

Airplane Weight and Balance

Builder: JERRY L. BARGER Date: SEPT. 04/08
 Model: CHALLENGER II Registration: N 4017C
 Gross weight: 950 pounds (lbs.) Serial #: 67001
 CG Range: 80-90 inches (in.)
 Datum is: 90 INCHES FORWARD OF MAIN WINGELS (ARM MEASUREMENTS TAKEN FROM THIS POINT)

Empty Weight & CG	Wt. (lb.)	Arm (in.)	Moment (in.lb.)
Left wheel =	<u>247</u>	<u>90</u>	<u>22230</u>
Right wheel =	<u>243</u>	<u>90</u>	<u>21870</u>
Tail =	<u>42</u>	<u>216</u>	<u>9072</u>
Aircraft empty weight =	<u>532</u>		<u>53172</u>
Empty CG =	<u>99.95</u>		

Most Aft Weight & CG	Wt. (lb.)	Arm (in.)	Moment (in.lb.)
Aircraft Empty =	<u>532</u>		<u>53172</u>
Front Seat =	<u>170</u>	<u>50</u>	<u>8500</u>
Rear Seat =	<u>0</u>	<u>77</u>	<u>0</u>
Baggage =	<u>0</u>	<u>6</u>	<u>0</u>
Fuel =	<u>60</u>	<u>103</u>	<u>6180</u>
Weight =	<u>762</u>		<u>67852</u>
CG =	<u>89.1</u>		

Most Forward Weight & CG	Wt. (lb.)	Arm (in.)	Moment (in.lb.)
Aircraft Empty =	<u>532</u>		<u>53172</u>
Front Seat =	<u>170</u>	<u>50</u>	<u>8500</u>
Rear Seat =	<u>170</u>	<u>77</u>	<u>13090</u>
Baggage =	<u>20</u>	<u>6</u>	<u>120</u>
Fuel =	<u>25</u>	<u>103</u>	<u>2575</u>
Weight =	<u>917</u>		<u>77457</u>
CG =	<u>84.5</u>		

Flight Test Weight & CG	Wt. (lb.)	Arm (in.)	Moment (in.lb.)
Aircraft Empty =	<u>532</u>		<u>53172</u>
Front Seat =	<u>216</u>	<u>50</u>	<u>10800</u>
Rear Seat =	<u>0</u>	<u>77</u>	<u>0</u>
Fuel =	<u>36</u>	<u>103</u>	<u>3708</u>
Weight =	<u>784</u>		<u>67680</u>
CG =	<u>86.3</u>		

Notes:

1. The most forward and most aft CG limits are calculated using the FAA standard pilot and passenger weight of 170 pounds.
2. Minimum fuel weight is calculated using the formula: ((Max. continuous hp) / 12) X 6
3. For most aft CG calculation maximize all weight aft of the aft CG limit and minimize all weights forward of the aft CG limit.
4. For most forward CG calculations maximize all weight forward of the forward CG limit and minimize all weights aft of the forward CG limit.
5. Pilot of 170 pounds must be in both Most Aft and Most Forward CG calculations.
6. Weigh aircraft in a level flight attitude.
7. Weight X Arm = Moment
8. Moment / Weight = CG

GET TRAINING IN A CHALLENGER BEFORE FLYING THIS AIRCRAFT!
 It is advisable to continue "crow hops" until you feel comfortable with your performance. Add longer and higher "crow hops" until you feel comfortable with your performance. Add some gentle "S" turns during the maneuver! Allow a safe landing spot if the engine quits. Be sure you have plenty of runway left during each "crow hop".
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