Standard Aircraft Characteristics

B-47C STRATOJET

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

FOUR J35-A-23

ALLISON

Boeing

22 SEPTEMBER 1950
POWER PLANT
No. & Model .... (4) J35-A-23
Mfr ............... Allison
Engine Spec No .... 286C
Type ............... Axial
Length ............. 156"
Diameter ........... 37.5"
Weight (dry) ...... 3490 lb JATO

No. & Model ....... (1) YLR-45-AJ-1
Mfr ............... Aerogen
System Weight (loaded) ... 7300 lb

No. & Model ....... (1) YLR-47-K-1
Mfr ............... Kellogg
System Weight (loaded) ... 7300 lb

ENGINE RATINGS
S.L. Static LB - RPM
Max: 9700 - 6100
Mil: 9700 - 6100
Nbr: 8200 - 6100

JATO
4 Chambers (5000 lb thrust ea)
Total Thrust (lb) ...... 20,000
Duration (sec) ...... 60
(Propellant is white fuming nitric acid and gasoline)

BOMBS
No. Size Type
1 10,000 Special
Or one of the following loadings which require kits and allow for bomb bay fuel:
1 4000 G.P.
3 2000 G.P.
8 1000 G.P.
Or one of the following loadings which require long bomb bay doors,
Kits and allow for no bomb bay fuel:
1 25,000 S.A.P.
1 22,000 G.P.
1 12,000 G.P.
2 4000 G.P.
9 2000 G.P.
16 1000 G.P.

MISSION AND DESCRIPTION
The B-47C airplane is high speed, medium range, jet bomber whose tactical mission is the destruction by bombs of land and naval materiel objectives.

The normal crew consists of a pilot, co-pilot, fighter, gunner and bombaimer-navigator. Seat ejection is provided for all crew members (tentative, pending approval of Hq., USAF).

Features incorporated for improved crew comfort and efficiency include heating, ventilation, pressurization, NESA glass de-icing for pilot's windscreen and hydraulic boost on all control surfaces. Spoiler type ailerons for improved lateral control at low altitude and high speed are provided. The wing and empennage utilize anti-icing. The engine incorporates anti-icing features. Single point ground fueling and air to air refueling is provided as is continuous internal and external fuel tank purging. A two gun tail turret, with radar sight at the co-pilot's station, is provided. A rotatable seat allows the copilot to face aft while functioning as fire control operator. Liquid fuel rockets for assisted take-off, a braking parachute for decreasing landing roll distance and anti-skid device for braking are provided. The bicycle type landing gear is electrically operated.

Major difference from B-47B is change from six J47 engines to four J35 engines.

Development
Modification of B-47B with (4) J35 engines in lieu of (6) J47's
Design initiated: Jan 50
First flight (YB-47C prototype): Jul 51 (est.)
First acceptance: May 53 (est.)
One B-47B bailed to Boeing for engine and related changes and tests.
Formerly designated B-56A

WEIGHTS
Loading Lb L.F.
Empty ...... 78,172(E)
Basic ....... 78,924(E)
Design ....... 125,000 3.0
Combat ...... *120,850
Max T.O. ....... 165,000 2.0
Max Land ....... 165,000 2.17
Max in-flight refuel ...... *202,000 2.0
(E) Estimated
* For Basic Mission
† Limited by streng (includes 5000 lb JATO fuel)
† With external tanks

FUEL
Location No. Tanks Gal.
Wg, ctr ....... 1 ......... 470
Penguage ....... 5 ......... 10,046
Wg, drop ....... 2 ......... 3000
Bomb bay ....... 1 ......... 3000
(Approx 60% SS) Total 16,716
Spec ............. MIL-F-5624
Grade ............ JP-3

OIL
Capacity (gal) ..... 28
Spec ............. MIL-O-6061
Grade ............ 1005

ELECTRONICS
Command ....... AN/ARC-27
Liaison ........ AN/APN-76
Radar Beacon .... AN/ARC-21
Glide Path ...... AN/ARN-18
Omni-Direct, Recvr. AN/ARN-14
Fire Control ...... A-2 System
Interphone ...... USAF Combat
Radio Compass .... AN/ARN-6
1FF ........ AN/APX-6
Loran .......... AN/APN-9A
Marker Beacon .... AN/ARN-12
Bomina System .... K-4A
ECM ........ AN/APT-8A
**AN/APT-16
*Space and structural provisions
**Alternate installation

DIMENSIONS
Wing Area ........ 1428 sq ft
Span .............. 116'
Incidence ........ 2°45'
Dihedral ........ 0°
Sweepback (LB) ... 36°37'
Length ............ 106.7'
Height ........... 27.9'
Tread (outrigger) ... 45.9'

GUNS
No. Cal Rds ea Location
2 ....... 50 ... 600 ... Fus, tail

CAMERAS
Vertical station for one of the following:
K-17C, 6", 12" or 24" lenses
K-22A, 6", 12" or 24" lenses
K-38, 12", 24" or 36" lenses
K-37, 12" lenses, Night Camera and accessories

