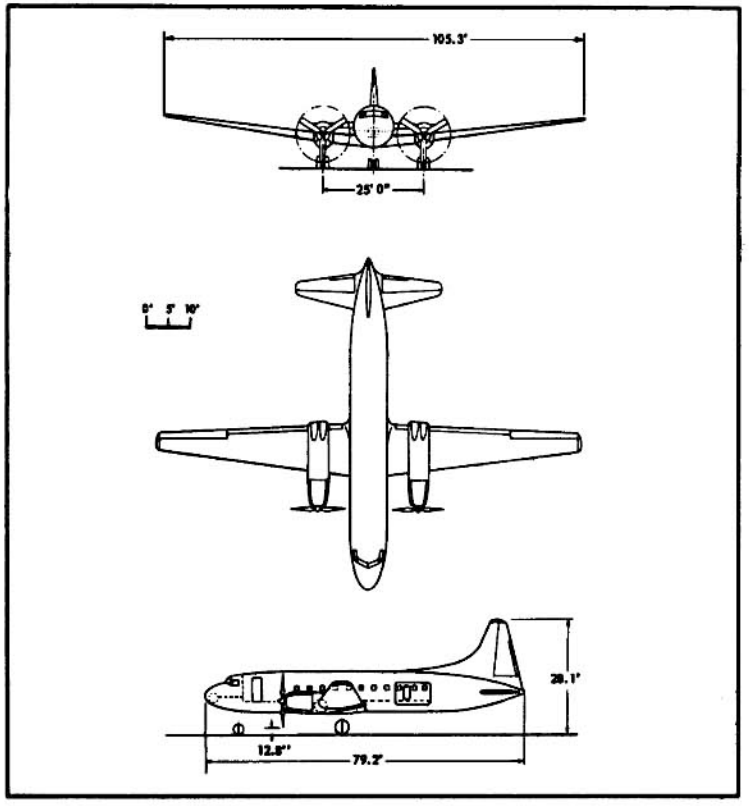
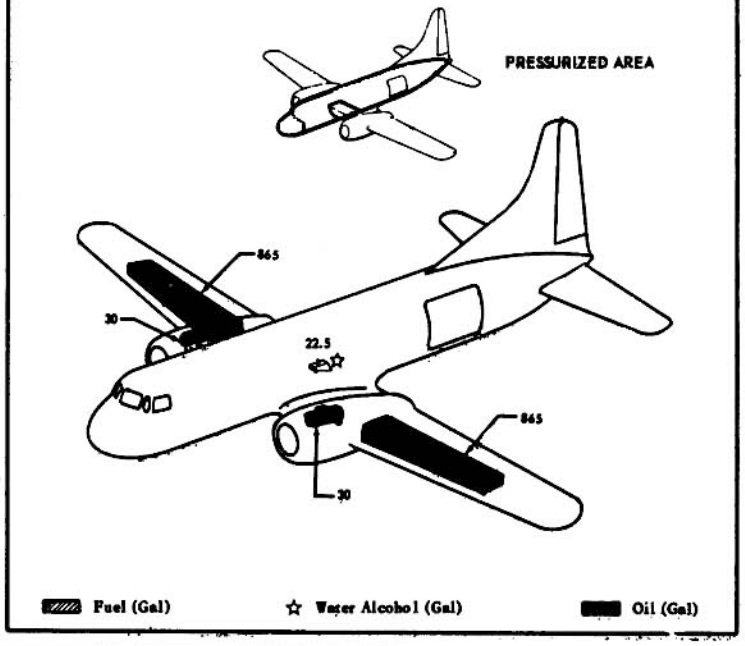
STANDARD AIRCRAFT CHARACTERISTICS

