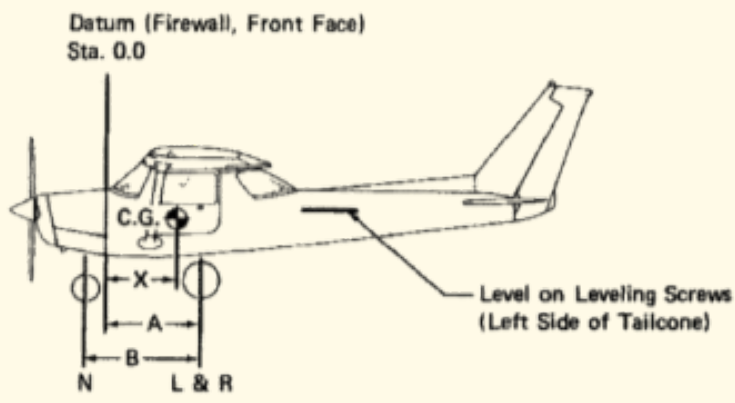
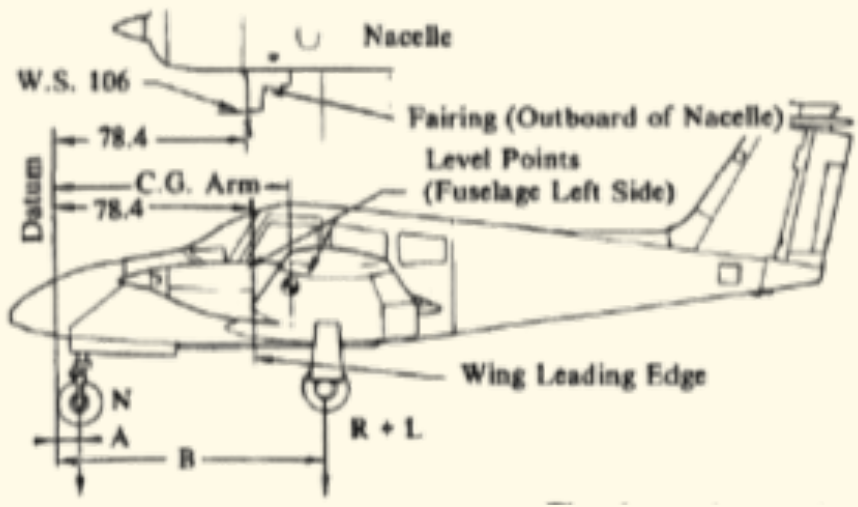
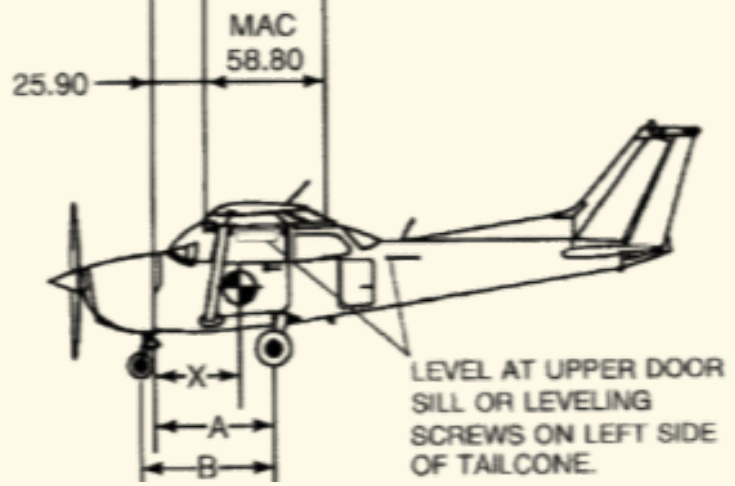


# Weight and Balance Workbook



REFERENCE  
DATUM  
(FIREWALL FRONT FACE,  
LOWER PORTION)  
STA. 0.0

NOTE  
IT IS THE RESPONSIBILITY  
OF THE PILOT TO ENSURE  
THAT THE AIRPLANE IS  
LOADED PROPERLY.



# Table of contents

Front Cover

Table of Contents

Guidance

Chapter 1: Cessna 152

Chapter 2: Cessna 172

Chapter 3: Piper PA44

# Guidance

Always organize your math with a W, A, M table.  
Many can be, or you can draw on out as I have here:

	W	A	M
Basic Empty			
Pilot			
Pax			
Baggage			
Fuel			

1. determine how you would arrange the passengers and baggage in the airplane.
2. Verify weight is within limits
3. Verify C.G. Is within limits
4. IF weight or C.G. Is outside limits, re-arrange positions, reduce weight (fuel, bags...?)

With all weight and balance problems, find a solution.  
Ask yourself “how could I make it work (safely)?”

If your plane is overweight, exactly how much fuel could you carry to be within weight limit?

Here is a bad answer: “In this configuration the airplane is outside the C.G envelope” :-)

Here is a good answer: “If we carry only 20 gallons of fuel, then we will be within our C.G. Envelope” :-)



