

# STANDARD AIRCRAFT CHARACTERISTICS

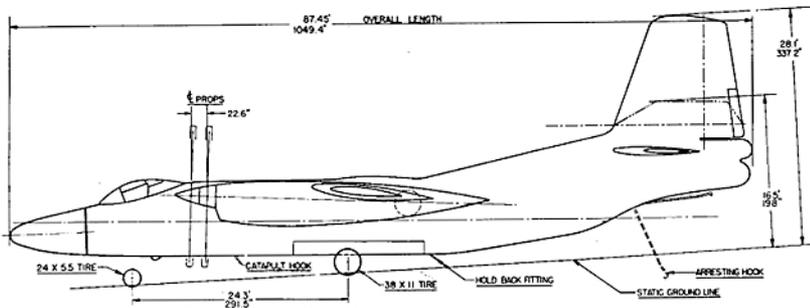
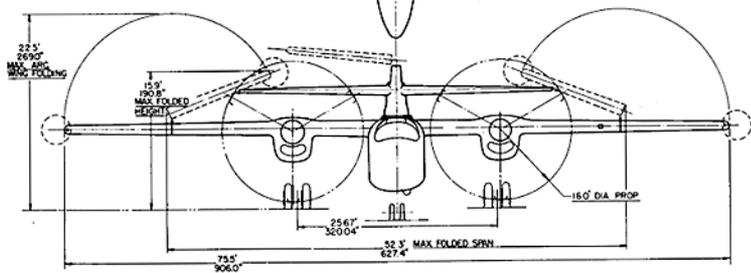
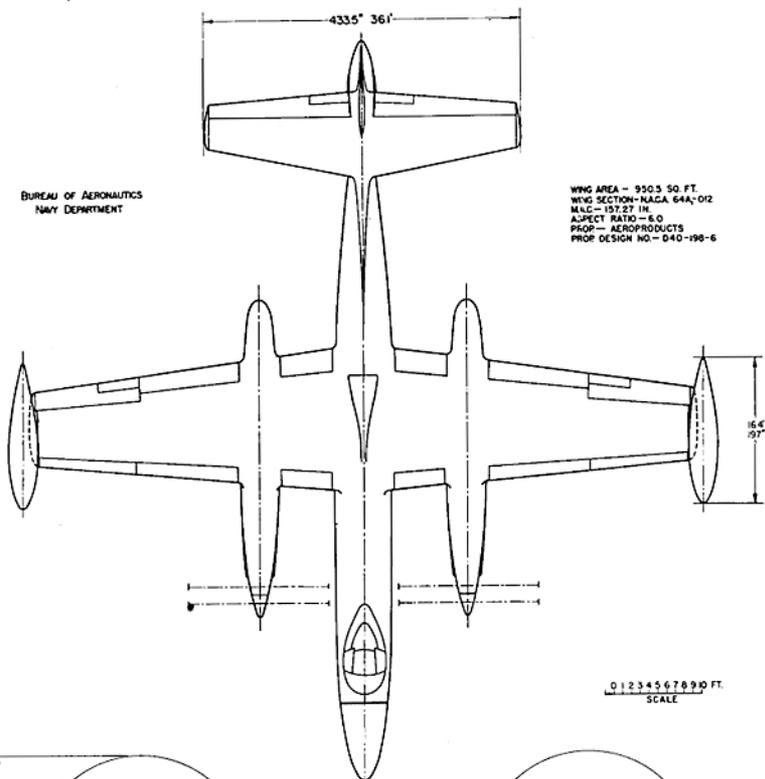
## XA2J-2

NORTH AMERICAN

# EXPERIMENTAL

BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

WING AREA - 950.5 SQ. FT.  
WING SECTION - NACA 64A, 012  
M.L.L.C. - 197.27 IN.  
ASPECT RATIO - 6.0  
PROP. - AEROPRODUCTS  
PROP. DESIGN NO. - D40-196-6



