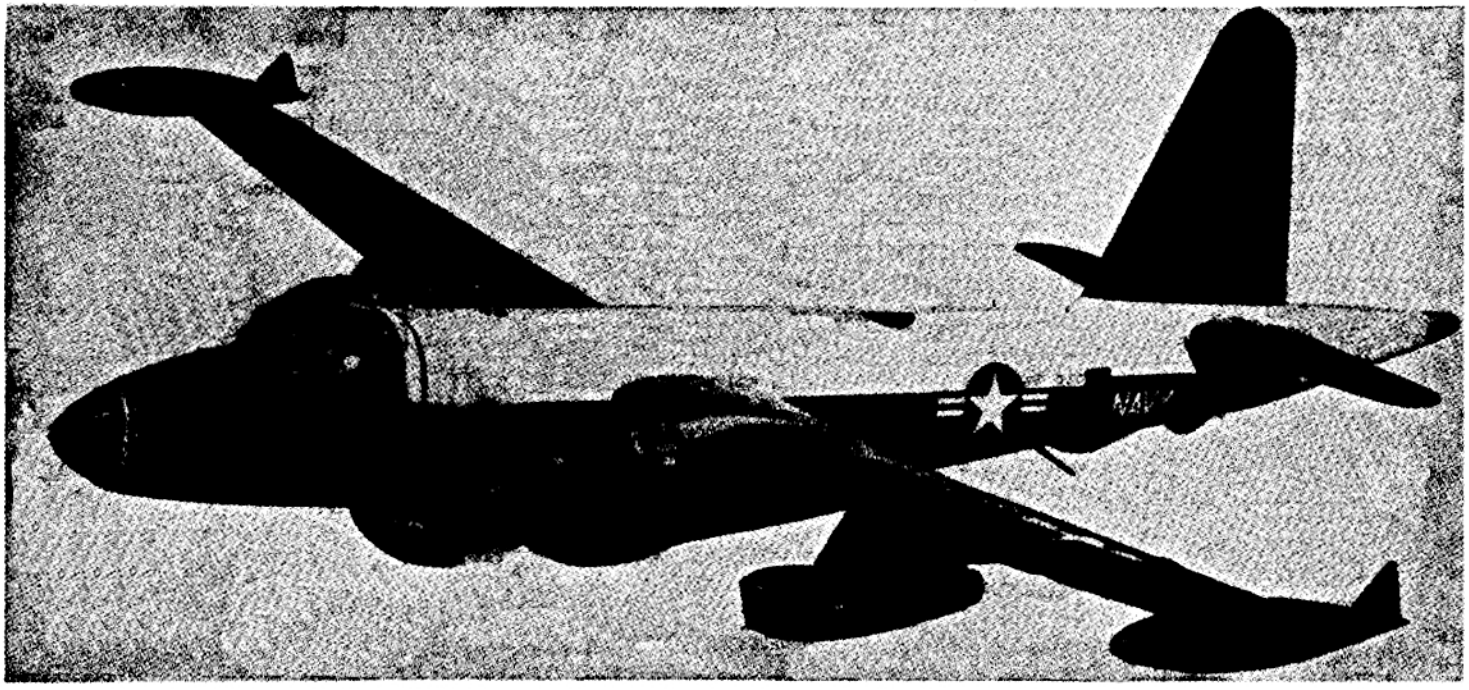
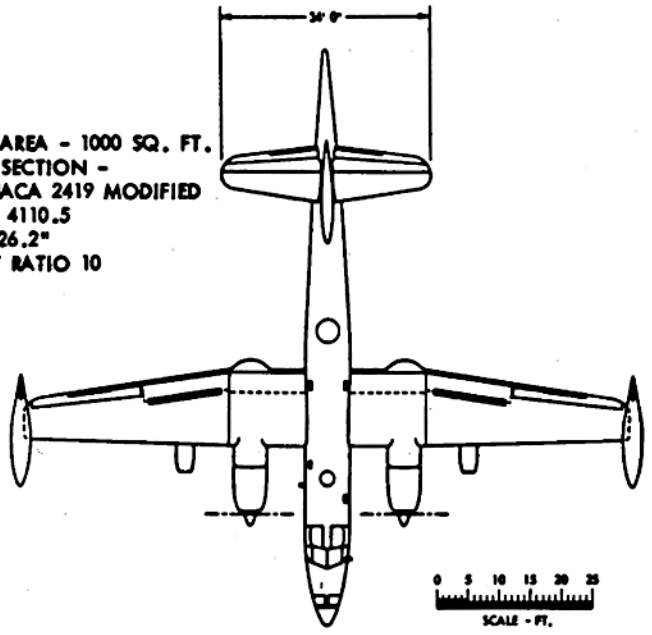


