

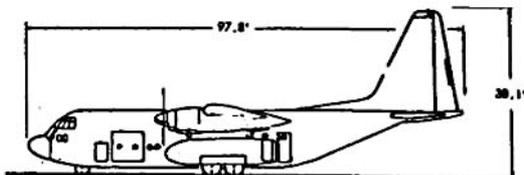
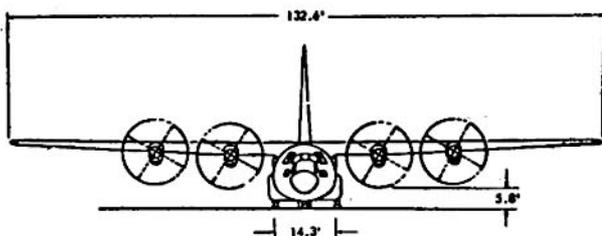
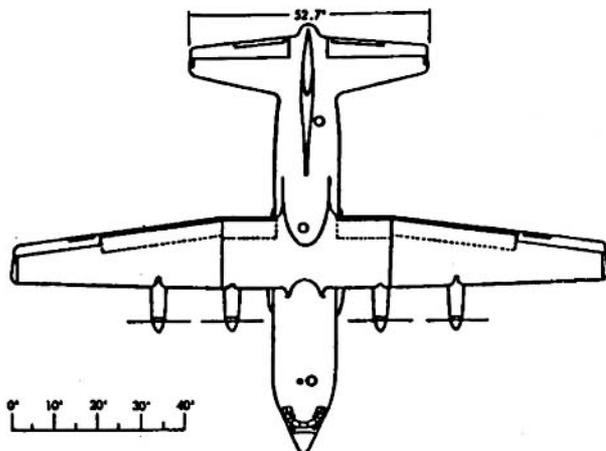
STANDARD AIRCRAFT CHARACTERISTICS

C-130F

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT

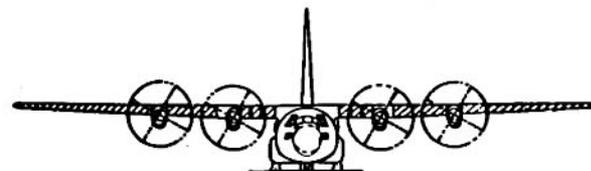
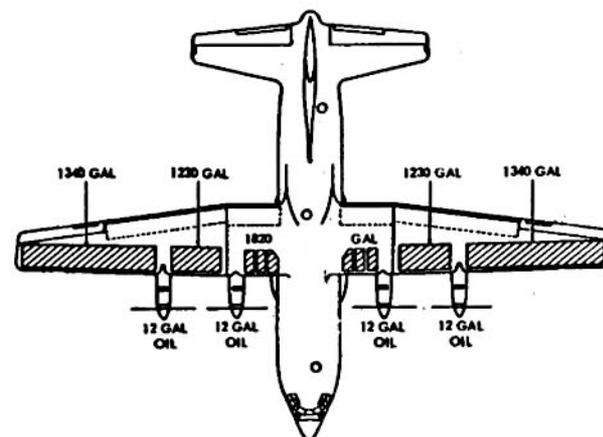
WING AREA ... 1745.5 Sq. FT.
ASPECT RATIO 10.09
MAC 164.5 IN.

