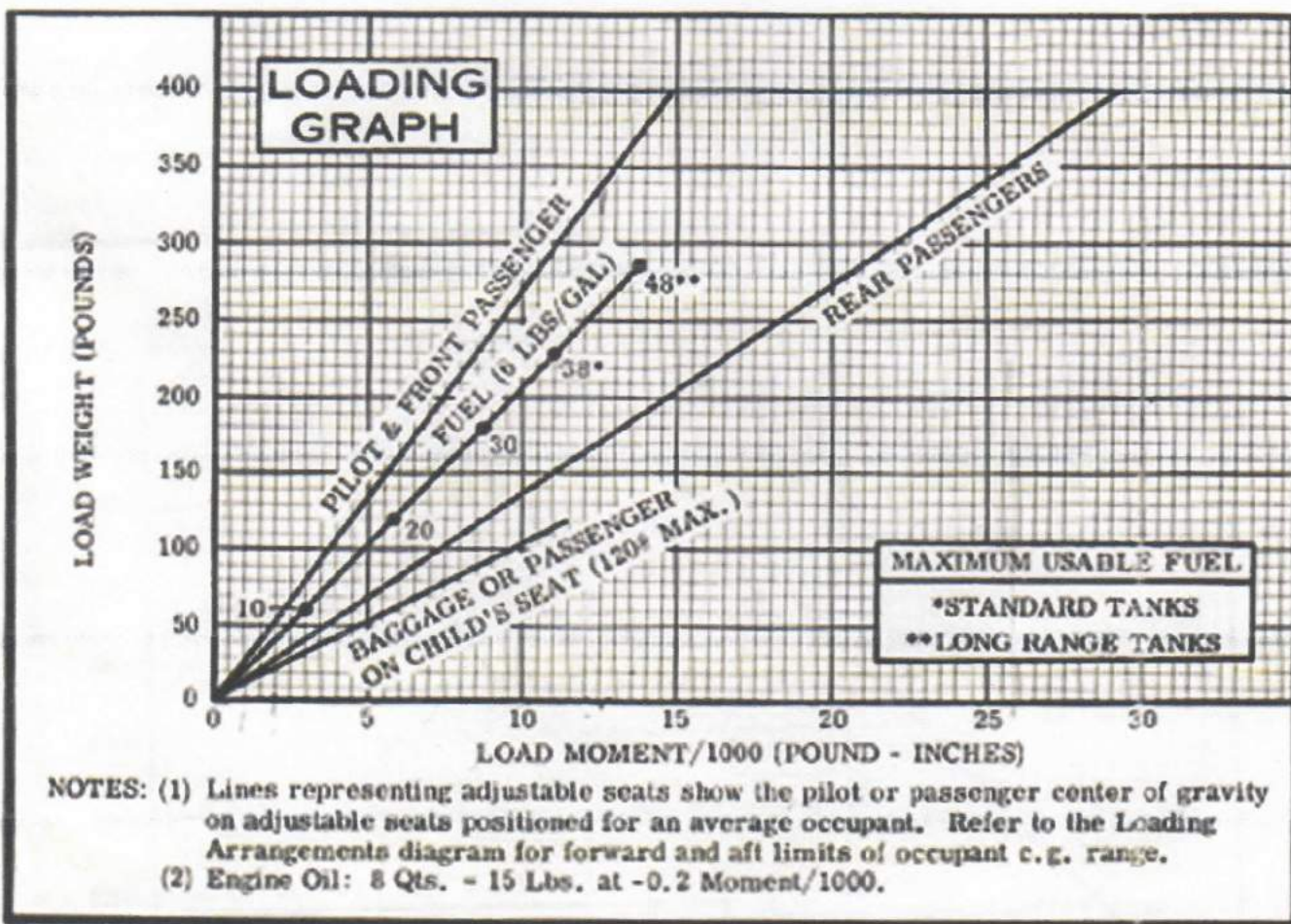
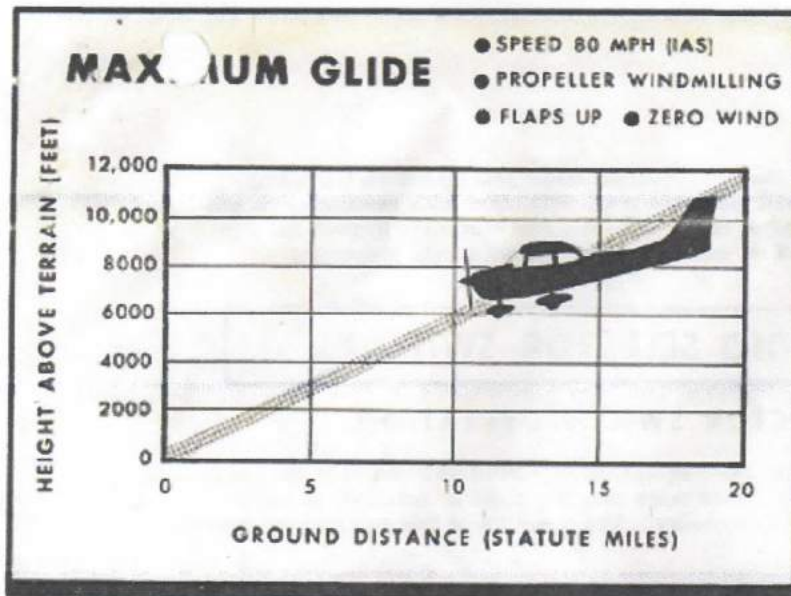
