Aviation Investigation Final Report

Location:	Anchorage, Alaska	**Accident Number:**	ANC19LA006
Date & Time:	November 3, 2018, 09:40 Local	**Registration:**	N2809L
Aircraft:	Cessna 172	**Aircraft Damage:**	Substantial
Defining Event:	Fuel contamination	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the private pilot, shortly after departing for the local, personal flight and about 300 ft above ground level, the engine began losing power and running extremely roughly. He declared an emergency and was able to return to the departure airport for landing. During landing, the left wing impacted the runway, which resulted in substantial damage to the outboard portion of the left wing.

Postaccident examination of the airplane revealed large amounts of ice around the fuel caps and on the fuel cap vent, and a large amount of debris and water was drained from the carburetor bowl. Due to the amount of water found in the carburetor, it is likely that water entered the fuel system through the fuel caps and led to the partial loss of engine power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain airplane control during the landing flare, which resulted in the wing striking the runway. Contributing to the accident was a partial loss of engine power, which resulted from fuel contamination.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Landing flare - Incorrect use/operation
Aircraft	Fuel - Fluid condition

Factual Information

History of Flight

Initial climb	Fuel contamination (Defining event)
Landing-flare/touchdown	Loss of control in flight
Landing-flare/touchdown	Abnormal runway contact
Landing	Collision with terr/obj (non-CFIT)

On November 3, 2018, about 0940 Alaska daylight time, a Cessna 172 airplane, N2809L, sustained substantial damage during an emergency landing on runway 25 at Merrill Field (PAMR), Anchorage, Alaska. The airplane was registered to and operated by the pilot as a 14 *Code of Federal Regulations* Part 91 visual flight when the accident occurred. The private pilot was uninjured. Visual meteorological conditions prevailed and no flight plan had been filed for the local area flight. The flight had departed PAMR about 0935.

According to the pilot, on a previous flight, about 0900 the same day, when around 400 ft above ground level (AGL) during climbout, the engine began losing power and ran extremely rough. While in the traffic pattern, the engine was only able to produce about 1200 RPM. The pilot stated that he was able to return for an uneventful landing on runway 25.

Following the event, the pilot sumped both fuel tanks and gascollator for containments, with none found. The pilot then completed a run-up with no anomalies and taxied for departure with the carburetor heat on. Upon reaching the run-up area, the pilot completed another run-up. With no anomalies occurring on either run-up, the pilot elected to depart for a flight around the traffic pattern.

Just after departure from runway 25, and around 300 ft above ground level (AGL), the engine again began losing power and ran extremely rough. An emergency was declared and the pilot was able to return for landing. During landing, the left wing impacted the runway, resulting in substantial damage. After the second event, the airplane was parked outside where temperatures remained below freezing.

On November 4, the airplane was examined by the NTSB Investigator-in-Charge. The fuel caps were found frozen in place due to a significant amount of water trapped in the recessed area. Upon removing the caps, ice was found on the vent flap and the filler neck was completely covered in corrosion. Corrosion particles were also located within the fuel tank. The gascolator was then drained and tested for water by use of a water finding paste. The fuel sample tested positive for water.

Due to the cold outside temperatures, draining of the carburetor was delayed to allow for thawing of all potential ice in the fuel system. On November 12, the carburetor was removed from the airplane by Alaskan Aircraft Engines, an overhaul facility, for inspection. According to the inspection report, a large amount of debris and water were located within the carburetor bowl.

Pilot Information

Certificate:	Private	**Age:**	50,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 Without waivers/limitations	**Last FAA Medical Exam:**	September 1, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N2809L
Model/Series:	172	**Aircraft Category:**	Airplane
Year of Manufacture:	1967	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	17256009
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	2299 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	O-300 SER
Registered Owner:		**Rated Power:**	145 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:	PAMR,138 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:		**Direction from Accident Site:**	281°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 9500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	10°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.48 inches Hg	**Temperature/Dew Point:**	-4°C / -11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Anchorage, AK (MRI)	**Type of Flight Plan Filed:**	None
Destination:	Anchorage, AK (MRI)	**Type of Clearance:**	VFR
Departure Time:		**Type of Airspace:**	Class E

Airport Information

Airport:	MERRILL FIELD MRI	**Runway Surface Type:**	Asphalt
Airport Elevation:	137 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	25	**IFR Approach:**	None
Runway Length/Width:	4000 ft / 100 ft	**VFR Approach/Landing:**	Precautionary 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:**	61.215831,-149.841949

Administrative Information

Investigator In Charge (IIC):	Williams, David
Additional Participating Persons:	James Grogan; FAA; Wasilla, AK
Original Publish Date:	April 13, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=98597