Aviation Investigation Final Report

Location:	Delta, Colorado	**Accident Number:**	CEN21LA404
Date & Time:	September 3, 2021, 12:00 Local	**Registration:**	N9114W
Aircraft:	Cessna 182	**Aircraft Damage:**	Substantial
Defining Event:	Unknown or undetermined	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Skydiving		

Analysis

The pilot of the commercial skydiving operation was completing the 8th flight of the day. During the jump run, the pilot had partial carburetor heat applied. The skydivers egressed from the airplane, and the pilot initiated the descent to land back at the airport by reducing the power and applying full carburetor heat. She maneuvered the airplane onto the final approach and applied full power with no response from the engine. The pilot then manipulated the throttle to no avail and performed a forced landing to a field. The airplane came to rest inverted and was recovered a week later from the field. The airplane sustained substantial damage to both wings.

A postaccident examination of the airframe revealed no preimpact mechanical malfunctions or failures that would have precluded normal operation. A postaccident engine run was performed with no anomalies noted.

During the recovery operation, 1 quart of fuel was recovered from the airplane, and both fuel tanks were found intact. On the airplane make and model, it is possible for fuel to drain out through the left-wing fuel tank vent tube if the airplane is sitting inverted for a period of time.

A review of meteorological data showed that at the time of the accident, the airplane was likely operating in conditions conducive to the formation of serious carburetor icing for glide power settings; however, the pilot reported using carburetor heat during the descent. The airframe manufacturer has published guidance stating that with certain flight maneuvers, such as prolonged uncoordinated flight or sideslips, the fuel may move away from the fuel tank supply outlet and if the outlet becomes uncovered, fuel flow to the engine may be interrupted and a temporary loss of engine power may result.

Based on the available evidence, it could not be determined what caused the total loss of 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 that resulted in a forced landing and subsequent noseover. The reason for the total loss of engine power could not be determined based on the available evidence.

Findings

Aircraft	(general) - Unknown/Not determined
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Unknown	Unknown or undetermined (Defining event)
Enroute-descent	Loss of engine power (total)
Enroute-descent	Attempted remediation/recovery
Enroute-descent	Off-field or emergency landing
Landing-landing roll	Nose over/nose down

On September 3, 2021, about 1200 mountain daylight time, a Cessna 182D airplane, N9114W, sustained substantial damage when it was involved in an accident near Delta, Colorado. The pilot sustained no injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 commercial skydiving flight.

The airplane was operating as part of a commercial skydiving operation, Ultimate Skydiving Adventures, LLC, based at the Blake Field Airport (AJZ), Delta, Colorado. The pilot was completing the 8th flight of the day and the airplane was refueled with 15 gallons of fuel after the first four flights. To be set up on the jump run at 14,000 ft msl, the pilot applied partial carburetor heat, closed the cowl flaps, reduced power to 15 inches of manifold pressure, and set the RPM for 2,200. Once all the skydivers egressed from the airplane, she applied full carburetor heat and "pulled the throttle back." The airplane descended at 120 mph and the pilot performed a "wide arc" to be setup for a long final approach, as she normally did. Around 8,000 ft msl, she initiated a turn onto final and started to apply a "little power." She noticed that the power application didn't sound normal.

As she completed the turn onto the final approach around 7,000 ft msl, she applied full power and there was no response from the engine. She established an 80-mph glide and pushed the mixture full rich and the propeller full in. She manipulated the throttle and pushed the carburetor in and pulled it out again, with a "tiny sputter" occurring. The pilot decided she would be unable to make it back to AJZ due to the total loss of engine power. She located a flat, open hay field, and performed a forced landing. During the landing roll on the soft, wet mud, the airplane nosed over, and came to rest inverted. The pilot was able to egress from the airplane without further incident.

The airplane sat inverted in the field for a week before it was recovered. During the recovery operation, 1 quart of fuel was recovered from the airplane. The airplane sustained substantial damage to both wings; however, both fuel tanks were found intact. On airplane make and model, it is possible for fuel to drain out through the left wing fuel tank vent tube (there is only one fuel tank vent tube on this model) if the airplane is sitting inverted for a period. A postaccident examination of the airframe revealed no preimpact mechanical malfunctions or

failures that would have precluded normal operation. A postaccident engine run was performed with no anomalies noted.

A review of meteorological data showed that at the time of the accident, the airplane was likely operating in conditions conducive to the formation of serious carburetor icing for glide power settings.

The Federal Aviation Administration and the U.S. Parachute Association have created an educational document, Flying For Skydive Operations P-8740-62. This document provides guidance for pilots on the descent portion of a skydiving flight and states in part:

Use carburetor heat during descent; Cessnas are susceptible to carburetor ice.

At any point, the aircraft should be in a position to glide to the airport if necessary.

Keep a tight traffic pattern. The aircraft should be able to glide to the airport in the event of a power loss.

Textron Aviation has published the Pilot Safety and Warning Supplements. This educational document provides guidance for pilots on the management of fuel systems and states in part:

The shape of most airplane wing fuel tanks is such that, in certain flight maneuvers, the fuel may move away from the fuel tank supply outlet. If the outlet is uncovered, fuel flow to the engine may be interrupted and a temporary loss of power might result. Pilots can prevent inadvertent uncovering of the tank outlet by having adequate fuel in the tank selected and avoiding maneuvers such as prolonged uncoordinated flight or sideslips which move fuel away from the feed lines.

Pilot Information

Certificate:	Commercial	**Age:**	58,Female
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	August 18, 2021
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	August 3, 2021
Flight Time:	576 hours (Total, all aircraft), 95 hours (Total, this make and model), 518 hours (Pilot In Command, all aircraft), 37 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N9114W
Model/Series:	182 D	**Aircraft Category:**	Airplane
Year of Manufacture:	1961	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18253219
Landing Gear Type:	Tricycle	**Seats:**	1
Date/Type of Last Inspection:	July 16, 2021 Annual	**Certified Max Gross Wt.:**	2990 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4521.73 Hrs as of last inspection	**Engine Manufacturer:**	Continental Motors
ELT:	C91A installed, not activated	**Engine Model/Series:**	O-470-R
Registered Owner:	PAPER PLANE LLC	**Rated Power:**	230 Horsepower
Operator:	PAPER PLANE LLC	**Operating Certificate(s) Held:**	None
Operator Does Business As:	Ultimate Skydiving Adventures, LLC	**Operator Designator Code:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KAJZ,5194 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	11:55 Local	**Direction from Accident Site:**	56°
Lowest Cloud Condition:	Clear	**Visibility**	7 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.16 inches Hg	**Temperature/Dew Point:**	25°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Delta, CO (AJZ)	**Type of Flight Plan Filed:**	None
Destination:	Delta, CO (AJZ)	**Type of Clearance:**	None
Departure Time:	11:40 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	38.772859,-108.07639(est)

Administrative Information

Investigator In Charge (IIC):	Hodges, Michael
Additional Participating Persons:	Jeffrey Smith; FAA Salt Lake City FSDO; Salt Lake City, UT Casey Love; Textron Aviation; Wichita, KS
Original Publish Date:	February 24, 2023
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=103811