

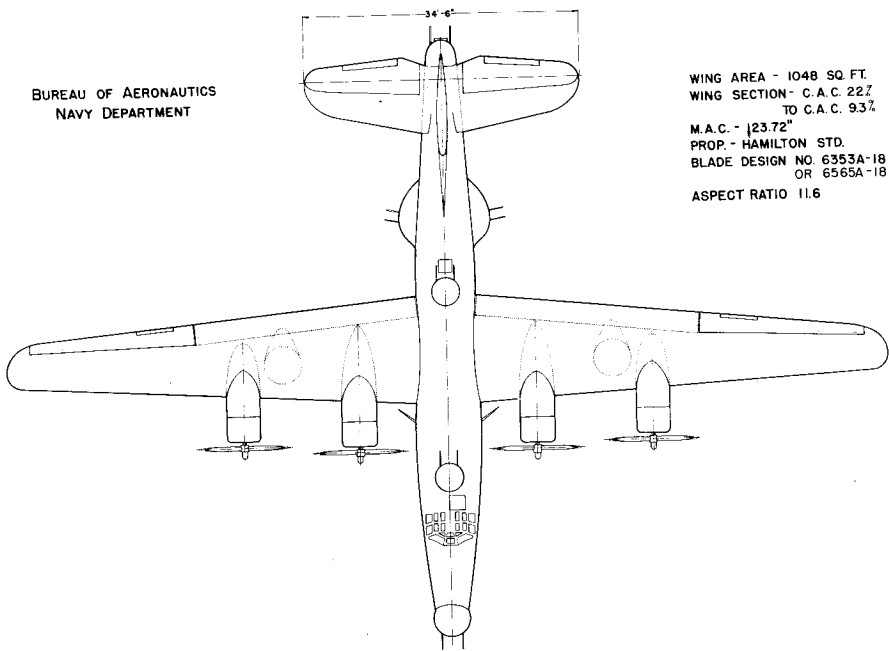
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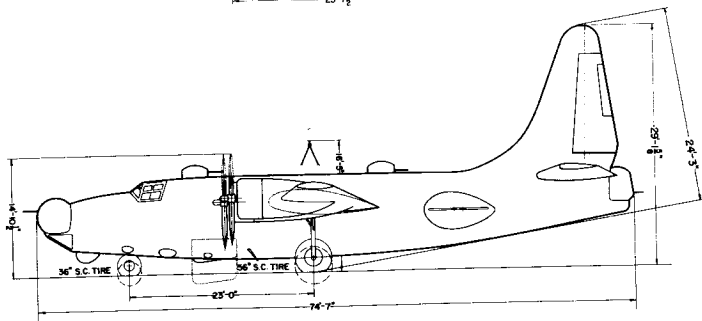
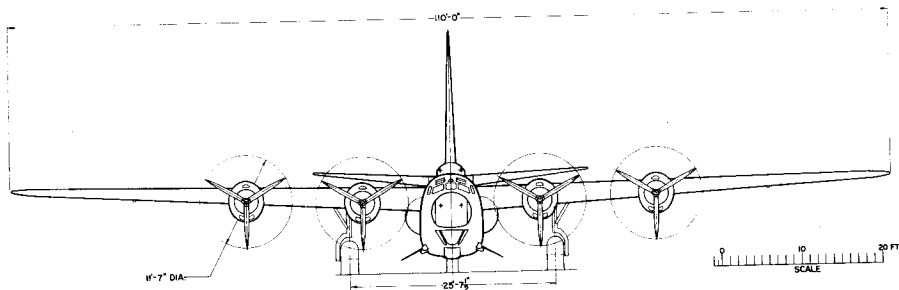
STANDARD AIRCRAFT CHARACTERISTICS

PB4Y-2 "PRIVATEER"

BUREAU OF AERONAUTICS
NAVY DEPARTMENT



WING AREA - 1048 SQ. FT.
WING SECTION - C.A.C. 22.7
TO C.A.C. 93.4
M.A.C. - 123.72"
PROP. - HAMILTON STD.
BLADE DESIGN NO. 6353A-18
OR 6565A-18
ASPECT RATIO 11.6



