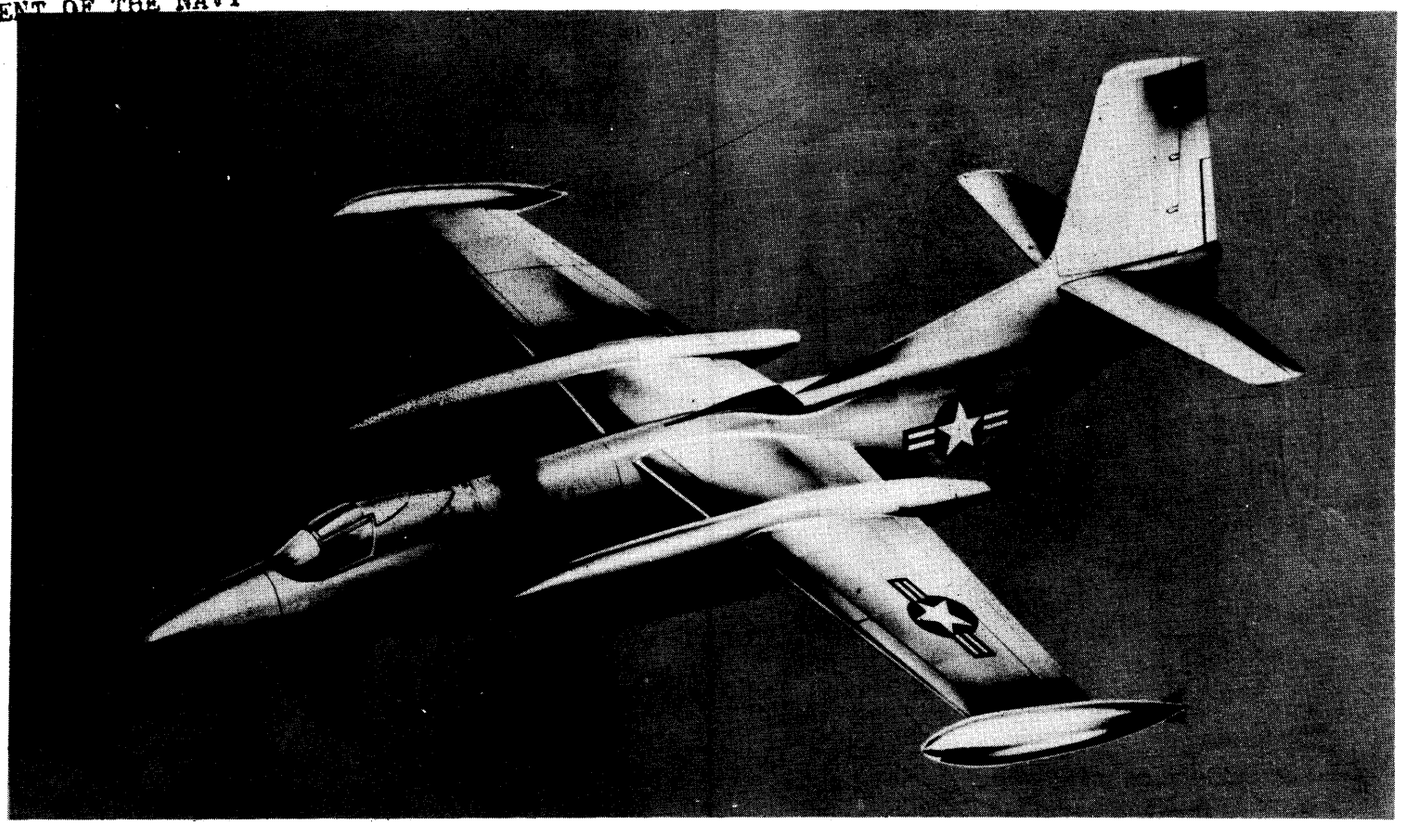
17



STANDARD AIRCRAFT CHARACTERISTICS

XA2J-1

NORTH AMERICAN

