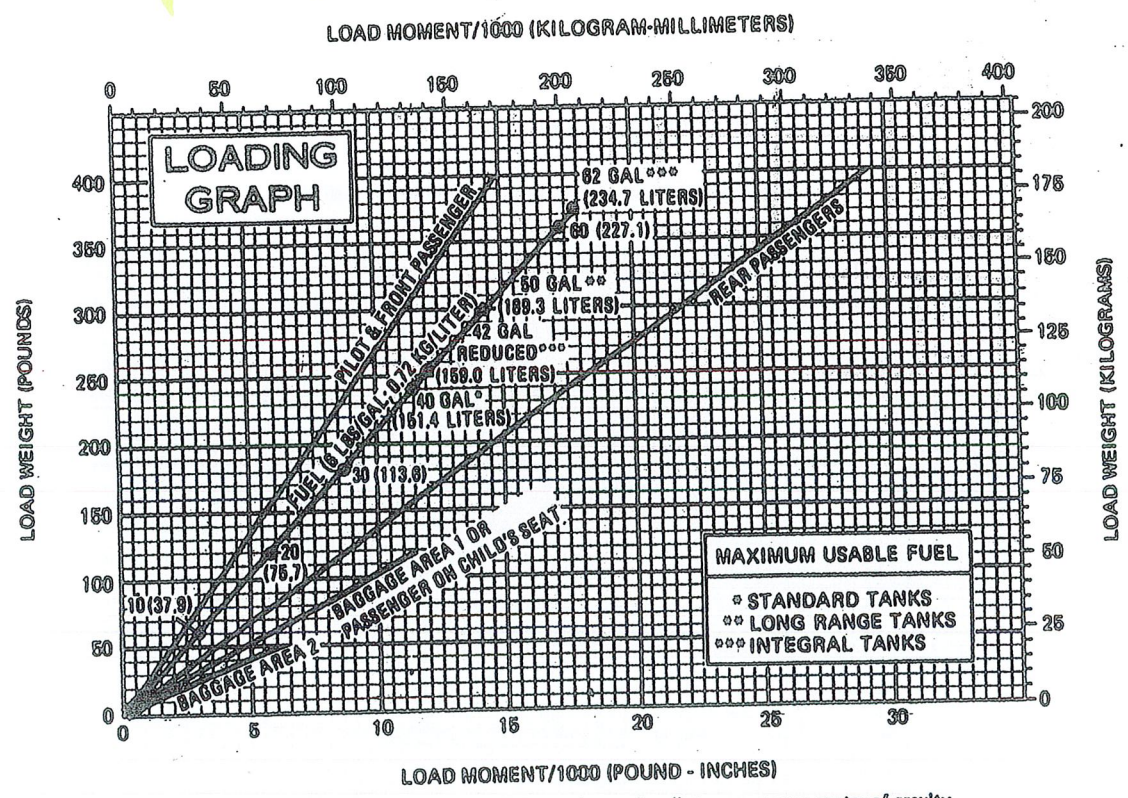
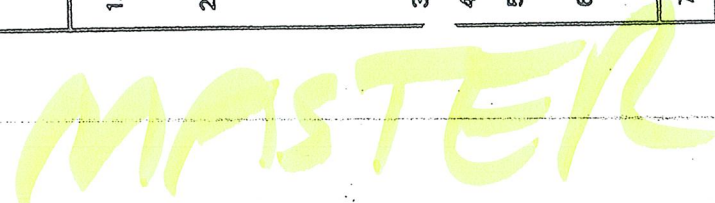


SAMPLE AIRPLANE	YOUR AIRPLANE	
	Weight (lbs.)	Moment (lb.-ins. /1000)
SAMPLE AIRPLANE LOADING PROBLEM	1467	57.3
	240	11.5
2407	108.1	
-7	-.3	
2400	107.8	

