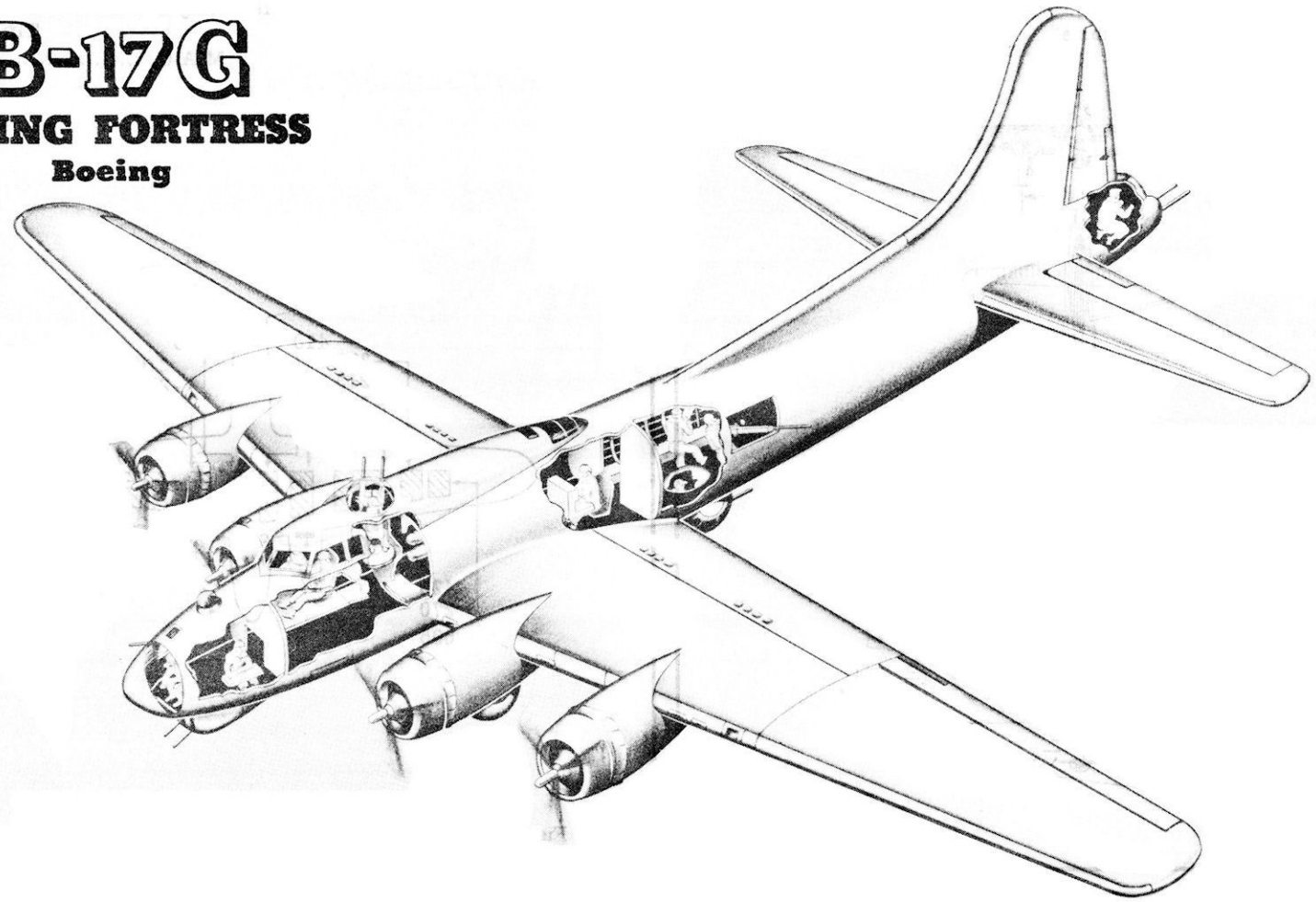
B-17G
FLYING FORTRESS
Boeing



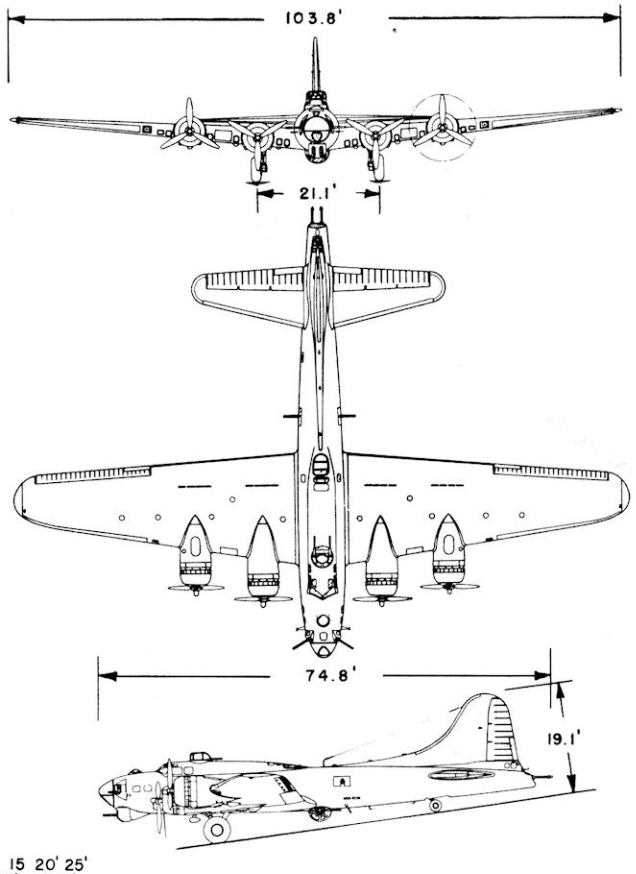
Standard Aircraft Characteristics

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

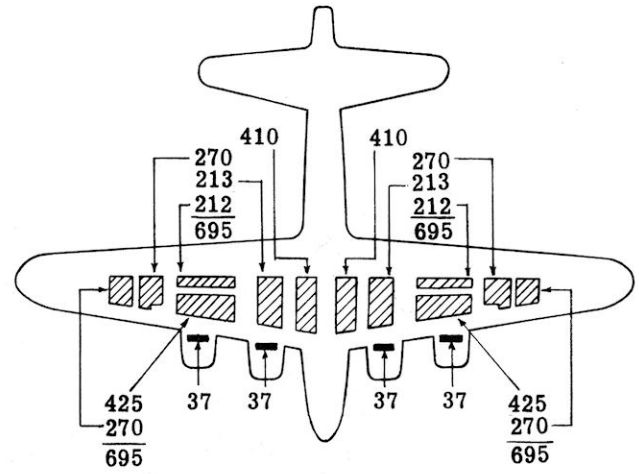
FOUR R-1820-97

WRIGHT

Property of the Air Force Museum
Wright-Patterson Air Force Base
Ohio 45433

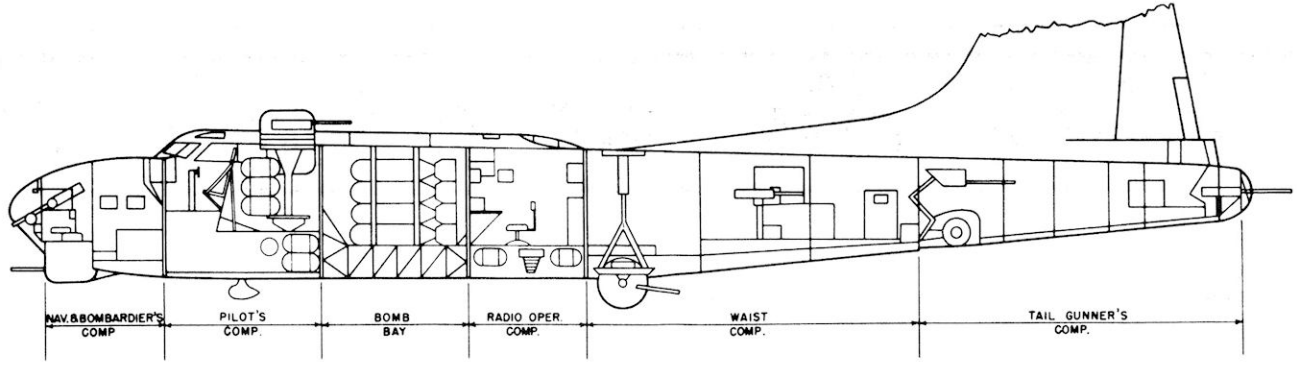


Wing Area	1420 sq ft	Wing Section	Root-NACA 0018
Aspect Ratio	7.58		Tip - NACA 0010
		M.A.C.	177.5''



Fuel

Oil



POWER PLANT

No. & Model	(4) R-1820-97
Mfr	Wright
Superch	1 spd.
Red. Gear	0.5625
Prop Mfr	Hamilton Std
Prop Dia	11'-7''
Prop Type	Hydro
Blade Design	6477A-0

ENGINE RATINGS

	BHP - RPM - ALT.
T.O:	1200 - 2500 - S.L.
Mil:	1200 - 2500 - 25,000