# Chapter 1: Cessna 152

Before proceeding, **READ POH CHAPTER 6 COMPLETELY.**

**SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST**

**CESSNA  
MODEL 152**

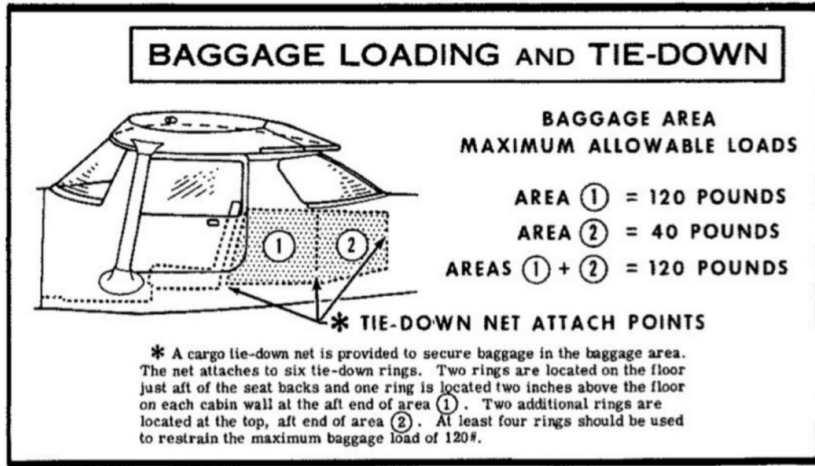


Figure 6-4. Baggage Loading and Tie-Down

**CESSNA  
MODEL 152**

**SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST**

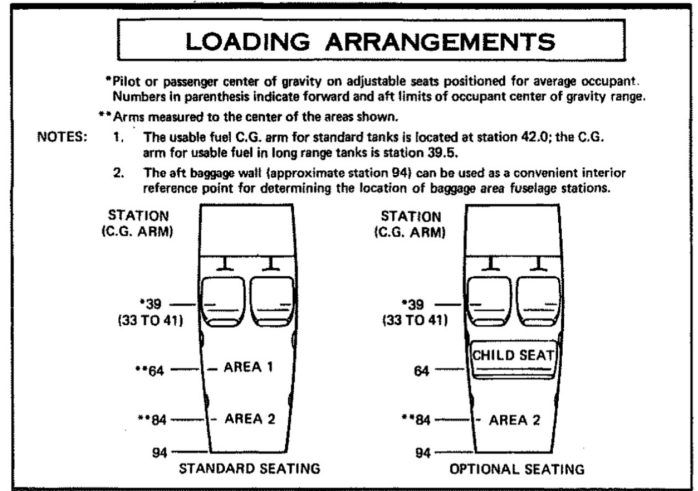


Figure 6-3. Loading Arrangements

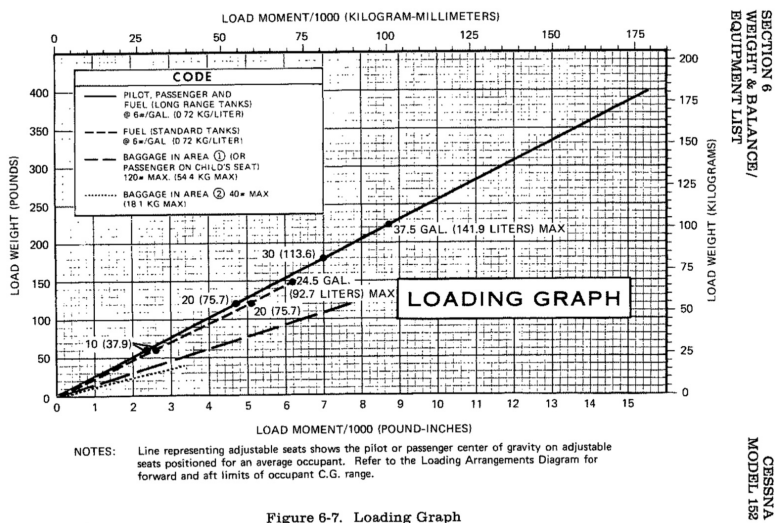


Figure 6-7. Loading Graph

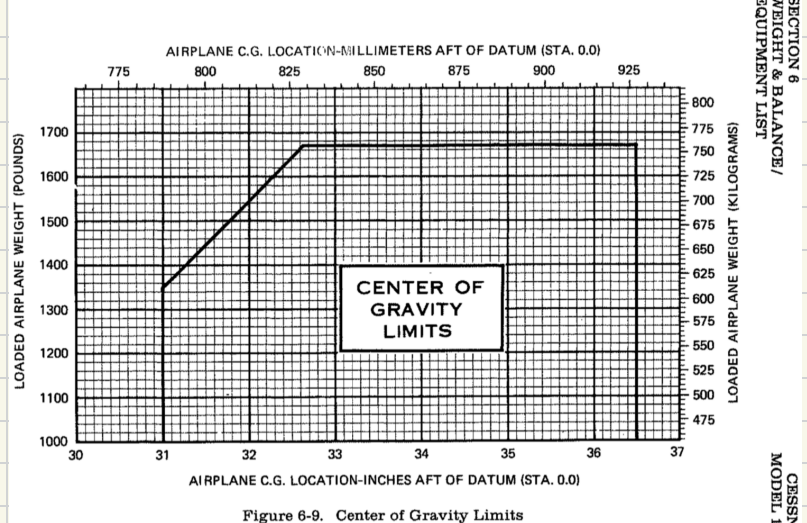
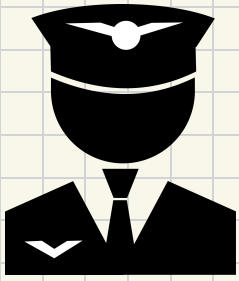
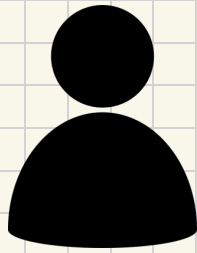


Figure 6-9. Center of Gravity Limits

# Scenario 1: 152 & PAX



**Pilot**  
Your Weight



**Passenger**  
220LBS



**Baggage**  
18LBS

## Can you carry full fuel?

If not, how many gallons CAN you carry?

N89877

**Previous Weight and Balance Data**

This report supersedes report dated 12/1/2022  
 The last report was based on: Reweigh  Calculation   
 Previous Empty Weight (lbs.) 1178.84  
 Previous EW Center of Gravity (inches) 30.15  
 Previous Total Moment 35542.03

---

**New Weight and Balance Data** Work Order H35674  
Date of Reweigh 1/1/2024

X = 30.55 = 47 (A) - 334.67 (N) X 57.44 (B) 1168.34 (W)

	Gallons	Weight	Arm	Moment
Std. Tanks	0	0	0	0.00
Long Range Tanks	0	0	0	0.00
Integral Tanks	0	0	0	0.00
Unusable Fuel	9			0.00
<b>New Empty Weight</b>		<b>1177.34</b>	<b>Total Moment</b>	<b>35692.79</b>

**New Empty Weight** 1177.34    **New Total Moment** 35692.79  
**New EW Center of Gravity** 30.32  
**Net CG change from last report** 0.17  
**Net weight change from last report** -1.50

Aircraft weighed on calibrated scales with calibration certificates traceable to National Institute of Standards and Technology (NIST). Calibration certificate on file at this agency.

**Notes or Comments**  
 Aircraft weighed with empty fuel and full oil

CESSNA  
MODEL 152

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

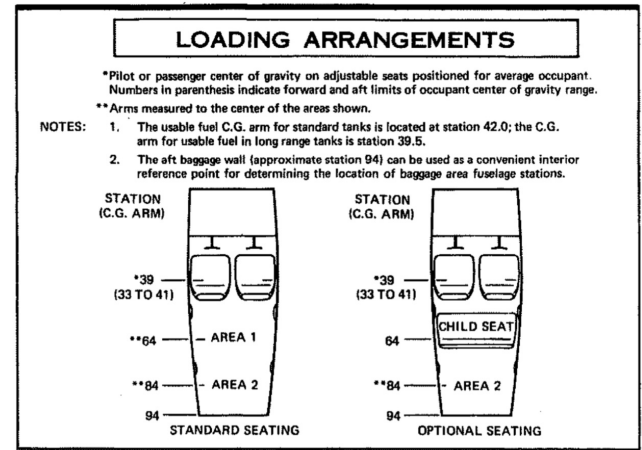


Figure 6-3. Loading Arrangements

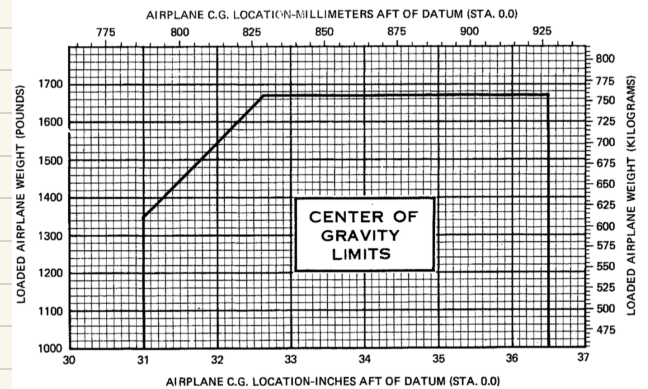
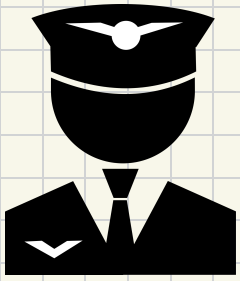


