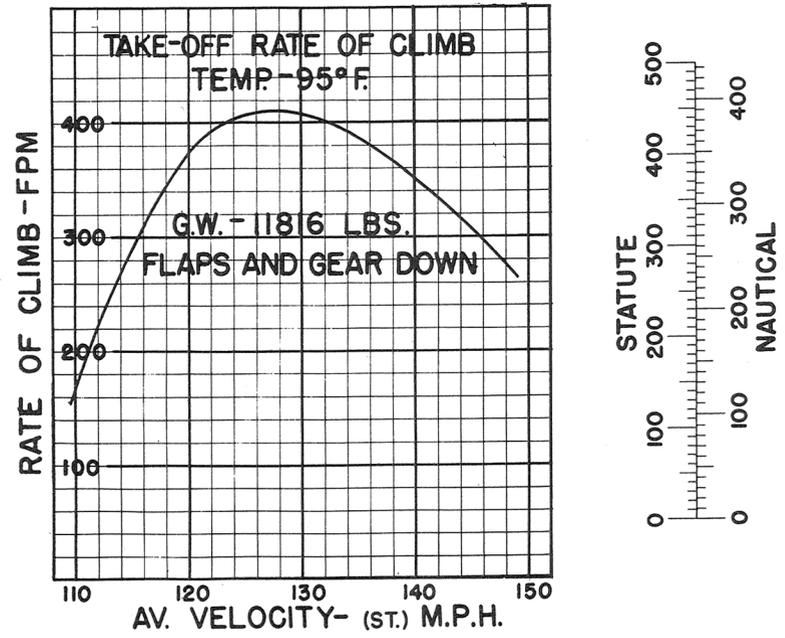
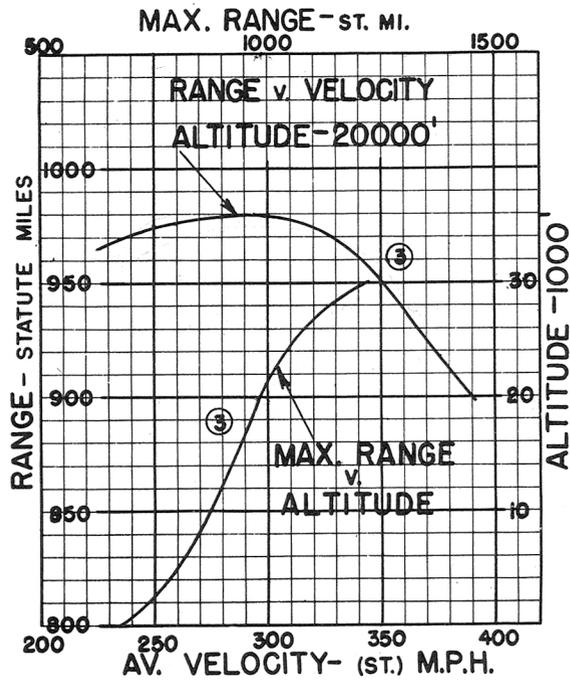
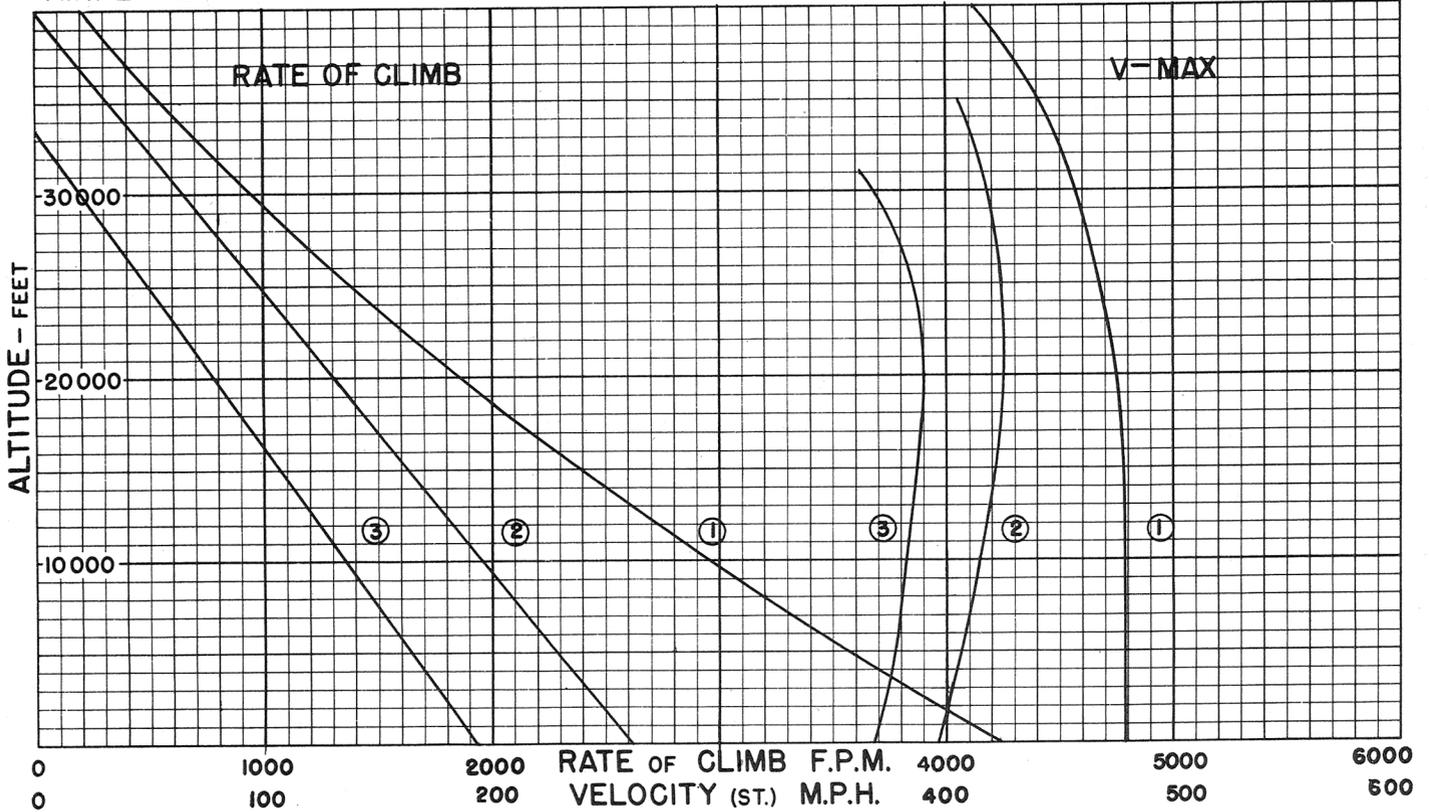
Provisions are incorporated for fuel pump-back from droppable to main tanks after take-off.