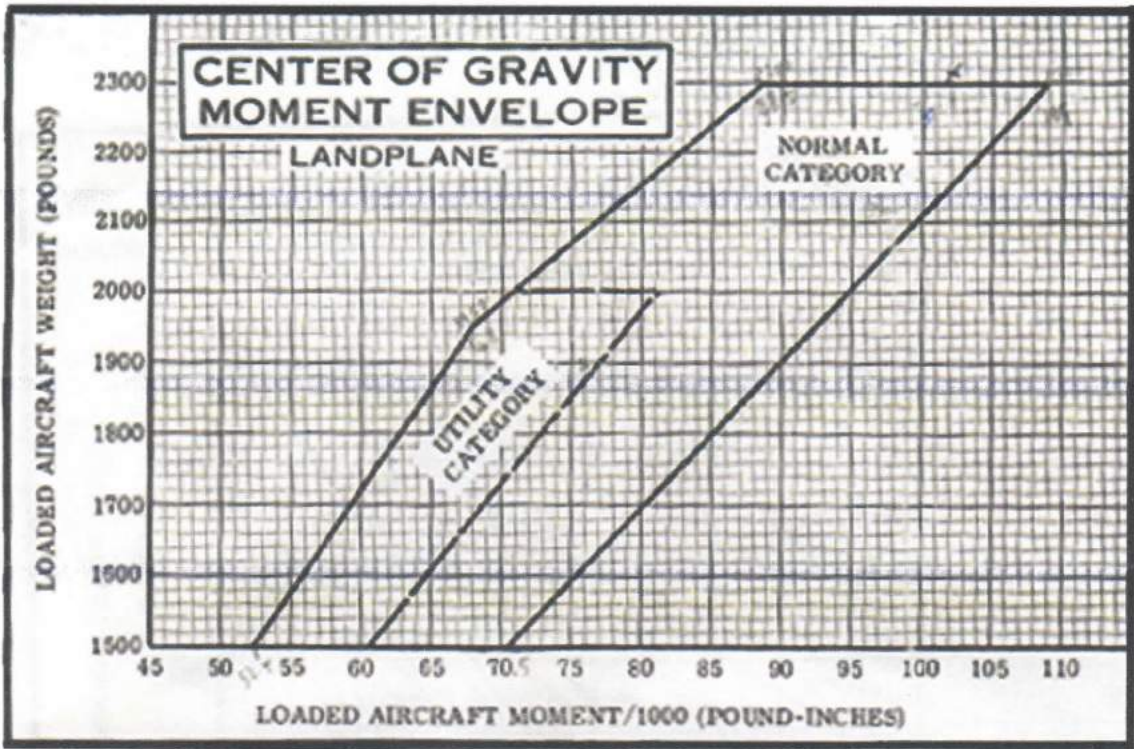


