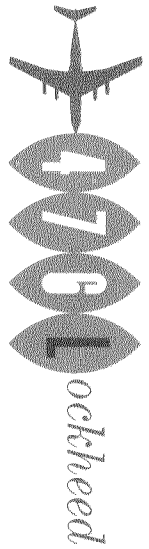


Standard Aircraft Characteristics

GL 207-45

LOCKHEED

FOUR JT3D-4
PRATT AND WHITNEY





POWER PLANT

No. & Model (4) JT3D-4
 Mfr Pratt & Whitney
 Engine Spec No. 1761 Date 8-25-60
 Type Axial Flow Turbofan
 Length 136.32"
 Diameter 53.14"
 Weight (dry) 4170 lb
 Tail Pipe Fixed Area

ENGINE RATINGS

S.L. STATIC	RPM	MIN
T.O.	18,000	---
Mil:	17,000	---
Nor:	16,400	---

5
30
Cont

DIMENSIONS

Wing
 Span 160.67'
 Incidence (root) 4.5°
 (tip) 0°
 Dihedral (.25c) -1° 15'
 Sweepback (.25c) 25°
 Length 150.813'
 Height 39.115'
 Tread 18.34'

Mission and Description

Navy Equivalent: None

Mfr's Model: GL-207-45

The principal mission of the GL-207-45 is to provide a rapid, reliable, and efficient means of airlifting combat or support units of all services under general or limited emergency conditions, military logistics supplies or commercial cargo, and mail.

The normal crew consists of pilot, co-pilot, navigator and systems engineer.

Features include integral ramp-pressure bulkhead and cargo door, crew and cargo compartment pressurization, ground and in-flight air conditioning, thermal de-icing for wing and empennage leading edges, single point refueling, palletized cargo loading, and provisions for air-dropping personnel and cargo.

Development

Date of Contract NA
 First Flight NA
 First Acceptance NA
 First Service NA

GENERAL

CARGO	CAPACITIES
Max Cargo - See "Payload - Distance" graph, page 5.	Main Compartment 6531 cu ft
	Cargo Floor:
	Single Axle Load 20,000 lb
	Capacity 300 lb/sq ft
	Ramp:
	Single Axle Load 20,000 lb
	Capacity 300 lb/sq ft
	MISCELLANEOUS
	Ramp (type) Integral
	Ramp Incline 11°
	PERSONNEL
	Crew (normal) 4
	Troops (max) 95
	or
	Paratroops (max) 74
	or
	Litters (max) 72
	plus
	Attendants 8

WEIGHTS

Loading	LB	L. F.
Empty	118,076 (E)	
Basic	126,070 (E)	
Design	315,000	2.5
Combat	*155,100	
Max T. O. (nor)	315,000	2.5
Max Land	+315,000	2.5

(E) Estimated

* For Basic Mission

+ Limited by gear strength 6 fps sinking speed.

FUEL

Location	No. Tanks	Gal
Wing, inbd	2	4270
Wing, outbd	2	4180
Wing, inbd aux.	2	5430
Wing, outbd aux.	2	5750
Wing, center	1	3450
		Total ± 23,080

Grade JP-4
 Specification MIL-F-5624E

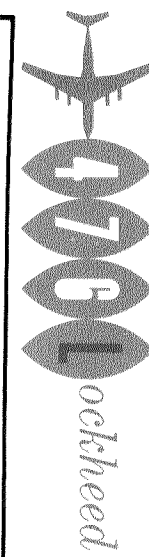
OIL

Nacelles 4 (tot) 14
 Specification MIL-L-7808D

± Limited by structure to weight and disposition shown.

ELECTRONICS

UHF Communication (2) AN/ARC-50
 VHF Communication (2) VHF-101
 H.F. Communication (2) HF-102
 AGA SC/SELCAL
 Radio Set (Tacan) (2) AN/ARN-52
 Astro-Navigation Set AN/APN-1
 Radio Compass (2) DF-202
 Weather-Navigation Radar RDR/1D
 Doppler Radar AN/APN-501
 Altimeter AN/APN-141
 IFF AN/APX-46
 Gyro-Stabilized
 Compass (2) Sperry C-11
 Inertial Platform Litton LN 2C
 Digital Computer AN/ASN-24