Nor:	1000 - 2300 - 25,000

Mission and Description

The B-17G is a four engine bombardment type aircraft whose tactical mission is the destruction, by bombs, of land or naval materiel objectives.

Originally designed as a heavy bomber, it has now been relegated to the light bomber class.

The landing gear, tail gear, wing flaps and bomb doors are electrically operated and the brakes and cowl flaps are hydraulically operated.

The crew includes pilot, co-pilot, navigator, bombardier, upper turret gunner, lower turret gunner, radio operator, side gunner (s) and tail gunner.

The defensive armament consists of a chin turret, ball turret, top turret and tail power mount.

Automatic flight control equipment with formation stick control is provided.

Development

Design initiated (Model-299)	August 1934
First flight (Y1B-17)	January 1936
First service use (B-17G)	1943
Production completed	July 1945

WEIGHTS

Loading	Gross	L.F.
Empty	35,972(A)	
Basic	37,672(A)	
Design	48,726	3.0
Combat*	48,692	——
Max T.O.†	67,860	2.0
Max Land†	67,860	2.0

*For basic mission
†Limited by structure
(A) Actual

FUEL

Location	Tanks	Gal.
Wing, main*	6	1700
Wing, outer*	4	1080
Bomb bay, aux*	2	820
*Self-sealing	Total	3600

Spec.	AN-F-48
Grade	100/130

OIL

Cap.(gal.)	148
Spec.	AN-0-8
Grade	W-1100;S-1120

DIMENSIONS

Span	103.8'
Length	74.8'
Height	19.1'
Tread	21.1'
Prop Grd Clearance	1.5'

BOMBS

No.	Size	Type
2	2000	G.P.
8	1600	A.P.
6	1000	G.P.
10	1000	A.P.
12	500	G.P.
16	250	G.P.
24	100	G.P.

