



National Transportation Safety Board Aviation Accident Final Report

Location:	Newport, Oregon	Accident Number:	ANC19LA032
Date & Time:	July 7, 2019, 17:00 Local	Registration:	N9919V
Aircraft:	Cessna 172	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 Serious, 2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot and two passengers were returning from a sightseeing flight. While cruising at an altitude of about 1,200 ft, the engine began to surge between 2,100 and 2,600 rpm. To correct for the surging engine, the pilot switched fuel tanks, enriched the fuel mixture, and applied full throttle, to no avail. Unable to maintain altitude and to avoid undue harm to persons on the ground, he selected an area of hilly, sand-covered terrain for an emergency landing. During the emergency landing, the airplane sustained substantial damage to the wings and fuselage.

The pilot stated that, the day before the accident, the left and right fuel gauges indicated about 3/4 full and 1/4 full respectively; however, he said it was possible that he had run out of fuel.

The airplane had not undergone an annual inspection in 4 years. Postaccident examination revealed that the main fuel line to the carburetor had separated at the carburetor casing and the strainer cable had stretched, releasing any contents that may have been present in the gascolator during the accident sequence. The carburetor half screws were in and safetied but loose and did not appear to be torqued. Brown deposits were observed on the exterior of the carburetor emanating from the carburetor half seam. Although it is evident that the carburetor had been leaking for an undetermined time, blue streaking would have been more likely if a significant and recent fuel loss had occurred. No fuel was found in the remainder of the fuel system, including the wing tanks, associated lines, and carburetor bowl.

Based on the lack of fuel present in the fuel system, it is likely that the pilot miscalculated the amount of fuel onboard before the flight, which resulted in fuel exhaustion and a subsequent 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 improper verification of the fuel quantity during the preflight inspection, which resulted in fuel exhaustion and a subsequent total loss of engine power.

Findings

Personnel issues	Fuel planning - Pilot
Personnel issues	Incorrect action performance - Pilot
Aircraft	Fuel - Fluid level

Factual Information

On July 8, 2019, at about 1700 Pacific daylight time, a Cessna 172 airplane, N9919V, sustained substantial damage during a forced landing following a loss of engine power while in cruise flight near Newport, Oregon. The private pilot and one passenger sustained minor injuries and one passenger sustained serious injuries. The airplane was registered to and operated by the pilot under the provisions of 14 *Code of Federal Regulations* Part 91 personal flight. Visual meteorological conditions prevailed, and no flight plan had been filed. The flight departed Newport Municipal Airport (KONP), Newport, Oregon for a local whale watching flight.

According to the pilot, after locating and circling a pod of whales for viewing, they had decided to return to KONP. While in level cruise flight about 1,200 ft above mean sea level (MSL) the engine began to surge with the rpm fluctuating between 2,100 and 2,600 rpm. In an effort to correct for the surging engine, the pilot switched fuel tanks, enriched the fuel mixture and applied full throttle, to no avail. Unable to maintain altitude, and in an effort to avoid undue harm to persons on the ground, he selected an area of hilly, sand covered terrain for an emergency landing. During the emergency landing the airplane sustained substantial damage to the wings and fuselage.

In a telephone conversation with a Federal Aviation Administration (FAA) aviation safety inspector (ASI), the pilot stated that the airplane had not had an annual inspection in about 3 years, he had not had a biennial flight review in 5 or 6 years and he did not have a current medical certificate.

A review of FAA records revealed that the pilot's most recent third-class medical was issued July 30, 2004 with the limitation that he must wear corrective lenses and would have expired on July 31, 2006.

Title 14 Code of Federal Regulations Part 61.23 – Medical Certificate; requirement and durations, states in part:

(a) Operations requiring a medical certificate. Except as provided in paragraphs (b) and (c) of this section, a person

(3) Must hold at least a third-class medical certificate -

(i) When exercising the privileges of a private pilot certificate, recreational pilot certificate, or student pilot certificate, except when operating under the conditions and limitations set forth in §61.113(i);

Title 14 Code of Federal Regulations Part 61.56 – Flight Review, states in part:

(c) Except as provided in paragraphs (d), (e), and (g) of this section, no person may act as pilot in command of an aircraft unless, since the beginning of the 24th calendar month before the month in which that pilot acts as pilot in command, that person has -

(1) Accomplished a flight review given in an aircraft for which that pilot is rated by an authorized instructor and

(2) A logbook endorsed from an authorized instructor who gave the review certifying that the person has satisfactorily completed the review.

According to the National Transportation Safety Board's (NTSB) Pilot/Operator Aircraft Accident/Incident Report submitted by the pilot the airplane's last annual inspection was completed on June 2, 2015.

Title 14 Code of Federal Regulations Part 91.409 Inspections, states in part:

(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—

(1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by §43.7 of this chapter; or

(2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

Wreckage recovery personnel independently confirmed that no fuel was recovered from the airplane's wing tanks, or fuel lines that were removed for recovery.

In a conversation with the NTSB investigator-in-charge (IIC) the pilot stated that the carburetor float had been replaced, and previous mechanical problems with the airplane included a fuel drain on the engine that was difficult to close, and the carburetor leaking fuel. In addition, he stated that he had visually verified two days before the accident that the airplane had about ½ tanks and the day before the accident the fuel gauges indicate about ¾ full and ¼ full respectively; however, it was possible he had run out of fuel.

An examination of the airplane by an ASI with the FAA revealed that the main fuel line to the carburetor had separated at the carburetor casting during the accident sequence, and the strainer cable had stretched releasing any contents that may have been present in the gascolator. However, no fluid was discovered in the remainder of the fuel system including the carburetor bowl. In addition, during removal of the carburetor bowl it was discovered that the carburetor half screws were in and safetied but loose and did not appear to be torqued, with evidence of fuel leakage at the carburetor half seem.

The closest weather reporting facility is Newport Municipal Airport (KONP), Newport, Oregon. At 1750, a METAR from KONP was reporting in part: wind, 310 at 8 knots; visibility, 10 statute miles; sky condition, clear; temperature, 62° F; dew point 57° F; and an altimeter setting of 30.02 inches of mercury.

History of Flight

Enroute-cruise	Fuel exhaustion (Defining event)
Emergency descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	66, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
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:	July 30, 2004
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 1105 hours (Total, all aircraft), 985 hours (Total, this make and model), 1105 hours (Pilot In Command, all aircraft), 1 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9919V
Model/Series:	172 M	Aircraft Category:	Airplane
Year of Manufacture:	1974	Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	17264555
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:	June 2, 2015 Annual	Certified Max Gross Wt.:	2299 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	O-320 SERIES
Registered Owner:		Rated Power:	
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:	00:50 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	18° C / 14° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Newport, OR	Type of Flight Plan Filed:	None
Destination:	Newport, OR	Type of Clearance:	None
Departure Time:	15:30 Local	Type of Airspace:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 2 Minor	Latitude, Longitude:	44.580276, -124.058052(est)

Administrative Information

Investigator In Charge (IIC):	Banning, David	Report Date:	
Additional Participating Persons:	Darren Vaughn; Federal Aviation Administration; Hillsboro, OR		
Publish Date:		Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=99813		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).