Loading and Performance—Typical Mission

C O N D I T I O N S			BASIC MISSION	DESIGN CARGO	MAX FUEL	MAX CARGO	ASSAULT MISSION	FERRY RANGE
TAKE-OFF WEIGHT		(lb)	I 267,100	II 315,000	III 315,000	IV 315,000	V 191,400	VI 277,020
Fuel at 6.5 lb. gal. (grade JP-4)		(lb)	60,100	118,000	150,020	108,000	39,400	150,020
Payload (outbound)		(lb)	80,000	70,000	37,980	80,000	25,000	0
Wing loading		(lb./sq. ft)	82.74	97.58	97.58	97.58	59.3	85.82
Stall speed (power off)		(kn)	101.3	110.4	110.4	110.4	86.1	103.6
Take-off ground run at SL	1	(ft)	3020	4430	4430	4430	1460	3300
Take-off to clear 50 ft.	1	(ft)	4430	6430	6430	6430	2290	4820
Rate of climb at SL	2	(fpm)	3340	2710	2710	2710	4960	3185
Rate of climb at SL (one engine out)	1	(fpm)	2250	1730	1730	1730	3460	2130
Time: SL to 25,000 ft.	2	(min)	12.00	16.20	16.20	16.20	7.60	12.80
Time: SL to cruise ceiling	2	(min)	21.55	23.55	23.55	23.55	19.40	21.90
Service ceiling (100 fpm)	2	(ft)	38,600	35,100	35,100	35,100	45,600	37,850
Service ceiling (one engine out)	1	(ft)	31,850	27,000	27,000	27,000	39,800	30,850
COMBAT RANGE	3	(n. mi.)	1879	3897	5496	3446	1500	6536
Average cruising speed		(kn)	440	440	440	440	440	440
Initial cruising altitude		(ft)	35,700	32,250	32,250	32,250	42,650	35,000
Final cruising altitude		(ft)	39,300	40,000	43,200	39,100	45,500	48,200
Total mission time		(hr)	4.33	8.91	12.54	7.89	3.44	14.92
COMBAT RADIUS	3	(n. mi.)	1000	2147	2854	1925	----	----
Average cruising speed		(kn)	440	440	440	440	----	----
Initial cruising altitude		(ft)	35,700	32,250	32,250	32,250	----	----
Final cruising altitude		(ft)	48,700	48,300	48,100	48,400	----	----
Total mission time		(hr)	4.66	9.86	13.08	8.86	----	----
FIRST LANDING WEIGHT	4	(lb)	235,100	248,000	231,300	253,500	----	----
Ground roll at SL/aux. brake		(ft)	1365	1450	1360	1480	----	----
Total from 50 ft/aux. brake		(ft)	2935	3070	2900	3110	----	----
COMBAT WEIGHT	4	(lb)	155,100	178,000	193,320	173,500	158,480	138,651
Combat altitude		(ft)	45,850	43,200	41,500	43,650	45,500	48,200
Combat speed	1	(kn)	460	460	460	460	460	460
Combat climb	1	(fpm)	710	660	660	680	690	710
Combat ceiling (500 fpm)	1	(ft)	47,550	44,750	43,000	45,300	47,050	49,900
Service ceiling (100 fpm)	2	(ft)	50,000	47,100	45,400	47,600	49,500	52,400
Service ceiling (one engine out)	2	(ft)	43,350	40,800	39,100	41,200	42,900	45,100
Take-off ground run at SL	1	(ft)	915	1250	1490	1180	960	730
Take-off to clear 50 ft	1	(ft)	1580	2000	2325	1920	1630	1330
Max rate of climb at SL	1	(fpm)	6580	5700	5230	5850	6440	7380
Max speed at optimum alt.	1	(kn/ft)	496/25,000	496/25,000	496/25,000	496/25,000	496/25,000	496/25,000
Basic speed at 25,000 ft.	1	(kn)	496	496	496	496	496	496
LANDING WEIGHT	4	(lb)	134,070	137,020	138,661	136,520	158,480	138,651
Ground roll at SL/aux. brake		(ft)	780	795	800	795	900	800
Total from 50 ft/aux. brake		(ft)	1900	1910	1930	1910	2130	1930

N O T E S	1	Military power	Performance Basis: (a) Data source: Estimated (b) Performance is based on power shown on page 3
	2	Normal power	
	3	Detailed descriptions of Radius and Range missions are given on page 6.	
	4	For Radius Missions if radius is shown	

