



**IT IS THE RESPONSIBILITY OF THE PILOT AND AIRCRAFT OWNER TO INSURE THAT THE AIRPLANE IS LOADED PROPERLY. THE EMPTY WEIGHT C. G. IS FOR THE AIRPLANE AS PER THE LATEST WEIGHT AND BALANCE COMPUTATIONS FROM 11/18/2014.**

**C. G. RANGE AND WEIGHT INSTRUCTIONS**

1. Add the weight of all persons and items to be loaded to the *computed empty weight*.
2. Use the loading graph to determine the *moment* of all persons and items to be carried in the airplane.
3. Add the *moment* of all persons and items to be loaded to the *computed empty weight moment*.
4. Divide the *total moment* by the *total weight* to determine the C. G. location.
5. By using the totals from 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 all weight and balance requirements.

NOTE: Baggage capacity is limited to 200 pounds by tiedown requirements.

**SAMPLE LOADING PROBLEM (NORMAL CATEGORY)**

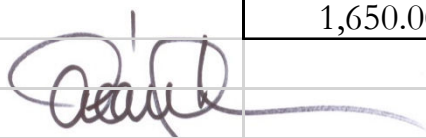
	<b>WEIGHT (LBS.)</b>	<b>ARM AFT of DATUM (INCHES)</b>	<b>MOMENT (POUND-INCHES)</b>
COMPUTED EMPTY WEIGHT	1,311.62	85.18	111,721.06
OIL (2 GAL.)	15.00	32.50	487.50
PILOT	210.00	85.50	17,955.00
CO-PILOT	190.00	85.50	16,245.00
PASSENGER(S) (AFT) (*)	190.00	117.00	22,230.00
FUEL (29.3 GALLONS)	192.00	95.00	18,240.00
BAGGAGE (*)	20.00	117.00	2,340.00
<b>TOTAL LOADED AIRPLANE:</b>	<b>2,128.62</b>		<b>189,218.56</b>

$$\frac{189,218.56}{2,128.62} = 88.89 \quad \text{INCHES, ARM AFT of DATUM}$$

LOCATE THIS POINT ( 88.89 ) ON THE C. G. RANGE AND WEIGHT GRAPH. SINCE THIS POINT FALLS WITHIN THE C. G. ENVELOPE, THE LOADING MEETS ALL WEIGHT AND BALANCE REQUIREMENTS.