BUREAU OF AERONAUTICS  
NAVY DEPARTMENT

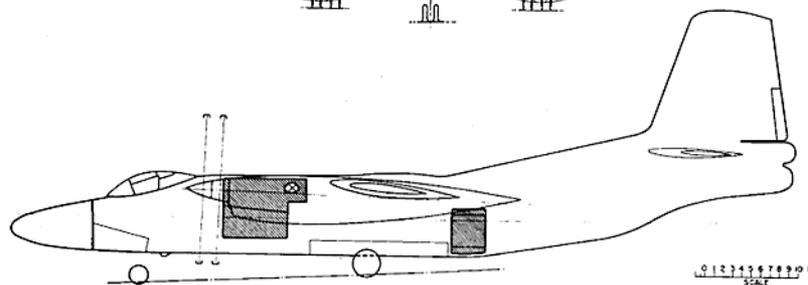
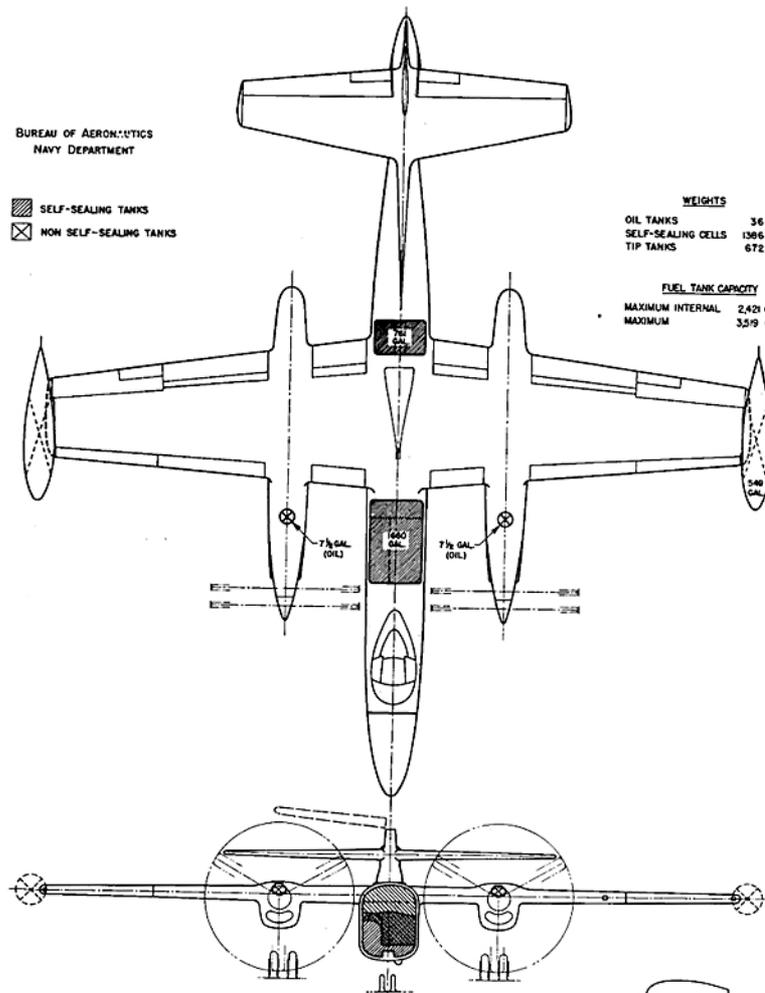
▨ SELF-SEALING TANKS  
⊗ NON SELF-SEALING TANKS

### WEIGHTS

OIL TANKS 36 LB  
SELF-SEALING CELLS 1366 LB  
TIP TANKS 672 LB

### FUEL TANK CAPACITY

MAXIMUM INTERNAL 2429 GAL  
MAXIMUM 3519 GAL



**MISSION AND DESCRIPTION**

The primary mission of this airplane is attack.

It is a three-place airplane capable of take-off with or without catapult aid from the deck of a CVB Class aircraft carrier or landing field, and landing in an arresting gear or on a landing field.