Take-Off Rate of Climb - R/C at 110 mph IAS with flaps and landing gear down.

Wave-Off Rate of Climb - R/C at V-stall plus 10 mph with flaps and landing gear down.

Note: Both values given at standard sea-level pressure at a temperature of 95° F.

Combat Condition - Two AN 13-10 droppable tank shackles aboard



○ LOADING CONDITION COLUMN NUMBER

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

ARMAMENT DATA:

Protection - Pilot Fwd.(B.R.Glass) - 22.6 Lbs.
Pilot Armor Plate - 54.7 Lbs.
Deflection Plate - 15.0 Lbs.
Self-Sealing Cells - 372.1 Lbs.

Nose - 4-50cal/1600rds.

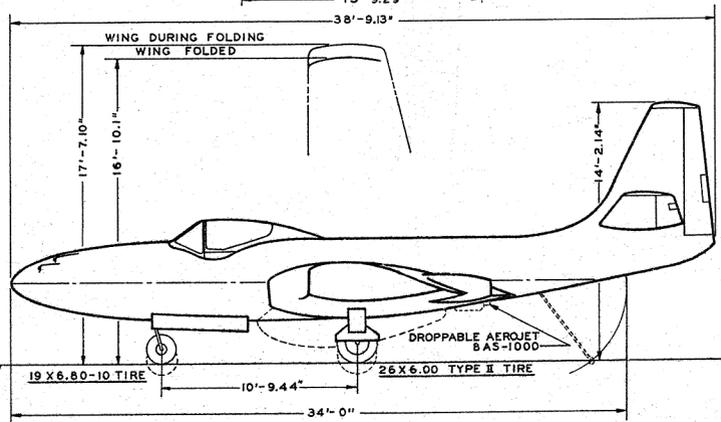
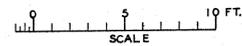
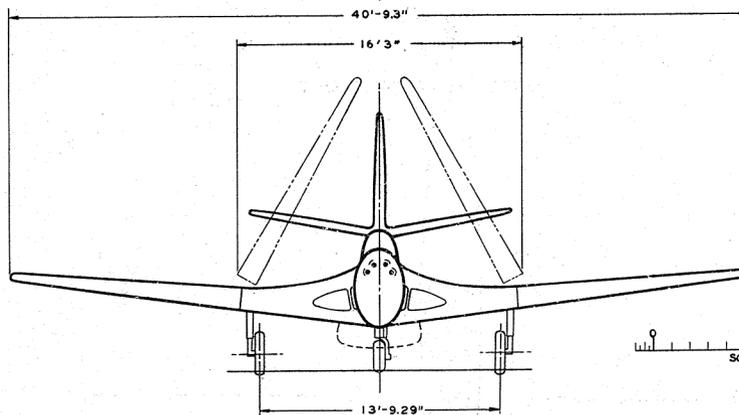
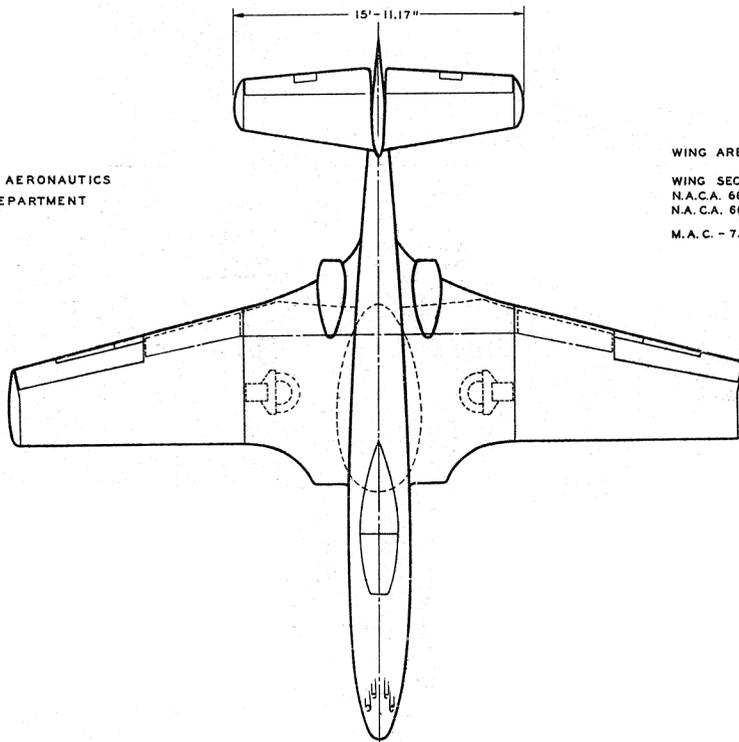
DESCRIPTIVE DATA:

Span - 40'-9.3"
Span Folded - 16'-2½"
Length Level - 38'-9½"
Height Level - 14'-2"
Height Folded - 16'-10½"
Height Hoist Attitude - 8'-7"
Wing Area - 274 Sq.Ft.
M.A.C. - 85.07"
Airfoil Section - 66,2-18(a.6)
66(215)-414 (a-.6)

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 273.74 SQ. FT.

WING SECTION
N.A.C.A. 66.2-218(A-.6) THEORETICAL ROOT
N.A.C.A. 66(C215)-414-(A-.6) THEORETICAL TIP
M.A.C. - 7.09 FT.