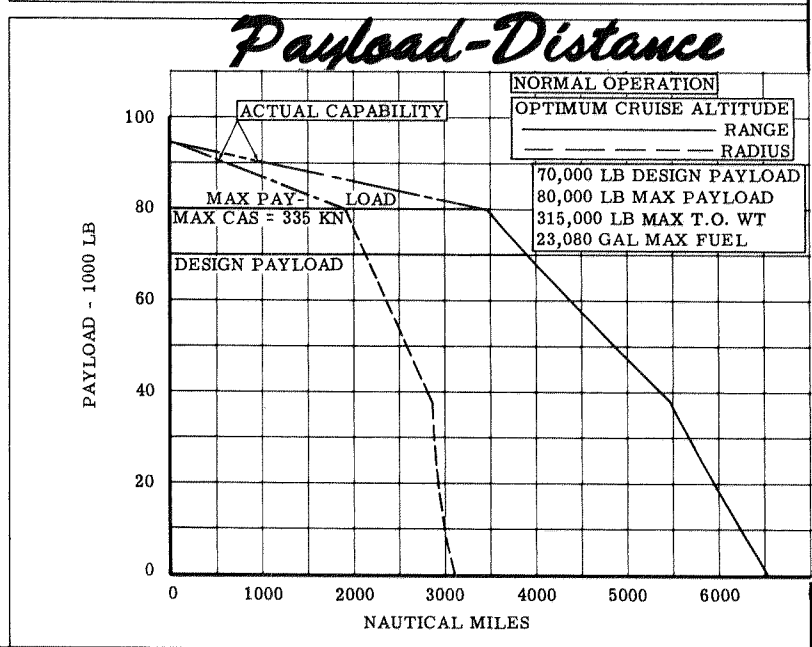
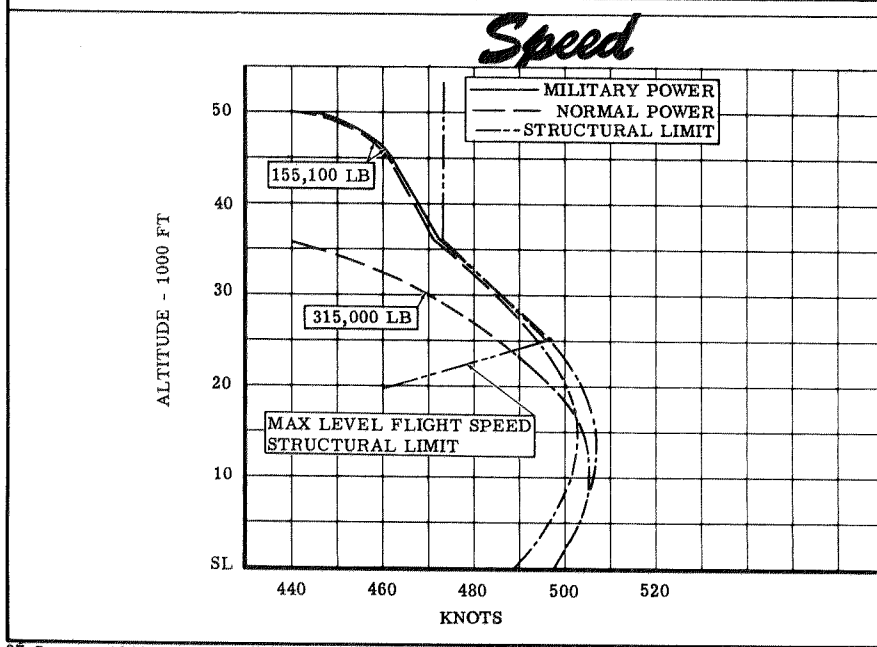
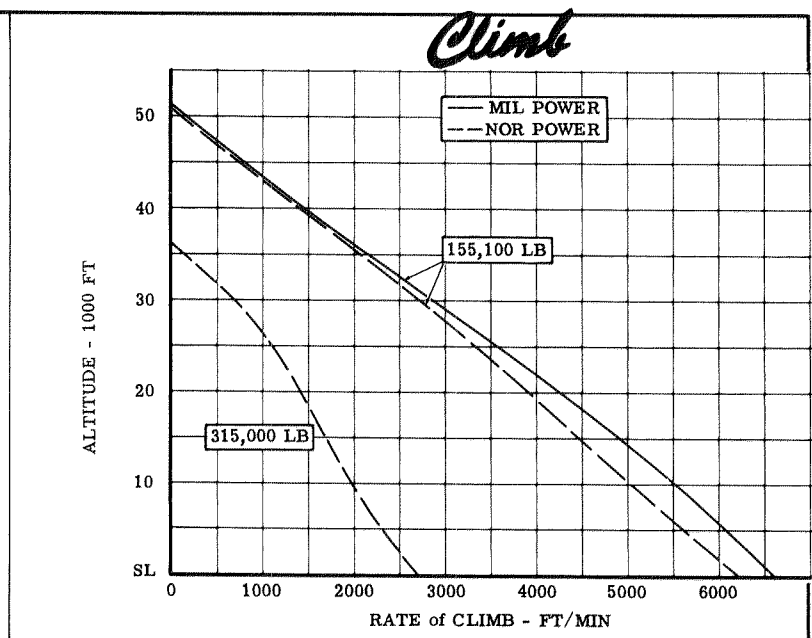
