# Aviation Investigation Final Report

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| **Location:** | Kelso, Washington | **Accident Number:** | WPR18TA243 |
| **Date & Time:** | August 18, 2018, 21:30 Local | **Registration:** | N9031S |
| **Aircraft:** | Beech 36 | **Aircraft Damage:** | Substantial |
| **Defining Event:** | Fuel related | **Injuries:** | 2 None |
| **Flight Conducted Under:** | Part 91: General aviation - Personal | | |

## Analysis

The pilot reported that, while en route to the destination airport during the personal flight, the engine lost power. The pilot initiated a forced landing to a field, which resulted in substantial damage to the airplane. The pilot reported that there were no mechanical malfunctions or failures with the engine or airframe that would have precluded normal operation. A postaccident examination of the airplane revealed that the right fuel tank was empty, while the left fuel tank was full. The pilot stated that he did not remember switching fuel tanks during the flight and that, given that the right fuel tank was empty, he likely ran out of fuel.

## 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 led to fuel starvation, a total loss of engine power, and the subsequent forced landing to a field.

### Findings

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| **Aircraft** | Fuel - Fluid management |
| **Personnel issues** | Monitoring equip/instruments - Pilot |
| **Personnel issues** | Use of equip/system - Pilot |

# Factual Information

## History of Flight

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| **Enroute-descent** | Fuel related (Defining event) |
| **Emergency descent** | Off-field or emergency landing |
| **Landing-landing roll** | Collision with terr/obj (non-CFIT) |

On August 18, 2018, about 2130 Pacific daylight time, a Beech 36, N9031S, was substantially damaged when it was involved in an accident near Washington Regional Airport (KLS), Kelso, Washington. The pilot and passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations (CFR)* Part 91 personal flight.

The pilot reported that he had filled both fuel tanks the night before the accident; he estimated that he had over three hours of fuel for the cross-country flight the following evening. While en route to the destination airport the engine lost power, which resulted in an off airport landing in a field.

A postaccident onsite examination of the airplane by a Federal Aviation Administration inspector revealed that no visible fuel was observed in the right side fuel tank. He then sumped the tank and no fuel was expelled. When he performed a visual inspection of the left side fuel tank, it appeared to be full. The pilot subsequently stated that based on the evidence of the right fuel tank being empty, he probably ran out of fuel. The pilot also mentioned that he could not remember switching fuel tanks.

The pilot reported that there were no mechanical anomalies with the engine or airframe that would have precluded normal operation.

## Pilot Information

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| **Certificate:** | Private | **Age:** | 48,Male |
| **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:** | No |
| **Medical Certification:** | Class 3 With waivers/limitations | **Last FAA Medical Exam:** | October 4, 2016 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | October 9, 2016 |
| **Flight Time:** | 559 hours (Total, all aircraft), 135 hours (Total, this make and model), 478 hours (Pilot In Command, all aircraft), 64 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Beech | **Registration:** | N9031S |
| **Model/Series:** | 36 Undesignat | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | 1968 | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | E-117 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 4 |
| **Date/Type of Last Inspection:** | August 16, 2018 Annual | **Certified Max Gross Wt.:** | 3600 lbs |
| **Time Since Last Inspection:** | 4 Hrs | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | 6391.4 Hrs as of last inspection | **Engine Manufacturer:** | Continental Motors |
| **ELT:** | C126 installed, not activated | **Engine Model/Series:** | IO-520 |
| **Registered Owner:** | On file | **Rated Power:** | 280 Horsepower |
| **Operator:** | On file | **Operating Certificate(s) Held:** | None |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Night |
| **Observation Facility, Elevation:** | KLS,20 ft msl | **Distance from Accident Site:** | 1 Nautical Miles |
| **Observation Time:** | 21:56 Local | **Direction from Accident Site:** | 180° |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 5 knots / | **Turbulence Type Forecast/Actual:** | None / None |
| **Wind Direction:** | 310° | **Turbulence Severity Forecast/Actual:** | N/A / N/A |
| **Altimeter Setting:** | 30.09 inches Hg | **Temperature/Dew Point:** | 20°C / 14°C |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | Tacoma, WA (TIW ) | **Type of Flight Plan Filed:** | None |
| **Destination:** | Portland, OR (PDX ) | **Type of Clearance:** | None |
| **Departure Time:** | 20:45 Local | **Type of Airspace:** | Class E |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | 1 None | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 2 None | **Latitude, Longitude:** | 46.104167,-122.372779 |

## Administrative Information

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| **Investigator In Charge (IIC):** | Little, Thomas |
| **Additional Participating Persons:** | Christopher Mazurkiewicz; Federal Aviation Administration; Hillsboro, OR |
| **Original Publish Date:** | August 3, 2020 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | The NTSB did not travel to the scene of this accident. |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=98177 |