

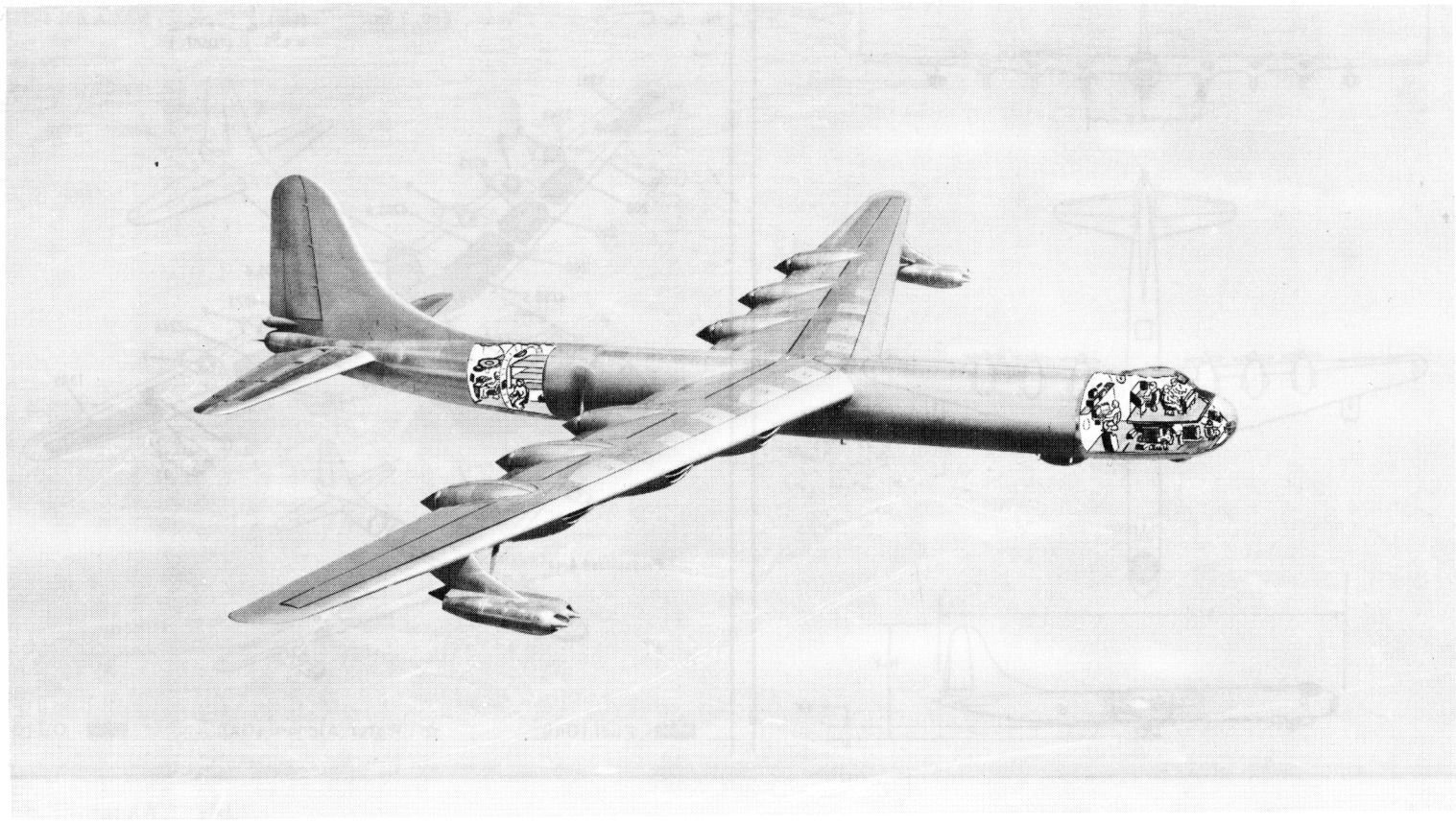
~~Confidential~~
SECRET

Unclassified

A-1
B-36 Jchan
SERVICE

There is a
duplicate for this
date in the brown
green book
11 Sep 58

Classification cancelled
or changed to ~~Confidential~~
AUTH: AFSC AF LC Sec. Clear. Jants
By O. R. Somelban 1 Sep 64
Signature and Grade
23 Feb 1967 B Jan 68