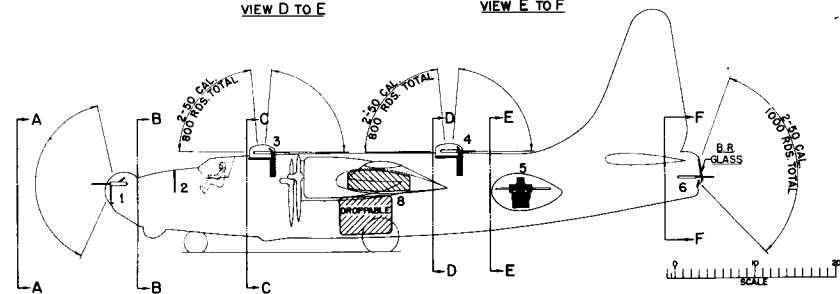
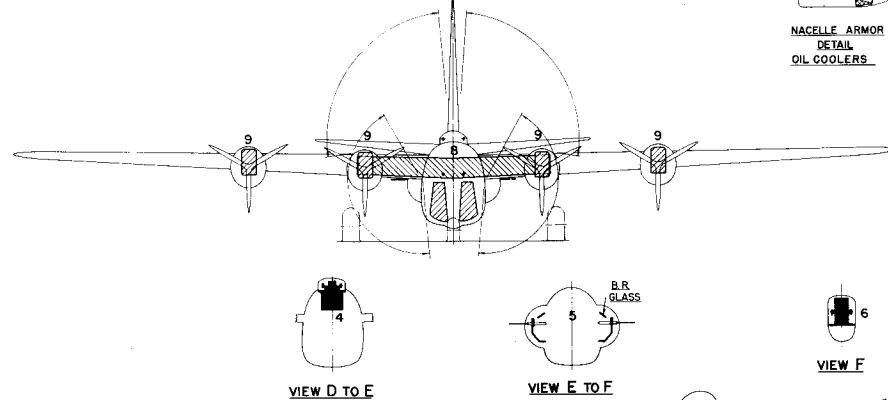
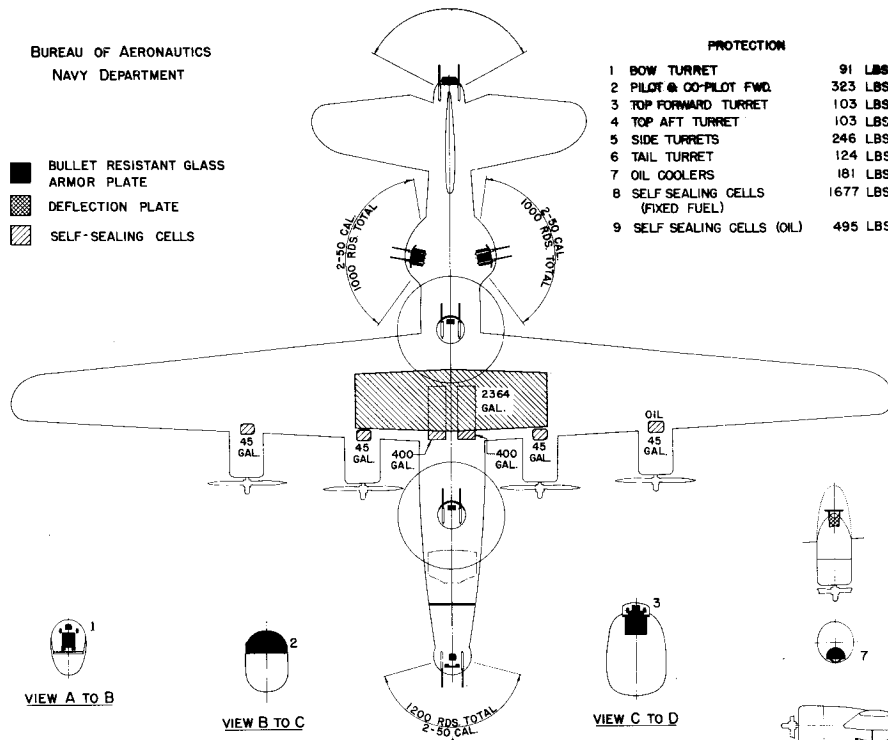
DESCRIPTIVE ARRANGEMENT

