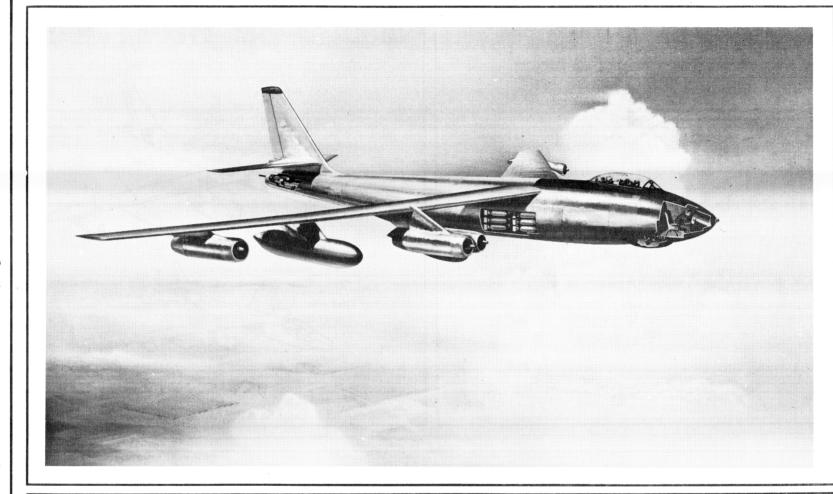
A-1 B-47E/ChAN

SERVICE



Standard Aircraft Characteristics

BY AUTHORITY OF THE SECRETARY OF THE AIR FORCE B-47E

STRATOJET

Boeing

SIX J47-GE-25

GENERAL ELECTRIC

18 DEC 53

CONFIDENTIAL

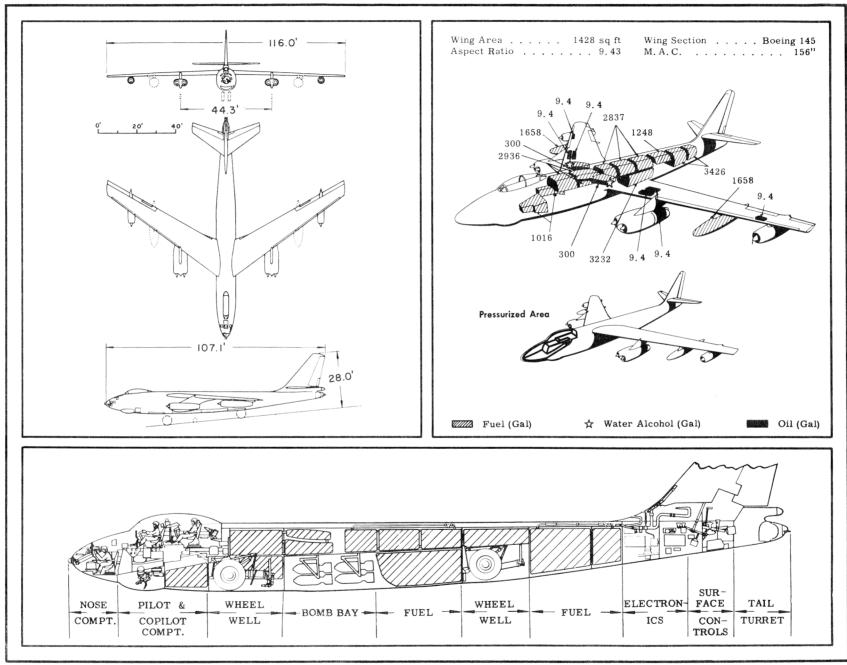
B-47E (RANGE EXTENSION)

53 HC/2001

3rd Ed addy#9

Grade

Classification cancelled or changed to the changed to the changed to the change of the



B-47E (RANGE EXTENSION)

CONFIDENTIAL

POWER PLANT

No. & Model (6)J47-GE-25 Mfr General Electric Engine Spec No. E-597 Type Axial Flow Length 148" Diameter 39.5" Weight (dry) 2707 lb
Tail Pipe Fixed Area
Augmentation Water/Alcohol
ATO
No. & Model (33)14DS1000
Mfr Allegheny
in a second second
Weight (loaded) 200 lb ea
or
No. & Model (33)15KS1000
Mfr Aerojet
TV-1-1-1-1-1-1
Weight (loaded) 131 lb ea
0 ()

