



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

| | | | |
|--------------------------------|--|-------------------------|-------------|
| Location: | Campbellton, Texas | Accident Number: | CEN22LA134 |
| Date & Time: | February 28, 2022, 12:53 Local | Registration: | N108RF |
| Aircraft: | Cessna 208B | Aircraft Damage: | Substantial |
| Defining Event: | Fuel exhaustion | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General aviation - Aerial observation | | |

Analysis

The pilot reported that after about 3 hours of total flight time, he proceeded to a nearby airport for fuel. During the descent, the “left fuel low” light illuminated and, shortly thereafter, the “reservoir fuel low” light illuminated. The pilot ensured the fuel tanks, fuel pump, and igniters were on, and he diverted to a nearby private strip. Soon after, the airplane’s engine began to lose power. The pilot increased the throttle, but the engine lost total power. The airplane descended rapidly and struck several trees before touching down on an upsloping field short of the runway. The pilot reported after the accident that he last refueled the airplane the day before the accident at Ozona Municipal Airport (OZA). He then flew the airplane a little over 1 hour to the departure airport to prepare for the accident flight. When asked if the airplane ran out of fuel, the pilot replied “no, I should have had more fuel.”

During an on-scene examination, the airplane’s electrical system was turned on and the “LT fuel low,” “RT fuel low,” and “reservoir fuel low” lights were all illuminated. In addition, the left and right fuel gauges indicated “empty.” Both the left and right fuel tanks were sumped, and no fuel was noted. About 2 cups of fuel were drained from the reservoir fuel tank, and a couple ounces of fuel were drained from the fuel strainer. Fuel was later added to the fuel tanks and the engine started and operated normally.

The circumstances of the accident are consistent with the pilot’s inadequate fuel planning, which resulted in fuel exhaustion and a total loss of engine power.

Probable Cause and Findings

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

The pilot’s fuel mismanagement, which resulted in a total loss of engine power due to fuel exhaustion and subsequent impact with trees during a forced landing.

Findings

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|-------------------------|-----------------------------------|
| Personnel issues | Task monitoring/vigilance - Pilot |
| Aircraft | Fuel - Fluid level |
| Aircraft | Fuel - Fluid management |
| Personnel issues | Fuel planning - Pilot |

Factual Information

History of Flight

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|-------------------|------------------------------------|
| Maneuvering | Fuel exhaustion (Defining event) |
| Maneuvering | Loss of engine power (total) |
| Emergency descent | Collision with terr/obj (non-CFIT) |
| Landing | Off-field or emergency landing |

On February 28, 2022, about 1253 central standard time, a Cessna 208B airplane, N108RF, was substantially damaged when it was involved in an accident near Campbellton, Texas. The pilot and passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 aerial observation flight.

The pilot reported that he started the day at San Marcos Regional Airport (HYI) and flew east toward Houston for a survey. This flight lasted about 1 hour 10 minutes. He then flew 1 hour southeast and started a second survey. After about 3 hours of total flight time, he proceeded to Pleasanton Municipal Airport (PEZ) to get fuel. During the descent, the “left fuel low” light illuminated, and shortly thereafter the “reservoir fuel low” light illuminated. The pilot ensured the fuel tanks, fuel pump, and igniters were on, and he diverted to a nearby private strip. Soon after, the airplane’s engine began to lose power. The pilot increased the throttle, but the engine lost total power. The airplane descended rapidly when it struck several trees and touched down on an upsloping field short of the runway. The wing spar in the airplane’s right wing sustained substantial damage.

During a telephone conversation, the pilot reported that he last refueled the airplane the day before the accident at Ozona Municipal Airport (OZA). He then flew the airplane a little over 1 hour to HYI to prepare for the accident flight. When asked if the airplane ran out of fuel, the pilot replied “no, I should have had more fuel.”

During an on-scene examination by a Federal Aviation Administration inspector, the airplane was moved to level ground. Its electrical system was turned on and the “LT fuel low,” “RT fuel low,” and “reservoir fuel low” lights illuminated. In addition, the left and right fuel gauges showed ‘empty.’ Both the left and right fuel tanks were sumped and no fuel was noted. About 2 cups of fuel were drained from the reservoir fuel tank, and a couple ounces of fuel were drained from the fuel strainer.

The operator reported that once the airplane was repaired, fuel was added to both the left and right fuel tanks. The engine started and operated normally with no anomalies noted.

In the Air Traffic Mandatory Occurrence Report, air traffic control (ATC) reported that the pilot declared a mayday and attempted to divert to an airport. After the airplane landed in the field, the pilot contacted ATC and reported that he “lost track of fuel and ran out.”

Pilot Information

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|----------------------------------|---|--|--------------------|
| Certificate: | Commercial | Age: | 52,Male |
| Airplane Rating(s): | Single-engine land; Multi-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | 5-point |
| Instrument Rating(s): | Airplane | Second Pilot Present: | |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 1 With waivers/limitations | Last FAA Medical Exam: | January 14, 2022 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | September 11, 2021 |
| Flight Time: | 13550 hours (Total, all aircraft), 9944 hours (Total, this make and model), 13480 hours (Pilot In Command, all aircraft), 89 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|-------------------------------|---------------------------------------|----------------|
| Aircraft Make: | Cessna | Registration: | N108RF |
| Model/Series: | 208B | Aircraft Category: | Airplane |
| Year of Manufacture: | 1996 | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 208B0528 |
| Landing Gear Type: | Tricycle | Seats: | 3 |
| Date/Type of Last Inspection: | October 27, 2021 100 hour | Certified Max Gross Wt.: | 8750 lbs |
| Time Since Last Inspection: | 64 Hrs | Engines: | 1 Turbo prop |
| Airframe Total Time: | 15599 Hrs at time of accident | Engine Manufacturer: | P&W Canada |
| ELT: | C126 installed, not activated | Engine Model/Series: | PT6A-114A |
| Registered Owner: | Randigo LLC | Rated Power: | 675 Horsepower |
| Operator: | Revolution Flight | 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: | KPEZ, 430 ft msl | Distance from Accident Site: | 17 Nautical Miles |
| Observation Time: | 12:55 Local | Direction from Accident Site: | 336° |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 7 knots / None | Turbulence Type Forecast/Actual: | None / None |
| Wind Direction: | 200° | Turbulence Severity Forecast/Actual: | N/A / N/A |
| Altimeter Setting: | 30.35 inches Hg | Temperature/Dew Point: | 18°C / -7°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Austin, TX (HYI) | Type of Flight Plan Filed: | None |
| Destination: | Pleasanton, TX (PEZ) | Type of Clearance: | VFR flight following |
| Departure Time: | 09:45 Local | Type of Airspace: | Class E |

Airport Information

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|-----------------------------|-----------------------|----------------------------------|-----------------------|
| Airport: | 74 Ranch Airport OXA5 | Runway Surface Type: | Asphalt |
| Airport Elevation: | 316 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 14 | IFR Approach: | None |
| Runway Length/Width: | 3887 ft / 1185 ft | VFR Approach/Landing: | Precautionary landing |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|---------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 1 None | Aircraft Fire: | None |
| Ground Injuries: | | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 28.68538, -98.38311 |

Administrative Information

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|--|---|
| Investigator In Charge (IIC): | Link, Samantha |
| Additional Participating Persons: | Robert Arispe; Federal Aviation Administration; San Antonio, TX |
| Original Publish Date: | August 31, 2022 |
| Last Revision Date: | |
| Investigation Class: | Class 3 |
| Note: | The NTSB did not travel to the scene of this accident. |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=104719 |

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](#).