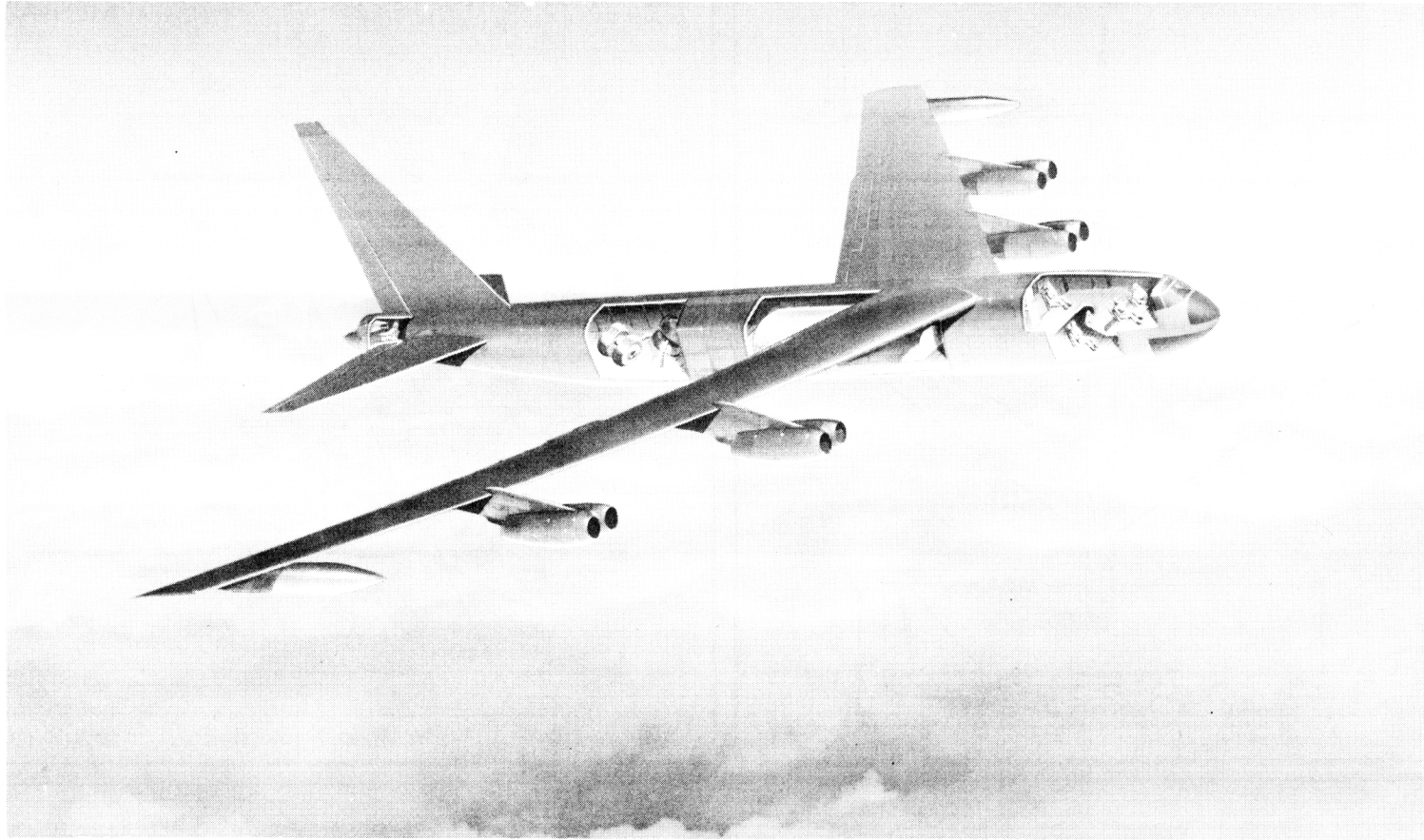


A-1
(R) B-52B/char

~~SECRET~~

SERVICE



Standard Aircraft Characteristics

BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

RB-52B
STRATOFORTRESS
Boeing

EIGHT J57-P-1W
PRATT & WHITNEY

1 MAR 55

~~SECRET~~

RB-52B
(BOMBER VERSION)