Provisions are made for folding outer wing panels and for droppable wing tip tanks. Double slotted trailing edge flaps, and nose flaps, are fitted.

The tail is conventional except provisions are made for folding the vertical tail to decrease storage space.

The fuselage provides for crew, equipment, bombs, and a turbo-jet engine. Pilot's seat only is of the ejection type.

The controls are operable by the pilot only. Power boost is provided for ailerons, elevators, and rudder, but it is possible to fly and land the airplane safely with the boosts inoperative.

Equipment for pressurizing, heating, and cooling cabin air is provided.

**DIMENSIONS**

WING AREA.....951 sq. ft.  
SPAN.....75'-6"  
LENGTH.....87'-5"  
HEIGHT.....28'-1"  
TREAD.....25'-8"  
PROP. CLEAR.....17"  
M.A.C.....13'-1"

**WEIGHTS**

Loadings	Lbs.	L.F.
EMPTY.....	37,502.....	
BASIC.....	38,617.....	
DESIGN.....	67,024.....	2.5
COMBAT.....	53,762.....	3.25
MAX.T.O.....	71,500.....	2.25
MAX.LAND.....	71,500.....	

All weights are estimated.

**FUEL AND OIL**

Gals.	No. Tanks	Location
1,660	1*	Fuse., Fwd.
761	1*	Fuse., Aft.
1,098	2	Wing Tip
* Self-Sealing		
FUEL GRADE.....		100/130
FUEL SPEC.....		AN-F-48

**OIL**

	J33	XT40
CAPACITY (Gal.)	3	15
GRADE.....	1010	M
SPEC.....	AN-0-9	AN-0-3

**ELECTRONICS**

VHF COMM. EQUIP.....AN/ARC-1A  
HOMING REC.....AN/ARR-2A  
IFF.....AN/APX-6  
ALTIMETER.....AN/APN-1  
RANGE REC.....AN/ARC-5  
HF REC.....AN/ARR-15  
HF TRANS.....AN/ART-13

**DECLASSIFIED****POWER PLANT**

NO. & MODEL.....(2) XT40-A-8  
(1) J33-A-12  
MFGR.....Allison  
PROP. GEAR RATIO.....15.6:1  
PROP. MFGR.....Aeroproducts  
PROP. DES. NO.....D40-198-6  
NO. BL./DIA.....6/16 ft.

**RATINGS**

All ratings are S. S. L.

	Shp /	Lbs. @	Rpm
Allison XT40-A-8 Turbo-Prop:			
T. O.	7,070	1,075	13,620
MIL.	7,070	1,075	13,620
NORM.	5,870	1,025	13,620
SPEC. NO. 272-A			

Allison J33-A-12 Turbo-Jet:			
T. O. (dry)	5,850	11,800	
MIL.	5,850	11,800	
NORM.	4,800	11,200	
SPEC. NO. 275			

**ORDNANCE**

GUNS - None

BOMBS

Type	Size	Location	No.
Bomb	100 #	Fuselage	16
Bomb	250 #	Fuselage	12
Mine	450 #	Fuselage	12
Bomb	1,000 #	Fuselage	8
Bomb	1,600 #	Fuselage	6
Bomb	2,000 #	Fuselage	4
Mine	Mk. 25	Fuselage	3
Mine	Mk. 39	Fuselage	2
Mine	Mk. 10-8	Fuselage	2

