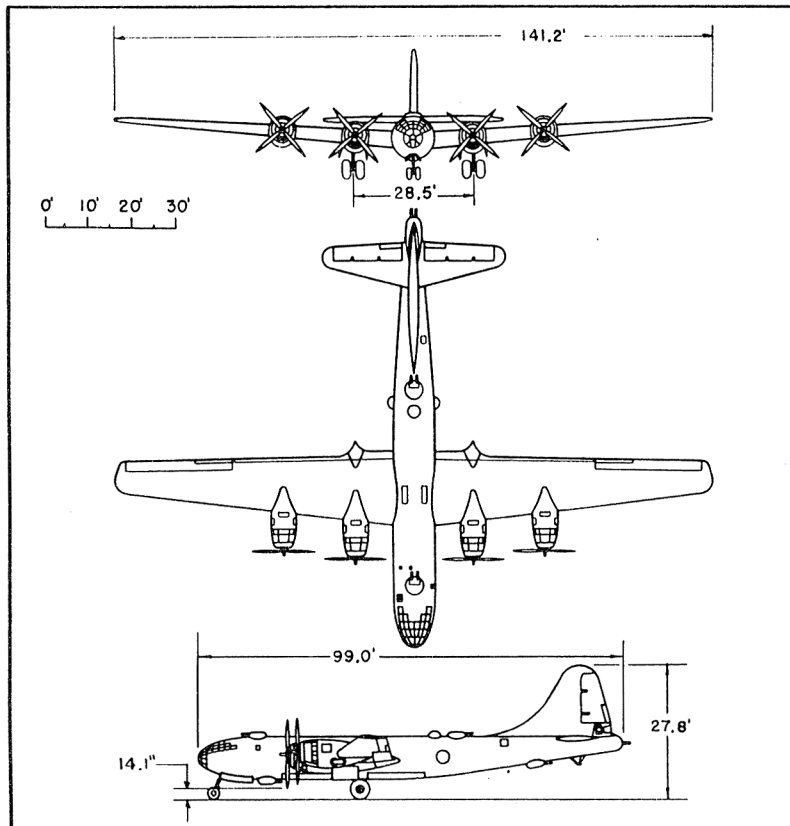


Standard Aircraft Characteristics

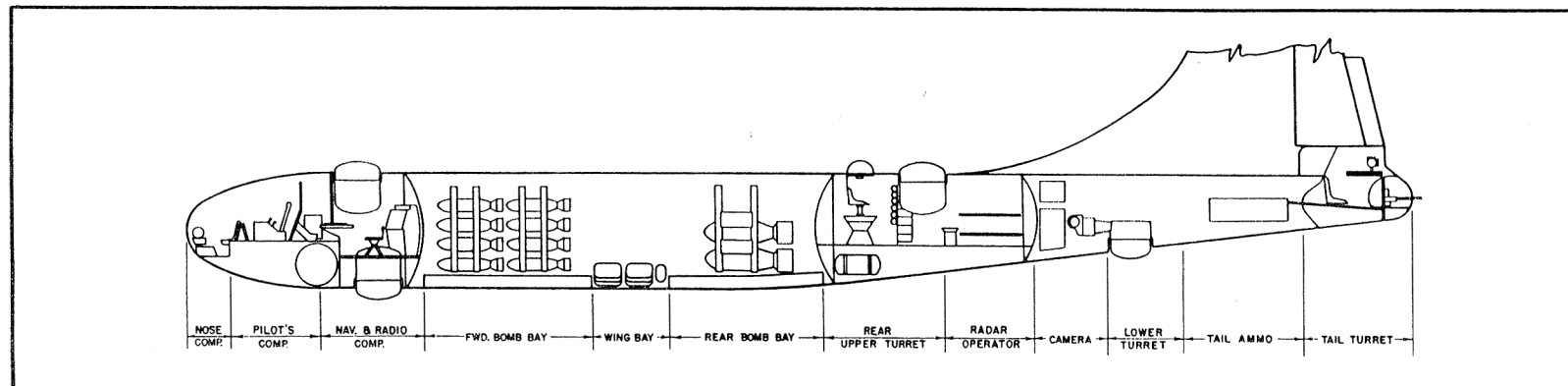
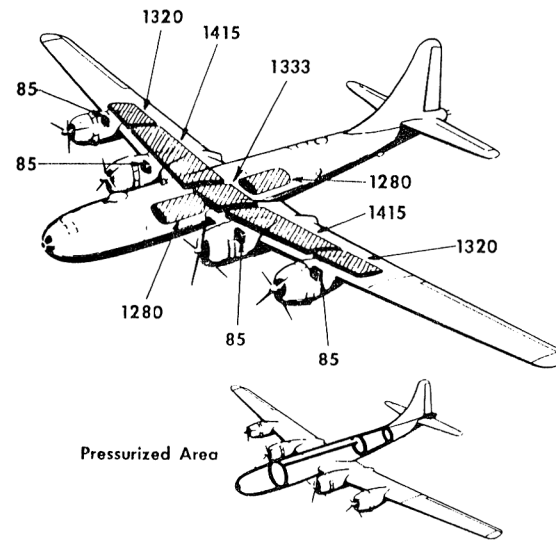
BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