WING SECTION
(ROOT) NACA64A318
(TIP) NACA64A412



DESCRIPTIVE ARRANGEMENT

BUREAU OF NAVAL WEAPONS
NAVY DEPARTMENT



ARMAMENT AND TANKAGE

POWER PLANT	MISSION AND DESCRIPTION	WEIGHTS																																													
<p>No. & Model (4) T56-A-7 Engine Spec No/Mfr 377F/Allison Red Gear Ratio 0.0739 Prop Mfr Hamilton Standard Blade Design No..... A7119C-2 Prop Dia/No. Blades 13.5/4' ATO</p> <p>No. & Model (8) 15KS-1000 Mfr Aerojet Weight (loaded) 144 lb ea</p> <p>RATINGS</p> <table border="0"> <tr> <td>S.L.S.</td> <td>ESHP</td> <td>SHP</td> <td>THRUST</td> <td>RPM</td> <td>MIN</td> </tr> <tr> <td>T.O.</td> <td>4050</td> <td>3755</td> <td>740</td> <td>13,820</td> <td>5</td> </tr> <tr> <td>Mil:</td> <td>4050</td> <td>3755</td> <td>740</td> <td>13,820</td> <td>30</td> </tr> <tr> <td>Nor:</td> <td>3730</td> <td>3443</td> <td>718</td> <td>13,820</td> <td>Cont</td> </tr> </table> <p>ATO</p> <p>Thrust (lb) 8 x 1000 Duration (sec) 15</p>	S.L.S.	ESHP	SHP	THRUST	RPM	MIN	T.O.	4050	3755	740	13,820	5	Mil:	4050	3755	740	13,820	30	Nor:	3730	3443	718	13,820	Cont	<p>A. F. Equip: C-130B Mfr's Model: 282B-44A-10</p> <p>The mission of the C-130F 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 can carry 74 litters and 2 attendants or 70 litters and 6 attendants.</p> <p>The normal crew is composed of pilot, co-pilot, flight engineer, navigator and loadmaster.</p> <p>The aircraft is an all metal, high wing, long range, land based monoplane. Features include an intergal cargo ramp and door; crew and cargo 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.</p> <p>The aircraft is equipped with four flaps consisting of an outboard and inboard flap in each wing. The flaps are of the Lockheed Fowler type. Extension increases wing area and alters airfoil shape, resulting in increased lift and drag.</p> <p>The C-130F can land on and takeoff from confined areas and operate from landing strips used in advanced bases. Provisions available for use of externally mounted ATO units to provide additional thrust for take-off.</p> <p>DEVELOPMENT</p> <p>Date of Contract 25 August 1958 First Flight 22 January 1960 First Acceptance 21 March 1960</p>	<table border="0"> <tr> <td>Loading</td> <td>Lb.</td> <td>L.F.</td> </tr> <tr> <td>Empty</td> <td>66023(A)</td> <td></td> </tr> <tr> <td>Basic</td> <td>66679(A)</td> <td></td> </tr> <tr> <td>Design</td> <td>135,000</td> <td>3.0</td> </tr> <tr> <td>Max T.O. (OverLd)...</td> <td>145,000</td> <td>3.0</td> </tr> <tr> <td>Max T.O. (Norm) ...</td> <td>135,000</td> <td>3.0</td> </tr> <tr> <td>Max Land</td> <td>135,000</td> <td></td> </tr> </table>	Loading	Lb.	L.F.	Empty	66023(A)		Basic	66679(A)		Design	135,000	3.0	Max T.O. (OverLd)...	145,000	3.0	Max T.O. (Norm) ...	135,000	3.0	Max Land	135,000	
S.L.S.	ESHP	SHP	THRUST	RPM	MIN																																										
T.O.	4050	3755	740	13,820	5																																										
Mil:	4050	3755	740	13,820	30																																										
Nor:	3730	3443	718	13,820	Cont																																										
Loading	Lb.	L.F.																																													
Empty	66023(A)																																														
Basic	66679(A)																																														
Design	135,000	3.0																																													
Max T.O. (OverLd)...	145,000	3.0																																													
Max T.O. (Norm) ...	135,000	3.0																																													
Max Land	135,000																																														