FIRE CONTROL

Bomb Director.....Mk. 5

MAXIMUM BOMB LOAD....12,000#

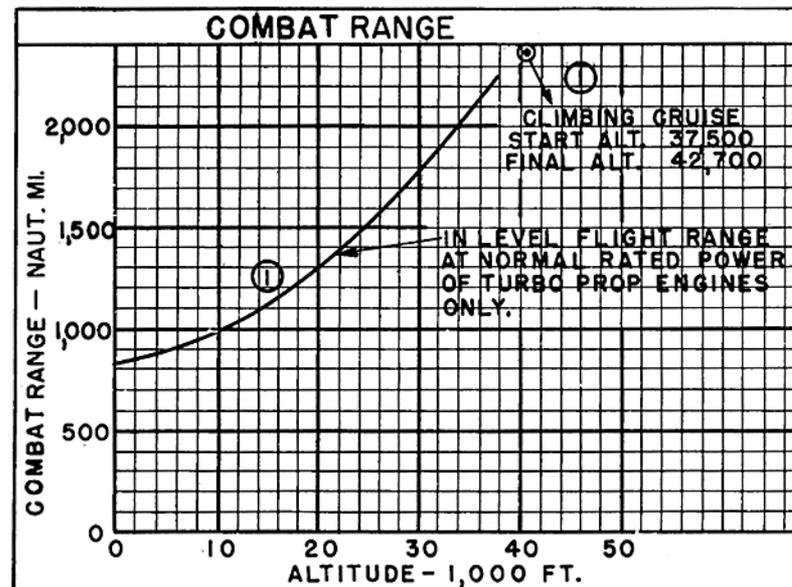
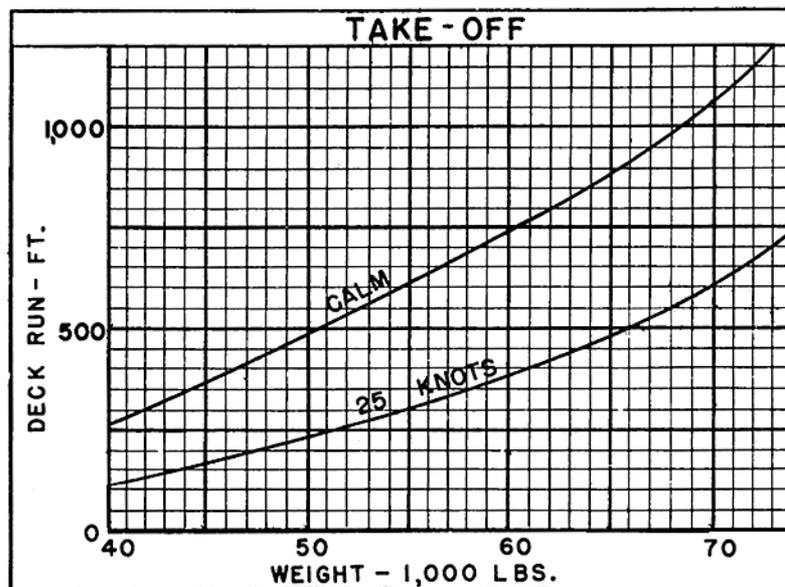
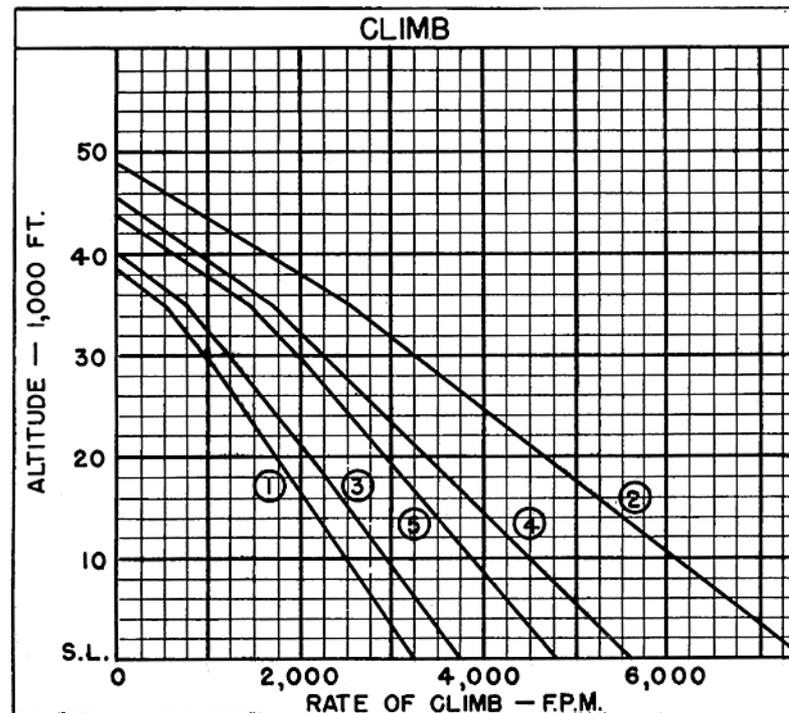
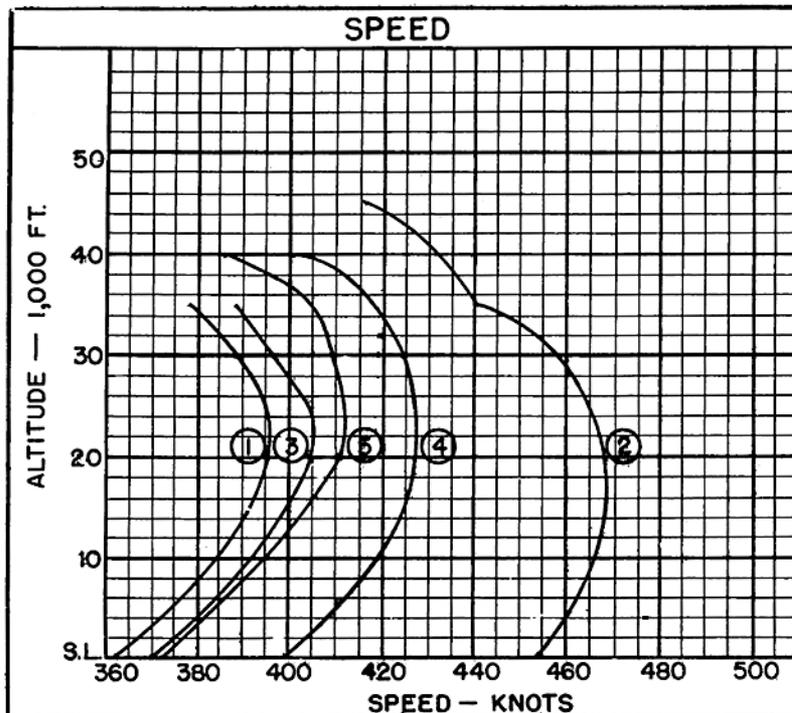
EXPERIMENTAL



