



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Wellsville, UT	<b>Accident Number:</b>	WPR13LA108
<b>Date &amp; Time:</b>	02/02/2013, 1350 MST	<b>Registration:</b>	N8125T
<b>Aircraft:</b>	CESSNA 175B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (partial)	<b>Injuries:</b>	5 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

The pilot reported that during a climb to cruise flight, he observed the engine rpm suddenly reduce, and he immediately applied carburetor heat. The pilot stated that the engine rpm increased for about 3 seconds before it decreased again. The pilot began troubleshooting the engine and performing the emergency landing checklist. The pilot stated that when he turned the ignition switch off and back on, the engine backfired once; however, the engine rpm remained at 1,000. He initiated a forced landing to an open, snow-covered field. During the landing roll, the airplane nosed over. A postaccident examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation. The carburetor was disassembled and examined internally. The carburetor float bowl contained a liquid consistent with fuel, which tested positive for water using water-finding paste.

A local reporting station recorded the temperature at 25 degrees Fahrenheit and dew point at 19 degrees Fahrenheit. The reported weather conditions were conducive to carburetor icing at glide and cruise power. Given the sudden loss of engine rpm before and the rise in engine rpm following the application of carburetor heat, it is likely that carburetor ice was the reason for the loss of engine power.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power during cruise flight due to carburetor ice.

## Findings

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<b>Aircraft</b>	Fuel control/carburetor - Capability exceeded (Cause)
<b>Environmental issues</b>	Conducive to carburetor icing - Contributed to outcome (Cause)

## Factual Information

On February 2, 2013, about 1350 mountain standard time, a Cessna 175B, N8125T, was substantially damaged during a forced landing near Wellsville, Utah. The airplane was registered to and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. The private pilot and his four passengers were not injured. Visual meteorological conditions prevailed and no flight plan was filed for the personal flight. The local flight originated from Logan, Utah, at 1300.

In a written statement to the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), the pilot reported that while climbing through about 8,500 feet mean sea level (msl), he observed the engine RPM suddenly reduce and immediately applied carburetor heat. The pilot stated that the engine RPM increased for about 3 seconds before it decreased again. The pilot began troubleshooting the engine and performing the emergency landing checklist. The pilot stated that when he turned the ignition switch off and back on, the engine back fired once, however, the engine RPM remained at 1,000. The pilot initiated a forced landing to an open snow covered field. During the landing roll, the airplane nosed over.

Examination of the airplane by a Federal Aviation Administration (FAA) inspector revealed that the fuselage, vertical stabilizer, and rudder were structurally damaged. The airplane was recovered to a secure location for further examination.

Examination of the recovered airframe by the NTSB IIC and an FAA inspector revealed that both wings remained attached to the fuselage and contained fuel in both wing fuel tanks. Control continuity was established from the carburetor heat, throttle, and mixture controls to their respective linkages on the engine and air box.

Examination of the recovered Lycoming O-360-A1D engine, serial number L-7542-36, revealed that it remained attached to the fuselage via its mounts. The engine mount structure was displaced downward. All engine accessories remained attached to the engine. The top spark plugs, carburetor, and propeller were removed from the engine and the magneto "P" leads were disconnected from the left and right magnetos. The crankshaft was rotated by hand and mechanical continuity was established throughout the engine and valve train. Thumb compression was obtained on all six cylinders. Both the left and right magnetos produced a blue colored spark on all ignition leads when the crankshaft was rotated.

The carburetor throttle and mixture levers moved from stop to stop by hand. When the throttle control arm was moved, the accelerator pump functioned and expelled liquid. The fuel inlet screen contained a slight amount of debris, however, was mostly unobstructed. The carburetor was disassembled and examined internally. Both metal floats were intact and undamaged. The carburetor float bowl contained a liquid consistent with fuel. The liquid was tested with water finding paste with positive results.

Examination of the recovered airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation

Weather conditions recorded at the Logan-Cache Airport, located about 9 miles northeast of the accident site, at 1351, were wind calm, visibility 7 statute miles, clear sky, temperature 25 degrees Fahrenheit, dew point 19 degrees Fahrenheit, and an altimeter setting of 30.46 inches of mercury. According to the Federal Aviation Administration Special Airworthiness Information Bulletin, entitled Carburetor Icing Prevention, the temperature and dew point

were conducive to the formation of icing at glide and cruise power.

## History of Flight

Enroute-cruise	Loss of engine power (partial) (Defining event)
Landing	Off-field or emergency landing
Landing-landing roll	Nose over/nose down

## Pilot Information

Certificate:	Private	Age:	55
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without Waivers/Limitations	Last Medical Exam:	06/01/2011
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	318 hours (Total, all aircraft), 53 hours (Total, this make and model), 10 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N8125T
Model/Series:	175B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	17556825
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	12/06/2012, Annual	Certified Max Gross Wt.:	2350 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-A1B
Registered Owner:	Lynn Goodsell	Rated Power:	180 hp
Operator:	Lynn Goodsell	Air Carrier Operating Certificate:	None

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	LGU, 4457 ft msl	Observation Time:	1351 MST
Distance from Accident Site:	9 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	8°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	-4° C / -7° C
Lowest Ceiling:	None	Visibility	7 Miles
Wind Speed/Gusts, Direction:	Calm	Visibility (RVR):	
Altimeter Setting:	30.46 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Logan, UT	Type of Flight Plan Filed:	None
Destination:	Logan, UT	Type of Clearance:	None
Departure Time:	1300 MST	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	4 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	5 None		

## Administrative Information

Investigator In Charge (IIC):	Joshua Cawthra	Adopted Date:	08/07/2013
Additional Participating Persons:	David J Rodda; Federal Aviation Administration; Salt Lake City, UT		
Publish Date:	08/07/2013		
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=86122">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=86122</a>		

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