

Scott Johnson
Air Safety Investigator
Western Pacific Region

Date: July 16, 2025

Subject: WPR23LA329, Weight / Balance and Performance Summary

A. Accident

Location: Kanab, Utah
Date: August 30, 2023
Aircraft: Piper, PA-28-180, N33094

B. Weight and Balance information

An estimated weight and balance of the airplane prior to flight was calculated using the following:

- Weight and balance, dated January 16, 1975
- Reported or estimated weights of the occupants
- Baggage reported by the pilot
- Estimated fuel levels reported by the pilot, 30 and 35 gal
- Front seat positions at common range
- Rear seat passengers at common range

Fuel - 30 Gal			
Item	Weight	Arm	Moment
Airplane	1504.6	87	131287
Front (Pilot)	356	80.5	28658
Rear (Pass)	330	118.1	38973
Baggage	30	142.8	4284
Oil	15	27.5	412.5
Fuel (30 gal)	180	95	17100
Totals	2415.6	91.37	220714.5

Figure 1: View of airplane weight and balance with 30 gal of fuel.

Fuel - 35 Gal			
Item	Weight	Arm	Moment
Airplane	1504.6	87	131287
Front (Pilot)	356	80.5	28658
Rear (Pass)	330	118.1	38973
Baggage	30	142.8	4284
Oil	15	27.5	412.5
Fuel (35 gal)	210	95	19950
Totals	2445.6	91.41	223564.5

Figure 2: View of airplane weight and balance with 35 gal of fuel.

Utilizing the estimated 35 gal of fuel reported by the pilot, reported or estimated occupants weight, reported weight of baggage, and the weight of the airplane was estimated to be about 5 lbs under the maximum gross weight. The center of gravity (CG) was calculated using the passenger and seat locations in the most favorable position and was found to be within the published CG envelope.

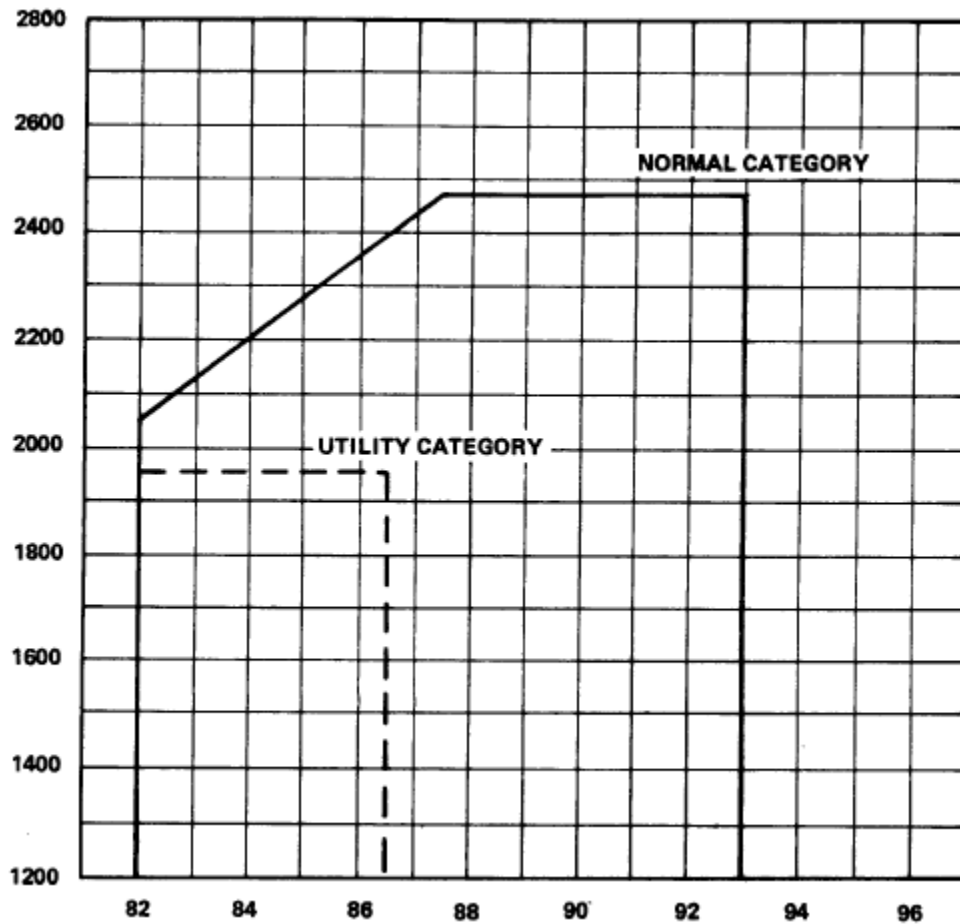


Figure 3: View of center of gravity range from airplane flight manual.