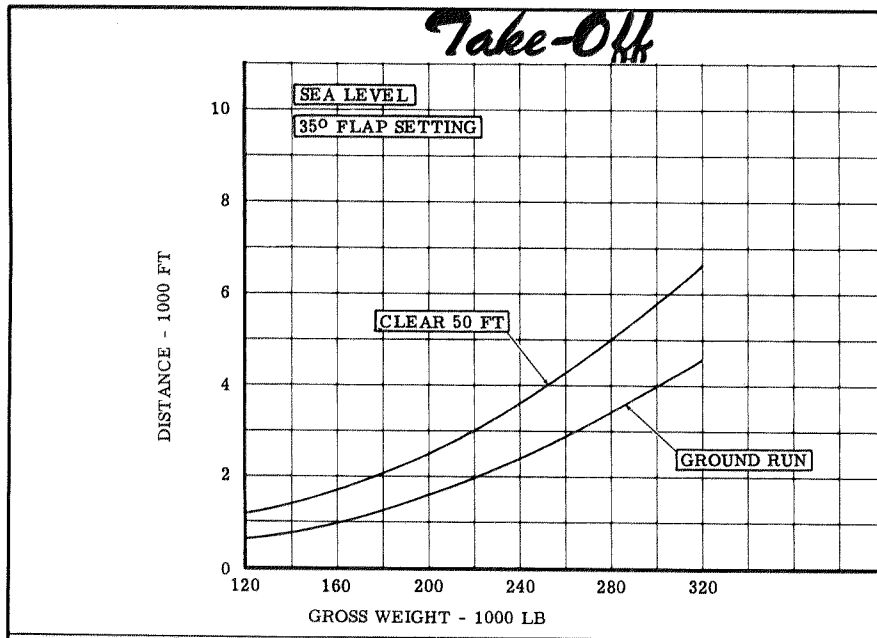
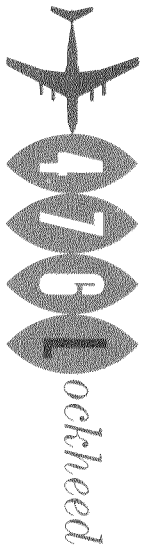