1. Basic Empty Weight (Use the data pertaining to your airplane as it is presently equipped. Includes unusable fuel and full oil)
2. Usable Fuel (At 6 Lbs./Gal.)
Standard Tanks (40 Gal. Maximum)
Long Range Tanks (50 Gal. Maximum)
Integral Tanks (62 Gal. Maximum)
Integral Reduced Fuel (42 Gal.)
3. Pilot and Front Passenger (Station 34 to 46)
4. Rear Passengers
5. * Baggage Area 1 or Passenger on Child's Seat (Station 82 to 108, 120 Lbs. Max.)
6. ° Baggage Area 2 (Station 108 to 142, 50 Lbs. Max.)
7. RAMP WEIGHT AND MOMENT
8. Fuel allowance for engine start, taxi, and runup
9. TAKEOFF WEIGHT AND MOMENT (Subtract Step 8 from Step 7)
10. Locate this point (2400 at 107.8) on the Center of Gravity Moment Envelope, and since this point falls within the envelope, the loading is acceptable.
* The maximum allowable combined weight capacity for baggage areas 1 and 2 is 120 pounds.

Figure 6-5. Sample Loading Problem (Sheet 1 of 2)



NOTE: Line representing adjustable seats shows the pilot or passenger center of gravity on adjustable seats positioned for an average occupant. Refer to the Loading Arrangements diagram for forward and aft limits of occupant C.G. range.