22 SEPTEMBER 1950
## Loading and Performance - Typical Mission

<table>
<thead>
<tr>
<th>CONDITIONS</th>
<th>BASIC MISSION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TAKE-OFF WEIGHT</strong></td>
<td></td>
</tr>
<tr>
<td>Fuel at 6.8 lb/gal (grade JP-1)</td>
<td>(lb) 165,000</td>
</tr>
<tr>
<td>Military load (Bombs)</td>
<td>(lb) 88,951</td>
</tr>
<tr>
<td>Wing loading (lb/sq ft)</td>
<td>(lb) 10,000</td>
</tr>
<tr>
<td>Stall speed (power off, land, config)</td>
<td>(kn) 138</td>
</tr>
<tr>
<td>Take-off ground run at SL</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Take-off ground run with JATO</td>
<td>(ft) 5160</td>
</tr>
<tr>
<td>Take-off to clear 50 ft</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Take-off to clear 50 ft with JATO</td>
<td>(ft) 5500</td>
</tr>
<tr>
<td>Rate of climb at SL</td>
<td>(ft) 3375</td>
</tr>
<tr>
<td>Time: SL to ft</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Time: SL to ft</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>(ft) 36,800</td>
</tr>
<tr>
<td><strong>COMBAT RANGE</strong></td>
<td></td>
</tr>
<tr>
<td>Average speed</td>
<td>(kn) 426</td>
</tr>
<tr>
<td>Initial cruising altitude</td>
<td>(ft) 30,700</td>
</tr>
<tr>
<td>Final cruising altitude</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Total mission time</td>
<td>(hr) 10.07</td>
</tr>
<tr>
<td><strong>COMBAT RADIUS</strong></td>
<td></td>
</tr>
<tr>
<td>Average speed</td>
<td>(kn) 426</td>
</tr>
<tr>
<td>Initial cruising altitude</td>
<td>(ft) 30,700</td>
</tr>
<tr>
<td>Bombing altitude</td>
<td>(ft) 41,000</td>
</tr>
<tr>
<td>Bomb run speed</td>
<td>(kn) 7</td>
</tr>
<tr>
<td>Final cruising altitude</td>
<td>(ft) 44,500</td>
</tr>
<tr>
<td>Total mission time</td>
<td>(hr) 10.46</td>
</tr>
<tr>
<td><strong>COMBAT WEIGHT</strong></td>
<td></td>
</tr>
<tr>
<td>Combat altitude</td>
<td>(ft) 35,000</td>
</tr>
<tr>
<td>Combat speed</td>
<td>(kn) 486</td>
</tr>
<tr>
<td>Combat climb</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>(ft) 42,900</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Max rate of climb at SL</td>
<td>(ft) 7600</td>
</tr>
<tr>
<td>Max speed at ft</td>
<td>(kn) 7</td>
</tr>
<tr>
<td><strong>LANDING WEIGHT</strong></td>
<td></td>
</tr>
<tr>
<td>Ground roll at SL</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Ground roll (auxiliary brake)</td>
<td>(ft) 7</td>
</tr>
<tr>
<td>Total from 50 ft</td>
<td>(ft) 4200</td>
</tr>
<tr>
<td>Total from 50 ft (auxiliary brake)</td>
<td>(ft) 7</td>
</tr>
</tbody>
</table>

### NOTES
1. Max power
2. Military power
3. Normal power
4. Detailed descriptions of RADIUS & RANGE missions are given on page 6.
5. For Radius Mission if radius is shown.
6. Take-off and landing distances are obtainable at sea level using normal technique.

### PERFORMANCE BASIS:
(a) Data source: Estimates
(b) Performance is based on powers shown on page 3.
(c) In computing Radius and Range, specific fuel consumptions have been increased 5\% to allow for variation of fuel flow in service aircraft.

Data not available

---

SECRET

22 September 1950

B-47C
FORMULA: RADIUS MISSION I

Start engines, take-off, climb on course to 30,700 ft at maximum power, cruise at long range speeds increasing altitude with decreasing airplane weight, make normal power bomb run to target, drop bombs, conduct normal power evasive action for 6 minutes, start cruise to home base at 41,000 ft arriving over home base at 44,500 ft. Range free allowances include 5 minutes normal power fuel consumption for starting engines and take-off, plus 6 minutes normal power evasive action and 10% initial fuel for reserve.

FORMULA: RANGE MISSION I

Start engines, take-off, climb on course to 30,700 ft at maximum power, cruise at long range speeds maintaining cruise ceiling (300 fpm with normal power and momentary weight) until 90% of initial fuel has been consumed. Range free allowances include 5 minutes normal power fuel consumption for starting engines and take-off, plus 10% of initial fuel for landing and endurance reserve.

GENERAL DATA:

(a) Detailed performance data were abstracted from Boeing Document D-10737, "Performance Potential B-47 Airplane - II", dated 5 June 50. These data have not been substantiated by the AMC.