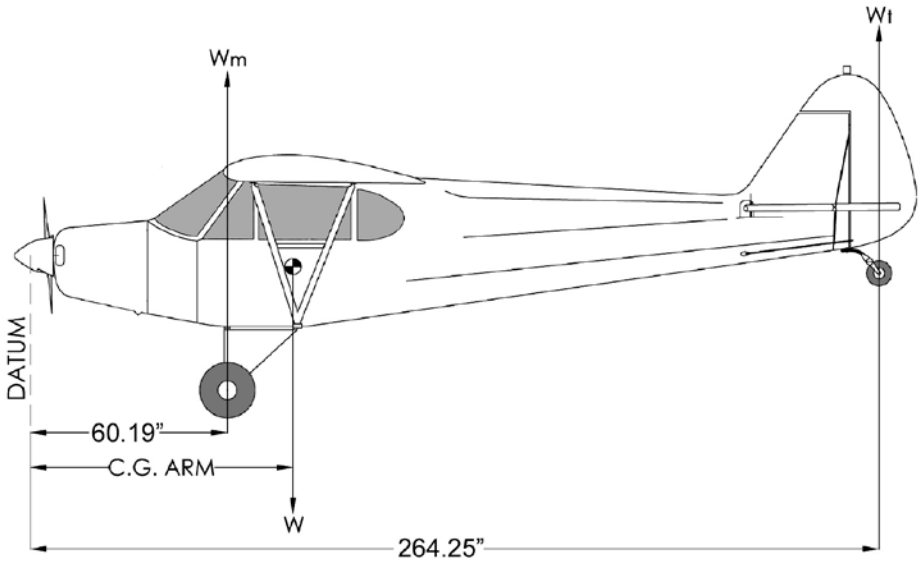
1. Once the aircraft has been leveled, record the weight on the main wheels and the tailwheel.



Aircraft Geometry

$$CG\ Arm = \frac{(W_m \times 60.19) + (W_t \times 264.25)}{W}$$

CG Arm	=	Distance from the datum to the center of gravity (in inches)
W	=	Total weight of the aircraft
W_m	=	Sum of the weight on both main wheels
W_t	=	Weight on the tailwheel

Aircraft was weighed with no useable fuel, all equipment installed, and 5 quarts of oil installed.

Weight as follows:

Left Main	Tailwheel	Right Main
478lbs.	45lbs.	478lbs.

10lbs of ballast was added at station 236.6" after weighing.

PERTINENT INFORMATION FOR WEIGHT AND BALANCE

Position of datum 60 inches ahead of wing leading edge

Maximum gross weight ..... 1865 lbs

Center of gravity limits at 1865 lb.
Forward ..... 74.0 in. aft of datum
Aft ..... 79.0 in. aft of datum

Center of gravity limits at 1600 lb. or less
Forward ..... 70.5 in. aft of datum
Aft ..... 79.0 in. aft of datum

Make: XXXXXXXXXXXXXXX

Model: Carbon Cub EX

Aircraft serial number: CCK-1865-000X_

Registration number: NXXXX_____

Date: _XX/XX/XXX_____

Basic empty weight (lbs)	Arm (inches)	Moment (in·lbs)
1001lbs.	71.02	71091.0lbs.