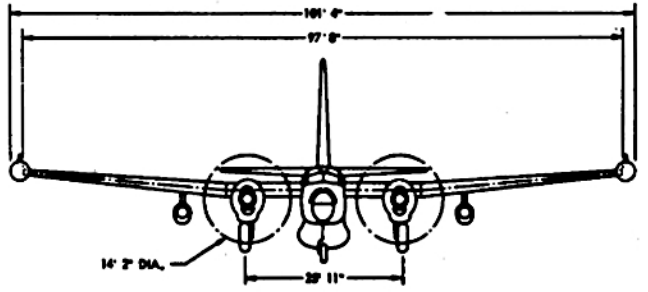
STANDARD AIRCRAFT CHARACTERISTICS

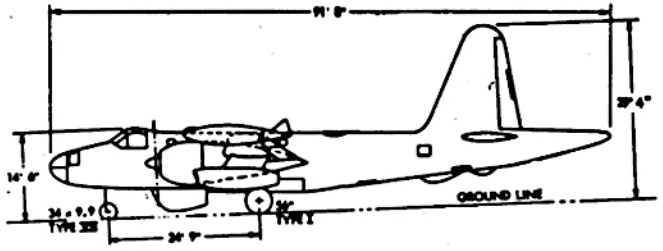
P-2H NEPTUNE

LOCKHEED

WING AREA - 1000 SQ. FT.
WING SECTION -
NACA 2419 MODIFIED
& 4110.5
MAC 126.2"
ASPECT RATIO 10

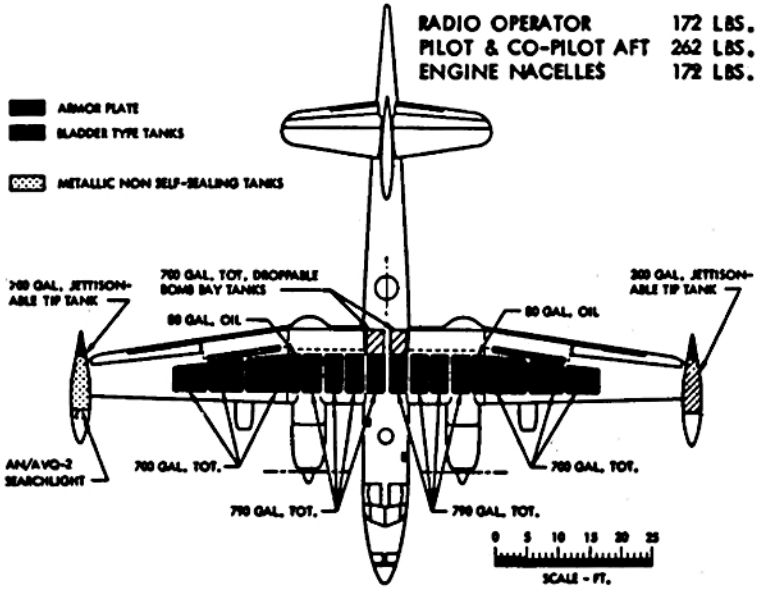


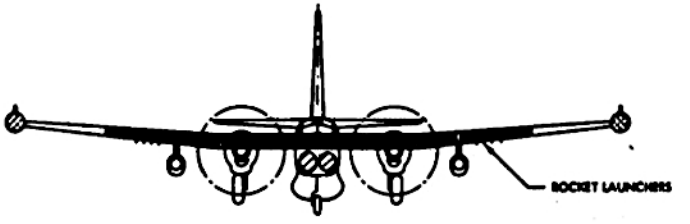


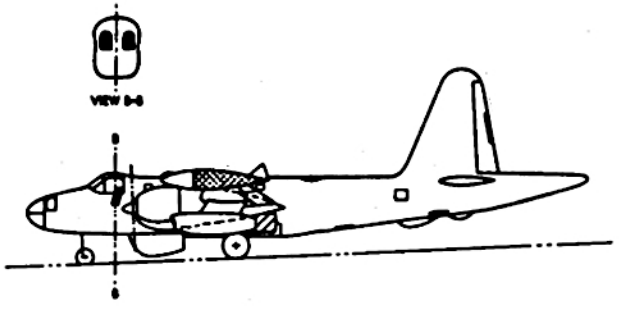


PROTECTION

RADIO OPERATOR	172 LBS.
PILOT & CO-PILOT AFT	262 LBS.
ENGINE NACELLES	172 LBS.







POWER PLANT

No. and Model	(2) R 3350-32WA
Mfr.	Wright
Engine Spec. No.	E-878D
Superch.	1 stage 2 speed
Prop. Gear Ratio	0.4375
Augmentation*	ADI
Prop. Blade	Ham. Std./2J17
No. Blades/Dia.	4/14'2"

RATINGS	BHP	RPM	ALT.
Take-off*	3700	2900	S.L
	3750	2900	3,400'
Military	3400	2900	S.L.
	3420	2900	2,200'
	2550	2600	16,800'
Normal	2800	2600	S.L.
	2850	2600	4,000'
	2450	2600	17,800'

POWER PLANT

No. and Model	(2) J34-WE-36
Mfr	Westinghouse
Eng. Spec.	WAGT-2404E-2F
Tail Pipe	Fixed
Type	Axial
Length/Dia.	112.5/27.25

RATINGS	Static Thrust	RPM	ALT.
Military	3400	12,500	S L.
Normal	3000	12,000	S.L.
90%	2700	11,600	S.L.
75%	2250	11,200	S.L.
Idle	200	4,000	S.L.

DIMENSIONS

Wing Area	1000 Sq. Ft.
Aspect Ratio	10
M.A.C.	10'6"
Span	101'-4"
Length (ASW)	91'-8"
Height	29'-4"
Tread	25'-11"

