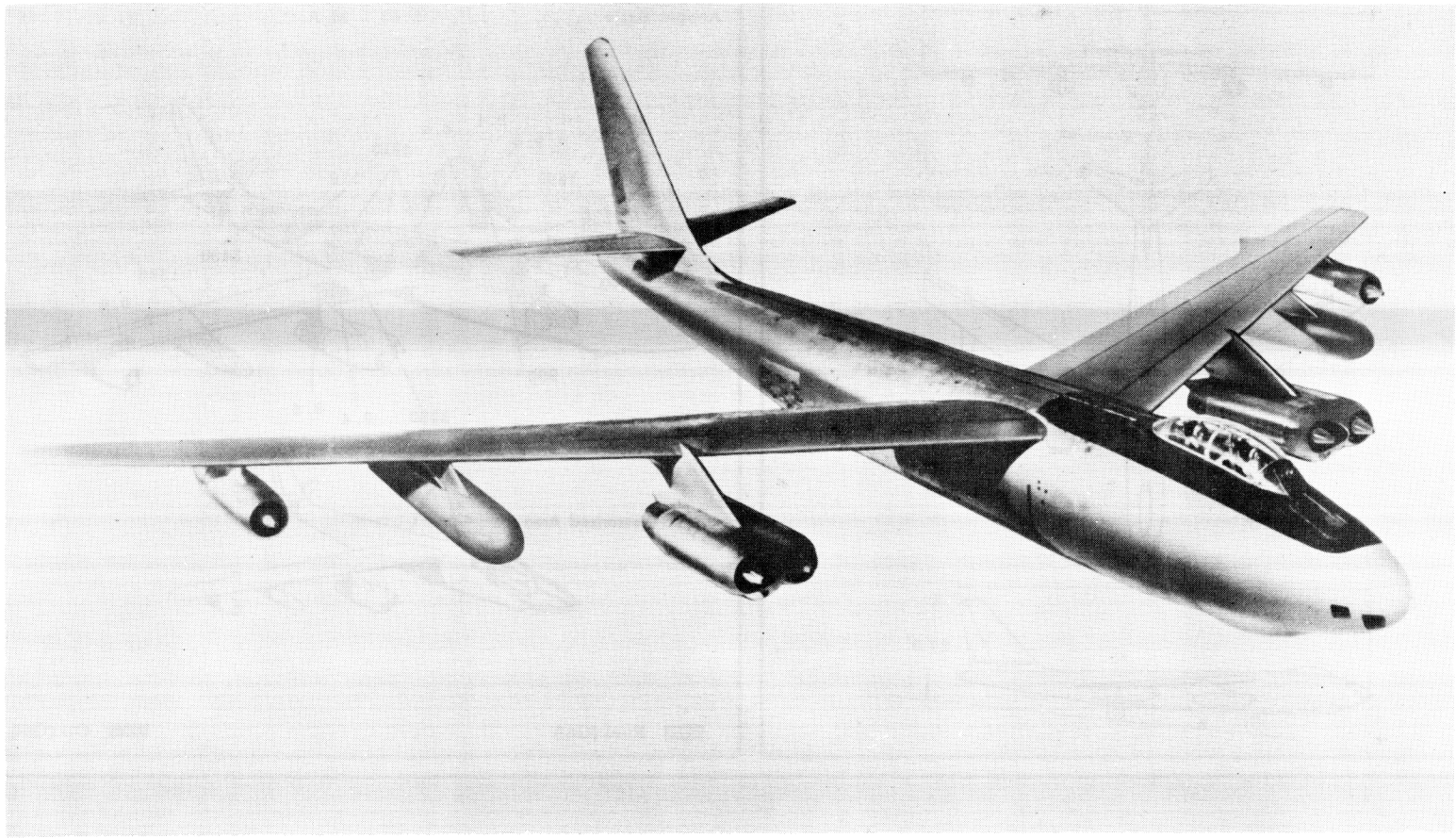
SERVICE



Standard Aircraft Characteristics

BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

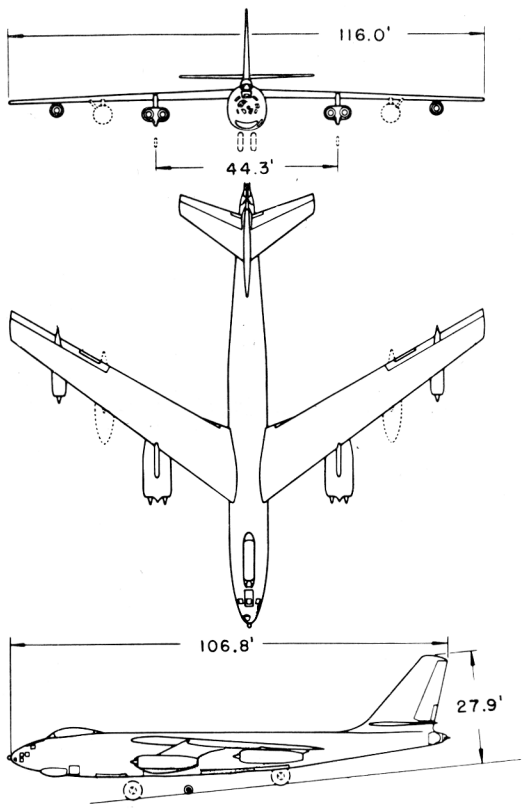
B-47B

STRATOJET

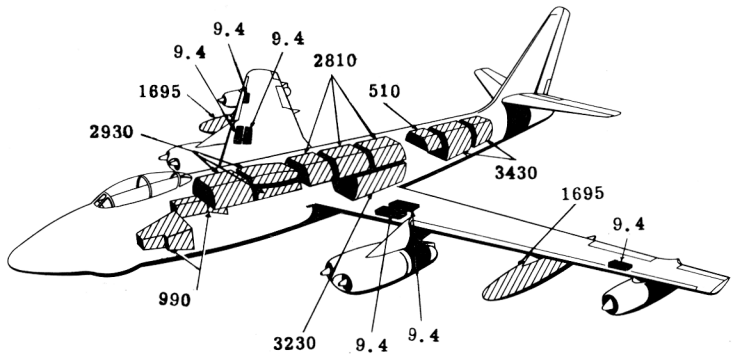
