



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)		
	Weight (lb)	Moment (in*lb)	Weight (lb)	Moment (in*lb)	
Basic Empty Weight¹	1891	159726	1891	159726	Moment Arm (in)
Fuel (72 gal ² , full, 432 lbf, 41,040 in*lb)					95.0
Fuel (50 gal, tabs, 300 lbf, 28,500 in*lb)	300	28500			
Fuel (40 gal, measured, 240 lbf, 22,800 in*lb)					
Pilot ³ (lb)	250	20125			80.5
Front Passenger (lb)	180	14490			
Rear Passenger 1 ⁴ (lb)	180	21258			118.1
Rear Passenger 2 (lb)	0	0			
Baggage (200 lbf limit) ⁵	106	15,422			142.8
Ramp Weight & Moment	2,907	259521			
Startup & Taxi (-1.1 gal) ⁶	-7	-665	-7	-665	95
Take-off Weight & Moment	2,900	258856			
Increased aft moment (+) due to retraction of nose wheel	0	819	0	819	
In-flight Weight & Moment	2,900	259675			
Center of Gravity (in)	259675/2,900 = 89.5 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 17-Oct-2022 by Adam McClellan A&P 3745740, 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, depending upon your startup-taxi time. Your values may vary.