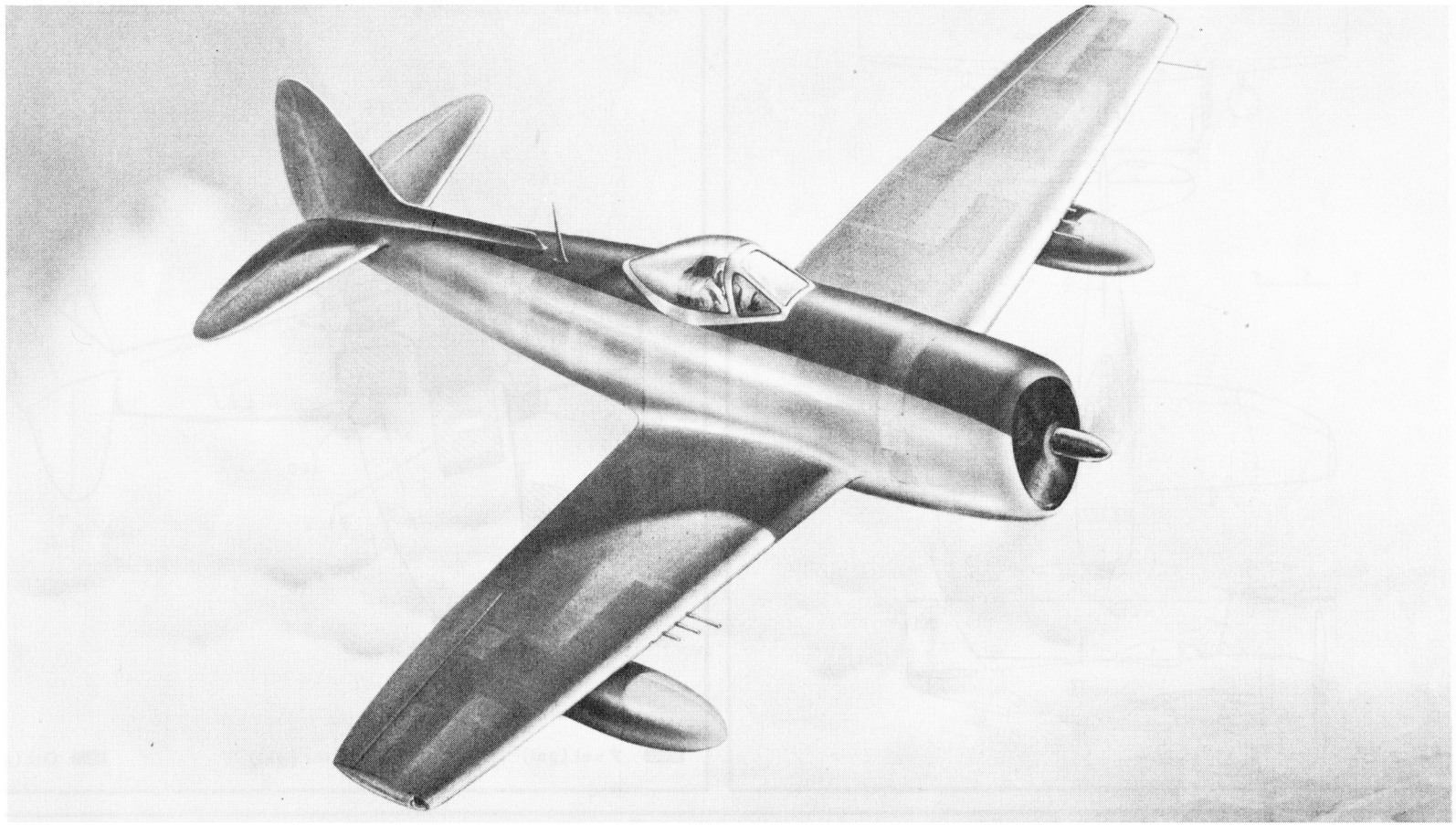


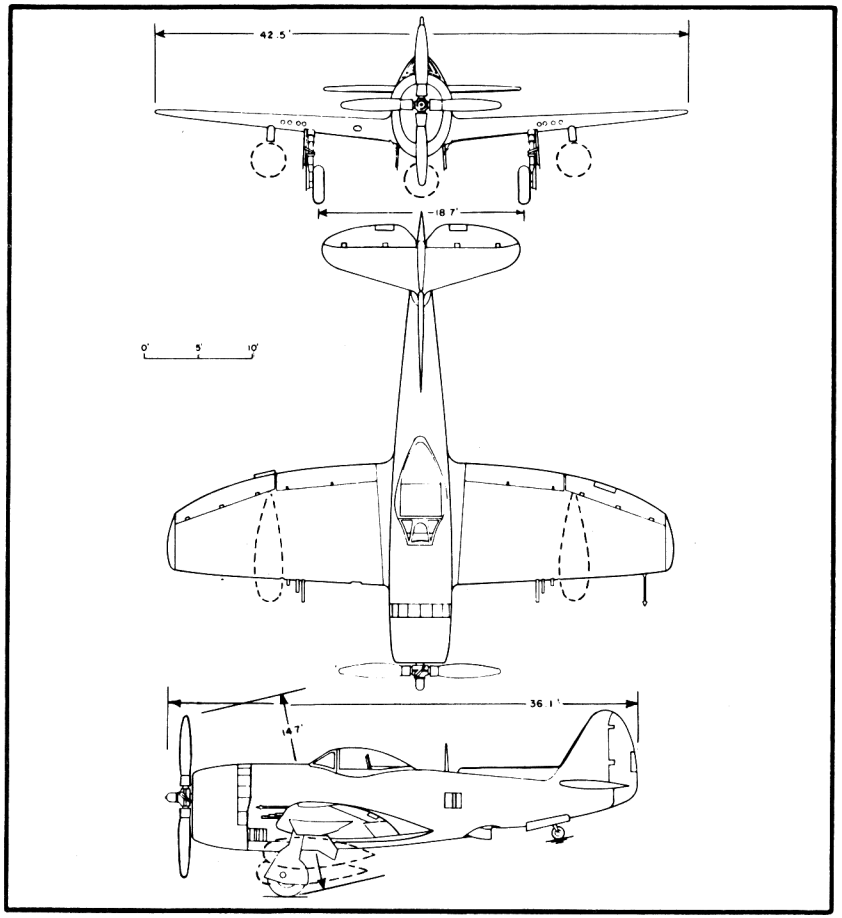
Standard Aircraft Characteristics

BY AUTHORITY OF
COMMANDING GENERAL
AIR MATERIEL COMMAND
U. S. AIR FORCE

F-47N
THUNDERBOLT
Republic

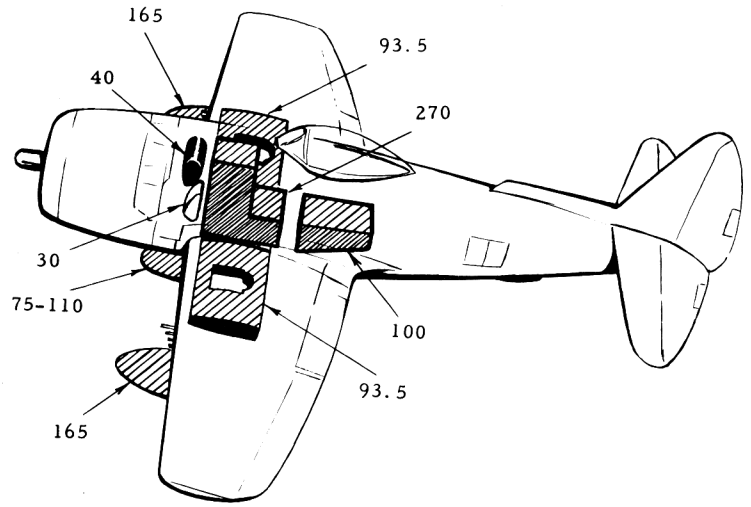
ONE R-2800-57, -73, -77 OR -81

PRATT-WHITNEY

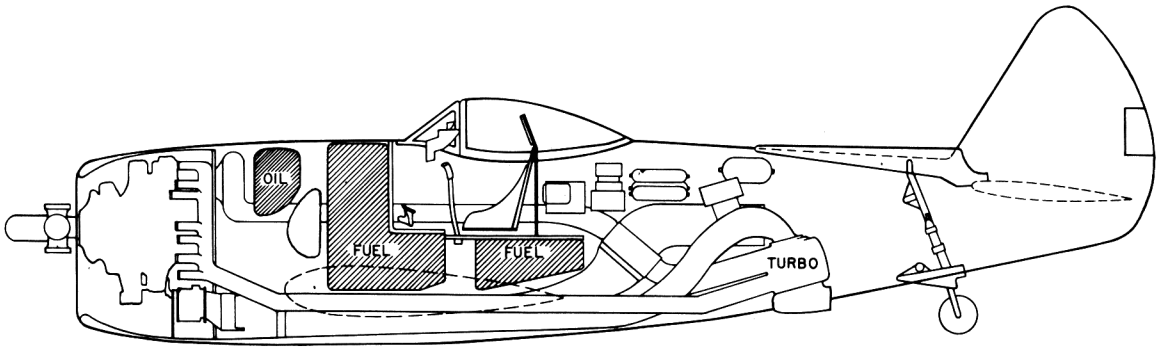


Wing Area .....322 sq. ft
Aspect Ratio 5.6

Wing Section ..... Republic S-3
M.A.C. ..... 91.8"



Fuel (gal) Water (gal) Oil (gal)



POWER PLANT

No. & Model ....(1)R-2800-57,-73,-77 or -81
Mfr ..... Pratt & Whitney
Turbosupercharger CH-5
Red. Gear 0.450
Prop Mfr ..... Curtiss
Prop Dia ..... 13'0''
Prop Type ..... C.S.,Elect.
Blade Design 836-14C2-18-R1