Figure 6-6. Loading Graph

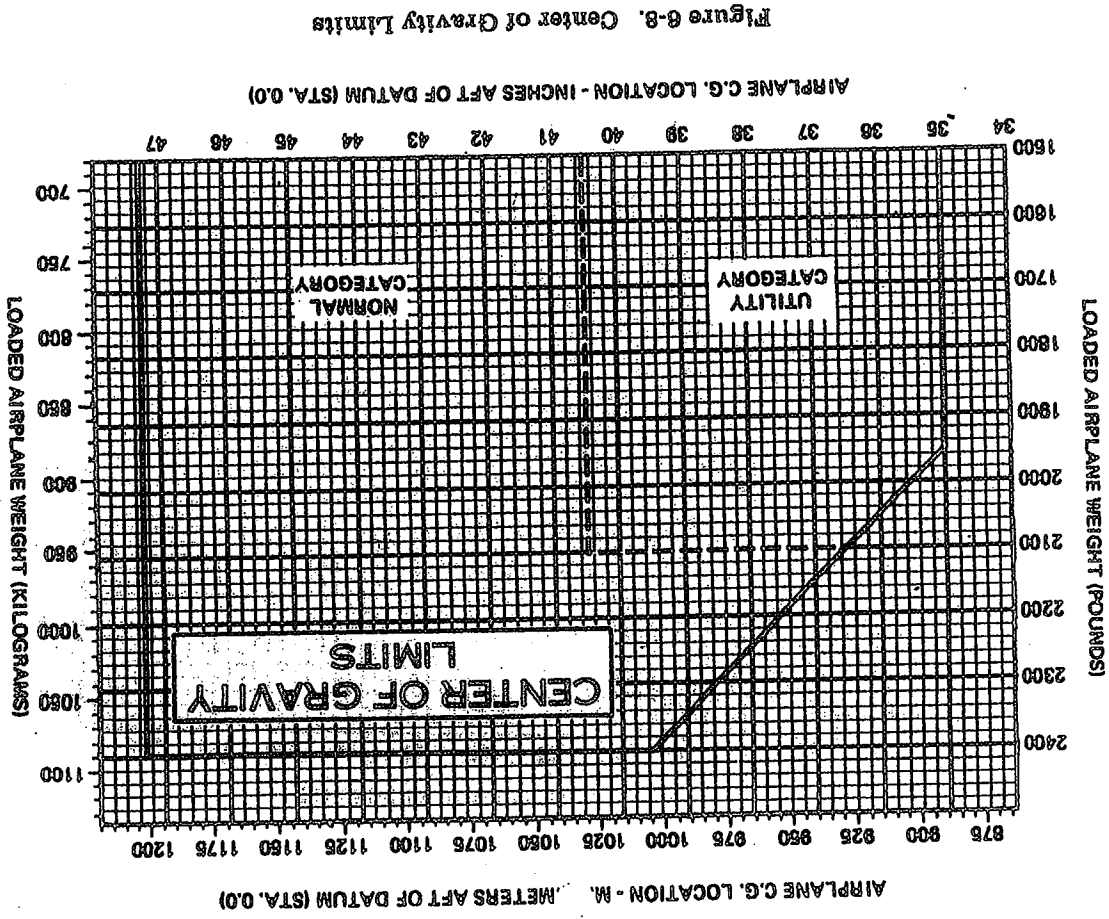


Figure 6-8. Center of Gravity Limits

12 May 1961

6-14

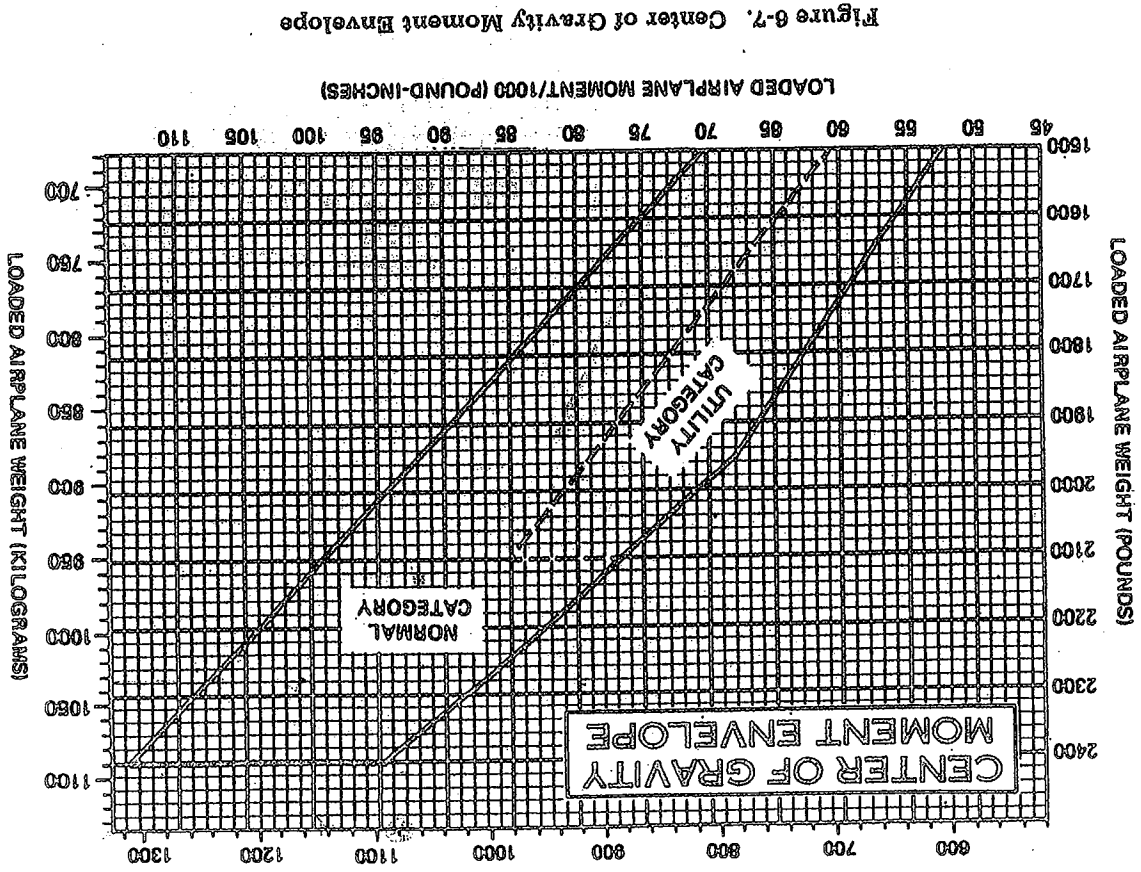


Figure 6-7. Center of Gravity Moment Envelope

6-13

2 May 1961

TAKEOFF DISTANCE MAXIMUM WEIGHT 2400 LBS

SHORT FIELD

CONDITIONS:
Flaps 10°
Full Throttle Prior to Brake Release
Paved, Level, Dry Runway
Zero Wind

