

AIRCRAFT WEIGHT AND BALANCE REPORT

Aircraft Type/Model: *Aeronca Champ 7AC* Serial # *7AC-860* Registration # *N1107E*

Owner's Name: *Matthew Wise / Larry Pedersen*

Address: *3710 Horst Ln*

City: *Chambersburg*

State: *PA*

Postal/Zip Code: *17202*

Datum: *Leading Edge of Wing*

* Date of weighing: *April 29, 2021*

Designer/Manufacturer's recommended CG range:

Forward limit:	10.9	inches	18.0	% M.A.C.
Rearward limit:	21.5	inches	36.0	% M.A.C.

Maximum Gross Take-off Weight:

1220 lbs

EMPTY WEIGHT CALCULATIONS

- 1/2 Gal unusable Fuel
- Oil full (4 Qt)

Item	Scale Reading (lbs)	Tare (lbs)	Net Weight (lbs)	Arm (inches)	Moment (inch - lbs)
Left Wheel	386	0	386	-0.5	-193
Right Wheel	376	0	376	-0.5	-188
Tail Wheel	72	0	72	192.25	13842
Empty Weight:			834 lbs	Total Moment:	13461 in-lbs

EMPTY WEIGHT CG LOCATION:

16.14

 inches

$$\text{Empty Weight CG} = \frac{\text{Total Moment}}{\text{Total Weight}} = \frac{13461}{834} = \div 16.14 \text{ inches}$$

Clifford E. Ellis
AEP 2719219IA

CALCULATED FORWARD AND REARWARD C.G. EXTREMES:

Most Forward CG Loading				Most Rearward CG Loading		
Item	Weight (lbs)	Arm (inches)	Moment (in-lbs)	Weight (lbs)	Arm (inches)	Moment (in-lbs)
A/C Empty Weight	834	16.14	13461	834	16.14	13461
Pilot (front)	190	11.5	2185	0	11.5	
Pass (rear)	0	42		190	42	7980
Baggage	0	64		20	64	1280
Fuel	88.4	-15	-1326	13.6	-15	-204
Totals:	1112.4 lbs		14320 in-lbs	1057.6 lbs		22517 in-lbs

Calculated
most
forward
CG:

12.87 *

inches

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Calculated
most
rearward
CG:

21.29 *

inches

For ease of comparison, the calculated most forward CG (CG_{fwd}) and most rearward CG (CG_{rear}) boxes above are displayed before the actual calculations, which are made below

$$CG_{fwd} = \frac{\text{Total Moment}}{\text{Total Weight}} = \frac{14320}{1112.4} = 12.87 \text{ inches}$$

$$CG_{rear} = \frac{\text{Total Moment}}{\text{Total Weight}} = \frac{22517}{1057.6} = 21.29 \text{ inches}$$

*Compare to Designer/Manufacturer's recommended CG range:

Forward: 10.9 inches
Rearward: 21.5 inches

18.0 % M.A.C.
36.0 % M.A.C.