PERFORMANCE SUMMARY				
LOADING CONDITION		(1) ATTACK 10,500 # Bombs 2-548 Gal. Tip Tanks		(3) ATTACK 10,500 # Bombs
TAKE-OFF WEIGHT	lbs.	71,500		64,262
Fuel	lbs.	14,526/6,588		14,526
Bombs	lbs.	10,500		10,500
Wing/Power Loading (A)	lbs/sq.ft; lbs/bhp.	74.7/-		67.1/-
Stall Speed--Power off	kn.	104		98.4
Stall Speed--Power off - No Fuel	kn.	87.1		86.6
Stall Speed--Power on	kn.	93.5		88.5
Maximum Speed/Alt (B)	kn/ft.	396/22,000		404/23,000
Take-off Distance, deck -- calm (D)	ft.	1,415(1,105)		1,067(846)
Take-off Distance, deck 25 kn.Wind(D)	ft.	786(625)		568(450)
Take-off Distance, Airport	ft.			
Rate of climb -- sea level (B)	ft/min.	3,250		3,600
Service Ceiling (B)	ft.	38,000		39,400
Time-to-climb 20,000 ft. (B)	min.	8.0		7.0
Time-to-climb 30,000 ft. (B)	min.	13.8		12.9
Combat Range/V av (C)	ft. n.mi/kn.	2,360/368		1,650/368
Combat Radius/V av (C)	ft. n.mi/kn.	1,230/368		820/368
LOADING CONDITION		(2) COMBAT	(4) COMBAT	(5) COMBAT
GROSS WEIGHT	lbs.	53,762	53,762	53,762
Engine power		Mil. with Jet	Mil. W.O. Jet	Nor. W.O. Jet
Fuel	lbs.	14,526	14,526	14,526
Bombs/Tanks		None	None	None
Max. speed at sea level	kn.	454	400	372
Max. speed/Alt	kn/ft.	468/14,000	427/22,000	411/24,000
Combat speed/Alt	kn/ft.	441/35,000	417/35,000	406/35,000
Rate of climb SL	ft/min.	7,500	5,650	4,750
Ceiling for 500 fpm R/C	ft.	46,000	42,000	40,600
Time-to-climb/Alt.	min/ft.	5.9/30,000	8.1/30,000	9.5/30,000

