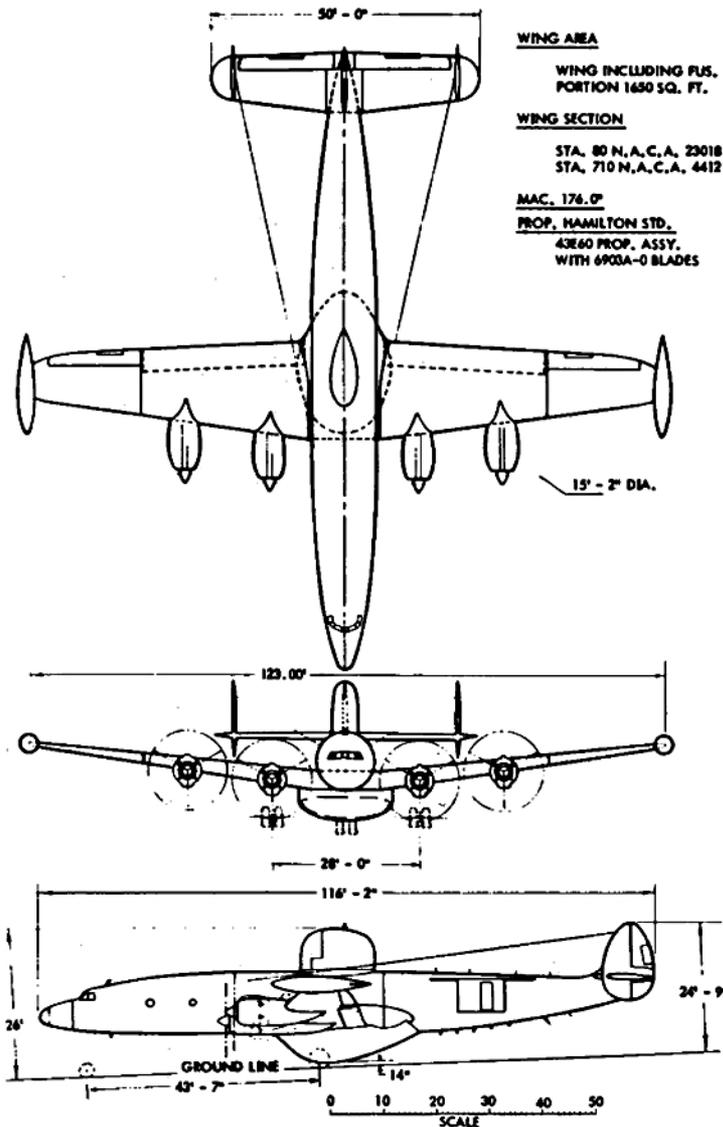
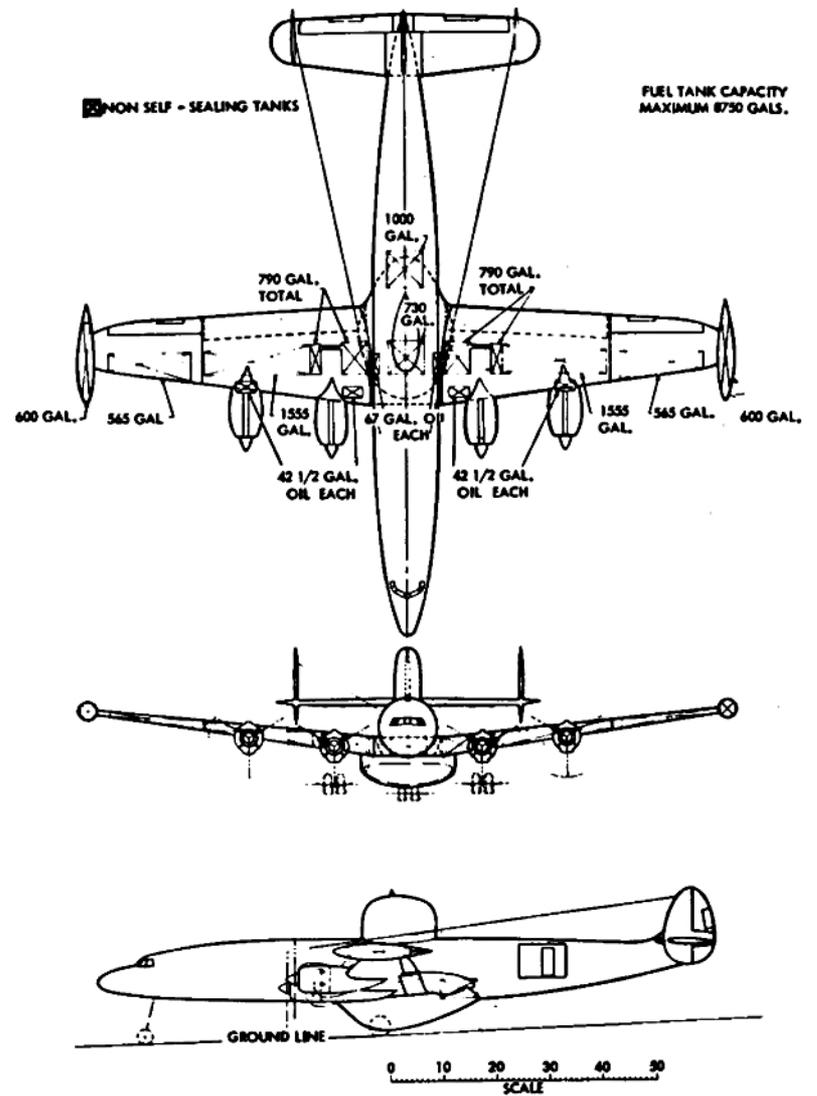


