

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data Model PA-28-140
CHECKED		
APPROVED		REPORT VB-162

C.G. RANGE AND WEIGHT INSTRUCTIONS

1. Add the weight of all items to be loaded to the licensed empty weight.
2. Use the loading graph to determine the moment of all items to be carried in the airplane.
3. Add the moment of all items to be loaded to the licensed empty weight moment.
4. Divide the total moment by the total weight to determine the C.G. location.
5. By using the figures of Item 1 and Item 4, locate a point on the C.G. range and weight graph. If the point falls within the C.G. envelope, the loading meets the weight and balance requirements.

NOTE: With optional jump seats installed, aft passenger weight is restricted only by airplane weight and balance limitations (See Page 4 of this section.) For baggage allowance, see Page 2A of this section.

SAMPLE LOADING PROBLEM (Normal Category)

	Weight (lbs)	Arm Aft Datum (Inches)	Moment (In - lbs)
Licensed Empty Weight	1318.7	85.3	112522
Oil (8 quarts)	15	32.5	488
Pilot and Front Passenger	340	85.5	29070
Passengers, Aft *	340	117.0	39780
Fuel (50 Gal. Maximum) ^{22.7 gals.}	136.3	95.0	12949
Baggage * Area ①		117.0	
Baggage * Area ②		133.3	
Total Loaded Airplane	2150	90.6	194809

The center of gravity (C.G.) of this sample loading problem is at 90.6 inches aft of the datum line. Locate this point(90.6) on the C.G. range and weight graph. Since this point falls within the weight - C.G. envelope, this loading meets the weight and balance requirements.

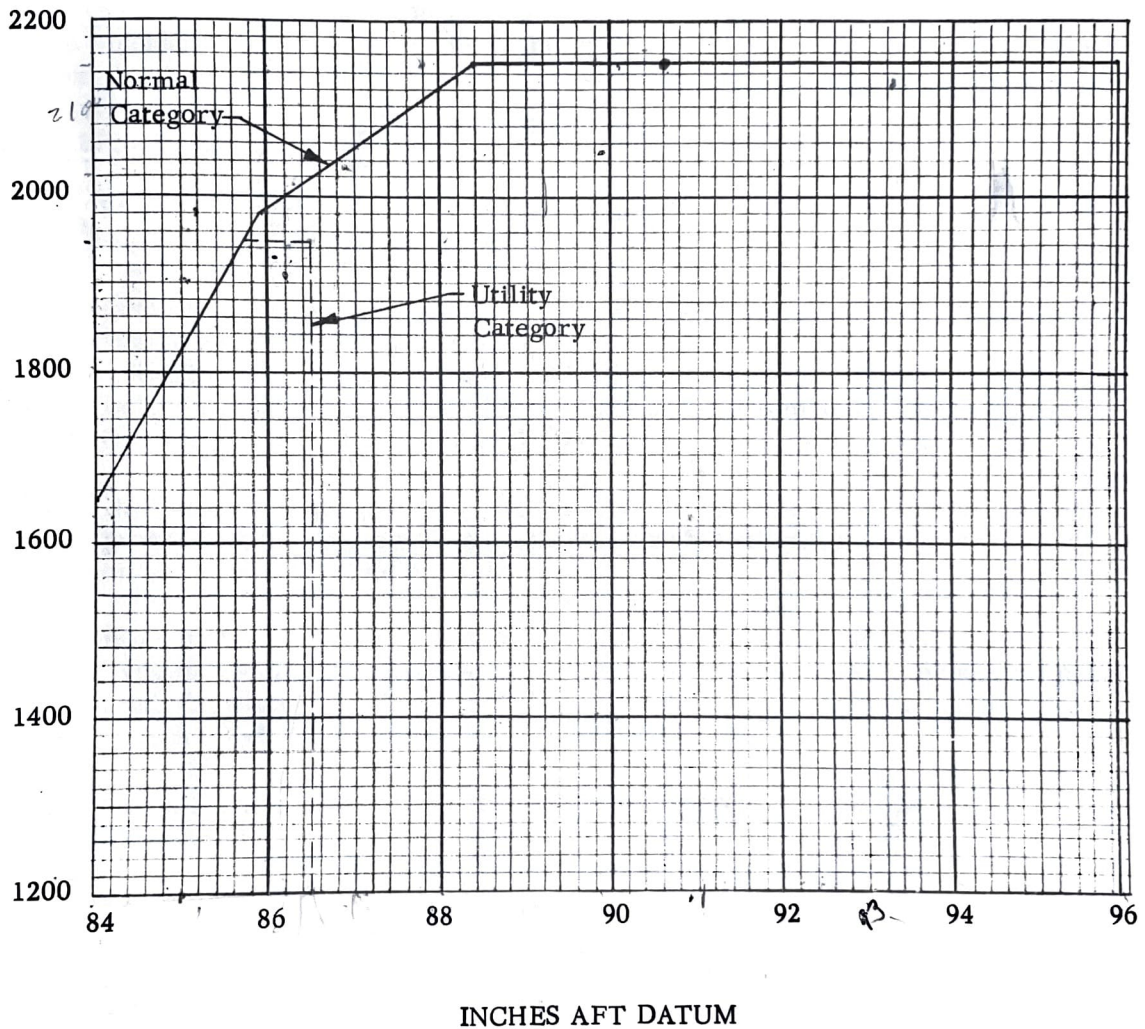
IT IS THE RESPONSIBILITY OF THE PILOT AND AIRCRAFT OWNER TO INSURE THAT THE AIRPLANE IS LOADED PROPERLY.

