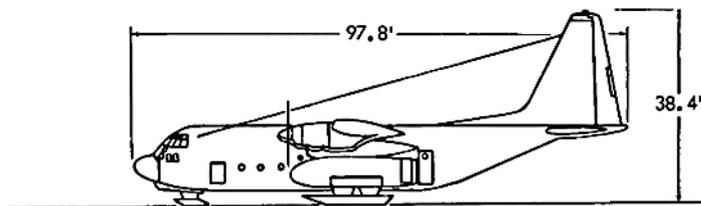
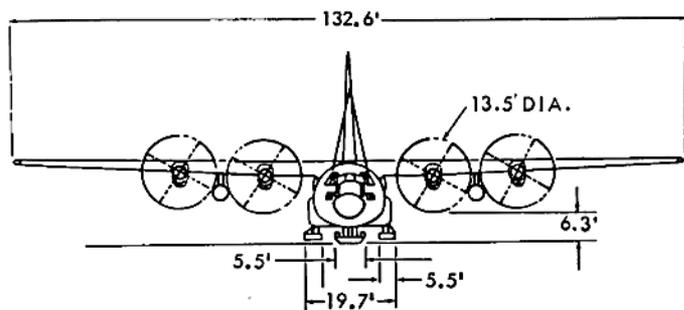
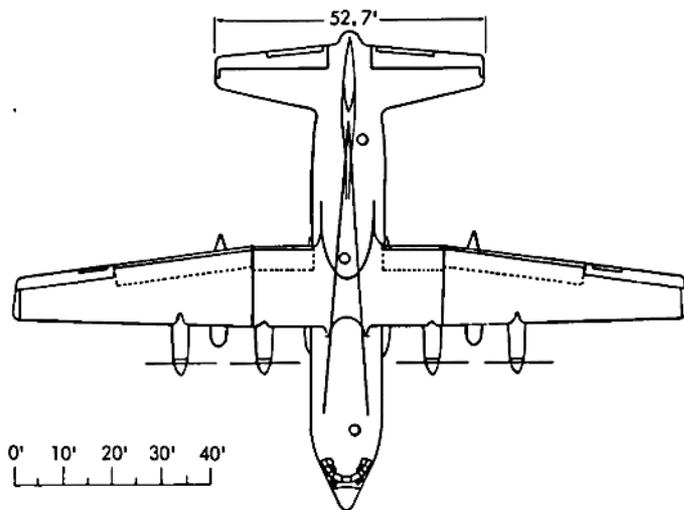


STANDARD AIRCRAFT CHARACTERISTICS

LC-130R HERCULES

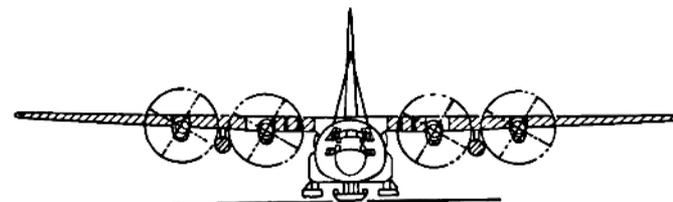
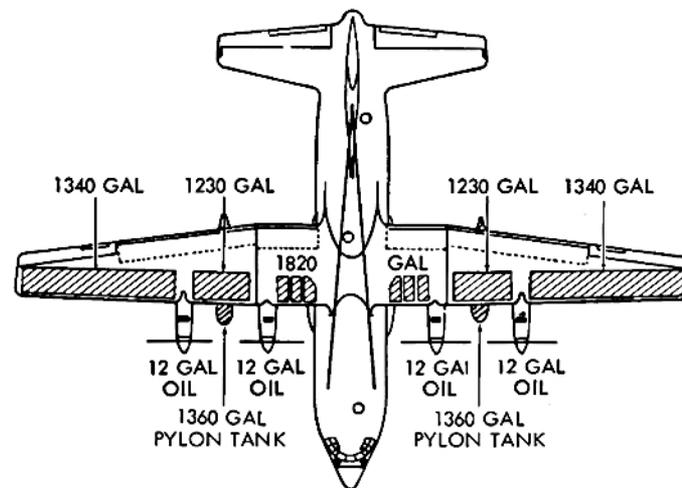
LOCKHEED