Boeing

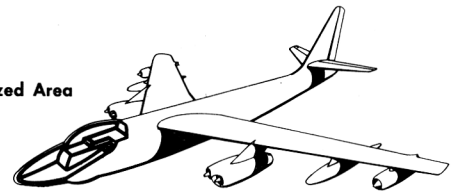
SIX J47-GE-23

GENERAL ELECTRIC



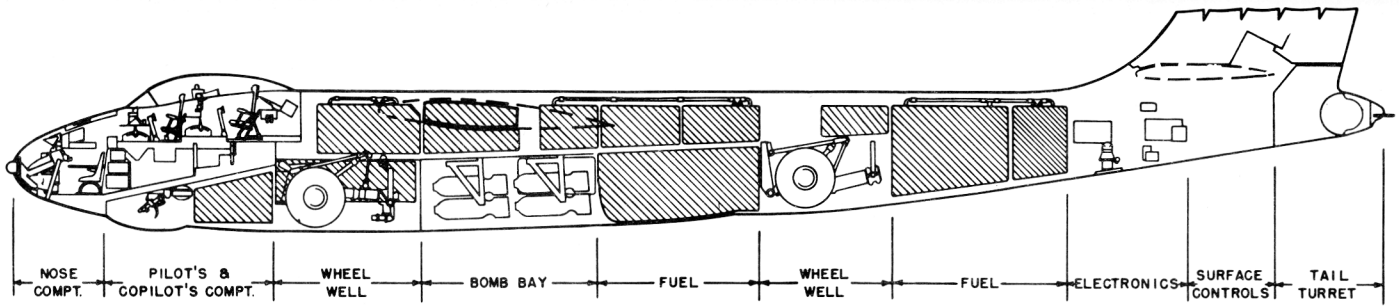
Wing Area.....1428 sq ft
Aspect Ratio 9.43
Wing Section .....Boeing 145
M. A. C.....156"