Figure 4-5—SAC—PLOTTED DATA

NOTES

FORMULA: RADIUS MISSIONS I, II, III & IV

Takeoff, climb on course to cruise ceiling at normal power, cruise out at cruise ceiling at long range speeds to remote base, land and unload cargo. Without refueling, takeoff and return home to base at cruise ceiling at long range speeds. Range free allowances are 10 minutes at normal power for warm-ups and takeoffs, plus fuel for 30 minutes at speeds for maximum endurance at sea level and 5 percent of initial fuel reserve.

FORMULA: RANGE MISSIONS I, II, III, IV, V & VI

Takeoff, climb on course to cruise ceiling at normal power until only reserve fuel remains. Range free allowances are 5 minutes at normal power plus fuel for 30 minutes at speeds for maximum endurance at sea level and 5 percent of initial fuel reserve.

GENERAL NOTES:

Engine ratings shown on Page 3 are engine manufacturers guaranteed ratings and are the same ratings used in the performance calculations.

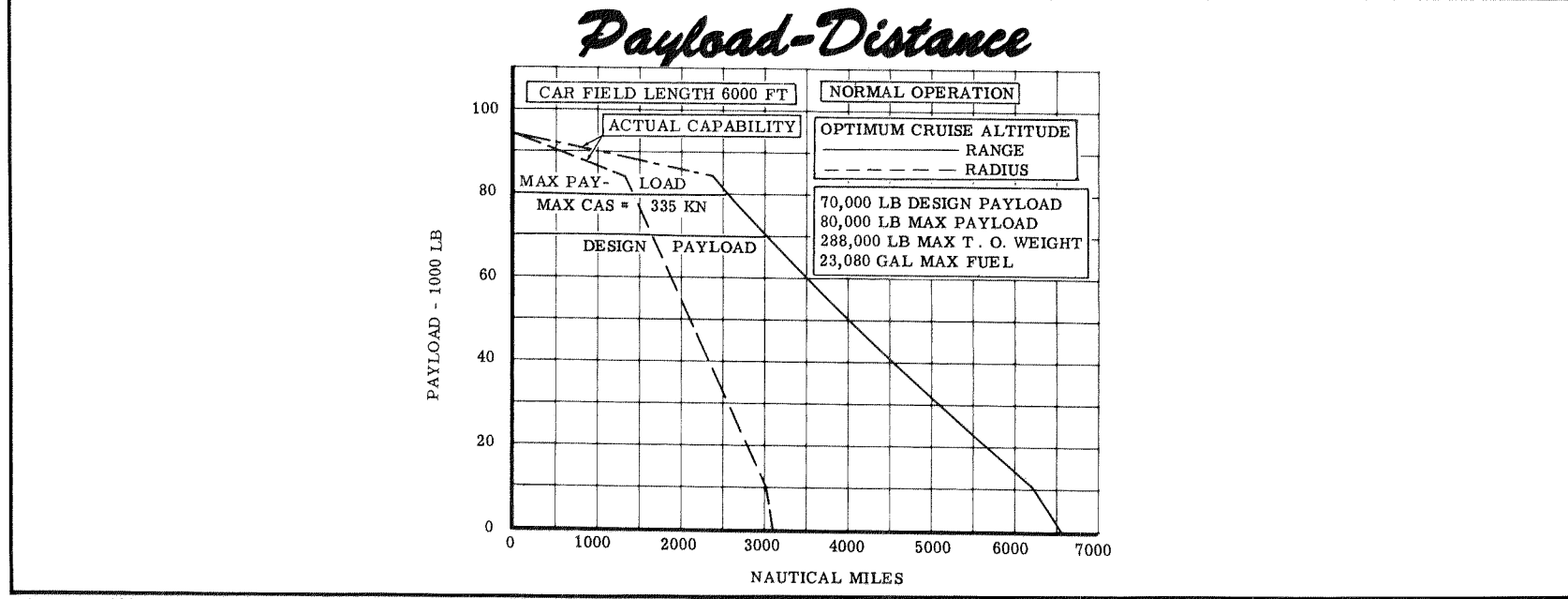
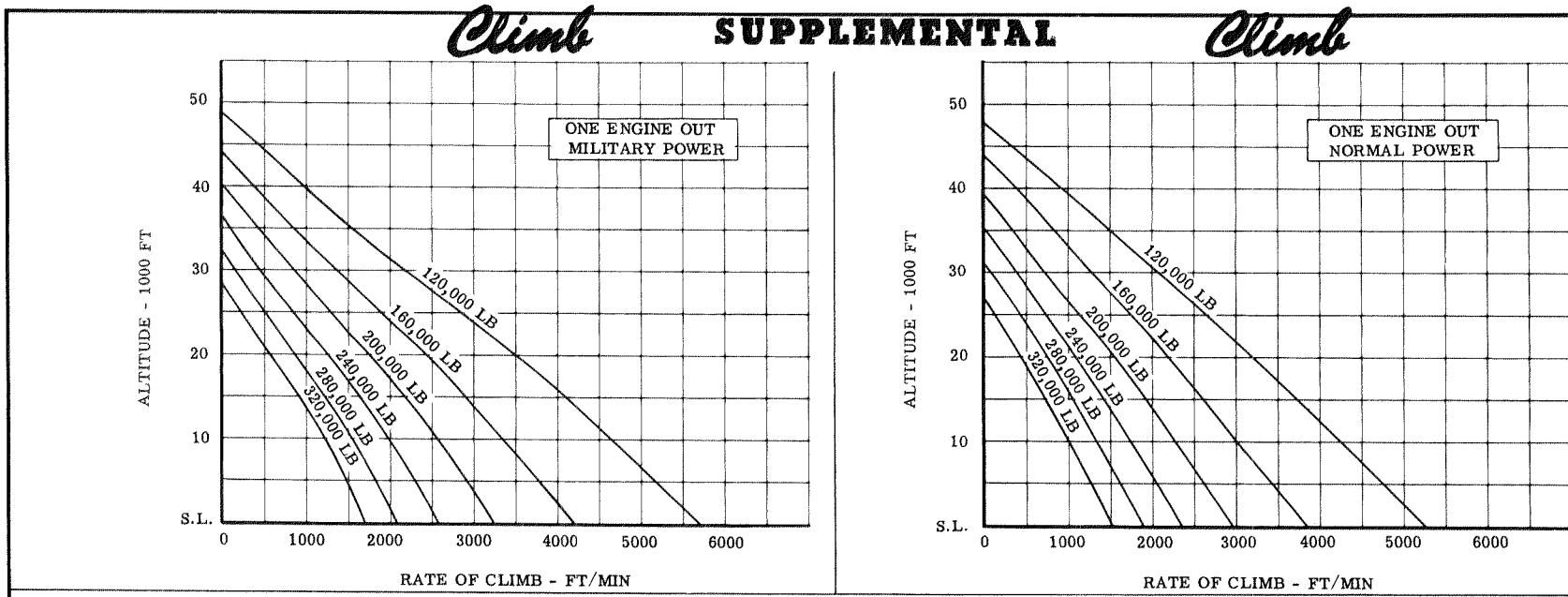
REVISION BASIS: Initial Issue