ENGINE RATINGS

	BHP - RPM - ALT - MIN
T.O:	2100 - 2800 - S.L. - 5
Mil:	2100 - 2800 -3500 - 5
Nor:	1700 - 2600 -8000 - Cont.

Mission and Description

The tactical mission of the F-47N is to serve as a ''Fighter-Offensive'', ''Fighter - Bomber'' or a ''Very Long Range Escort Fighter''.

The wing is full cantilever, all metal stressed skin construction. NACA slotted type trailing edge flaps are provided for increasing lift and drag.

The fuselage is semi-monocoque all metal, stressed skin construction. Cockpit canopy is jettisonable in flight.

A General Electric, Navy type G-1 automatic pilot is installed maintaining any set attitude up to approximately 30°in a bank and approximately 20°in a climb and dive.

A K-14B Gunsight is installed.

Development

Design initiated (XF-47) ..... July 1940
First acceptance ..... Sept 1944
Production completed .....Dec 1945

WEIGHTS

Loading	Lb	L.F.
Empty	11,017(A)	
Basic	12,600(A)	
Design	13,823	8.0
Combat	17,228*	
Max T.O. ...	20,867**	
Max Land ..	20,867	

*For basic mission
**Limited by space
(A) Actual

FUEL

Location	Tanks	Gal.
Fus,main*	1	270
Fus,aux.*	1	100
Wings*	2	187
Fus,drop	1	110
Wings,drop	2	330
*Self-sealing	Total	997

Grade 100/130

OIL

Cap.(gal.) 40
Grade S-1120;W-1100

DIMENSIONS

Span ..... 42.5'
Length ..... 36.1'
Height ..... 14.7'
Tread ..... 18.7'
Prop Grd Clearance ..... 3''

BOMBS

No.	Size	Type
3	1000	G.P.
3	500	G.P.
3	250	G.P.
3	100	G.P.