MISSION AND DESCRIPTION

The P2V-7 is a long range, land based, anti-submarine and anti-surface vessel patrol airplane designed for seeking, closing, and destroying the target.

Design features include the J-34 Westinghouse turbojet auxiliary engine. The use of the auxiliary engine improves one-engine out take-off safety and provides an appreciably higher combat speed. Maintenance considerations were an important factor in the design of the "jet pod" -- engine removal or replacement time is 60 minutes. The airplane incorporates an all metal semi-monocoque fuselage, wings of conventional construction, tricycle landing gear, modified Fowler flaps, "varicam" stabilizer, jettisonable tip tanks, thermal anti-icing, and under-wing refueling.

Search equipment includes APS-20E radar for snorkel detection, sonobuoy transmitting and receiving equipment, magnetic airborne detector and searchlight.

The P2V-7 represents a further development of the P2V series airplanes.

ORDNANCE

ASW Basic Mission	
2 MK 43	500 Lbs.
2 MK 101	2400 Lbs.
Mine Layer Mission	
4 Mines	2000 Lbs. or
8 Mines	1000 Lbs. or
16 Mines	500 Lbs.
Additional Stores	
66 AN/SSQ-15	990 Lbs.
6 AN/SSQ-1	372 Lbs.
101 MK 15	808 Lbs.
2 MK 5	36 Lbs.
8 MK 6	96 Lbs.
36 MK 7	144 Lbs.
8 5" HVAR	1120 Lbs.