SUPPLEMENTAL				
<i>Loading and Performance - Typical Mission</i>				
C O N D I T I O N S			*SPECIAL MISSION	*SPECIAL MISSION
			I	II
TAKE-OFF WEIGHT		(lb)	287,200	283,100
Fuel at 6.5 lb. gal. (grade JP-4)		(lb)	110,200	136,100
Payload (outbound)		(lb)	50,000	20,000
Wing Loading		(lb./sq. ft.)	88.97	87.70
Stall Speed (power off)		(kn)	105.5	104.7
Take-off ground run at SL	①	(ft)	3620	3505
Take-off to clear 50 ft.	①	(ft)	5260	5050
Rate of climb at SL	②	(fpm)	3050	3100
Rate of climb at SL (one engine out)	①	(fpm)	2015	2070
Time: SL to 25,000 ft.	②	(min)	13.60	13.20
Time: SL to cruise ceiling	②	(min)	22.30	22.10
Service ceiling (100 fpm)	②	(ft)	37,000	37,350
Service ceiling (one engine out)	①	(ft)	29,800	30,250
COMBAT RANGE	③	(n. mi.)	4000	5500
Average cruising speed		(kn)	440	440
Initial cruising altitude		(ft)	34,200	34,500
Final cruising altitude		(ft)	42,200	45,500
Total mission time		(hr)	9.14	12.52
COMBAT RADIUS	③	(n. mi.)	2105	2728
Average cruising speed		(kn)	440	440
Initial cruising altitude		(ft)	34,200	34,500
Final cruising altitude		(ft)	48,350	48,150
Total mission time		(hr)	9.67	12.45
FIRST LANDING WEIGHT	④	(lb)	226,730	209,920
Ground roll at SL/aux. brake		(ft)	1310	1200
Total from 50 ft/aux. brake		(ft)	2840	2670
COMBAT WEIGHT	④	(lb)	176,730	189,920
Combat altitude		(ft)	43,550	41,800
Combat speed	①	(kn)	460	460
Combat climb	①	(fpm)	650	640
Combat ceiling (500 fpm)	①	(ft)	44,900	43,400
Service ceiling (100 fpm)	②	(ft)	47,250	45,700
Service ceiling (one engine out)	②	(ft)	40,900	39,400
Take-off ground run at SL	①	(ft)	1230	1430
Take-off to clear 50 ft.	①	(ft)	1995	2260
Max rate of climb at SL	①	(fpm)	5740	5320
Max speed at optimum alt.	①	(kn/ft)	496/25,000	496/25,000
Basic speed at 25,000 ft.	①	(kn)	496	496
LANDING WEIGHT	④	(lb)	136,630	137,945
Ground roll at SL/aux. brake		(ft)	795	800
Total from 50 ft/aux. brake		(ft)	1910	1930