SAMPLE LOADING PROBLEM	SAMPLE AIRPLANE		YOUR AIRPLANE	
	Weight (lbs.)	Moment (lb. -ins. /1000)	Weight (lbs.)	Moment (lb. -ins. /1000)
1. Licensed Empty Weight (Sample Airplane) . . .	1364	51.7		
2. Oil (8 qts. - Full oil may be assumed for all flights)	15	-0.2	15	-0.2
3. Fuel (Standard - 38 Gal at 6#/Gal)	228	10.9		
Fuel (Long Range - 48 Gal at 6#/Gal)				
4. Pilot and Front Passenger (Station 34 to 46) . . .	340	12.6		
5. Rear Passengers	340	24.8		
6. Baggage (or Passenger on Child's Seat) (Station 82 to 100)	13	1.2		
7. TOTAL WEIGHT AND MOMENT	2300	101.0		

8. Locate this point (2300 at 101.0) on the center of gravity moment envelope, and since this point falls within the envelope, the loading is acceptable.





TAKE-OFF DATA

TAKE-OFF DISTANCE FROM HARD SURFACE RUNWAY WITH FLAPS UP

GROSS WEIGHT POUNDS	IAS AT 50' MPH	HEAD WIND KNOTS	AT SEA LEVEL & 50' F		AT 3500 FT. & 50' F		AT 5000 FT. & 41' F		AT 7500 FT. & 33' F	
			GROUND RUN	TOTAL TO CLEAR 50 FT. OGS	GROUND RUN	TOTAL TO CLEAR 50 FT. OGS	GROUND RUN	TOTAL TO CLEAR 50 FT. OGS	GROUND RUN	TOTAL TO CLEAR 50 FT. OGS
2000	68	0	695	1525	1040	1810	1255	2690	1562	3855
		10	615	1170	750	1445	920	1955	1160	3110
		20	485	850	595	1160	620	1480	810	2455
3000	63	0	630	1665	795	1955	915	1825	1120	3150
		10	425	1230	620	1605	645	1390	810	1965
		20	275	900	345	1030	425	910	595	1295
1700	58	0	435	790	520	950	625	1095	765	1570
		10	290	570	355	660	420	820	535	1090
		20	175	385	215	410	270	575	345	740

- NOTES: 1. Increase distance 10% for each 25' F above standard temperature for particular altitude.
 2. For operation on a dry, grass runway, increase distance 10% "ground run" and "total to clear 50 ft. obstacle" by 7% of the "total to clear 50 ft. obstacle" figure.

MAXIMUM RATE-OF-CLIMB DATA

GROSS WEIGHT POUNDS	IAS MPH	RATE OF CLIMB FT/MIN	AT SEA LEVEL & 50' F		AT 3500 FT. & 41' F		AT 10,000 FT. & 23' F		AT 15,000 FT. & 15' F	
			CLIMB FT/MIN	FROM S.L. FEET/1000 FT.	CLIMB FT/MIN	FROM S.L. FEET/1000 FT.	CLIMB FT/MIN	FROM S.L. FEET/1000 FT.	CLIMB FT/MIN	FROM S.L. FEET/1000 FT.
2000	62	645	1.0	31	405	2.6	79	220	4.8	73
			10	31	405	2.6	79	220	4.8	73
			20	31	405	2.6	79	220	4.8	73
3000	59	645	1.0	79	610	2.2	70	310	3.6	55
			10	79	610	2.2	70	310	3.6	55
			20	79	610	2.2	70	310	3.6	55
1700	57	1035	1.8	26	425	1.9	73	590	2.9	53
			10	26	425	1.9	73	590	2.9	53
			20	26	425	1.9	73	590	2.9	53

- NOTES: 1. Flaps up, full throttle, rate-of-climb limited for smooth operation above 3000 ft.
 2. Part used for take-off weight of 2000 lbs. at alternate.
 3. For bad weather, decrease rate of climb 20 ft./min. for each 10' F above standard day temperature for particular altitude.

CRUISE & RANGE PERFORMANCE

SKYHAWK

Gross Weight- 2300 lbs.
Standard Conditions
Zero Wind Lean Mixture

NOTE: Maximum cruise is normally limited to 75% power. Cruise speed for the standard Model 172 is approximately one MPH less than shown below for the Skyhawk configuration.