FUEL AND OIL

Location	No. Tanks	Gal.
Wing	4	2980
Wing Tip	2	400
Bomb Bay (Ferry)	2	700
Total (Ferry)		4080
Fuel Grade	115/145	
Fuel Spec	Mil-F-5572	
OIL		
Capacity	2	160
Grade	1100	
Spec	Mil-L-6082A	

ELECTRONICS

Search Radar	APS-20E
M.A.D.	ASQ-8
Sonobuoy Recvr. System	ARR-52
I.F.F.	APX-6B
	APX-7
	APA-89
ECM	ALR-3
RCM	APR-13
	APA-74
LORAN	APN-70
TACAN	ARN-21
VOR REC.	ARN-14A
Marker Beacon	ARN-12
Direction Finder	ARN-6
Integrated Display System	ASA-16
Doppler Navigator	APN-122
UHF	ARC-27A
Liaison Rec.	ARR-41
Radio Transm.	ARC-38
Interphone	AIC-15

WEIGHTS - ASW MISSION

Loading	Lbs.	L.F.
Empty	49,256	
Design	67,500	2.67
Combat	68,607	2.75
Max. T.O.	80,000	2.30
Des. Landing	59,000	2.00

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION			ASW PATROL (1) With Jet Pods 2 MK 43 2 MK 101	MINE LAYER (3) With Jet Pods 8 1000 Lb. Mines	FERRY With Jet Pods
TAKE-OFF WEIGHT		Lb.	80,000	80,000	79,801
Fuel		Lb.	20,280	17,333	24,480
Payload		Lb.	2,906	8,000	None
Wing Loading		Lb./Sq.Ft.	79.6	80.0	79.8
Stall Speed Power-Off		Kn.	99	99	99
Take-Off Run at S.L. - Calm	(A)	Ft.	2,430	2,470	2,450
Take-Off to Clear 50 Ft. - Calm	(A)	Ft.	3,020	3,100	3,050
Maximum Speed/Altitude	(B)	Kn/Ft.	336/20,000	336/20,000	336/20,000
Rate of Climb at S.L.	(B)	fpm	1,910	1,910	1,910
Time: S.L. to 10,000 Ft.	(B)	Min.	5.7	5.7	5.7
Time: S.L. to 20,000 Ft.	(B)	Min.	13.5	13.5	13.5
Service Ceiling (100 fpm)	(B)	Ft.	29,700	29,700	29,700
Combat Range	(C)	N.Mi.	2,584	2,143	3,221
Average Cruising Speed		Kn.	174	175	174
Cruising Altitude(s)		Ft.	1,500	1,500	1,500
Combat Radius	(C) (D)	N.Mi.	1,090 (E)	990	-
Average Cruising Speed		Kn.	174	174	-
Search Time/Altitude		Hrs/Ft.	3.0/1,500	-	-
Search Speed		Kn.	162	-	-
COMBAT LOADING CONDITION			(2) 60% Fuel No Stores	(4) 60% Fuel No Stores	-
COMBAT WEIGHT		Lb.	68,607	64,692	-
Engine Power			All Engines Mil.	All Engines Mil.	-
Fuel		Lb.	12,168	10,400	-
Combat Speed/Combat Altitude		Kn/Ft.	332/1,500	332/1,500	-
Rate of Climb/Combat Altitude		fpm/Ft.	2,920/1,500	3,115/1,500	-
Combat Ceiling (500 fpm)		Ft.	29,100	30,000	-
Rate of Climb at S.L.		fpm	2,915	3,135	-
Maximum Speed at S.L.		Kn.	329	329	-
Maximum Speed/Altitude		Kn/Ft.	350/19,200	350/19,200	-
LANDING WEIGHT	(C)	Lb.	60,722	63,509	56,521
Fuel		Lb.	1,377	1,217	1,575
Stall Speed - Power-Off		Kn.	86	88	83
Stall Speed - With Approach Power		Kn.	79	81	76

