



Aviation Investigation Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Gypsum, Colorado | Accident Number: | CEN21LA383 |
| Date & Time: | August 24, 2021, 09:33 Local | Registration: | N46MD |
| Aircraft: | Piper PA-28-181 | Aircraft Damage: | Substantial |
| Defining Event: | Fuel starvation | Injuries: | 1 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

The pilot reported that the airplane’s fuel tanks were filled to the tabs during the preflight. He then departed on about a two-hour local flight, which included touch and go landings. He added that he did a soft field technique, where he pulled up abruptly. The engine then ran rough, so he leveled off, and the engine regained power briefly, before going to idle rpm. He lowered the flaps for the forced landing. During the forced landing, the left wing separated from the airplane after impact with a fence post.

The pilot stated that he ran the fuel tank too low and when he pulled up during the takeoff, the remaining fuel was unable to reach the engine. He added that he “just ran the left tank too long without switching” fuel tanks.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A loss of engine power due to fuel starvation and the pilot's mismanagement of the available fuel.

Findings

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|-------------------------|------------------------------------|
| Aircraft | Fuel - Fluid management |
| Personnel issues | Identification/recognition - Pilot |

Factual Information

History of Flight

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|----------------|----------------------------------|
| Takeoff | Loss of engine power (partial) |
| Takeoff | Fuel starvation (Defining event) |

Pilot Information

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|----------------------------------|---|--|-------------------|
| Certificate: | Private | Age: | 19 |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | 3-point |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 3 Without waivers/limitations | Last FAA Medical Exam: | September 3, 2019 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | June 12, 2020 |
| Flight Time: | 70.2 hours (Total, all aircraft), 67.5 hours (Total, this make and model), 18.8 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft), 3.7 hours (Last 30 days, all aircraft), 2.3 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|-------------------------------|---------------------------------------|-----------------|
| Aircraft Make: | Piper | Registration: | N46MD |
| Model/Series: | PA-28-181 | Aircraft Category: | Airplane |
| Year of Manufacture: | 1976 | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 28-7790247 |
| Landing Gear Type: | Tricycle | Seats: | 4 |
| Date/Type of Last Inspection: | August 18, 2021 Annual | Certified Max Gross Wt.: | |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | 9555 Hrs at time of accident | Engine Manufacturer: | Lycoming |
| ELT: | C91A installed, not activated | Engine Model/Series: | O-360-A4M |
| Registered Owner: | ITECHNOLOGY DESIGN INC | Rated Power: | 180 |
| Operator: | ITECHNOLOGY DESIGN INC | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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|---|----------------|---|------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | | Distance from Accident Site: | |
| Observation Time: | | Direction from Accident Site: | |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.3 inches Hg | Temperature/Dew Point: | 16°C / 2°C |
| Precipitation and Obscuration: | | | |
| Departure Point: | Gypsum, CO | Type of Flight Plan Filed: | None |
| Destination: | Gypsum, CO | Type of Clearance: | Unknown |
| Departure Time: | | Type of Airspace: | |

Airport Information

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|-----------------------------|---------------------------|----------------------------------|----------------|
| Airport: | Eagle County Regional EGE | Runway Surface Type: | |
| Airport Elevation: | 6547 ft msl | Runway Surface Condition: | |
| Runway Used: | | IFR Approach: | None |
| Runway Length/Width: | | VFR Approach/Landing: | Forced landing |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|---------------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | | Aircraft Explosion: | None |
| Total Injuries: | 1 None | Latitude, Longitude: | 39.623148,-106.93823(est) |

Administrative Information

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| Investigator In Charge (IIC): | Hatch, Craig |
| Additional Participating Persons: | Nelson Wolfmeier; FAA FSDO; Denver, CO |
| Original Publish Date: | October 19, 2021 |
| Last Revision Date: | |
| Investigation Class: | Class 4 |
| Note: | The NTSB did not travel to the scene of this accident. |
| Investigation Docket: | https://data.ntsb.gov/Docket?ProjectID=103748 |

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).