STANDARD AIRCRAFT CHARACTERISTICS
WC-121N CONSTELLATION
LOCKHEED



DESCRIPTIVE ARRANGEMENT



ARMAMENT AND TANKAGE

POWER PLANT

NO. & MODEL.....(4) R-3350-34
 MFR.....W.A.C.
 SUPERCH.....1 Stage, 2 Speed
 PROP. GEAR RATIO.....0.4375
 PROP. MFR.....Hamilton Std.
 PROP. DES. NO.....6903A
 NO. BL./DIA.....3/15'-2"

RATINGS

	BHP	RPM	ALT.
TAKE-OFF	3,250	2,900	S.L. to 5,000
NORMAL	2,550	2,600	16,700
	2,600	2,600	S.L.
	2,650	2,600	6,500
	2,450	2,600	17,900

Spec. No. N-72A

ORDNANCECOMBAT INFORMATION CENTER PROVISIONS

AN/APA-56-Radar Ind. Equip.
 AN/APS-20B-Radar, Search
 AN/APA-57B-Ground Pos. Ind.
 AN/ART-28-Radar Relay Trans.
 AN/ARR-27A-Radar Relay Rec.
 AN/APS-45-Radar Height Finder
 AN/APX-7-IFF Interrogator Res.
 AN/ALR-5-Radio Receiving Set
 AN/APR-9B-ECM Rec.
 AN/APA-69-ECM Dir. Find.
 AN/APA-74-ECM Pulse Analyzer
 AN/APA-81-Radar Ind. GP.
 AN/ARA-25-UHF Dir. Find. GP.
 AN/ALA-2-ECM Pan. Adap.

MISSION AND DESCRIPTION

The WV-3 is a special weather reconnaissance airplane.

The WV-3 is a military adaptation of the Lockheed Model 104¹/₂ Super Constellation. The aircraft features fowler flaps, control surface boosters, rubber de-icing boots and a pressurized fuselage. The WV-3 is similar to the WV-2 (AEW) airplane except for a change in internal arrangement resulting from the addition of necessary weather reconnaissance equipment and the corresponding deletion of certain search radar equipment. Provisions allow conversion to permit combat information center configuration.

DEVELOPMENT

First Flight.....15 July 1955
 Service Use.....September 1955

DIMENSIONS

WING
 AREA.....1650 sq. ft.
 SPAN (w/tip tanks).....123'
 M. A. C.....176"
 LENGTH.....116'-2"
 HEIGHT.....27'-0"
 TREAD.....28'-0"
 PROP. GRD. CLEARANCE.....1'-8"

WEIGHTS

LOADINGS	LBS.	L.F.
EMPTY (Actual).....	81,961.....	
BASIC.....	84,556.....	
DESIGN.....	130,000.....	2.50
COMBAT.....	114,600.....	
MAX. T.O.*.....		
w/tip tanks.....	145,000.....	2.50
w/o tip tanks.....	145,000.....	2.25
MAX. LAND.*		
w/o tanks but empty.....	122,000.....	

