Aviation Investigation Final Report

Location:	Meeker, Colorado	**Accident Number:**	CEN17LA073
Date & Time:	January 7, 2017, 10:00 Local	**Registration:**	N5VK
Aircraft:	Cirrus SR22	**Aircraft Damage:**	Substantial
Defining Event:	Fuel contamination	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot stated that, shortly after reaching cruise altitude on the cross-country flight, engine cylinder head and exhaust gas temperatures displayed on the multifunction display (MFD) became erratic. Since the pilot had previously experienced trouble with the MFD sensory input unit, he reverted to monitoring the analog gauges, which were registering normal temperatures. Shortly thereafter, the engine backfired and the pilot sensed a partial loss of engine power, followed by a further decrease in power. Unable to maintain altitude and realizing he would be unable to reach any nearby airports, the pilot made a forced landing on a snow-covered plateau, resulting in substantial damage.

Postaccident examination of the airframe revealed large quantities of water in the wing tanks, which likely accumulated during the time the airplane was on the mountain before recovery and during storage. The airframe fuel gascolator contained a large amount of debris and rust. The gascolator was replaced with a surrogate unit, and a subsequent test run of the engine revealed no anomalies. It is likely that the loss of engine power was the result of fuel contamination; however, the source of the contaminants could not be determined, because fuel samples from the departure airport contained no contaminants.

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 due to fuel contamination from an undetermined source.

Findings

Aircraft	Fuel - Fluid condition

Factual Information

History of Flight

Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)
Enroute-cruise	Fuel contamination (Defining event)

On January 7, 2017, about 0951:32 mountain standard time, a Cirrus SR22, N5VK, made a forced landing on a snow-covered plateau near Meeker, Colorado, after the engine lost power. The pilot and his passenger were not injured. The airplane was substantially damaged. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed at the time of the accident, and no flight plan had been filed. The local flight originated from Provo (PVU), Utah, at 0821:35 and was en route to Meadow Lake Airport (FLY), Colorado Springs, Colorado.

According to the pilot's accident report, the airplane was fueled to capacity at PVU and both pre-flight and pre-takeoff checks were normal and completed. Shortly after reaching cruise altitude, the pilot noticed the cylinder head (CHT) and exhaust gas temperatures (EGT) on the multifunction display (MFD) were erratic and changed rapidly. The pilot reported he had had previous trouble with the sensory input unit (SIU), so he reverted to monitoring the analog gauges, which were registering normal temperatures. Shortly thereafter, the engine backfired and the pilot sensed he had lost some power. Because of the high terrain ahead, the pilot started a climb. Passing through 12,600 feet, the engine lost more power. Unable to maintain altitude, the pilot began a shallow descent. Realizing he would be unable to reach any nearby airports, he began looking for a suitable area on which to make a forced landing. Because of the rough terrain, he elected not to deploy the Cirrus airframe parachute system (CAPS). He saw a plateau ahead and landed gear-up in deep snow. The pilot ascertained the emergency locator transmitter (ELT) had activated and he tried communicating on the emergency frequency 121.5 megahertz (MHz). He received no reply. About 90 minutes later, an airplane circled overhead and rocked its wings. Another airplane arrived and circled for about an hour before departing. Shortly thereafter, two rescue helicopters landed and transported the pilot and his wife to a hospital. The pilot said they sustained no injuries because they were both wearing 4-point restraint systems.

The airplane was removed from the plateau and transported to the facilities of Air Transport, Phoenix, Arizona, about two months after the accident. The wings were removed to facilitate transport. It was noted the wing tanks were breached during the accident and had been transported and stored upside down with the fuel fitting exposed. On March 7, 2017. The wreckage was examined and the engine functionally tested under the auspices of a Federal Aviation Administration (FAA) inspector. Representatives from Cirrus Design and Continental Motors were also present. The FAA inspector noted that there was no shearing of the fuel pump spline, each cylinder had compression, and all spark plugs provided spark. The airframe fuel gascolator contained a large amount of debris and rust, and a large quantity of water flowed from the wings when they were moved for examination. A surrogate gascolator was installed and an external fuel supply line was plumbed to the left wing root fuel line. A two-bladed

test club propeller was installed, and the engine was started. Engine power was set at 2,300 rpm and 10 inches of manifold pressure. All engine instruments were in the normal range. During the examination, damage to the propeller governor cable was noted. The end of the cable conduit had come loose from the rubber boot and was pushed forward, exposing the damaged cable. Examination could not determine if the damage to the governor cable occurred before or after impact.

The primary flight display (PFD) from the Garmin GNS430 global positioning system (GPS) navigator and the multifunction display (MFD) engine log data were sent to Avidyne for download. Avidyne reported that the takeoff roll commenced at 0821:35 from PVU's runway 13 and the airplane lifted off at 0821:52. The landing occurred about 0951:32. Data recorded between these times and on previous flights were truncated and of questionable validity.

Fuel samples taken from both PVU and FLY airports were analyzed. No contaminants were noted, and there were no reports of power losses from other pilots who had been refueled at those locations.

Pilot Information

Certificate:	Private	**Age:**	43,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	March 3, 2015
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 24, 2015
Flight Time:	131 hours (Total, all aircraft), 46 hours (Total, this make and model), 75 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cirrus	**Registration:**	N5VK
Model/Series:	SR22	**Aircraft Category:**	Airplane
Year of Manufacture:	2003	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	0544
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	April 27, 2016 100 hour	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	5 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1400 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	C91A installed, activated, aided in locating accident	**Engine Model/Series:**	IO-550-N7
Registered Owner:	On file	**Rated Power:**	330 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:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	20 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	-9°C
Precipitation and Obscuration:			
Departure Point:	Provo, UT (PVU)	**Type of Flight Plan Filed:**	None
Destination:	Colo. Springs, CO (FLY)	**Type of Clearance:**	None
Departure Time:	08:15 Local	**Type of Airspace:**	Class G

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:**	40.042778,-107.183052

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Jon Hanson; FAA Flight Standards District Office; Salt Lake City, UT Christopher L Kennedy; FAA Flight Standards District Office; Scottsdale, AZ Chris Lang; Continental Motors; Mobile, AL Brannon D Mayer; Cirrus Design; Duluth, MN
Original Publish Date:	September 6, 2017
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=94583