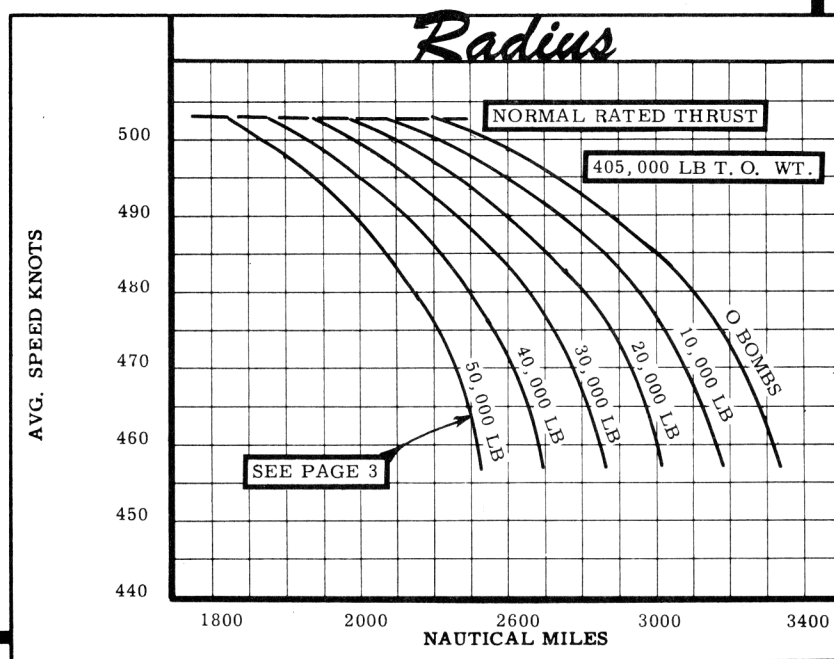
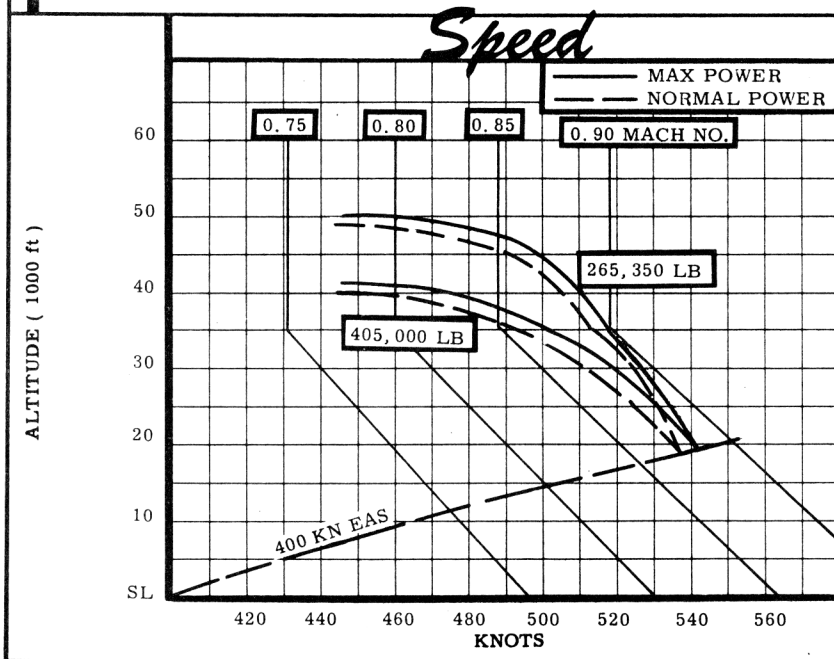
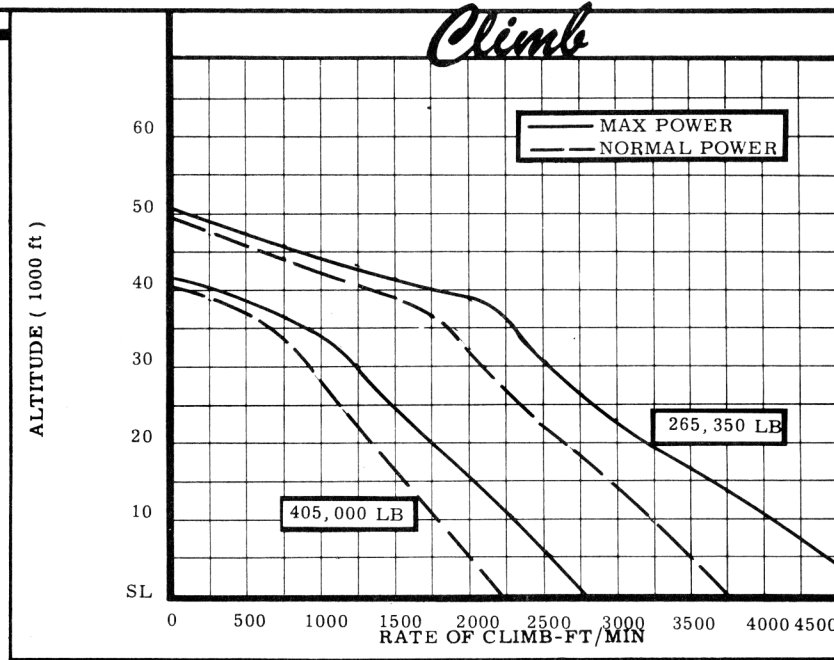
