

# WEIGHT & BALANCE

DATE	1/14/18		
MAKE		OLD	NEW
MODEL		Cessna	
N NUMBER		172L	
S/N		N7818G	
BASIC EMPTY WEIGHT		17259518	
TOTAL MOMENT /1000		1398.24	1393.29
CENTER OF GRAVITY F.S.		53702.03	53701.8266
		38.42	38.5431795

GROSS TAKE OFF WEIGHT LBS	2300	2300
USFUEL LOAD	901.76	906.71

MODIFICATION	LBS	ARM IN"	MOM/1000	LBS	MOM/1000
Starter					
OUT KT76A	3.1	15	0.0465	1395.14	53701.9835
OUT TMA230D	1.31	15	0.01965	1393.83	53701.9639
OUT ADF ANNT	1.3	130	0.169	1392.53	53701.7949
OUT ADF T12D	6	15	0.09	1386.53	53701.7049
OUT StS110C	4	15	0.06	1382.53	53701.6449
OUT STS ANNT	1	13	0.013	1381.53	53701.6319
OUT AR850	0.7	13	0.0091	1380.83	53701.6228
IN AMX240	1.3	15	0.0195	1382.13	53701.6618
IN IFD440	6.6	15	0.099	1388.73	53701.7608
IN APX330	3.26	15	0.0489	1391.99	53701.8097
IN MLB100	1	13	0.013	1392.99	53701.8227
IN AC-30	0.3	13	0.0039	1393.29	53701.8266

*Katie Lake*

## **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 change 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.

### **NOTE**

The Weight and Balance Data Sheet noted above is included in the aircraft file. The Loading Graph and Center of Gravity Moment Envelope shown in this section are also on the sheet titled Loading/Center of Gravity Charts and Weighing Procedures which is provided in the aircraft file.

# SAMPLE LOADING PROBLEM

## SAMPLE AIRPLANE

## YOUR AIRPLANE

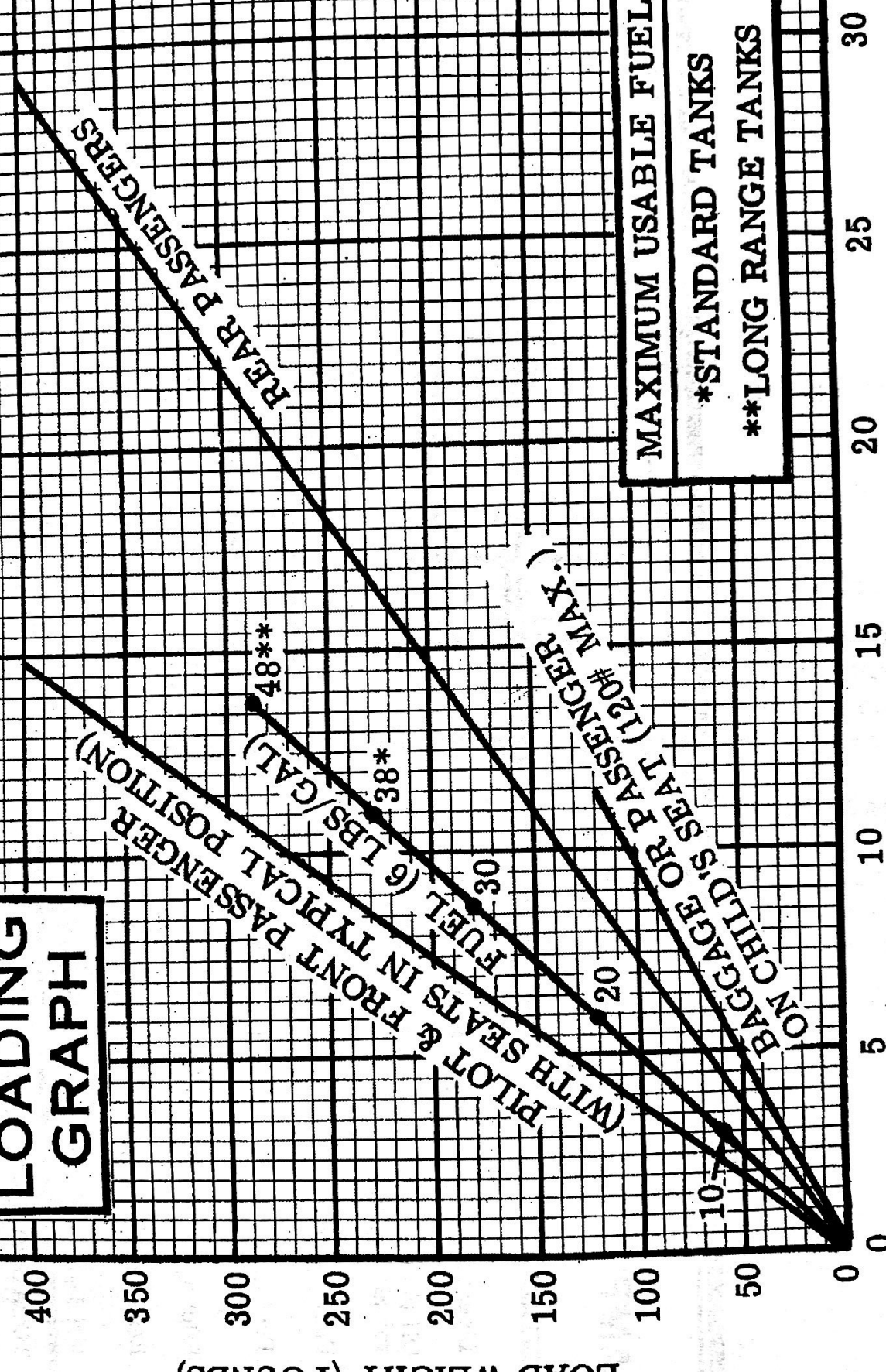
1. Licensed Empty Weight (Sample Airplane) . . .
2. Oil (8 qts. - Full oil may be assumed for all flights). . . . .
3. Fuel (Standard - 38 Gal at 6#/Gal). . . . .  
Fuel (Long Range - 48 Gal at 6#/Gal). . . . .
4. Pilot and Front Passenger . . . . .
5. Rear Passengers . . . . .
6. Baggage (or Passenger on Child's Seat) . . . . .
7. TOTAL WEIGHT AND MOMENT

Weight (lbs.)	Moment (lb. -ins. /1000)
1306	47.6
15	-0.2
228	10.9
340	12.6
340	24.8
71	6.7
2300	102.4

Weight (lbs.)	Moment (lb. -ins. /1000)
15	-0.2

8. Locate this point (2300 at 102.4) on the center of gravity moment envelope, and since this point falls within the envelope, the loading is acceptable.

# LOADING GRAPH



**MAXIMUM USABLE FUEL**  
**\*STANDARD TANKS**  
**\*\*LONG RANGE TANKS**

LOAD MOMENT / 1000 (POUND - INCHES)



# CENTER OF GRAVITY MOMENT ENVELOPE

LOADED AIRCRAFT WEIGHT (POUNDS)

NORMAL  
CATEGORY

LANDPLANE

UTILITY  
CATEGORY

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)

