



# National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|--------------------------------------|-------------------------|-----------------|
| <b>Location:</b>               | Minidoka, Idaho                      | <b>Accident Number:</b> | WPR09LA396      |
| <b>Date &amp; Time:</b>        | August 13, 2009, 15:41 Local         | <b>Registration:</b>    | N99BE           |
| <b>Aircraft:</b>               | Beech A60                            | <b>Aircraft Damage:</b> | Substantial     |
| <b>Defining Event:</b>         | Fuel exhaustion                      | <b>Injuries:</b>        | 1 Minor, 1 None |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Personal |                         |                 |

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## Analysis

The pilot reported that he planned to fly a round trip cross-country flight. Prior to takeoff, he ascertained the quantity of fuel on board based upon the airplane's fuel totalizer gauge indication, which indicated 89 gallons. The flight to the destination was uneventful, and upon landing, 20 gallons of fuel was purchased. Thereafter, the pilot departed for the return flight back to his originating airport. According to the pilot, on takeoff the fuel tank gauges indicated the tanks were between 1/3 and 1/4 full. While cruising, the pilot contacted an air traffic control facility and notified them that he had lost power in one engine. About 5 minutes later, the pilot broadcasted that both engines were without power. Unable to reach the nearest airport, the pilot landed on soft, uneven terrain. During rollout, the airplane nosed over and was substantially damaged. The calculated post accident fuel burn-off for the round trip flight was about 106 gallons. During the post accident inspection, an FAA inspector reported finding an estimated 2 gallons of fuel in one tank. The other tank was dry. No fuel was observed in the main fuel lines to the engines, and no mechanical malfunctions were reported by the pilot.

## 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 exhaustion as a result of the pilot's inadequate fuel planning.

## Findings

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|                      |  |
|----------------------|--|
| Environmental issues | Rough terrain - Contributed to outcome |
| Aircraft             | Fuel - Fluid level                     |
| Personnel issues     | Fuel planning - Pilot                  |
| Personnel issues     | Expectation/assumption - Pilot         |

## Factual Information

On August 13, 2009, about 1541 mountain daylight time, a Beech A60, N99BE, experienced a total loss of engine power while cruising en route to Pocatello, Idaho. The pilot diverted to the airport nearest his location, and he made a forced landing in an open field about 1/4 mile from the Bear Trap Airport, Minidoka, Idaho. The airplane nosed over during rollout and was substantially damaged. Nestor Aviation & Aerobatics, LLC., Chubbuck, Idaho, owned and operated the airplane. The commercial certificated pilot and passenger sustained minor injuries. Visual meteorological conditions prevailed at the time, and no flight plan had been filed. The personal flight was performed under the provisions of 14 Code of Federal Regulations Part 91. The flight originated from Boise, Idaho, about 1430.

The pilot reported to the National Transportation Safety Board investigator that, earlier in the day, he had departed Boise with a total of 89 gallons of fuel in his airplane, according to its fuel gauges. The pilot believed that upon landing in Pocatello, 57 gallons of fuel remained in the fuel tanks. The flight from Boise to Pocatello consumed 32 gallons of fuel. Prior to departing Pocatello for the approximate 190-mile return (accident) flight to Boise, the pilot added 20 gallons of fuel to the airplane.

[Note: Based upon the reported 89 gallons of fuel in the airplane when the flight commenced, and the 20 gallons subsequently added, the airplane's tanks contained a total of 109 gallons of fuel.]

The pilot stated to the Safety Board investigator that, during his preflight preparations, he relied on the airplane's fuel tank gauges and its fuel totalizer to ascertain the quantity of fuel on board. He opined the airplane had about 77 gallons of fuel in its tanks upon his 1430 takeoff. The pilot stated that, on takeoff, the fuel tank gauges indicated the tanks were between 1/3 and 1/4 full. En route to Boise, the pilot observed that the fuel tank gauges decremented as the flight progressed, and they eventually indicated the tanks were about 1/4 full.

