

PIPER AIRCRAFT CORPORATION WEIGHT AND BALANCE

PIPER CHEROKEE PA-28 180 N7434W

6.7 WEIGHT AND BALANCE DETERMINATION FOR FLIGHT

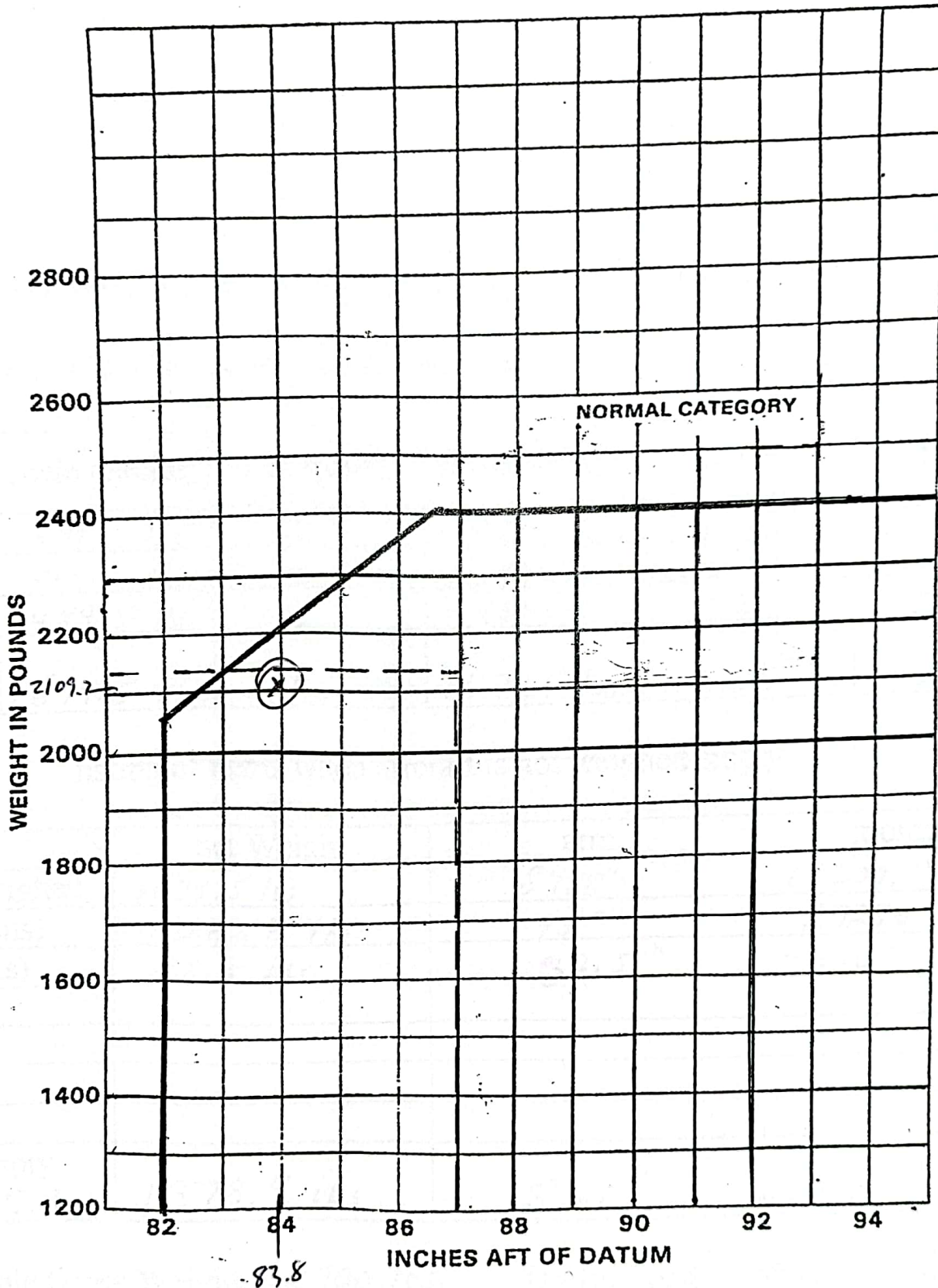
- A) Add the weight of all items to be loaded to the basic empty weight.
- B) Use the loading Graph (6-13) to determine the moment of all items to be carried in the airplane.
- C) Add the moment of all items to be loaded to the basic empty weight moment.
- D) Divide the total moment by the total weight to determine the C.G. location.
- E) By using the figures of Item A and Item B, locate a point on the C.G. range and weight graph (6-15). If the point falls within the C.G. envelope, the loading meets the weight and balance requirements.

	Weight	Arm Aft Datum In.	Moment lb.
Basic Empty Weight	1378.0	83.0	114469.0
Pilot and Front Passenger	430.0	80.5	34615.0
Rear Passengers	—	118.1	—
Baggage (135 lb max)	—	142.8	—
Fuel (48 usable gallons)	288.0	95.0	27360.0
Oil (8 qt. max.)	13.7	32.5	445.2
Total Loaded Airplane	2109.7		176794.25
Maximum Gross Weight 2400 lbs.			

Weight and Balance Loading Form

Figure 6-11

$$CG = 83.8$$



C. G. RANGE AND WEIGHT

Figure 6-15

AIRCRAFT WEIGH FORM

MAKE: Piper

MODEL: PA-28-180

SN: 28-1322

N# 7434W

DATUM LOCATION 78.4" End of leading edge

MAIN GEAR WEIGHING POINT LOCATED +106.3 OF DATUM

NOSE GEAR WEIGHING POINT LOCATED + 32 OF DATUM

AIRCRAFT WEIGHED EMPTY (2 GALS. UNUSEABLE FUEL PLUS 8 QTS OIL)

AIRCRAFT SCALE WEIGHT	ARM	MOMENT
L MAIN <u>442.9</u>	<u>106.3</u>	<u>47080.27</u>
R MAIN <u>450.9</u>	<u>106.3</u>	<u>47930.67</u>
NOSE <u>480.3</u>	<u>32</u>	<u>110620.69</u>
TOTAL <u>1374.1</u>	<u>80.3</u>	<u>110380.54</u>

AIRCRAFT WEIGHT	ARM	MOMENT
<u>1374.1</u>	<u>80.3</u>	<u>110380.54</u>

ALLOWABLE GROSS WT. 2400 USEFUL LOAD 1025.9

COMPUTED BY RA Harrington A&P 2219592

DATE: 8/6/2022

Computed with wheel fairings removed