

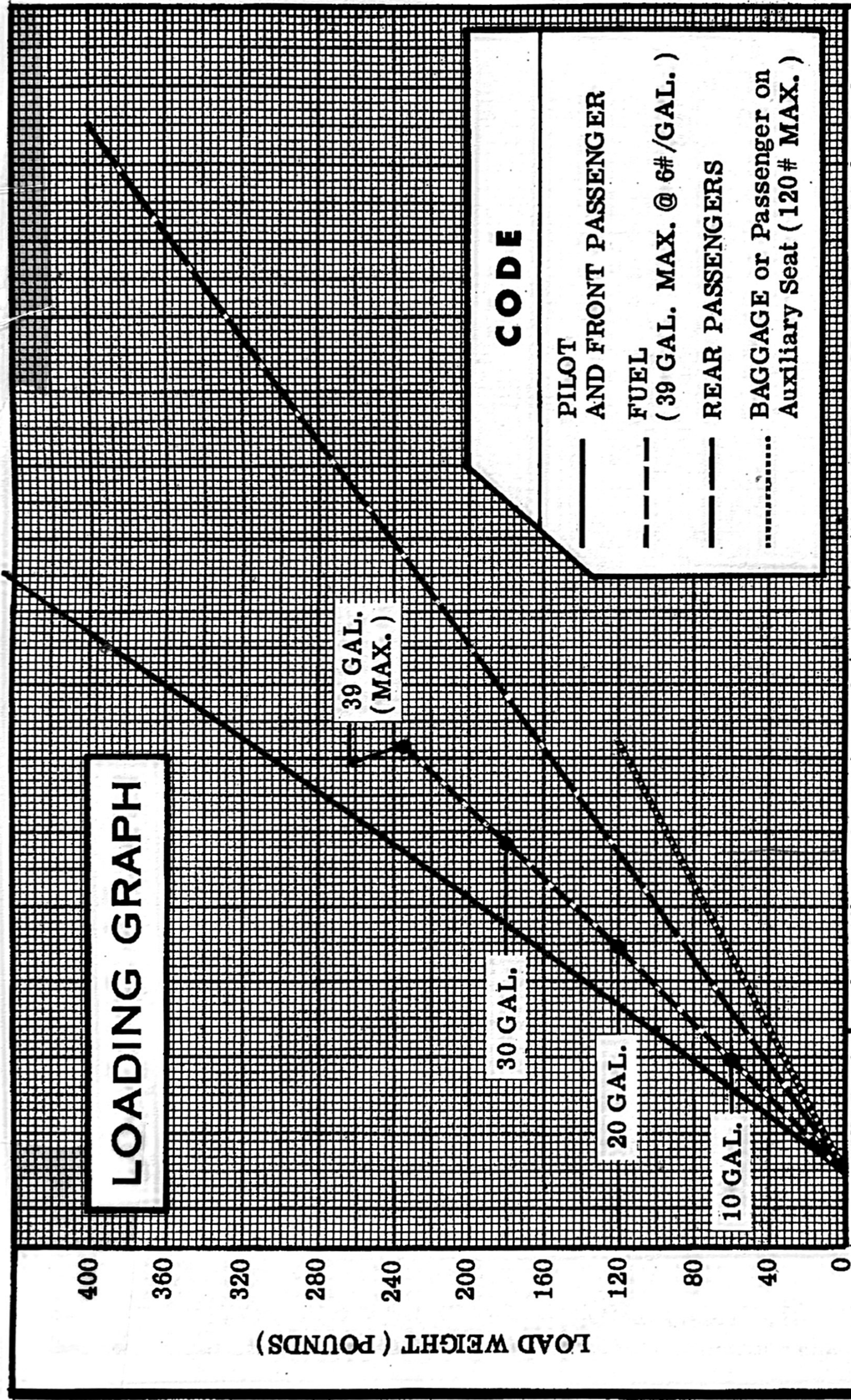
WEIGHT AND BALANCE.

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) ...	1321	50.4	1321	50.4
2. Oil - 8 Qts.*	15	-0.3	15	-0.3
3. Pilot & Front Passenger	340	12.2		
4. Fuel- (39 Gal at 6#/Gal)	234	11.2		
5. Rear Passengers	340	23.8		
6. Baggage (or Passenger on Auxiliary Seat)	50	4.7		
7. Total Aircraft Weight (Loaded)	2300	102.0		
8. Locate this point (2300 at 102.0) 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.				