ALT.	RPM	% BHP	TAS MPH	GAL / HOUR	38 GAL (NO RESERVE)		48 GAL (NO RESERVE)	
					ENDR. HOURS	RANGE MILES	ENDR. HOURS	RANGE MILES
2500	2100	85	134	9.7	3.9	525	4.9	600
	2000	79	129	8.6	4.4	570	5.6	720
	1500	72	123	7.8	4.9	600	6.2	760
	1400	65	117	7.2	5.3	620	6.7	780
	1300	58	111	6.7	5.7	630	7.2	795
	1200	52	105	6.3	6.1	625	7.7	790
3000	2100	82	134	9.0	4.2	565	5.3	710
	2000	75	128	8.1	4.7	600	5.9	760
	1500	68	122	7.4	5.1	625	6.4	790
	1400	61	116	6.9	5.5	635	6.9	805
	1300	55	108	6.5	5.9	635	7.4	805
	1200	49	100	6.0	6.3	630	7.9	795
3500	2100	78	133	8.4	4.5	600	5.7	755
	2000	71	127	7.7	4.9	625	6.2	790
	1500	64	121	7.1	5.3	645	6.7	810
	1400	58	115	6.7	5.7	645	7.2	820
	1300	52	105	6.2	6.1	640	7.7	810
	4000	2150	70	129	7.6	5.0	640	6.3
2000		67	125	7.3	5.2	650	6.5	820
1500		61	118	6.9	5.5	655	7.0	830
1400		55	110	6.4	5.9	650	7.5	825
1300		49	100	6.0	6.3	635	8.0	800
4500		2600	63	123	7.0	5.4	665	6.8
	2500	57	115	6.5	5.8	665	7.3	835
	1400	51	105	6.2	6.1	645	7.8	815

LANDING DATA

LANDING DISTANCE ON HARD SURFACE RUNWAY
NO WIND - 40° FLAPS - POWER OFF

GROSS WEIGHT LBS.	APPROACH TAS MPH	@ 5 L. & 59° F		@ 2500 ft. & 50° F		@ 5000 ft. & 41° F		@ 7500 ft. & 32° F	
		GROUND ROLL	TOTAL TO CLEAR 50' OBS.	GROUND ROLL	TOTAL TO CLEAR 50' OBS.	GROUND ROLL	TOTAL TO CLEAR 50' OBS.	GROUND ROLL	TOTAL TO CLEAR 50' OBS.
2300	69	520	1250	540	1310	605	1385	630	1455

- NOTES: 1. Reduce landing distance 10% for each 5 knot headwind.
2. For operation on a dry, grass runway, increase distances (both "ground roll" and "total to clear 50 ft. obstacle") by 20% of the "total to clear 50 ft. obstacle" figure.

Slow Flight

- Altitude/Heading Check
- Slowly reduce throttle while maintaining altitude
- **Full flaps (WHITE ARC)**
- Use power to maintain altitude and pitch to maintain airspeed (Bottom of arc)

Power-Off Stall

- Altitude/Heading Check
- Slowly reduce throttle to IDLE while **maintaining altitude solely with pitch**

RECOVERY

- FULL Power while *simultaneously*
- **Lowering nose just below horizon**
- Once stall is broke, nose just above horizon
- First notch of flaps out (3 sec)
- Wait until airspeed AND altitude are **increasing before removing remaining flaps INCREMENTALLY**
- Accelerate to Vy
- Continue climb-out

Power-On Stall

- Altitude/Heading Check
- Reduce throttle while maintaining ALT
- Once 65MPH, add FULL POWER and **gradually pitch up (Approx. 15°)**
- Hold until Stall occurs

RECOVERY

- **Reduce nose to just above horizon**
- Accelerate to Vy and continue climb-out

Accelerated Stall

- Altitude/Heading Check
- Slowly reduce power to IDLE
- Bank 45° and pull pitch to induce stall

RECOVERY

- Level wings and neutral pitch
- **Increase power to cruise**

Steep Turns

- Altitude/Heading Check
- **Bank 45°**
- Add "Pinch" power (100RPM)
- 2 FULL swipes UP with TRIM
- Complete two 360° turns, one each direction

Turns Around A Point

- Est. 600-1000AGL
- Enter DOWNWIND of point
- Complete one 360° turn around point while maintaining altitude

S-Turns

- Est. 600-1000AGL
- Enter DOWNWIND of point
- Complete one 180° turn around 1st point then complete 180° turn around 2nd point in opposite direction