C-131G

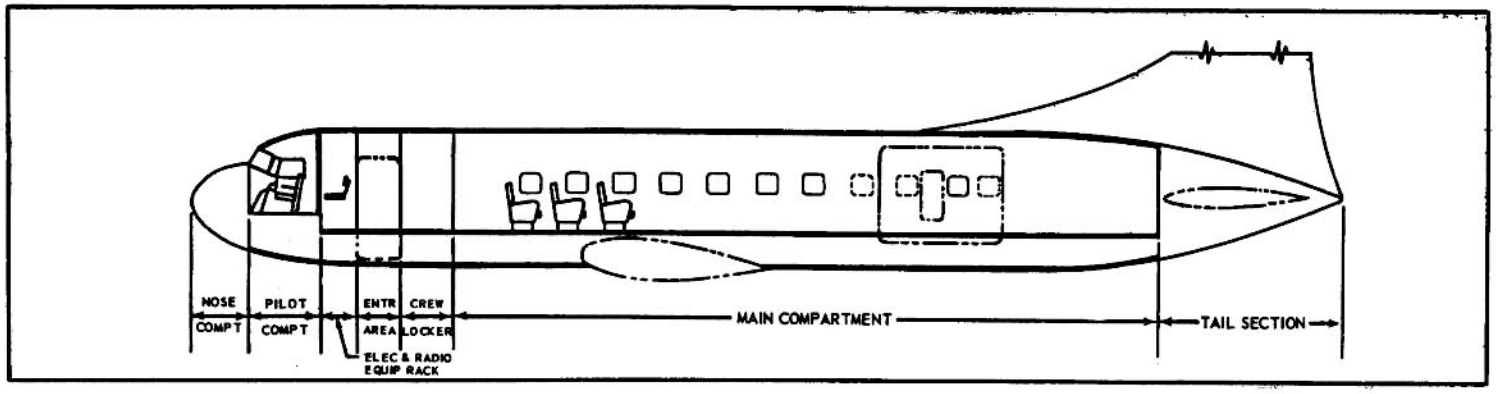


Wing Area ..... 920 sq ft
Aspect Ratio 12

Wing Section
(root) ..... NACA 63, 4-120
(tip) ..... NACA 63_2 - 415
M.A.C. ..... 114.3 in.



Fuel (Gal) ☆ Water Alcohol (Gal) Oil (Gal)



POWER PLANT

NO. & MODEL ..... (2)R-2800-52W(MDD)
MFR ..... Pratt & Whitney
SUPERCHARGER ..... 1 Stage, 2 Speed
RED. GEAR RATIO 0.45:1
AUGMENTATION ..... Water/Alcohol
PROP. MFR ..... Ham. Std.
BLADE DES. NO. 6895-B-8
NO. BLDS./DIA. ..... 3/13' 6"

RATINGS

	BHP	RPM	ALT	MIN
T.O.	*2500	2800	2500'	5
	2200	2800	4500'	5
NORM.	1900	2600	7000'	CONT.
	1700	2600	14,500'	CONT.

* Wet

Spec. No. N-8145A

CARGO

INSIDE CLEARANCE

LENGTH (OVERALL) ..... 48' - 2"
WIDTH (MAX.) (FLOOR LEVEL) .. 7' - 10"
HEIGHT (MAX.) ..... 6' - 4"

MAIN CARGO DOOR

HEIGHT (MAX.) ..... 6' - 0"
WIDTH (MAX.) ..... 10' - 0"
HEIGHT ABOVE GROUND ..... 7' - 10"

LIMIT FLOOR LOAD

OVERALL ..... 300 lb./sq. ft.

PERSONNEL

44 Passenger Seats
or
4 Passenger Seats with 21 Litters

MISSION AND DESCRIPTION

The primary mission of this aircraft is the transport of cargo, passengers and litter patients.

The airplane is a twin engine, low wing landplane incorporating tricycle type landing gear, fowler flaps, conventional control surfaces and reciprocating engines. Heating, ventilating and cabin pressurization equipment is provided and a thermal type anti-icing system is installed for wing and tail surface leading edges.

A large loading is provided to facilitate loading of equipment and cargo. Provisions are made for 44 passenger seats or 4 passenger seats with 21 litters.

Differences over R4Y-1:

a. Less noise - exhaust mufflers
b. Externally - addition of wing flap seal
c. Rear service door
d. Differential cowl flap actuation

DEVELOPMENT

First Flight ..... December 1957
Service Use ..... December 1957

DIMENSIONS

WING
AREA ..... 920 sq. ft.
SPAN ..... 105' - 4"
MAC ..... 9' - 6"
SWEEPBACK (LE) ..... 7° - 0"
LENGTH ..... 79' - 2"
HEIGHT ..... 28' - 2"
TREAD ..... 25' - 0"
PROP GRD. CLEARANCE ..... 13"

WEIGHTS

LOADINGS	LBS.	L.F.
EMPTY	31,400	.....
BASIC	33,100	.....
DESIGN	48,800	... 3.32
COMBAT	- -	.....
MAX. T.O. (Field) ..	53,200	.....
MAX. LDG. (Field) ..	50,670	.....