B-29, P2B-1 FOUR R-3350-57or-57A
SUPERFORTRESS WRIGHT
Boeing

SERVICE



Wing Area 1,720 sq ft Wing Section Boeing 117
 Aspect Ratio 11.5 M. A. C. 154.41"



B-29

11 JULY 1952

POWER PLANT

No. & Model (4) R-3350-57 or 57A
 Mfr Wright
 Engine Spec No. 787-C
 Superch 1 stg, 1 spd
 Turbo Superch. B-11 or B-31
 Turbo Mfr General Electric
 Red. Gear Ratio 0.350
 Prop Mfr Hamilton Std
 Blade Design No. 6521A-6
 Prop Type C. S., F. F., Hydr.
 No. Blades 4
 Prop Dia 16'7"

ENGINE RATINGS

BHP - RPM - ALT - MIN

T. O: 2200 - 2800 - S. L. - 5

Mil: 2200 - 2600 - Turbo - 30

Norm: 2000 - 2400 - Turbo - Cont.

DIMENSIONS

Wing
 Span 141.2'
 Incidence 4°
 Dihedral 4°29'
 Sweepback (LE) 7°1'
 Length 99.0'
 Height 27.8'
 Tread 28.5'
 Prop. Grd Clearance 14.1"

Mission and Description

Navy Equivalent: P2B-1 Mfr's Model: 345-3-0

The principal mission of the B-29 is the destruction of enemy materiel and installations by aerial bombardment. It is provided with pressurized crew compartments and adequate heating and oxygen facilities for long range missions. Crew of 11 consists of pilot, co-pilot, flight engineer, navigator, radio operator, radar operator, bombardier and four gunners.

Direct current electrical power is supplied by six engine driven generators and one auxiliary power plant.

Early models are equipped with transfer type fuel systems while later models use the manifold type system.

Armament provided consists of five (5) turrets controlled by a central fire control system.

In later aircraft a formation stick was added to the C-1 auto-pilot to facilitate formation flying.

Development

Design initiated: Jun 40
 First flight: (XB-29) Sep 42
 First acceptance: Sep 43
 Production completed: Jun 46

WEIGHTS

Loading	Lb	L. F.
Empty	71,500(A)	
Basic	74,050(A)	
Design	120,000	2.67
Combat	*101,082	3.10
Max T. O.		
(Overload)	†140,000	2.28
Max T. O (Normal)	‡133,500	
Max Land	‡135,000	2.35

(A) Actual
 * For Basic Mission
 † Limited by performance
 ‡ Limited by strength

F U E L

Location	No. Tanks	Gal
Wg. outbd*	2	2640
Wg. inbd*	2	2830
Wg. ctr*	1	1333
Bomb bay*	2	2560
		Total 9363
Grade		100/130
Specification		MIL-F-5572

OIL

Nacelles 4 (tot) 340
 Grade S-1120; W-1100
 Specification MIL-O-6082
 *Self-Sealing

B O M B S

No.	Lb	Type
4	4000	G. P.
8	2000	G. P.
12	1600	A. P.
12	1000	G. P.
40	500	G. P.