NAVAL AIR SYSTEMS COMMAND
NAVY DEPARTMENT



DESCRIPTIVE ARRANGEMENT

NAVAL AIR SYSTEMS COMMAND
NAVY DEPARTMENT



PRESSURIZED AREA

ARMAMENT AND TANKAGE

POWER PLANT					
NO. & MODEL	(4) T56-A-16				
MFR.	ALLISON				
ENGINE SPEC. NO.	732				
TYPE	AXIAL				
RED. GEAR RATIO	0.0739				
TAIL PIPE	FIXED AREA				
PROP. MFR.	HAMILTON STANDARD				
BLADE DESIGN NO.	A-7111D-2				
PROP. DIA.	13.5'				
NO. BLADES	4				
ATO					
NO. & MODEL	(B) (8) 14DS-1000				
MFR.	AEROJET				
WEIGHT (LOADED)	200 LB. EACH				
RATINGS					
S.L.S.	ESH	SH	LB	RPM	MIN
*T.O.	4910	4591	797	13820	5
*MAX.	4680	4368	781	13820	30
MAX. CONT.	4365	4061	760	13820	CONT.
ATO					
THRUST (LB.)	8 x 1000				
DURATION (SEC.)	15				
* CURRENTLY LIMITED TO 4200 PSHP BASED ON AIRPLANE STRUCTURAL LIMITS.					

ELECTRONICS	
RADIO SET (VHF COMMAND) (TWO)	VHF-101(MIL)
RADIO SET (LIAISON) (TWO)	HF-102
INTERPHONE	AN/AIC-18
PUBLIC ADDRESS SYSTEM	AN/AIC-13
RADIO COMPASS (AUTOMATIC) (TWO)	DF-203
MARKER BEACON REC. EQUIP.	COLLINS 51Z-4
ELECTRONIC ALTIMETER (LOW)	AN/APN-171(V)
RADAR ALTIMETER (HIGH)	AN/APN-133A
RADIO VHF NAVIGATIONAL SET	VOR-101(MIL)
(OMNI-DIRECTIONAL RANGE) (TWO)	
RADIO RECEIVING EQUIPMENT	AN/ARN-84
(TACAN) (TWO)	
DOPPLER NAVIGATION SYSTEM	AN/APN-147(V)
DOPPLER COMPUTER	AN/ASN-35
FLIGHT DIRECTOR SYSTEM (TWO)	AF STANDARD
RADAR SET	AN/APN-59B
PRESSURIZATION KIT	AN/ASQ-14
RADAR SET (LORAN)	AN/APN-70B
RADIO SET, UHF COMMAND (TWO)	AN/ARC-159
IFF SET - AIMS	AN/APX-72
DIRECTION FINDER	AN/ARA-50
COMPASS, NAVIGATIONAL (TWO)	SPERRY C-12
RADIO SET (GLIDESLOPE) (TWO)	COLLINS 51V-4
BEACON SET, RADIO	AN/URT-26(V)-8
INERTIAL NAVIGATION SYSTEM	LTN-51

MISSION AND DESCRIPTION	
A.F. EQUIVALENT:	NONE
MFR.'S MODEL:	382C-44J-05
THE MISSION OF THE LC-130R IS THE TRANSPORTATION OF PERSONNEL OR CARGO FOR AERIAL OR CONVENTIONAL DELIVERY. THE AIRCRAFT IS CAPABLE OF CARRYING 92 COMBAT TROOPS OR 64 PARATROOPS WITH EQUIPMENT. IN THE AIR EVACUATION CONFIGURATION, THE AIRCRAFT IS CAPABLE OF CARRYING 74 LITTERS WITH 2 ATTENDANTS; THE NORMAL CREW IS COMPOSED OF PILOT, CO-PILOT, FLIGHT ENGINEER, NAVIGATOR AND LOADMASTER.	
THE AIRCRAFT IS AN ALL METAL, HIGH WING, LONG RANGE, LAND BASED MONOPLANE. THE LC-130R HAS GREATER STRUCTURAL STRENGTH THAN THE LC-130F AND CAN OPERATE AT HIGHER WEIGHTS. FEATURES INCLUDE AN INTEGRAL CARGO RAMP AND DOOR; CREW COMPARTMENT PRESSURIZATION; GROUND AND INFLIGHT AIR CONDITIONING; THERMAL DE-ICING SYSTEM FOR THE LEADING EDGE OF THE WING AND EMPENNAGES; SINGLE POINT REFUELING SYSTEM; AND E-4 AUTOPILOT.	
THE AIRCRAFT IS EQUIPPED WITH FOUR FLAPS, CONSISTING OF AN OUTBOARD AND AN INBOARD FLAP IN EACH WING. THE FLAPS ARE OF THE LOCKHEED FOWLER, HIGH LIFT TYPE IN WHICH THE FLAP MOTION IS A COMBINATION OF AN AFT MOVEMENT TO INCREASE WING AREA AND A DOWNWARD TILTING MOVEMENT TO ALTER THE AIRFOIL SECTION TO INCREASE LIFT AND DRAG.	
THE LC-130R CAN TAKE OFF AND LAND FROM IMPROVED RUNWAYS OR SNOW COVERED SURFACES. PROVISIONS EXIST FOR USING EXTERNALLY MOUNTED ATO UNITS TO PROVIDE ADDITIONAL THRUST FOR TAKE-OFF.	