STATIC GROUND LINE

PAGE 5

MODEL FD-1

MARCH 1946

DESCRIPTIVE ARRANGEMENT

NAVAER

3681

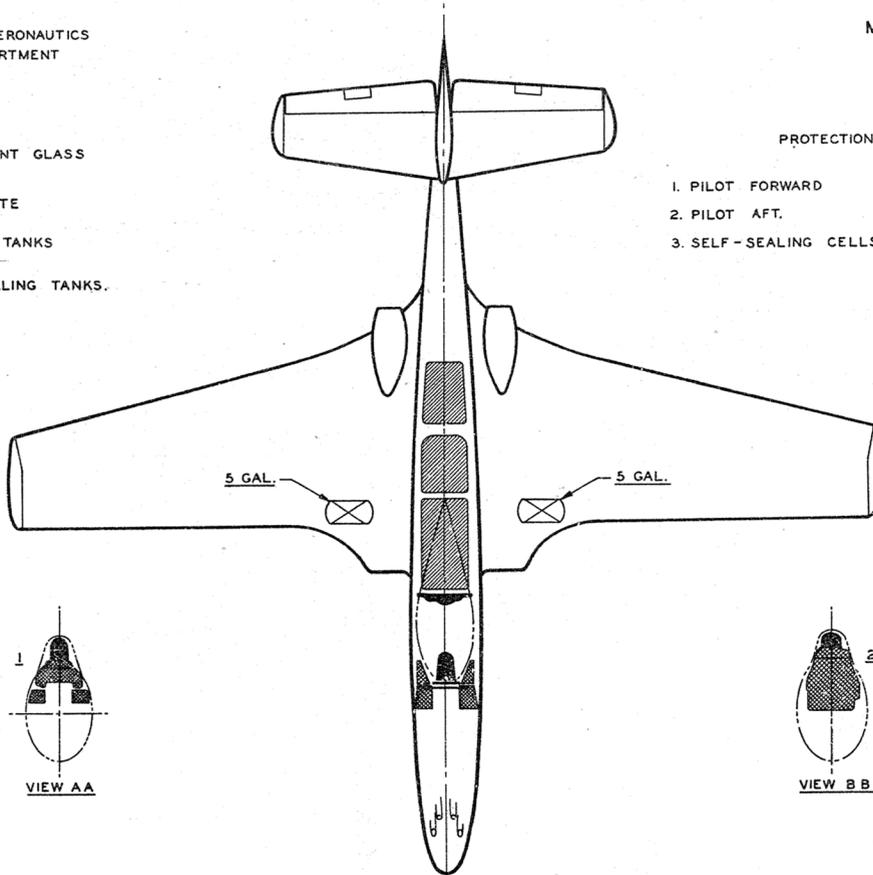
BUREAU OF AERONAUTICS
NAVY DEPARTMENT

MODEL FD-1

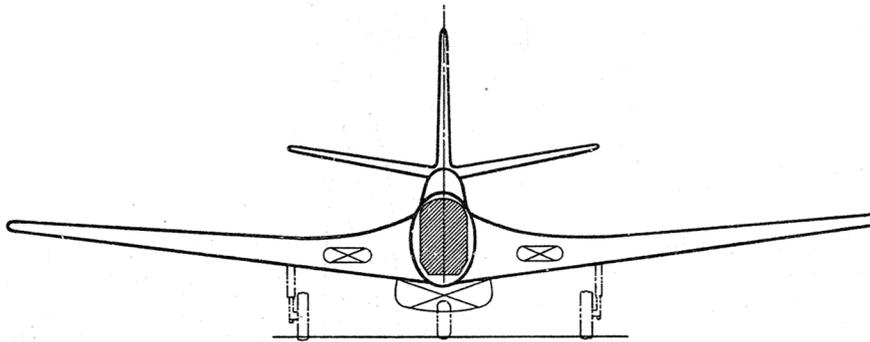
-  BULLET RESISTANT GLASS ARMOR PLATE
-  DEFLECTOR PLATE
-  SELF-SEALING TANKS
-  NON SELF-SEALING TANKS

PROTECTION

- 1. PILOT FORWARD 53.88 LBS.
- 2. PILOT AFT. 48.22 LBS.
- 3. SELF-SEALING CELLS 343.0 LBS.



4-.50 CAL GUNS - 1600 RDS. AMMUNITION



DROPPABLE TANK
295 GAL.