Max Bomb Load: ..... 3000 lb

GUNS

No.	Cal.	Rds.ea.	Loc.
8	.50	500	Wings

ROCKETS

No.	Size	Type
10	5''	HVAR

ELECTRONICS

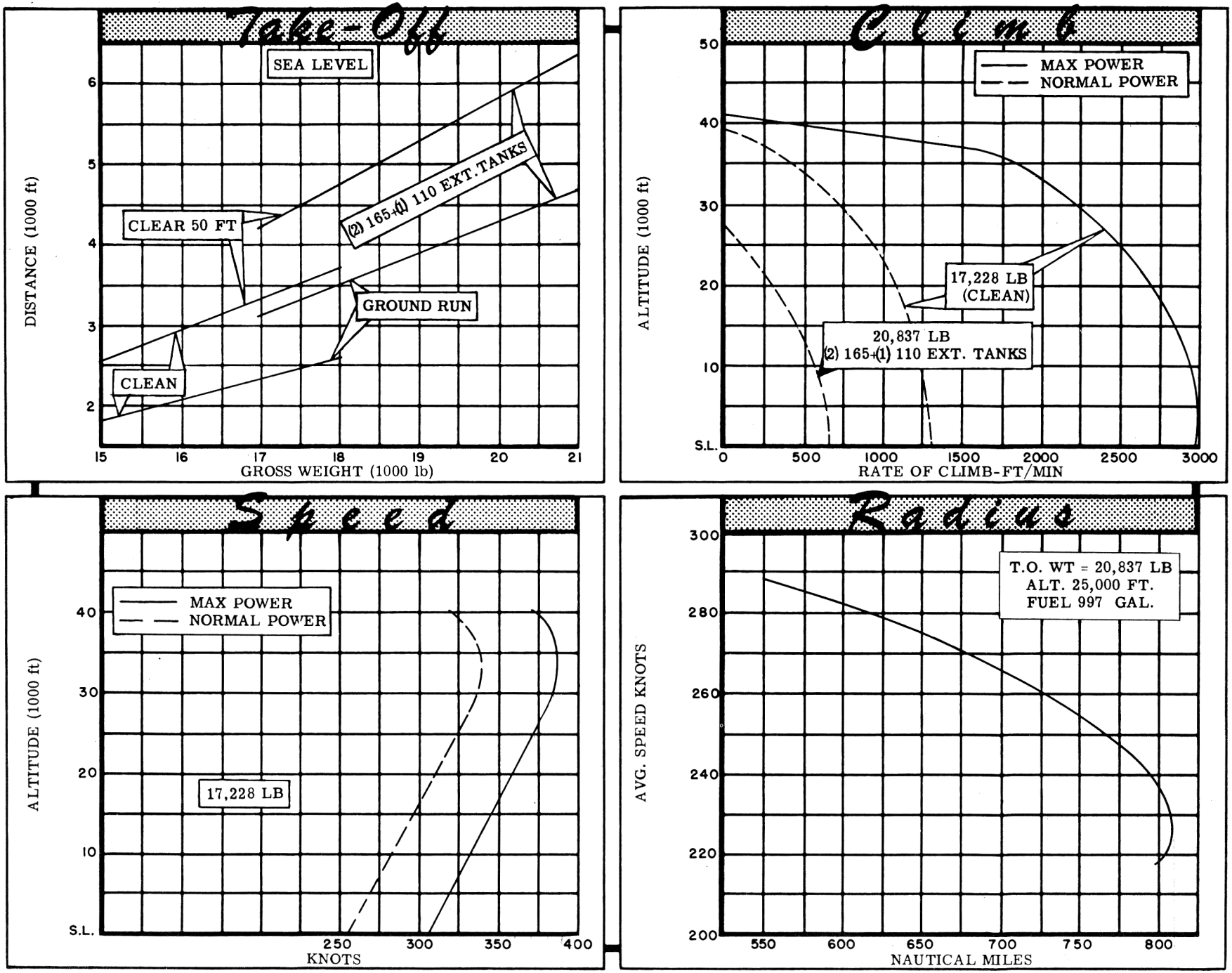
VHF Command AN/ARC-3
Range Receiver ... BC-453B or E
Homing Adapter AN/ARA-8
IFF SCR-695A