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

- BULLET RESISTANT GLASS ARMOR PLATE
- DEFLECTION PLATE
- SELF-SEALING CELLS

PROTECTION

- | | |
|--------------------------------------|-----------|
| 1 BOW TURRET | 91 LBS. |
| 2 PILOT & CO-PILOT FWD. | 323 LBS. |
| 3 TOP FORWARD TURRET | 103 LBS. |
| 4 TOP AFT TURRET | 103 LBS. |
| 5 SIDE TURRETS | 246 LBS. |
| 6 TAIL TURRET | 124 LBS. |
| 7 OIL COOLERS | 181 LBS. |
| 8 SELF SEALING CELLS
(FIXED FUEL) | 1677 LBS. |
| 9 SELF SEALING CELLS (OIL) | 495 LBS. |



ARMAMENT & TANKS

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MISSION AND DESCRIPTION

The PB4Y-2 is the single tail Navy version of the Liberator (PB4Y-1). It is a long range medium altitude patrol landplane. It features the Davis wing and tricycle landing gear. Two modifications have been made to date from the basic airplane, the PB4Y-2S for anti-submarine warfare and the PB4Y-2B which is a "Bat" carrier. Carries a crew of eleven men.

Structure is conventional, using a two-spar wing carrying a hydraulically actuated Fowler flap, and containing means for thermal de-icing.

DIMENSIONS

SPAN.....110'-0"
 LENGTH.....74'-9"
 HEIGHT.....29'-2"
 WING AREA.....1048 sq. ft.
 M.A.C.....123.7"
 TREAD.....25'-3"

WEIGHTS

Loadings	Gross Lbs.	L.F.
EMPTY.....	37464.....	
BASIC.....	39790.....	
DESIGN.....	56000.....	2.67
COMBAT.....	54965.....	2.60
MAX.T.O.....	64000.....	2.25
MAX.LAND.....	56000.....	

All weights are actual.

FUEL AND OIL

Gal.	No. Tanks	Location
2364	1	Wing (self seal)
1600	4	Bomb bay
FUEL GRADE....100/130		
FUEL SPEC.....AN-F-48		

OIL

CAPACITY (gal.).....180
 SPEC.....AN-O-8
 GRADE.....1100-1120

ELECTRONICS

COMMAND.....ATB/ARB
 or AN/ARC-1
 LIAISON.....ATC/RAX
 COMPASS.....SCR-269
 MARKER BEACON.....AN/ARN-8
 ALTIMETER.....AN/APN-1
 or AN/APN-4
 IFF.....AN/APX-2
 or AN/APX-8
 SEARCH RADAR.....AN/APS-2G
 or AN/APS-15B

POWER PLANT

NO. & MODEL.....(4) R-1830-94
 MFGR.....Pratt & Whitney
 SUPERCH.....1 Stage, 2 Speed
 PROP. GEAR RATIO.....16:9
 PROP. MFGR.....Ham. Std.
 PROP. DES. NO.....6353A-18
 NO. BL/DIA.....3/11'-7"

RATINGS

	Bhp	RPM	Alt.
T.O.	1350	2800	S.L.
MIL.	1350	2800	3900
	1100	2800	13500
NORM.	1100	2600	8200
	1000	2600	14500

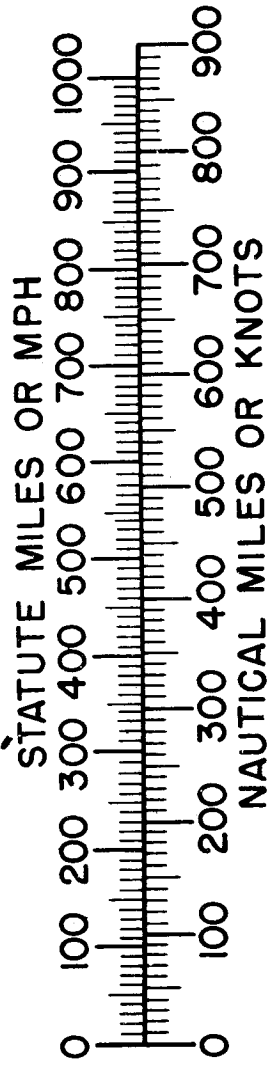
SEE NOTE
 SPEC NO. N-5136

ORDNANCE

GUNS			
No.	Size	Location	Rds
2	.50 cal.	Nose turret	1200
2	.50 cal.	Tail turret	2000
4	.50 cal.	Waist	2000
2	.50 cal.	Deck, Fwd.	800
2	.50 cal.	Deck, Aft.	800