DEVELOPMENT	
DATE OF CONTRACT	AUGUST 1967
FIRST FLIGHT	OCTOBER 1968
FIRST ACCEPTANCE	NOVEMBER 1968
FIRST SERVICE	NOVEMBER 1968
DIMENSIONS	
WING	
SPAN	132.6'
INCIDENCE (ROOT)	3°
INCIDENCE (TIP)	0°
DIHEDRAL	2°30'
SWEEPBACK (18% CHORD)	0°
AREA	1745 SQ. FT.
LENGTH	97.8'
HEIGHT	38.4'
TREAD	14.3'
PROP. GROUND CLEARANCE	6.3'
MLG SKI WIDTH/LENGTH	5.5'/20.7'
NLG SKI WIDTH/LENGTH	5.5'/10.8'

WEIGHTS		
LOADING	LBS.	L.F.
EMPTY	80,579	-
BASIC	82,550	-
DESIGN	155,000	2.5
COMBAT	104,515	2.5
MAX. T.O. (OVERLOAD)	175,000	2.25
MAX. T.O. (NORMAL)	155,000	2.5
MAX. LAND	155,000	5 FPS
SKIS		
MAX. T.O. (NORMAL)	147,000	*1.8
MAX. LAND (OVERLOAD)	147,000	*1.8
MAX. LAND (NORMAL)	135,000	*2.0
*TAXI		

FUEL AND OIL		
LOCATION	NO. TANKS	GAL.
WING, INBOARD	2	2460
WING, OUTBOARD	2	2680
WING, CENTER	2	1820
PYLONS	2	2720
		*TOTAL FUEL
		9680
GRADE FUEL SPECIFICATION		JP-4 MIL-F-5624D
*MAXIMUM FUEL LIMITED TO 62,920 LB.		
OIL		
NACELLES SPECIFICATION	4 ... (TOT.)	48 MIL-L-23699

CARGO	
MAXIMUM LOAD DIMENSIONS (MAIN COMP'T)	
LENGTH	41.4'
WIDTH	10.3'
HEIGHT	9.1'
OPENING FOR CARGO LOADING (MAIN LOADING DOOR)	
WIDTH	10.0'
HEIGHT	9.1'
HEIGHT FROM GROUND	3.7'
MAXIMUM CARGO WEIGHT (WHEEL TAKE-OFF)	
(155,000 LBS. GROSS WEIGHT)	
36,142 LBS. @ 2.5G LIMIT LOAD	
FACTOR WITH 35,858 LBS FUEL (JP-4)	

