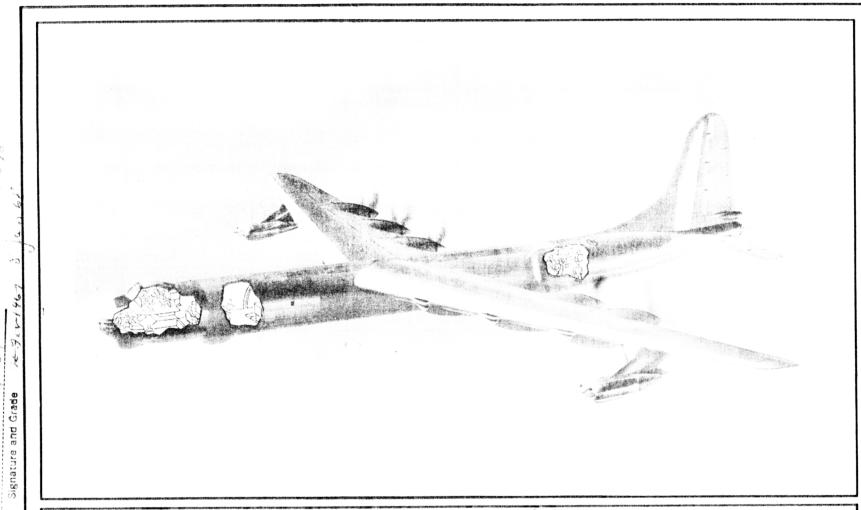
SERVICE



# Standard Aircraft Characteristics

BY AUTHORITY OF THE SECRETARY OF THE AIR FORCE RB-36H III

Consolidated-Vultee

SIX R-4360-53 PRATT & WHITNEY AND

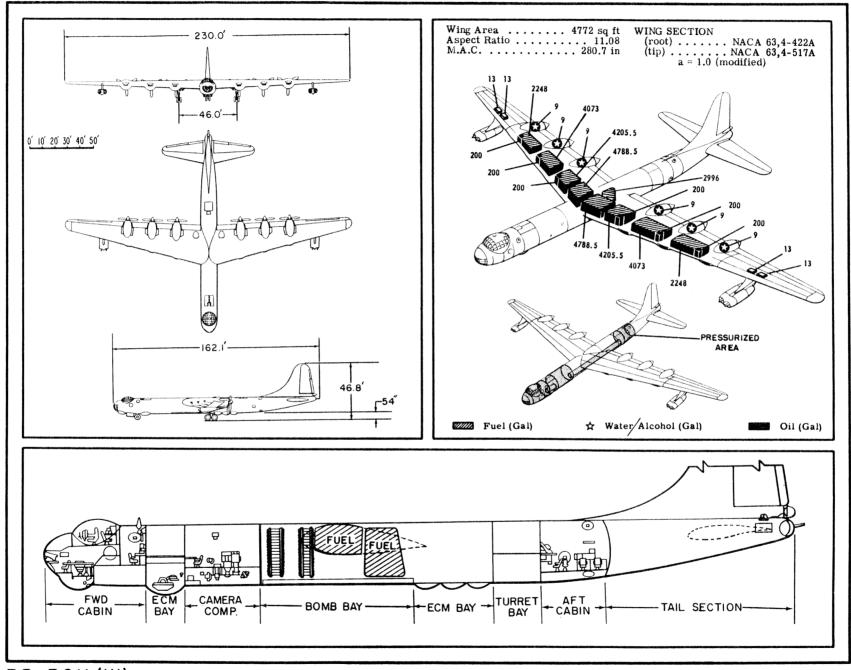
FOUR J47-GE-19
GENERAL ELECTRIC

21 MAR 55

SECRET

RB-36H(III)

AT Ed add A a



# POWER PLANT

No. & Model
Prop Type C.S,FF, Rev'r
No. Blades 3
Prop Dia 19' 0''
Augmentation Water/Alochol
Plus
No. & Model (4)J47-GE-19
Mfr General Electric
Engine Spec No E-589
Type Axial
Length 144''
Diameter
Weight Dry
Tail Pine Fixed Area
Tail Pipe Fixed Area *Alternate Blades A.O. Smith No.
SP-36D
9L-90D

# **ENGINE RATINGS**

	ВНР		F	PM		ALT	MIN
T.O.:	*3800	-	2	800	-	SL	- 5
Mil:	*3800	-	2	800	-	Turbo	- 30
	3500	_	2	800	_	Turbo -	- 30
Nor:	2800	_	2	600	_	Turbo -	- Cont
* V	/et						
S.L.S	. LB			R	Pl	M	MIN.
Max:	5200		-	78	950	)	5
Mil:	5200		_	79	950	)	30
Nor:	4730		-	76	330	)	Cont