Basic Empty Weight

Useful load = Maximum takeoff weight- Basic empty weight

= 1865 – 1001lbs

Useful Load = 864lbs

NXXXXX WEIGHT AND BALANCE CCK-1865-000X

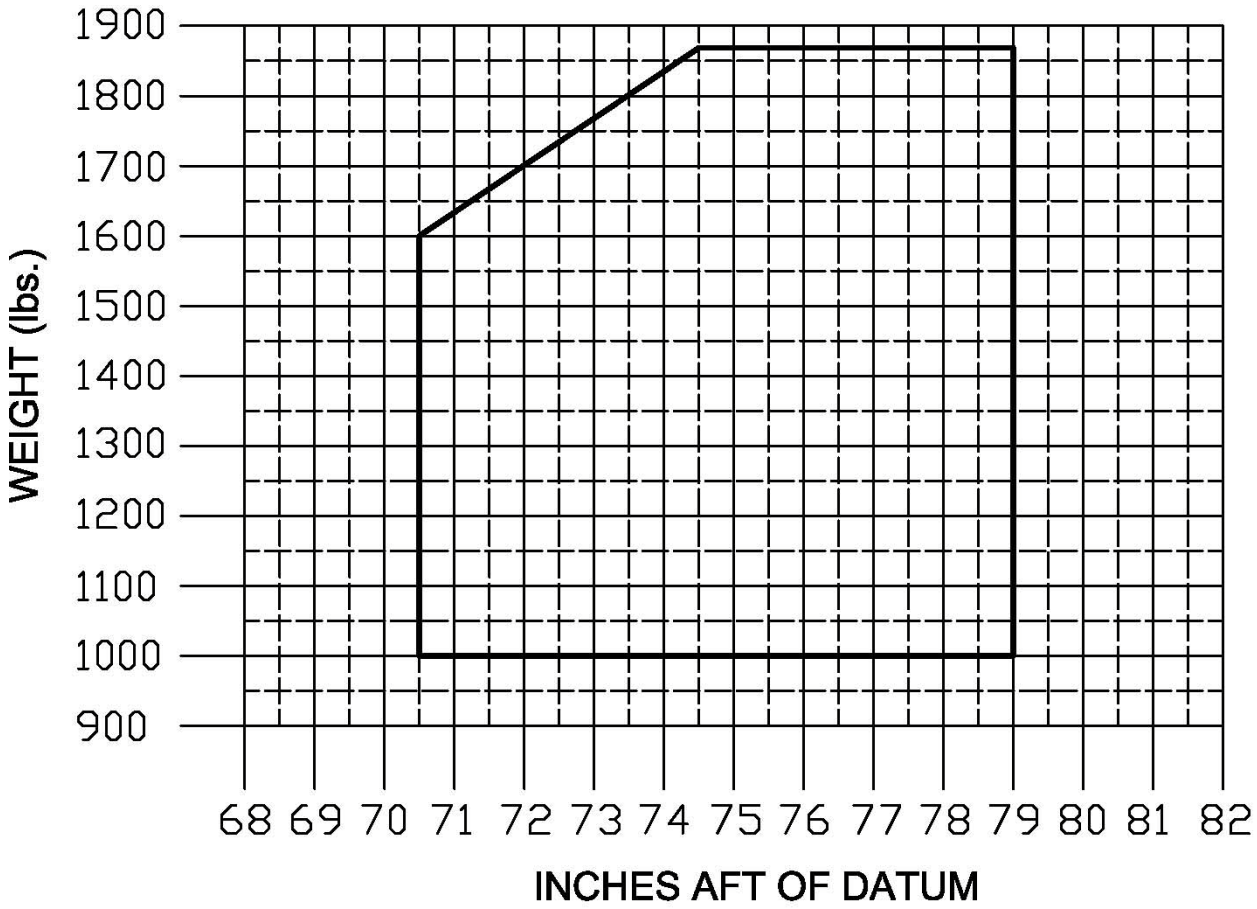
Make: XXXXXXXXXXX Model: CARBON CUB EX Date: XX/XX/XXXX

SAMPLE WEIGHT AND BALANCE CALCULATION

WEIGHT AND BALANCE DETERMINATION FOR FLIGHT

In order to calculate the weight and balance of the aircraft:

1. Insert the respective loads in table below
2. Multiply each load by its respective arm and note the moment.
3. Add the loads to calculate the takeoff weight
4. Add the moments to compute the total moment.
5. Divide the moment by the takeoff weight. This is the final position of the center of gravity.
6. Plot the point on the table below. If it is within the weight and balance envelope, the aircraft is within the approved envelope.



NXXXXX WEIGHT AND BALANCE CCK-1865-000X

Make: XXXXXXXXXXX Model: CARBON CUB EX Date: XX/XX/XXXX

Item	Weight (lbs)	Moment Arm (in)	Moment (in·lbs)
Aircraft Empty	1001	71.02	71091.0
Fuel	110	83.90	9229.0
Pilot	170	71.40	12138.0
Passenger	200	96.08	19216.0
Forward Cargo Compartment (100 lb max)	100	110.40	11040.0
Extended Cargo Compartment (60 lb max)	40	134.40	5376.0
TOTAL	1621		128090.0
CG Station:	79.0		

Item	Weight (lbs)	Moment Arm (in)	Moment (in·lbs)
Aircraft Empty	1001	71.02	71091.0
Fuel	254	83.90	21310.6
Pilot	250	71.40	17850.0
Passenger	180	96.08	17294.4
Forward Cargo Compartment (100 lb max)	100	110.40	11040.0
Extended Cargo Compartment (60 lb max)	40	134.40	5376.0
TOTAL	1825		143962.0
CG Station:	78.9		

Item	Weight (lbs)	Moment Arm (in)	Moment (in·lbs)
Aircraft Empty	1001	71.02	71091.0
Fuel	254	83.90	21310.6
Pilot	275	71.40	19635.0
Passenger	0	96.08	0.0
Forward Cargo Compartment (100 lb max)	100	110.40	11040.0
Extended Cargo Compartment (60 lb max)	60	134.40	8064.0
TOTAL	1690		131140.6
CG Station:	77.6		