Max Bomb Load: 12,800 lb

GUNS

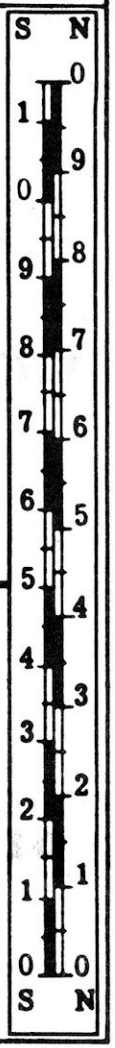
No.	Cal.	Rds.ea.	Loc.
2	.50	305	Cheek.nose
2	.50	365	Turr.chin
2	.50	600	Waist,side
2	.50	650	Turr.upper
2	.50	500	Turr.lower
2	.50	565	Turr.tail

ELECTRONICS

VHF Command	SCR-522
Command	SCR-274N
Liaison	AN/ARC-8
Radio Compass	AN/ARN-7
Marker Beacon	RC-193
IFF	SCR-695
Approach Equip.	AN/ARN-5
Navigation	AN/APN-9
Interphone	AN/AIC-2
RCM Equip.	——
Altimeter	AN/APN-1

Loading and Performance - Typical Mission

CONDITIONS			BASIC RADIUS I	BASIC RANGE II	MAX. BOMB RADIUS III	HIGH SPEED RADIUS IV	HIGH ALT. RADIUS V	FERRY RANGE VI
TAKE-OFF WEIGHT		(lb)	67,860	67,860	67,864	67,860	67,860	64,975
Fuel & Oil		(gal)	2570/148	2570/148	2104/148	2570/148	2570/148	3600/148
Military Load		(lb)	10,000	10,000	12,800	10,000	10,000	None
Total Ammunition		(rds/cal)	5970/.50	5970/.50	5970/.50	5970/.50	5970/.50	5970/.50
Wing Loading		(lb/sq ft)	47.8	47.8	47.8	47.8	47.8	45.7
Take-off Power Loading	①	(lb/bhp)	14.1	14.1	14.1	14.1	14.1	13.5
Stall Speed-(power off)		(kn)	89.0	89.0	89.0	89.0	89.0	87.5
TAKE-OFF DISTANCE SL	④							
Ground Run (no wind)		(ft)	3780	3780	3780	3780	3780	3350
To Clear 50 ft Obst		(ft)	4925	4925	4925	4925	4925	4400
CLIMB FROM SL								
Rate of Climb at SL	③	(fpm)	630	630	630	630	630	700
Time To 10,000 Feet	③	(min)	17.0	17.0	17.0	17.0	17.0	15.4
Time To 25,000 Feet	③	(min)	61.0	61.0	61.0	61.0	61.0	49.0
Service Ceiling (100 f.p.m.)	③	(ft)	28,250	28,250	28,250	28,250	28,250	29,900
COMBAT RANGE or RADIUS		(n.mi)	873	1529	689	595	788	2624
Avg. Cruising Speed		(kn)	171	156	172	214	182	154
Total Mission Time		(hr)	10.45	9.97	8.25	5.81	8.88	17.21
Cruising Altitude		(ft)	10,000	10,000	10,000	10,000	25,000	10,000
COMBAT WEIGHT		(lb)	48,692	43,982	47,384	49,586	48,140	45,535
Combat Altitude		(ft)	25,000	25,000	25,000	25,000	25,000	10,000
SPEED								
Max Speed (combat alt)	②	(kn)	278	280	278	277	278	239
Max Speed At 26,700 Ft	②	(kn)	282	285	283	282	282	284
CLIMB								
Rate of Climb (combat alt)	②	(fpm)	1250	1515	1320	1210	1280	1930
Rate of Climb at SL	②	(fpm)	1870	2140	1940	1820	1895	2045
CEILING								
Combat Ceiling	②	(ft)	33,500	35,200	34,000	33,200	33,700	34,700
Service Ceiling	②	(ft)	36,950	38,450	37,400	36,650	37,150	38,000
Service Ceiling	③	(ft)	36,450	37,650	36,800	36,200	36,600	37,300
LANDING WEIGHT SL		(lb)	43,214	43,982	43,070	43,214	43,214	45,535
Ground Roll	④	(ft)	1265	1275	1250	1265	1265	1290
From 50' Obst.	④	(ft)	2710	2740	2700	2740	2740	2770