Fuel (Gal)

Oil (Gal)



POWER PLANT

Nr & Model	(6) J47-GE-23
Mfr	General Electric
Engine Spec Nr	E-591b
Type	Axial
Length	145"
Diameter	39.3"
Weight (dry)	2512 lb
Tail Pipe	Fixed Area
ATO	
Nr & Model	*(33)14AS1000
Mfr	Aerojet
Weight (loaded)	200 lb ea
or	
Nr & Model	(19)15KS1000
Mfr	Aerojet
Weight (loaded)	131 lb ea

See note (e) page 6

ENGINE RATINGS

S.L. Static	LB	RPM	MIN
Max:	5910	7950	5
Mil:	5620	7800	30
Nor:	5270	7630	Cont

ATO

Thrust(lb)	33,000
Duration (sec)	14
or	
Thrust (lb)	19,000
Duration (sec)	15

Mission and Description

Navy Equivalent: None Mfr's Model: 450-67-27

The principal mission of the B-47B is the destruction by bombs of land or naval materiel objectives.

The normal crew consists of pilot, co-pilot and observer. The observer's duties are navigation, bombing and operation of radar equipment.

Features incorporated for improved crew comfort and efficiency include automatic heating, ventilation, pressurization, NESA glass dei-icing, for the pilot's windshield, rain repellant for windshield in lieu of windshield wipers and hydraulic boost on all control surfaces. A spoiler door is provided at the main entrance door to facilitate in-flight escape.

The wing and empennage utilize thermal anti-icing. Single-point ground fueling and air-to-air refueling is provided.

A two-gun tail turret, controlled by radar sight at the co-pilots station, is installed. A B-4 fire control system is utilized. A rotatable seat allows the co-pilot to face aft while functioning as fire control operator.

Solid fuel rockets for assisted take-off, a braking parachute for deceleration on landing roll distance and an anti-skid device for braking are provided.

The bicycle type landing gear is electrically operated. There are provisions for a periscopic sextant and a bomb scoring device.

Development

Design initiated:	Sep 48
First flight:	Feb 51
First acceptance:	Mar 51
Production completion:	Jun 53

The 1st to 298th aircraft have -23 engines; the -25 engines will be installed from the 298th aircraft on. B-47B aircraft with -25 engines assume Roman Numeral One (B-47B-I) configuration and are similar to B-47E-II configuration.

WEIGHTS

Loading	Lb	L.F.
Empty	78,102(C)	
Basic	80,512(C)	
Design	125,000	3.0
Combat	*122,650	
Max T.O.	†185,000	2.0
Max In-Flt	‡198,000	
	††221,000	2.0
Max Land	†180,000	

(C) Calculated
* For Basic Mission
† Limited by strength of landing gear
‡ Without external tanks
†† With external tanks
Max T.O. weight includes ATO charge

FUEL

Location	No. Tanks	Gal
Fwd, Main*	1	2930
Fwd, Main*(Aux)	1	990
Center Main*	1	2810
Bomb Bay*	1	3230
Aft Main *	1	3430
Wing droppable	2	3390
ATO Tank*	1	510
	Total	17,290

Grade	JP-4
Specification	MIL-F-5624A

OIL

Wing Panel	6 (tot) 56.4
Grade	1005
Specification	MIL-L-6081A

*Self-Sealing except for 3 cells in forward main tank.

DIMENSIONS

Wing	
Span	116.0'
Incidence	2°45'
Dihedral	0°
Sweepback(LE)	36°37'
Length	106.8'
Height	27.9'
Tread(outrigger)	44.3'

BOMBS

See listings under Note "f", page 6.

