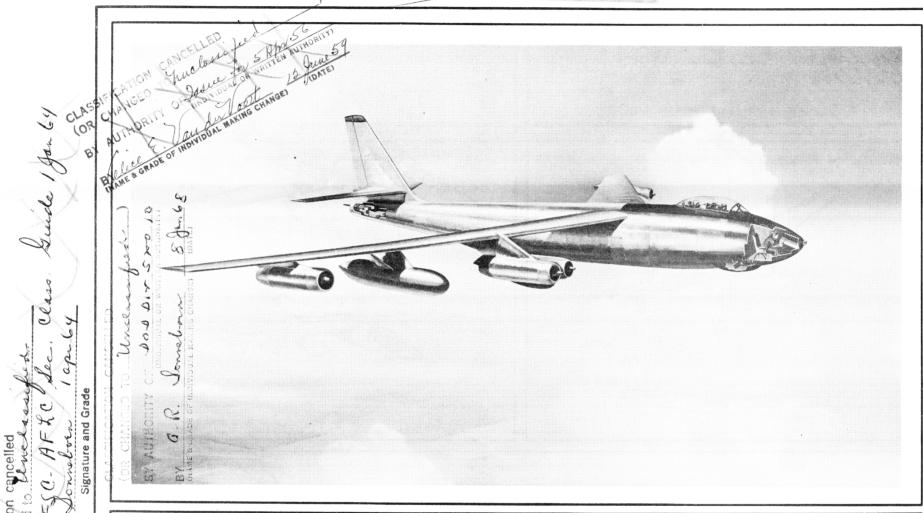
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CONFIDENTIAL

A-1 B-47E/GAA.

SERVICE



Standard Aircraft Characteristics

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

Boeing

SIX J47-GE-25

GENERAL ELECTRIC

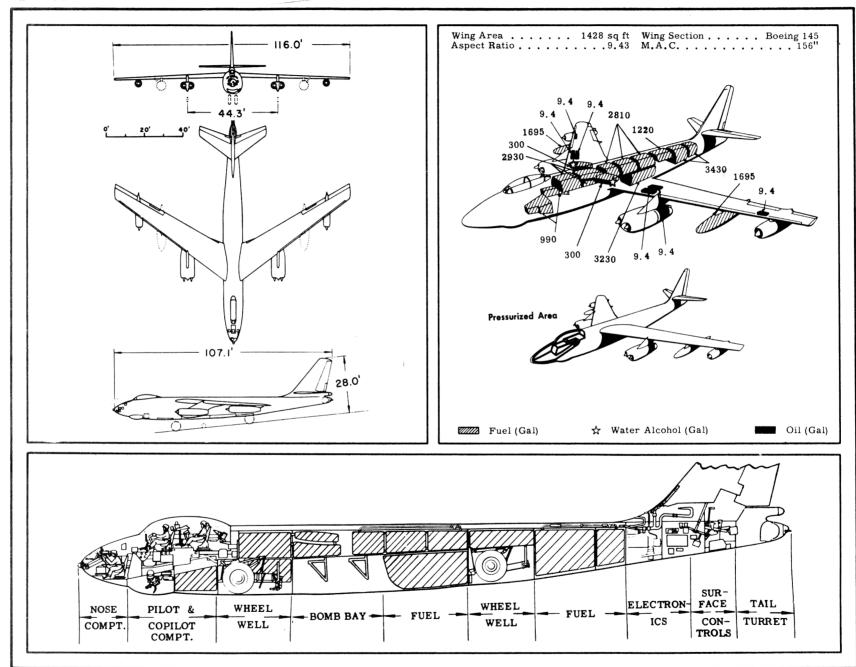
7 JUN 55

CONFIDENTIAL

B-47E

4th Ed adm#7

Classification cancelled



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 Allegany
Weight (loaded) 200 lb ea
or
No. & Model (33)15KS1000
Mfr
Weight (loaded) 131 lb ea

ENGINE RATINGS

S. L. Static	LB -	F	RPM -	M	IIN
Max:	*7200	-	7950	_	5
	5970	-	7950	-	5
Mil:	5670	-	7800	-	30
Nor:	5320	-	7630	-	Conf
*Wet					
Water flow	of 650 lk	a/r	nin		
	ATO				
Thrust (lb)				33,	000
Duration (se	ec)				. 14
	or				
Thrust (lb)					,000
Duration (se	ec)				15

Mission and Description

Navy Equivalent: None

Mfr's Model: 450-157-35

The principal mission of the B-47E (Heavyweight) 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 turret 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 (Heavyweight) 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 (862nd B-47E); the (Heavyweight) modification is effective on the 862nd B-47E and subsequent.

