

STANDARD AIRCRAFT CHARACTERISTICS

R7V-1 "SUPER CONSTELLATION"

LOCKHEED

Standard Aircraft Characteristics NAVAER 1335A (REV. 1-49)

1 JULY 1952

R7V-1

POWER PLANT

NO. & MODEL.....(4) R-3350-34
 MFR.....W.A.C.
 SUPERCH.....1 Stage, 2 Speed
 RED. GEAR RATIO.....0.4375
 PROP. MFR.....Ham. Std.
 PROP. DES. NO.....6903A-0
 NO. BL./DIA.....3/15' - 2"

RATINGS

	Bhp.	Rpm	Alt.
T.O.	3,250	2,900	S.L.
NORMAL	2,600	2,600	S.L.
	2,650	2,600	6,500
	2,450	2,600	17,900

SPEC. NO. N-872

ACCOMMODATIONS

CREW.....5 or 8
 TROOPS.....106
 LITTERS.....73
 PASSENGERS.....106
 CARGO SPACE.....5,679 ft.³
 FLOOR LOADING....300 lbs/ft.²

Maximum Pay Load 41,964
 Lbs.

MISSION AND DESCRIPTION

The R7V-1 is a high-speed long-range cargo/personnel/litter transport aircraft adapted for Navy use from Lockheed commercial "Super Constellation" transport. Complete installations will be made for an operating crew of 5 (pilot, co-pilot, flight engineer, radio operator and navigator) with forward bunks and food and liquid storage to provide for a long-range crew of 8. Seats, a rear galley, and 2 aft lavatories will be provided for approximately one-half of the aircraft under procurement. An integral floor-installed mechanical (two-speed) cargo conveyer will be provided for movement of cargo within all aircraft.

DEVELOPMENT

MOCK-UP (Nav. & Radio Operator's Stations) Apr 1951
 FIRST FLIGHT.....June 1952
 SERVICE USE.....August 1952

DIMENSIONS

WING
 AREA.....1,654 sq. ft.
 SPAN.....123' - 0"
 M.A.C.....14' - 8"
 LENGTH.....116' - 2"
 HEIGHT.....24' - 9"
 THREAD.....28' - 0"
 PROP. GRD. CLEARANCE...2'

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY.....	66,119.....	
BASIC.....	68,436.....	
DESIGN.....	130,000...2.5...	
MAX. T.O.....	145,000...2.25..	
DES. LAND		
(10'/sec) *110,000.....		
MAX LAND		
(7'/sec) *122,000.....		

All weights are estimated
 *Limit sinking speeds

FUEL AND OIL

Gals.	No. Tanks	Location
1,130	2	wing
3,110	2	wing
1,580	2	wing
750	1	fuselage
		FUEL GRADE..115/145
6.57 gal.		FUEL SPEC. MIL-F-5572

OIL

CAPACITY (Gals.).....170
 GRADE.....1120
 SPEC.....MIL-O-6082

ELECTRONICS

TRANSMITTER.....AN/ART-13
 LF RECEIVER.....R23A/ARC-5
 ADF RECEIVER.....AN/ARN-6
 MARKER BEACON.....AN/ARN-12
 LOW ALT. ALTIMETER..AN/APN-1
 LORAN.....AN/APN-4
 VOR RECEIVER.....AN/ARN-14
 NAVIGATION RADAR..AN/APS-42
 RADIO REC. EQUIP..AN/ARN-5A
 HIGH ALT. ALTIMETER SCR-718C
 HF REC. EQUIP..AN/ARC-15,15A
 VHF.....AN/ARC-1,1A

(See Note Page)