<p>ELECTRONICS</p>	<p>DEVELOPMENT</p>	<p>FUEL AND OIL</p> <table border="0"> <tr> <td>Location</td> <td>N. Tanks</td> <td>GAL</td> </tr> <tr> <td>Wing, Inbd</td> <td>2</td> <td>2460</td> </tr> <tr> <td>Wing, Outbd</td> <td>2</td> <td>2680</td> </tr> <tr> <td>Wing, Center</td> <td>2</td> <td>1820</td> </tr> <tr> <td></td> <td>Total</td> <td>6960</td> </tr> <tr> <td>Grade</td> <td></td> <td>JP-5</td> </tr> <tr> <td>Specification</td> <td></td> <td>MIL-F-562AE</td> </tr> </table> <p>OIL</p> <p>Nacelles</p>	Location	N. Tanks	GAL	Wing, Inbd	2	2460	Wing, Outbd	2	2680	Wing, Center	2	1820		Total	6960	Grade		JP-5	Specification		MIL-F-562AE	4	(TOT) 48																						
Location	N. Tanks	GAL																																													
Wing, Inbd	2	2460																																													
Wing, Outbd	2	2680																																													
Wing, Center	2	1820																																													
	Total	6960																																													
Grade		JP-5																																													
Specification		MIL-F-562AE																																													
<p>UHF Command 2 AN/ARC-52 VHF Command AN/ARC-84 Liaison 2 AN/ARC-38,38A,94 Liaison AN/ARR-41 Interphone AN/AIC-14 P.A. System AN/AIC-13 Radar Set AN/APN-59 Glide Path AN/ARN-18 Radio Compass (2) AN/ARN-6 Omnidirectional Range (2) AN/ARN-14E Marker Beacon AN/ARN-32 IFF AN/APX-68 Radar Set (Altimeter) AN/APN-22 Radar Altimeter SCR-718 Direction Finder AN/ARA-25 Radar Set (LORAN) AN/APN-70 Radio Set (TACAN) AN/APN-21A Coder Group (IFF) AN/APA-89 Doppler Drift AN/APA-52</p>	<p>DIMENSIONS</p> <table border="0"> <tr> <td>Wing</td> <td></td> </tr> <tr> <td>Span</td> <td>132.6'</td> </tr> <tr> <td>Incidence (root)</td> <td>3°</td> </tr> <tr> <td>(tip)</td> <td>0°</td> </tr> <tr> <td>Dihedral</td> <td>2° 30'</td> </tr> <tr> <td>Sweepback (18 O/O chord)</td> <td>0°</td> </tr> <tr> <td>Area</td> <td>1745.5sq ft.</td> </tr> <tr> <td>Length</td> <td>97.8'</td> </tr> <tr> <td>Height</td> <td>38.3'</td> </tr> <tr> <td>Tread</td> <td>14.3'</td> </tr> <tr> <td>Prop. Ground Clearance</td> <td>5.8'</td> </tr> </table>	Wing		Span	132.6'	Incidence (root)	3°	(tip)	0°	Dihedral	2° 30'	Sweepback (18 O/O chord)	0°	Area	1745.5sq ft.	Length	97.8'	Height	38.3'	Tread	14.3'	Prop. Ground Clearance	5.8'	<p>CARGO</p> <p>Max. Load Dimensions</p> <table border="0"> <tr> <td>Length</td> <td>41.0'</td> </tr> <tr> <td>Width</td> <td>9.96'</td> </tr> <tr> <td>Height</td> <td>8.8'</td> </tr> </table> <p><u>Opening for Cargo Loading</u></p> <table border="0"> <tr> <td>Width-Ramp curbs</td> <td>9.52'</td> </tr> <tr> <td>Height-Floor-upper</td> <td></td> </tr> <tr> <td>Door</td> <td>9.08'</td> </tr> </table> <p><u>Max Cargo Weight</u> 42,000 lbs</p>	Length	41.0'	Width	9.96'	Height	8.8'	Width-Ramp curbs	9.52'	Height-Floor-upper		Door	9.08'											
Wing																																															
Span	132.6'																																														
Incidence (root)	3°																																														
(tip)	0°																																														
Dihedral	2° 30'																																														
Sweepback (18 O/O chord)	0°																																														
Area	1745.5sq ft.																																														
Length	97.8'																																														
Height	38.3'																																														
Tread	14.3'																																														
Prop. Ground Clearance	5.8'																																														
Length	41.0'																																														
Width	9.96'																																														
Height	8.8'																																														
Width-Ramp curbs	9.52'																																														
Height-Floor-upper																																															
Door	9.08'																																														

