

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, Rev'r
 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 No.
 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			
S.L.S.	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°30'
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 missions of the RB-36H(III) are all purpose 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 anti-icing are accomplished by heated air obtained from heat exchangers installed 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 Jun 54
 Modification Completed Dec 54

BOMBS

No.	Class (lb)
80	T-86 Photo Flash 188

GUNS

No.	Type	Size	Rds Ea.	Location
2	M24A1	20mm	600	Fus, tail

CAMERAS

No.	Type	Lens
1	K-22A Fwd Oblique	12"
3	K-17C Tri Metrogon	6"
2	K-38, Split Vertical	24"
2	K-22A, Side Oblique	24"
1	K-17C, Vertical	6"
5	K-38, Multiple	36"
5	*K-40, Multiple	48"
1	*T-11, Vertical	6"
1	*K-37, Vertical	12"
1	*K-22A, Vertical	6", 12", 24"
1	*K-17C, Vertical	6", 12"

*Alternate provisions

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 Basic Mission		
† Limited by structure		

FUEL

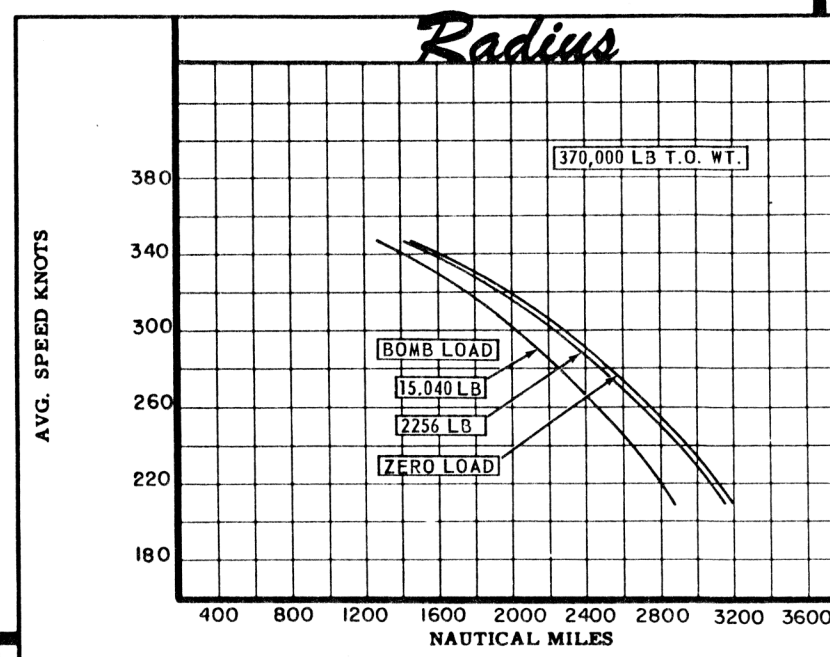