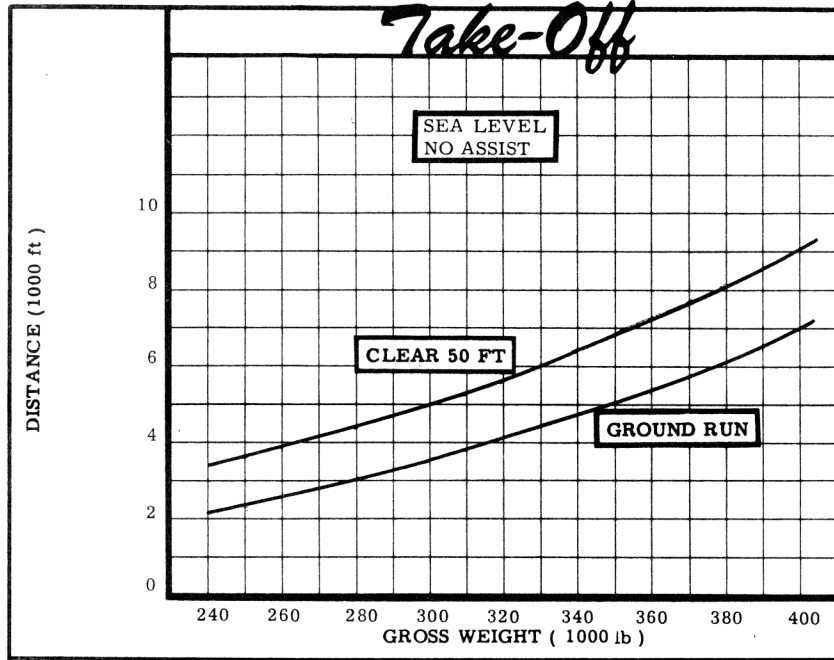
CLASSIFICATION CANCELLED
CHANGED TO UNCLASSIFIED
BY AUTHORITY OF DOD-DIV-5700-10
a.p. Lowborn 29 mar 67