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		DESIGN MAXIMUM ① PAYLOAD*	DESIGN MAXIMUM ③ FUEL*	MAXIMUM ⑤ OVERLOAD *	SKI MISSION ⑦	FERRY RANGE* ⑨
TAKE-OFF WEIGHT	lb.	155,000	155,000	175,000	135,000	145,470
Fuel Internal/External (JP-4)	lb./lb.	35,858/0	(1) 45,240/17,680	(1) 45,240/17,680	20,176/0	(1) 45,240/17,680
Payload	lb.	36,142	9,230	29,080	31,974	0
Wing Loading	lb./sq. ft.	88.8	88.8	100.3	77.4	83.3
Stall Speed - Power-Off (2)	kn.	102.4	102.4	108.8	95.5	99.2
Take-Off Run at S.L. - Calm (8)/ATO (3) (8)	ft.	3650	3650	4890	(11) 1850/1470	3140
Take-Off Run at S.L. - 25 Kn. Wind (8)	ft.	2340	2340	3170	(11) 980	2000
Take-Off to Clear 50 Ft. - Calm (8)/ATO (3) (8)	ft.	5230	5230	7160	(11) 2500/2120	4450
Max. Speed/Altitude (4) (10)	kn./ft.	279/19,800	296/7,000	270/16,700	288/22,100	299/10,500
Rate of Climb at S.L. (4)	fpm.	1630	1630	1290	2070	1820
Time: S.L. to 15,000 Ft. (4)	min.	14.7	14.7	21.5	10.6	12.5
Time: S.L. to Cruise Ceiling (4)	min.	25.6	25.6	24.2	26.7	26.1
Service Ceiling (100 fpm) (4)	ft.	22,400	22,400	18,300	26,700	24,600
Combat Range	n.mi.	1673	3494	2996	912	3784
Average Cruising Speed	kn.	266	266	266	266	266
Cruising Altitude(s)	ft.	20,700/26,800	20,700/33,700	16,500/28,300	25,000/28,600	22,700/36,300
Combat Radius/Mission Time	n.mi./hr.	917/7.30	1759/13.6	1636/12.7	467/3.91	-
Average Cruising Speed	kn.	265	266	265	265	-
COMBAT LOADING CONDITION		60% MISSION FUEL ② NO PAYLOAD	60% MISSION FUEL ④ NO PAYLOAD	60% MISSION FUEL ⑥ NO PAYLOAD	60% MISSION FUEL ⑧ NO PAYLOAD	60% MISSION FUEL ⑩ NO PAYLOAD
COMBAT WEIGHT	lb.	104,065	120,302	120,302	94,656	120,302
Engine Power		MAXIMUM	MAXIMUM	MAXIMUM	MAXIMUM	MAXIMUM
Fuel	lb.	21,515	37,752	37,752	12,106	37,752
Combat Speed/Combat Altitude	kn./ft.	301/30,700	299/26,700	299/26,700	302/33,600	299/26,700
Rate of Climb/Combat Altitude	fpm/ft.	500/30,700	500/26,700	500/26,700	500/33,600	500/26,700
Combat Ceiling (500 fpm)	ft.	30,700	26,700	26,700	33,600	26,700
Rate of Climb at S.L. (9)	fpm.	3130	2560	2560	3560	2560
Max. Speed at S.L. (10)	kn.	270	270	245	245	270
Max. Speed/Altitude	kn./ft.	316/17,500	312/15,000	312/15,000	318/19,000	312/15,000
LANDING WEIGHT (6)	lb.	123,777	97,266	117,479	118,000	87,628
Fuel	lb.	4635	5186	5399	3176	5078
Stall Speed - Power-Off/Military Power	kn./kn.	(2) 91/78 (8)	(2) 81/70 (8)	(2) 89/76 (8)	(2) 89/77 (8)	(2) 77/66 (8)
Landing Distance - Ground Roll/Over 50 Ft. Obst.(7) ft./ft.		(2) 2010/3090	(2) 1520/2610	(2) 1860/2940	(11) (2) 1800/2820	(2) 1440/2510

Performance Basis - Flight Test

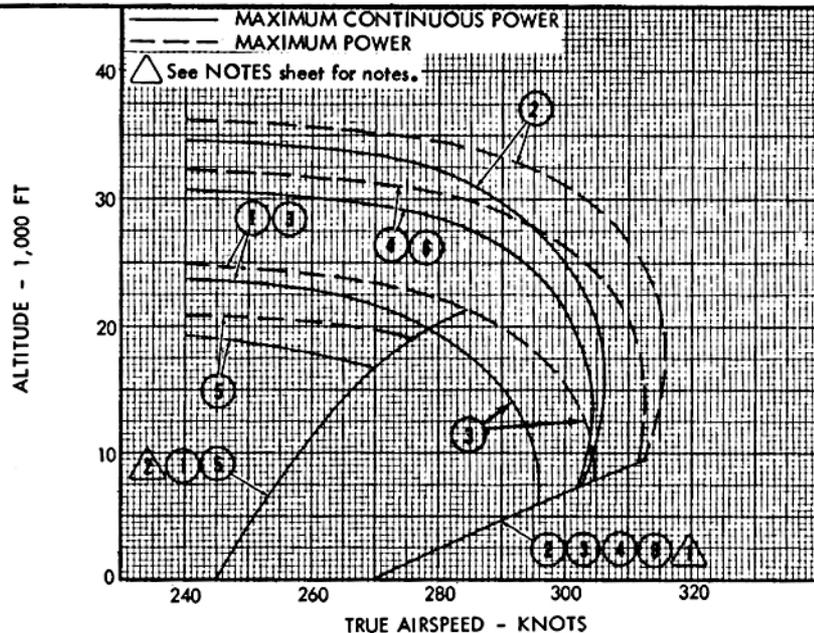
- (1) Maximum Fuel Limited to 62,920 Lb.
 (2) 100% Flaps.
 (3) 8 - 1000 Lb. Thrust ATO Units - Operating for 15 Sec. Burnout at Lift Off.
 (4) Maximum Continuous Power.