GUNS

Nr	Size	Rds ea	Location
2	.50	600	Fuse, tail

CAMERAS

Vertical Station

Nr	Type	Lens
1	K-38	36"

or: One of the following may be substituted:

1	K-38	24"
1	K17C	24", 12", 6"
1	K-22A	24", 12", 6"

Camera station is located in the lower aft portion of the fuselage aft of the bomb bay.

ELECTRONICS

VHF Command	AN/ARC-27
Omni-Direct. Recvr	AN/ARN-14
Bombing-Nav. Radar	K-4A
Fire Control System	B-4-400
Radar Beacon	AN/APN-76
Interphone	USAF Combat
IFF	AN/APX-6
Glide Path Recvr	AN/ARN-18
Radio Compass	AN/ARN-6A
ECM	AN/APT-5A
Marker Beacon	AN/ARN-12
Emergency Keyer	AN/ARA-26
Chaff Dispenser	AN/ALE-1
Warning Radar	AN/APS-54

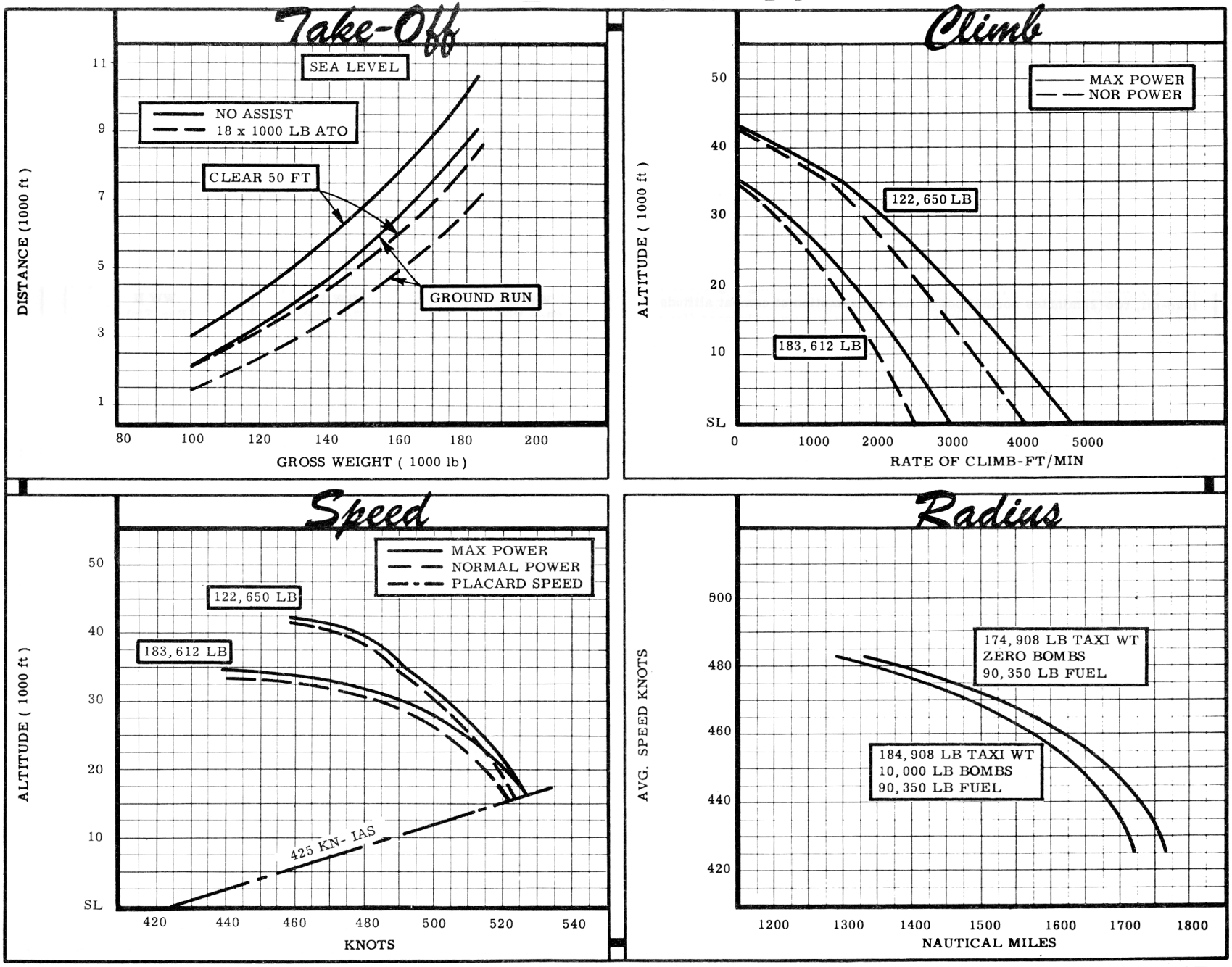
Loading and Performance—Typical Mission

CONDITIONS			BASIC MISSION	FERRY RANGE
			I	II
TAKE-OFF WEIGHT	⑤	(lb)	184,908	185,000
Fuel at 6.5 lb/gal (grade JP-4)		(lb)	90,350	98,882
Payload (Bombs)		(lb)	10,000	None
Wing loading	⑧	(lb/sq ft)	128	128
Stall speed (power off)	⑧	(kn)	154	154
Take-off ground run at SL	①	(ft)	9100	9100
Take-off ground run with ATO	⑥ ①	(ft)	7200	7200
Take-off to clear 50 ft	①	(ft)	10,650	10,650
Take-off to clear 50 ft with ATO	⑥ ①	(ft)	8650	8650
Rate of climb at SL	⑧ ③	(fpm)	2560	2200
Rate of climb at SL (one engine out)	⑧ ②	(fpm)	2000	1640
Time: SL to 20,000 ft	③	(min)	9.8	10.6
Time: SL to 30,000 ft	③	(min)	19.6	23.0
Service ceiling (100 fpm)	⑧ ③	(ft)	33,900	31,950