Max Bomb Load 20,000 lb

G U N S

No.	Size	Rds ea	Location
4	.50	.500	Fus, upr, fwd
2	.50	.500	Fus, upr, aft
2	.50	.500	Fus, lwr, fwd
2	.50	.500	Fus, lwr, aft
2	.50	.500	Tail, tur

ELECTRONICS

VHF Command AN/ARC-3
 Interphone AN/AIC-2A
 Liaison AN/ARC-8
 Radio Compass AN/ARN-7
 Marker Beacon RC-193A
 Homing Adapter AN/ARR-1
 Localizer RC-103
 Glide Path AN/ARN-5A
 Radio Altimeter SCR-718C
 Interrogator SCR-729
 Radar AN/APQ-7 or AN/APQ-23A
 Loran AN/APN-9 or AN/APN-4
 IFF SCR-695
 Raven RCM

Loading and Performance—Typical Mission

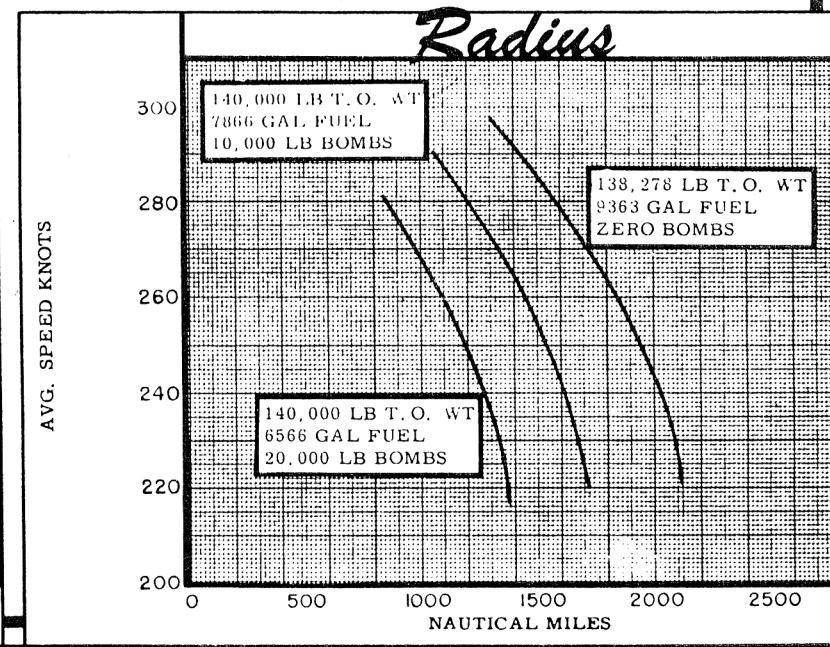
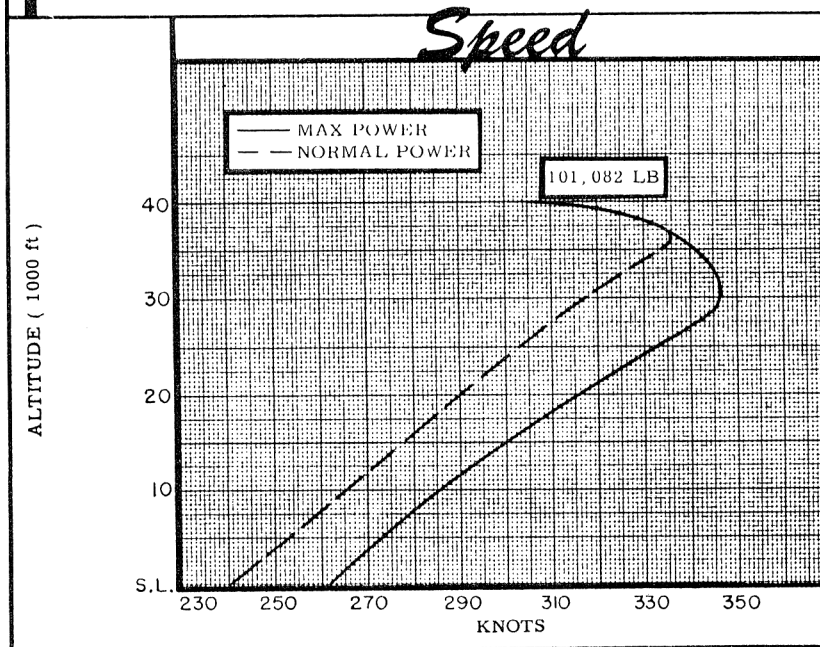
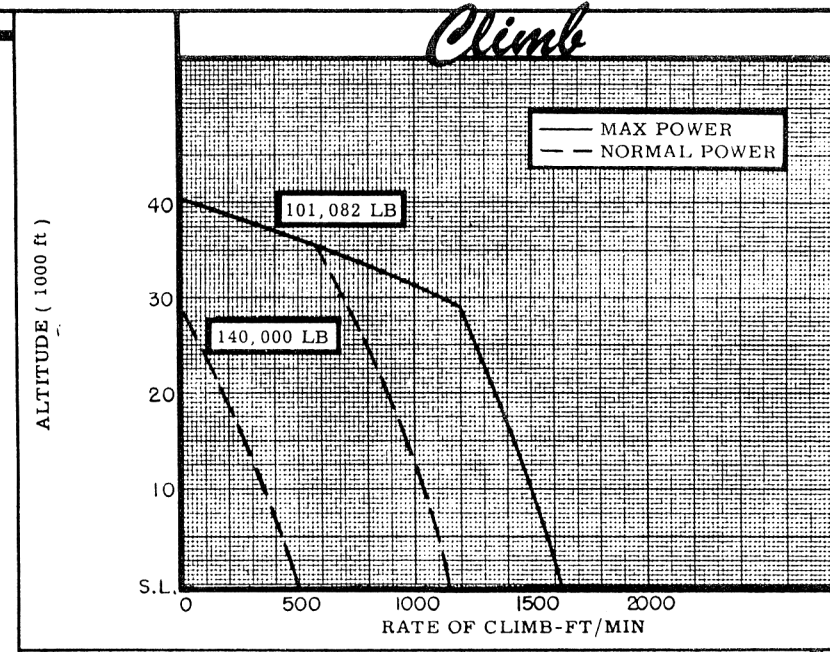
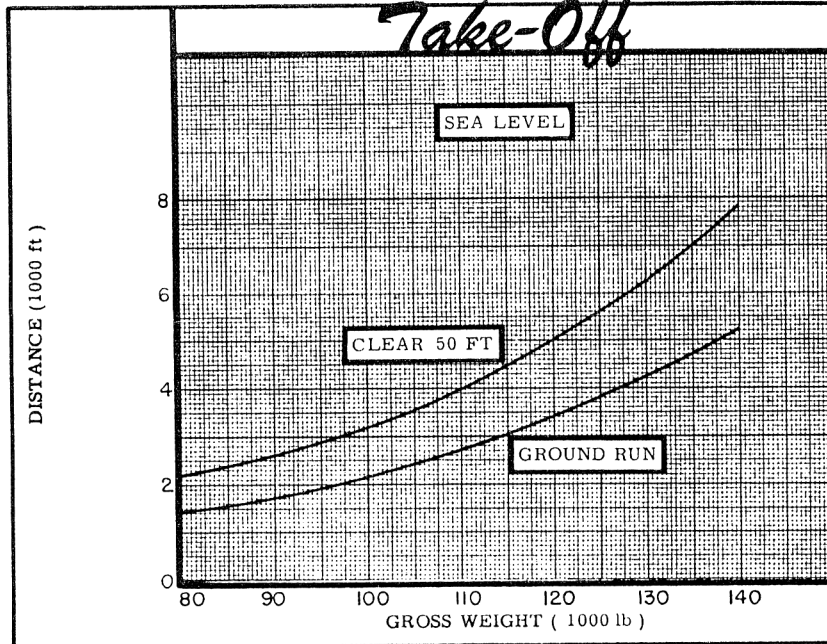
C O N D I T I O N S		BASIC MISSION	MAX BOMB	HIGH ALTITUDE	NORMAL WEIGHT	FERRY RANGE
		I	II	III	IV	V
TAKE-OFF WEIGHT	(lb)	140,000	140,000	140,000	133,500	138,278
Fuel at 6.0 lb/gal (grade 100/130)	(lb)	47,196	39,396	47,196	41,496	56,178
Payload (Bombs)	(lb)	10,000	20,000	10,000	10,000	None
Wing loading	(lb/sq ft)	81.4	81.4	81.4	77.6	80.4
Stall speed (power off)	(kn)	103	103	103	101	102
Take-off ground run at SL	① (ft)	5230	5230	5230	4575	5050
Take-off to clear 50 ft	① (ft)	7825	7825	7825	6765	7530
Rate of climb at SL	② (fpm)	500	500	500	585	520
Rate of climb at SL (one engine out)	① (fpm)	400	400	400	480	420
Time: SL to 10,000 ft	② (min)	20	20	20	18	19.5