SIGHTS
 MK. 9 Illu . sight in nose,
 tail and waist
 MK.18 sight in Deck turrets

BOMBS			
Type	Size	Location	No.
Bomb	2000#	Fus.	4
Bomb	1000#	Fus.	8
Bomb	500#	Fus.	12
D. B.	325#	Fus.	12
Mines	2000#	Fus.	4
Mines	1000#	Fus.	8



PERFORMANCE SUMMARY

LOADING CONDITION		(1) Patrol 4-650# Bombs	(3) Patrol 4-650# Bombs	(5) Patrol
TAKE-OFF WEIGHT	lbs	64000	60000	60000
Fuel - Fixed/Drop	lbs	14184/1914	12714	14184/612
Bombs	lbs	2600	2600	
	lbs			
Wing/Power Loading (A)	lbs/sq.ft. lbs/bhp	61.0/16.0	57.2/15.0	57.2/15.0
Stall Speed--Power off	kn	91.9	89.0	89.0
Stall Speed--Power off - No Fuel	kn	79.5	79.0	77.3
Stall Speed--Power on	kn	83.5	80.8	80.8
Maximum Speed/Alt (B)	kn/ft	208/13900	211/13900	211/13900
Take-off Distance, deck -- calm	ft	1890	1650	1650
Take-off Distance, deck	kn. ft			
Take-off Distance, Airport	ft	3170	2900	2900
Rate of climb -- sea level (B)	ft/min	730	820	820
Service Ceiling (B)	ft	18300	19600	19600
Time-to-climb 10000 ft. (B)	min	16.3	14.3	14.3
Time-to-climb 20000 ft. (B)	min			
Combat Range/V av 1500	ft. n.mi/kn	1920/139	1600/137	1870/136
Combat Radius/V av 1500	ft. n.mi/kn	770/139	640/137	750/136
LOADING CONDITION		(2) Combat	(4) Combat	
GROSS WEIGHT	lbs	54965	54965	
Engine power		Military	Normal	
Fuel	lbs	9660	9660	
Bombs/Tanks				
Max. speed at sea level	kn	209	195	
Max. speed/ACA	kn	218/12800	214/13900	
Combat speed/Alt.	kn/ft	212/1500	198/1500	
Rate of climb SL	ft/min	1190	890	
Ceiling for 500 fpm R/C	ft	13700	13300	
Time-to-climb/Alt.	min/ft	17.5/20000	47.4/20000	

