

6.7 WEIGHT AND BALANCE DETERMINATION FOR FLIGHT

- (a) Add the weight of all items to be loaded to the basic empty weight.
- (b) Use the Loading Graph (Figure 6-13) to determine the moment of all items to be carried in the airplane.
- (c) Add the moment of all items to be loaded to the basic empty weight moment.
- (d) Divide the total moment by the total weight to determine the C.G. location.
- (e) By using the figures of item (a) and item (d) (above), locate a point on the C.G. range and weight graph (Figure 6-15). If the point falls within the C.G. envelope, the loading meets the weight and balance requirements.

	Weight (Kgs)	Arm Aft Datum (mm)	Moment (Kg mm)
Basic Empty Weight	792	2162	1712304
Pilot and Front Passenger	154	2045	314930
Passengers (Rear Seats)	154	3000	462000
Fuel (72 Gallon Maximum)    272 litres	143	2413	345059
Baggage		3627	
Moment due to Retraction of Landing Gear			9456
<b>Total Loaded Airplane</b>	<b>1243</b>	<b>2288</b>	<b>2843749</b>

The center of gravity (C.G.) of this sample loading problem is at 2288 mm aft of the datum line. Locate this point ( 2288 ) 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.

SAMPLE LOADING PROBLEM (NORMAL CATEGORY)

Figure 6-9