ALL WEIGHTS ARE CALCULATED.
 *Limited by strength.

FUEL AND OIL

NO. TANKS	GALS.	LOCATION
6	5,820	Wings
2	1,750	Fuselage
2	1,200	Wing Tip

FUEL GRADE.....115/145
 FUEL SPEC.....applicable MIL-F-5572

OIL

CAPACITY.....304
 GRADE.....1100
 SPEC.....applicable MIL-O-6082

ELECTRONICSNAVIGATIONAL

AN/ARN-6-Direct. Finder Auto
 AN/ARN-12-Rec. Marker Beacon
 AN/APN-22-Radar Alt.
 AN/APN-70-Loran Rec.
 AN/ARN-18-Rec. Glide Slope
 AN/ARN-14E-VOR Rec.
 SCR-718-Radio Altimeter High Alt.

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) NORMAL SEARCH	(3) OVERLOAD SEARCH	(5) FERRY RANGE		
TAKE-OFF WEIGHT	lb.	130,000	144,900	139,970		
Fuel	lb.	38,050	52,500	52,500		
Fayload	lb.					
Wing loading	lb./sq.ft.	78.7	87.7	84.8		
Stall speed - power-off	kn.	99	104	102		
Take-off run at S.L. - calm	ft.	3,900	5,600	4,920		
Take-off run at S.L. kn. wind	ft.	--	--	--		
Take-off to clear 50 ft. - calm	ft.	5,000	7,300	6,400		
Max. speed/altitude (A)	kn./ft.	285/19,100	272/19,100	276/19,100		
Rate of climb at S.L. (A)	fpm.	1,060	810	890		
Time: S.L. to 10,000 ft. (A)	min.	10.8	14.4	12.7		
Time: S.L. to 20,000 ft. (A)	min.	30.0	48.0	41.0		
Service ceiling (100 fpm) (A)	ft.	22,100	19,200	20,200		
Combat range	n.mi.	2,850	3,790	3,980		
Average cruising speed	kn.	207	212	209		
Cruising altitude(s)	ft.	10,000	10,000	10,000		
Combat radius (B)	n.mi.	1,395	1,890			
Average cruising speed	kn.	207	212			
Time on station at 1,000 n.mi. radius	{ S.L. 10,000 ft. 20,000 ft. } hr.	{ 4.5 4.3 3.2 } hr.	{ 10.3 9.4 7.3 } hr.			
COMBAT LOADING CONDITION		(2)	(4)	(6)		
COMBAT WEIGHT	lb.	114,600	123,700	118,800		
Engine power		Normal	Normal	Normal		
Fuel	lb.	22,650	31,310	31,310		
Combat speed/combat altitude	kn./ft.	277/10,000	274/10,000	275/10,000		
Rate of climb/combat altitude	fpm/ft.	1,000/10,000	810/10,000	915/10,000		
Combat ceiling (500 fpm)	ft.	20,200	18,300	19,300		
Rate of climb at S.L.	fpm.	1,360	1,170	1,270		
Max. speed at S.L.	kn.	255	252	254		
Max. speed/altitude	kn./ft.	293/19,100	289/19,100	291/19,100		
LANDING WEIGHT	lb.	95,350	95,900	90,840		
Fuel	lb.	3,400	3,500	3,370		
Stall speed - power-off	kn.	85	85	83		
Stall speed - with approach power	kn.	75	75	73		

NOTES

(A) Normal rated power.