# DIMENSIONS

	4	ARREST (E		-	- COL			7
Wing Span		_					. 23	80.0'
Incidence			•					.3°
		(Tip	)	•	•	•		1°
Dihedral			٠	•	٠	٠	٠	. 2°
Sweepbac	k	(LE	)	٠	٠	•		°30,
Length .	•	•	٠	٠	•	٠		32.1' 16.8'
Height . Tread .	•	•	•	٠	•	•		6.0'
Prop. Grd.	٠,	٠.	ro	· nce	٠.	•	•	54"
Prop. Gra.	`	lea	ı a	псе	•	•	•	7.7

# Mission and Description

Navy Equivalent:	None	•					Mfr's Model 36
The principa	l mis	sion	s of th	e RB-36H	(III)are al	l pur	pose strategic
reconnaissance,	day	and	night	mapping,	charting	and	bomb damage
assessment.							

The normal crew consists of aircraft commander, pilot, co-pilot, (2) flight engineers, primary navigator, photo-navigator, radar observer, weather observer, (2) radio operators, photographer technician, (4) ECM operators, and (3) gunners.

Crew and camera compartments are pressurized, heated and ventilated. Compartment heating, enclosure defrosting, wing and tail antiicing are accomplished by heated air obtained from heat exchangers in stalled in the reciprocating engine exhaust system.

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. The high lift devices are constant chord single slotted wing flaps extending from the fuselage to the outboard reciprocating engine nacelle. The flap system is composed of six flaps (three on each wing) which are mechanically and electrically synchronized in symmetrical pairs.

The major differences of the RB-36H-III from the standard configuration are removal of: (1) all turrets except the tail turret; (2) self-sealing pads; (3) fuel purging system; (4) crew comfort items; (5) gun sighting blisters; and (6) oxygen provisions from deleted crew stations. Development

Major differences of the RB-36F(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 and the addition of dual automatic chaff dispensers.

Contract Approved	Feb 54
First Flight	Jun 54
First Delivery	Dec 54
Wodincation Completed	Dec 34

BOMBS

No. Type Size Rds Ea. Location

2 M24Al 20mm 600 Fus, tail

No. Class (lb)	No. Type  1 K-22A Fwd Oblique	Lens
No. Class (lb) 80 T-86 Photo Flash	3 K-17C Tri Metrogon . 2 K-38, Split Vertical .	. 6''
	2 K-22A, Side Oblique . 1 K-17C, Vertical	. 24''
	1 K-17C, Vertical	6''
C TI BI C	5 K-38, Multiple	. 36''

1 *K-17C, Vertical ' 6'',12''
*Alternate provisions

CAMERAS

5. . \*K-40, Multiple . . . . 1. \*T-11, Vertical . . . . 1. \*K-37, Vertical . . . 12"

1. . \*K-22A, Vertical 6",12",24"

# WEIGHTS

Loading	Lb	L.F.
Empty (A)	162,619	
Basic (A)	165,656	
Design	370,000	2.0
Combat	*254,600	
Max T.O	. † 370,000	2.0
Max Land	† 357,500	
(A) Actual		
* For Bas	ric Mission	

† Limited by structure

FUEL
Location No. Tanks Gal
Wg Outboard 2 4496
Wg Cntr 2 8146
Wg Inbd 2 8411
Center Sec
Bomb Bay 1
Total: 33,626
Grade
Specification MIL-F-5572
OIL
Outboard (Jet) 4 (Tot) 52
Wing (Recip) 6 (Tot) 1200
Grade (Recip)
(Jet) 1005
Specification (Recip) NIL-L-6082A
(Jet). NIL-L-6081A
WATER/ALCOHOL
Engine Nacelle6(Tot) 54
1

# **ELECTRONICS**

UHF Command AN/ARC-27
VHF Command AN/ARC-3
Liaison AN/ARC-21X
Radio Compass AN/ARC-6
High Latitude Compass N-1
Marker Beacon AN/ARN-12
I.F.F
Omni-Range AN/ARN-14
Glide Path AN/ARN-18
Loran
Gun Laying Radar AN/APG-41A
*Interphone USAF Combat
Defensive & Ferret ECM
*See note (c) pg.6