Figure 6-9. Center of Gravity Limits

# Scenario 2: 152 & Bags



**Pilot**  
Your Weight



**Baggage**  
60LBS



**Baggage**  
100LBS

Aircraft Weight and Balance Report

N5366M

---

**Previous Weight and Balance Data**

This report supersedes report dated 11/23/2022

The last report was based on: Reweigh  Calculation

Previous Empty Weight (lbs.) 1165.23

Previous EW Center of Gravity (inches) 30.06

Previous Total Moment 35028.81

---

**New Weight and Balance Data**

Work Order H35244

Date of Reweigh 3/5/2024

X = 30.45 = 46.88 (A) - 337 (N) X 57.56 (B) = 1180.67 (W)

	Gallons	Weight	Arm	Moment
Std. Tanks	0	0	0	0.00
Long Range Tanks	0	0	0	0.00
Integral Tanks	0	0	0	0.00
Unusable Fuel	9	40	360.00	
<b>New Empty Weight</b>		<b>1189.67</b>	<b>Total Moment</b>	<b>36311.40</b>

**New Empty Weight** 1189.67      **New Total Moment** 36311.40

**New EW Center of Gravity** 30.52

**Net CG change from last report** 0.46

**Net weight change from last report** 24.44

Aircraft weighed on calibrated scales with calibration certificates traceable to National Institute of Standards and Technology (NIST). Calibration certificate on file at this agency.

**Notes or Comments**

Weighed with full oil, empty fuel

**Where will you load the bags?**

**Can you carry full fuel?**

If not, how many gallons CAN you carry?

CESSNA  
MODEL 152

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

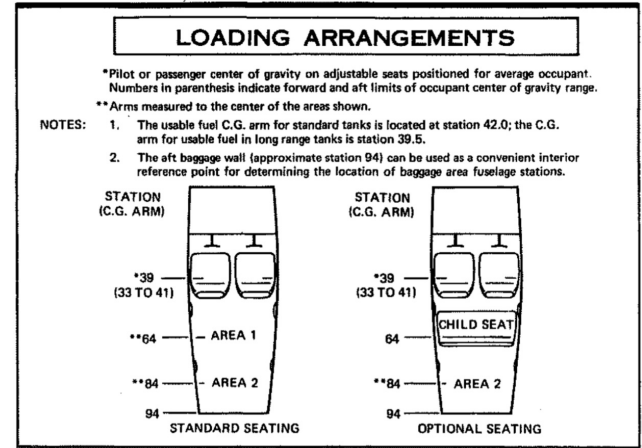


Figure 6-3. Loading Arrangements

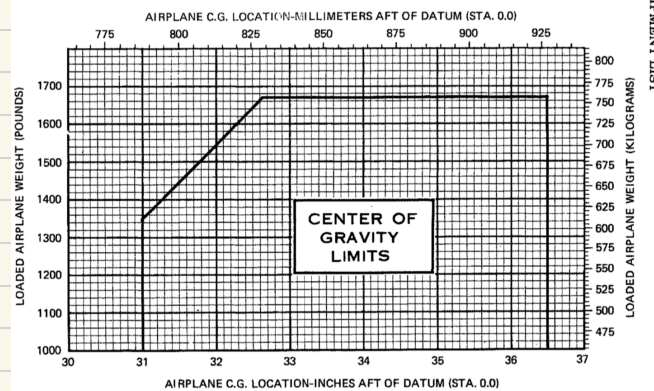
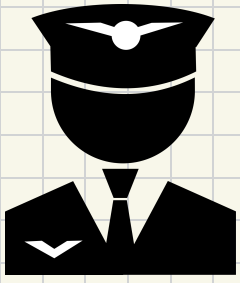
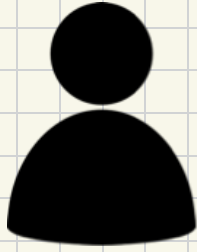


Figure 6-9. Center of Gravity Limits

# Scenario 3: 152 & Cargo



**Pilot**  
Your Weight



**Passenger**  
200LBS



**Baggage**  
40LBS



**Baggage**  
30LBS



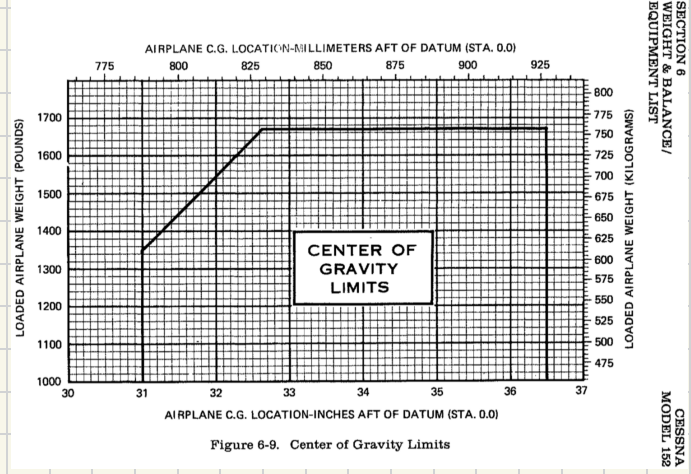
**REQUIRED FUEL**  
**12GAL**

**Where will you load the bags?**

**Can you carry full fuel?**

If not, how many gallons CAN you carry?

Make	Model	Serial	N757JX				
Cessna Aircraft Company	152	15279787					
Supersedes Report Dated	Previous Weight	Previous CG	Previous Moment	Last Report was Based On a:			
1/9/2024	1190.66	30.66	36506.98	Reweigh <input checked="" type="checkbox"/>	Recalculation <input type="checkbox"/>		
On	Off	Description	Make	Model	Weight	Arm	Moment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ELT	Artex	ELT1000	-2.05	102.4	-209.92
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
Empty Weight					1188.61	Moment	36297.06
Comments: Removed ELT							
Work Order	H39840		Net CG Change	-0.12			
New Total Weight	1188.61		Net Weight Change	-2.05			
New Empty Weight CG	30.54						
Prepared by: Jack Hickey							