Loading and Performance - Typical Mission

CONDITIONS			BASIC RADIUS I	BASIC RANGE II	INTERCEPTOR RADIUS III	GR. ATTACK RADIUS IV	FERRY RANGE V
TAKE-OFF WEIGHT		(lb)	20,837	20,837	17,867	20,867	20,837
Fuel		(gal)	997	997	557	557	997
Military Load (bombs)		(lb)				3000	
Total Ammunition		(rds/cal)	4000/.50	4000/.50	4000/.50	4000/.50	4000/.50
Wing Loading		(lb/sq ft)	64.7	64.7	55.5	64.8	64.7
Take-off Power Loading	①	(lb/hp)	10.11	10.11	8.68	10.12	10.11
Stall Speed -(power off)		(kn)	101.2	101.2	93.5	101.3	101.2
TAKE-OFF DISTANCE SL	④						
Ground Run (no wind)		(ft)	4600	4600	2550	4640	4600
To Clear 50 ft Obst		(ft)	6250	6250	3680	6280	6250
CLIMB FROM SL	③						
Rate of Climb at SL		(fpm)	640	640	② 2800	638	640
Time To 10,000 Feet		(min)	17.0	17.0	② 3.7	17.1	17.0
Time To 25,000 Feet		(min)	78.0	78.0	② 10.9	79.0	78.0
Service Ceiling (100 f.p.m.)		(ft)	25,000	25,000	②40,350	25,000	25,000
COMBAT RANGE or RADIUS	⑤	(n.mi)	800	1705	455	463	1915
Avg. Cruising Speed		(kn)	237	242	235	212	209
Total Mission Time		(hr)	7.3	7.2	4.4	4.6	9.3
Cruising Altitude		(ft)	25,000	25,000	25,000	10,000	10,000
COMBAT WEIGHT		(lb)	17,228	15,123	16,280	16,049	15,123
Combat Altitude		(ft)	25,000	25,000	25,000	S.L.	10,000
SPEED	②						
Max Speed (combat alt)		(kn)	374	377	375	310	336
Max Speed At 35,000 Ft		(kn)	385	397	389	391	397
CLIMB	②						
Rate of Climb (combat alt)		(fpm)	2480	3280	2820	3350	3700
Rate of Climb at SL		(fpm)	2960	3680	3270	3350	3680
CEILING							
Combat Ceiling	②	(ft)	39,700	41,500	40,500	40,650	41,500
Service Ceiling	②	(ft)	40,800	42,450	41,500	41,700	42,450
Service Ceiling	③	(ft)	38,000	42,450	40,600	41,300	42,450
LANDING WEIGHT SL		(lb)	14,599	15,123	14,467	14,467	15,123
Ground Roll	④	(ft)	1350	1450	1300	1300	1450
From 50' Obst.	④	(ft)	1850	2000	1800	1800	2000

NOTES
① Take-off power
② Max power
③ Normal power
④ Take-off and landing distances are obtainable at sea level using normal technique. For airport planning distances should be increased by appropriate factors to determine runway requirements.
⑤ Detailed descriptions of the RADIUS & RANGE missions are given on page 6.

CONDITIONS:
(a) Performance Basis: NACA standard conditions, no wind, single airplane
(b) Fuel consumption used in computing RADIUS & RANGE is increased 5% based on flight tests.
(c) Powers use for performance data are listed on page 6.