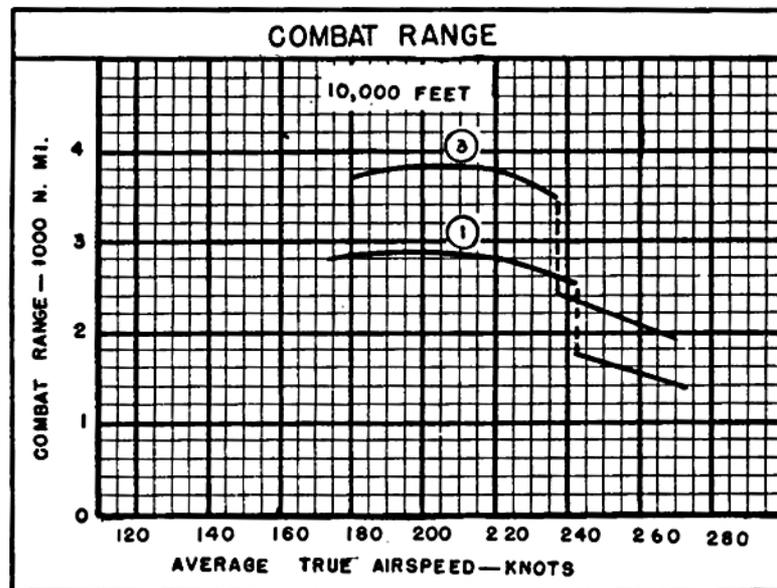
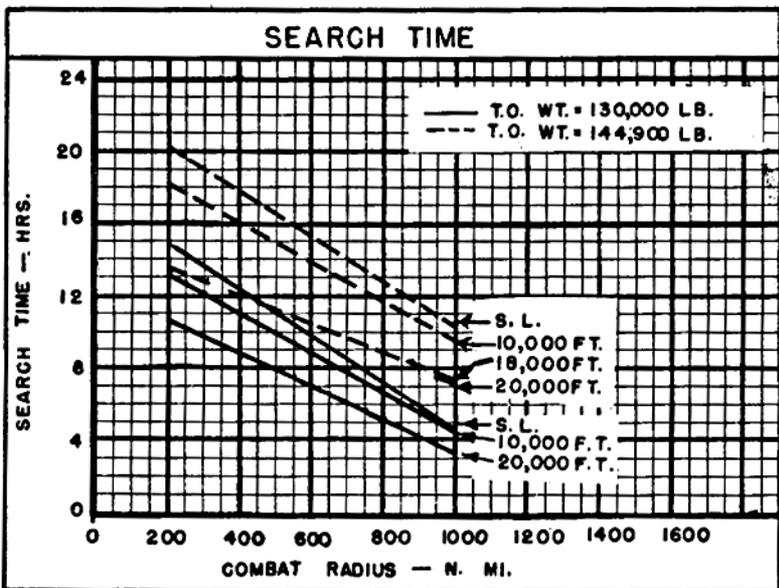
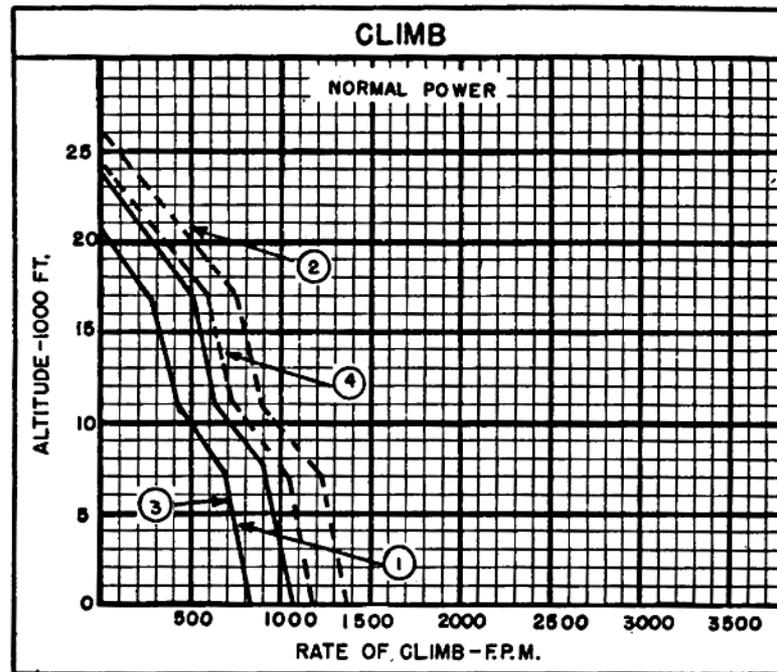
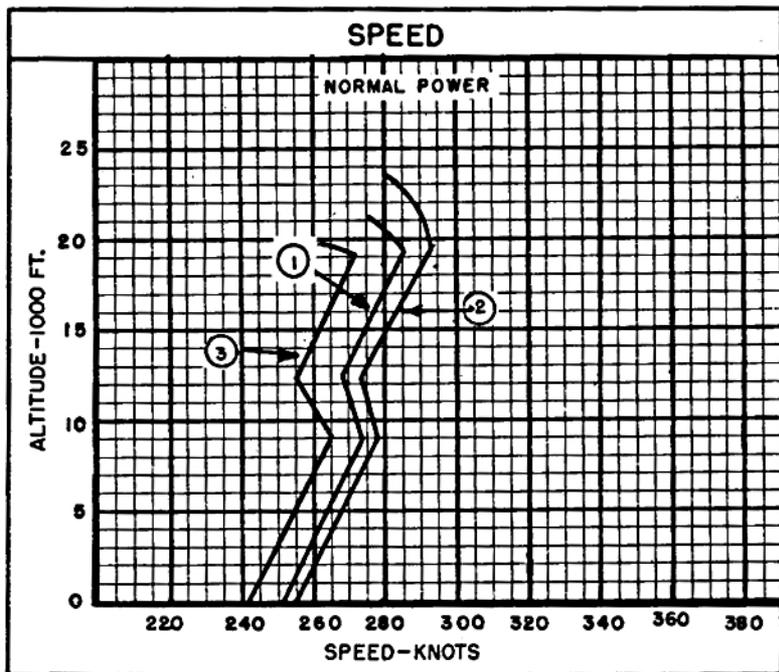
(B) At 10,000 feet altitude with zero search time on station.

