STANDARD AIRCRAFT CHARACTERISTICS

R3Y-1

CONSOLIDATED

DECLASSIFIED

1 APRIL 1952
**POWER PLANT**

NO. & M/CDE...(4) TNO-A-10
MFR........Allison
PRP, GEAR RATIO...0.0636
MFR........Aeroprod
PRP, DES, NO. ADS64487-L-11A
NO. BL/DIA.....6/15 Ft.

**RATINGS**

All ratings Static Sea Level

Sup- Lbs. - Rpm
T. C. 5,000 1,162 14,300
MIL. 5,120 1,013 13,700
NORM. 4,525 970 13,700
SPEC. NO. 300-A

**MISSION AND DESCRIPTION**

The principal mission of the B-3Y-1 airplane is to transport cargo, passengers, troops or litter patients.

The model B-3Y-1 airplane is a development of the model XPT-1 flying boat. It is a high wing, full cantilever monoplane, having two fixed auxiliary floats and a single tail. The hull is of high length/beam ratio design and incorporates a large cargo door on the after port side.

The cargo floor is equipped for cargo tie-down and handling and includes attachment for seats for 80 passengers or troops, or litters for 72 patients and seats for 2 medical attendants. Maximum cargo load is 46,000 pounds.

Slotted type flaps are installed at the wing trailing edge between the hull and the inboard end of each aileron.

Mock-up date — November 1950
First flight — January 1953
Service use — June 1953

**WEIGHTS**

<table>
<thead>
<tr>
<th>Loadings</th>
<th>Lbs.</th>
<th>L.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPTY</td>
<td>80,650</td>
<td></td>
</tr>
<tr>
<td>BASIC</td>
<td>81,179</td>
<td></td>
</tr>
<tr>
<td>DESIGN</td>
<td>185,500</td>
<td>3.0</td>
</tr>
<tr>
<td>MAX, T.O.</td>
<td>185,000*</td>
<td>2.5</td>
</tr>
<tr>
<td>MAX, LANDING</td>
<td>185,000*</td>
<td>2.5</td>
</tr>
</tbody>
</table>

All weights are calculated.

* Limited by hull strength
** Sheltered water

**FUEL AND OIL**

Gals. No. Tanks Location
5,500  2 L.Wing, S.S.
5,500  2 R.Wing, S.S.

FUEL GRADES......100/130
FUEL SPEC........MIL-F-5572

**OIL**

CAPACITY (Gals.).....91
SPEC..............MIL-L-7808

**ACCOMMODATIONS**

CREW (On Duty)...5
(Off Duty)......2
PASSENGERS OR TROOPS...80
LITTER PATIENTS...72
ATTENDANTS...5

**DIMENSIONS**

SPACE DIMENSIONS:

LENGTH.........68' - 2"
MAX. WID.        91' - 6"

LIMIT FLOOR LOADS:

LOCAL........300 lb./ft²
RUNNING.......750 lb./ft²
CARGO DOOR.....83" x 120"

MAX. PAY LOAD.....46,000 lbs.

DIMENSIONS:

WING AREA........2,100 sq. ft.
SPAN...........160' - 10"
LENGTH.........140' - 6"
HEIGHT..........32' - 0"
M.A.C. ..........66' - 0"

* On Beaching Gear

**ELECTRONICS**

VHF,...........AN/ARC-1 or -1A
UHF TRANS. REC., AN/ARC-27A
COMM. TRANS., AN/ARC-13
RANGE REC., R-23A/ARC-5
HF REC., EQUIP., AN/ARC-15
or AN/ARC-15A
MF AUTO, RADIO COMP., AN/ARC-6
BEACON REC., AN/ARC-12
VISUAL ON-HI RANGE, AN/ARC-11A
SEARCH RADAR, AN/ARC-42
ALTIT. LOW ALT., AN/ARC-1
ALTIT. HIGH ALT., SCR-716C