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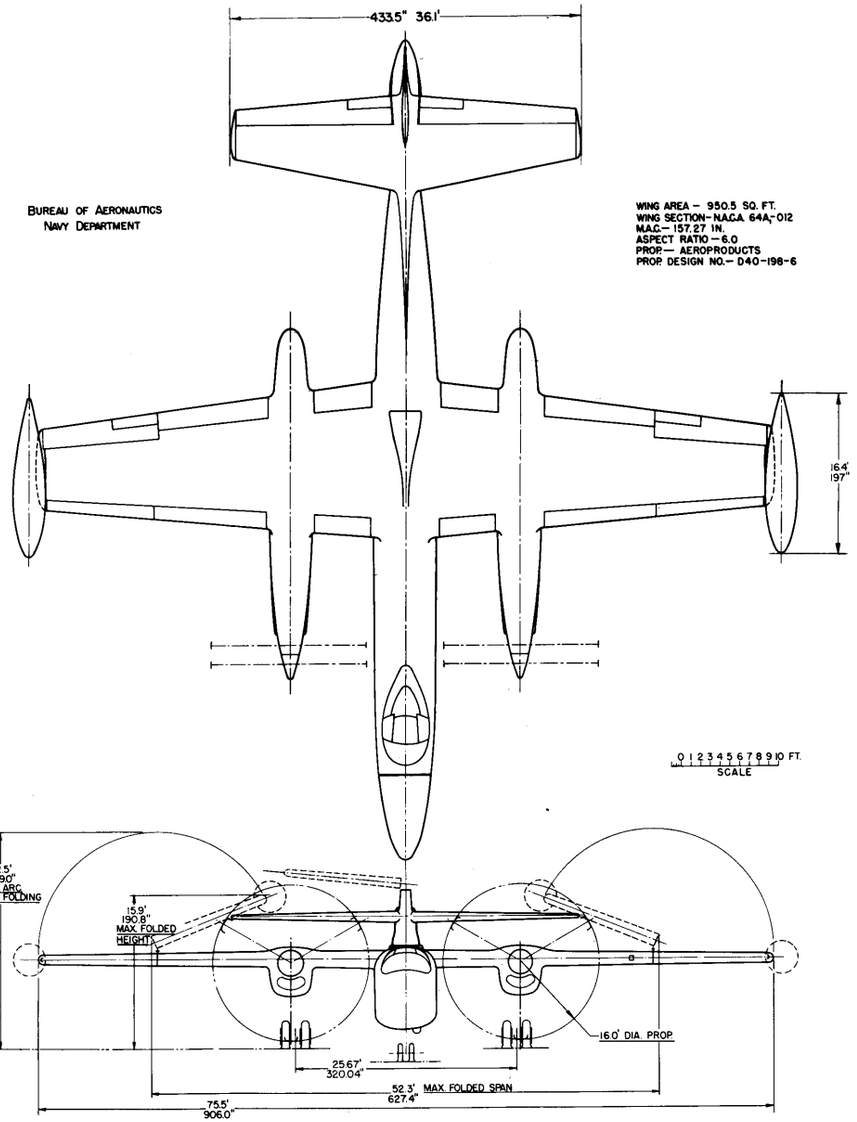

