6.3 - LOADING SYSTEM

Aeroplane Type .....CESSNA 172G.....

Registration Marking VH-....PLV.....

ISSUE	DATE
ONE	1/6/84

Check maximum take-off weight is not exceeded.

APPROVAL STAMP

DEPARTMENT OF AVIATION

APPROVED pursuant to regulation 227 of the Air Navigation Regulations.

Delegate of the Secretary.

Date - 1 JUN 1984

6.2 - AEROPLANE WEIGHT

Aeroplane Type : -CESSNA -172G.....

Registration Marking : VH- PLV.....

Issue	Date	Date of Expiry
ONE	1/6/84	INDEFINITE

Aeroplane Weight and Centre of Gravity Data :

Item	Weight kg	Arm mm aft of datum	Index Unit kg mm	Cabin Configuration
EMPTY	607	929	563903	4 SEATS

NOTE : The above weight(s) include.....

.....UNUSABLE FUEL and UNDRAINABLE OIL.....

.....

DEPARTMENT OF AVIATION

APPROVED pursuant to regulation 227 of the Air Navigation Regulations.

Approval Stamp

Delegate of the Secretary.

Date 1 JUN 1984

PLV

WEIGHT AND BALANCE.

The following information will enable you to operate your Cessna within the prescribed weight and center of gravity limitations. To figure the weight and balance for your particular airplane, use the Sample Problem, Loading Graph, and Center of Gravity Moment Envelope as follows:

Take the licensed Empty Weight and Moment/1000 from the Weight and Balance Data sheet, plus any changes noted on forms FAA-337, carried in your airplane, and write them down in the proper columns. Using the Loading Graph, determine the moment/1000 of each item to be carried. Total the weights and moments/1000 and use the Center of Gravity Moment Envelope to determine whether the point falls within the envelope, and if the loading is acceptable.

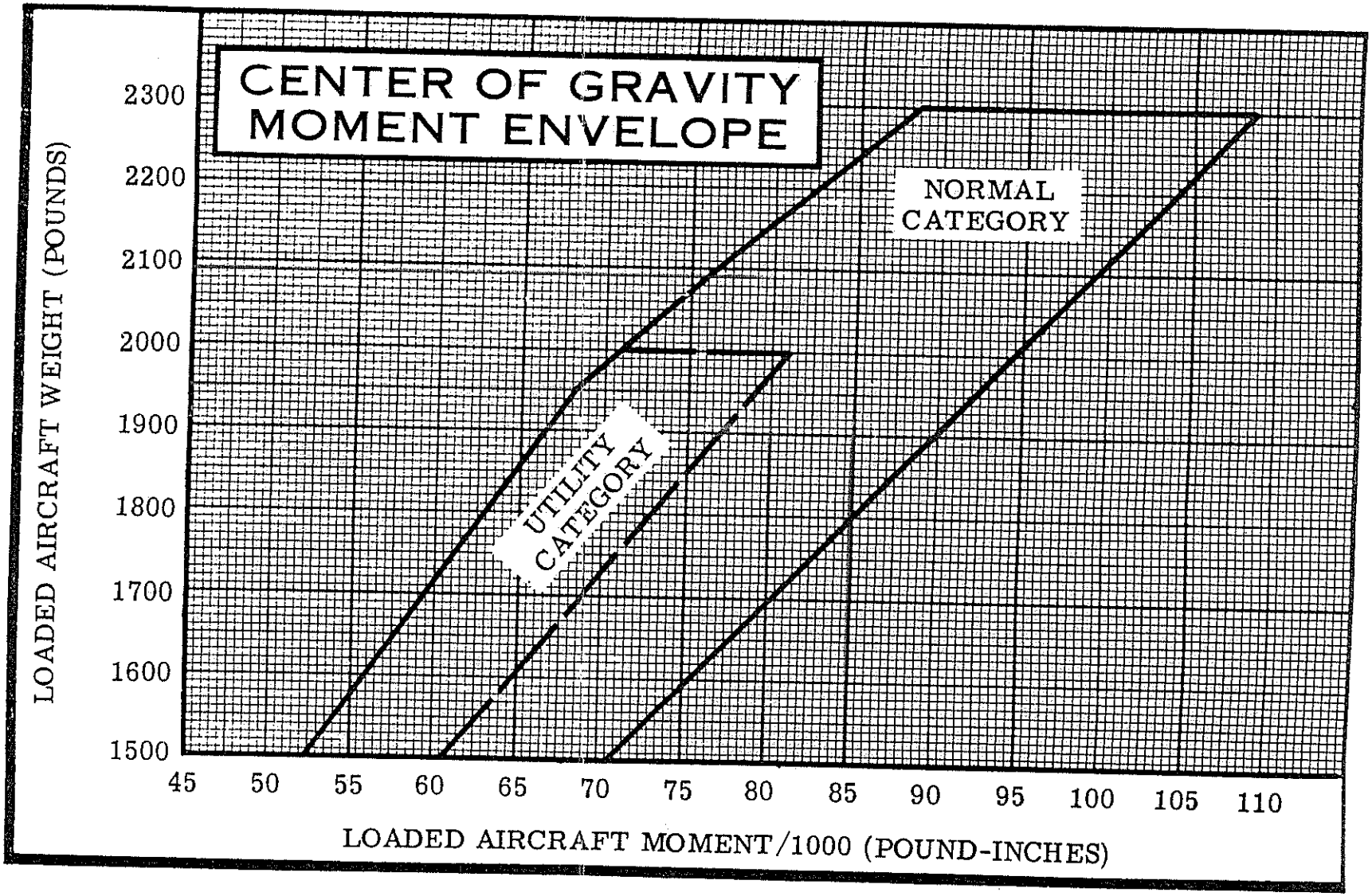
172 SAMPLE LOADING PROBLEM	Sample Airplane		Your Airplane	
	Weight (lbs)	Moment (lb - ins. /1000)	Weight ⋮	Moment ⋮
1. Licensed Empty Weight (Sample Airplane) ...	1324	48.2		
2. Oil - 8 Qts.*	15	-0.3	15	-0.3
3. Pilot & Front Passenger	340	12.2		
4. Fuel- (36 Gal at 6#/Gal)	216	10.4		
5. Rear Passengers	340	23.8		
6. Baggage (or Passenger on Auxiliary Seat)	65	6.2		
7. Total Aircraft Weight (Loaded)	2300	100.5		