All weights are actual

FUEL AND OIL

NO. TANKS	GALS.	LOCATION
2	1730	Wing

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

OIL

CAPACITY (Gals.) 60
GRADE 1100
SPEC (applicable) MIL-L-6082

ELECTRONICS

FLIGHT INTERPHONE MI-32A
SERVICE INTERPHONE LA-17A
PUBLIC ADDRESS MI-36A
STATIC DISCHARGERS AN/ASA-3
GLIDE PATH RECEIVER .... 51V-1 or -2
RADIO COMPASS MN-62A
HF COMMAND ..... Collins 185-4
VHF COMMAND ..... TA-18BB & 51R-3
MARKER BEACON MN-61B
OMNI-DIRECTIONAL 51R-3
RADIO (UHF)(CFE Ant) AN/ARC-27A
RADAR IFF AN/APX-6
RADAR ALTIMETER AN/APN-22
CODER GROUP (except video coder) AN/APA-89

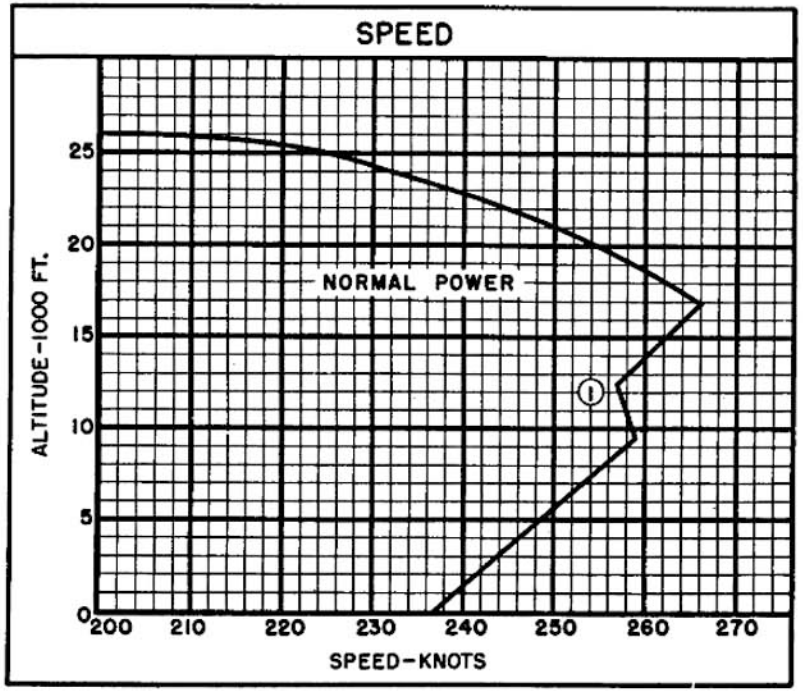
PERFORMANCE SUMMARY

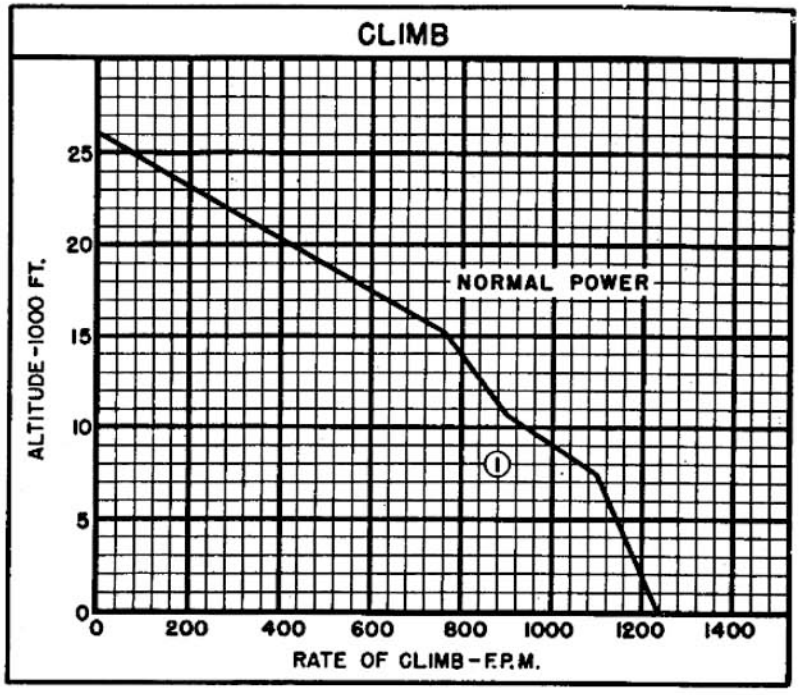
TAKE-OFF LOADING CONDITION		(1) BASIC MISSION MAXIMUM CARGO	(2) BASIC MISSION MAXIMUM FUEL	(3) PERSONNEL TRANSPORT	(4) EVACUATION TRANSPORT	(5) FERRY MISSION
TAKE-OFF WEIGHT	lb.	49,100	49,100	49,100	45,300	43,720
Fuel	lb.	4128	10,380	7121	10,380	10,380
Payload outbound/inbound	lb.	11,855/0	5380/0	7480/0	510/4080	0
Wing loading	lb./sq.ft.	53.4	53.4	53.4	49.5	47.5
