

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data Model PA 28-180
CHECKED		
APPROVED		PAGE 9 Section 1

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 DELIVERED FROM THE FACTORY. REFER TO FORM FAA-337 WHEN ALTERATIONS HAVE BEEN MADE.

### 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 empty weight moment by the total empty weight to determine the C. G. arm aft datum.
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 all weight and balance requirements.

### SAMPLE LOADING PROBLEM

	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND-INCHES)
LICENSED EMPTY WEIGHT	1329	85.1	113042
OIL (2 GAL.) <i>7 1/2</i>	15	31.7	476
PILOT & PASSENGER	340	85.5	29070
FUEL 50 gal <i>6 lb</i>	300	95.0	28500
PASSENGERS (REAR SEAT)	340	118.1	40154
BAGGAGE	<u>76</u>	142.8	<u>10853</u>
TOTAL LOADED AIRPLANE	2400		222095

$$\frac{222095}{2400} = 92.5 \text{ INCHES (ARM AFT DATUM)}$$

LOCATE THIS POINT ( 92.5 ) 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.

*Empty + oil = Basic Weight*