8. Locate this point (2300 at 100.5) on the center of gravity envelope, and since this point falls within the envelope the loading is acceptable.

*Note: Normally full oil may be assumed for all flights.

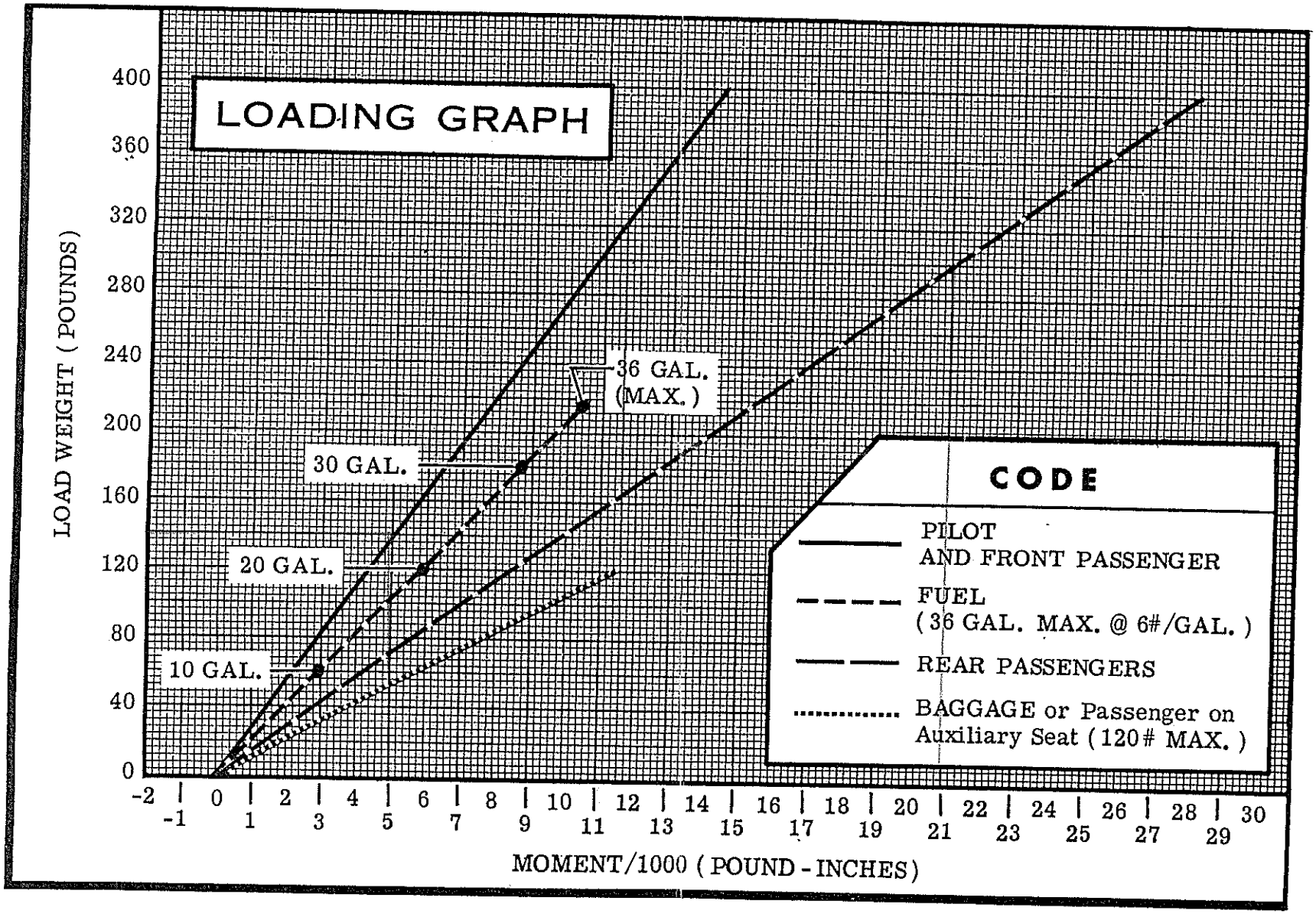
TYRE PRESSURES MAINS 23 PSI
NOSE WHEEL 26 PSI