PERFORMANCE SUMMARY

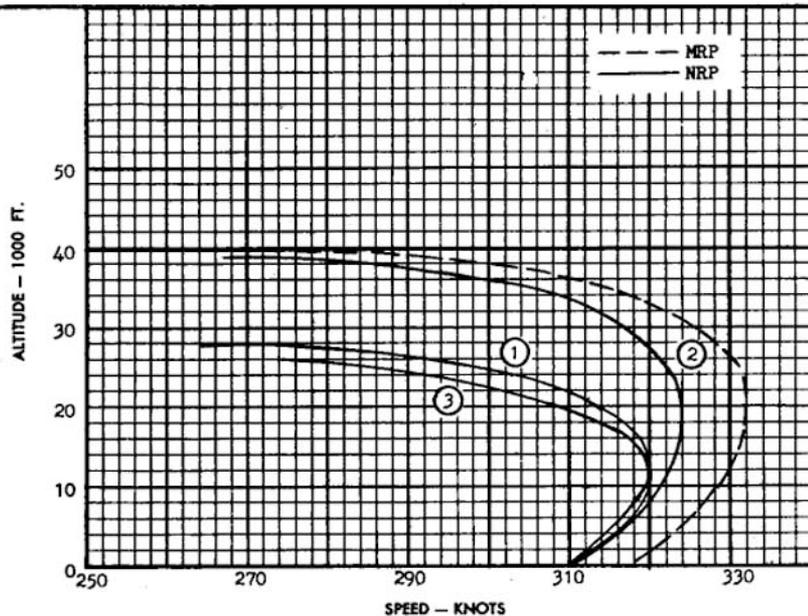
TAKE-OFF LOADING CONDITION		(1) MAXIMUM CARGO	(3) MAXIMUM CARGO	(5) MAXIMUM FUEL	(7) TROOP TRANSPORT	(9) LITTER TRANSPORT
TAKE-OFF WEIGHT	lb.	135,000	145,000	135,000	135,000	135,000
Fuel Internal/external (JP-5)	lb./lb.	23,589/0	33,589/0	47,328/0	43,324	45,999/0
Payload	lb.	42,000	42,000	18,261	20,700	18,900
Wing loading	lb./sq. ft.	77.3	83.1	77.3	77.3	77.3
Stall speed—power-off (A)	kn.	96	99	96	96	96
Take-off run at S.L.— calm /JATO	ft.	3100/2600	3740/3290	3100/2600	3100/2600	3100/2600
Take-off run at S.L.— 89.6°P	ft.	3760	4500	3760	3760	3760
Take-off to clear 50 ft.— calm/ JATO	ft.	4420/3795	5200/4520	4420/3795	4420/3795	4420/3795
Max. speed/altitude (B)	kn./ft.	320/12000	319/10000	320/12000	320/12000	320/12000
Rate of climb at S.L. (B)	fpm.	1957	1752	1957	1957	1957
Time: S.L. to 20,000 ft. (B)	min.	17.5	21	17.5	17.5	17.5
Time: S.L. to Service Ceiling (B)	min.	45.0	45.0	45.0	45.0	45.0
Service ceiling (100 fpm) (B)	ft.	26750	24750	26750	26750	26750
Combat range	n.mi.	1403	1950	3412	3060	3306
Average cruising speed	kn.	277	277	278	278	278
Cruising altitude(s)	ft.	26600	25650	29500	29000	29250
Combat radius/mission time	n.mi./hr.	750/5.75	1127/8.53	1770/13.18	1594/11.89	1717/12.79
Average cruising speed	kn.	277/267	277/269	277/270	277/270	277/270
Cruising altitudes		25750/38250	24400/37900	27250/36900	27100/36800	27250/37000
COMBAT LOADING CONDITION		(2) 60% MISSION FUEL NO PAYLOAD	(4) 60% MISSION FUEL NO PAYLOAD	(6) 60% MISSION FUEL NO PAYLOAD	(8) 60% MISSION FUEL NO PAYLOAD	(10) 60% MISSION FUEL NO PAYLOAD
COMBAT WEIGHT	lb.	83564	89564	97808	96970	97900
Engine power		MILITARY	MILITARY	MILITARY	MILITARY	MILITARY
Fuel	lb.	14153	20152	28397	25994	27599
Combat speed/combat altitude	kn./ft.	309/36300	312/34300	313/32100	313/32350	311/32600
Rate of climb/combat altitude	fpm/ft.	500/36300	500/34300	500/32100	500/32350	500/32600
Combat ceiling (500 fpm)	ft.	36300	34300	32100	32350	32600
Rate of climb at S.L.	fpm.	4090	3765	3389	3430	3411
Max. speed at S.L.	kn.	318	316	315	315	315
Max. speed/altitude	kn./ft.	332/22000	331/20000	332/18000	332/18000	332/18000
LANDING WEIGHT	lb.	114,496	115,075	91,831	95,565	74,069
Fuel	lb.	3085	3664	4159	3889	3958
Stall speed—power-off/military power (A)	kn./kn.	88.5/72	89/72.5	79/64	81/65	71/57
Landing distance—ground roll/over 50 ft. obst.(C) ft./ft.		2290/3675	2300/3690	1850/2900	1900/3000	1675/2400

