Standard Aircraft Characteristics

B-47B

STRATOJET

Boeing

SIX J47-GE-23

GENERAL ELECTRIC

UNCLASSIFIED
**POWER PLANT**

- Mfr: General Electric
- Engine Spec: E-591b
- Type: Axial
- Length: 145" 
- Weight: 2512 lb
- Tail Pipe: Fixed Area

**ENGINE RATINGS**

<table>
<thead>
<tr>
<th>S. L., Static</th>
<th>LB - RPM - MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max:</td>
<td>5910 - 7950 - 5</td>
</tr>
<tr>
<td>Mil:</td>
<td>5620 - 7800 - 30</td>
</tr>
<tr>
<td>Nor:</td>
<td>5270 - 7630 - Cont</td>
</tr>
</tbody>
</table>

**DIMENSIONS**

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

**WEIGHTS**

- Empty: 78,102(Lbs)
- Basic: 80,312(Lbs)
- Design Load: 125,000
- Combat Load: 122,650
- Max T.O.: 118,000
- Max In-Flight: 119,000
- Max Land: 121,000

**FUEL**

- Location: No. Tanks
- Fwd. Main: 1, 2930(Lbs)
- Fwd. Main (Aux): 1, 990(Lbs)
- Center Main: 1, 2810(Lbs)
- Bomb Bay: 1, 1230(Lbs)
- Aft Main: 1, 3430(Lbs)
- Wing Droppable: 1, 3300(Lbs)
- ATO Tank: 1, 510(Lbs)
- Total: 17,390

**OIL**

- Grade: 5, 100(Libs)
- Specification: MIL-P-5624A

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

**Features of importance include automatic heating, ventilation, pressurization, safety glass, and a fireproof seal for the pilot's windshield. The rain repellent in lieu of windshield wipers and hydraulic boost on all control surfaces. A boiler door is provided at the main entrance door to facilitate in-flight escape.**

**The wing and empennage utilize thermal anti-icing, single-point ground equipment 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 sight 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 on the 298th aircraft on the B-47B. The aircraft with -25 engines assume Roman Numeral One (B-47B-1I) configuration and are similar to B-47E-II configuration.

**GUNS**

See listings under Note "f", page 6.

**CAMERAS**

<table>
<thead>
<tr>
<th>Vertical Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nr</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

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

**VHF COMMAND**

- AN/ARC-27
- AN/ARC-14
- K-4A
- K-400
- AN/APX-6

**INTRODUCTION**

- USAF Combat
- AN/APX-6

**Glide Path Receiver**

- AN/ARN-18
- AN/ARN-6A

**ECCM**

- AN/APT-5A

**MARKER BEACON**

- AN/ARK-12

**ECM**

- AN/ARK-26

**WARNING RADAR**

- AN/APS-54
## Loading and Performance—Typical Mission

<table>
<thead>
<tr>
<th>CONDITIONS</th>
<th>BASIC MISSION</th>
<th>FERRY RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TAKING-OFF WEIGHT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel at 6.3 lb/gal (grade JP-4)</td>
<td>184,908</td>
<td>185,000</td>
</tr>
<tr>
<td>Payload (Bomb)</td>
<td>90,350</td>
<td>98,802</td>
</tr>
<tr>
<td>Wing loading</td>
<td>10,000</td>
<td>None</td>
</tr>
<tr>
<td>Stall speed (power off)</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Take-off ground run at SL</td>
<td>154</td>
<td>154</td>
</tr>
<tr>
<td>Take-off ground run with ATO</td>
<td>9100</td>
<td>9100</td>
</tr>
<tr>
<td>Take-off to clear 50 ft</td>
<td>10,650</td>
<td>10,650</td>
</tr>
<tr>
<td>Take-off to clear 50 ft with ATO</td>
<td>8650</td>
<td>8650</td>
</tr>
<tr>
<td>Rate of climb at SL</td>
<td>2560</td>
<td>2200</td>
</tr>
<tr>
<td>Rate of climb at SL (one engine out)</td>
<td>2000</td>
<td>1640</td>
</tr>
<tr>
<td>Time: SL to 20,000 ft</td>
<td>9.6</td>
<td>10.6</td>
</tr>
<tr>
<td>Time: SL to 30,000 ft</td>
<td>19.4</td>
<td>28.0</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>33,900</td>
<td>31,950</td>
</tr>
<tr>
<td>Service ceiling (one engine out)</td>
<td>30,550</td>
<td>28,600</td>
</tr>
</tbody>
</table>

**COMBAT RANGE**
- (n mi): 3861

**COMBAT RADIUS**
- (n mi): 1704
- Average cruise speed: 432
- Initial cruising altitude: 30,700
- Target speed: 467
- Target altitude: 38,800
- Final cruising altitude: 43,800
- Total mission time: 8.94

**COMBAT WEIGHT**
- (lb): 122,650
- (ft): 38,800
- (kn): 481
- (fpm): 871
- (km): 40,800
- (mph): 42,100
- (kn): 36,000
- (mph): 4775
- (kn): 528,16,300
- (kn): 491

**LANDING WEIGHT**
- (lb): 91,850
- (ft): 4470
- (ft): 2570
- From 50 ft: 5470
- From 50 ft (auxiliary brake): 3570

### Notes
- Take-off power
- Max power
- Normal power
- Detailed descriptions of RADIUS and RANGE missions given on page 6.
- Includes 1286 lb ATO charge
- With 18,000 lb ATO thrust
- Values quoted are for take-off weight
- Placard Speed

### Performance Basis
- (a) Data source: Flight Test
- (b) Performance is based on powers shown on page 6.
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:


(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 Numerical One configuration is similar to that presented for B-47E-II configuration.

(e) (33) 14AG1000 bottles can be carried with or without displacement rack, however the rack must be used in carrying (19) 15KS1000 bottles.

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


#A capability only. No Air Force Requirement.

PERFORMANCE REFERENCE:


REVISION BASIS:

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