

## C. G. RANGE & WEIGHT INSTRUCTIONS For N3335R ONLY

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 & Weight graph. If the point falls within the C. G. envelope, the loading meets the weight & balance requirements.

### Sample Loading Problem (Normal Category) For N3335R ONLY

	Weight (lbs)	Arm Aft Datum (inches)	Moment (in-lbs)
Licensed Empty Weight	1,425.42	86.08	122,703.91
Oil @ 7.5 lbs/gal or 1.875 lbs/qt (6 qts used for this example)	<b>11.25</b>	32.5	<b>365.625</b>
Pilot & Front Passenger	<b>350</b>	85.5	<b>29,925</b>
*Aft Passengers (Rear Seat)	<b>150</b>	118.1	<b>17,715</b>
Fuel-36 gal @ 6 lbs/gal (50 gal max)	<b>216</b>	95	<b>20,520</b>
*Baggage	<b>10</b>	142.8	<b>1,428</b>
Total Loaded Airplane =	<b>2,162.67</b>		<b>192,657.53</b>

Note: **Bold figures are figures that vary for each flight.**

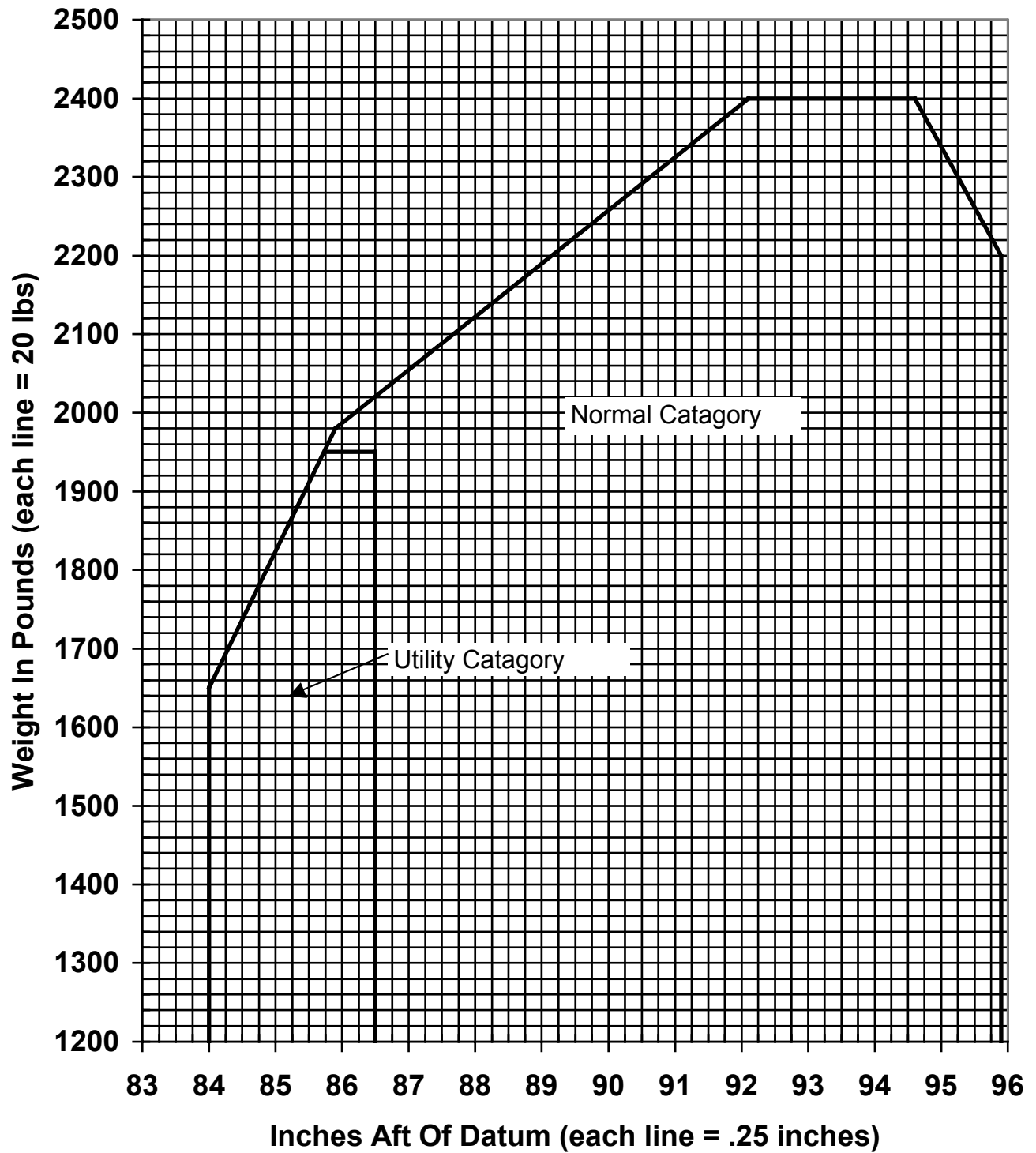
Regular text figures are set figures that do not change unless the structure of the airplane changes such as the installation of equipment.

The Center of Gravity (C. G.) of this Sample Loading Problem is at  $\frac{192,657.53}{2,162.67} = 89.08$  inches aft of the datum line. Locate this point (**rounded off to 89.1", 2163 lbs**) on the C. G. Range & Weight graph. If this point falls within the weight-C. G. envelope then this loading meets the weight & 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

# C. G. Range & Weight - PA 28-180



# Loading Graph - PA 28-180