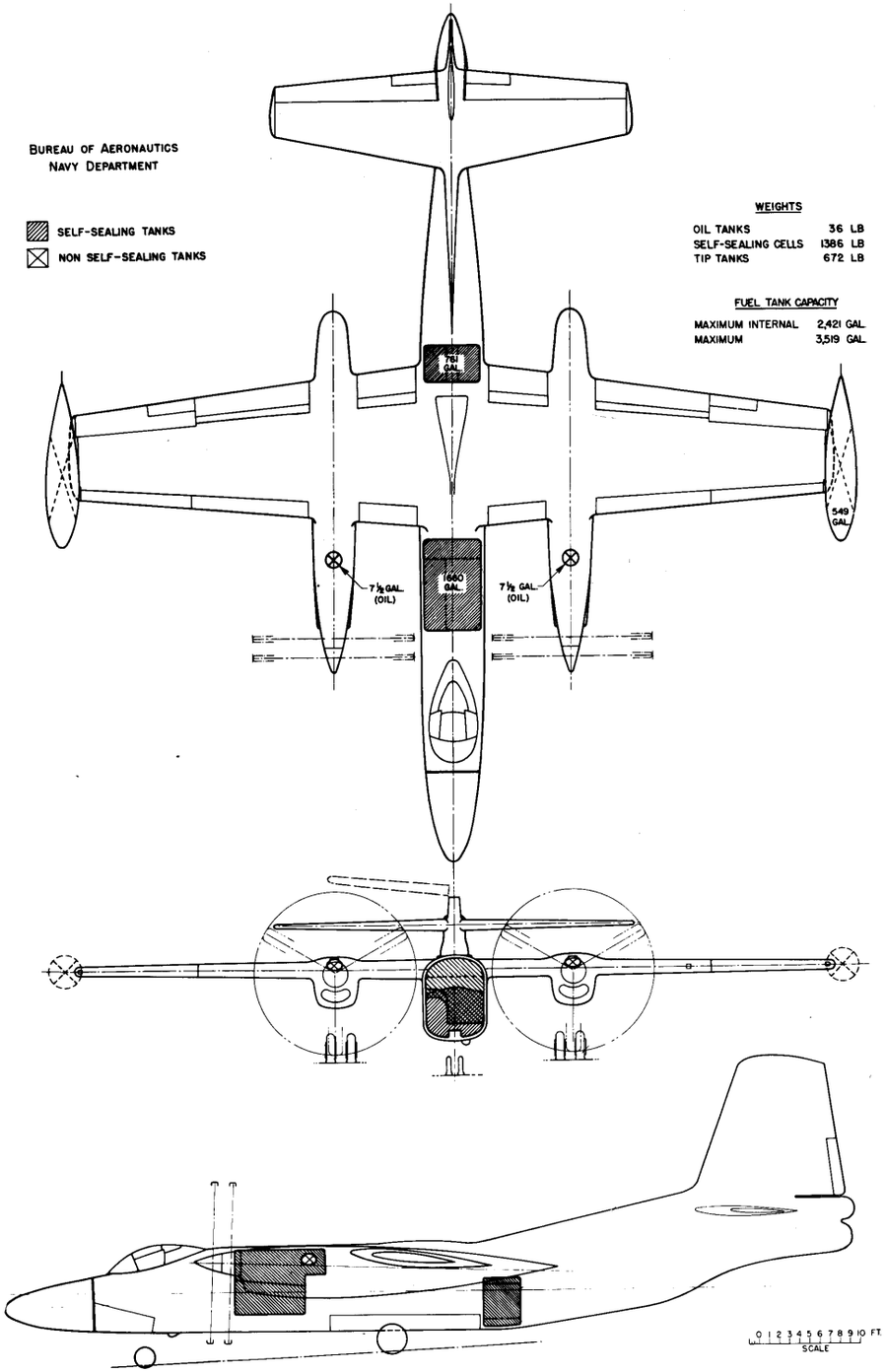

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DECLASSIFIED

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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.

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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	37,792	
BASIC	38,250	
DESIGN	57,912	3.0
COMBAT	53,272	3.25
MAX.T.O	71,000	2.25
MAX. LAND	55,800	

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
CAP.(Gal.)..	1	15
GRADE.....	1010	M
SPEC.....	AN-O-9	AN-O-3-6

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

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POWER PLANT

NO. & MODEL.....(2) XT40-A-6
(1) J33-A-12
MFGR.....Allison
PROP. GEAR RATIO.....15.6:1
PROP. MFGR.....Aeroproducts
PROP. DES. NO.....D40C1-198-8
NO. BL./DIA.....6/16 ft.

RATINGS

All ratings are S. S. L.

	Shp	Lbs. @ Rpm
Allison XT40-A-6 Turbo-Prop:		
T. O.	5,100	830 13,620
MIL.	5,100	830 13,620
NORM.	4,500	800 13,620
	SPEC. NO. 264	
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#

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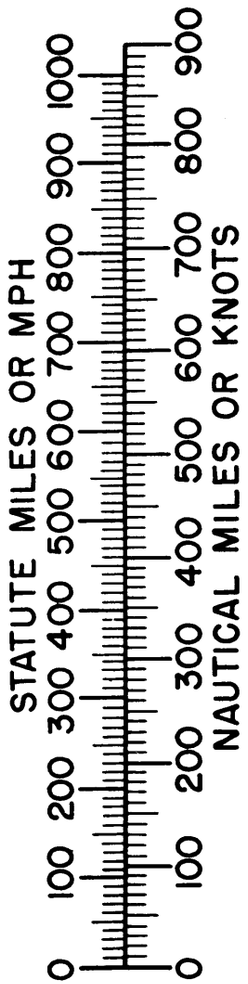

