Aviation Investigation Final Report

Location:	Towanda, Pennsylvania	**Accident Number:**	ERA23LA383
Date & Time:	September 30, 2023, 15:10 Local	**Registration:**	N747UC
Aircraft:	Cessna 182	**Aircraft Damage:**	Substantial
Defining Event:	Unknown or undetermined	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the preflight inspection and engine run-up were normal. During initial climb, about 300 ft above ground level, the engine began to run rough. The pilot varied the throttle, mixture, and carburetor heat levers in an attempt to restore power; however, the engine subsequently lost all power. The propeller continued to rotate and did not stop completely. The pilot moved the fuel selector from both, to left, to right, back to both, but was unable to restore engine power. He then performed a forced landing to a field. During the landing, the airplane nosed over, coming to rest inverted.

Examination of the wreckage revealed that adequate fuel remained onboard and no fuel contamination was observed. Subsequent examination of the engine, fuel system, ignition system, and air intake did not reveal any anomalies that would have precluded normal operation.Review of a carburetor icing chart revealed that the airplane was not susceptible to carburetor icing at cruise power for the prevailing temperature and dew point. Based on the available information, the reason for the loss of engine power could not be determined.

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 during initial climb for undetermined reasons.

Findings

Aircraft	(general) - Unknown/Not determined

Factual Information

History of Flight

Initial climb	Unknown or undetermined (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)

On September 30, 2023, about 1510 eastern daylight time, a Cessna 182Q, N747UC, was substantially damaged when it was involved in an accident near Towanda, Pennsylvania. The private pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he performed a preflight inspection of the airplane in its hangar, which included checking oil and fuel quantity (55 gallons), and sampling fuel from the fuel tanks with no anomalies noted. The engine started normally and the engine run-up was normal. During initial climb from runway 23, about 300 ft above ground level, the engine began to run rough. The pilot varied the throttle, mixture, and carburetor heat levers in an attempt to restore power; however, the engine subsequently lost all power. The propeller continued to rotate and did not stop completely. The pilot moved the fuel selector from both, to left, to right, back to both, but was unable to restore engine power. He then performed a forced landing to a field. During the landing, the airplane nosed over, coming to rest inverted. The pilot then turned the fuel selector, magneto key, and master switch to the off position before exiting the airplane.

Examination of the wreckage by a Federal Aviation Administration inspector revealed substantial damage to both wings and the vertical stabilizer. The wreckage was further examined following its recovery to a salvage facility. Before transport, about 20 or more gallons were defueled from each wing (about 40 gallons or more total). The fuel was blue, clear, and absent of any visible contamination.

During the postaccident engine examination, the valve covers and the top spark plugs were removed. The spark plug electrodes were intact and gray in color. The propeller was rotated 360° by hand to confirm crankshaft, camshaft, and valvetrain continuity to the rear accessory section of the engine. The single-drive, dual magneto impulse coupling emitted activation noise during the propeller rotation. Thumb compression was also attained on all six cylinders.

The carburetor remained intact and continuity of its linkage was confirmed. The carburetor was then removed and disassembled and fuel was noted throughout the carburetor and fuel lines. The fuel was blue, clear, and absent of any visible contamination. The carburetor accelerator pump jet emitted a fuel stream when the throttle was actuated by hand.

The air intake and engine exhaust were free from obstructions. Lastly, a magneto timing test was performed, which revealed that the timing was correct.

Review of a carburetor icing chart revealed that the airplane was not susceptible to carburetor icing at cruise power for the prevailing temperature and dew point.

Pilot Information

Certificate:	Private	**Age:**	31,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**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 3 With waivers/limitations	**Last FAA Medical Exam:**	January 13, 2020
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 1, 2023
Flight Time:	2448 hours (Total, all aircraft), 320 hours (Total, this make and model), 2228 hours (Pilot In Command, all aircraft), 42 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N747UC
Model/Series:	182 Q	**Aircraft Category:**	Airplane
Year of Manufacture:	1977	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18265367
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	November 1, 2022 Annual	**Certified Max Gross Wt.:**	2950 lbs
Time Since Last Inspection:	100 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3214 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	O-470-U
Registered Owner:	On file	**Rated Power:**	230 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:	ELM,936 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	319°
Lowest Cloud Condition:	Clear	**Visibility**	10 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:	30.21 inches Hg	**Temperature/Dew Point:**	24°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Towanda, PA	**Type of Flight Plan Filed:**	None
Destination:	Quakertown, PA (UKT)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	Bradford County Airport N27	**Runway Surface Type:**	Asphalt
Airport Elevation:	730 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	23	**IFR Approach:**	None
Runway Length/Width:	4301 ft / 75 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	41.774,-76.4557

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Chester Gallagher; FAA/FSDO; Harrisburg, PA
Original Publish Date:	July 24, 2024
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=193164