Time: SL to 20,000 ft	② (min)	52	52	52	45	49
Service ceiling (100 fpm)	② (ft)	23,950	23,950	23,950	28,000	25,000
Service ceiling (one engine out)	① (ft)	19,400	19,400	19,400	23,800	20,650
COMBAT RANGE	③ (n. mi.)	—	—	—	—	4809
COMBAT RADIUS	③ (n. mi.)	1717	1384	1493	1523	—
Average speed	(kn)	220	217	248	221	178
Initial cruising altitude	(ft)	5000	5000	25,000	5000	5000
Target speed	(kn)	312	298	312	314	—
Target altitude	(ft)	30,000	25,000	30,000	30,000	—
Final cruising altitude	(ft)	25,000	25,000	30,000	25,000	5000
Total mission time	(hr)	15.35	12.77	12.22	13.5	27.03
COMBAT WEIGHT	(lb)	101,082	96,815	98,862	98,550	82,400
Combat altitude	(ft)	30,000	25,000	30,000	30,000	5000
Combat speed	① (kn)	347	333	348	348	282
Combat climb	① (fpm)	1120	1420	1185	1195	1650
Combat ceiling (500 fpm)	① (ft)	36,250	37,300	36,650	36,750	40,300
Service ceiling (100 fpm)	② (ft)	39,650	40,700	40,100	40,150	43,750
Service ceiling (one engine out)	② (ft)	34,800	36,200	35,400	35,550	39,650
Max rate of climb at SL	① (fpm)	1630	1770	1690	1700	2250
Max speed at optimum altitude	① (kn/ft)	347/30,000	348/30,000	348/30,000	348/30,000	353/30,000
Basic speed at 25,000 ft	(kn)	331	333	332	332	339
LANDING WEIGHT	(lb)	84,314	83,250	84,314	83,971	82,400
Ground roll at SL	(ft)	2250	2225	2250	2245	2210
Total from 50 ft	(ft)	2980	2950	2980	2975	2925