Stall speed - power-off	kn.	76			74	73
Take-off run at S.L. - calm (A)	ft.	2700			2300	2100
Take-off run at S.L. kn. wind	ft.	--	--	--	--	--
Take-off to clear 50 ft. - calm (A)	ft.	3780			3220	2940
Max. speed/altitude (B)	kn./ft.	266/17,000			268/17,000	270/17,000
Rate of climb at S.L. (B)	fpm.	1240			1400	1500
Time: S.L. to 10,000 ft. (B)	min.	9.0			8.5	7.5
Time: S.L. to 20,000 ft. (B)	min.	24.0			20.5	18.5
Service ceiling (100 fpm) (B)	ft.	24,800			26,300	27,200
Combat range	n.mi.	600	2000	1250	2000	2280
Average cruising speed	kn.	160	166	168	166	158
Cruising altitude(s)	ft.	5000	5000	5000	5000	5000
Combat radius	n.mi.	270	995	605	950	--
Average cruising speed	kn.	160	163	166	163	--
Mission Time	hr.	3.5	12.2	7.3	12.3	
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.	45,553	39,528	42,660	39,528	34,093
Fuel	lb.	561	808	681	808	753
Stall speed - power-off/with approach power	kn/kn.	74/87.5	72/85.5	73/86.5	72/85.5	69/82.5
Distance - ground run/over 50' obstacle	ft/ft.	2480/4465	2120/3820	2310/4160	2120/3820	1810/3260