ENGINE RATINGS

S. L. Static	LB	-	RPM	-	MIN
Max: (wet)	6970	-	7950	-	5
	5970	-	7950	-	5
Mil:	5670	-	7800	-	30
Nor:	5320	-	7630	-	Cont
	АТС	О			
Thrust (lb) .			'	33	,000
Duration (sec)					
	or				
Thrust (lb) .				33,	000
Duration (sec)					

Mission and Description

Navy Equivalent: None

Mfr's Model: 450-157-35

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

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

Features incorporated for improved crew comfort and efficiency are automatic heating, ventilation, pressurization, NESA glass de-icing for the pilot's windshield, de-frosting of windshield, nose window and other transparent sections by recirculated cabin air, thermal anti-icing for wings and empennage and hydraulic boost on all control surfaces. Crew ejection seats are provided for in-flight escape. The pilot and co-pilot are ejected upward and the observer downward.

The water/alcohol injection system utilizes a total tank capacity of 600 gallons which is divided into six individual bladder-type tanks, three each located in the inboard sections of the right and left wings. Solid propellant rockets are installed externally for assist take-off with a droppable rack.

A two-gun turnet incorporating a radar computer at the co-pilot's station is installed. A rotatable seat allows the co-pilot to face aft while functioning as the A-5 Fire Control System operator.

Other features are single-point and air refueling, an approach chute to increase drag, drag chute for decreasing landing roll distance and an antiskid braking device.

The B-47E (Range Extension) airplane differs from the Standard B-47E by the strengthening of the landing gear to permit heavier take-off weights.

Development

Data is shown for the test article (713th B-47E); the Range Extension modification is effective on the 521st B-47E and subsequent. Estimated completion date for the first B-47E(Range Extension) . . . Jun 54

WEIGHTS

Loading	Lb	L. F.
Empty	. 78,620 (E)	
Basic	. 80,590 (E)	
Design	125,000 \	3.0
Combat		
Max T.O.		2.0
Max In-Fligh	t\$202,000 .	2.0
Max Land .	.†180,000	

- (E) Estimated
 * For Basic Mission
- † Limited by strength
 With external tanks

F	U	E	L

PUEL
Location No. Tanks Gal
Fwd, Main* 1 2936
Fwd, Aux* 1 1016
Center Main*1 2837
Bomb Bay 1 3232
Aft Main* 1 3426
Wing, Drop 2 3316
ATO Tank 1 1248 Total 18,011
G 1
Specification MIL-F-5624A
OIL MIL-F-3024A
Wing Panel 6 (tot) 56.4
Grade 1005
Specification . MIL-0-6081A
WATER/ALCOHOL
Wg, inbd 6 600
*Self-Sealing except for 3 cells in
forward main tank
Note: Large ATO tank installed in
airplane No. 52-398 and subsequent

DIMENSIONS

Wing
Span 116.0'
Incidence 2 ⁰ 45'
Dihedral 0 ^o
Sweepback (LE) 36º37'
Length 107.1'
Height 28.0'
Tread (outrigger) 44.3

B O M B S

No.	Class (lb)
1	Special Weapon10,000
Note: F	or additional bomb loadings

see note (f) page 6.

G U N S

No.	Type	Size	Rds ea	Loc.
2	M24A1.	.20mm.	. 350. Fu	s.tail

CAMERAS

No. 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.	1	Vertical Station
or: One of the following may be substituted: 1	ı	
substituted: 1	ı	1 K-38 36"
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		or: One of the following may be
1	ı	substituted:
1 K-22A-24",12",6" Camera station is located in the lower aft portion of the fuselage aft	1	1 $K-38$ $24''$
1 K-22A-24",12",6" Camera station is located in the lower aft portion of the fuselage aft	1	1 K17C - 24", 12", 6"
lower aft portion of the fuselage aft	1	1 K-22A-24",12",6"
of the bomb bay.	1	
	1	of the bomb bay.

