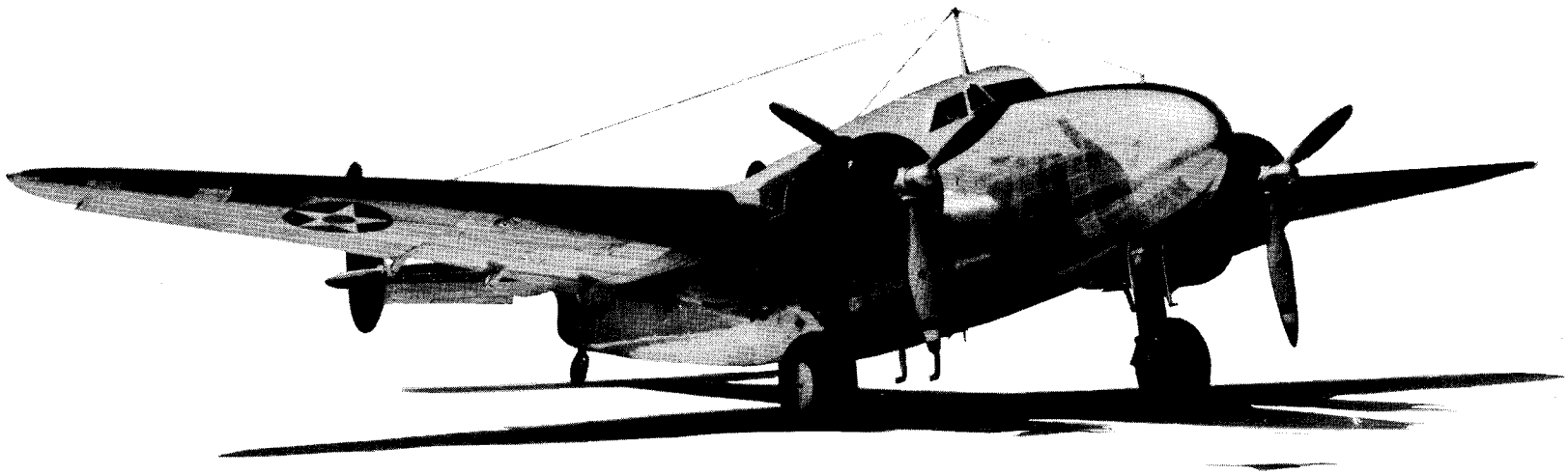
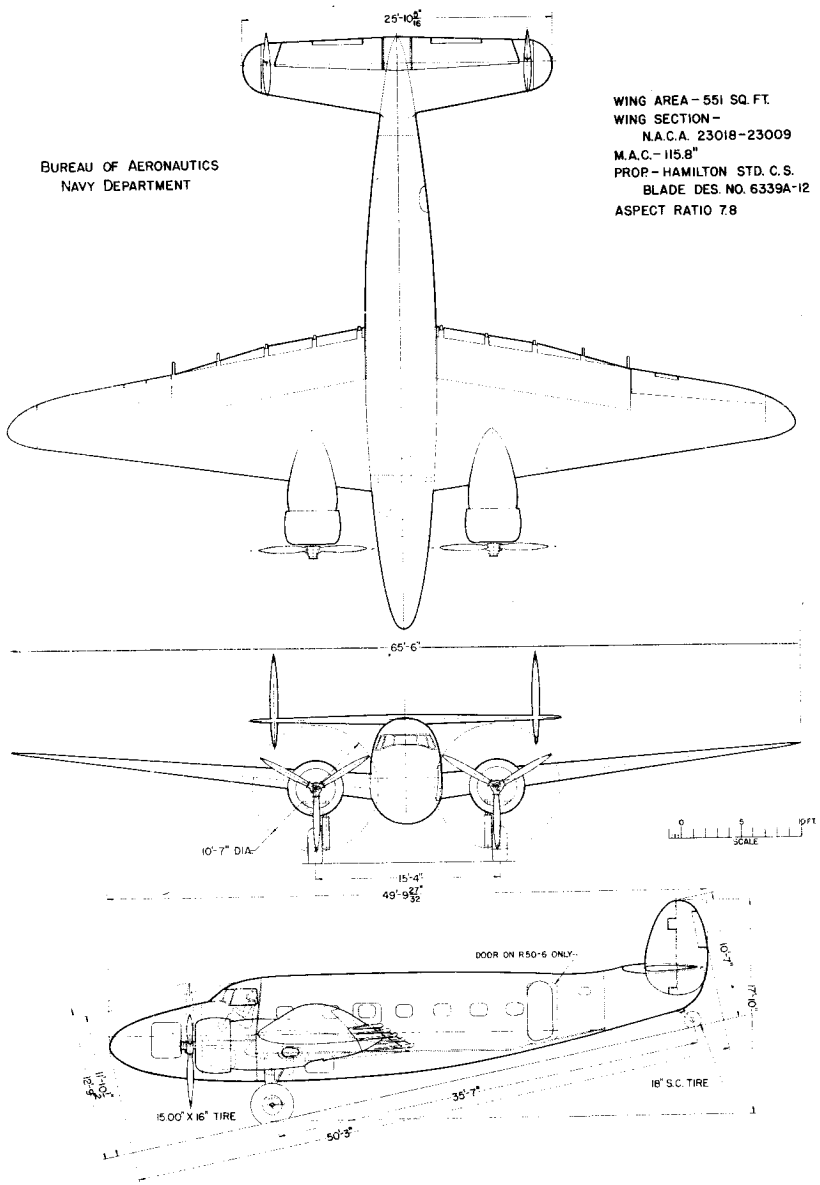