Take-Off
SEA LEVEL
CLEAR 50 FT
(2) 165+(1) 110 EXT. TANKS
GROUND RUN
CLEAN
DISTANCE (1000 ft)
GROSS WEIGHT (1000 lb)
Climb
MAX POWER
NORMAL POWER
17,228 LB (CLEAN)
20,837 LB (2) 165+(1) 110 EXT. TANKS
ALTITUDE (1000 ft)
RATE OF CLIMB-FT/MIN
Speed
MAX POWER
NORMAL POWER
17,228 LB
ALTITUDE (1000 ft)
KNOTS
Radius
T.O. WT = 20,837 LB
ALT. 25,000 FT.
FUEL 997 GAL.
AVG. SPEED KNOTS
NAUTICAL MILES

NOTES

I RADIUS FORMULA: BASIC MISSION

a. Start engine, warm up and take-off at sea level. Fuel allowance is 10 minutes at normal rated power.
b. Climb to cruising altitude (25,000 ft) using normal rated power.
c. Cruise out with long range operation at cruising altitude. Drop tanks are jettisoned when empty.
d. Combat at 25,000 ft. for 20 minutes; consists of 5 minutes maximum power and 15 minutes military power.
e. Cruise back with long range operation at cruising altitude.
f. Fuel reserve: 5% total fuel at take-off.

II RANGE FORMULA: BASIC MISSION

a. Start engine, warm up and take-off at sea level. Fuel allowance is 10 minutes at normal rated power.
b. Climb to cruising altitude (25,000 ft) using normal rated power.
c. Cruise out with long range operation at cruising altitude until 90% of total usable fuel at take-off is consumed. Drop tanks are jettisoned when empty.
d. Fuel reserve: 10% total fuel at take-off.

III RADIUS FORMULA: INTERCEPTOR MISSION

a. Start engine, warm up and take-off at sea level: Fuel allowance is 10 minutes at normal rated power.
b. Climb to cruising altitude (25,000 ft) using 5 minutes max power and remainder with military power.
c. Cruise out with long range operation at cruising altitude.
d. Combat at 25,000 ft for 20 minutes; consists of 5 minutes at max power and 15 minutes at military power.
e. Cruise back with long range operation at cruising altitude.
f. Fuel reserve: 5% of total fuel at take-off.

IV RADIUS FORMULA: GROUND ATTACK MISSION

a. Start engine, warm up and take-off at sea level. Fuel allowance is 10 minutes at normal rated power.
b. Climb to cruising altitude (10,000 ft) using normal rated power.
c. Cruise out at long range operation at cruising altitude.
d. Descend to sea level, drop bombs and combat for 5 minutes at max power.
e. Climb to cruising altitude (10,000 ft) using normal rated power.
f. Cruise back with long range operation at cruising altitude.
g. Fuel reserve: 5% total fuel at take-off.

V RANGE FORMULA: FERRY MISSION

a. Identical to basic range except flight is made at a cruising altitude of 10,000 ft.

GENERAL DATA:

a. Performance data are based on A.M.C. Flight Tests Memorandum No. TSFTE-2012, dated 17 Dec. 1946; T.O. AN-01-65BD-1 dated 29 Nov. 1945 and revised 10 Nov 1948: Republic Aircraft Corporation Flight Test Report No. FR-56 dated 7 May 1945; AAF ATSC Memorandum Report No. TSCEP5E-1935.

b. For detailed planning refer to T.O. AN01-65BD-1

ENGINE RATINGS:

Engine Ratings shown on page 3 are guaranteed values. Values used in performance calculations are as follows:

R - 2800 -57, -73, -77 or -81

	BHP	RPM	CRIT. ALT.
T.O:	2060	2800	S.L.
Max: (wet)	2660	2800	S.L.
	2800	2800	25,000
	2610	2800	36,500*
Max: (dry)	2060	2800	S.L.
	2220	2800	25,000
	1840	2800	40,800*
Nor:	1660	2600	S.L.
	1840	2600	25,000
	1600	2600	42,000*

*Turbo critical