ELECTRONICS

C O N D I T I O	N S	BASIC MISSION	FERRY RANGE	
KE-OFF WEIGHT Tuel at 6.5 lb/gal (grade JP-4) Tayload (Bombs) Tayload (Chaff) Ting loading tall speed (power off) Take-off ground run at SL Take-off ground run with ATO Take-off to clear 50 ft Take-off to clear 5	(a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b	1 200,000 95,680 10,000 720 133,2 140 8050 5650 9450 7100 2110 1680 11.6 21.0 31,500 28,200 1780 433 30,100 466 38,600 44,100 8.30	11 200,000 106,400 None None 133,2 140 8050 5650 9450 7100 2110 1680 11.6 21.0 31,500 28,200 4095 433 30,100 	
OMBAT WEIGHT Combat altitude Combat speed Combat ceiling (500 fpm) Gervice ceiling (100 fpm) Gervice ceiling (one engine out) Max rate of climb at SL Max speed at 20,000 ft Basic speed at 35,000 ft ANDING WEIGHT Ground roll at SL Ground roll (auxiliary brake) Total from 50 ft Cotal from 50 ft (auxiliary brake)	(1b) (ft) (g) (kn) (g) (fpm) (g) (ft) (g) (ft) (g) (ft) (g) (fpm) (g) (kn) (g) (kn/ft) (hb) (ft) (ft) (ft) (ft) (ft)	123,080 38,600 469 ③ 900 40,800 42,100 39,300 4740 497 ③ 469 ⑤ 91,015 4450 2550- 5350 3450	91,550 44,000 469	

① T.O. power

NOTES 2 Max power 3 Normal power

4 Detailed descriptions of Radius &

Range missions given on page 6

(5) With 33,000 lb (ATO) thrust

6 Includes 4610 lb ATO and 5300 lb water and alcohol

7 With braking parachute

8 Values quoted are for T.O. weight less ATO, water and alcohol

Structural limit

Performance Basis:

(a) Data source: Flight Test

(b) Performance is based on powers shown on page 6.

420

18 DEC 53

440

460

KNOTS

480

500

CONFIDENTIAL B-47E
(RANGE EXTENSION) 5

1600

1800

NAUTICAL MILES

2000

2200

1400

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, external tanks (if carried) are dropped when empty. Climb so as to reach cruise ceiling 15 minutes from target. Run into target at normal power, drop bombs and chaff, conduct 2 minutes evasive action and 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 5 minutes normal power fuel consumption for starting engines and take-off, 2 minutes normal power fuel consumption at combat altitude for evasive action and 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. Cruise out at long range speeds increasing altitude with decreasing airplane weight until all usable fuel is consumed, external tanks are dropped when empty. Range free allowances include 5 minutes normal power fuel consumption for starting engines and take-off and 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 as follows:

	(6)J47-GE-25						
S. L. Static	LB	RPM	MIN				
Т.О:	6770	7950	5				
Max:	5640	7800	30				
Nor:	5270	7630	Cont				

- (b) For detailed planning refer to Technical Order AN01-20ENB-1 and latest applicable technical orders.
- (c) Maximum landing weight 180,000 lb based on approximately 8 ft/sec ultimate rate of descent with 1G wing lift.
 - (d) All approved weight reduction items incorporated.
- (e) Speed limitations shown were taken from "Safety of Flight Supplement AN01-20ENB-1N", dated 10 July 1953.
- (f) The following loading reflect the capabilities of the B-47E (Range Extension) airplane utilizing general purpose bombs.

SHORT BOMB BAY Hi-Density Kit	LONG BOMB BAY Hi-Density Kit	SHORT BOMB BAY Lo-Density Kit
No Class(lb) WW II (Box Fin) Not Carried INTERIM (Conical Fin) 3 2000 6 1000 13 500 (T-127) 14 500 (M-123)	WW II (Box Fin) Not Carried INTERIM (Conical Fin) 6 2000 18 1000	No Class (lb) WW II (Box Fin) Not Carried INTERIM (Conical Fin) 3 2000 4 1000 4 500 (T-127) 8 500 (M-123)
NEW SERIES 6 750 Chem. Cluster 7 750	NEW SERIES 1 12,000 1 10,000 4 3000 21	NEW SERIES 4 750 Chem. Cluster 4 750

- 1. The Short Bomb Bay Hi-Density Kits and Long Bomb Bay Hi-Density Kits are adaptable and effective on the 617th (B-47E) and subsequent, (500 kits each were procured)
- 2. The Sort Bomb Bay Lo-Density Kit can be utilized only in airplanes 617 thru 730; airplanes 1 thru 616 have provisions for this kit but must be modified to accept it.

PERFORMANCE REFERENCE:

Boeing Report D-13194, "B-47 Performance Substantiation, Models B-47B (-23 engines), B-47E and RB-47E", dated 3 June 1953.

REVISION BASIS: Initial Issue.

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