Service ceiling (one engine out)	⑧ ②	(ft)	30,550	28,600
COMBAT RANGE	④	(n mi)	———	3861
COMBAT RADIUS	④	(n mi)	1704	———
Average cruise speed		(kn)	433	432
Initial cruising altitude		(ft)	30,700	30,850
Target speed	③	(kn)	467	———
Target altitude		(ft)	38,800	———
Final cruising altitude		(ft)	43,900	43,800
Total mission time		(hr)	7.87	8.94
COMBAT WEIGHT		(lb)	122,650	92,290
Combat altitude		(ft)	38,800	43,800
Combat speed	②	(kn)	484	486
Combat climb	②	(fpm)	875	1025
Combat ceiling (500 fpm)	②	(ft)	40,800	46,650
Service ceiling (100 fpm)	③	(ft)	42,100	47,950
Service ceiling (one engine out)	③	(ft)	39,300	45,200
Max rate of climb at SL	②	(fpm)	4775	6280
Max speed at optimum altitude	② ⑨	(kn)/(ft)	528/16,300	528/16,300
Basic speed at 35,000 ft	②	(kn/ft)	491	496
LANDING WEIGHT		(lb)	91,850	92,290
Ground roll at SL		(ft)	4470	4500
Ground roll (auxiliary brake)	⑦	(ft)	2570	2600
Total from 50 ft		(ft)	5470	5500
Total from 50 ft (auxiliary brake)	⑦	(ft)	3570	3600

NOTES

① Take-off power
② Max power
③ Normal power
④ Detailed descriptions of RADIUS and RANGE missions given on page 6.
⑤ Includes 1296 lb ATO charge
⑥ With 18,000 lb ATO thrust
⑦ With 32 ft ribbon braking parachute
⑧ Values quoted are for take-off weight less ATO charge
⑨ Placard Speed

PERFORMANCE BASIS:
(a) Data source: Flight Test
(b) Performance is based on powers shown on page 6.