Standard Aircraft Characteristics

B-36J III

BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

Consolidated-Vultee

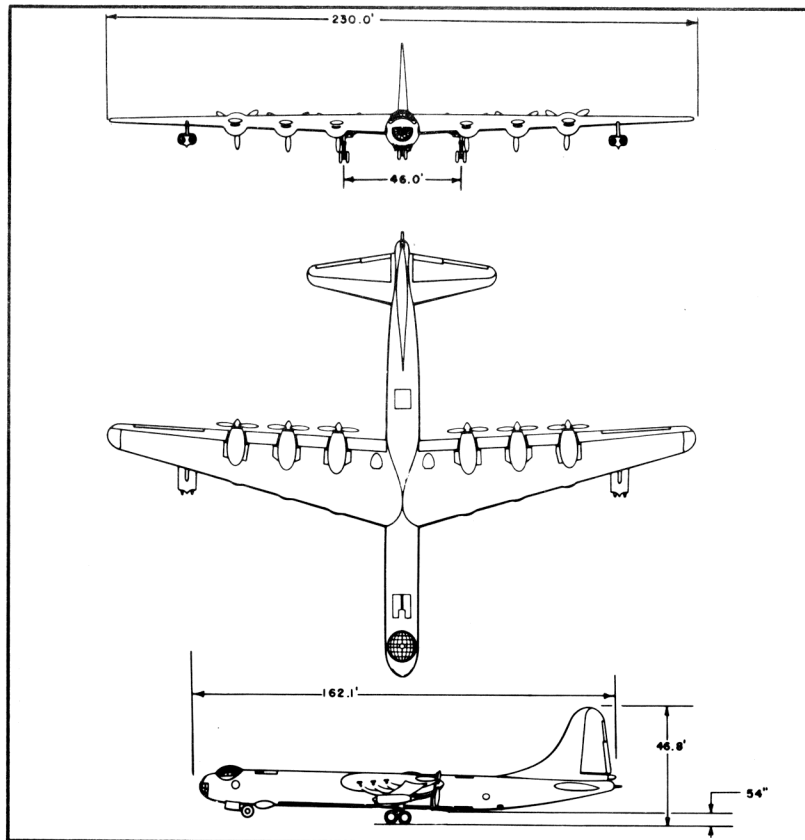
SIX R-4360-53
PRATT & WHITNEY
FOUR J47-GE-19
GENERAL ELECTRIC