Date for the first B-47E(Heavyweight) Feb 55

WEIGHTS

Loading	\mathbf{L} b	L.F.
Empty	79,074 (E)	
Basic	81,044 (E)	
Design	125,000	3.0
Combat *	133,030	
Max T.O †	230,000	2.0
Max In-Flight	221,000	2.0
Max Land †		

(E) Estimated

* For Basic Mission
† Limited by strength

T With external tanks

FUEL

	r U E L
1	Location No. Tanks Gal
١	Fwd, Main* 1 2930
1	Fwd, Aux* . 1 990
	Center Main*1 2810
1	Bomb Bay 1 3230
١	Aft Main* 1 3430
1	Wing, Drop 2 3390
١	
1	ATO Tank 1
1	Grade
	Specification MIL-F-5624A
	Grade
1	Wing Panel. 6 (tot) 56.4
	Grade 1005
1	Specification MIL-L-6081A
1	WATER/ALCOHOL
1	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
- 1	arr prant rio, or soo and bashoquen

DIMENSIONS

Wing	
Span 116.	01
Incidence 2 ^o 4	51
Dihedral	0 c
Sweepback (LE) 36 ^o 3	71
Length 107.	
Height 28.	0'
Tread (outrigger) 44.	

B O M B S

No.					Cl	lass (lb)				
1									Special	Weapon

See Listings on Page 6, note c.

G U N S

No.	Type Size	Rds ea	Loc.
2	M24A1.20m	nm. 350.	Fus. tail

CAMERAS

Vertical Station
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.

ELECTRONICS

VHF Command AN/ARC-27 Omni-Direc, Rec'vr AN/ARN-14 Bombing-Nav, Radar K-4A or MA-7A Fire Control System A-5 Rendezvous Equip AN/APN-76 Interphone AN/APX-6 Glide Path Rec'vr AN/ARN-18 Radio Compass AN/ARN-18 ECM (2) AN/APT-5A Marker Beacon AN/ARN-12 Emergency Keyer AN/ARN-12 Emergency Keyer AN/ARC-21 HF Liaison AN/ARC-21 Warning Radar

CONDITIO	N S	BASIC Mission	DESIGN BOMB LOAD	CRUISE CEILING	FERRY RANGE	
AKE-OFF WEIGHT Fuel at 6,5 lb/gal (grade JP-4) Payload (Bomb) Payload (Chaff) Wing loading Stall speed (power off) Take-off ground run at SL Take-off ground run with ATO Take-off to clear 50 ft with ATO Rate of climb at SL Rate of climb at SL (one engine out) Time: SL to 20,000 ft Time: SL to Cruise Alt Service ceiling (100 fpm) Service ceiling (one engine out) OMBAT RANGE OMBAT RADIUS Average cruise speed Initial cruising altitude Target altitude Final cruising altitude Total mission time	2 (mir 2 (mir 83 (f	117,000 10,000 10,000 845 149.6 117,000 10,000 845 149.6 111,300 7850 11,300 11,300 11,300 11,300 11,300 11,300 11,300 12,900 11,300 11,300 11,300 12,900 11,300 11	11 230,000 113,030 18,000 845 152.4 167.6 11,800 8200 13,400 9700 1800 1610 11.4 19.6 29,000 24,500 1940 436 26,700 466 36,550 43,550 8,94	225, 958 117, 000 10, 000 845 149.6 166.1 11, 300 7850 12, 900 9300 1850 1670 11.2 22.4 29, 500 25, 000 475 37, 300 46, 750 7, 49	1 V 215, 113 117,000 None None 142.5 162.1 10,150 6900 11,700 8350 1950 1720 10.3 18.8 30,400 26,000 4340 434 28,350 10.02	
OMBAT WEIGHT Combat altitude Combat speed Combat climb Combat ceiling (500 fpm) Service ceiling (100 fpm) Service ceiling (one engine out) Max rate of climb at SL Max speed at 16, 300 ft Basic speed at 35, 000 ft ANDING WEIGHT Ground roll at SL Ground roll (auxiliary brake) Total from 50 ft Total from 50 ft (auxiliary brake)	② (k) (fpr (i)	t) 37,350 a) 483 b) 850 t) 39,300 t) 40,500 t) 38,500 t) 4350 a) 528 a) 490	130, 485 36, 550 488 1050 39, 600 40, 900 39, 100 4450 528 491 93, 785 4600 2600 5500 3500	133,330 37,300 483 850 39,250 40,450 38,500 4350 528 490 93,990 4600 2600 5500 3500	93,990 43,500 486 1000 46,500 47,600 46,000 6130 528 494 93,990 4600 2600 5500	