STANDARD AIRCRAFT CHARACTERISTICS

R50-3, -4, -5 "LODESTAR"



DESCRIPTIVE ARRANGEMENT

MISSION AND DESCRIPTION

Transport airplane compares with Air Force C-60A. It is of conventional transport design with exception of the twin tail feature. Landing gear main wheels are retractable. The commercial version, the Lodestar, has seen service on scheduled airlines and has also been widely used as an executive transport.

Hydraulically actuated Fowler flaps are fitted.

WEIGHTS

Loadings	Lbs.		L.F.
EMPTY	12759	(-3)	
	13040	(-4)	
	13104	(-5)	
BASIC	13248	(-3)	
	13337	(-4)	
	13422	(-5)	
DESIGN	18500		3.12
MAX. T.O.	19500	(-3)	2.40
	21500	(-4)	2.80
	21500	(-5)	2.80
MAX. LAND	18500	(-3)	
	19500	(-4, -5)	

All weights are actual.

POWER PLANT

NO. & MODEL.....(2) R-1820-40
MFR.....Wright
SUPERCH.....1 Stage, 2 Speed
PROP.GEAR RATIO.....3:2
PROP. MFR.....Ham. Std.
PROP.DES. NO.....6339A-12
NO.BL./DIA.....3/10'-7"

RATINGS

	BHP.	@ RPM.	@ ALT.
T. O.	1200	2500	SL
NORMAL	1000	2300	SL - 4500'
	900	2300	14000'

SPEC. N-647-C

FUEL AND OIL

Gals. - No. Tanks - Location

644.....4.....Wing

FUEL GRADE.....100/130
FUEL SPEC.....AN-F-28

OIL

CAPACITY (Gal.).....40
SPEC.....AN-O-8
GRADE.....1100-1120

ACCOMMODATIONS

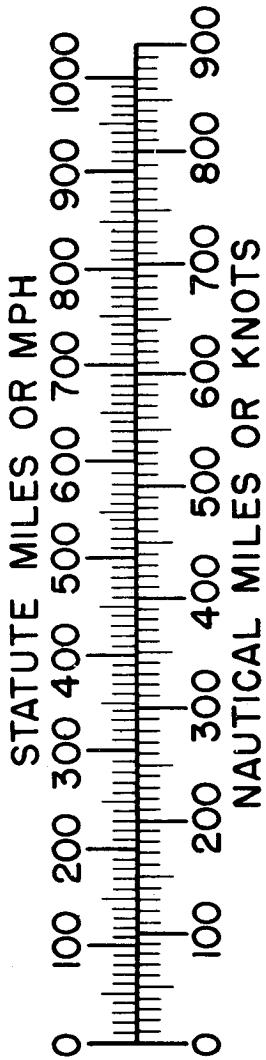
Max. Payload...1444 lbs. (-3)
(With full ...1344 lbs. (-4)
fuel) ...1300 lbs. (-5)
Crew.....4
Passengers 10-12

DIMENSIONS

SPAN.....65'-6"
LENGTH.....49'-10"
HEIGHT.....12'-9"
WING AREA.....551 sq. ft.
M.A.C.....115.8"
TREAD.....15'-4"

