



Aviation Investigation Final Report

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| Location: | BATTLE LAKE, Minnesota | Accident Number: | CHI94LA232 |
| Date & Time: | July 15, 1994, 11:30 Local | Registration: | N333QB |
| Aircraft: | CESSNA 180 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 3 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

THE PILOT WAS WITHIN THREE MILES OF HIS INTENDED DESTINATION WHEN THE AIRPLANE EXPERIENCED A TOTAL LOSS OF ENGINE POWER. THE INVESTIGATION REVEALED THERE WAS NO USABLE FUEL IN EITHER TANK. THE PILOT HAD BASED HIS FUEL CONSUMPTION CALCULATIONS ON THE 32.5 GALLON CAPACITY PLACARDED ON EITHER TANK. THE TANKS WERE ACTUALLY 30.0 GALLON TANKS WITH 27.5 GALLON USABLE CAPACITY.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: loss of engine power due to fuel exhaustion which resulted from inaccurate fuel consumption calculations. A factor related to the accident was the inaccurately placarded fuel tanks.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL

Phase of Operation: MANEUVERING

Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) FUEL CONSUMPTION CALCULATIONS - INACCURATE - PILOT IN COMMAND
3. (F) MISC EQPT/FURNISHINGS,PLACARD/LABEL/MARKING(S) - INCORRECT

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings

4. TERRAIN CONDITION - DITCH

Factual Information

On July 15, 1994, about 1130 central daylight time, a Cessna 180, N333QB, sustained substantial damage in a forced landing near Battle Lake, Minnesota. The pilot reported a total loss of engine power. There were no injuries to the commercial pilot or the two passengers aboard the airplane. The personal flight originated at Forest Lake, Minnesota, at 1015, with an intended destination of Battle Lake. No flight plan was filed, and visual meteorological conditions prevailed at the time.

The mechanic who examined the airplane stated he drained about 1.5 to 2 gallons of fuel from the left wing, and no fuel from the right wing. Each fuel tank has 2.5 gallons of unusable fuel. Both fuel tanks were placarded 32.5 gallon capacity, but were actually 30 gallon tanks. The pilot stated he made his fuel calculations based on the 32.5 gallon capacity placarded on each tank.

The engine started and ran normally when fuel was supplied.

Pilot Information

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|----------------------------------|---|--|------------------|
| Certificate: | Commercial | Age: | 47, Male |
| Airplane Rating(s): | Single-engine land; Single-engine sea; Multi-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | Glider | Restraint Used: | |
| Instrument Rating(s): | Airplane | Second Pilot Present: | No |
| Instructor Rating(s): | Helicopter; None | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical-w/ waivers/lim | Last FAA Medical Exam: | January 26, 1993 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | |
| Flight Time: | 2525 hours (Total, all aircraft), 77 hours (Total, this make and model), 2500 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--------------------------------|---------------------------------------|-----------------|
| Aircraft Make: | CESSNA | Registration: | N333QB |
| Model/Series: | 180 180 | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | Normal; Experimental (Special) | Serial Number: | 31398 |
| Landing Gear Type: | Tailwheel | Seats: | 4 |
| Date/Type of Last Inspection: | October 1, 1993 Annual | Certified Max Gross Wt.: | 2550 lbs |
| Time Since Last Inspection: | 18 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 4556 Hrs | Engine Manufacturer: | CONTINENTAL |
| ELT: | Installed, not activated | Engine Model/Series: | O-470-J |
| Registered Owner: | THOMAS A. MOTTINGER | Rated Power: | 225 Horsepower |
| Operator: | | Operating Certificate(s) Held: | None |
| Operator Does Business As: | | Operator Designator Code: | |

Meteorological Information and Flight Plan

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|---|----------------------------------|---|-------------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | FFM ,1185 ft msl | Distance from Accident Site: | 25 Nautical Miles |
| Observation Time: | 11:55 Local | Direction from Accident Site: | 240° |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 5 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 170° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30 inches Hg | Temperature/Dew Point: | 24°C / 16°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | FOREST LAKE , IL (25D) | Type of Flight Plan Filed: | None |
| Destination: | (7Y5) | Type of Clearance: | None |
| Departure Time: | 10:15 Local | Type of Airspace: | Class G |

Airport Information

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|-----------------------------|---|----------------------------------|----------------|
| Airport: | | Runway Surface Type: | |
| Airport Elevation: | | Runway Surface Condition: | |
| Runway Used: | 0 | 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: | 2 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 3 None | Latitude, Longitude: | 46.280078,-95.710586(est) |

Administrative Information

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| Investigator In Charge (IIC): | Doub, Mark |
| Additional Participating Persons: | WILLIAM H JOHNSON; MINNEAPOLIS , MN |
| Original Publish Date: | June 19, 1995 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | |
| Investigation Docket: | https://data.ntsb.gov/Docket?ProjectID=9596 |

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](#).