NOTES

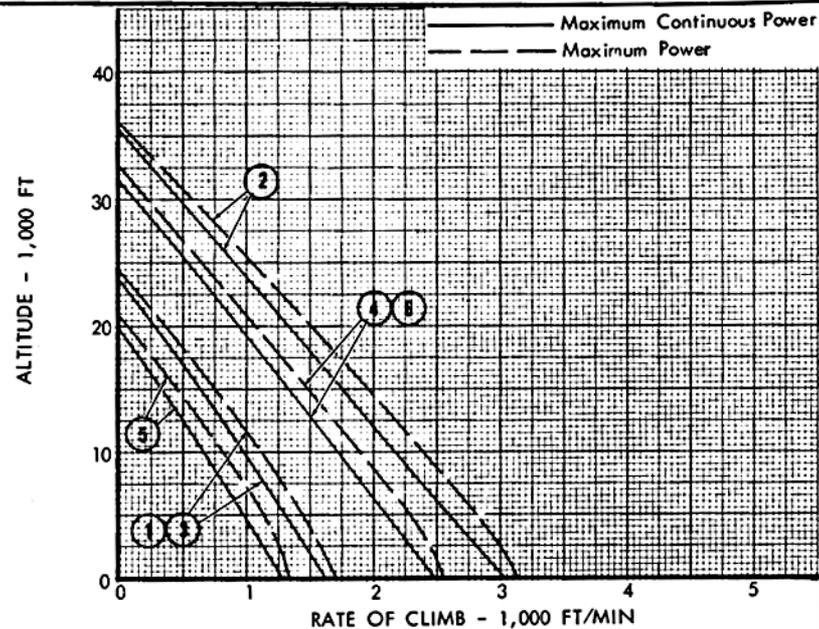
- (5) Service Ceiling
 (6) Cargo Plus Fuel Reserves.
 (7) Flight Idle/Reverse Thrust.
 (8) 50% Flaps - 4200 PSHP Limited.

- (9) 4200 PSHP Limited.
 (10) Speed Limited.
 (11) STD - 40°C, on Skis.
 * Wheel Take-Off