- NOTES:
- Short field technique as specified in Section 4.
 - Prior to takeoff from fields above 3000 feet elevation, the mixture should be leaned to give maximum RPM in a full throttle, static runup.
 - Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
 - For operation on a dry, grass runway, increase distances by 15% of the "ground roll" figure.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
				GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
	LIFT OFF	AT 50 FT											
2400	51	56	S.L.	795	1460	880	1570	925	1685	995	1810	1085	1945
			1000	875	1605	940	1725	1015	1860	1090	2000	1170	2155
			2000	960	1770	1035	1910	1115	2060	1200	2220	1290	2395
			3000	1055	1960	1140	2120	1230	2295	1325	2480	1425	2685
			4000	1165	2185	1260	2365	1365	2570	1465	2790	1575	3030
			5000	1285	2445	1390	2660	1500	2895	1620	3160	1745	3455
			6000	1425	2755	1540	3015	1665	3300	1800	3620	1940	3990
			7000	1580	3140	1710	3450	1850	3805	2000	4220	---	---
			8000	1755	3615	1905	4015	2060	4480	---	---	---	---

Figure 5-5. Takeoff Distance (Sheet 1 of 2)

MASTER

TAKEOFF DISTANCE 2200 LBS AND 2000 LBS

SHORT FIELD

REFER TO SHEET 1 FOR APPROPRIATE CONDITIONS AND NOTES.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
				GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
	LIFT OFF	AT 50 FT											
2200	49	54	S.L.	650	1195	700	1280	750	1375	805	1470	865	1575
			1000	710	1310	765	1405	825	1510	885	1615	950	1735
			2000	780	1440	840	1545	905	1660	975	1785	1045	1915
			3000	865	1585	925	1705	995	1835	1070	1975	1150	2130
			4000	945	1750	1020	1890	1100	2040	1180	2200	1270	2375
			5000	1040	1945	1125	2105	1210	2275	1305	2465	1405	2665
			6000	1150	2170	1240	2355	1340	2555	1445	2775	1555	3020
			7000	1270	2440	1375	2655	1485	2890	1605	3155	1730	3450
			8000	1410	2760	1525	3015	1650	3305	1785	3630	1925	4005
			2000	48	51	S.L.	525	970	565	1035	605	1110	650
1000	570	1060				615	1135	665	1215	710	1295	765	1385
2000	625	1160				675	1240	725	1330	780	1425	840	1525
3000	690	1270				740	1365	800	1465	860	1570	920	1685
4000	755	1400				815	1500	880	1615	945	1735	1015	1865
5000	830	1545				900	1660	970	1790	1040	1925	1120	2070
6000	920	1710				990	1845	1070	1990	1150	2145	1235	2315
7000	1015	1900				1095	2055	1180	2225	1275	2405	1370	2605
8000	1125	2125				1215	2305	1310	2500	1410	2715	1520	2950

Figure 5-5. Takeoff Distance (Sheet 2 of 2)

LANDING DISTANCE

SHORT FIELD

12 May 1981

5-25/(5-26 blank)

CONDITIONS:
Flaps 30°
Power Off
Maximum Braking
Paved, Level, Dry Runway
Zero Wind

- NOTES:**
1. Short field technique as specified in Section 4.
 2. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
 3. For operation on a dry, grass runway, increase distances by 45% of the "ground roll" figure.
 4. If a landing with flaps up is necessary, increase the approach speed by 7 KIAS and allow for 35% longer distances.

WEIGHT LBS	SPEED AT 50 FT KIAS	PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
2400	61	S.L.	510	1235	530	1265	560	1295	570	1325	570	1325
		1000	530	1265	560	1295	590	1330	610	1360	610	1360
		2000	550	1295	570	1330	590	1360	610	1390	630	1425
		3000	570	1330	580	1360	615	1395	635	1430	655	1460
		4000	595	1365	615	1400	635	1430	660	1470	680	1500
		5000	615	1400	640	1435	660	1470	685	1510	705	1540
		6000	640	1435	665	1475	680	1515	710	1550	735	1580
7000	665	1475	690	1515	715	1555	740	1595	765	1630		
8000	690	1515								790	1675	

Figure 5-11. Landing Distance