CESSNA  
MODEL 152

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

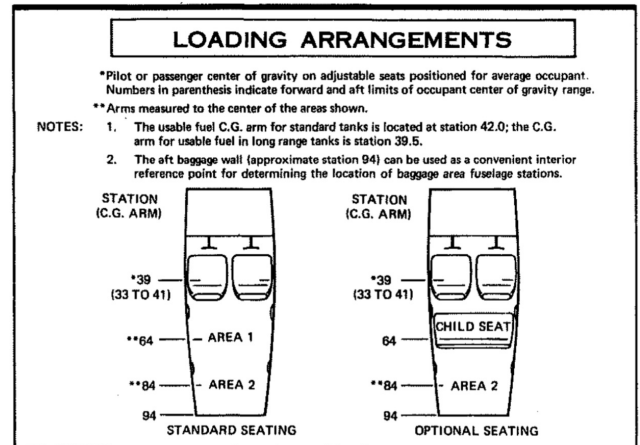
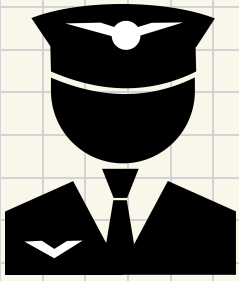


Figure 6-3. Loading Arrangements

# Scenario 3: 152 & Cargo



**Pilot**  
Your Weight

**Baggage**  
60LBS

**Baggage**  
100LBS

**Baggage**  
30LBS

**REQUIRED FUEL**  
**18GAL**

**Where will you load the bags?**

**Can you carry full fuel?**

If not, how many gallons CAN you carry?

N89877

**Previous Weight and Balance Data**

This report supersedes report dated 12/1/2022  
 The last report was based on: Reweigh  Calculation   
 Previous Empty Weight (lbs.) 1178.84  
 Previous EW Center of Gravity (inches) 30.15  
 Previous Total Moment 35542.03

**New Weight and Balance Data**

Work Order H35674

Date of Reweigh 1/1/2024

$$X = 30.55 = 47 \text{ (A)} - \frac{334.67 \text{ (N)} \times 57.44 \text{ (B)}}{1168.34 \text{ (W)}}$$

	Gallons	Weight	Arm	Moment
Gallons	1168.34		30.55	35692.79
Std. Tanks	0	0	0	0.00
Long Range Tanks	0	0		0.00
Integral Tanks	0	0		0.00
Unusable Fuel	9			0.00
<b>New Empty Weight</b>		<b>1177.34</b>	<b>Total Moment</b>	<b>35692.79</b>

**New Empty Weight** 1177.34      **New Total Moment** 35692.79

**New EW Center of Gravity** 30.32

**Net CG change from last report** 0.17

**Net weight change from last report** -1.50

Aircraft weighed on calibrated scales with calibration certificates traceable to National Institute of Standards and Technology (NIST.) Calibration certificate on file at this agency.

**Notes or Comments**

Aircraft weighed with empty fuel and full oil

CESSNA  
MODEL 152

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

**LOADING ARRANGEMENTS**

- \*Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parenthesis indicate forward and aft limits of occupant center of gravity range.  
 \*\*Arms measured to the center of the areas shown.
- NOTES:
- The usable fuel C.G. arm for standard tanks is located at station 42.0; the C.G. arm for usable fuel in long range tanks is station 39.5.
  - The aft baggage wall (approximate station 94) can be used as a convenient interior reference point for determining the location of baggage area fuselage stations.

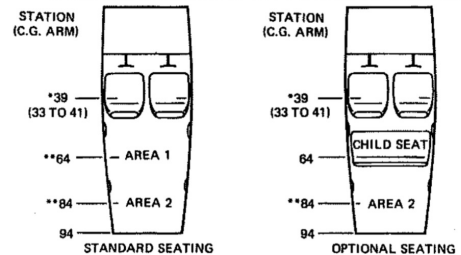


Figure 6-3. Loading Arrangements

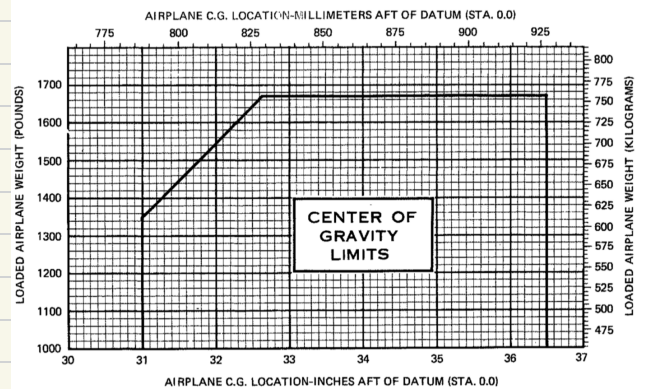


Figure 6-9. Center of Gravity Limits

# Chapter 2: Cessna 172

Before proceeding, **READ POH CHAPTER 6 COMPLETELY.**



CESSNA  
MODEL 172P

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

## LOADING ARRANGEMENTS

\*Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.  
\*\*Arm measured to the center of the areas shown.

- NOTES:
1. The usable fuel C.G. arm for standard, long range and integral tanks is located at station 48.0.
  2. The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.

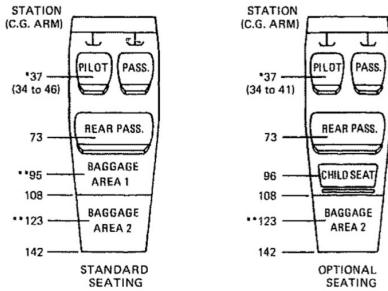


Figure 6-3. Loading Arrangements

30 May 1980

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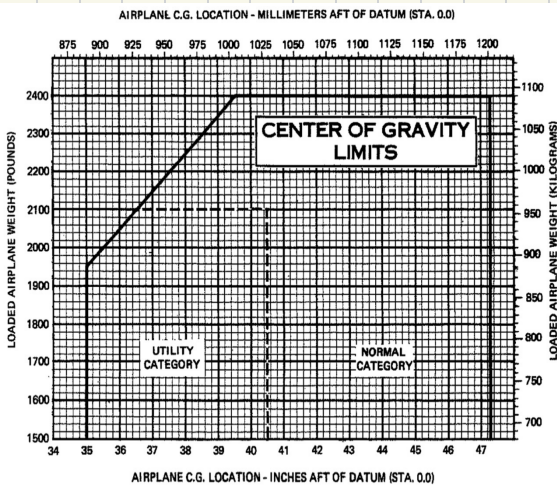


Figure 6-8. Center of Gravity Limits

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

CESSNA  
MODEL 172P



CESSNA  
MODEL 172S

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

## LOADING ARRANGEMENTS

\* Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

\*\* Arm measured to the center of the areas shown.

- NOTES:
1. The usable fuel C.G. arm for integral tanks is located at station 48.0.
  2. The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.

