Aviation Investigation Final Report

Location:	Watertown, Wisconsin	**Accident Number:**	CEN15LA333
Date & Time:	August 1, 2015, 17:45 Local	**Registration:**	N1685R
Aircraft:	Cessna 182	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot was planning to conduct some practice takeoffs and landings. The pilot reported that he conducted a normal preflight and that the airplane had about 75 gallons of fuel on board. Shortly after takeoff and while on the base leg to the runway, the engine lost power. The pilot pushed the throttle, mixture, and prop levers full forward and then turned the auxiliary fuel pump on, but the engine did not respond. The airplane subsequently impacted trees near a residence and then came to rest on its right side.

On-scene examination revealed that the left wing's fuel bladder tank appeared intact but that it was absent of fuel and that the right wing's bladder tank was torn and contained about 2 gallons of fuel. However, the examination was unable to determine the quantity of fuel that may have leaked out after the fuel system was compromised during the accident. An engine test run was conducted, and the engine started and ran with no abnormalities noted. A review of the carburetor icing probability chart indicated that the airplane was operating in weather conditions associated with a serious risk of carburetor ice accumulation at glide power settings. The pilot was on the base leg of the traffic pattern, and he likely reduced engine power to a glide power setting because he was approaching the runway for landing.

Probable Cause and Findings

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

The total loss of engine power due to carburetor icing.

Findings

Environmental issues	Conducive to carburetor icing - Effect on equipment

Factual Information

History of Flight

Approach-VFR pattern downwind	Loss of engine power (total) (Defining event)
Approach-VFR pattern base	Other weather encounter
Approach-VFR pattern base	Fuel related

On August 1, 2015, about 1745 central daylight time, a Cessna 182 airplane, N1685R lost engine power while in the traffic pattern at the Watertown Municipal Airport (KRYV), Watertown, Wisconsin. The airplane impacted trees and was substantially damaged. The private rated pilot was seriously injured. The airplane was registered to and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed at the time and no flight plan was filed for the local flight.

The pilot reported that he planned on doing some practice pattern work, including some touch-and-goes landings in preparation for a flight review. He added that the preflight and taxi were uneventful, and then he departed. While on the base leg, the engine lost power; he advanced the throttle, mixture, and prop levers full forward, and then turned the auxiliary fuel pump on. The engine did not respond, he was unable to locate an open area for an emergency landing, so he decided to aim for nearby trees to arrest his descent. The pilot reported that the airplane had about 75 gallons of fuel on board.

The responding Federal Aviation Administration (FAA) inspectors reported that the airplane came to rest on its right side near a residence. The empennage separated from the fuselage, with heavy damage to the right wing and fuselage. The left wing's fuel bladder appeared intact but absence any fuel, the right wing's bladder tank was torn, and contained about two gallons of fuel. The inspector wasn't able to determine the quantity of fuel that may have leaked out after the fuel system was compromised during the accident. The airplane was recovered, and an engine test run was performed. An external fuel source was connected to the airplane; the engine was then started and run. No abnormalities were noted.

At 1755, the automated weather observation facility located at KRYV recorded a temperature of 82 degrees Fahrenheit (F), dew point 60 F.

The carburetor icing probability chart included in Federal Aviation Administration Special Airworthiness Information Bulletin No. CE-09-35, Carburetor Icing Prevention, indicated that the airplane was operating in an area that was associated with a serious risk of carburetor ice accumulation at glide power settings.

Pilot Information

Certificate:	Private	**Age:**	82
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:**	August 13, 2014
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1976 hours (Total, all aircraft), 1561 hours (Total, this make and model), 1734 hours (Pilot In Command, all aircraft), 3 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N1685R
Model/Series:	182	**Aircraft Category:**	Airplane
Year of Manufacture:	1978	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	R18200514
Landing Gear Type:	Retractable - Tricycle	**Seats:**	
Date/Type of Last Inspection:	October 9, 2014 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4545.2 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	O-540
Registered Owner:	On file	**Rated Power:**	235 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:	KRYV	**Distance from Accident Site:**	
Observation Time:	17:55 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	280°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.87 inches Hg	**Temperature/Dew Point:**	28°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Watertown, WI (KRYV)	**Type of Flight Plan Filed:**	None
Destination:	Watertown, WI (KRYV)	**Type of Clearance:**	None
Departure Time:	17:40 Local	**Type of Airspace:**	

Airport Information

Airport:	Watertown Municipal KRYV	**Runway Surface Type:**	
Airport Elevation:	833 ft msl	**Runway Surface Condition:**	Vegetation
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	43.165832,-88.719444(est)

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	Dan Oskar; FAA FSDO; Milwaukee, WI
Original Publish Date:	February 17, 2016
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=91694