3 OCT 55

SECRET

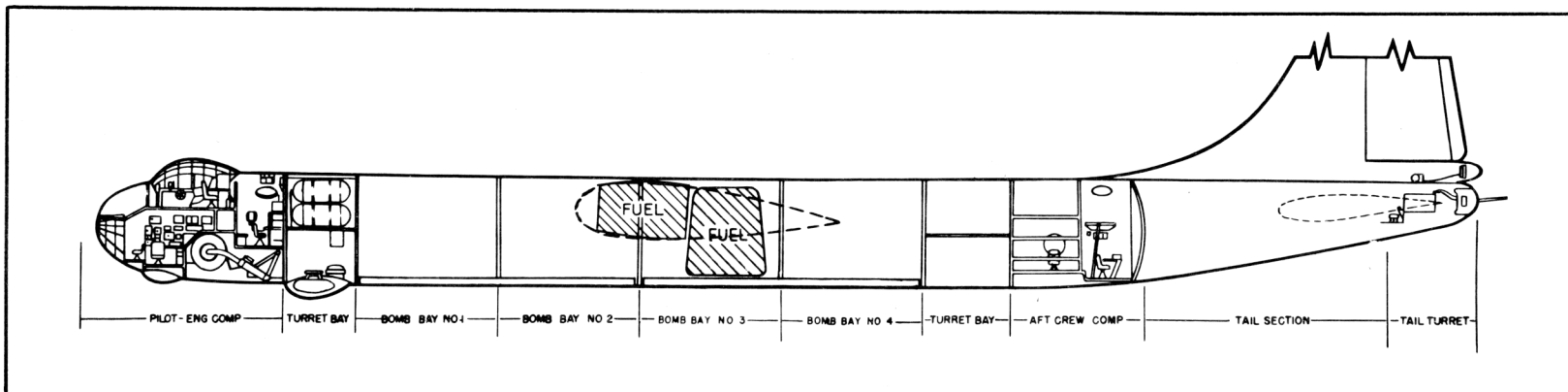
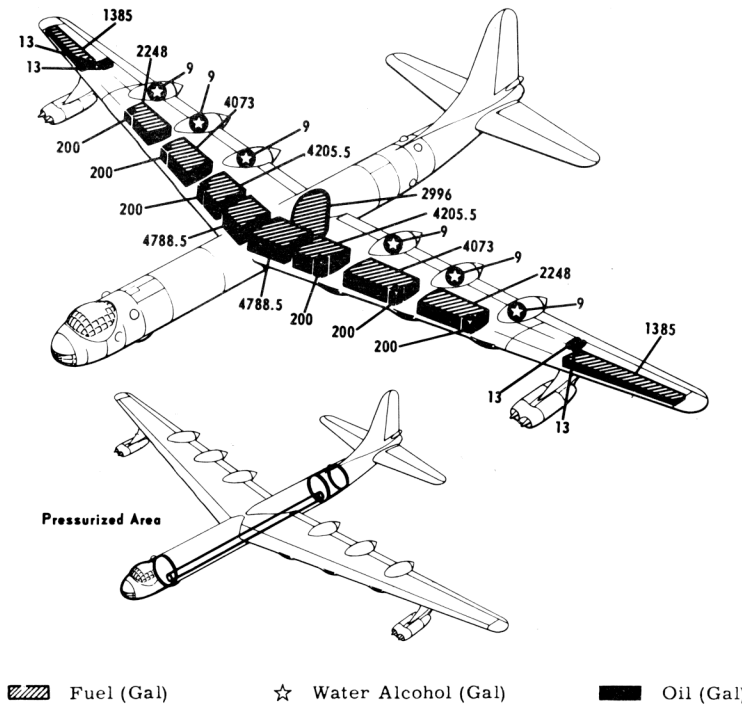
B-36J(III)

57WC-4984



Wing Area 4772 sq ft
 Aspect Ratio 11.08
 M. A. C. 280.7 in.

Wing Section
 (root) NACA 63, 4-422A
 (tip) NACA 63, 4-517A
 a = 1.0 (mod.)



B-36J(III)

POWER PLANT	
No. & Model	(6) R-4360 - 53
Mfr	Pratt & Whitney
Engine Spec. No.	A-7076-F
Superch	1 stg, 1 spd
Turbo Superch	(2) BH- 1
Turbo Mfr	General Electric
Red. Gear Ratio	0.375
Prop. Mfr	Curtiss
Blade Design No.	1129-17C6-24
Prop Type	C.S, FF, Reverse
No. Blades	3
Prop. Dia	19'0"
Augmentation	Water/Alcohol plus
No. & Model	(4) J47-GE-19
Mfr	General Electric
Engine Spec. No.	E-589
Type	Axial
Length	144"
Diameter	39"
Weight (dry)	2495
Tail Pipe	Fixed Area
*Alternate Blades: A. O. Smith; SP-36D	

ENGINE RATINGS			
	BHP	- RPM	- ALT - MIN
T. O.:	*3800	- 2800	- SL - 5
Mil:	*3800	- 2800	- Turbo - 30
	3500	- 2800	- Turbo - 30
Nor:	2800	- 2600	- Turbo - Cont
*Wet			
	plus		
S. L. Static	LB	- RPM	- MIN
Max:	5200	- 7950	- 5
Mil:	5200	- 7950	- 30
Nor:	4730	- 7630	- Cont

DIMENSIONS	
Wing	
Span	230.0'
Incidence (root)	3°
(tip)	1°
Dihedral	2°
Sweepback (LE)	15°5'
Length	162.1'
Height	46.8'
Tread	46.0'
Prop. Grd. Clearance	54"

Mission and Description

Navy Equivalent: None Mfr's Model: 36

The principal mission of the B-36J(III) is the destruction by bombs of strategic ground and naval materiel objectives.

The crew of 13 differs from that of the standard configuration in that the upper aft right and left gunners have been removed.

Crew compartments are heated and ventilated. Compartment heating; enclosure defrosting; wing and tail anti-icing are accomplished by heated air obtained from heat exchangers installed in the reciprocating engine exhaust system. The oxygen system modification includes the removal of oxygen provisions from deleted crew stations.