ELECTRONICS

COMMAND.....SCR-274-N
LIAISON.....SCR-287
COMPASS.....SCR-269-G
IFF.....SCR-595-A



PERFORMANCE SUMMARY

LOADING CONDITION		TRANSPORT			
TAKE-OFF WEIGHT	lbs	19,500			
Fuel	lbs	3864			
Bombs	lbs				
PAYLOAD	lbs	1300			
Wing/Power Loading (A) lbs/sq.ft. lbs/	bhp	35.6/10.9			
Stall Speed--Power off	kn	66.3			
Stall Speed--Power off - No Fuel	kn	59.4			
Stall Speed--Power on	kn	54.7			
Maximum Speed/Alt (B)	kn/ft	223/15100			
Take-off Distance, deck -- calm	ft	1065			
Take-off Distance, deck kn.	ft				
Take-off Distance, Airport	ft	2130			
Rate of climb -- sea level (B)	ft/min	1340			
Service Ceiling (B)	ft	27300			
Time-to-climb 10000 ft. (B)	min	8.3			
Time-to-climb 20000 ft. (B)	min	19.1			
Combat Range/V av 1500 ft.	n.mi/kn	1355/113			
Combat Radius/V av ft.	n.mi/kn				
LOADING CONDITION					
GROSS WEIGHT	lbs				
Engine power					
Fuel	lbs				
Bombs/Tanks					
Max. speed at sea level	kn				
Max. speed ft.	kn				
Combat speed/Alt.	kn/ft				
Rate of climb SL	ft/min				
Ceiling for 500 fpm R/C	ft				
Time-to-climb/Alt.	min/ft				