According to the Federal Aviation Administration (FAA) coordinator, at 1536 the pilot made a radio transmission to an air traffic control facility during which he stated that he had lost power in one engine. The pilot headed toward Bear Trap, the nearest airport, which was located about 39 miles short of his intended destination. About 5 minutes later, the pilot broadcast that both engines were without power. The pilot made a forced landing about 1/4 mile from Bear Trap. The airplane touched down in the underlying uneven, soft terrain and nosed over.

The FAA coordinator subsequently inspected the airplane and reported finding an estimated 2 gallons of fuel in one tank; the other tank was dry. No fuel was observed in the main fuel lines to the engines.

The FAA coordinator further reported that the airplane's last annual inspection was performed at least 7 years prior to the accident flight. The pilot reported that during the past 6 years, the airplane was operated a total of 100 hours.

Regarding the pilot's currency, the pilot reported that his last flight review was recorded in 2002, and his last aviation medical certificate was issued in 2004.

Under the direction of the Safety Board investigator, fuel consumption computations for the pilot's flight route were performed by Hawker Beechcraft Corporation. Based upon Beech's data, an A60 would be expected to consume about 56 gallons of fuel flying from Boise to Pocatello, and about 50 gallons of fuel for the return flight, for a total of about 106 gallons.

The pilot acknowledged in his completed "Pilot/Operator Aircraft Accident/Incident Report" that no mechanical malfunctions or failures had occurred, and that "...the engine failure was due to fuel exhaustion."

### History of Flight

|                      |                                  |
|----------------------|----------------------------------|
| Prior to flight      | Preflight or dispatch event      |
| Enroute-cruise       | Fuel exhaustion (Defining event) |
| Enroute-cruise       | Loss of engine power (total)     |
| Emergency descent    | Off-field or emergency landing   |
| Landing-landing roll | Nose over/nose down              |

### Pilot Information

|                           |   |                                   |                  |
|---------------------------|---|-----------------------------------|------------------|
| Certificate:              | Commercial; Flight instructor   | Age:                              | 58, Male         |
| Airplane Rating(s):       | Single-engine land; Multi-engine land   | Seat Occupied:                    | Left             |
| Other Aircraft Rating(s): | Helicopter  | Restraint Used:                   |                  |
| Instrument Rating(s):     | Airplane  | Second Pilot Present:             | Yes              |
| Instructor Rating(s):     | Airplane multi-engine; Airplane single-engine   | Toxicology Performed:             | No               |
| Medical Certification:    | Class 3 With waivers/limitations  | Last FAA Medical Exam:            | October 20, 2004 |
| Occupational Pilot:       | No  | Last Flight Review or Equivalent: | May 4, 2002      |
| Flight Time:              | 2000 hours (Total, all aircraft), 800 hours (Total, this make and model), 4 hours (Last 90 days, all aircraft), 2 hours (Last 24 hours, all aircraft) |                                   |                  |

## Information

|                                  |  |  |                   |
|----------------------------------|--|--|-------------------|
| <b>Certificate:</b>              | Private  | <b>Age:</b>                              | 58, Female        |
| <b>Airplane Rating(s):</b>       | Single-engine land   | <b>Seat Occupied:</b>                    | Right             |
| <b>Other Aircraft Rating(s):</b> | None   | <b>Restraint Used:</b>                   |                   |
| <b>Instrument Rating(s):</b>     | None   | <b>Second Pilot Present:</b>             | Yes               |
| <b>Instructor Rating(s):</b>     | None   | <b>Toxicology Performed:</b>             | No                |
| <b>Medical Certification:</b>    | Unknown  | <b>Last FAA Medical Exam:</b>            | January 1, 1980   |
| <b>Occupational Pilot:</b>       | No   | <b>Last Flight Review or Equivalent:</b> | February 20, 1981 |
| <b>Flight Time:</b>              | 58 hours (Total, all aircraft), 0 hours (Total, this make and model) |  |                   |