**(\*) FOR OPERATION IN THE UTILITY CATEGORY, NO BAGGAGE OR AFT PASSENGERS ALLOWED.**

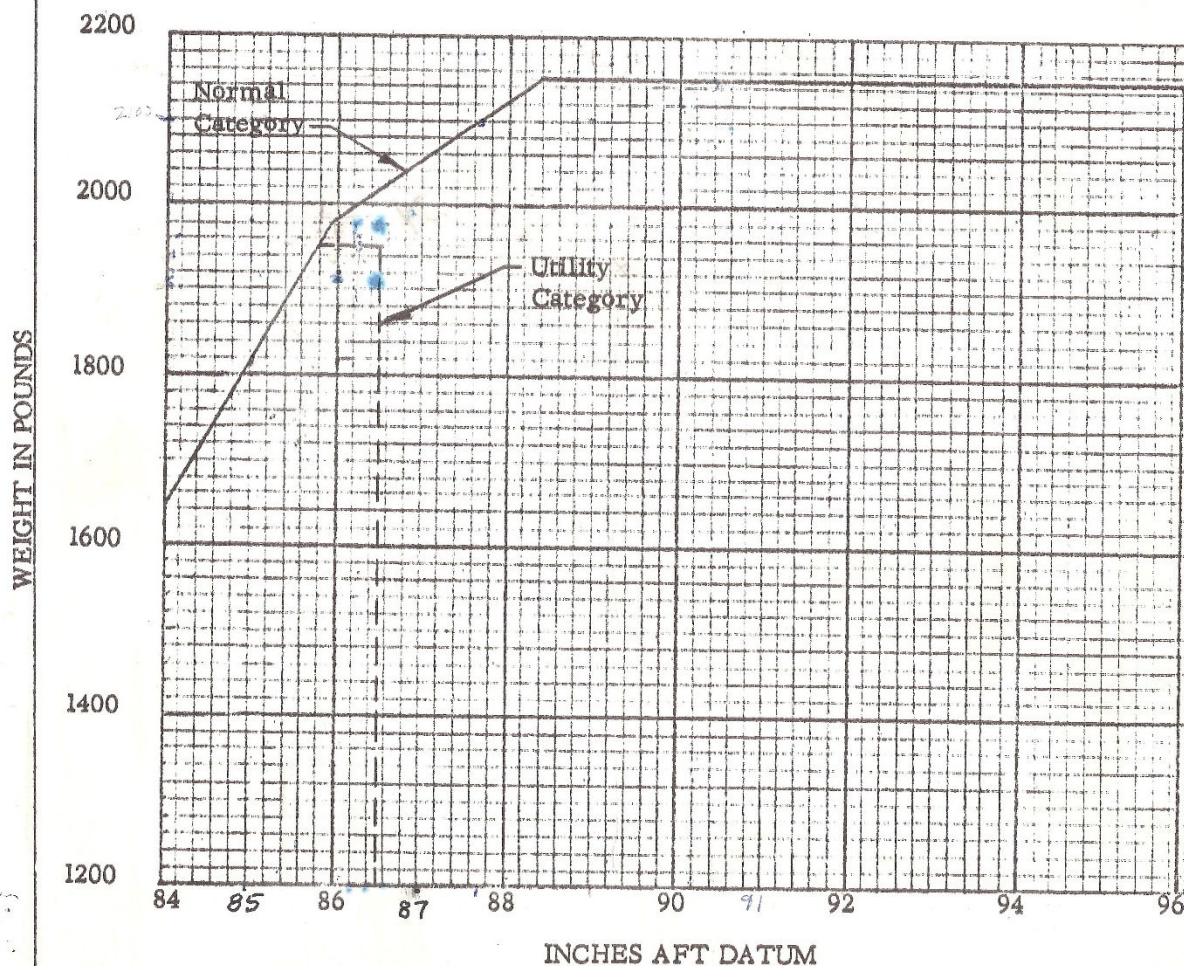
**Nebraska Flight Center****N1523J****Piper PA-28-140**

<b>Date:</b> 11/18/2014			
	<b>Weight</b>	<b>Arm</b>	<b>Moment</b>
<b>Aircraft</b> (Reference W&B Form dated 11/18/2014)	<b>1,311.62</b>	<b>85.18</b>	<b>111,721.06</b>
Oil (1.875 lb/Qt)		32.50	
Fuel (6 lb/Gal) (36 Gal to Tabs, 50 Gal Full)		95.00	
Pilot		85.50	
Co-Pilot		85.50	
Rear Seats		117.00	
Baggage (200 lb maximum)		117.00	
<b>Total:</b>			
	<b>Normal</b>	<b>Utility</b>	
Useful Load:	838.38	638.38	
Payload with Fuel to Tabs:	622.38	422.38	
Payload with Full Fuel:	322.38	<b>122.38</b>	
<b>Normal Category</b>	<b>Weight</b>	<b>Forward Limit</b>	<b>Aft Limit</b>
Maximum Gross Weight:	2,150.00	88.40	95.90
	1,975.00	85.90	95.90
	1,650.00	84.00	95.90
<b>Utility Category</b> (no baggage or rear seat occupants)	<b>Weight</b>	<b>Forward Limit</b>	<b>Aft Limit</b>
Maximum Gross Weight:	1,950.00	85.80	86.50
	1,650.00	84.00	86.50
			
Data Reviewed on 11/18/2014 by <b>David J Silchman A&amp;P 3609825</b>			
20141118			



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C.G. RANGE AND WEIGHT







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LOADING GRAPH