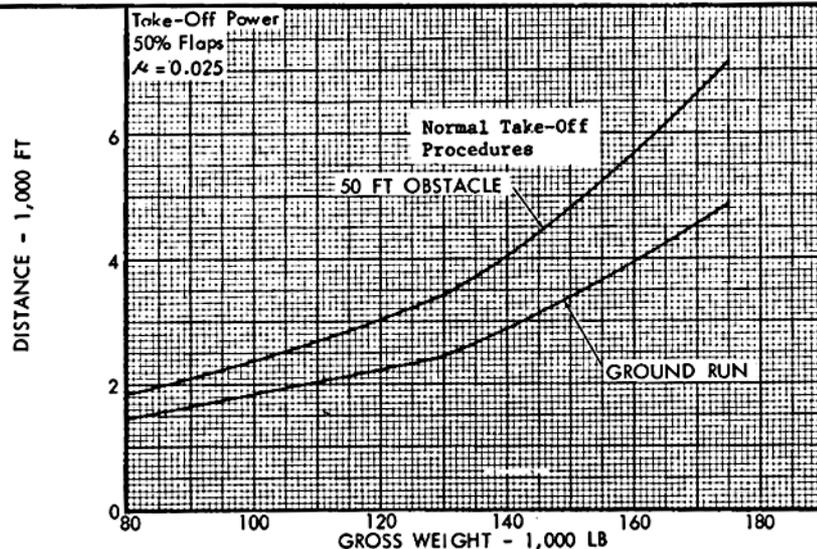
SPEED



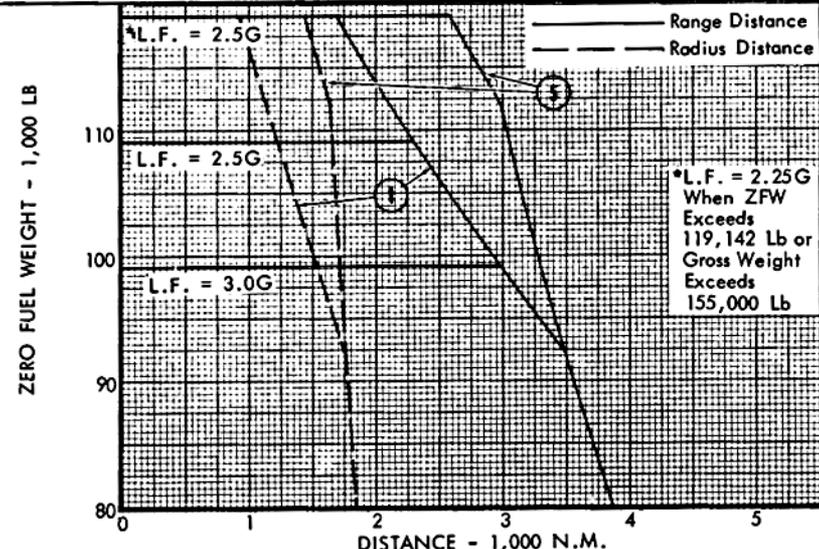
CLIMB



WHEEL TAKE-OFF

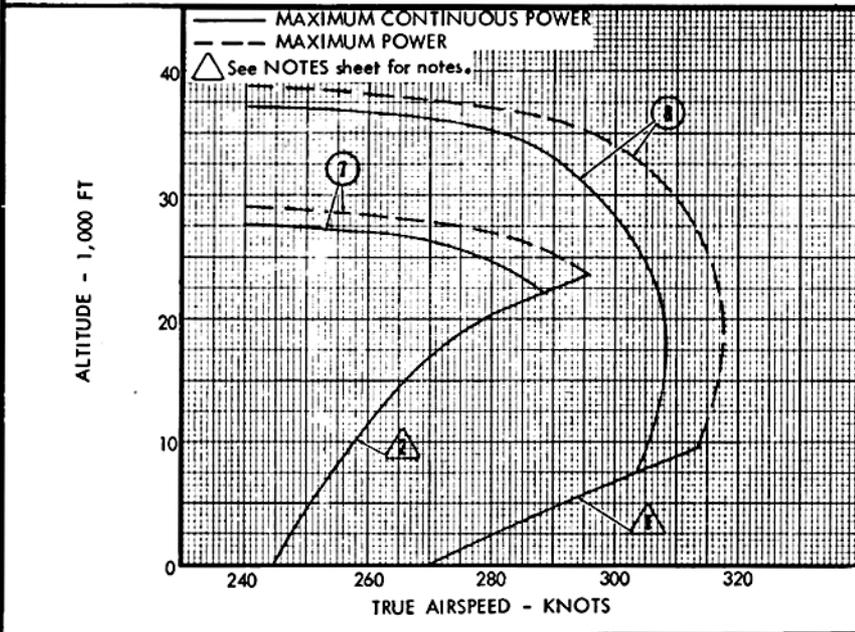


RANGE / RADIUS

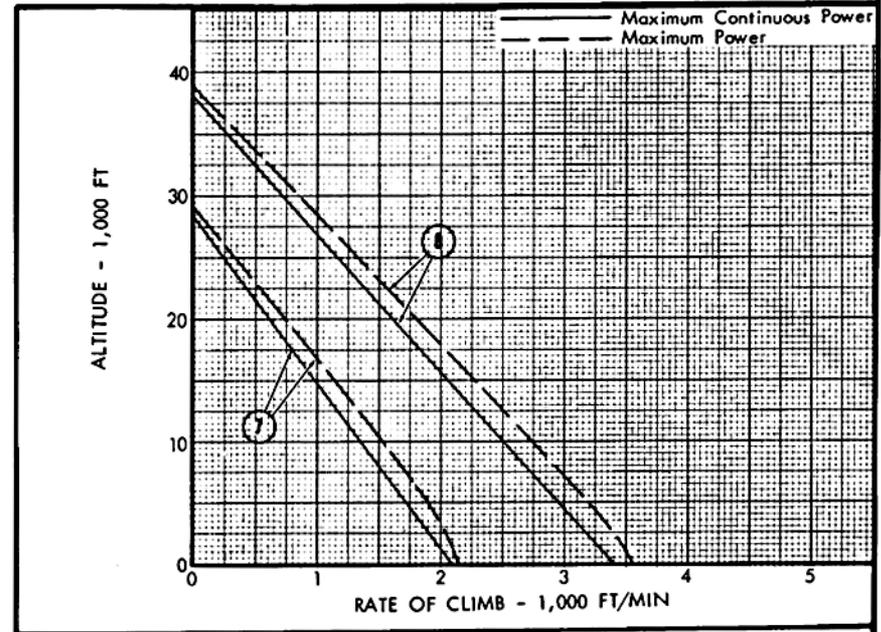


○ LOADING CONDITION COLUMN NUMBER

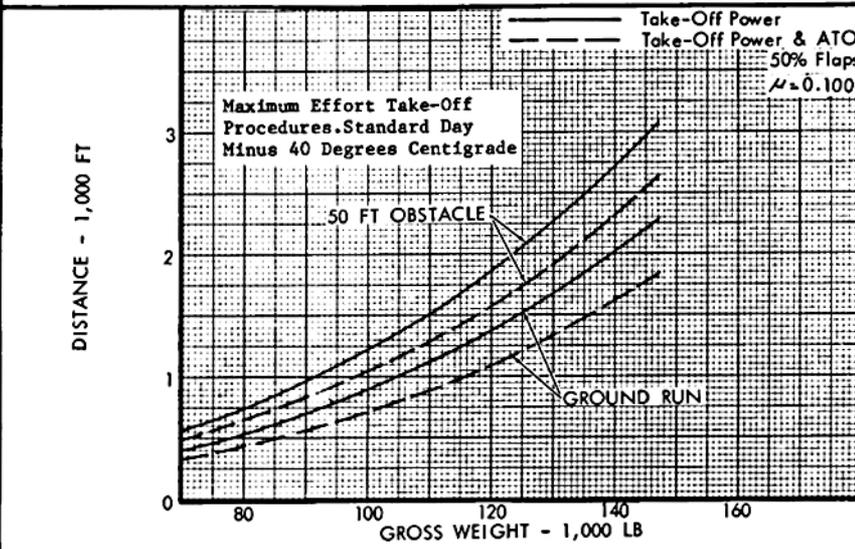