## Aircraft and Owner/Operator Information

|                                      |                               |                                       |                 |
|--------------------------------------|-------------------------------|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | Beech                         | <b>Registration:</b>                  | N99BE           |
| <b>Model/Series:</b>                 | A60                           | <b>Aircraft Category:</b>             | Airplane        |
| <b>Year of Manufacture:</b>          |                               | <b>Amateur Built:</b>                 | No              |
| <b>Airworthiness Certificate:</b>    | Normal                        | <b>Serial Number:</b>                 | P-132           |
| <b>Landing Gear Type:</b>            | Tricycle                      | <b>Seats:</b>                         | 6               |
| <b>Date/Type of Last Inspection:</b> | Annual                        | <b>Certified Max Gross Wt.:</b>       | 6965 lbs        |
| <b>Time Since Last Inspection:</b>   |                               | <b>Engines:</b>                       | 2 Reciprocating |
| <b>Airframe Total Time:</b>          | 3120 Hrs at time of accident  | <b>Engine Manufacturer:</b>           | LYCOMING        |
| <b>ELT:</b>                          | C91A installed, not activated | <b>Engine Model/Series:</b>           | TIO-541-E1C4    |
| <b>Registered Owner:</b>             |                               | <b>Rated Power:</b>                   | 380 Horsepower  |
| <b>Operator:</b>                     | On file                       | <b>Operating Certificate(s) Held:</b> | None            |

## Meteorological Information and Flight Plan

|                                  |                                  |                                      |                   |
|----------------------------------|----------------------------------|--------------------------------------|-------------------|
| Conditions at Accident Site:     | Visual (VMC)                     | Condition of Light:                  | Day               |
| Observation Facility, Elevation: | BYI, 4150 ft msl                 | Distance from Accident Site:         | 31 Nautical Miles |
| Observation Time:                | 15:53 Local                      | Direction from Accident Site:        | 198°              |
| Lowest Cloud Condition:          | Clear                            | Visibility                           | 10 miles          |
| Lowest Ceiling:                  | None                             | Visibility (RVR):                    |                   |
| Wind Speed/Gusts:                | 10 knots / 14 knots              | Turbulence Type Forecast/Actual:     | /                 |
| Wind Direction:                  | 290°                             | Turbulence Severity Forecast/Actual: | /                 |
| Altimeter Setting:               | 29.93 inches Hg                  | Temperature/Dew Point:               | 27° C / 9° C      |
| Precipitation and Obscuration:   | No Obscuration; No Precipitation |                                      |                   |
| Departure Point:                 | Pocatello, ID (PIH )             | Type of Flight Plan Filed:           | None              |
| Destination:                     | Boise, ID (BOI )                 | Type of Clearance:                   | None              |
| Departure Time:                  | 14:30 Local                      | Type of Airspace:                    |                   |

## Airport Information

|                      |                  |                           |                |
|----------------------|------------------|---------------------------|----------------|
| Airport:             | Bear Trap 1U0    | Runway Surface Type:      | Dirt           |
| Airport Elevation:   | 4617 ft msl      | Runway Surface Condition: | Dry; Soft      |
| Runway Used:         | 24               | IFR Approach:             | None           |
| Runway Length/Width: | 2250 ft / 120 ft | VFR Approach/Landing:     | Forced landing |

## Wreckage and Impact Information

|                     |                 |                      |                             |
|---------------------|-----------------|----------------------|-----------------------------|
| Crew Injuries:      | 1 Minor         | Aircraft Damage:     | Substantial                 |
| Passenger Injuries: | 1 None          | Aircraft Fire:       | None                        |
| Ground Injuries:    | N/A             | Aircraft Explosion:  | None                        |
| Total Injuries:     | 1 Minor, 1 None | Latitude, Longitude: | 42.979442, -113.344718(est) |

## Administrative Information

|                                   |   |
|-----------------------------------|---|
| Investigator In Charge (IIC):     | Pollack, Wayne  |
| Additional Participating Persons: | Douglas Dymock; Federal Aviation Administration; Boise, ID  |
| Original Publish Date:            | July 22, 2010   |
| Note:                             |   |
| Investigation Docket:             | <a href="https://data.nts.gov/Docket?ProjectID=74521">https://data.nts.gov/Docket?ProjectID=74521</a> |

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).