

decided rearward moment. The fifth and last line will be:

Baggage	20 lbs.	49	980.
Grouping the lines together and adding the column of weights and the column of moments we have the following:			
	Wt.	Arm	Moment
	Lbs.	in.	in.lbs.
AEW	650.0	16	10400.0
Pilot	170.0	36	6120.0
Fuel (min)			
4 1/8 gals	25.0	- 18	- 450.0
Oil 1 gal	7.5	- 29	- 217.5
Baggage	20.0	49	980.0
	<u>872.5</u>		<u>16832.5</u>

To find the C G Aft Extreme, we divide the total moment by the weight.

$$16832.5 \div 872.5 = 19.29$$

The C G Aft Extreme is 19.29 which is within the limits according to the specifications.

PROBLEM:

Find the Aft C G Extreme of a Piper J3 L-65 which has an empty weight of 667 lbs., and an empty CG of 16.58. Pertinent aircraft specifications are:

- CG Range 10.6 to 22.7
- Standard Weight 1100 lbs.
- No. of Seats 2 (one \nearrow 9, one \nearrow 36)
- Fuel capacity 12 gals. (-18)
- Oil 5 Qts. (-39)
- Baggage 20 lbs (\nearrow 49)
- Maximum Except Take-off H.P. 55

Ans. 19.3 5

AVIATION VOCABULARY

HYDRAULIC SYSTEM- A system consisting of the voluntary or enforced flow of a fluid for the purpose of causing a movement or control of a unit such as a landing gear or flaps.

HYDROMETER- A glass bulb syringe incorporating a floating bulb and scale. There are two common types (1) the specific gravity hydrometer and (2) thermo-hydrometer.

IGNITION HARNESS- The electrical wiring, shielding, conduits, and attachments necessary to keep the ignition wiring in place.

TACHOMETER- An instrument which registers the revolutions per minute of an engine, i.e., it registers crankshaft speed.