* Utility Category Operation - No baggage or aft passengers allowed.

Normal Category Operation - See Page 2A of this section.

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C. G. RANGE AND WEIGHTS



Modification of W&B

Item	Date	Weight (lbs)	Arm (in)	Moment (in lbs)
Empty Weight (Last Weigh)	9/3/09	1,370.00	85.40	116,998.00
Remove Loran Panel Unit	9/3/09	(6.00)	61.90	(371.40)
Remove Loran Power Unit	9/3/09	(4.00)	146.80	(587.20)
Remove Loran Antenna	9/3/09	(0.40)	90.00	(36.00)
Remove Loran Indicator	9/3/09	(0.30)	64.40	(19.32)
Remove Main Wheel Fairings	9/3/09	(7.00)	109.60	(767.20)
Remove Nose Wheel Fairing	9/3/09	(3.80)	34.80	(132.24)
Install Garmin 2GS 2VOR Splitter	9/3/09	0.25	55.00	13.75
Install WAAS Antenna	9/3/09	0.50	90.00	45.00
Install GPS 430W	9/3/09	5.50	64.00	352.00
Remove DG RCA11A-8	6/26/17	(2.75)	67.00	(184.25)
Remove Turn Coordinator	6/26/17	(2.40)	67.00	(160.80)
Remove Nav Indicator	6/26/17	(1.25)	68.00	(85.00)
Install Garmin G5 PFD	6/26/17	1.00	68.00	68.00
Install Garmin G5 HIS	6/26/17	1.00	68.00	68.00
Install Arnic 429	6/26/17	0.62	65.00	40.30
Install GMU 11	6/26/17	0.26	210.00	54.60
Remove Narco AR850	12/12/17	(0.70)	68.00	(47.60)
Remove Narco AT150	12/12/17	(2.30)	68.00	(156.40)
Remove Narco MK12D	12/12/17	(4.40)	68.00	(299.20)
Remove Narco ID825	12/12/17	(1.00)	68.00	(68.00)
Install Garmin GNC255A	12/12/17	3.96	68.00	269.28
Install Garmin GTX345	12/12/17	3.11	68.00	211.48
Install Garmin GI106A	12/12/17	1.41	68.00	95.88
Install Garmin GAE12	12/12/17	0.10	68.00	6.80
Install Main Wheel Fairings	12/12/17	7.00	109.60	767.20
Install Nose Wheel Fairing		3.80	34.80	132.24
Remove ELT 10		(3.90)	116.60	(454.74)
Remove Tachometer		(0.70)	66.20	(46.34)
Install ELT 10		3.90	151.60	591.24
Install EI R1 Tachometer		0.70	68.00	47.60
		1,362.21	85.41	116,345.68

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