The K-3A Bombing-Navigation system with a vertical Y-3A optical sight and radar equipment for blind bombing and navigation is provided. This system allows a single crew member to serve as radar operator and bombardier.

The defensive armament consists of a 20mm gun tail turret, controlled by AN/APG-41A Radar.

The airplane has a single-point refueling, manifold type fuel system.

Development

Major differences of the B-36J(III) from the standard configuration are removal of all turrets except tail turret, self-sealing pads, fuel purging system and crew comfort items; the replacement of blisters by small flush windows.

Contract approved for modification of B-36J airplane to B-36J(III) . . Feb 54
 First Delivery Feb 54
 Modification Completion Date June 54

B O M B S		
No.	Class (lb)	
WW II (Box Fin)		
12	4000	
28	2000	
45	1600	
72	1000	
132	500	
INTERIM (Conical Fin)		
4	12,000	
4	10,000	
22	2000	
40	1000	
129	500	
NEW SERIES		
48	750	

G U N S				
No.	Type	Size	Rds ea	Loc
2	M24A1	.20mm	600	Fus, tail

WEIGHTS		
Loading	LB	L. F.
Empty	166,165 (C)	
Basic	167,813 (C)	
Design	410,000	2.0
Combat	*262,500	
Max T. O.	†410,000	2.0
Max Land	†357,500	
(C) Calculated		
* For Basic Mission		
† Limited by structure		

F U E L		
Location	No. Tanks	Gal
Wg, outer panel	2	2770
Wg, outbd	2	4496
Wg, ctr	2	8146
Wg, inbd	2	8411
Ctr sec (aux)	2	9577
Bomb bay	1	2996
	Total	*36,396
Grade		115/145
Specification		MIL-F-5572
OIL		
Outboard (Jet)	4	(tot) 52
Wing (Recip)	6	1200
Grade (Recip)		110°
(Jet)		1005
Specification (Recip)		MIL-L-6082A
(Jet)		MIL-L-6081A
WATER/ALCOHOL		
Eng Nacelle	6	(tot) 54
*Additional (2996 gal) bomb bay fuel tank necessary for missions other than Max Bomb Mission.		

ELECTRONICS	
UHF Command	AN/ARC-27
VHF Command	AN/ARC-3
Liaison	AN/ARC-21x
Radio Compass	AN/ARN-6
Marker Beacon	AN/ARN-12
IFF	AN/APX-6
Omni-Range	AN/ARN-14
Glide Path	AN/ARN-18
Bomb. -Nav. Radar	K-3A
Loran	AN/APN-70
Gun-Laying Radar	AN/APG-41A
Interphone	AN/AIC-10
Defensive ECM	
Chaff Dispenser	