PLV


CENTER OF GRAVITY
MOMENT ENVELOPE
NORMAL
CATEGORY
UTILITY
CATEGORY
LOADED AIRCRAFT WEIGHT (POUNDS)
2300
2200
2100
2000
1900
1800
1700
1600
1500
45
50
55
60
65
70
75
80
85
90
95
100
105
110
LOADED AIRCRAFT MOMENT/1000 (POUND-INCHES)

PLV

1 KG = 2.2 LB


LOADING GRAPH
LOAD WEIGHT (POUNDS)
400
360
320
280
240
200
160
120
80
40
0
10 GAL.
20 GAL.
30 GAL.
36 GAL.
(MAX.)
CODE
PILOT
AND FRONT PASSENGER
FUEL
(36 GAL. MAX. @ 6#/GAL.)
REAR PASSENGERS
BAGGAGE or Passenger on
Auxiliary Seat (120# MAX.)
-2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
MOMENT/1000 (POUND - INCHES)

TAKE-OFF DATA

TAKE-OFF DISTANCE FROM HARD SURFACE RUNWAY, FLAPS UP

GROSS WEIGHT LBS.	IAS AT 50 FT. MPH	HEAD WIND KNOTS	@ S.L. & 59° F		@ 2500 ft. & 50° F		@ 5000 ft. & 41° F		@ 7500 ft. & 32° F	
			GROUND RUN	TOTAL TO CLEAR 50' OBS.	GROUND RUN	TOTAL TO CLEAR 50' OBS.	GROUND RUN	TOTAL TO CLEAR 50' OBS.	GROUND RUN	TOTAL TO CLEAR 50' OBS.
1700	60	0	435	780	520	920	625	1095	765	1370
		10	290	570	355	680	430	820	535	1040
		20	175	385	215	470	270	575	345	745
2000	65	0	630	1095	755	1325	905	1625	1120	2155
		10	435	820	530	1005	645	1250	810	1685
		20	275	580	340	720	425	910	595	1255
2300	70	0	865	1525	1040	1910	1255	2480	1565	3855
		10	615	1170	750	1485	920	1955	1160	3110
		20	405	850	505	1100	630	1480	810	2425

Note: Increase distance 10% for each 25°F above standard temperature for particular altitude.

MAXIMUM RATE-OF-CLIMB DATA

GROSS WEIGHT LBS.	@ S.L. & 59° F			@ 5000 ft. & 41°F			@ 10,000 ft. & 23° F			@ 15,000 ft. & 5° F		
	IAS MPH	RATE OF CLIMB FT/MIN.	GALS OF FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S.L. FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S.L. FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN.	FROM S.L. FUEL USED
1700	75	1085	1.0	73	825	1.9	71	570	2.9	70	315	4.4
2000	77	840	1.0	76	610	2.2	74	380	3.6	73	155	6.3
2300	80	645	1.0	78	435	2.6	77	230	4.8	76	22	11.5

Note: Flaps up, full throttle and mixture leaned for smooth operation above 5000 ft.
Fuel used includes warm-up and take-off allowance.

