## EQUIPMENT CHANGE - WEIGHT & BALANCE

AEROWOOD
AerowoodAviation.com

| REG. NO. | MODEL | Serial No. |
|---|---|---|
| N933P | 172F | 17252361 |

| Items: (Description / P/N / S/N) | Weight Pounds | Arm Inches | Moments Inch/Pounds |
|---|---|---|---|
| **Previous Aircraft Empty Weight:** | 0 | 0 | 0 |
| | | | 0 |
| NOSE SCALE | 475 | -7.5 | -3.5625 |
| LEFT MAIN SCALE | 578 | 56.7 | 32.7726 |
| RIGHT MAIN SCALE | 595 | 56.7 | 33.7365 |
| | | | 0 |
| DEDUCT FUEL FROM LEFT & RIGHT TANK 18 GAL USABLE EACH | -216 | 10.4 | -2.2464 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| | | | 0 |
| Totals | 1432 | | 60.7002 |

| | | |
|---|---|---|
| A. Old Empty Weight | | Pounds |
| B. Old Empty CG | | Inches |
| C. Old Empty Weight CG Moment | | Inch/Pounds |
| D. Max Gross Weight | 2,300 | Pounds |
| E. Old Useful Load | 2,300 | Pounds |

| | | |
|---|---|---|
| **A. New Empty Weight** | **1432** | **Pounds** |
| **B. New Empty CG** | **42.3884** | **Inches** |
| **C. New Empty Weight CG Moment** | **60.7002** | **Inch/Pounds** |
| **D. Max Gross Weight** | **2300** | **Pounds** |
| **E. New Useful Load** | **868** | **Pounds** |

**This new weight & balance information supersedes all previous weight and balance data.**
**For aircraft loading, see instructions in Weight & Balance Section of Aircraft Flight Manual.**

| | |
|---|---|
| **FAA Form 337 Completed?** | YES |
| **Equipment List Amended?** | YES |

**Signature: Ben Werthwein** R B Werthwein **Date: 7/17/2020**

**A&P#: 2709574**

**Notes:**

# 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:

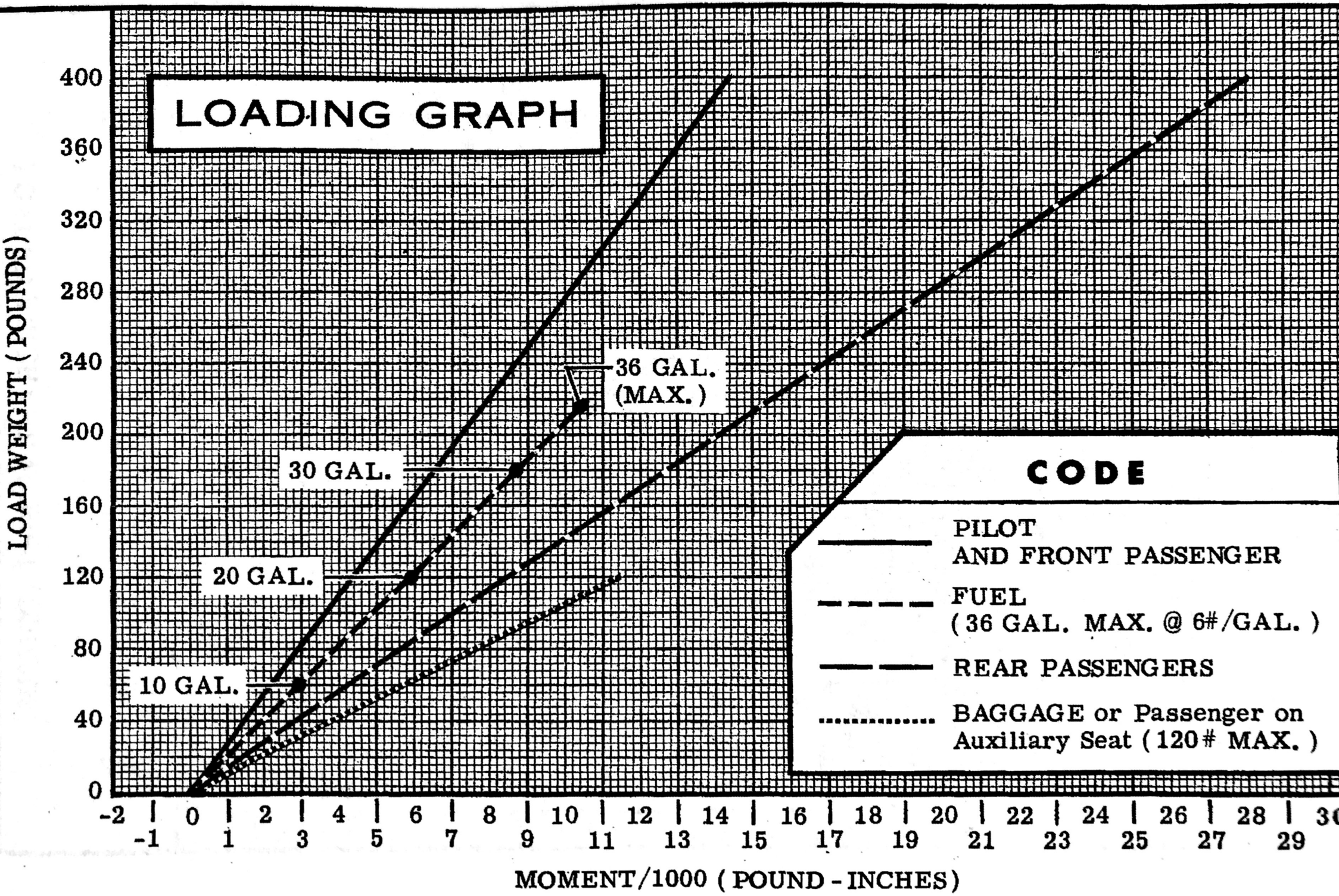
Take the licensed Empty Weight and Moment/1000 from the Weight and Balance Data sheet, plus any changes noted on forms FAA-337, carried in your airplane, and write them down in the proper columns. Using the Loading Graph, determine the moment/1000 of each item to be carried. Total the weights and moments/1000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