PERFORMANCE SUMMARY

LOADING CONDITION		(1) ATTACK 10,500 # Bombs 2-548 Gal. Tip Tanks			(3) ATTACK 10,500 # Bombs
TAKE-OFF WEIGHT	lbs.	71,000			63,762
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.	103.5			98.1
Stall Speed--Power off - No Fuel	kn.	86.6			86.1
Stall Speed--Power on	kn.	93			88.1
Maximum Speed/Alt (B)	kn/ft.	354/20,000			365/20,000
Take-off Distance, deck -- calm (D)	ft.	1,810(1,320)			1,355(1,010)
Take-off Distance, deck 25 kn. (D)	ft.	1,005(730)			720(540)
Take-off Distance, Airport	ft.	2,625(2,150)			2,100(1,700)
Rate of climb -- sea level (B)	ft/min.	2,270			2,640
Service Ceiling (B)	ft.	33,000			35,000
Time-to-climb 20,000 ft. (B)	min.	12.9			10.8
Time-to-climb 30,000 ft. (B)	min.	29.6			22.9
Combat Range/V av (C)	ft. n.mi/kn.	2,150/361			1,495/367
Combat Radius/V av (C)	ft. n.mi/kn.	1,220/364			814/371
LOADING CONDITION		(2) COMBAT	(4) COMBAT	(5) COMBAT	
GROSS WEIGHT	lbs.	53,262	53,262	53,262	
Engine power		Mil. with Jet	Mil. W.O. Jet	Norm. W.O. Jet	
Fuel	lbs.	14,526	14,526	14,526	
Bombs/Tanks		None	None	None	
Max. speed at sea level	kn.	422	360	342	
Max. speed/Alt	kn/ft.	450/20,000	396/35,000	375/30,000	
Combat speed/Alt	kn/ft.	439/35,000	396/35,000	374/35,000	
Rate of climb SL	ft/min.	5,830	3,980	3,400	
Ceiling for 500 fpm R/C	ft.	42,500	38,200	36,000	
Time-to-climb/Alt.	min/ft.	8.1/30,000	12.3/30,000	14.8/30,000	

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NOTES

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

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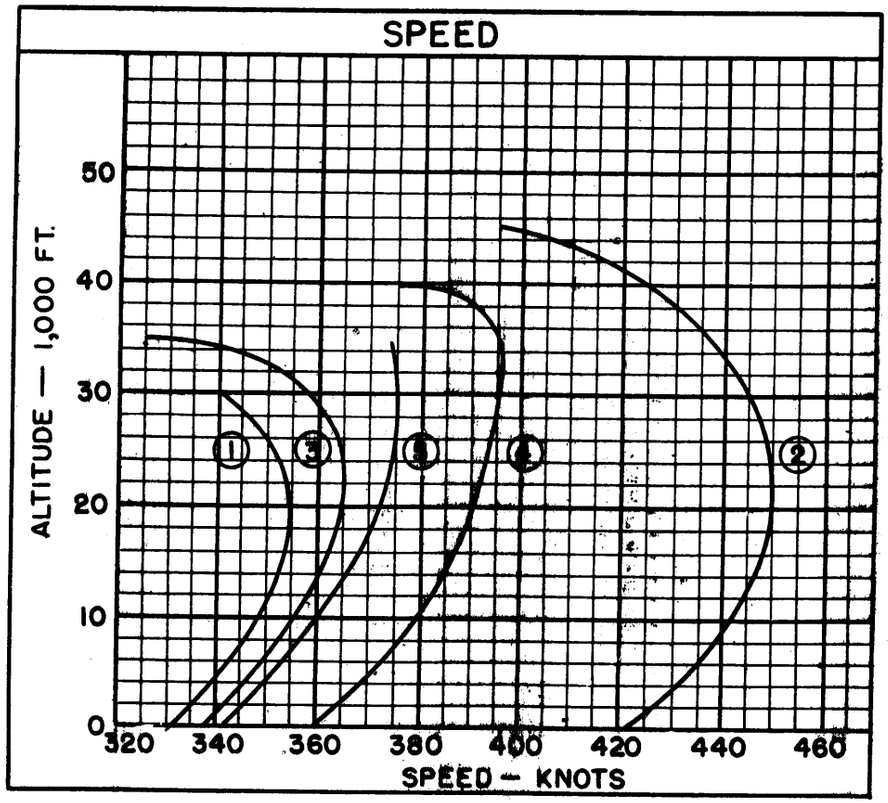