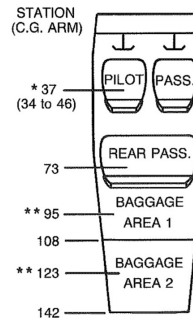


Figure 6-3. Loading Arrangements

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July 8/98

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SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172S

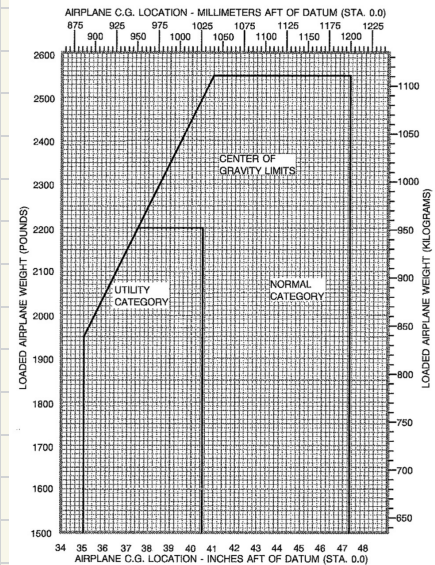


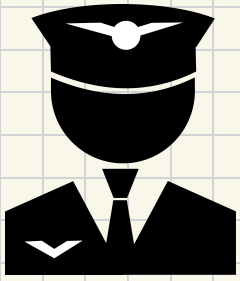
Figure 6-8. Center of Gravity Limits

0585C1008

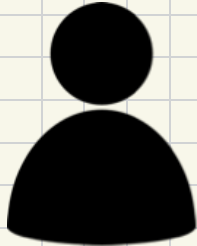
6-16

May 30/00

# Scenario 4: 172(S) & PAXs



**Pilot**  
Your Weight



**Passenger A**  
160 LBS



**Passenger B**  
245LBS



**Baggage**  
17LBS

CESSNA  
MODEL 172S

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

**Where will the passengers sit?**  
**Where will the bags be loaded?**  
**Can you carry full fuel?**

If not, how many gallons CAN you carry?

## LOADING ARRANGEMENTS

\* Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

\*\* Arm measured to the center of the areas shown.

- NOTES:**
- The usable fuel C.G. arm for integral tanks is located at station 48.0.
  - The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.

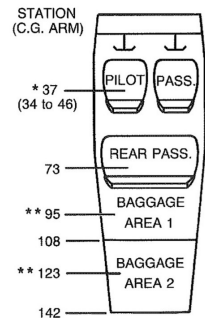


Figure 6-3. Loading Arrangements

0585X1016

July 8/98

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SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172S

## EQUIPMENT LIST

MODEL	SERIAL	REGISTRATION	WEIGHT (lbs)	ARM (in)	MOMENT (lb-in)
172S	172S12415	N14WG			
Calculated	STANDARD EMPTY WEIGHT		1710	41.240	70527
INSTALLED EQUIPMENT			Net Change from Standard Aircraft		
VINYL/LEATHER SEATS			0.0	0.0	0
INTERIOR INSTALLATION			0.0	0.0	0
BAGGAGE NET			0.0	0.0	0
PILOTS CHECKLIST			0.0	0.0	0
POH AND FAA APPROVED AIRPLANE FLIGHT MANUAL			0.0	0.0	0
FUEL SAMPLING CUP			0.0	0.0	0
TOW BAR, NOSE GEAR (STOWED)			0.0	0.0	0
STC SA01700LA FRONT SEAT INFLATABLE RESTRAINT SYSTEM			0.0	0.0	0
COMPONENTS REQUIRED FOR FRONT SEAT INFLATABLE RESTRAINT SYSTEM			0.0	0.0	0
ARTEX 2 FREQUENCY ELT (STANDARD EQUIPMENT)			0.0	0.0	0
FIRE EXTINGUISHER INSTALLATION			0.0	0.0	0
SAFE FLIGHT AOA SYSTEM			0.0	0.0	0
AIRSPEED INDICATOR			0.0	0.0	0
ATTITUDE INDICATOR			0.0	0.0	0
PROPELLER ASSY, MCCAULEY, FIXED PITCH, 1A170E/JHA			0.0	0.0	0
ENGINE, LYCOMING IO-360-L2A			19.7	122.9	2426
GFC-700 AUTOPILOT			0.0	0.0	0
ALTIMETER WITH 20 FT MARKING, DUAL WINDOW, 20000			0.0	0.0	0
<b>BASIC EMPTY WEIGHT</b>			<b>1729.9</b>	<b>42.2</b>	<b>72953</b>

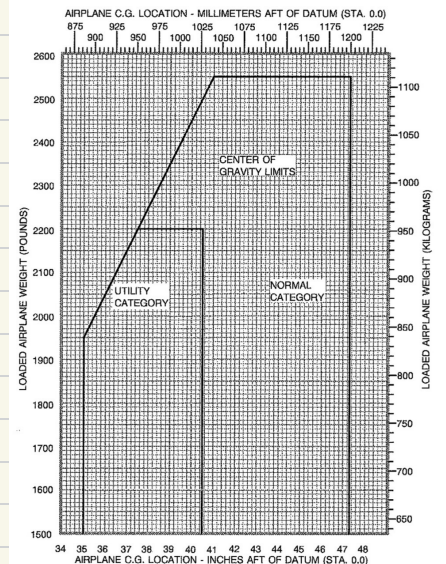
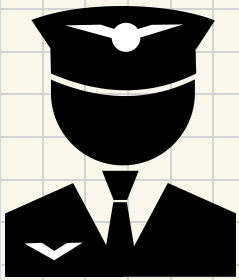


Figure 6-8. Center of Gravity Limits

0585C1008

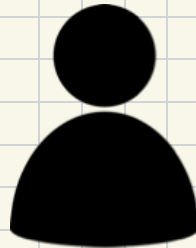
# Scenario 5: 172(S) & PAXs



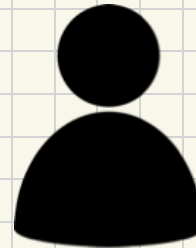
**Pilot**  
Your Weight



**Passenger A**  
210 LBS



**Passenger B**  
170LBS



**Passenger C**  
120LBS



**Baggage**  
5LBS

CESSNA  
MODEL 172S

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

**Where will the passengers sit?**  
**Where will the bags be loaded?**  
**Can you carry full fuel?**

If not, how many gallons CAN you carry?

## LOADING ARRANGEMENTS

\* Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

\*\* Arm measured to the center of the areas shown.

- NOTES:**
- The usable fuel C.G. arm for integral tanks is located at station 48.0.
  - The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.