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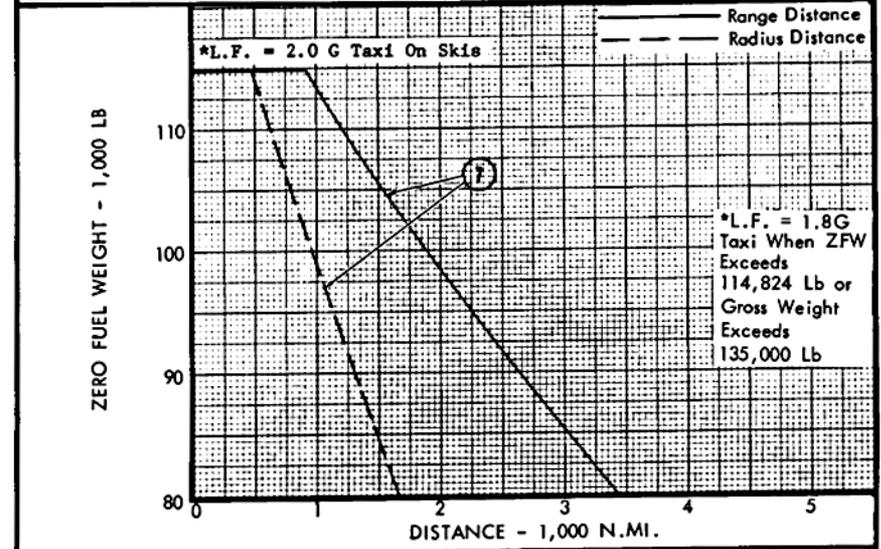
CLIMB



SKI TAKE-OFF



RANGE / RADIUS

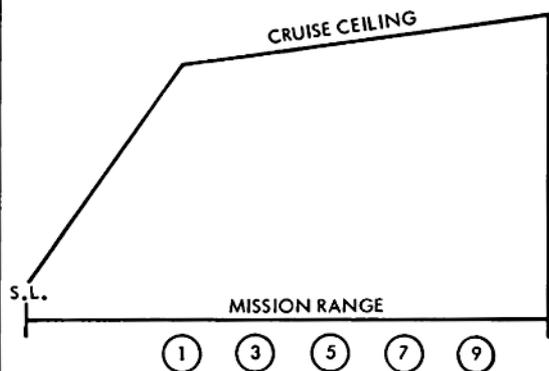


○ LOADING CONDITION COLUMN NUMBER

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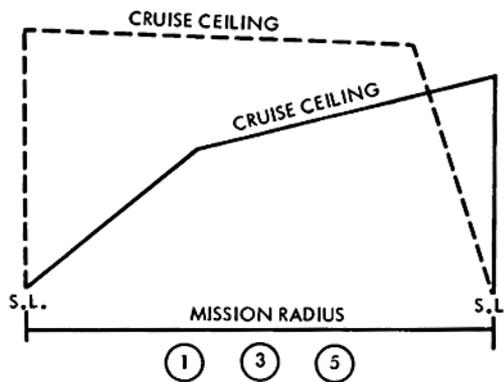
RANGE MISSION