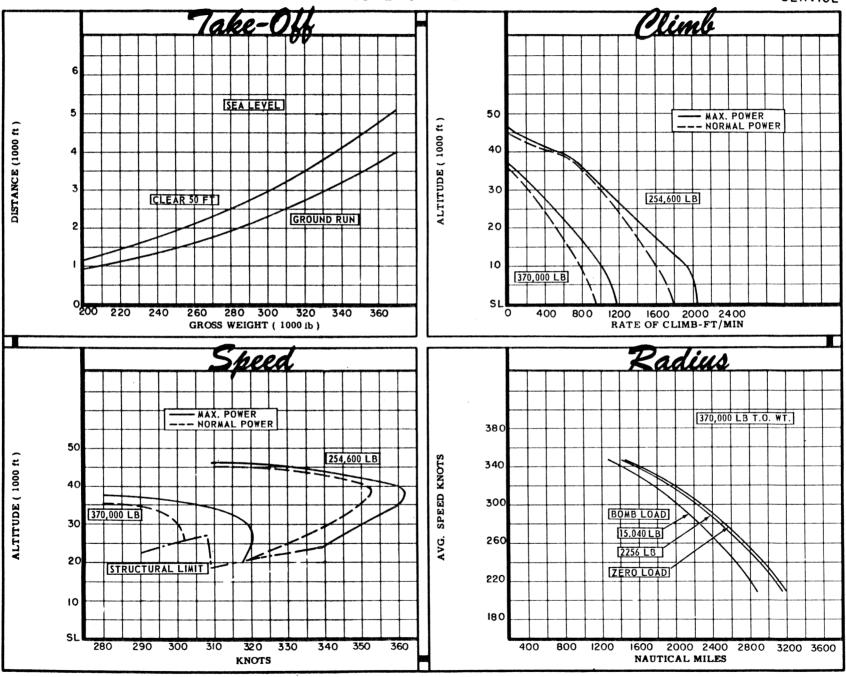
CONDITIO	N S		BASIC MISSION I	MAX BOMBS II	MAX ATTAIN. ALT. III	HIGH ZONE ALT. IV	HIGH SPEED V	FERRY RANGE VI	
FAKE-OFF WEIGHT Fuel at 6 lb/gal (Grade 115/145) Payload (Flash bombs) Payload (Chaff) Wing Loading Stall speed (power off) Take-off ground run at SL Take-off to clear 50 ft Rate of climb at SL Rate of climb at SL Rate of climb at SL (one eng. out) Time: SL to 10,000 ft Time: SL to 20,000 ft Service ceiling (100 fpm) Service ceiling (one eng. out) COMBAT RANGE COMBAT RADIUS Average cruise speed Initial cruising altitude Target altitude Final cruising altitude Total mission time	<del>0000000000000000000000000000000000000</del>	(lb) (lb) (lb) (lb) (lb/sq ft) (kn) (ft) (ft) (fpm) (fpm) (min) (min) (ft) (ft) (n.mi) (n.mi) (kn) (ft) (kn) (ft) (kn)	370,000 188,640 2256 1408 77.5 107 3990 5110 940 955 11 26 33,300 30,200 3145 208 5000 351 40,000 34,100 29.9	370,000 175,030 15,040 1408 77.5 107 3990 5110 940 955 11 26 33,300 30,200 2875 209 5000 349 39,500 34,200 27.2	370,000 188,640 2256 1408 77.5 107 3990 5110 940 955 11 26 33,300 30,200 	370,000 188,640 2256 1408 77.5 107 3990 5110 940 955 11 26 33,300 30,200 2965 209 5000 339 43,000 34,100 27.8	370,000 188,640 2256 1408 77.5 107 3990 5110 940 955 11 26 33,300 30,200 1420 346 32,000 348 37,800 38,600 8.6	370,000 192,160 None None 77.5 107 3990 5110 940 955 11 26 33,300 30,200 7210  197 5000 370 34,100 36,6	
COMBAT WEIGHT Combat altitude Combat speed Combat climb Combat ceiling (500 fpm) Service ceiling (100 fpm) Service ceiling (one eng. out) Max rate of climb at SL Max speed at optimum altitude Basic speed at 25,000/35,000 ft LANDING WEIGHT Ground roll at SL Ground roll (auxiliary brake) Total from 50 ft Total from 50 ft (auxiliary brake)	ଉଉଚ୍ଚତ୍ରତ୍ରତ୍ତ ଓ ଓ	(lb) (ft) (kn) (fpm) (ft) (ft) (ft) (ft) (fpm) (kn/ft) (kn/kn) (lb) (ft) (ft) (ft) (ft)	254,600 40,000 360 530 40,300 43,900 41,400 2050 362/38,000 341/360 188,410 1840 1620 3290 3040	247,500 39,500 362 625 40,900 44,300 2130 364/38,100 342/362 188,260 1840 1620 3290 3040	252,700 44,500 332 125 40,500 44,000 41,500 2070 364/38,100 342/361 188,410 1840 1620 3290 3040	251,600 43,000 344 250 40,600 41,600 2080 364/38,100 342/361 188,410 1620 3290 3040	263,300 37,800 359 565 39,400 43,300 41,000 1960 359/37,600 340/358 188,410 1840 1620 3290 3040	188,450 34,100 370 1545 47,200 50,200 48,000 2950 375/39,000 349/371 188,450 1840 1620 3290 3040	