SERVICE

PERFORMANCE SUMMARY						
TAKE-OFF LOADING CONDITION		(1) TRANSPORT Maximum Range	(2) TRANSPORT Maximum Cargo	(3) TRANSPORT	(4) TRANSPORT	
TAKE-OFF WEIGHT	lb.	145,000	138,000	130,000	130,000	
Fuel	lb.	39,420	25,000	39,420	27,420	
Payload	lb.	34,312	41,964	19,312	31,544	
Wing loading	lb./sq.ft.	87.7	83.5	78.6	78.6	
Stall speed - power-off	kn.	100.9	98.3	95.6	95.6	
Take-off run at S.L. - calm	ft.	2,860	2,430	2,082	2,082	
Take-off run at S.L. kn. wind	ft.	-	-	-	-	
Take-off to clear 50 ft. - calm	ft.	5,337	4,670	4,083	4,083	
Max. speed/altitude (A)	kn./ft.	310/19,500	317/19,600	325/19,700	325/19,700	
Rate of climb at S.L. (A)	fpm	805	895	990	990	
Time: S.L. to 10,000 ft. (A)	min.	14.2	12.3	10.9	10.9	
Time: S.L. to 20,000 ft. (A)	min.	37.1	31.4	26.4	26.4	
Service ceiling (100 fpm)	(A) ft.	21,100	22,000	23,100	23,100	
Combat range	n.mi.	3110	1,870	3,636	2,311	
Average cruising speed	kn.	216	216	214	215	
Cruising altitude(s)	ft.	10,000	10,000	10,000	10,000	
Combat radius	n.mi.	-	-	-	-	
Average cruising speed	kn.	-	-	-	-	
COMBAT LOADING CONDITION						
COMBAT WEIGHT	lb.					
Engine power						
Fuel	lb.					
Combat speed/combat altitude	kn./ft.					
Rate of climb/combat altitude	fpm/ft.					
Combat ceiling (500 fpm)	ft.					
Rate of climb at S.L.	fpm					
Max. speed at S.L.	kn.					
Max. speed/altitude	kn./ft.					
LANDING WEIGHT	lb.	108,413	115,132	93,243	104,737	
Fuel	lb.	2,833	2,132	2,663	2,157	
Stall speed - power-off	kn.	87.4	90.2	81.2	86	
Stall speed - with approach power	kn.	82	85.2	76.6	81.2	