Loading and Performance—Typical Mission

C O N D I T I O N S	BASIC MISSION	MAX BOMBS	MAX ALTITUDE	HIGH SPEED	FERRY RANGE	
	I	II	III	IV	V	
TAKE-OFF WEIGHT (lb)	410,000	410,000	410,000	410,000	410,000	410,000
Fuel at 6.0 lb/gal (grade 115/145) (lb)	219,840	157,900	219,840	219,840	219,840	231,630
Payload (Bombs) (lb)	10,000	72,000	10,000	10,000	None	None
Payload (Chaff) (lb)	1408	1408	1408	1408	None	None
Wing loading (lb/sq ft)	85.9	85.9	85.9	85.9	85.9	85.9
Stall speed (power off) (kn)	112	112	112	112	112	112
Take-off ground run at SL ① (ft)	5290	5290	5290	5290	5290	5290
Take-off to clear 50 ft ① (ft)	6820	6820	6820	6820	6820	6820
Rate of climb at SL ③ (fpm)	780	780	780	780	780	780
Rate of climb at SL(one engine out) ② (fpm)	790	790	790	790	790	790
Time: SL to 10,000 ft ③ (min)	14	14	14	14	14	14
Time: SL to 20,000 ft ③ (min)	34	34	34	34	34	34
Service ceiling (100 fpm) ③ (ft)	28,500	28,500	28,500	28,500	28,500	28,500
Service ceiling (one engine out) ② (ft)	25,800	25,800	25,800	25,800	25,800	25,800
COMBAT RANGE (n. mi)	—	—	—	—	—	8200
COMBAT RADIUS ④ (n. mi)	3465	2170	3225	1630	—	—
Average cruise speed (kn)	197	205	202	343	—	188
Initial cruising altitude (ft)	5000	5000	5000	26,800	—	5000
Target speed ③ (kn)	352	348	324	346	—	366
Target altitude (ft)	39,300	34,200	43,700	36,400	—	33,900
Final cruising altitude (ft)	33,900	34,600	33,900	38,500	—	33,900
Total mission time (hr)	34.6	20.9	31.5	10.0	—	43.6
TOTAL MISSION TIME (hr)	—	—	—	—	—	—
Interception altitude (ft)	—	—	—	—	—	—
COMBAT WEIGHT (lb)	262,500	230,600	259,900	277,200	—	190,950
Combat altitude (ft)	39,300	34,200	43,700	36,400	—	33,900
Combat speed ② (kn)	362	365	338	359	—	372
Combat climb (fpm) ② (fpm)	545	1100	120	615	—	1560
Combat ceiling (500 fpm) ② (ft)	39,500	42,600	39,700	37,600	—	47,200
Service ceiling (100 fpm) ③ (ft)	43,600	46,500	43,800	42,600	—	50,100
Service ceiling (one engine out) ③ (ft)	41,000	43,800	41,200	40,200	—	47,900
Max rate of climb at SL ② (fpm)	1995	2360	2020	1865	—	2940
Max speed at optimum altitude ② (kn)	363/37,500	370/38,700	364/37,300	360/36,900	—	375/38,000
Basic speed at 25,000/35,000 ft ② (kn/ft)	⑥ 346/362	⑥ 350/368	⑥ 346/363	⑥ 344/359	—	⑥ 354/373
LANDING WEIGHT (lb)	190,750	187,590	190,750	190,750	—	190,950
Ground roll at SL (ft)	1850	1820	1850	1850	—	1850
Ground roll (auxiliary brake) ⑤ (ft)	1640	1610	1640	1640	—	1640
Total from 50 ft (ft)	3300	3270	3300	3300	—	3300
Total from 50 ft (auxiliary brake) ⑤ (ft)	3060	3040	3060	3060	—	3060