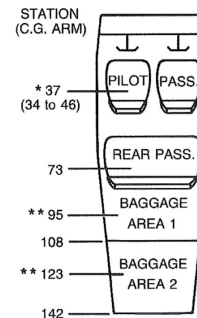


Figure 6-3. Loading Arrangements

0585X1016

July 8/98

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SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172S

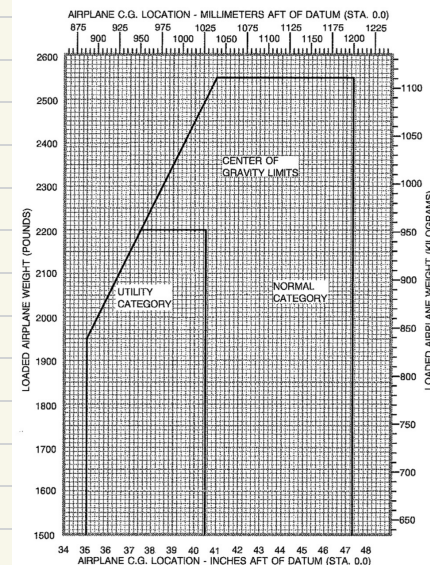


Figure 6-8. Center of Gravity Limits

0585C1008

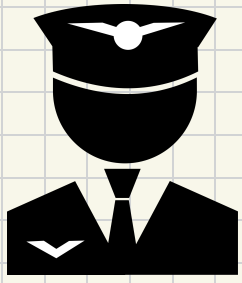
### INSTALLED ITEMS

KI-209 21029	CDI KI-209	1.00	12.50	12.50
KX-155-05 22008	NAV/COM 069-1024-05	5.30	12.50	66.25
NGT9000 LXE12901	Transponder 9029000-20000	3.20	12.50	40.00
SSD120-30N 20483	ENCODER SSD120-30N	0.25	14.00	3.50
<b>INSTALLED SUB TOTAL</b>	<b>4 Items @</b>	<b>9.75</b>	<b>12.54</b>	<b>122.25</b>
<b>NEW DATA &gt;&gt;</b>	<b>NEW USEFUL LOAD = 822.28</b>	<b>1477.72</b>	<b>39.20</b>	<b>57922.65</b>

It is the operator's responsibility to determine that the aircraft remains within the safe weight and balance limits. Refer to weight and balance data sheet for loading instructions.

*[Signature]*

# Scenario 6: 172(S) & Cargo



Pilot  
Your Weight

Baggage  
50LBS

Baggage  
80LBS

Baggage  
20LBS

Baggage  
75LBS

**REQUIRED FUEL**  
**35GAL**

**Where will the passengers sit?**  
**Where will the bags be loaded?**  
**Can you carry full fuel?**

If not, how many gallons CAN you carry?

CESSNA  
MODEL 172S

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

## LOADING ARRANGEMENTS

\* Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

\*\* Arm measured to the center of the areas shown.

- NOTES:**
1. The usable fuel C.G. arm for integral tanks is located at station 48.0.
  2. The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.

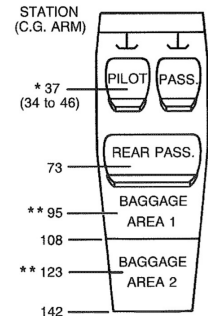


Figure 6-3. Loading Arrangements

0585X1016

July 8/98

6-9

SECTION 6  
WEIGHT & BALANCE / EQUIPMENT LIST

CESSNA  
MODEL 172S

### Weight and Balance Recalculation and Equipment List Amendment

Make	Model	Serial	N3555L	
Cessna Aircraft Company	172S/R	172S8865		

Supersedes Report Dated	Previous Weight	Previous CG	Previous Moment	Last Report was Based On a:	
3/29/2024	1650.67	39.17	64649.07	Reweigh <input type="checkbox"/>	Recalculation <input checked="" type="checkbox"/>

On	Off	Description	Make	Model	Weight	Arm	Moment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Nav/Com	Bendix/King	KX155A	-3.5	12.5	-43.75
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Audio Panel	PS Engineering	PMA 7000B	-1.25	14.8	-18.50
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GPS/Nav/Com	Garmin	GNS 430	-5	12.5	-62.50
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CDI	Bendix/King	KI 209A	-1.2	13.9	-16.68
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Audio Panel	Garmin	GMA 342	1.5	14.8	22.20
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CDI	Garmin	GI 275	2.5	13.9	34.75
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Nav/Com	Garmin	GNC 215	3	12.5	37.50
<input checked="" type="checkbox"/>	<input type="checkbox"/>	GPS/Nav/Com	Garmin	GTN 650XI	5	12.5	62.50
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
Empty Weight					1651.72	Moment	64664.59

Comments: Recalculation after radio replacements

Work Order	H38596	Net CG Change	-0.02
New Total Weight	1651.72	Net Weight Change	1.05
New Empty Weight CG	39.15		

Date 11/29/2024

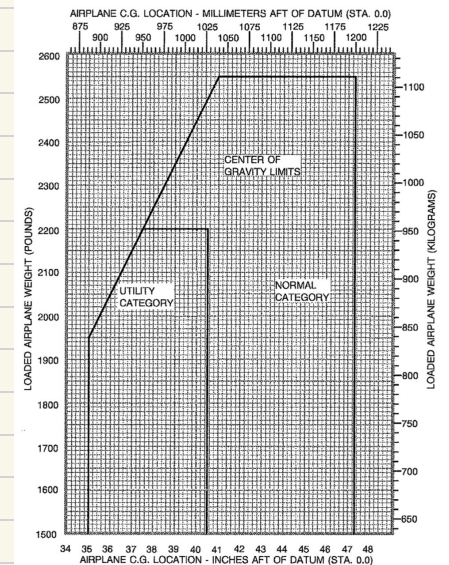
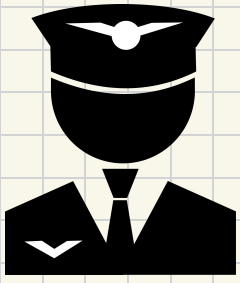


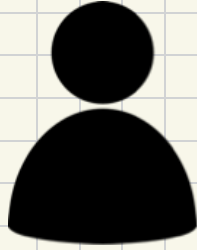
Figure 6-8. Center of Gravity Limits

0585C1008

# Scenario 7: 172(P) & PAXs



**Pilot**  
Your Weight



**Passenger**  
195LBS



**Dog**  
60LBS



**Baggage**  
20LBS



**REQUIRED FUEL**  
**20GAL**

**Where will the passengers sit?**  
**Where will the bags be loaded?**  
**Can you carry full fuel?**

If not, how many gallons CAN you carry?

CESSNA  
MODEL 172P

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

## LOADING ARRANGEMENTS

\*Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.

\*\*Arm measured to the center of the areas shown.

- NOTES:
- The usable fuel C.G. arm for standard, long range and integral tanks is located at station 48.0.
  - The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.

