



Aviation Investigation Preliminary Report

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| Location: | Cumberland, WI | Accident Number: | CEN24LA356 |
| Date & Time: | September 12, 2024, 12:05 Local | Registration: | N7878M |
| Aircraft: | Piper PA-12 | Injuries: | 1 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

On September 12, 2024, about 1205 central daylight time, a Piper PA-12 airplane, N7878M, was substantially damaged when it was involved in an accident near Cumberland, Wisconsin. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that the airplane was established in cruise flight at 2,100 ft mean sea level with the throttle set at about 2,300 rpm and the mixture leaned to rich-of-peak when he entered a descent toward Cumberland Municipal Airport (CBE), Cumberland, Wisconsin. The pilot stated that he did not make any throttle or mixture control changes when he began his descent, and that the engine was using fuel from both wing fuel tanks.

The pilot reported that about 5 miles from CBE, while in cruise descent, the engine began to sputter and then suddenly lost power. He moved the throttle to full-forward and increased the mixture to full-rich, and the engine briefly resumed operation for 5-10 seconds before it quit running a second time.

The pilot reported the airplane was at sufficiently low altitude which required an immediate forced landing in a nearby cornfield. The airplane sustained substantial damage to the engine mounts, fuselage structure, and right wing.

Examination of the airplane fuel system and the engine revealed no evidence of a preimpact mechanical malfunction. There was ample fuel recovered from the fuel tanks at the accident site, and there was no evidence of any water or particulate contamination of the fuel system.

Internal engine and valve train continuity were confirmed as the crankshaft was rotated through the propeller flange. Compression and suction were noted on all four cylinders in conjunction with crankshaft rotation. A lighted borescope inspection of each cylinder did not reveal any anomalies with the cylinders, pistons, valves, valve seats. Both magnetos remained

attached to their engine installation points and produced spark at each ignition lead. The upper spark plugs exhibited features consistent with normal engine operation. The engine oil sump contained ample oil, and the disassembled oil filter did not reveal any evidence of contamination. The carburetor fuel inlet screen exhibited no evidence of contamination.

The throttle cable was broken at the clevis, but the carburetor throttle position remained in a wide-open position. The mixture control was found in the full-rich position, and the full-rich mechanical stop-pin was found fractured.

The cockpit carburetor heat control was found turned off. Cable continuity was confirmed from the carburetor heat control to the airbox control; however, due to impact-related damage to the airbox, the carburetor heat valve could not move. A borescope was inserted into the damaged airbox and did not reveal any evidence of rubbing/scratching between the carburetor heat valve and the airbox.

According to a carburetor icing probability chart contained in Federal Aviation Administration Special Airworthiness Information Bulletin CE-09-35, Carburetor Icing Prevention, the recorded temperature and dew point at the time of the accident were in the range of susceptibility for the formation of serious carburetor icing at glide engine power. According to the bulletin, if ice forms in the carburetor of a fixed-pitch propeller aircraft, the restriction to the induction airflow will result in decreased power output and a drop in engine rpm, which might be accompanied or followed by a rough running engine. The bulletin also notes that a pilot should respond to carburetor icing by applying full carburetor heat immediately and that the engine may run rough initially for a short time while the ice melts. The bulletin further recommends that a pilot use carburetor heat when operating the engine at low power settings or while in weather conditions in which carburetor icing is probable.

During a follow-up interview, the pilot acknowledged that he did not review a carburetor icing chart before the flight, but he then stated that he applied carburetor heat after the engine began sputtering.

Aircraft and Owner/Operator Information

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| Aircraft Make: | Piper | Registration: | N7878M |
| Model/Series: | PA-12 | Aircraft Category: | Airplane |
| Amateur Built: | | | |
| Operator: | Wings Aircraft LLC | Operating Certificate(s) Held: | None |
| Operator Designator Code: | | | |

Meteorological Information and Flight Plan

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|---|-------------------|-------------------------------------|----------------------|
| Conditions at Accident Site: | VMC | Condition of Light: | Day |
| Observation Facility, Elevation: | KUBE,1241 ft msl | Observation Time: | 11:55 Local |
| Distance from Accident Site: | 5 Nautical Miles | Temperature/Dew Point: | 25°C /17°C |
| Lowest Cloud Condition: | Clear | Wind Speed/Gusts, Direction: | / , |
| Lowest Ceiling: | None | Visibility: | 10 miles |
| Altimeter Setting: | 30.1 inches Hg | Type of Flight Plan Filed: | NONE |
| Departure Point: | Ashland, WI (ASX) | Destination: | Cumberland, WI (UBE) |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|--------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 None | Latitude, Longitude: | 45.57707,-91.93196 |

Administrative Information

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| Investigator In Charge (IIC): | Fox, Andrew |
| Additional Participating Persons: | Gregory J. Thurston; Federal Aviation Administration - Minneapolis FSDO; Minneapolis, MN |
| Investigation Class: | Class 3 |
| Note: | The NTSB did not travel to the scene of this accident. |