NOTES

- (A) BHP at Maximum Critical Altitude
- (B) Normal BHP
- (C) All Cruise Calculated at NRP
- (D) Figures in Parenthesis are Military with Jet.



○ LOADING CONDITION COLUMN NUMBER

# NOTES

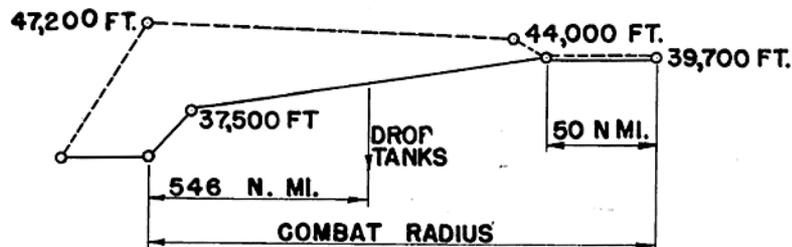
Performance is based on calculations. Range and radius are based on engine specification fuel consumption data increased by 5%.

Provisions are incorporated for fuel transfer from droppable wing tip tanks to internal tanks.

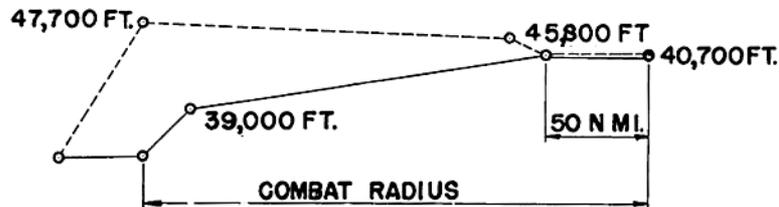
COMBAT RADIUS PROBLEM NO. A-3

WARM-UP TAKE-OFF RENDEZVOUS	CLIMB (A)	CRUISE-OUT	DROP TANKS	CONTINUE CRUISE-OUT	RUN IN	RUN OUT	CLIMB (B)	CRUISE-BACK	RESERVE
5 min. at sea level static normal power of all engines	At max. rate with mil. power to initial cruise-out alt. (Alt. not greater than alt. for 300 ft./min. max. rate of climb with normal power.)	With optimum range operation to reach 35,000' min. alt. at not less than 100 n. mi. from target. (State altitudes and any special engine operations involved.)	Only when empty and state when dropped.	With optimum range operation at 35,000 ft. min. alt. to 50 n. mi. from target. (State any special engine operation involved.)	For 50 n. mi. at Vmax. at 35,000 ft. min. altitude with max. power available all engines. <u>DROP</u> Expendable ordnance retain amm.	For 50 n. mi. at Vmax. at 35,000 ft. min. altitude with max. power available all engines.	To optimum alt. for cruise-back alt. not greater than 300 ft./min. max. rate of climb with normal power (fuel used and distance made good).	Under optimum cruise conditions, alt. not greater than altitude for 300 ft./min. max. rate of climb with normal power (State altitudes and any special engine operations involved.)	10% of total initial fuel load.

$$\text{COMBAT RADIUS} = \text{CLIMB (A)} \div \text{TOTAL CRUISE-OUT} \div 50 \text{ N.MI.} = 50 \text{ N.MI.} \div \text{CRUISE-BACK} \div \text{CLIMB (B)}$$



①



③