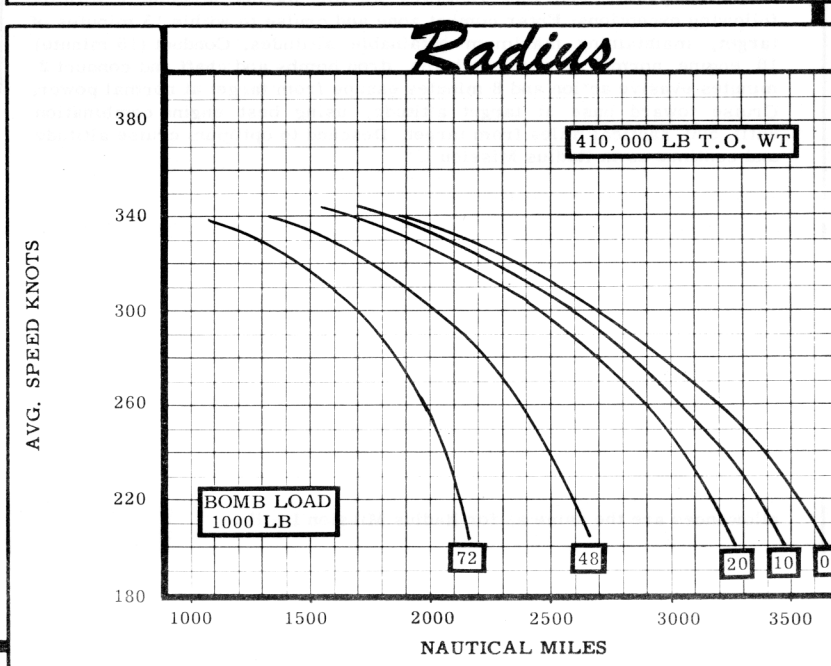
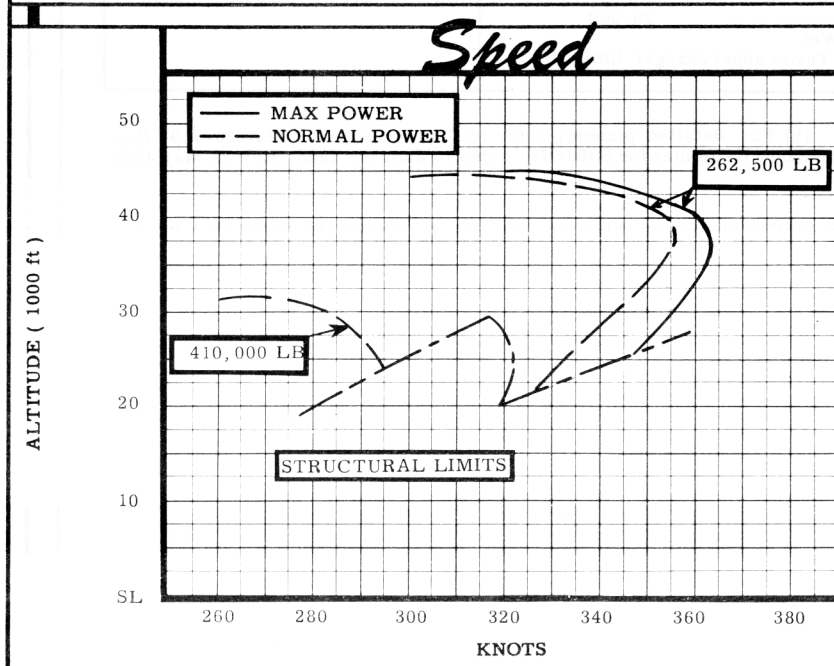
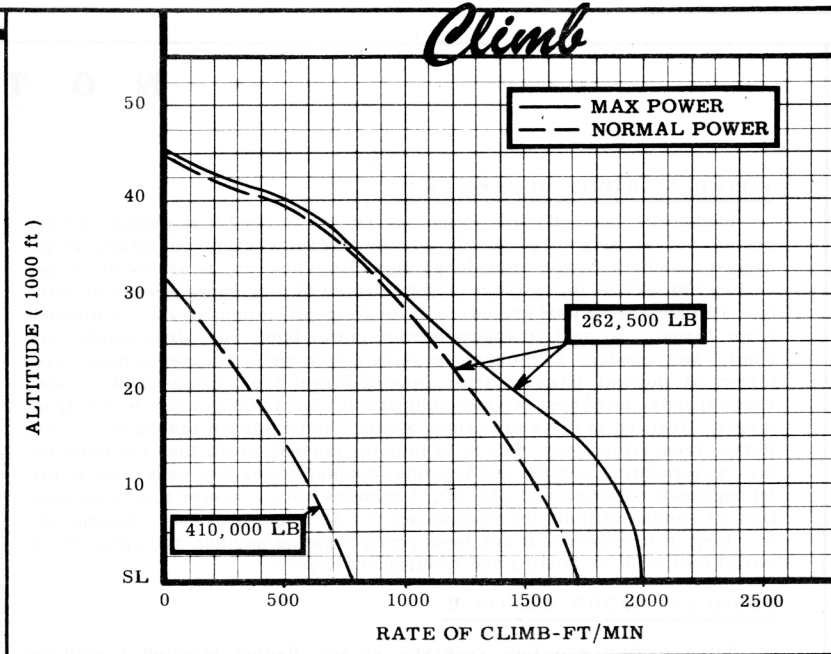
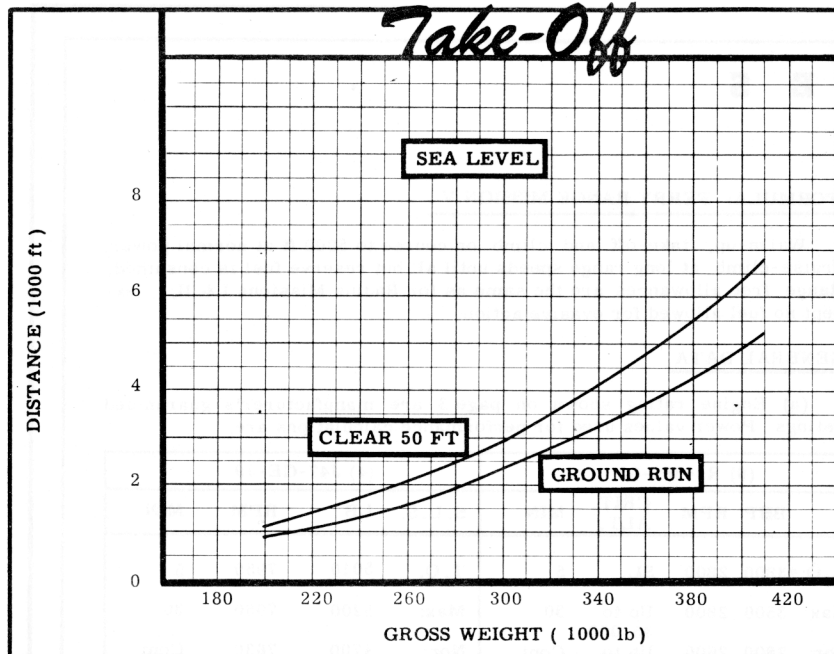
NOTES