- PERFORMANCE BASIS: U.S.A.F. C-130E Flight Tests; calculated data based on Category II Performance Tests
- RANGE and RADIUS are based on Flight Test Fuel consumption not increased by 5%

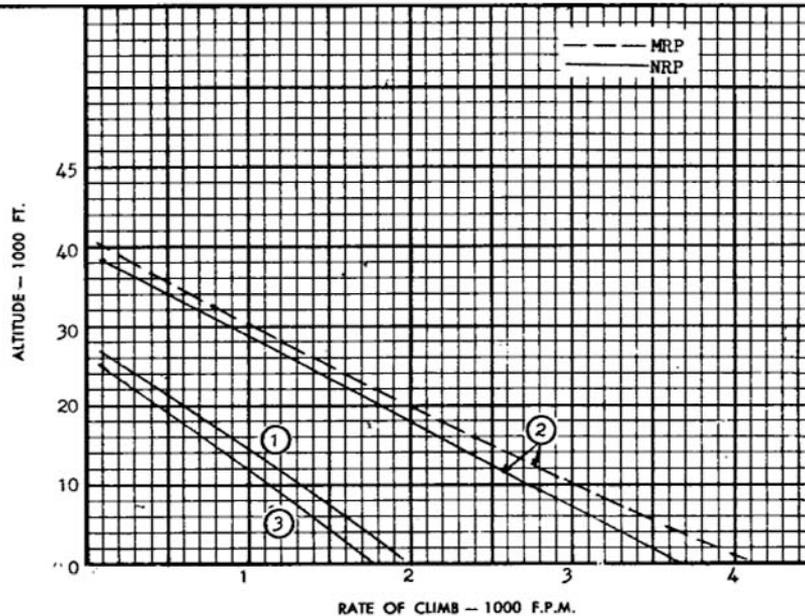
NOTES

- (A) 100% Flaps
 (B) NRP
 (C) No Reverse Thrust

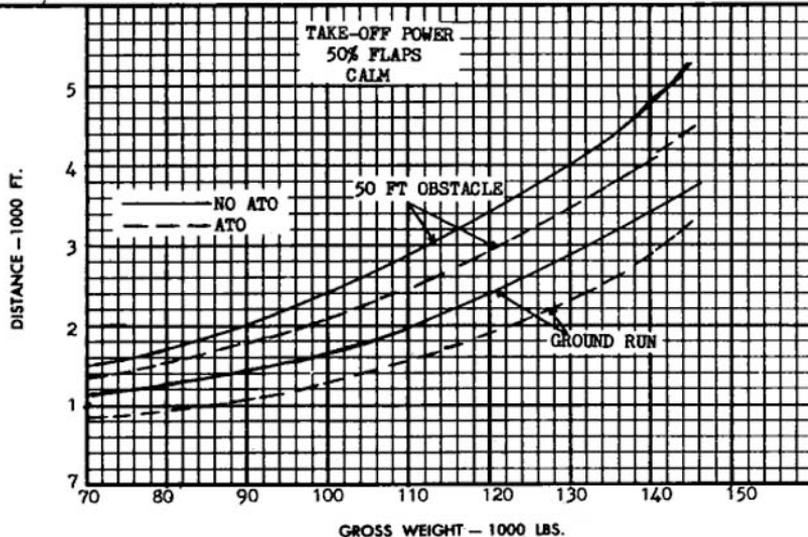
SPEED



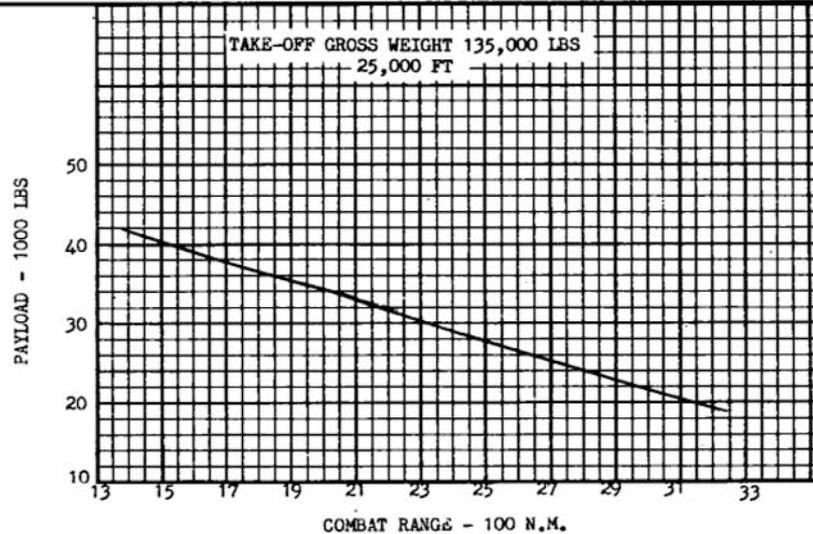
CLIMB



TAKE-OFF

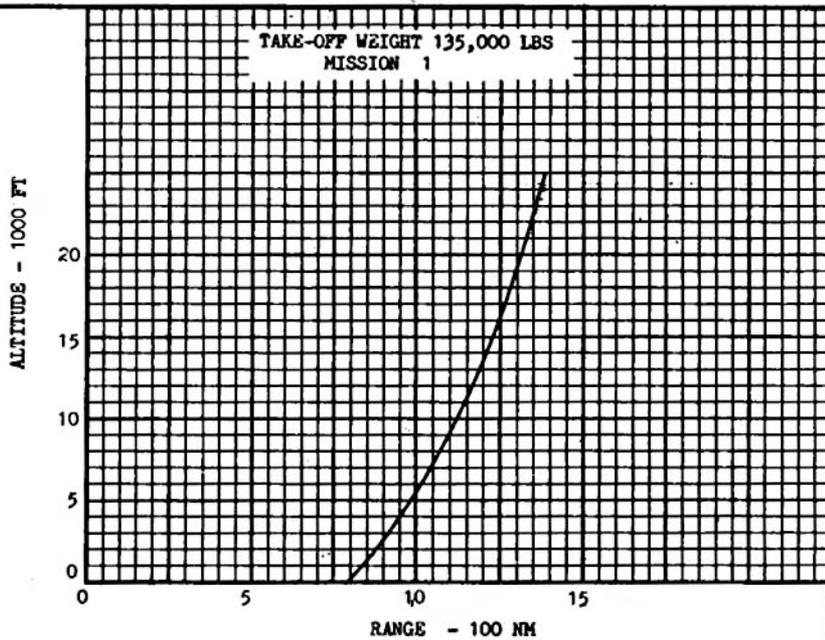


RANGE