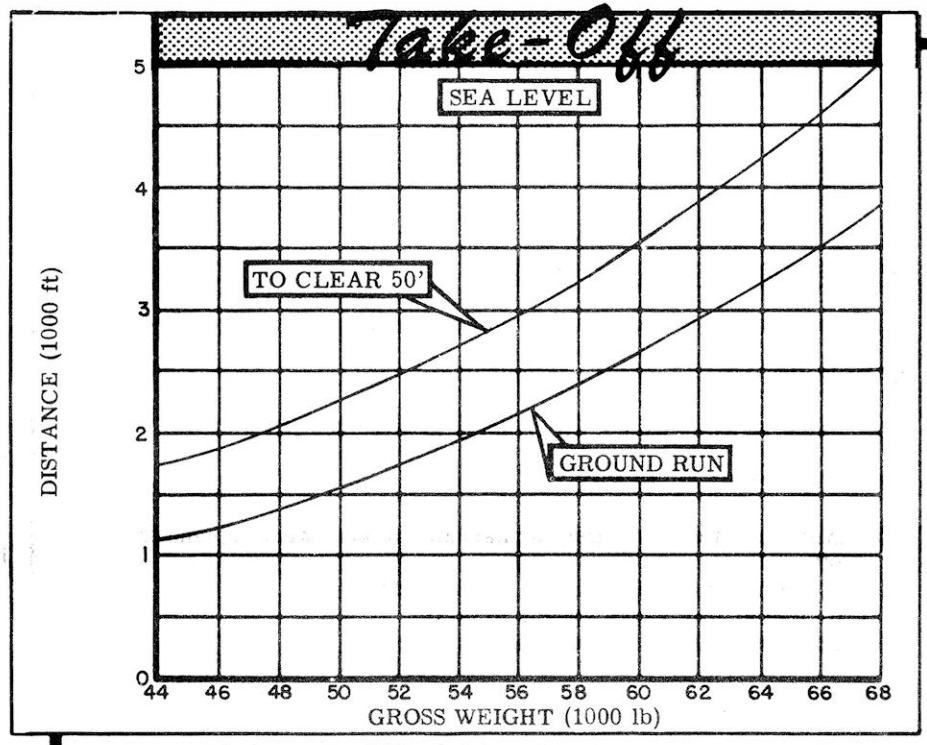
NOTES

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 add 25% to distances shown.
⑤ Detailed descriptions of the RADIUS & RANGE missions are given on page 6.

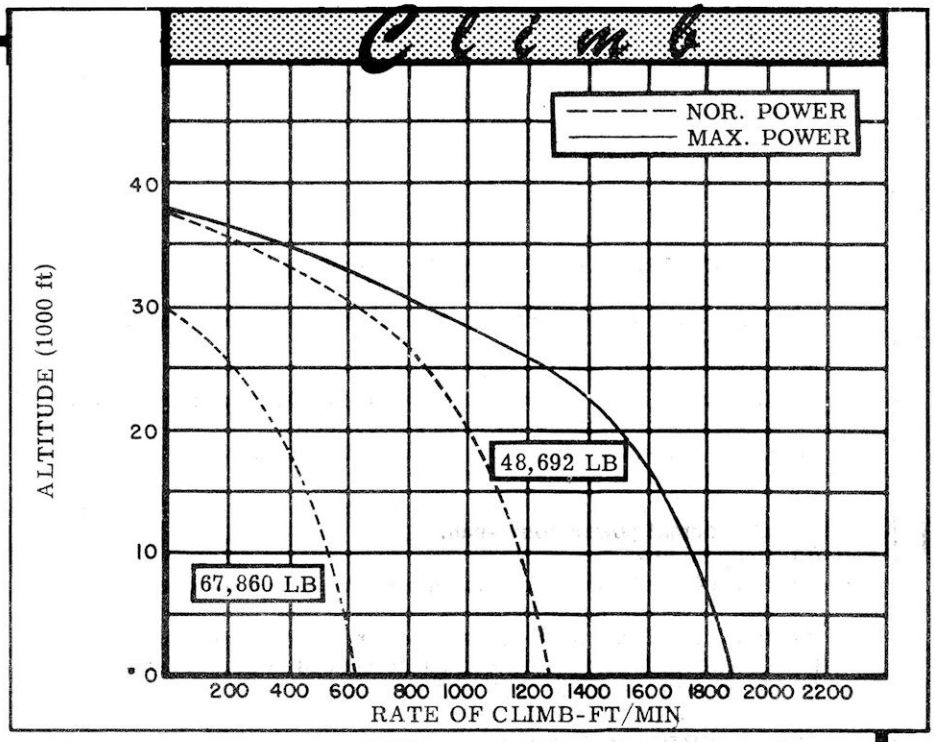
CONDITIONS:

(a) Performance basis: NACA standard conditions, no wind, single airplane
(b) Fuel consumption used in computing RADIUS & RANGE is based on flight test data increased 5%.
(c) Performance based on powers listed on page 6.

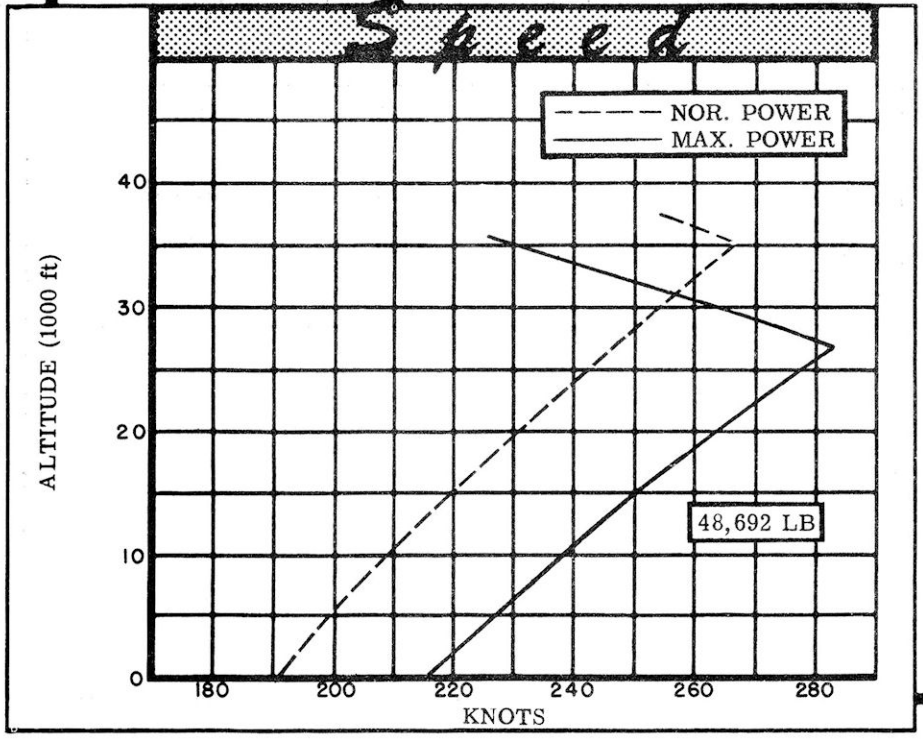
Take-Off



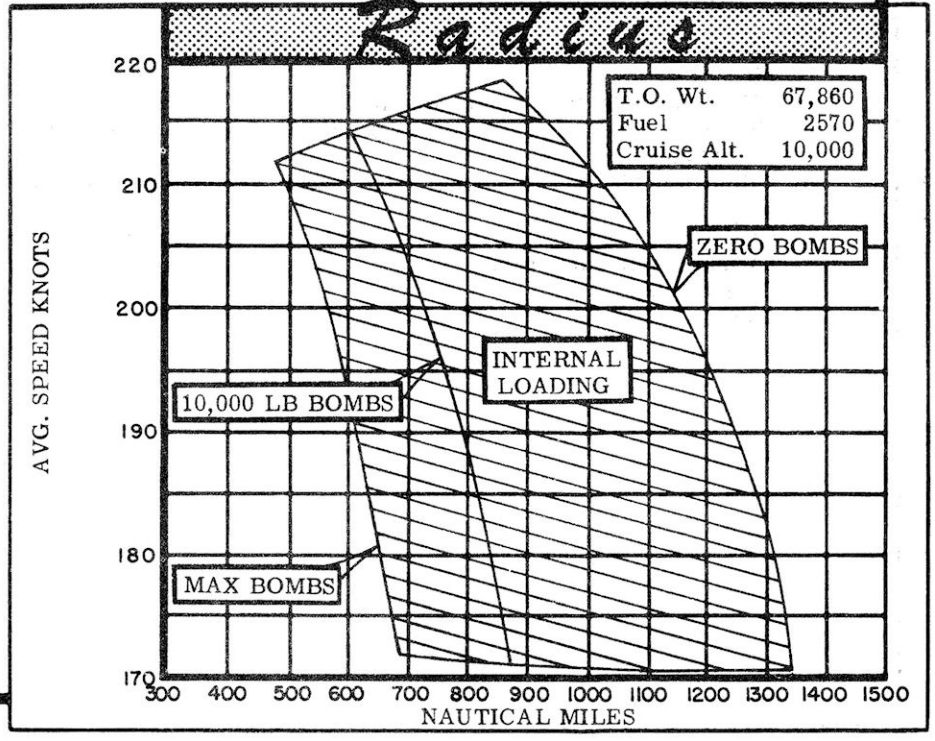
Climb



Speed



Radius



NOTES

RADIUS FORMULA: BASIC & MAX. BOMBS I & III

(a) Allowance for 10 minutes normal rated power, warm up and take off.
(b) Climb to 10,000 ft. normal rated power.
(c) Cruise at long range speeds to point where climb is made to point where climb is made to 25,000 feet.
(d) Climb to 25,000 ft., arriving 30 minutes prior to bomb-drop. (normal rated power).
(e) Cruise long range speeds for 15 minutes and conduct a 15 minute normal power bomb-run.
(f) Drop bombs.
(g) Conduct 5 minute normal power evasive action (no distance gained).
(h) Plus, 10 minute normal rated power run-out from target area.
(i) Cruise back to base at long range speeds at 25,000 feet.
(j) Land with 5% initial fuel load as reserve.

RANGE FORMULA: BASIC II

(a) Allowance for 10 minute normal rated power, warm up and take-off.
(b) Climb to 10,000 ft. normal rated power.
(c) Cruise at long range speeds to point where climb is made to 25,000 feet.
(d) Climb to 25,000 feet at normal rated power, arriving 30 minutes prior to bomb-drop.
(e) Cruise long range speeds for 15 minutes and conduct a 15 minute normal power bomb run.
(f) Drop bombs.
(g) Land with 10% initial fuel load as reserve.

RADIUS FORMULA: HIGH SPEED IV

(a) Same as basic except all cruising is at normal rated power.

RADIUS FORMULA: HIGH ALTITUDE V

(a) Same as basic except all cruising is at 25,000 ft.

RANGE FORMULA: FERRY VI

(a) Allowance for 10 minutes normal rated power, warm up and take-off.
(b) Climb to 10,000 ft., normal rated power.
(c) Cruise at long range speeds to target.
(d) Land with 10% initial fuel load as reserve.

GENERAL DATA:

(a) Power ratings used for performance calculation. Includes RAM

R - 1820 - 97			
	BHP	RPM	CRIT. ALT.
T.O:	1200	2500	32,700
Max:	1380	2500	26,700
Nor:	1000	2300	35,200