4th ca addn # 4

Loading and Performance—Typical Mission

C O N D I T I O N S	BASIC MISSION	DESIGN LOAD	ALT. GR. WT.	MAX BOMB LOAD	FERRY RANGE
TAKE-OFF WEIGHT ⑤ (lb)	I 405,000	II 405,000	III 390,000	IV 405,000	V 405,000
Fuel at 6.5 lb/gal (grade JP-4) (lb)	222,600	224,000	207,600	189,600	232,600
Payload (Bombs) (lb)	10,000	8,600	10,000	43,000	None
Payload (Chaff) (lb)	400	400	400	400	None
Wing loading (lb/sq ft)	101.3	101.3	97.5	101.3	101.3
Stall speed (power off) (kn)	128	128	126	128	128
Take-off ground run at SL ① (ft)	7170	7170	6580	7170	7170
Take-off to clear 50 ft ① (ft)	9280	9280	8560	9280	9280
Rate of climb at SL ③ (fpm)	2190	2190	2290	2190	2190
Rate of climb at SL (one engine out) ② (fpm)	2250	2250	2350	2250	2250
Time: SL to 20,000 ft ③ (min)	11.4	11.4	10.7	11.4	11.4
Time: SL to 30,000 ft ③ (min)	19.7	19.7	18.4	19.7	19.7
Service ceiling (100 fpm) ③ (ft)	39,700	39,700	40,400	39,700	39,700
Service ceiling (one engine out) ② (ft)	39,200	39,200	39,900	39,200	39,200
COMBAT RANGE ④ (n. mi.)	—	—	—	—	6600 ⑧
COMBAT RADIUS ④ (n. mi.)	3185	3210	3025	2645	—
Average cruise speed (kn)	457	457	457	457	457
Initial cruising altitude (ft)	37,000	37,000	38,000	37,000	37,000
Target speed ③ (kn)	475	475	475	475	—
Target altitude (ft)	46,050	46,100	46,500	44,850	—
Final cruising altitude (ft)	52,100	52,100	52,400	52,250	51,950
Total mission time (hr)	14.00	14.10	13.29	11.65	14.51
COMBAT WEIGHT (lb)	265,350	266,100	259,100	247,900	188,284
Combat altitude (ft)	46,050	46,100	45,500	44,850	51,950
Combat speed ② (kn)	491	491	496	503	497
Combat climb ② (fpm)	710	690	730	1150	910
Combat ceiling (500 fpm) ② (ft)	47,200	47,150	47,800	48,600	53,350
Service ceiling (100 fpm) ③ (ft)	48,500	48,450	49,050	49,900	55,650
Service ceiling (one engine out) ③ (ft)	46,450	46,400	46,900	47,900	53,600
Max rate of climb at SL ② (fpm)	4700	4680	4870	5030	6520
Max speed at optimum alt. ② ⑥ (kn/ft)	542/19,500	542/19,500	542/19,500	542/19,500	542/19,500
Basic speed at 35,000 ft ② (kn/ft)	517	517	517	518	519
LANDING WEIGHT (lb)	186,526	186,598	185,626	185,186	188,284
Ground roll at SL (ft)	2610	2610	2590	2590	2620
Ground roll (auxiliary brake) ⑦ (ft)	2250	2250	2240	2240	2260
Total from 50 ft (ft)	3150	3150	3140	3140	3170
Total from 50 ft (auxiliary brake) ⑦ (ft)	2790	2790	2780	2780	2810

<p>N O T E S</p>	<p>① Take-off power ② Max power ③ Normal power ④ Detailed descriptions of RADIUS and RANGE missions given on page 6.</p>	<p>⑤ Does not include up to 1000 lb of water. ⑥ Limited by structure. ⑦ With drag chute. ⑧ External tanks carried all the way.</p>	<p>PERFORMANCE BASIS: (a) Data source: Flight test polar and estimated engine data. (b) Performance is based on powers shown on page 3.</p>
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N O T E S

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FORMULA: RADIUS MISSION I, II, III & IV

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, external tanks are dropped when empty. Climb so as to reach cruise ceiling fifteen (15) minutes from target. Run into target at normal power, drop bombs and chaff, 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 engine) fuel consumption at sea level plus 5% of initial fuel load for landing reserve.

FORMULA: RANGE MISSION V

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 until all useable 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) The prescribed fuel reserve for basic mission is equivalent to 811 nautical miles at best range conditions.
- (b) Forthcoming revision to engine specification will include Reynolds Number effects at high altitude which will increase the S. F. C. approximately 4% and 7% at 45,000 ft and 55,000 ft, respectively.
- (c) The following Electronic equipment is supplemental to that shown under Electronics on Page 3:

Glide Path Receiver	(1)	AN/ARN-18
Direction Finder	(1)	AN/ARA-25
Marker Beacon	(1)	AN/ARN-12
Early Warning	(1)	AN/APS-54
Chaff	(2)	AN/ALE-1

PERFORMANCE REFERENCE: Boeing document No. D-13950, Substantiation Data Report, dated Nov. 52, Rev. Sep 54.

REVISION BASIS:

To reflect changes in take-off and empty weight.