NOTES

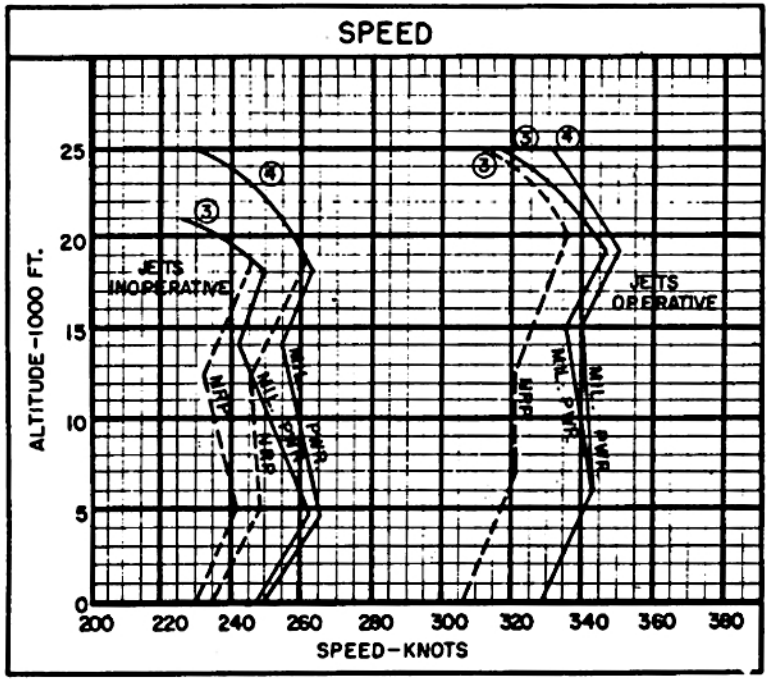
(A) Take-off power on recip. engines: Jets at Mil. Power

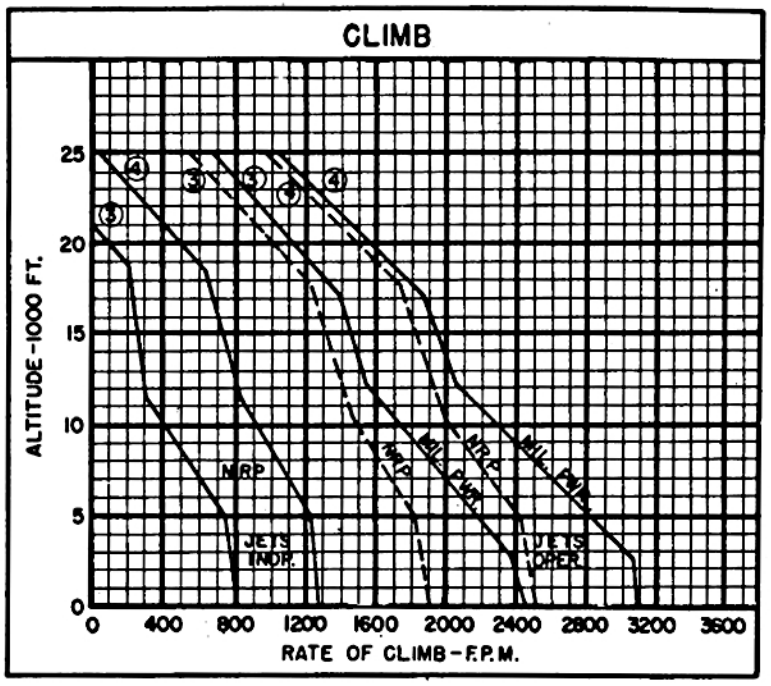
(B) Normal Rated Power on recip. engines: Jets at Normal Power.

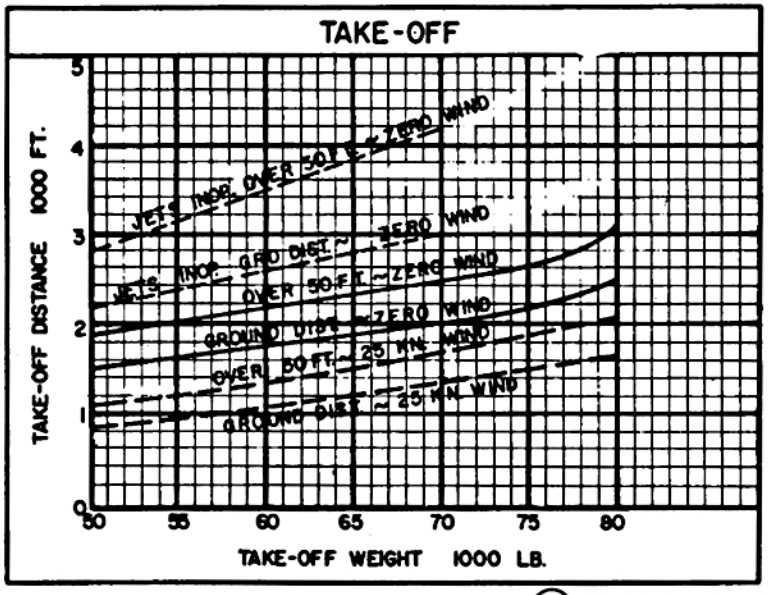
(C) With Reserve Fuel = 5% initial fuel + 20 min. long range cruise at sea level.