(See NOTES)
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) CARGO</th>
<th>(2) PERSONNEL 80 Passengers</th>
<th>(3) MAX. CARGO</th>
<th>(4) MAX. FUEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>1,45,500</td>
<td>1,45,500</td>
<td>1,65,000</td>
<td>1,56,284</td>
</tr>
<tr>
<td>Fuel</td>
<td>50,500</td>
<td>40,154</td>
<td>12,348</td>
<td>66,000</td>
</tr>
<tr>
<td>Payload</td>
<td>10,848</td>
<td>16,800</td>
<td>18,000</td>
<td>6,282</td>
</tr>
<tr>
<td>Wing loading</td>
<td>69,2</td>
<td>69,2</td>
<td>75,4</td>
<td>74,5</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>42</td>
<td>42</td>
<td>98</td>
<td>95,5</td>
</tr>
<tr>
<td>Take-off Time - calm sec.</td>
<td>34</td>
<td>34</td>
<td>50</td>
<td>42</td>
</tr>
<tr>
<td>Take-off run at S.L. kn. wind ft.</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Take-off to clear 90 ft. - calm ft.</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Max. speed/altitude (1) ft./min</td>
<td>308/27,000</td>
<td>308/23,000</td>
<td>299/21,000</td>
<td>303/22,000</td>
</tr>
<tr>
<td>Rate of climb at S.L. (1) fpm</td>
<td>2,310</td>
<td>2,310</td>
<td>1,210</td>
<td>2,080</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft. (1) min</td>
<td>12.3</td>
<td>12.3</td>
<td>16.0</td>
<td>14.0</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft. (1) min</td>
<td>25.3</td>
<td>25.3</td>
<td>33.2</td>
<td>32.1</td>
</tr>
<tr>
<td>Service ceiling (100 fpm) (1) ft.</td>
<td>33,800</td>
<td>33,800</td>
<td>30,300</td>
<td>32,300</td>
</tr>
<tr>
<td>Combat range</td>
<td>2,820</td>
<td>1,980</td>
<td>1,280</td>
<td>3,170</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>294</td>
<td>297</td>
<td>300</td>
<td>293</td>
</tr>
<tr>
<td>Cruising altitude (2) ft./min</td>
<td>33,000/37,000</td>
<td>33,000/36,800</td>
<td>29,000/34,200</td>
<td>30,400/37,500</td>
</tr>
<tr>
<td>Combat radius</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

### COMBAT WEIGHT

| Engine power               |
|-----------------|-----------------|
| Fuel            | 1,45,500        |
| Combat speed/combat altitude ft./min | 96.740         |
| Rate of climb/combat altitude fpm/ft. | 109.334        |
| Combat ceiling (500 fpm) ft. | 136.739        |
| Rate of climb at S.L. fpm | 96.324         |
| Max. speed at S.L. kn. | 96.284          |
| Max. speed/altitude kn./ft. | 109.324         |

### LANDING WEIGHT

<table>
<thead>
<tr>
<th>Fuel</th>
<th>4,240</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stall speed - power-off</td>
<td>75.7</td>
</tr>
<tr>
<td>Stall speed - with approach power</td>
<td>78.3</td>
</tr>
</tbody>
</table>

### NOTES

Performance is calculated.

Range is based on engine manufacturer's fuel consumption data increased 5%.
NOTES

TRANSPORT COMBAT RANGE PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.
CLIMB: On course to cruising ceiling at normal power. (Cruising ceiling = altitude for 300 ft./min. rate of climb at normal power.)
CRUISE: At V for long range at cruising ceiling. Cruise with optimum number of power units operating.
RESERVE: 30 minutes at V for maximum endurance at Sea Level plus 5% of initial fuel load.

COMBAT RANGE = CLIMB + CRUISE

---------------------------------------------
ELECTRONICS (Continued):

LOCAN .................................. AN/APH-4
INTERPHONE ................................ AN/AIO-5B
VISUAL HOMING ............................ AN/ARE-21
(Planned Service Installation)
IFF ........................................... AN/APY-6