



Curtis Eads Flight School

Safe, Legal and Mission Ready Aircraft with Competent Instructors.

1977 Piper PA-28R-201T (N4114Q) – S/N 28R-7703122 Weight and Balance Worksheet

	Example		N4114Q (actual)		Moment Arm (in)
	Weight (lbf)	Moment (in*lbf)	Weight (lbf)	Moment (in*lbf)	
Basic Empty Weight¹	1,885	160,250	1,885	160,250	
Fuel (72 gal ² , full, 432 lbf, 41,040 in*lbf)					
Fuel (50 gal, tabs, 300 lbf, 28,500 in*lbf)	300	28,500			95.0
Fuel (40 gal, measured, 240 lbf, 22,800 in*lbf)					
Pilot ³ (lbf)	260	20,930			80.5
Front Passenger (lbf)	172	13,846			
Rear Passenger 1 ⁴ (lbf)	182	21,494			
Rear Passenger 2 (lbf)	0	0			118.1
Baggage (200 lbf limit) ⁵	108	15,422			142.8
Ramp Weight & Moment	2,907	260,442			
Startup & Taxi (-1.1 gal) ⁶	-7	-665	-7	-665	48
Take-off Weight & Moment	2,900	259,777			
Increased aft moment due to retraction of nose wheel	0	819	0	819	
In-flight Weight & Moment	2,900	260,596			
Center of Gravity (in)	260,596/2,900 = 89.8 in				

- (1) Items in yellow are constants, green are adjustable variables, red are fuel-measured values, items in orange are products, items in cyan are summations, gray are final answers for plotting.
- (2) Per the POH, the maximum take off weight (MTOW) for the Piper PA-28R-201T is 2900 lbf.
- (3) Make sure the weight and CG location is within range on the plot. If not, you must adjust values in green highlight accordingly.
- (4) If you overload this aircraft and/or operate out of the CG range you will endanger yourself.

1 Per the latest Weight and Balance Document dated 18-Aug-2018 by George McClellan A&P 2825753, IA

2 100LL aviation fuel weighs 6 lbs/gal. The moment arm for the fuel tank is 95.0 inches.

3 The moment arm for the pilot and front passenger is 80.5 inches.

4 The moment arm for the rear seat occupants is 118.1 inches.

5 The moment arm for the baggage compartment is 142.8 inches.

6 An estimate, your values may vary.