Figure 5-3.

LANDING DATA

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

GROSS WEIGHT LBS.	APPROACH IAS MPH	@ S.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	65	520	1250	560	1310	605	1385	650	1455

Note: Reduce landing distance 10% for each 5 knot headwind.

Figure 5-6.

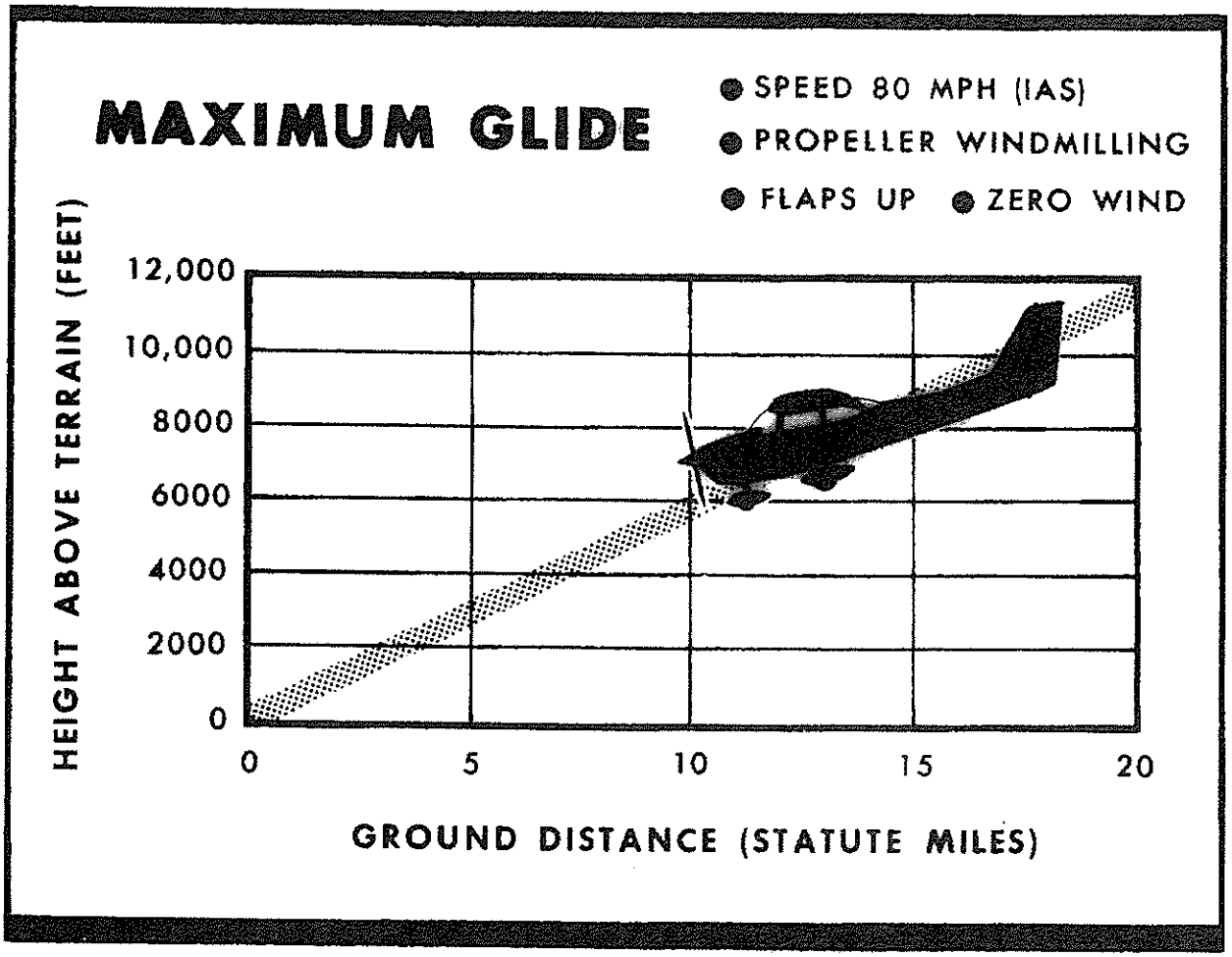

MAXIMUM GLIDE
SPEED 80 MPH (IAS)
PROPELLER WINDMILLING
FLAPS UP
ZERO WIND
HEIGHT ABOVE TERRAIN (FEET)
12,000
10,000
8000
6000
4000
2000
0
0
5
10
15
20
GROUND DISTANCE (STATUTE MILES)

Figure 5-7.