N O T E S	① Military power ② Normal power ③ Detailed descriptions of Radius and Range missions are given on page 9. ④ For Radius Missions if radius is shown	Performance Basis: (a) Data source : Estimated (b) Performance is based on powers shown on page 3	*Support system 476L
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27 January 1961

Figure 4-8—SAC—SUPPLEMENTAL PLOTTED DATA (MIL)

8 GL207-45

SUPPLEMENTAL NOTES

FORMULA: RADIUS MISSION I & II

Same as radius mission on Page 6.

FORMULA: RANGE MISSION I & II

Same as range mission on Page 6.

FORMULA: PAYLOAD DISTANCE DIAGRAM

Same as range and radius missions on Page 6.



SUPPLEMENTAL *Loading and Performance - Typical Mission*

C O N D I T I O N S		INTERNATIONAL FLIGHT	DOMESTIC FLIGHT			
RAMP WEIGHT	(lb)	I 282,200	II 239,470			
TAKE-OFF WEIGHT	(lb)	280,484	237,905			
Fuel at 6.5 lb. gal. (grade Aviation Gasoline)	(lb)	95,200	42,470			
Payload	(lb)	60,000	70,000			
Wing loading	(lb./sq. ft)	86.9	73.7			
Stall speed (power off)	(kn)	104.2	96.0			
CAR take-off field length	(ft) ①	5700	4080			
Limiting weight, critical gradient second segment S.L.	(lb)	318,000	318,000			
Rate of climb at S.L.	(fpm) ②	3140	3835			
Rate of climb at S.L. (one engine out)	(fpm) ①	2060	2520			
Time: SL to 25,000 ft	(min) ②	13.20	10.25			
Time: SL to cruise ceiling	(min) ②	22.15	20.73			
En route terrain clearance (one engine out)	(fpm) ②	1955	2440			
En route terrain clearance (two engine out)	(fpm) ②	740	1060			
En route terrain clearance margin SL (one engine out)	(fpm) ②	1085	1615			
En route terrain clearance margin SL (two engines out)	(fpm) ②	400	790			
RANGE	(n.mi.)	3000	1000			
Average cruising speed	(kn)	445	445			
Initial cruising altitude	(ft)	34,400	37,900			
Final cruising altitude	(ft)	40,200	39,500			
Total flight time	(hr)	6.80	2.32			
LANDING WEIGHT	(lb)	204,700	212,030			
CAR landing field length	(ft)	5270	5400			
Limiting weight critical gradient landing climb S.L.	(lb)	323,000	323,000			

NOTES

- 1 Military power
- 2 Normal power
- 3 Detailed Description of Range Missions are given on page 12.

Performance Basis:
(a) Data Source: Estimated

(b) Performance is based on powers shown on page 3.

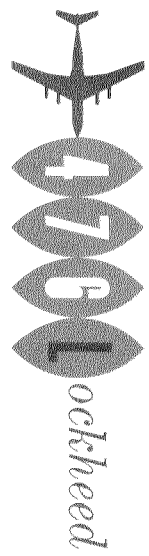


Figure 4-10—SAC—SUPPLEMENTAL NOTES (CIVIL)