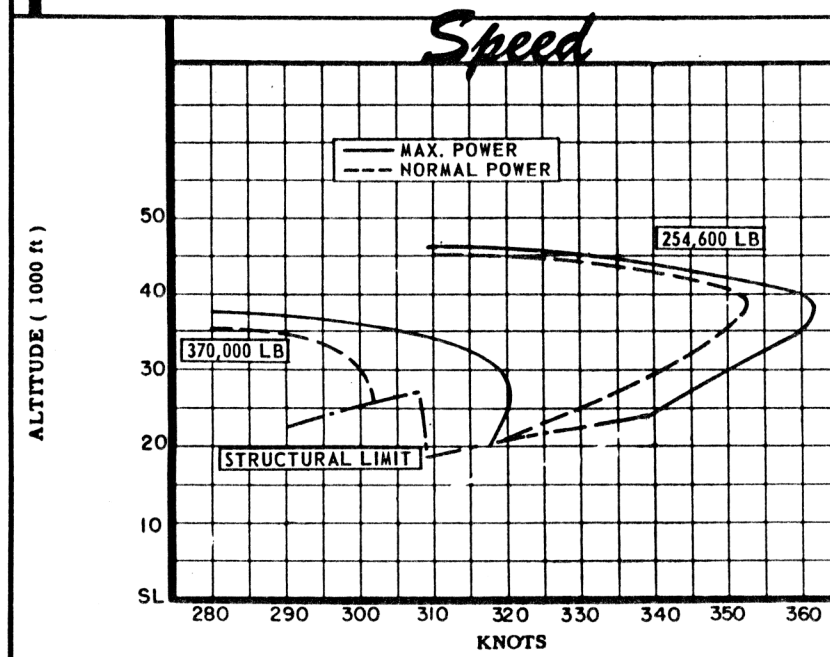
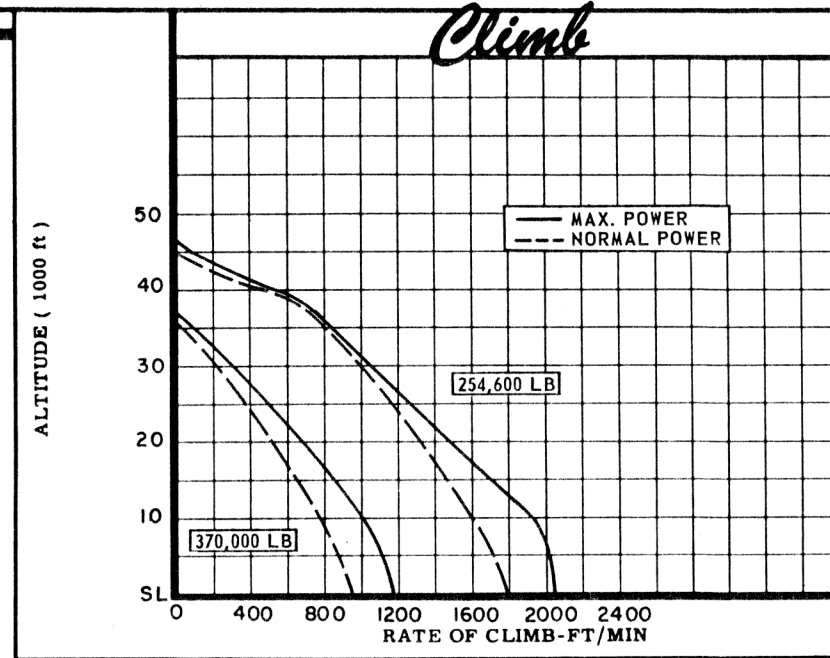
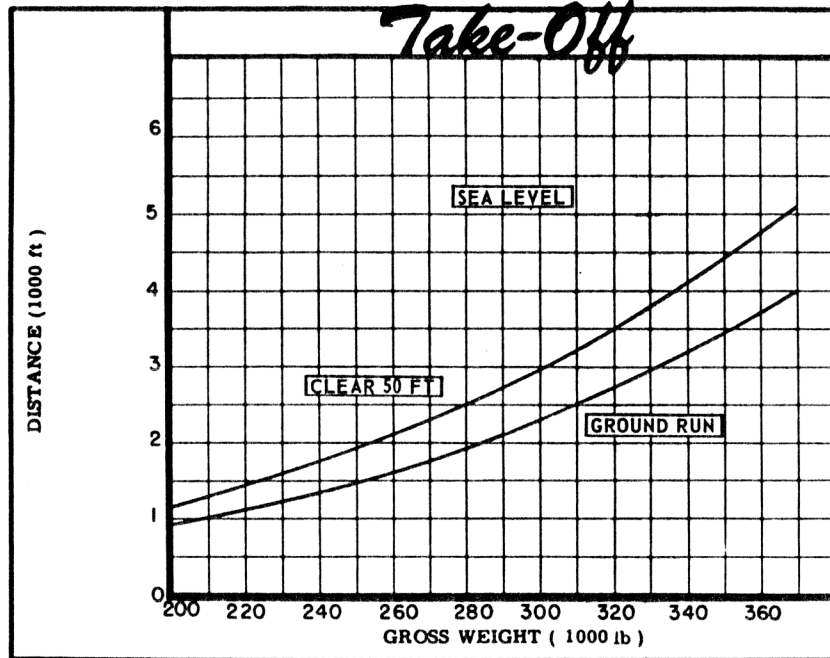
Location	No. Tanks	Gal
Wg Outboard	2	4496
Wg Cntr	2	8146
Wg Inbd	2	8411
Center Sec.	2	9577
Bomb Bay	1	2996
	Total:	33,626
Grade		115/145
Specification		MIL-F-5572

OIL

Outboard (Jet)	4	(Tot) 52
Wing (Recip)	6	(Tot) 1200
Grade (Recip)		1100
(Jet)		1005
Specification (Recip)		MIL-L-6082A
(Jet)		MIL-L-6081A
WATER/ALCOHOL		
Engine Nacelle	6	(Tot) 54

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.	AN/APX-6
Omni-Range	AN/ARN-14
Glide Path	AN/ARN-18
Loran	AN/APN-70
Gun Laying Radar	AN/APG-41A
*Interphone	USAF Combat
Defensive & Ferret ECM	
	*See note (c) pg.6



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:

(6) R4360-53				(4) J47-GE-19			
		<small>CRIT.</small>					
BHP	RPM	ALT.	MIN.	S.L.S.	LB.	RPM	MIN.
T.O.: *3800	2800	SL	5	T.O.: 5010		7950	5
Max.: 3500	2800		30	Max.: 5010		7950	30
Nor.: 2800	2600	† 35,000	Cont	Nor.: 4700		7630	Cont
		† 39,000					
* Wet							
† Turbosupercharger limitation							

(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.

(10 JAN 55)

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