PERFORMANCE BASIS: Flight tests of the WV-2 airplanes.

RANGE AND RADIUS are based on WV-2 flight test fuel consumption data increased by 5%.

Fuel Reserve for the Normal Search range mission is 2,790 pounds.

Fuel Reserve for the Overload Search range mission is 3,410 pounds.



○ LOADING CONDITION COLUMN NUMBER

NOTES

Three engine rate-of-climb at sea level - normal rated power.

<u>GROSS WEIGHT</u>	<u>RATE-OF-CLIMB FEET PER MINUTE</u>
134,000	570
145,000	410

SEARCH RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal rated power at sea level.
 CLIMB: On course to cruise altitude to 10,000 feet at normal rated power.
 CRUISE-OUT: To a 1,000 nautical miles radius point at long range airspeeds.
 CLIMB OR DESCEND TO SEARCH ALTITUDE: Fuel used and distance gained in climb but not descent.
 SEARCH: At search altitude at maximum endurance speeds.
 RETURN: To radius point at the end of search. Fuel is used and distance gained for climb but not descent.
 CRUISE-BACK: At 10,000 feet at long range airspeeds.
 RESERVE: Fuel allowance for 2 hours at long range airspeeds at 1,500 feet.

RANGE PROBLEM

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal rated power at sea level.
 CLIMB: On course to 10,000 feet at normal rated power.
 CRUISE-OUT: At long range airspeeds at 10,000 feet.
 RESERVE: Fuel allowance for 30 minutes at sea level at maximum endurance speed plus 5% of the initial fuel load.

ELECTRONICS (Cont'd)

COMMUNICATION

AN/APX-6-IFF Transponder
 AN/ARR-15A-HF Rec.
 AN/ARC-5-LF Receiver (LIA)
 AN/ART-13-HF Trans.
 AN/ARC-27-UHF Trans.-Rec.
 AN/AIC-10-IGS
 AN/ARA-26-Keyer, Emer.
 AN/APA-89-Coder Group.
 AN/ARC-1-VHF Trans. Receiver

WEATHER EQUIPMENT

Vortex Thermometer
 Psychrometer ML-313/AM
 Aneroid Barometer ML-401/U
 Flight Recorder
 Icing Rate Meter
 Radiosonde