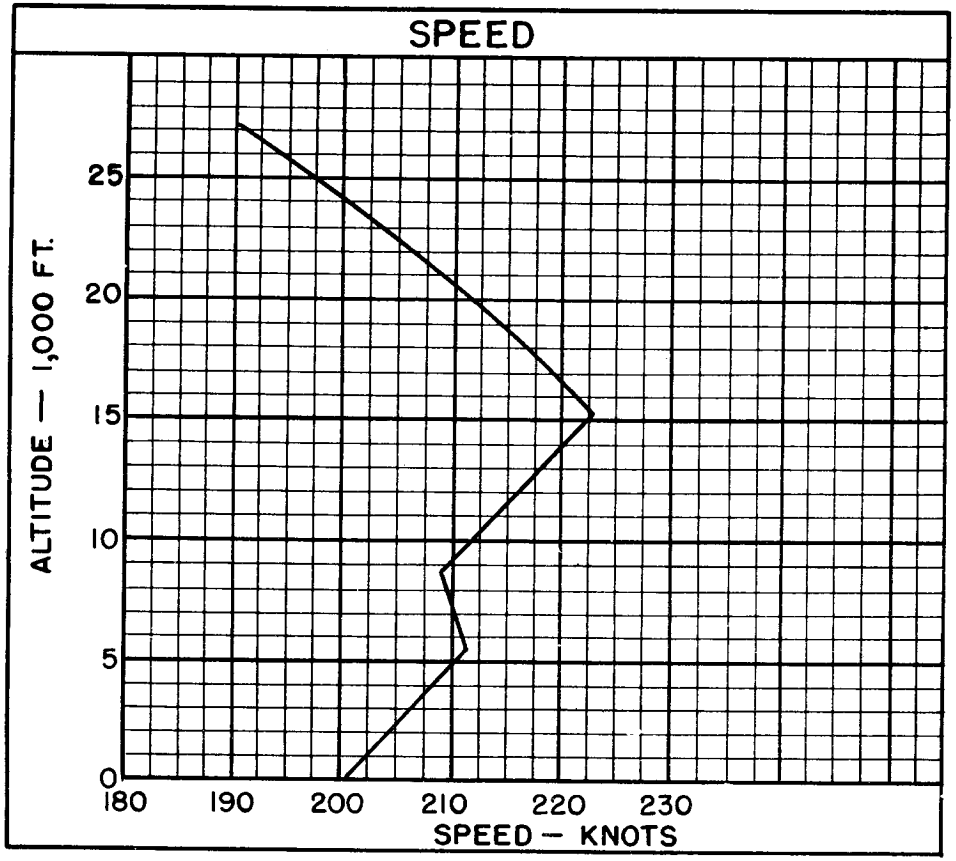
NOTES

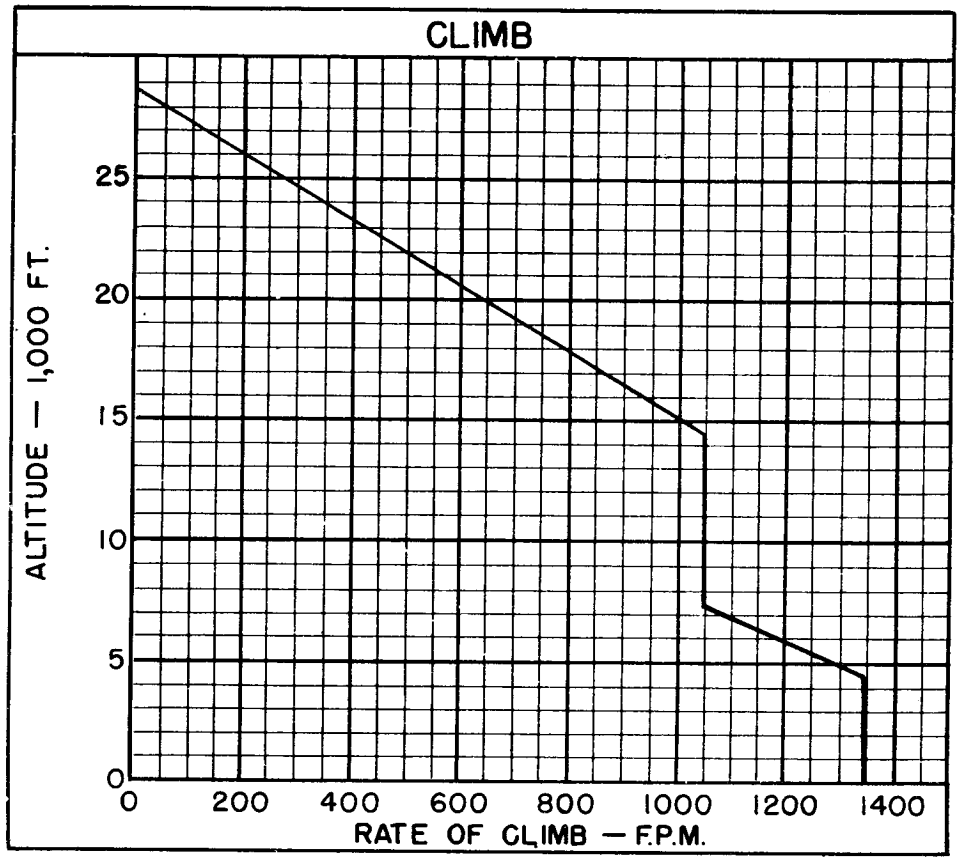
(A) BHP at Maximum Critical Altitude
(B) Normal BHP

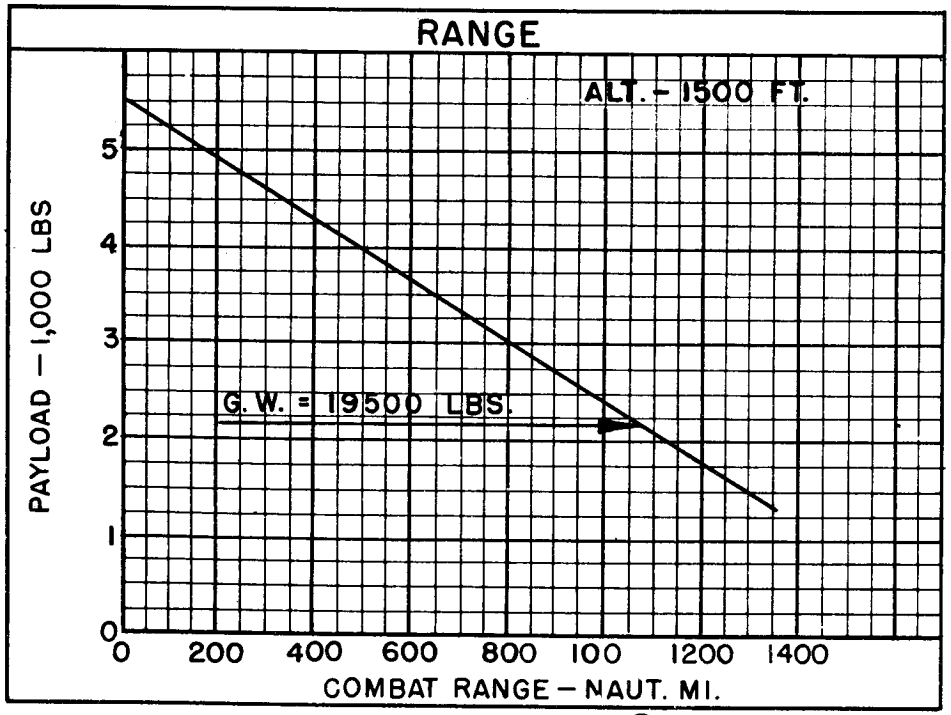
Performance is based on flight test of the R50-4 airplane. Range is based on engine specification fuel consumption data increased by 5%.