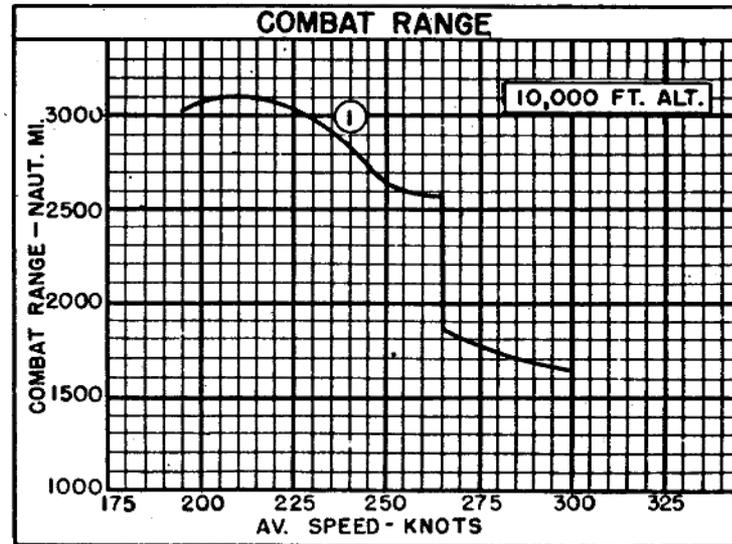
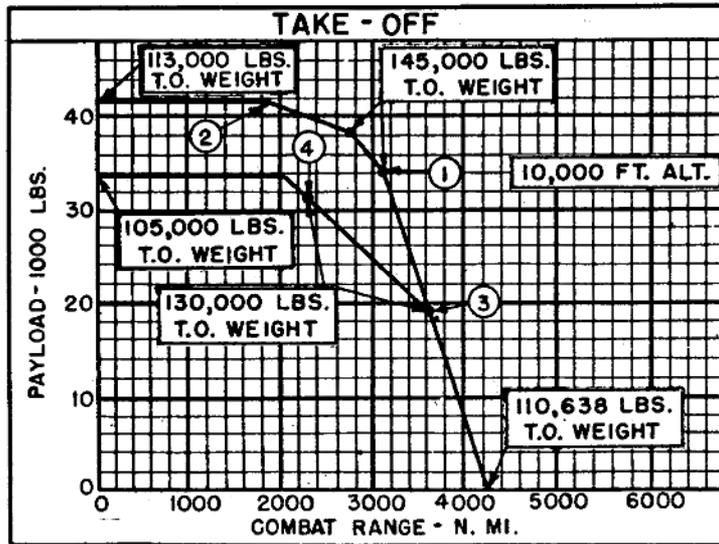
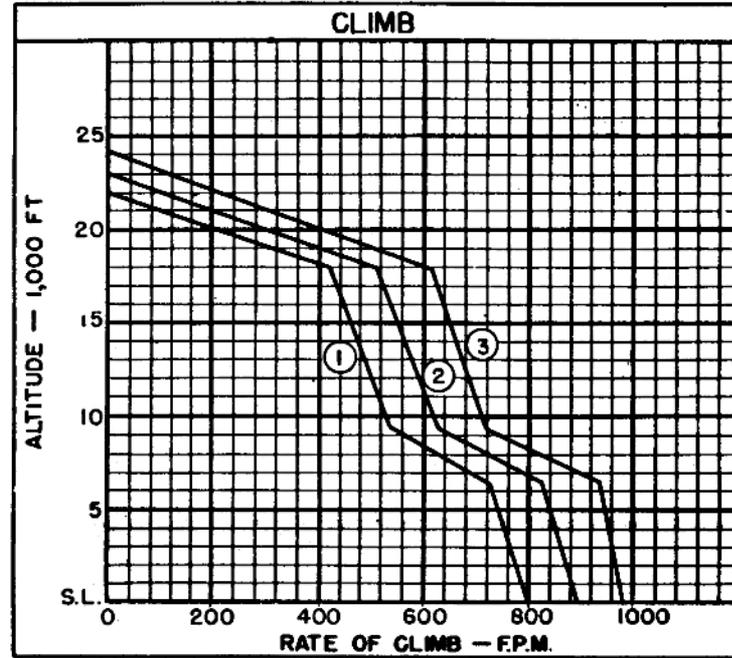
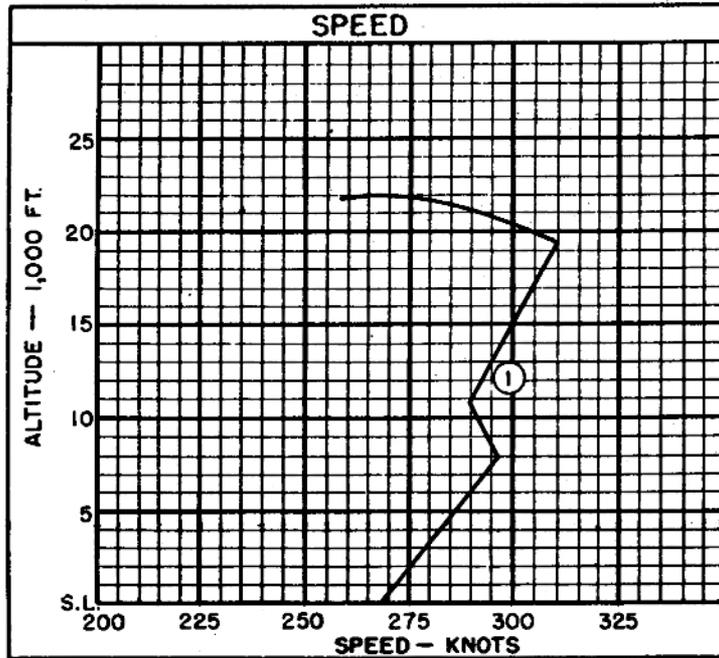
NOTES

(A) Normal Rated Power

(B) Performance is based on calculations

(C) Combat range is based on engine specification fuel consumption data increased by 5%

(D) The commercial version of the R7V-1 has been CAA certificated at 130,000 pounds weight.