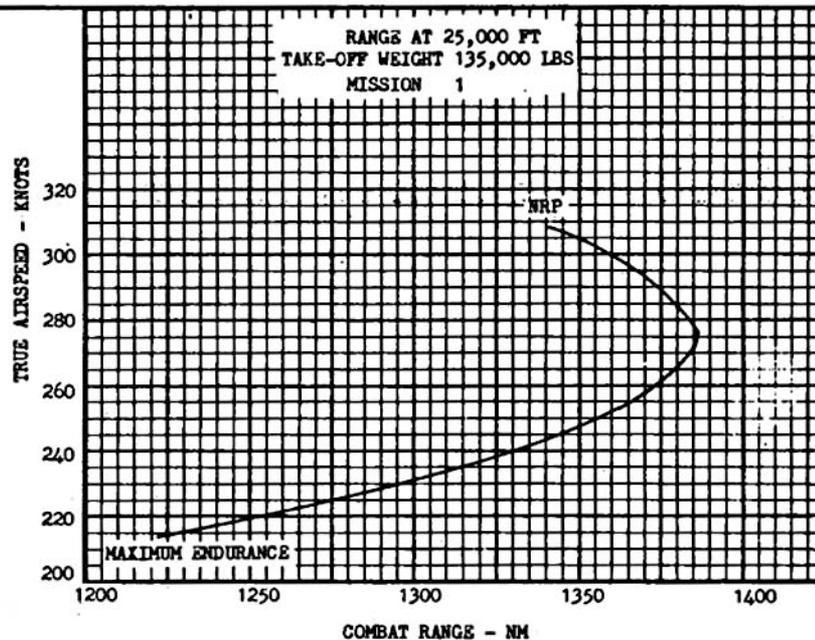


○ LOADING CONDITION COLUMN NUMBER

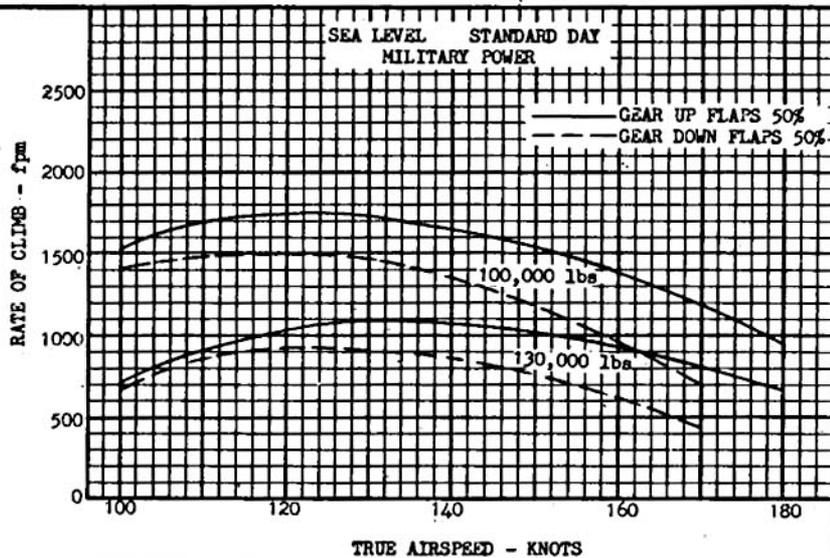
RANGE



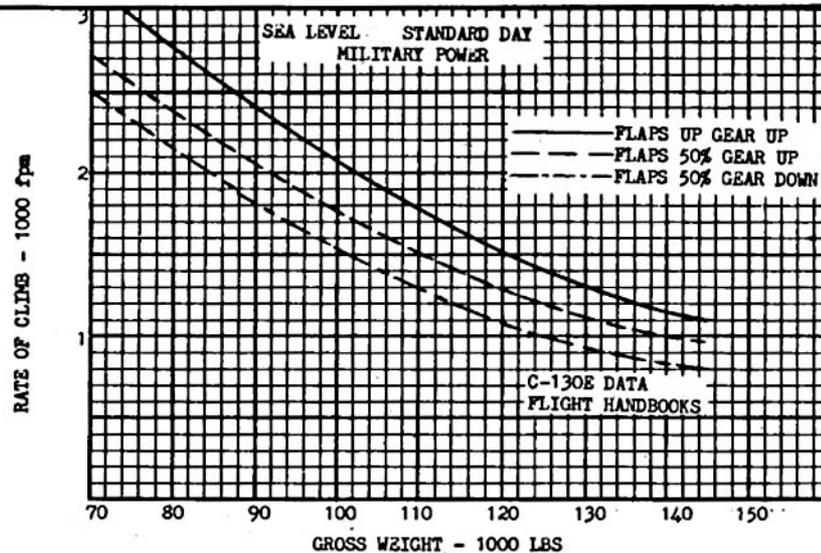
RANGE



CLIMB ONE ENGINE INOPERATIVE



CLIMB ONE ENGINE INOPERATIVE



○ LOADING CONDITION COLUMN NUMBER

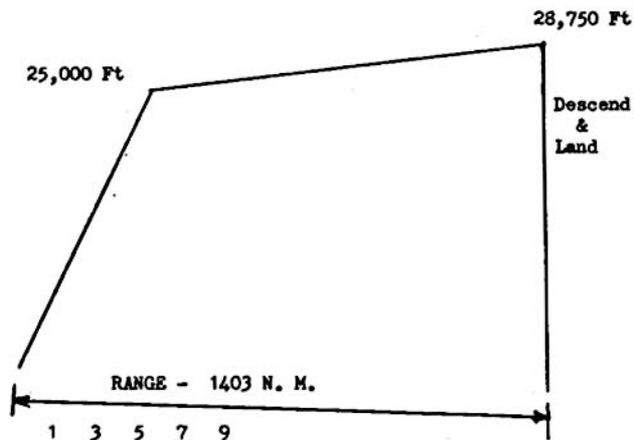
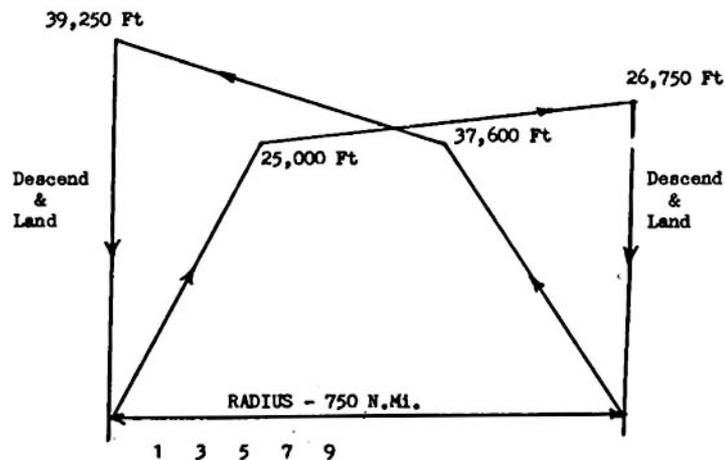
NOTES

TRANSPORT RADIUS MISSIONS

- (1) Warm-up, Take-off
- (2) Climb on course to cruise ceiling at speeds for maximum range to remote base
- (3) Land and unload cargo
- (4) Without refueling, warm-up, take-off
- (5) Climb on course to cruise ceiling at normal power
- (6) Return to home base at cruise ceiling at speeds for maximum range
- (7) Range free allowances are 10 minutes of normal power for warm-ups and take-offs, plus fuel for 30 minutes at speeds for maximum endurance at sea level and 5 percent of initial fuel for reserve

MISSIONS TRANSPORT RANGE

- (1) Warm-up, Take-off
- (2) Climb on course to cruise ceiling at normal power
- (3) Cruise out at cruise ceiling at speeds for maximum range until only reserve fuel remains and land
- (4) Range free allowances are 5 minutes of normal power for warm-up and take-off plus fuel for 30 minutes at speeds for maximum endurance at sea level and 5 percent of initial fuel for reserve



○ LOADING CONDITION COLUMN NUMBER