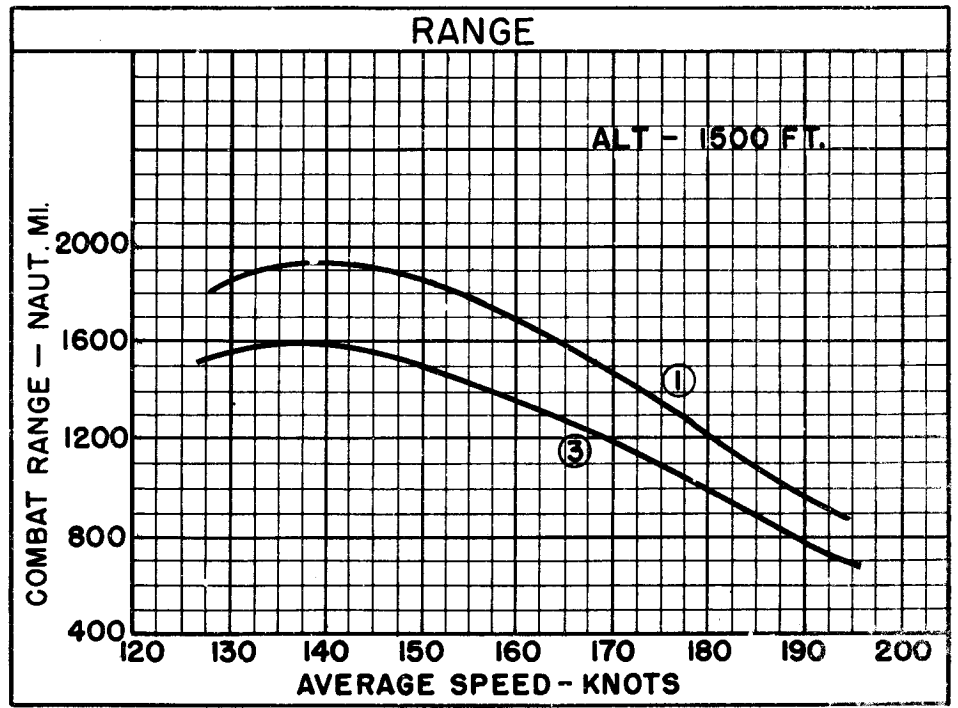
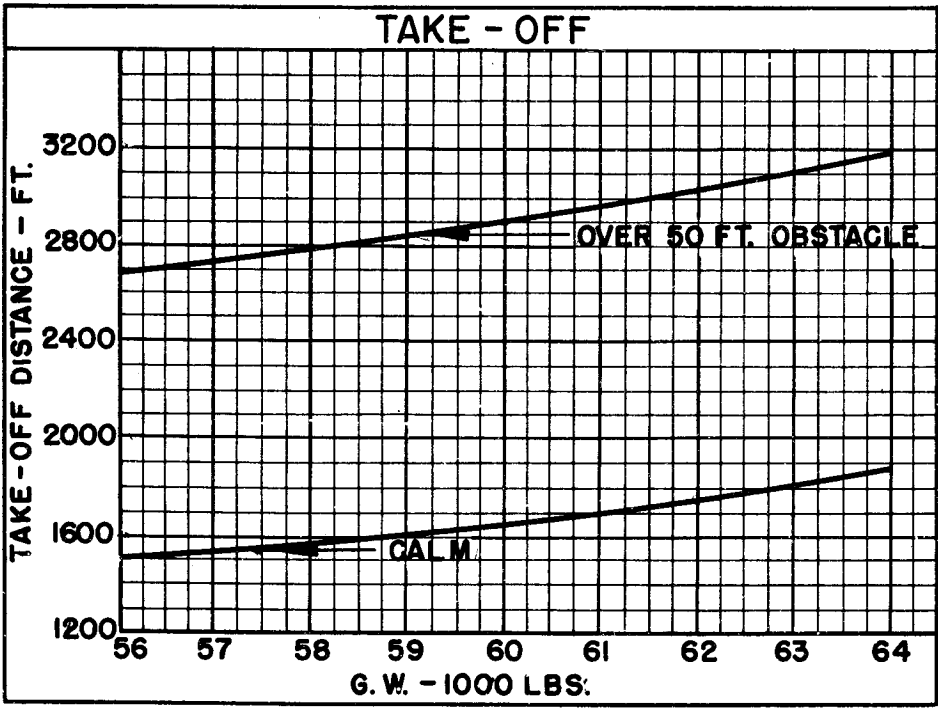
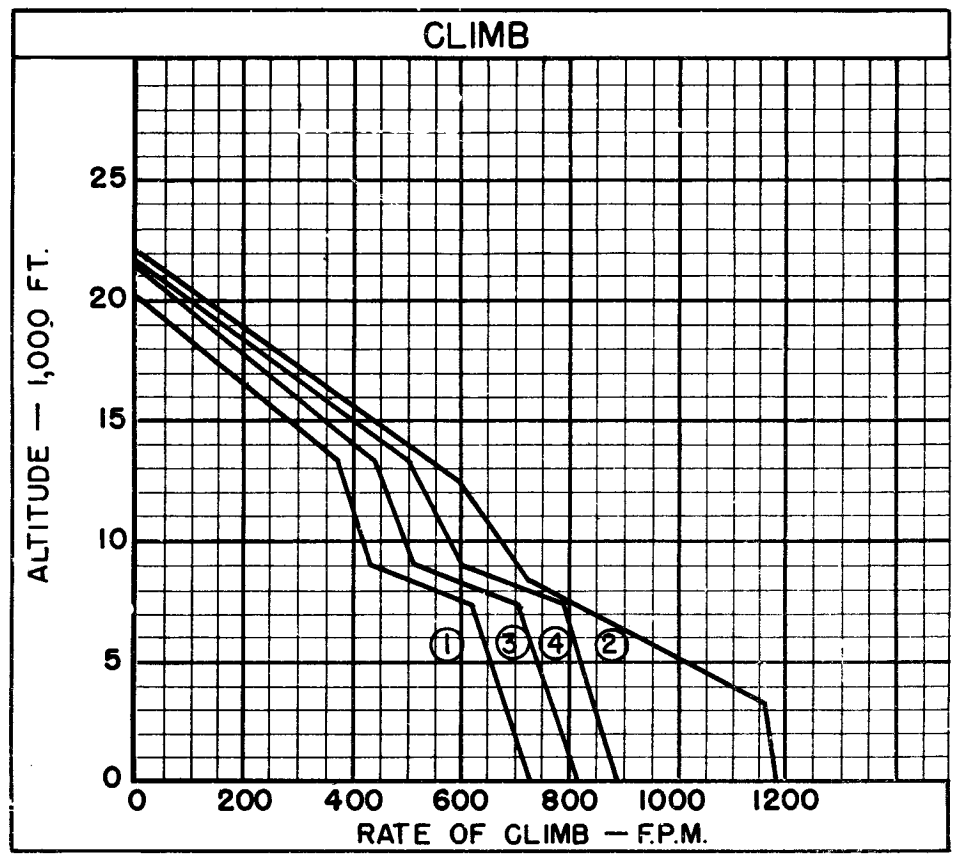
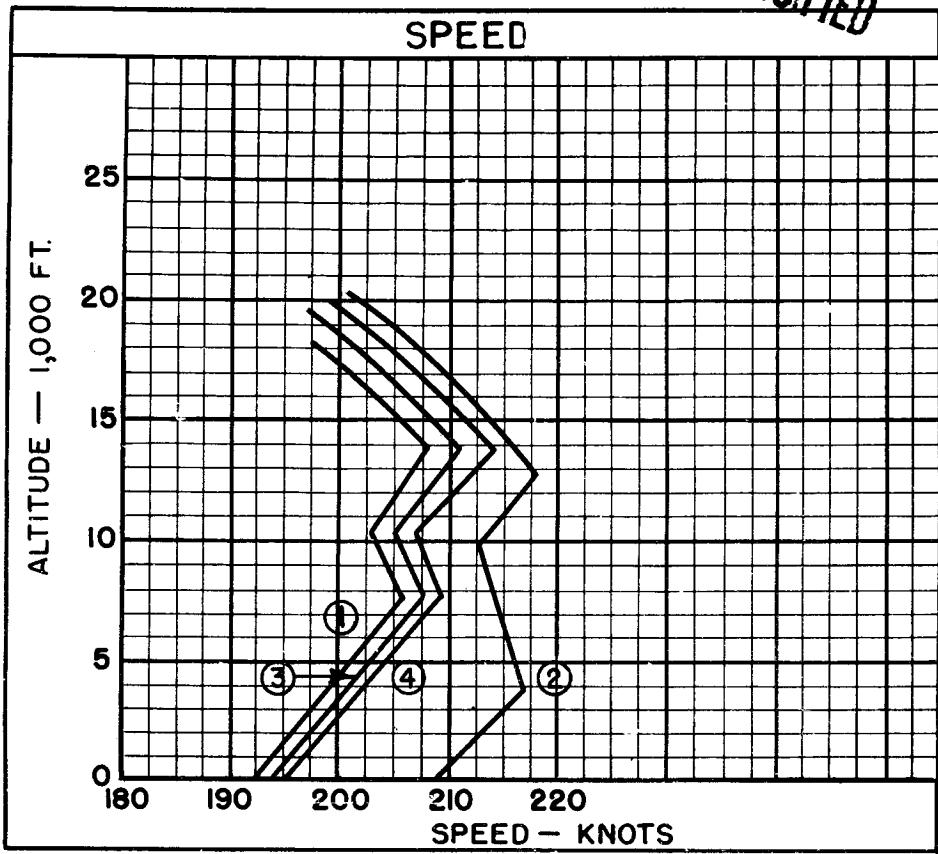
NOTES

- (A) BHP at Maximum Critical Altitude
 (B) Normal BHP

Performance is based on the flight test of the PB4Y-2 airplane. Range and radius are based on flight test fuel consumption data of the PB4Y-2 airplane increased by 5%.

Combat radius is .4 of maximum combat range at 1500 ft.

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NOTES

Combat radius is reduced 5 nautical miles for each minute of maximum rated power operation at 1500 ft.

Engine ratings from Flight Test:

	<u>Hhp.</u>	<u>Rpm.</u>	<u>Alt.</u>
T.O.	1350	2800	S.L.
Mil.	1350	2800	3200
	1100	2800	12200
Norm.	1100	2600	7200
	1000	2600	13400

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