- ① Take-Off power
- ② Max power
- ③ Normal power
- ④ Detailed descriptions of RADIUS and RANGE missions given on page 6.

- ⑤ Brakes plus reversed props.
- ⑥ Structural limit for 25,000 ft. alt.

PERFORMANCE BASIS:

- (a) Data source: Flight Test (Substantiated by WADC)
- (b) Performance is based on powers shown on page 6.



NOTES

FORMULA: RADIUS MISSIONS I & II

Warm-up; take-off and climb on course to 5000 ft at normal power; cruise out at long range speeds to point of cruise-climb operation. Begin climb to combat altitude, using long range climb powers, to arrive at cruise ceiling 500 nautical miles from target. Cruise at long range speeds at combat altitude, using best engine (reciprocating-jet) combinations; 15 minutes from target, conduct 10 engine normal power bomb run, drop bombs and chaff, and conduct 2 minutes evasive action and 8 minutes escape from target at normal power. After leaving target area, cruise back at long range speeds, using best engine combinations, until 500 nautical miles from target. Descend to optimum cruise altitude and cruise-climb back to base. Range free allowances include 10 minutes normal power fuel consumption for reciprocating engines and 5 minutes normal power fuel consumption for jet engines for starting and take-off, 2 minutes normal power fuel consumption at combat altitude for evasive action, 30 minutes of fuel consumption for long range speeds at sea level (reciprocating engines only) plus 5% of initial fuel load for landing and endurance reserve.

FORMULA: RADIUS MISSION III

Same profile and fuel reserves as for Radius Mission I with the following exceptions: Enter combat zone and cruise to within 15 minutes of target, maintaining maximum obtainable altitudes. Conduct (15 minute) 10 engine normal power bomb run, drop bombs and chaff and conduct 2 minutes evasive action and 8 minutes escape from target at normal power. Cruise toward base at target altitude, using best engine combination until 500 nautical miles from target. Descend to optimum cruise altitude and continue as in Radius Mission I.

FORMULA: RADIUS MISSION IV

Same profile and fuel reserves as for Radius Mission I with the following exceptions: Enter combat zone at maximum obtainable altitude, and cruise, using best engine combinations toward target at that altitude. Conduct the balance of the mission as in radius Mission III.

FORMULA: RADIUS MISSION IV

The entire mission is flown at normal power. Warm up, take off, and climb on course to 26,800 ft. Cruise at optimum altitudes to combat altitude, arriving 500 nautical miles from target. Cruise to target, drop bombs, and chaff and conduct 2 minutes evasive action. Climb to best altitude for normal power cruise. Cruise-climb to base. Range free allowances are the same as for Radius Mission I & II.

FORMULA: FERRY RANGE MISSION V

Warm-up, take-off and climb on course to 5000 ft at normal power; cruise-climb at long range speeds until all but reserve fuel is consumed. Range free allowances are the same as for Radius Missions I & II, except no fuel allowed for evasive action.