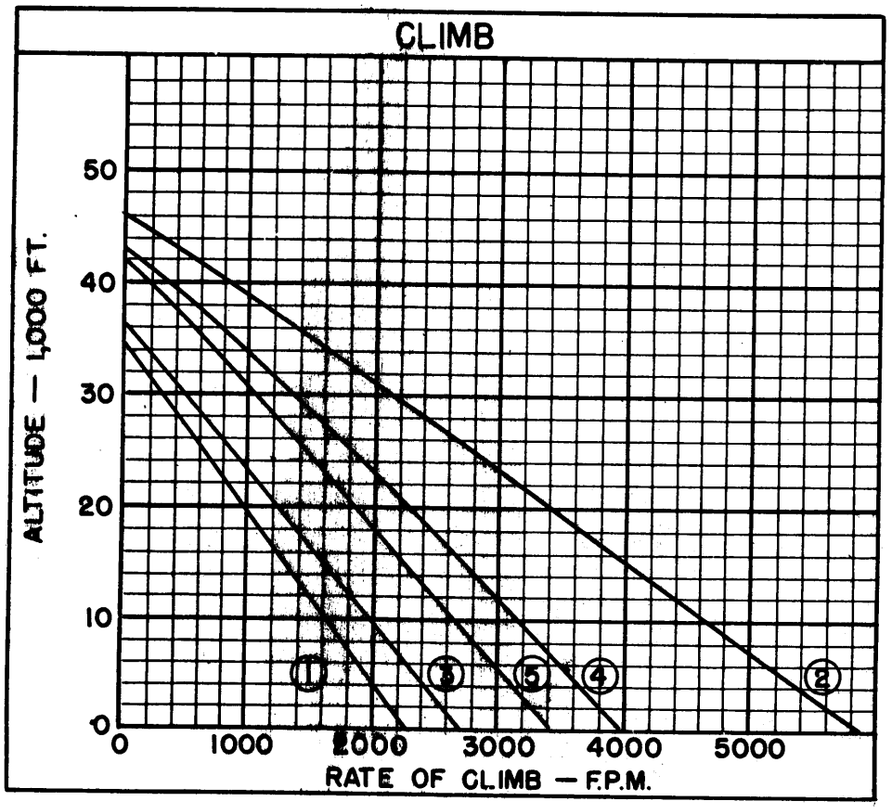

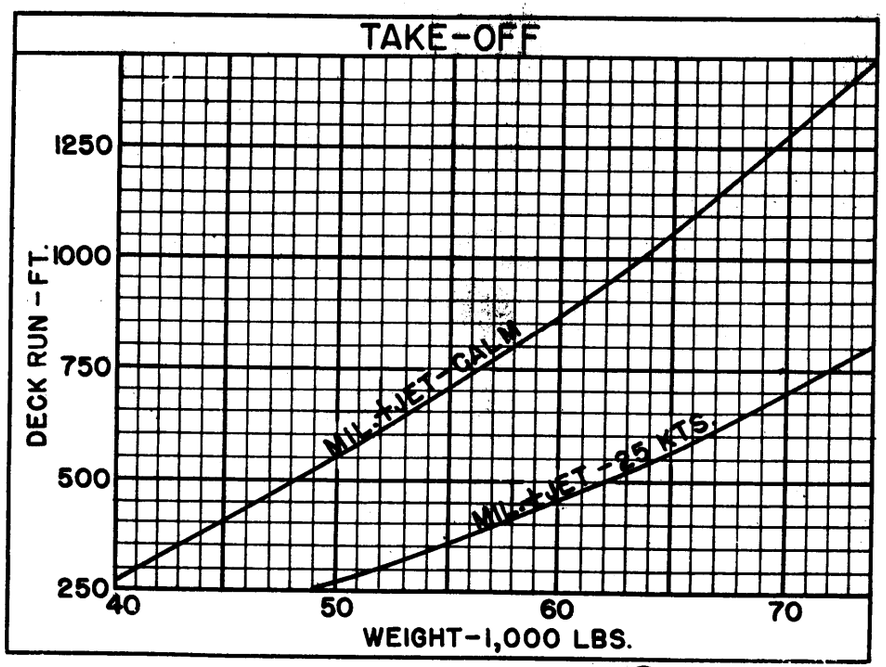

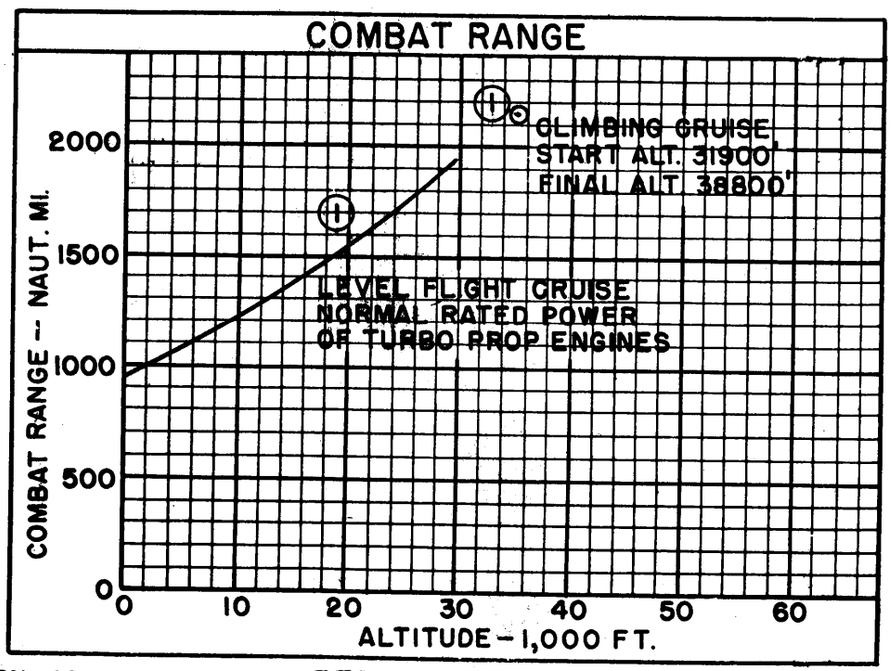

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◯ LOADING CONDITION COLUMN NUMBER

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NOTES

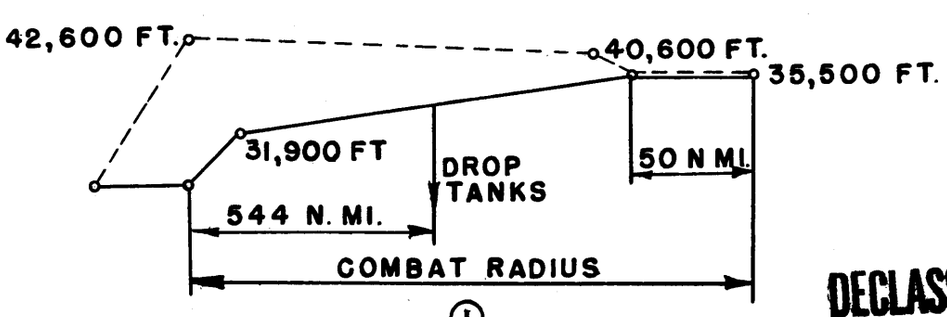
Performance is based on calculations. Range and radius are based on engine specification fuel consumption data increased by 5%.

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. DROP 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.

COMBAT RADIUS = CLIMB (A) + TOTAL CRUISE-OUT + 50 N.MI. = 50 N.MI. + CRUISE-BACK + CLIMB (B)



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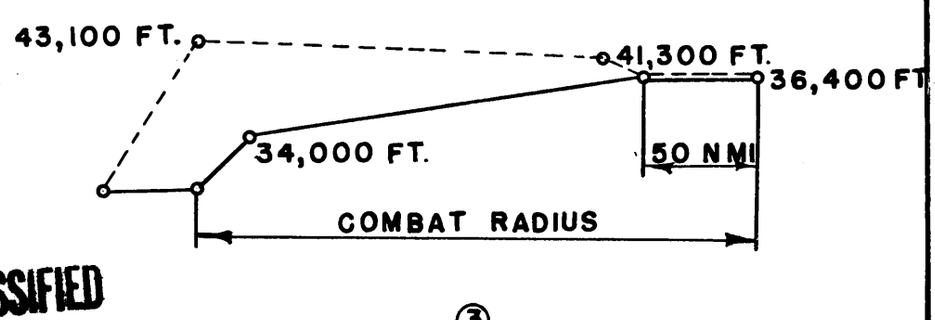

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