⑤ Props reversed

PERFORMANCE BASIS:

T.O. power
Max power
Normal power
Detailed descriptions of Range and Radius missions given on page 6

- (a) Data source: Calculated data based on flight test of B-36F and H Aircraft with configuration adjustments
- (b) Performance is based on powers shown on page 6



21 MAR 55

# NOTES

## Formula: Radius Missions I & II

Warm-up, take-off and climb on course to 5000 feet at normal power. cruise out at long range speeds and altitudes. Conduct a long range climb so as to arrive at cruise ceiling 500 nautical miles from target. Cruise at combat altitude with long range speeds until 15 minutes from target; conduct 10 engine normal power photographic run, drop flash bombs and chaff, conduct 2 minutes evasive action and 8 minutes escape from target at normal power. After leaving target area, cruise 500 nautical miles toward base using long range speeds at combat altitude. Descend to optimum cruise altitude and cruise-climb 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 at sea level for long range speeds (reciprocating engines only) plus 5 % of initial fuel load for landing and endurance reserve.

#### Formula: Radius Mission III

Warm-up, take-off and climb on course to 5000 feet at normal power, cruise out at long range, speeds and altitudes. Conduct a long range climb to arrive at maximum attainable altitude 500 nautical miles from target. Cruise on maximum attainable altitude flight path; 15 minutes from target conduct 10 engine normal power photographic run at altitude attained at start of run, drop flash bombs and chaff, conduct 2 minutes evasive action and 8 minutes escape from target at normal power. After leaving target area, cruise 500 nautical miles toward base using long range speeds at combat altitude. Descend to optimum cruise altitude and cruise-climb to base. Range free allowances are the same as for Radius Mission I.

#### Formula: Radius Mission IV

Warm-up, take-off and climb on course to 5000 feet at normal power, cruise out at long range speeds and altitudes. Conduct a long range climb to arrive at maximum attainable altitude 500 nautical miles from target. Cruise at that altitude; 15 minutes from target conduct 10 engine normal power photographic run, drop flash bombs and chaff, conduct 2 minutes evasive action and 8 minutes escape from target at normal power. After leaving target area, cruise 500 nautical miles toward base using long range speeds at combat altitude. Descend to optimum cruise altitude and cruise-climb to base. Range free allowances are the same as for Radius Mission I.

### Formula: Radius Mission V

Entire mission is conducted at normal power. Warm-up, take-off and climb on course to optimum altitude for high speed. Cruise at

optimum altitude for high speed to point where climb is made so as to arrive at cruise ceiling 500 nautical miles from target. Cruise to target at combat altitude, conduct photographic run, drop flash bombs and chaff, conduct 2 minutes evasive action and 8 minutes escape from the target. After leaving target area, cruise 500 nautical miles toward base; descend to optimum altitude for high speed and cruise-climb to base. If after bomb drop, optimum altitude for high speed is above combat altitude, climb is begun after 2 minutes evasive action. Range free allowances are the same as for Radius Mission I.

#### Formula: Ferry Range Mission VI

Warm-up, take-off and climb on course to 5000 feet at normal power, cruise-climb at long range speeds until all usable fuel is consumed. Range free allowances are the same as for Radius Mission I except for omission of 2 minutes evasive action.

#### General Data:

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

	(4)						
ВНР	RPM	ALT.	MIN.	S.L.S.	LB. 5010	RPM 7950	MIN.
T.O.: *3800 Max.: 3500	2800 2800	SL † 35.000	5 30	T.O.: Max.:		7950	5 <b>3</b> 0
Nor.: 2800	2600	† 39,000	Cont	Nor.:	4700	7630	Cont

- (b) For detailed planning refer to Technical Order 1B-36(R)H(III)-1 and other applicable technical orders.
- (c) AN/AIC-10 Interphones effective on aircraft serial No. 326 and subs. USAF Combat effective on aircraft serial numbers prior to No. 326.

#### Performance Reference:

Convair Report FZA-36-315, "Performance Estimate for RB-36F and RB-36H Featherweight Aircraft," dated 10 January 1955.

Revision Basis: To reflect Featherweight performance.

† Turbosupercharger limitation

(10 JAN 55)