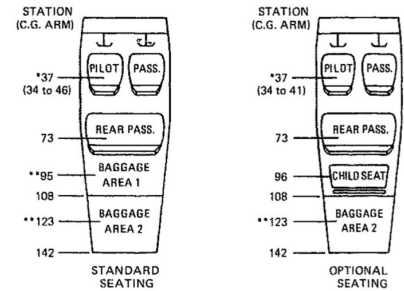


Figure 6-3. Loading Arrangements

### Aircraft Weight and Balance Report

N63843

#### Previous Weight and Balance Data

This report supersedes report dated 11/26/2022  
 The last report was based on:  Reweigh  Calculation  
 Previous Empty Weight (lbs.) 1488.64  
 Previous EW Center of Gravity (inches) 38.66  
 Previous Total Moment 57550.82

#### New Weight and Balance Data

Work Order H40689

Date of Reweigh 8/30/2025

$$X = 38.68 = \frac{58.75 (A) + 1510.3 (W)}{470 (N) + 64.5 (B)}$$

	Gallons	Weight	Arm	Moment
Std. Tanks	0	0	0	0.00
Long Range Tanks	0	0	0	0.00
Integral Tanks	0	0	0	0.00
Unusable Fuel	18	46	46	828.00
<b>New Empty Weight</b>		<b>1528.30</b>		<b>Total Moment 59246.40</b>

**New Empty Weight 1528.30      New Total Moment 59246.40**

**New EW Center of Gravity 38.77**

**Net CG change from last report 0.11**

**Net weight change from last report 39.66**

Aircraft weighed on calibrated scales with calibration certificates traceable to National Institute of Standards and Technology (NIST). Calibration certificate on file at this agency.

#### Notes or Comments

Weighed aircraft with full oil and empty fuel.

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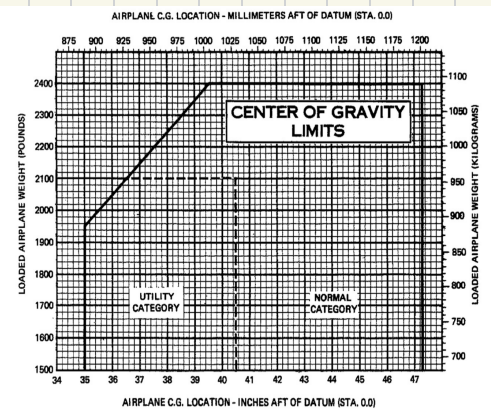


Figure 6-8. Center of Gravity Limits

30 MAY 1980

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST  
CESSNA  
MODEL 172P

# Scenario 8: 172(P) & PAXs



**Pilot**  
Your Weight



**Passenger**  
250LBS



**Baggage**  
30LBS



**Baggage**  
20LBS



**REQUIRED FUEL**  
**35GAL**

**Where will the passengers sit?**  
**Where will the bags be loaded?**  
**Can you carry full fuel?**  
If not, how many gallons CAN you carry?

CESSNA  
MODEL 172P

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

### LOADING ARRANGEMENTS

\*Pilot or passenger center of gravity on adjustable seats positioned for average occupant. Numbers in parentheses indicate forward and aft limits of occupant center of gravity range.  
\*\*Arm measured to the center of the areas shown.

- NOTES:
- The usable fuel C.G. arm for standard, long range and integral tanks is located at station 48.0.
  - The rear cabin wall (approximate station 108) or aft baggage wall (approximate station 142) can be used as convenient interior reference points for determining the location of baggage area fuselage stations.

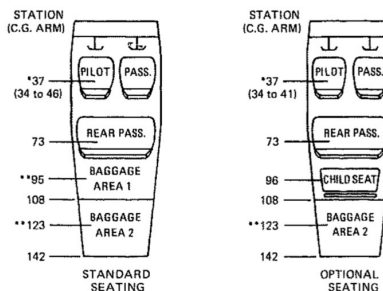


Figure 6-3. Loading Arrangements

### Weight and Balance Recalculation and Equipment List Amendment

Make	Model	Serial	N308SU
Cessna Aircraft Company	172P	17275027	

Supersedes Report Dated	Previous Weight	Previous CG	Previous Moment	Last Report was Based On a:
9/3/2023	1481.65	39.25	58154.7625	Reweight <input type="checkbox"/> Recalculation <input checked="" type="checkbox"/>

On	Off	Description	Make	Model	Weight	Arm	Moment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GPS/NAV/COM Radio	Garmin	430W	-6.2	11	-68.20
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GPS/NAV/COM Radio	Garmin	430W	-6.2	11	-68.20
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Directional Gyro	Mid-Continent	4000B-30	-2.4	13.5	-32.40
<input type="checkbox"/>	<input checked="" type="checkbox"/>	CDI	Bendix/King	KI 209A	-1.2	15	-18.00
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NAV/COM #1	Garmin	GTN 650Xi	7	11.1	77.70
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NAV/COM #2	Garmin	GNC 215	3.1	11.4	35.34
<input checked="" type="checkbox"/>	<input type="checkbox"/>	HIS	Garmin	GI 275	2.88	13	37.44
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Magnetometer	Garmin	GMU 11	0.26	57	14.82
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Battery	Garmin	GI 275	0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<b>Empty Weight</b>					<b>1478.89</b>	<b>Moment</b>	<b>58133.26</b>

Comments Avionics Upgrade

Work Order  Net CG Change

New Total Weight  Net Weight Change

New Empty Weight CG

Prepared by: Dylan Glorioso

Date 3/19/2025

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30 MAY 1989

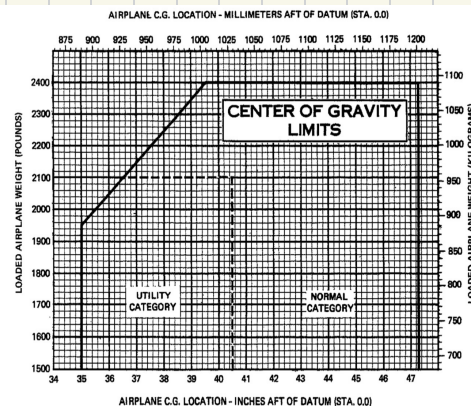
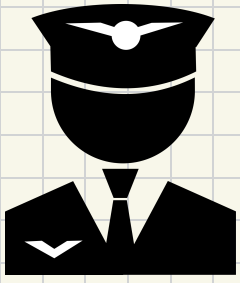