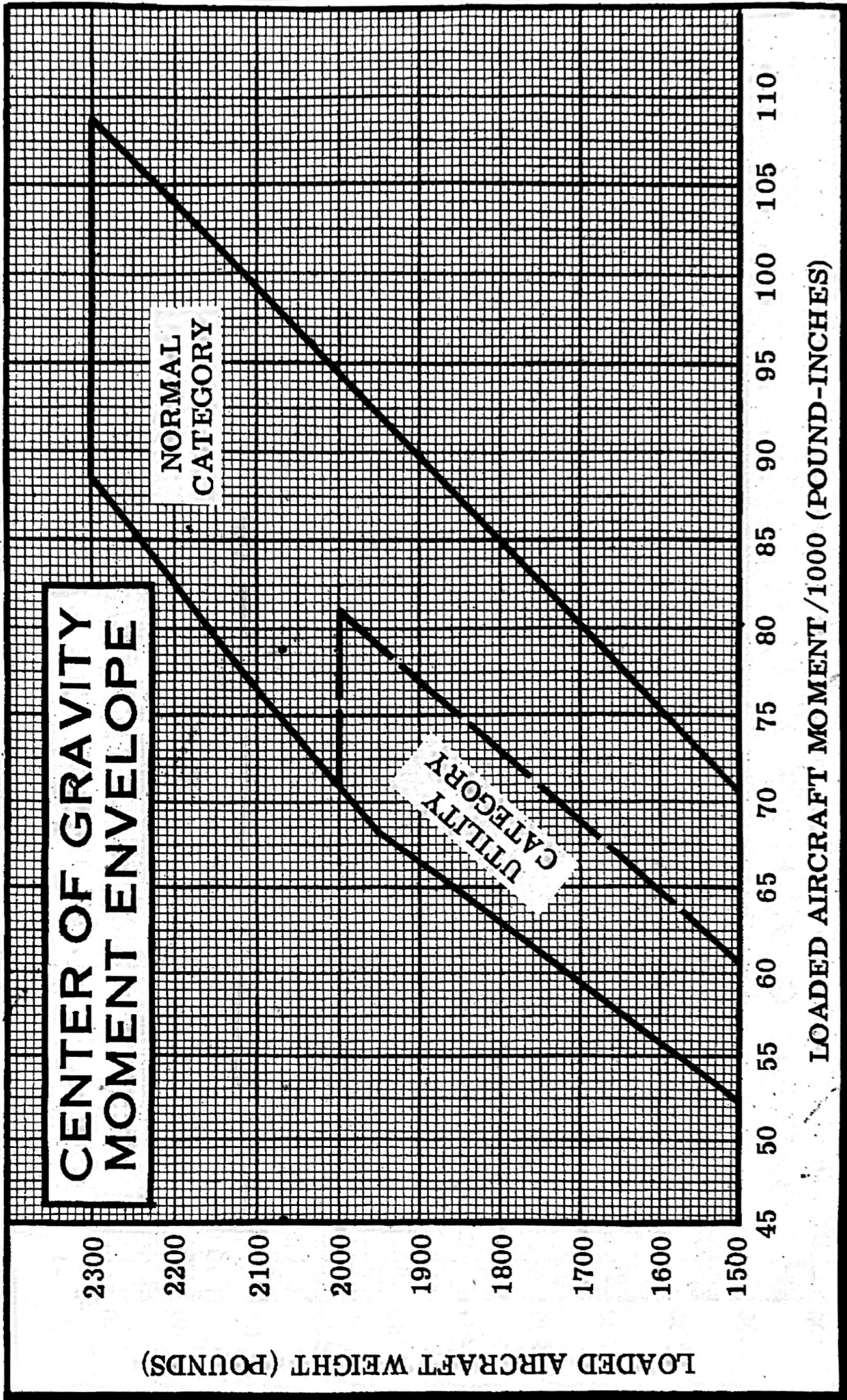
LOADING GRAPH



CODE

- PILOT AND FRONT PASSENGER
- - - FUEL (39 GAL. MAX. @ 6#/GAL.)
- - - REAR PASSENGERS
- BAGGAGE or Passenger on Auxiliary Seat (120# MAX.)

MOMENT/1000 (POUND - INCHES)



WEIGHT AND BALANCE REVISION

10/15/2011

N7717U

S/N 17251717

OLD EMPTY WEIGHT- 1379.69

OLD E.W.C.G.-37.10

<u>ITEM</u>	<u>WEIGHT</u>	<u>X</u>	<u>ARM</u>	<u>=</u>	<u>MOMENT</u>
REMOVED 35AMP GENERATOR	-16.0		-7.0		112.0
REMOVED 35 AMP REGULATOR	-2.0		2.5		5.0
INSTALLED 50 AMP ALTERNATOR	+6.9		-7.0		48.3
INSTALLED 50 AMP REGULATOR	+3		2.5		7.5
NEW TOTALS	-10.8		37.36		511417.3

51,141.73

NEW A/C EMPTY WEIGHT- 1368.89 LBS

NEW A/C EMPTY C.G.- 37.36 INCHES

NEW USEFUL LOAD- 931.11 LBS.

