Aviation Investigation Final Report

Location:	Grove, Oklahoma	**Accident Number:**	CEN18LA131
Date & Time:	March 31, 2018, 08:15 Local	**Registration:**	N2485C
Aircraft:	Cessna 180	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airline transport pilot reported that, while in cruise flight, the engine "coughed once, then died." The pilot attempted to restore power without success, then performed a forced landing to a rodeo arena. The pilot also stated that he did not apply carburetor heat following the loss of engine power. A postaccident examination of the airframe and engine revealed no evidence of mechanical malfunction or failures that would have precluded normal operation. A review of the recorded weather information in the area indicated that the atmospheric conditions at the time of the accident were conducive to the accumulation of serious icing at any power setting. The total loss of engine power was likely due to an accumulation of carburetor ice. Had the pilot immediately applied carburetor heat, it is possible that it would have cleared the ice and restored engine power.

Probable Cause and Findings

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

A total loss of engine power due to carburetor ice accumulation. Contributing to the accident was the pilot's failure to apply carburetor heat immediately following the loss of engine power.

Findings

Environmental issues	Conducive to carburetor icing - Effect on equipment
Aircraft	Intake anti-ice, deice - Not used/operated
Personnel issues	Use of equip/system - Pilot
Aircraft	Intake anti-ice, deice - Related operating info

Factual Information

History of Flight

Enroute	Loss of engine power (total) (Defining event)
Enroute	Fuel related
Enroute	Other weather encounter
Landing-landing roll	Collision with terr/obj (non-CFIT)

On March 31, 2018, about 0815 central daylight time, a Cessna 180 airplane, N2485C, was substantially damaged during a forced landing near Grove, Oklahoma. The airline transport pilot was not injured and the passenger sustained minor injuries. The flight was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed and no Federal Aviation Administration (FAA) flight plan had been filed for the flight. The flight departed Circle S Farms Airport (AR91), Lowell, Arkansas, about 0800, and was en route to Grove Municipal Airport (KGMJ), Grove, Oklahoma.

According to the pilot, he departed AR91 and was en route to KGMJ to purchase fuel. While en route the engine quit producing power. During a forced landing to a rodeo arena, both wings, the empennage, and the fuselage were substantially damaged.

An examination of the airplane, including the engine and fuel system, revealed no mechanical anomalies that would have precluded normal operation.

The closest routine aviation weather report, taken at 0815, recorded a temperature of 54°F and a dewpoint temperature of 41°F. A review of the carburetor icing probability chart, located in the Federal Aviation Administration's Special Airworthiness Information Bulletin CE-09-35, dated June 30, 2009, revealed that the airplane was operating in an area favorable for the formation of serious carburetor icing at any power setting.

Pilot Information

Certificate:	Airline transport; Commercial; Flight engineer; Flight instructor	**Age:**	49,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	November 6, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	December 19, 2017
Flight Time:	21327 hours (Total, all aircraft), 124.3 hours (Total, this make and model), 11250 hours (Pilot In Command, all aircraft), 112.1 hours (Last 90 days, all aircraft), 41.2 hours (Last 30 days, all aircraft), 0.2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N2485C
Model/Series:	180	**Aircraft Category:**	Airplane
Year of Manufacture:	1954	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30785
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	February 15, 2018	**Certified Max Gross Wt.:**	2550 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2777.3 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	C91 installed, activated, did not aid in locating accident	**Engine Model/Series:**	O470-J
Registered Owner:	On file	**Rated Power:**	225 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:	KGMJ,830 ft msl	**Distance from Accident Site:**	
Observation Time:	08:15 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Scattered / 12000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	30.06 inches Hg	**Temperature/Dew Point:**	12°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lowell, AR (AR91)	**Type of Flight Plan Filed:**	None
Destination:	Grove, OK (KGMJ)	**Type of Clearance:**	None
Departure Time:	08:00 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	36.608055,-94.728057(est)

Administrative Information

Investigator In Charge (IIC):	Rodi, Jennifer
Additional Participating Persons:	Adama Allmond; Federal Aviation Administration; Oklahoma City, OK
Original Publish Date:	March 18, 2019
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=96958