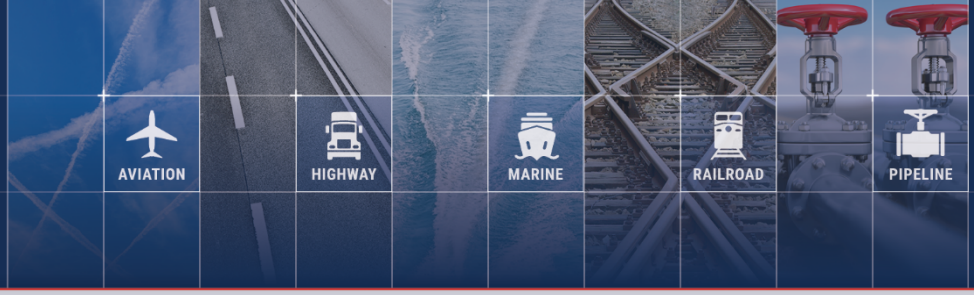

Aviation Investigation Final Report

Location:	Blackfoot, Idaho	**Accident Number:**	WPR13LA320
Date & Time:	July 9, 2013, 20:00 Local	**Registration:**	N703C
Aircraft:	Stinson 108-3	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The noncertificated pilot reported that the airplane had been airborne for about 15 minutes and was about 1,000 feet above ground level when the engine experienced a partial loss of power and the airplane began to lose altitude. The pilot switched fuel tanks, but there was no change in power, so he then made a forced landing to a wheat field. During the landing, the airplane flipped over and then came to rest inverted. The pilot estimated that about 4 to 5 gallons of fuel were on board at the time of the accident. The right fuel tank was not breached, and it contained residual quantities of fuel below the usable limit. The left fuel tank was not breached; however, its fuel tank cap was displaced during the accident sequence, so an accurate assessment of the quantity of fuel in the left tank could not be determined; however, a 4.5-foot-diameter area of fuel-soaked soil was found near the left wing. Although water was found in the left tank, it may have entered through the displaced fuel tank cap. A postaccident engine examination revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

Probable Cause and Findings

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

A partial loss of engine power during cruise flight for reasons that could not be determined because postaccident examination revealed no mechanical malfunctions or failures that would have precluded normal operation.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Enroute	Loss of engine power (partial) (Defining event)

On July 09, 2013, about 2000 mountain daylight time, a Stinson 108-3, N703C, experienced a total loss of engine power and landed in a field in Blackfoot, Idaho. The airplane was registered to, and operated by, the non-certificated pilot under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The non-certificated pilot, the sole occupant, was not injured; the airplane sustained substantial damage. The personal local flight departed from McCarley Field Airport, Blackfoot, about 1945. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot stated that he departed for a short practice flight with about 8-9 gallons of fuel on board. After about 15 minutes airborne, with the airplane about 1,000 feet above ground level (agl), he heard a knocking sound from the engine compartment. Shortly thereafter, the engine power reduced about 50 percent and the airplane began to lose altitude. He switched the fuel selector to the other fuel tank and selected a wheat field where he could make a forced landing. During the landing roll, the airplane flipped over and came to rest inverted. The pilot estimated that he had about 4 to 5 gallons of fuel on board at the time of the accident.

A Federal Aviation Administration (FAA) certificated airframe and powerplant mechanic completed a post accident examination.

He noted that at the accident site, the right fuel cap remained secure in place on the wing and the right fuel tank was not breached. There was an eight inch diameter area of blithe and fuel-soaked soil near the right wing. Upon recovery he was able to drain 30 ounces of fuel. The left fuel cap was located in the soil adjacent to the wing; the tanks were not breached. The mechanic stated there was a 4.5 foot diameter area of blithe and fuel-soaked soil near the left wing. Upon recovery, the mechanic obtained 10 ounces of auto fuel and 2 tablespoons of water from the left tank. Disassembly of the gascolator revealed that the bowl was about half full of cloudy fuel and the screen was free of debris.

The fuel selector rotated freely, although the mechanic noted that the detents could not be felt, only a click could be heard. The mechanic found no evidence of mechanical malfunctions or failures that would have precluded normal operation.

The airplane's fuel system was designed to supply the engine via two aluminum fuel tanks located in both the left and right wing. Each tank holds 25 gallons, of which 2 gallons was unusable in level flight conditions. A strainer was located in the outlet of each tank and from there, fuel was gravity fed to the fuel selector valve, which contained an option of the following selections "23 GAL L," "23 GAL R," and on the bottom "FUEL OFF." The selector handle was shorter on the indicating/pointing side. From the selector, fuel would flow to another strainer and continue to the engine's carburetor.

Pilot Information

Certificate:	None	**Age:**	34
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	200 hours (Total, all aircraft), 55 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Stinson	**Registration:**	N703C
Model/Series:	108-3	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	108-3703
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	May 1, 2012 Annual	**Certified Max Gross Wt.:**	2400 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	FRANKLIN
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	6A4165 SERIES
Registered Owner:	On file	**Rated Power:**	165 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KIDA,4744 ft msl	**Distance from Accident Site:**	22 Nautical Miles
Observation Time:	01:53 Local	**Direction from Accident Site:**	60°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.11 inches Hg	**Temperature/Dew Point:**	31°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Blackfoot, ID (U02)	**Type of Flight Plan Filed:**	None
Destination:	Blackfoot, ID (U02)	**Type of Clearance:**	None
Departure Time:	19:45 Local	**Type of Airspace:**	

Airport Information

Airport:	MCCARLEY FLD U02	**Runway Surface Type:**	
Airport Elevation:	4491 ft msl	**Runway Surface Condition:**	Dry;Vegetation
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	43.235279,-112.316947(est)

Administrative Information

Investigator In Charge (IIC):	Keliher, Zoe
Additional Participating Persons:	Rod Martinez; Federal Aviation Administration; Salt Lake City, UT
Original Publish Date:	December 15, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=87436