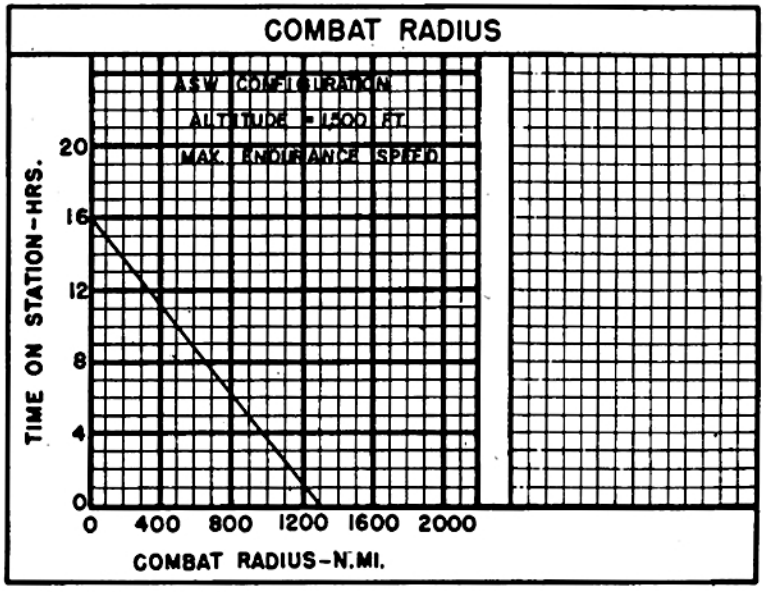
(D) See NOTES page for ASW and Mine Layer Radius Mission.

(E) Radius at which Time on Station = 3.0 Hours.









◯ LOADING CONDITION COLUMN NUMBER

NOTES

1. Performance is based on Contractor and Navy flight tests of P2V-7 airplanes.

2. Range and radius are determined by the use of engine specification fuel consumption (with normal mixture setting for the reciprocating engine) as verified by flight test measurement.

3. ASW Radius:

   (a) Warm-up, taxi, take-off - 10 minutes at normal rated power at sea level plus one minute of military thrust on jet engines.

   (b) Climb - to 1500 ft. cruise altitude with normal rated power (reciprocating engines only).

   (c) Cruise out - at speeds for long range at cruise altitude of 1500 feet.

   (d) Search - 3 hours at maximum endurance speed at 1500 feet.

   (e) Cruise In - at speeds for long range at cruise altitude of 1500 feet.

   (f) Reserve - 5% initial fuel load plus 20 minutes at speeds for long range at sea level.

   (g) Stores carried all the way.

4. Mine Layer Radius:

   (a), (b), (c) - Same as ASW range problem.

   (d) Descend - to sea level at 50 nautical miles from the target.

   (e) Combat Run - 50 nautical miles at military power on reciprocating engines (last 5 minutes with jet engines at military thrust).

   (f) Escape Run - Drop mines and fly out 50 nautical miles at military power (reciprocating engines only).

   (g) Climb - to 1500 ft. cruise altitude with normal rated power (reciprocating engines only).

   (h) Cruise back - at speeds for long range at 1500 ft. cruise altitude.

   (i) Reserve - 5% initial fuel load plus 20 minutes at speeds for long range at sea level.