C. Performance

The automated weather observation station located on the Kanab Municipal Airport, Kanab, Utah, reported that, about the time of the accident, the temperature was 24° C, dew point was 10° C and the barometric pressure was 30.22.

The calculated density altitude at the accident location and time of the accident was about 6,782 ft and a pressure altitude of 5,568 ft.

Utilizing the performance instructions noted within the airplane flight manual, the assumed altitude and density altitude conditions, an airplane loaded at maximum gross weight, the calculated climb performance would have been about 380 ft per minute (fpm).

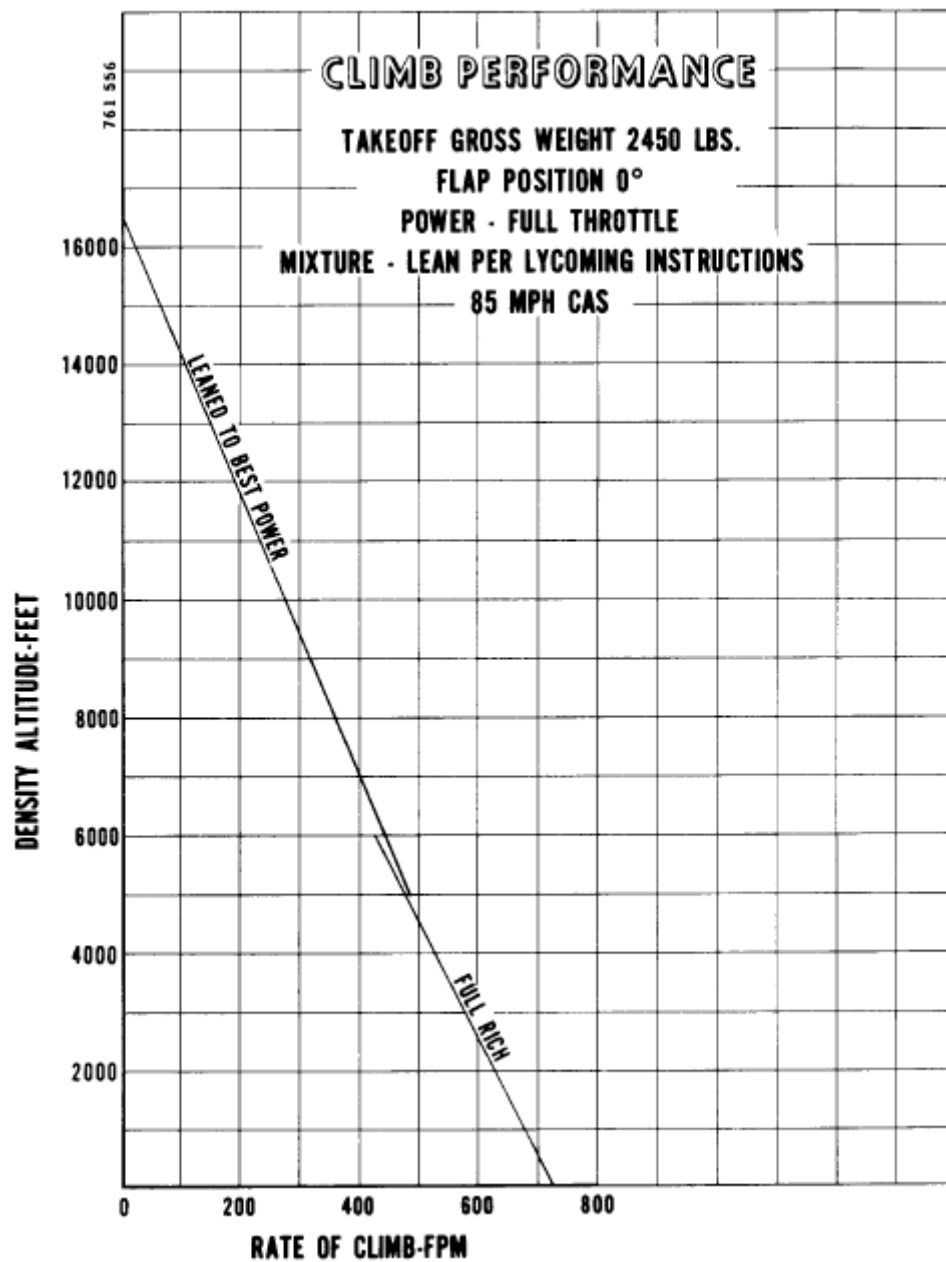


Figure 4: View of climb performance chart from airplane flight manual.

Submitted by:

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