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics NAVAER 1335E (REV. 2-60)

1 JULY 1952

R7V-1

NOTES

Performance with one engine inoperative, propeller feathered, flaps and landing gear retracted is estimated to be:

GROSS WEIGHT		lbs.	145,000
RATE OF CLIMB.....Sea Level.....T.O. Power		ft/min.	710
SERVICE CEILING.....Normal Power		ft.	10,800

The following ELECTRONICS equipment to be service installed:

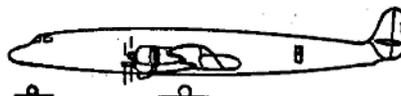
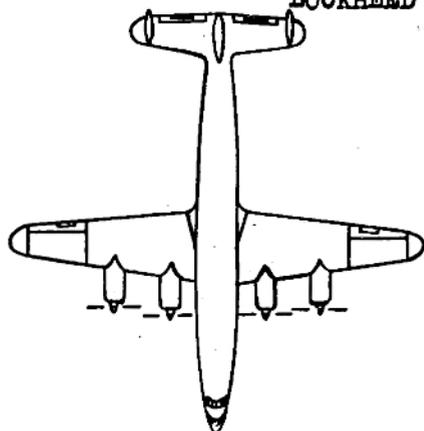
UHF TRAN.-REC.....	AN/ARC-27
GLIDE SLOPE REC.....	AN/AEN-18
	(to replace AN/AEN-5)
IFF.....	AN/APX-6
IFF.....	AN/APX-17
CONTROL INDICATOR GROUP.....	AN/APA-85
D.M.E.....	AN/APN-34
VOR COURSE.....	AN/ARA-21

CHARACTERISTICS SUMMARY

TRANSPORT

R7V-1

LOCKHEED "SUPER CONSTELLATION"



WING AREA 1,654 sq. ft.
WING SPAN 123'-0"

LENGTH 116'-2"
HEIGHT 24'-9"

AVAILABILITY			PROCUREMENT			
NUMBER AVAILABLE			NUMBER DELIVERED IN FISCAL YEARS			
ACTIVE	RESERVE	TOTAL				

STATUS

Mock-up (Navigator's and Radio Operator's Stations only) - - - April 1951
 First flight - - - - - June 1952
 Service use - - - - - August 1952

ENGINES	
4	W.A.C. R-3350-34
	BHP/RPM/ALT
T.O.	3,250/2,900/S.L.
NORMAL	2,600/2,600/S.L.
	2,650/2,600/6,500
	2,450/2,600/17,900

FEATURES
Crew - 5 or 8
Troops - 106
Litters - 73
Passengers - 106
Fuel capacity - 6,570 gals.

ARMAMENT
NONE

Cargo space - 5,679 ft ³
Floor loading - 300 lbs/ft ²
Max. Payload - 41,964 lbs

FORM 1017 4 (REV. 1-27-51) 38807

CHARACTERISTICS SUMMARY

BASIC MISSION	R7V-1
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PERFORMANCE

COMBAT RADIUS	COMBAT RANGE	COMBAT SPEED
-- naut. mi. -- knots avg.	3110 naut. mi. 216 knots avg. 14.4 hours 10,000 ft. alt.	292 knots at 10,000 ft., Max. Power
		MAXIMUM SPEED
		310 knots at 19,500 ft., Max. Power
CLIMB	CEILING	TAKE OFF
805 ft./min. Sea Level, T. O. wt. Normal Power	21,100 ft. 100 ft./min., T. O. wt. Normal Power	2,860 ft. - Calm Ground run, No assist.
	12,700 ft. 500 ft./min., T.O. Wt. Normal Power	5,337 ft. - Calm Over 50 ft., No assist.
LOAD	WEIGHTS	STALLING SPEED
Fuel 6,570 gal. fixed 6,570 drop -- Cargo 34,312 lbs. Ammunition None	Empty 66,119 lbs. Combat -- Take-off 145,000 lbs.	100.9 knots Flaps down, T. O. wt.
		TIME TO CLIMB
		-- ft. in -- min. Combat Wt., Max. Power

NOTES

Performance is based on calculations.

Combat range is based on engine specification fuel consumption data increased by 5%.

Reason for reissue: Reduction in weight empty.