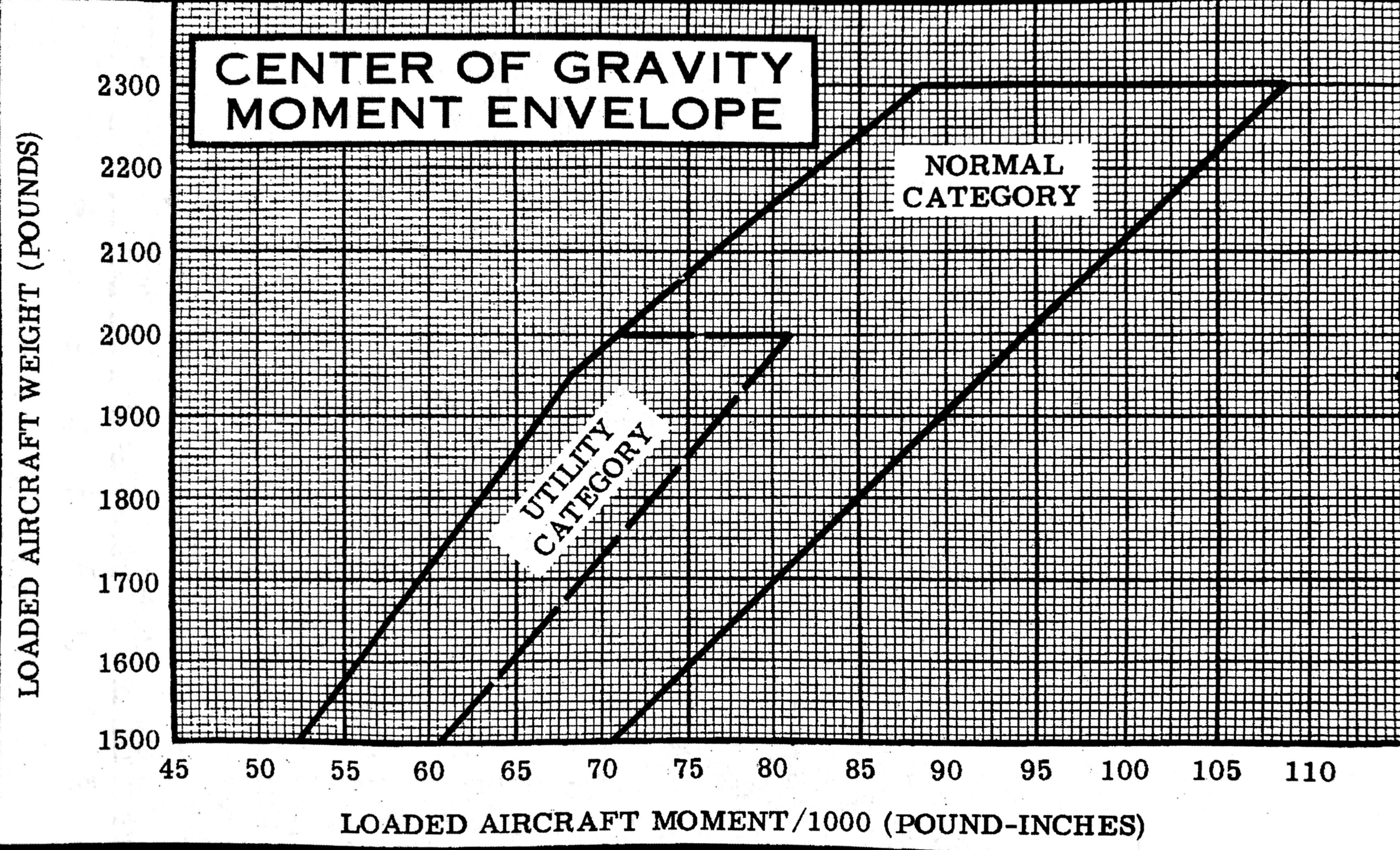
## 172 SAMPLE LOADING PROBLEM

| | Sample Airplane | | N933P | |
|---|---|---|---|---|
| | Weight (lbs) | Moment (lb - ins. /1000) | Weight | Moment |
| 1. Licensed Empty Weight (Sample Airplane) ... | 1324 | 48.2 | 1432 | 60.7002 |
| 2. Oil - 8 Qts.* Included in BEW ..... | 15 | -0.3 | Included | in BEW |
| 3. Pilot & Front Passenger Arm 36 ..... | 340 | 12.2 | | |
| 4. Fuel- (36 Gal at 6#/Gal) Arm 48 ..... | 216 | 10.4 | | |
| 5. Rear Passengers Arm 70 ..... | 340 | 23.8 | | |
| Baggage limit is 120 lbs<br>6. Baggage (or Passenger on Auxiliory Seat) Arm 95 ..... | 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.


LOADING GRAPH
LOAD WEIGHT ( POUNDS)
400
360
320
280
240
200
160
120
80
40
0
36 GAL.
(MAX.)
30 GAL.
20 GAL.
10 GAL.
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)


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)