Take-Off
SEA LEVEL
NO ASSIST
18 x 1000 LB ATO
CLEAR 50 FT
GROUND RUN
DISTANCE (1000 ft)
GROSS WEIGHT (1000 lb)
Climb
MAX POWER
NOR POWER
122, 650 LB
183, 612 LB
ALTITUDE (1000 ft)
RATE OF CLIMB-FT/MIN
Speed
MAX POWER
NORMAL POWER
PLACARD SPEED
122, 650 LB
183, 612 LB
425 KN- IAS
ALTITUDE (1000 ft)
KNOTS
Radius
174, 908 LB TAXI WT
ZERO BOMBS
90, 350 LB FUEL
184, 908 LB TAXI WT
10, 000 LB BOMBS
90, 350 LB FUEL
AVG. SPEED KNOTS
NAUTICAL MILES

NOTES

FORMULA: RADIUS MISSION I

Take-off and climb on course to optimum cruise altitude at normal power. Cruise out at long range speeds increasing altitude with decreasing airplane weight. Climb so as to reach cruise ceiling fifteen (15) minutes from target. Run in to target at normal power, drop bombs, conduct two (2) minutes evasive action and eight (8) minutes escape from target at normal power. Cruise back to home base at long range speeds increasing altitude with decreasing airplane weight. Range free allowances include five (5) minutes normal power fuel consumption for starting engines and take-off, two (2) minutes normal power fuel consumption at combat altitude for evasive action and thirty (30) minutes of maximum endurance (four engines) fuel consumption at sea level plus 5% of initial fuel load for landing reserve.

FORMULA: RANGE MISSION II

Take-off and climb on course to optimum cruise altitude at normal power dropping external tanks when empty. Cruise out at long range speeds increasing altitude with decreasing airplane weight until all usable fuel is consumed.

Range free allowances include five (5) minutes normal power fuel consumption for starting engines and take-off and thirty (30) minutes of maximum endurance (four engines) fuel consumption at sea level plus 5% of initial fuel load for landing reserve.

GENERAL DATA:

(a) Engine ratings shown on page 3 are engine manufacturer's guaranteed ratings. Power values used for performance calculations are:

(6) J47-GE-23			
S. L. Static	LB	RPM	MIN
T. O.	5790	7950	5
Max:	5590	7800	30
Nor:	5240	7630	Cont

(b) For detailed planning refer to Technical Order 1B-47E-1 and latest applicable technical orders.

(c) Maximum landing weight of 180,000 lb based on approximately 8 ft/sec ultimate rate of descent with 1G wing lift.

(d) Performance shown on page 4 is for a B-47B aircraft not modified to the B-47B-I configuration. Performance of an aircraft that has been modified to Roman Numeral One configuration is similar to that presented for B-47E-II configuration.

(e) (33) 14AS1000 bottles can be carried with or without displacement rack, however the rack must be used in carrying (19) 15KS1000 bottles. (30) 16NS1000 M-15 ATO manufactured by Philips Petroleum, are also utilized with the displacement rack and gear.

(f) The following loadings reflect the capabilities of these configurations utilizing general purpose bombs:

SHORT BOMB BAY Hi-Density Kit	LONG BOMB BAY Hi-Density Kit	LONG BOMB BAY
Nr . . . Class (lb)	Nr . . . . . Class (lb)	Nr . . . . . Class (lb)
WW II (Box Fin) Not Carried	WW II (Box Fin) Not Carried	WW II (Box Fin)
		2 4000
INTERIM (Conical Fin)	INTERIM (Conical Fin)	9 2000
		16 1000
		16 500
3 2000	6 2000	
		INTERIM (Conical Fin)
6 1000	18 1000	
13 500	28 500	
		6 2000
NEW SERIES	NEW SERIES	8 1000
		8 500
7 750	*1 25,000	
	1 12,000	NEW SERIES
	1 10,000	*1 25,000
	4 3000	8 750
	21 750	

*A capability only. No Air Force Requirement.

PERFORMANCE REFERENCE:

Boeing Report WD-13365, dated 10 June 1955.

REVISION BASIS:

To reflect changes in performance due to an increase in the in-flight gross weight; also change in security classification.