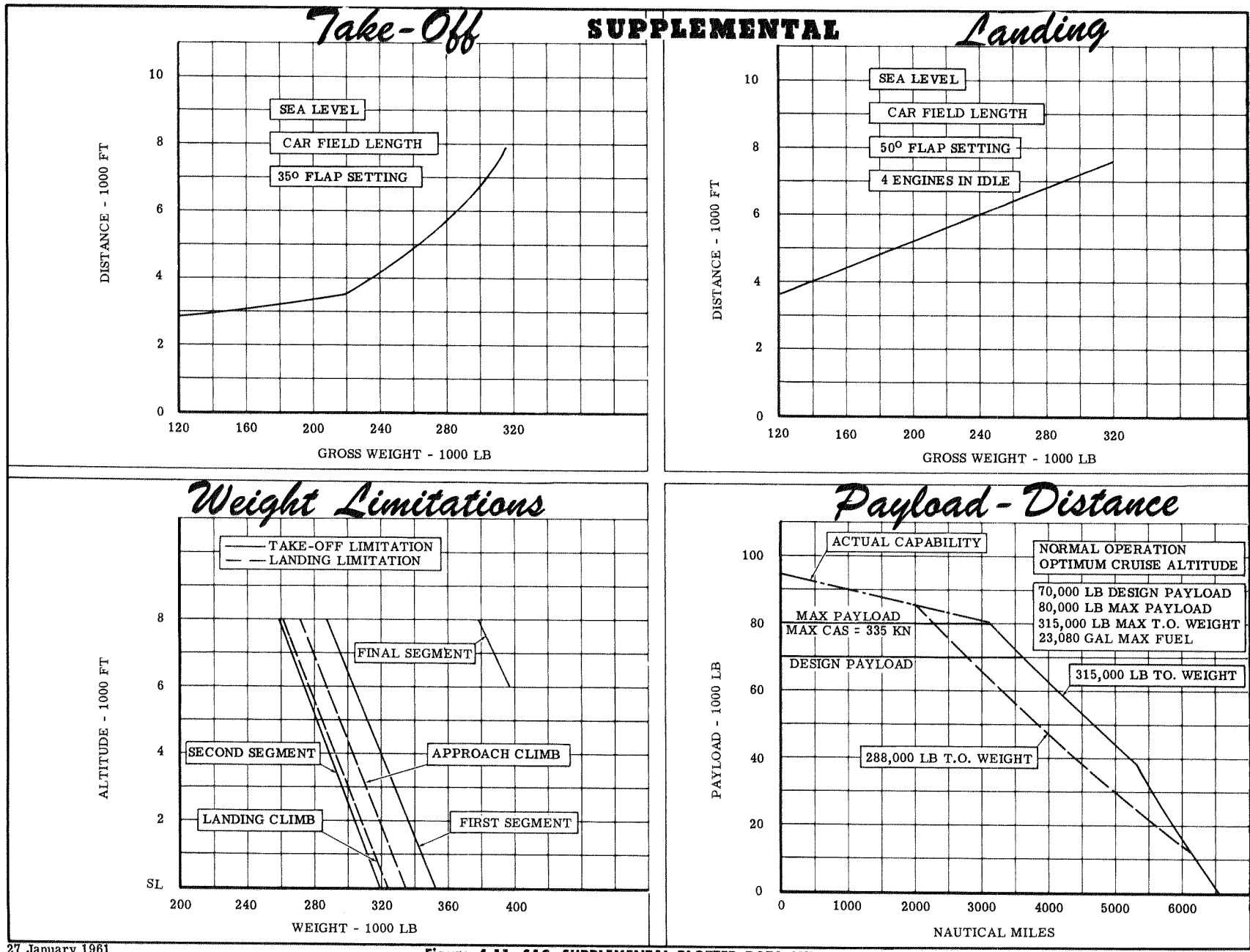


Figure 4-11-SAC-SUPPLEMENTAL PLOTTED DATA (CIVIL)

SUPPLEMENTAL NOTES

FORMULA: RANGE MISSION I

Takeoff, climb on course to cruise ceiling at normal power, cruise out on a step cruise basis at long range speeds until only reserve fuel remains. Range free allowances are fuel for warm-up and takeoff computed by ATA 1960 rules, fuel to accelerate to climb speed given by SR 422B, plus fuel for 2 hours at normal cruise consumption and 15 nautical miles air maneuver.

FORMULA: RANGE MISSION II

Takeoff, climb on course to cruise ceiling at normal power, cruise out on a step cruise basis at long range speeds until only reserve fuel remains. Range free allowances are fuel for warm-up and takeoff computed by ATA 1960 rules, fuel to accelerate to climb speed given by SR 422B, plus sufficient fuel to fly to an alternate airport 200 nautical miles distant and fuel for 45 minutes flight at normal cruise consumption.

FORMULA: RANGE MISSIONS I & II

Installed fuel flows are non-conservative.