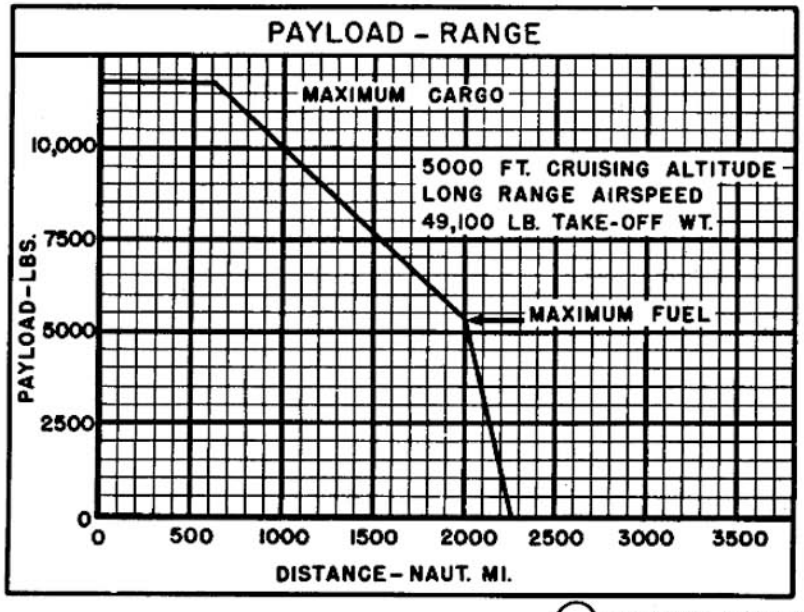
NOTES

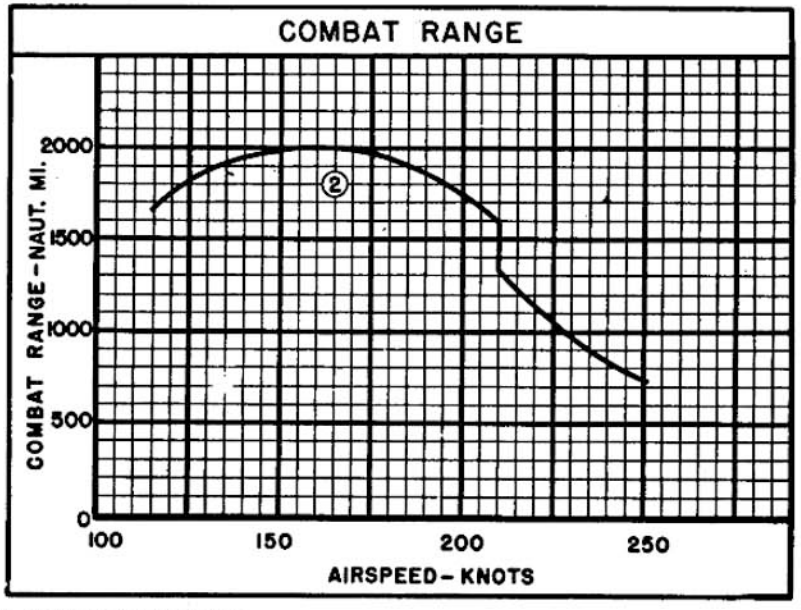
(A) TAKE-OFF POWER (WET)
(B) NORMAL POWER

PERFORMANCE BASIS: Contractor's flight test data.
RANGE and RADIUS are based on engine specification fuel consumption increased 5%.









◯ LOADING CONDITION COLUMN NUMBER

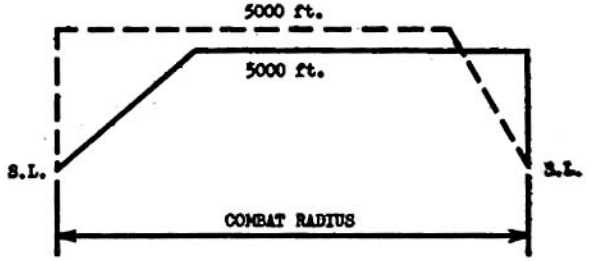
NOTES

TRANSPORT COMBAT RANGE PROBLEM (Reciprocating)

WARM-UP, TAKE-OFF, ACCELERATE: 10 minutes at normal rated power at sea level.
CLIMB: On course to cruise altitude of 5000 feet at normal rated power.
CRUISE: At speeds for long range at 5000 feet.
RESERVE: 30 minutes at speed for long range at sea level plus 5% of the initial fuel.

TRANSPORT COMBAT RADIUS PROBLEM (Reciprocating)

WARM-UP, TAKE-OFF, ACCELERATE: 10 minutes at normal rated power at sea level.
CLIMB: On course to cruise altitude of 5000 feet at normal rated power.
CRUISE: At speeds for long range at 5000 feet to destination.
LAND: At destination and unload entire cargo (NO REFUELING).
WARM-UP, TAKE-OFF, ACCELERATE: 10 minutes at normal rated power at sea level.
CLIMB: On course to cruise altitude of 5000 feet at normal rated power.
CRUISE: To home base at speeds for long range at 5000 feet.
RESERVE: 30 minutes at speed for long range at sea level plus 5% of the initial fuel load.



Performance with one engine inoperative, landing gear retracted, flaps up, propeller feathered, is:

Gross Weight.....lbs.	49,100
S.L. Rate of Climb, Take-off Power.....ft./min.	300
Service Ceiling, Maximum Continuous Power...ft.	7800

○ LOADING CONDITION COLUMN NUMBER