MAX GROSS- 2300LBS

Quito Bell
AP 3170153

CESSNA AIRCRAFT COMPANY

WICHITA, KANSAS

MODEL 172E

Weight & Balance Data

Aircraft Serial No. 17251717 F. A. A. Registration No. N7717U (STD) Date: 6-10-64

ITEM		Weight (lbs.)	X	C. G. Arm (inches)	=	Moment (lb. ins.)
Standard Airplane (Empty, Dry & Unpainted)	XXXXXX Computed	1258.0		36.8		46294
Optional Equipment		68.5		32.5		2226
Special Installations (DMCR Approved)		----		----		----
Paint XXXXXX Over-All		18.0		90.0		1620
Unusable Fuel (3.0 Gal)		18.0		46.0		828
Licensed Empty Weight = Total of Items Above		1362.5		37.4		50968

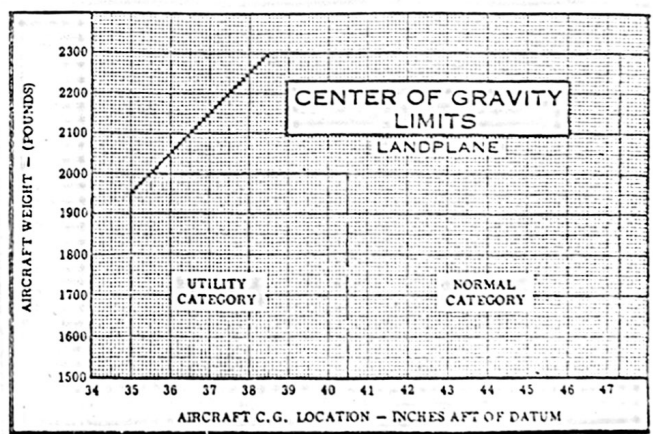
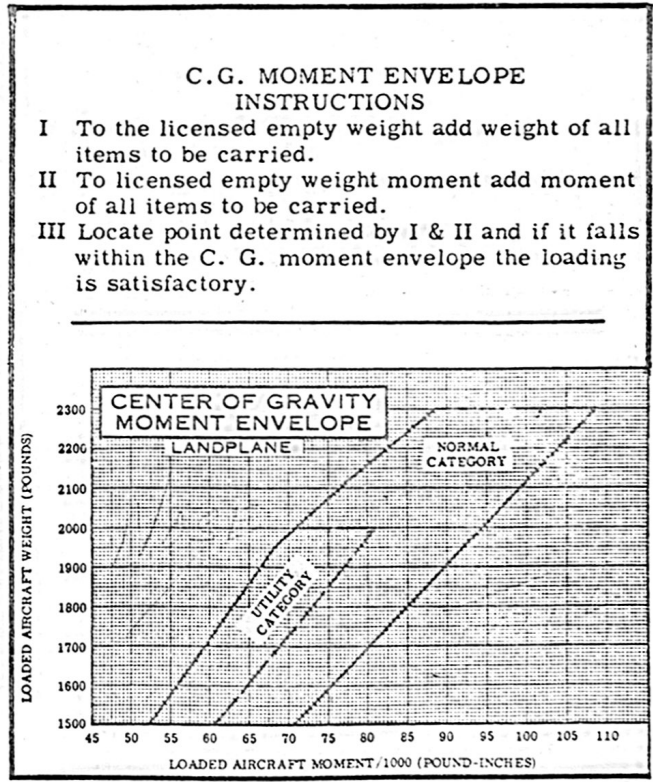
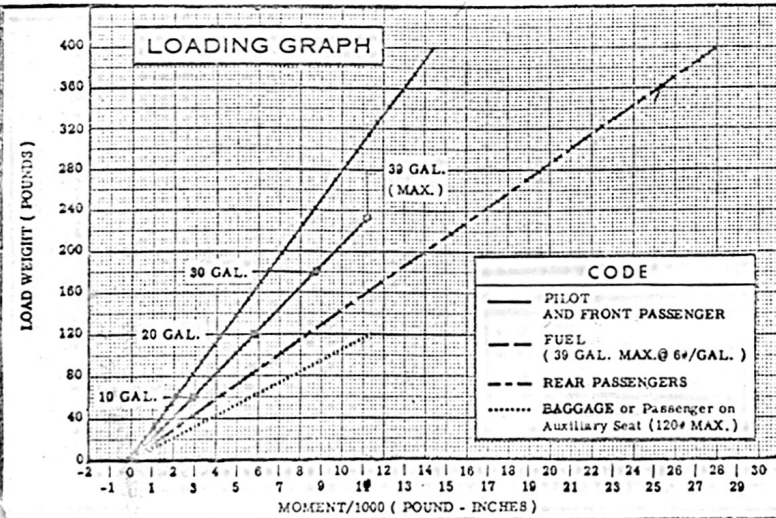
REVISED AND SUPERSEDED
1964
STATES AVIATION CORP.
REPAIR STATION 3769