N	0	Take-off power
•		N#:1:4

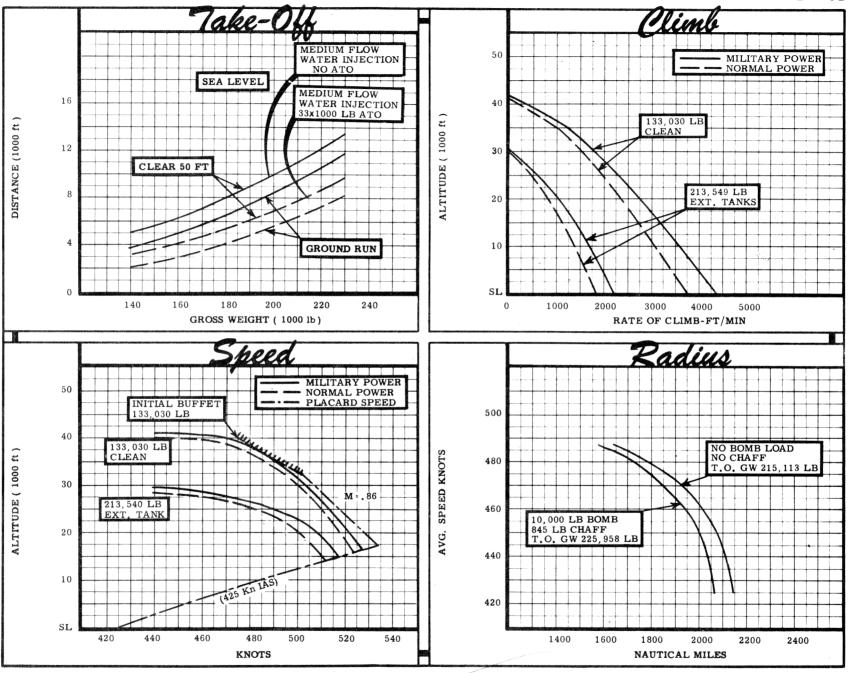
Military power
Normal power
Detailed descriptions of RADIUS and
RANGE missions given on page 6 RANGE missions given on page 6.

Volume limited, Includes ATO and water-alcohol.
 33 bottles ATO, medium flow water injection.
 No ATO, medium flow water injection
 Values quoted are for T.O. weight less 7109 lb ATO and 5300 lb water and alcohol.
 Placard speed.
 Brake chute deployed at touchdown

PERFORMANCE BASIS:

(a) Data Source: Flight test

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



NOTES

FORMULA: RADIUS MISSIONS I & II

Take-off and climb on course to initial cruising altitude. Cruise out at long range speeds and altitudes, dropping external tanks when empty. Climb to cruise ceiling and conduct a 15 minute level-flight bomb run at normal rated thrust. Drop bomb load and chaff and conduct 2 minutes evasive action and 8 minutes escape at normal rated thrust. Return to base at long range speeds and altitudes. Range-free allowances are fuel for 5 minutes at normal rated thrust at sea level for take-off allowance, 2 minutes at normal rated thrust at combat altitude for evasive action, and 30 minutes at maximum endurance airspeeds at sea level plus 5% of initial fuel load for landing reserve.

FORMULA: RADIUS MISSION III

Take-off and climb on course to initial cruising altitude. Cruise out at normal rated thrust at cruise ceiling, dropping external tanks when empty. Conduct a 15 minute level flight bomb run, drop bomb load and chaff, and conduct 2 minutes evasive action at normal rated thrust. Return to base at normal rated thrust at cruise ceiling. Range-free allowances are as specified for Radius Missions I and II.

FORMULA: RANGE MISSION IV

Take-off and climb on course to initial cruising altitude. Cruise out at long range speeds and altitudes, dropping external tanks when empty. Land at remote base with only reserve fuel remaining. Range-free allowances are fuel for 5 minutes at normal rated thrust at sea level for take-off allowance and 30 minutes at maximum endurance airspeeds at sea level plus 5% of initial fuel load for landing reserve.

GENERAL DATA

(a) Thrust values shown on page 3 are engine manufacturer's guaranteed ratings. Thrust values used in performance calculations are as follows:

	J47-GE-	25 & -25A	
SL Static	LB	RPM	MIN
то	7200	7950	5
Max	5970	7950	5
Mil	5640	7800	30
Nor	5270	7630	Cont

(b) For detail planning, refer to Technical Order IB-47-E-I and latest applicable technical orders.

(c) The following loadings reflect the capabilities of the B-47E (Heavyweight) airplane utilizing general purpose bombs at combat altitude.

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)	No	No Class (lb) WW II (Box Fin) Not Carried INTERIM (Conical Fin)
32000 61000 13500 (T-127) 14500 (M-123)	6	3 2000 4 1000 4500 (T-127) 8500 (M-123)
NEW SERIES 6 750 Chem. Cluster 7 750	NEW SERIES 1 12,000 1	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 Short 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:

To include Bomb Table.

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