



Aviation Investigation Final Report

Location:	Horseshoe Bay, Texas	Accident Number:	CEN19LA064
Date & Time:	December 28, 2018, 20:15 Local	Registration:	N6202M
Aircraft:	Cessna 152	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The commercial pilot was conducting a personal, cross-country flight with one passenger onboard. The pilot reported that, about 2 1/2 to 2 3/4 hours into the flight, the engine started to lose power. The pilot contacted air traffic control for vectors to the nearest airport. The pilot then checked the gauges and applied carburetor heat. The engine initially responded; however, a few minutes later, the engine lost all power, and the pilot's additional attempts to restore power were unsuccessful. The pilot did not think that the airplane could reach the nearest airport, so he established a glide for an off-airport forced landing, during which the airplane impacted trees and terrain and sustained substantial damage.

During recovery of the airplane wreckage, the fuel tanks were found intact and empty. Additionally, there was no evidence of fuel leakage on the ground. The pilot reported that the airplane ran out of fuel and that the accident could have been prevented by better calculation and review of distance, fuel, and time in flight.

Probable Cause and Findings

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

The pilot's inadequate preflight and in-flight fuel planning, which resulted in the total loss of engine power due to fuel exhaustion.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid level
Environmental issues	Tree(s) - Effect on operation

Factual Information

History of Flight

Enroute	Fuel exhaustion
Enroute	Loss of engine power (total) (Defining event)
Enroute	Attempted remediation/recovery
Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)

On December 28, 2018, about 2015 central standard time, a Cessna 152 airplane, N6202M, impacted terrain after a loss of engine power en route to Kelly Field Airport (KSKF), San Antonio, Texas. The pilot and one passenger received minor injuries, and the airplane was substantially damaged during a forced landing. The airplane was registered to and operated by Flyokair, LLC, under the provisions of Title 14 *Code of Federal Regulations* Part 91 as personal flight. Night visual meteorological conditions prevailed at the time of the accident. The airplane departed Shawnee, Oklahoma, about 1655.

The pilot reported that he had been airborne about 2 hours, and that he should reach his destination airport in about 15 minutes. About 30-45 minutes later, he stated the engine started to lose power. He contacted air traffic control for vectors to the nearest airport. The pilot then looked at the gauges; oil pressure, oil temperature, and fuel gauges, which indicated the following: left fuel gauge $\frac{1}{2}$ and right gauge less than $\frac{1}{2}$. He added that he might have to land on the highway, since he didn't think he could make an airport. In an attempt to restore engine power, the pilot applied carburetor heat, the engine responded, and he was able to climb and gain altitude. Since the engine responded after he applied carburetor heat, he thought the engine may have experienced carburetor icing. A few minutes later, the engine lost power, and additional attempts to restore power were unsuccessful. He established a glide and picked out terrain for the forced landing. The airplane then impacted trees and terrain.

The airplane recovery crew noted that the airplane was substantially damaged during the accident. The fuel tanks were empty and no evidence that fuel had leaked onto the ground. They added the fuel tanks had not been breached during the accident.

On the NTSB's 6120 form, Pilot/Operator Aircraft Accident/Incident Report, under the section: Recommendation (How could this accident/incident have been prevented?). The pilot noted (in part): Better calculation and review of distance, fuel in time, and time in flight.

During a follow-up conversation with a Federal Aviation Administration (FAA) inspector, the pilot did not clarify how he checked the fuel tanks before departure; however, he didn't add fuel before departure. The pilot added that he had talked with the airplane's owner and admitted he ran of fuel.

Pilot Information

Certificate:	Commercial	Age:	32
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	October 30, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	November 21, 2018
Flight Time:	383 hours (Total, all aircraft), 259 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N6202M
Model/Series:	152 No Series	Aircraft Category:	Airplane
Year of Manufacture:	1980	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	15284638
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:	September 1, 2018 100 hour	Certified Max Gross Wt.:	1670 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	14182.4 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C91A installed	Engine Model/Series:	O-235 SERIES
Registered Owner:		Rated Power:	110 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:	KDZB	Distance from Accident Site:	
Observation Time:	04:15 Local	Direction from Accident Site:	
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Overcast / 6000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.21 inches Hg	Temperature/Dew Point:	6°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Shawnee, OK (KSNL)	Type of Flight Plan Filed:	VFR
Destination:	San Antonio, TX (KSKF)	Type of Clearance:	VFR flight following
Departure Time:	16:55 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	30.532777,-98.323608(est)

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	Jeff Burns; FAA FSDO; San Antonio, TX
Original Publish Date:	April 13, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98882

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