(GROSS WEIGHT.) - (LICENSED EMPTY WT.) = USEFUL LOAD
(2300 LBS) - (1362.5 LBS) = 937.5 LBS

SAMPLE LOADING PROBLEM

	Weight (lbs)	C. G. Arm (Inches)	Moment (lb-ins/1000)
Licensed Empty Wt.	1362.5		51.0
Oil (8 Qts.)	15	-20.0	-0.3
Pilot & Front Passenger	340	36.0	12.2
Fuel	122.5	48.0	5.9
Rear Seat Passengers	340	70.0	23.8
Baggage	120.0	95.0	11.4
Total Loaded Airplane =	2300		104.0

Locate this point (2300; 104.0) on the C. G. Moment Envelope. Since the point falls within the envelope the loading meets all balance requirements.

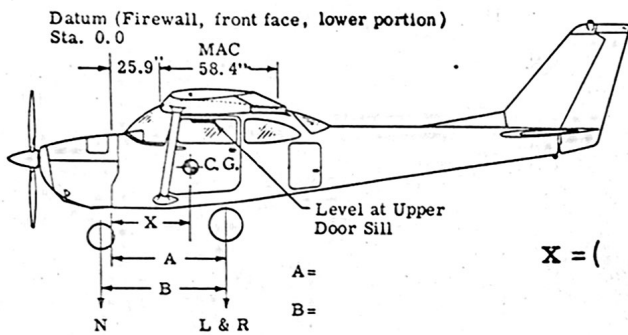


IT IS THE RESPONSIBILITY OF THE PILOT AND AIRPLANE OWNER TO INSURE THAT THE AIRPLANE IS LOADED PROPERLY. THE EMPTY WEIGHT C. G. & USEFUL LOAD ARE FOR THE AIRPLANE AS DELIVERED FROM THE FACTORY. REFER TO FORM FAA-337 WHEN ALTERATIONS HAVE BEEN MADE.

WEIGHT & BALANCE DATA

WEIGHING PROCEDURE

Scale Position	Scale Reading	Tare	Symbol	Net Weight
Left Wheel			L	
Right Wheel			R	
Nose Wheel			N	
Aircraft Empty Weight (As Weighed)			W	



FRONT 16.5"

$$\bar{X} = \text{ARM} = (A) - \frac{(N) \times (B)}{W}$$

$$X = (\quad) - (\quad) \times (\quad) = (\quad) \text{ IN.}$$

- Preparation:
 - Inflate tires to recommended operating pressures.
 - Remove all wing tank drain plugs to remove all fuel.
 - Remove oil sump drain plug to drain all oil.
 - Move all sliding seats to the most forward position. All seat backs should be in the most nearly vertical position.
 - Put flaps in the fully retracted position.
 - Place all control surfaces in neutral position.
- Leveling:
 - Place scales under each wheel (500# nose, 1000# each main, minimum capacity for scales).
 - Deflate nose tire to center bubble on level (See Diagram).
- Weighing:
 - With the airplane level and brakes released, record the weight shown on each scale. Deduct the tare, if any, from each reading.

- Measuring:
 - Obtain measurement "A" by measuring horizontally (along the airplane center line) from a line stretched between the main wheel centers to a plumb bob dropped from the firewall.
 - Obtain measurement "B" by measuring horizontally and parallel to the airplane center line, from center of nose-wheel axle, left side, to a plumb bob dropped from the line between the main wheel centers. Repeat on right side and average the measurements.
- Completing the Form:
 - Using weights from (3) and measurements from (4) the airplane weight and C. G. can be determined.
 - Obtain licensed empty weight by adding weight and moment of unusable fuel (see other side) to airplane empty weight and moment.