NOTES

- ① Max power
- ② Normal power
- ③ Detailed descriptions of RADIUS and RANGE missions given on page 6.

PERFORMANCE BASIS:

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



N O T E SFORMULA: RADIUS MISSION I, II & IV

Warm-up, take-off, climb on course to 5000 ft at normal power, cruise at long range speeds at altitude for best range but not less than 5000 ft, climb on course to reach cruising ceiling 500 nautical miles from target, cruise in level flight to target including a 15 minutes normal bomb run, drop bombs and conduct 2 minutes evasive action (no distance credit) at combat altitude and an 8 minute run out from target with normal power, cruise at long range speeds at not less than combat altitude for 500 nautical miles, cruise back to base at long range speeds at not less than 5000 ft for best range. Range free allowances include 10 minutes normal power fuel consumption for warm-up and take-off, 2 minutes normal power fuel consumption at altitude for evasive action, and a landing reserve of 5% of initial fuel load plus fuel for 30 minutes for maximum endurance at sea level.

FORMULA: RADIUS MISSION III

Same as Radius Mission I except initial climb is to 25,000 ft.

FORMULA: RANGE MISSION V

Warm-up, take-off, climb on course to 5000 ft at normal power, cruise at long range speeds at altitude for best range but not less than 5000 ft. Range free allowances include 10 minutes normal power fuel consumption at sea level for warm-up and take-off, 5% of initial fuel load for landing reserve, plus 30 minutes fuel for maximum endurance at sea level.

GENERAL DATA:

(a) For detailed planning refer to Tech Order AN 01-20EJA-1

(b) Engine ratings shown on page 3 are manufacturer's guaranteed ratings. Power values used for performance calculations are as follows:

(4) R-3350-57 or -57A				
	BHP	RPM	CRIT ALT*	MIN
T. O:	2200	2800		5
Max:	**2500	2600	31,400	30
Nor:	2000	2400	35,600	Cont.

* With Turbo
** As established by T. O. AN 01-20EJ-92 dated 15 June 1945.

(c) Bomb bay tanks are dropped when empty for all missions shown on page 4 except for ferry mission.