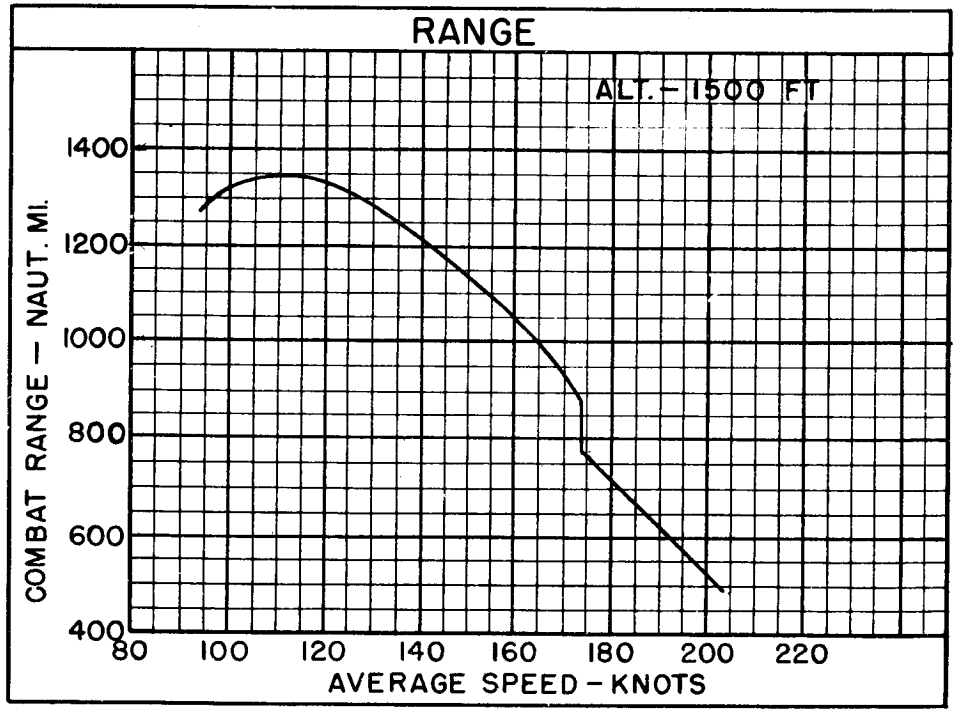
Provisions for 10-12 passengers are incorporated.

Notes continued on last page


SPEED
ALTITUDE — 1,000 FT.
0
5
10
15
20
25
180
190
200
210
220
230
SPEED — KNOTS


CLIMB
ALTITUDE — 1,000 FT.
0
5
10
15
20
25
0
200
400
600
800
1000
1200
1400
RATE OF CLIMB — F.P.M.


RANGE
ALT. - 1500 FT.
G. W. = 19500 LBS.
PAYLOAD — 1,000 LBS
0
1
2
3
4
5
0
200
400
600
800
100
1200
1400
COMBAT RANGE — NAUT. MI.


RANGE
ALT. - 1500 FT
COMBAT RANGE — NAUT. MI.
400
600
800
1000
1200
1400
80
100
120
140
160
180
200
220
AVERAGE SPEED - KNOTS

NOTES

Performance includes the effect of de-icer boots. Removal of de-icer boots increases Vmax at ACA by 2.5 knots and Maximum combat range at 1500' by 1.5%.

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

Gross weight.....19605#
Rate of climb-S.L.-T.O. power.....350FT/Min.
Service ceiling-normal power.....8200 ft.

The three R50-3 aircraft in use by the Navy are presently fitted with R-1830-92 engines in place of the original R-1830-84A. Ratings from Specification N-5098-A, are:

Normal	Take-off
1050/2550/SL-7500	1200/2700/SL