GENERAL DATA

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

(6) R-4360-53				(4) J47-GE-19				
BHP	RPM	CRIT. ALT.	MIN	S. L. S.	LB	RPM	MIN	
T. O. *	3800	2800	SL	5	T. O.	5010	7950	5
Max:	3500	2800	Up to 35,000	30	Max:	5200	7950	30
Nor:	2800	2600	Up to 39,000	Cont	Nor:	4700	7630	Cont
*Wet Turbo supercharger limitation								

(b) For detailed planning refer to Convair Report "FZA-36-319 "Performance Estimates for B36J (III)" dated 10 January 1955, Rev 31 May 1955.

(c) Take off at 370,000 lb cruise weight is authorized only for airplanes on which structural modifications to the landing gear have been accomplished in accordance with T. O. 1B-36-815 and T. O. 1B-36-889.

PERFORMANCE REFERENCE:

FZA-36-319 and applicable Technical Orders.

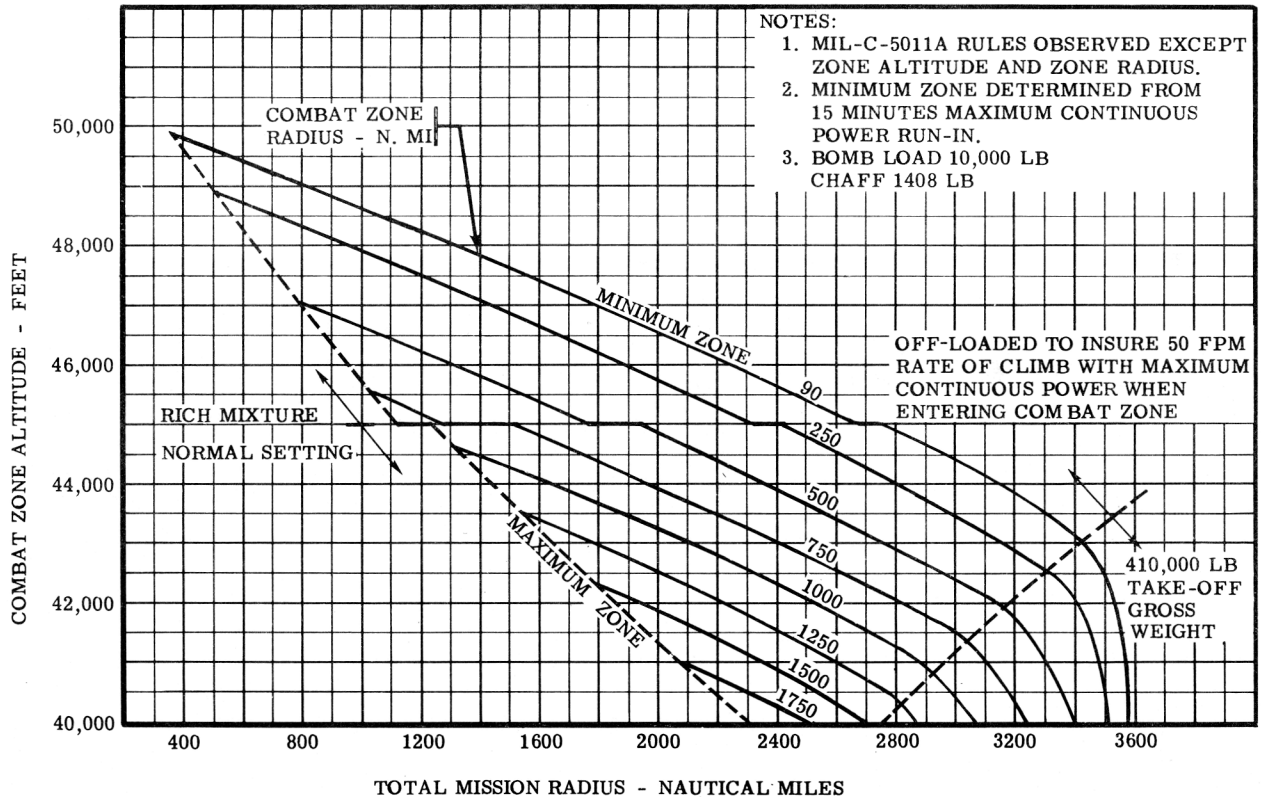
REVISION BASIS:

To reflect latest performance due to weight change.

(31 MAY 55)

SUPPLEMENTAL

HIGH ALTITUDE COMBAT ZONE CAPABILITIES



~~S E C R E T~~

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Wright-Patterson Air Force Base
Ohio 45433

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