START ENGINES, WARM UP, TAKE-OFF, ACCELERATE TO CLIMB SPEED.
 5 MINUTES AT MAXIMUM CONTINUOUS POWER AT SEA LEVEL.
 CLIMB ON COURSE TO CRUISE CEILING AT MAXIMUM CONTINUOUS POWER.
 CRUISE TO REMOTE BASE AT SPEEDS FOR MAXIMUM RANGE.
 LAND AT REMOTE SEA LEVEL BASE WITH RESERVES (NO FUEL CONSUMED, NO DISTANCE CREDIT).
 RESERVE: 30 MINUTES AT SEA LEVEL AT SPEEDS FOR MAXIMUM ENDURANCE PLUS 5 PERCENT OF INITIAL FUEL.



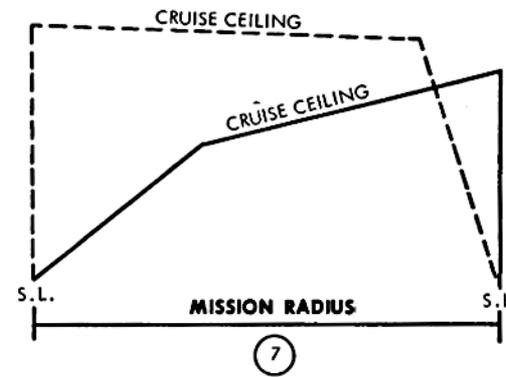
RADIUS MISSION

START ENGINES, WARM UP, TAKE-OFF, ACCELERATE TO CLIMB SPEED.
 5 MINUTES AT MAXIMUM CONTINUOUS POWER AT SEA LEVEL.
 CLIMB ON COURSE TO CRUISE CEILING AT MAXIMUM CONTINUOUS POWER.
 CRUISE TO REMOTE SEA LEVEL BASE AT SPEEDS FOR MAXIMUM RANGE.
 LAND AT REMOTE SEA LEVEL BASE AND UNLOAD ENTIRE CARGO (NO FUEL CONSUMED, NO DISTANCE CREDIT).
 START ENGINES, WARM-UP, TAKE-OFF, ACCELERATE TO CLIMB SPEED.
 5 MINUTES AT MAXIMUM CONTINUOUS POWER AT SEA LEVEL.
 CLIMB ON COURSE TO CRUISE CEILING AT MAXIMUM CONTINUOUS POWER.
 CRUISE TO HOME BASE AT SPEEDS FOR MAXIMUM RANGE AT ALTITUDES FOR MAXIMUM RANGE.
 LAND AT HOME BASE WITH RESERVES.
 RESERVES: 30 MINUTES AT SEA LEVEL AT SPEEDS FOR MAXIMUM ENDURANCE PLUS 5 PERCENT OF INITIAL FUEL.



SKI RADIUS MISSION

START ENGINES, WARM-UP, TAKE-OFF ON A COLD DAY (-25° C), ACCELERATE TO CLIMB SPEED.
 5 MINUTES AT MAXIMUM CONTINUOUS POWER AT SEA LEVEL.
 CLIMB ON COURSE TO CRUISE CEILING AT MAXIMUM CONTINUOUS POWER.
 CRUISE TO REMOTE SEA LEVEL BASE AT SPEEDS FOR MAXIMUM RANGE.
 LAND AT REMOTE SEA LEVEL BASE AND UNLOAD ENTIRE CARGO (NO FUEL CONSUMED, NO DISTANCE CREDIT).
 START ENGINES, WARM-UP, TAKE-OFF ON A COLD DAY (-25° C), ACCELERATE TO CLIMB SPEED.
 5 MINUTES AT MAXIMUM CONTINUOUS POWER AT SEA LEVEL.
 CLIMB ON COURSE TO CRUISE CEILING AT MAXIMUM CONTINUOUS POWER.
 CRUISE TO HOME BASE AT SPEEDS FOR MAXIMUM RANGE AT ALTITUDES FOR MAXIMUM RANGE.
 LAND AT HOME BASE WITH RESERVES.
 RESERVES: 30 MINUTES AT SEA LEVEL AT SPEEDS FOR MAXIMUM ENDURANCE PLUS 5 PERCENT OF INITIAL FUEL.



 V_{Limit} at $n = -1.0$ to $3.0G$ for ZFW up to 99,114 lb.
 V_{Limit} at $n = 0.0$ to $2.5G$ for ZFW up to 119,142 lb. If ZFW exceeds 119,142 lb. or gross weight exceeds 155,000 lb., $n = 0$ to $2.25G$
 LOADING CONDITION COLUMN NUMBER