Aviation Investigation Final Report

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

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

Factual Information

History of Flight

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

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

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:		**Rated Power:**	280 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

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

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

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