Figure 6-8. Center of Gravity Limits

SECTION 6  
WEIGHT & BALANCE/  
EQUIPMENT LIST

CESSNA  
MODEL 172P

# Scenario 9: PA-44 & PAXs



**Pilot**  
Your Weight



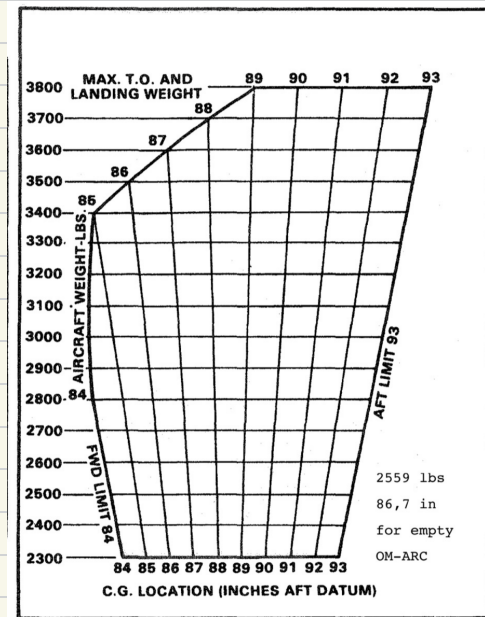
**Passenger**  
250LBS



**Baggage**  
30LBS

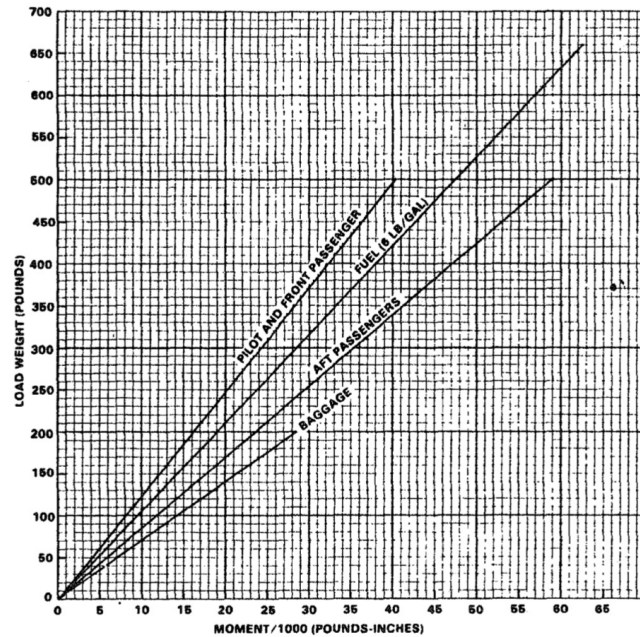


**Baggage**  
20LBS



C.G. RANGE AND WEIGHT  
Figure 6-15

**Where will the passengers sit?**  
**Where will the bags be loaded?**  
**Can you carry full fuel?**  
If not, how many gallons CAN you carry?



Hillsboro Aero Academy, LLC CRS 8HBR698C  
Aircraft Weight and Balance Report

3565 NE Cornell Road  
Hillsboro, OR 97124  
503-726-3000

Make Piper Aircraft	Model PA44-180	Serial 44-7995173	N2227H
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**Previous Weight and Balance Data**

This report supersedes report dated 3/14/2024  
 The last report was based on:  Reweigh  Calculation  
 Previous Empty Weight (lbs.) 2568.34  
 Previous EW Center of Gravity (inches) 85.46  
 Previous Total Moment 219500.6

**New Weight and Balance Data** Work Order H39571

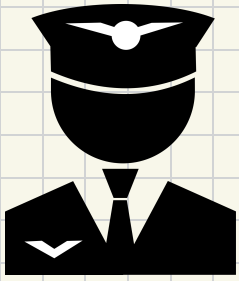
Date of Reweigh 5/1/2025

	Scale Weight	Arm	Moment
Left	979.3	109.7	107429.21
Right	983.6	109.7	107900.92
Nose/Tail	612.6	8.7	5329.62

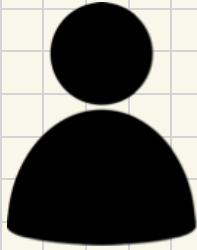
New Total Weight 2575.50 Total Moment 220659.75  
 New EW Center of Gravity 85.68  
 Net CG change from last report 0.22  
 Net weight change from last report 7.16

Notes or Comments

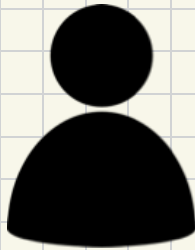
# Scenario 10: PA-44 & PAXs



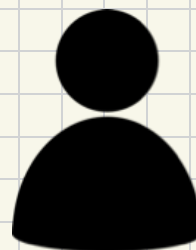
**Pilot**  
Your Weight



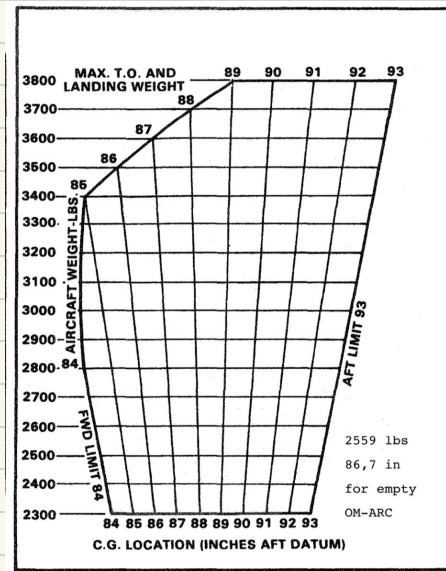
**Passenger**  
170LBS



**Passenger**  
220LBS



**Passenger**  
140LBS

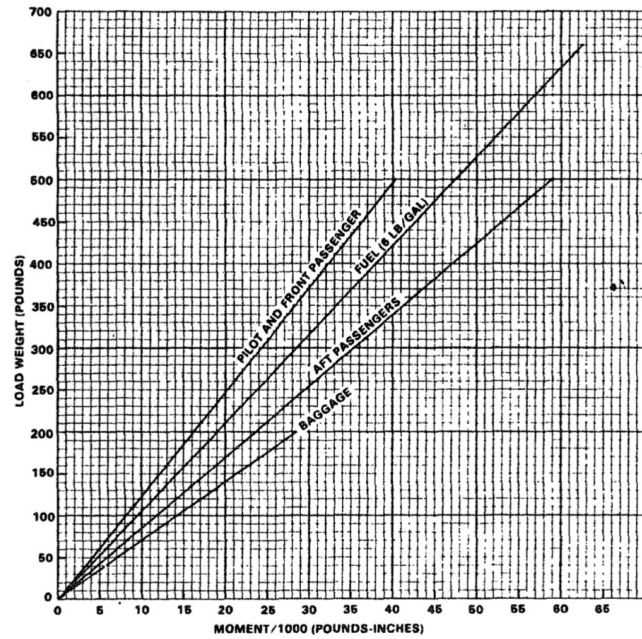


C.G. RANGE AND WEIGHT  
Figure 6-15

**Where will the passengers sit?**

**Can you carry full fuel?**

If not, how many gallons CAN you carry?



Hillsboro Aero Academy, LLC CRS 8HBR698C  
3565 NE Cornell Road  
Hillsboro, OR 97124  
503-648-2831

### Weight and Balance Recalculation and Equipment List Amendment

Make	Model	Serial	N214LM	
Piper Aircraft	PA44-180	44-7995053		

Supersedes Report Dated	Previous Weight	Previous CG	Previous Moment	Last Report was Based On a:
2/17/2023	2614.28	86.22	225403.2216	Reweight <input type="checkbox"/> Recalculation <input checked="" type="checkbox"/>

On	Off	Description	Make	Model	Weight	Arm	Moment
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Rudder trim servo	Piper		-3	253.13	-759.39
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Aileron servo	Piper		-2.75	119	-327.25
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
<input type="checkbox"/>	<input type="checkbox"/>				0	0	0.00
					Empty Weight	2608.53	Moment 224316.58

Comments: Removed aileron and rudder trim servo.

Work Order: H40164

New Total Weight: 2608.53

New Empty Weight CG: 85.99

Net CG Change: -0.23

Net Weight Change: -5.75

Date: 7/12/2025