



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Hillsville, Virginia	Accident Number:	ERA23FA131
Date & Time:	February 27, 2023, 16:56 Local	Registration:	N2991J
Aircraft:	Cessna 150G	Aircraft Damage:	Substantial
Defining Event:	VFR encounter with IMC	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The instrument-rated pilot was conducting a personal, cross-country, visual flight rules flight and did not receive a formal weather briefing before departing. Flight track data showed that, after departure, the airplane proceeded direct to the destination airport for about 40 minutes. Then, after entering mountainous terrain, the airplane completed a descending 540° left turn and reversed course while continuing to descend at a rate of 250 ft per minute. The airplane impacted trees and terrain and came to rest in a wooded area. The reported weather conditions in the area around the time of the accident included less than 2 miles visibility and clouds about 255 ft above ground level (agl).

Examination of the airframe and engine revealed no evidence of any preaccident mechanical failures or malfunctions that would have precluded normal operation. Based on the cut branches located in the vicinity of the accident site, and the damage signatures observed on the propeller, the engine was likely producing power at the time of impact.

While en route, the pilot likely encountered deteriorating weather conditions that obscured the mountainous terrain and as the pilot attempted to turn around and exit the deteriorating weather conditions the airplane gradually descended and struck trees and the terrain.

Probable Cause and Findings

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

The pilot's continued visual flight rules flight into instrument meteorological conditions, resulting in controlled flight into terrain.

Findings

Personnel issues	Weather planning - Pilot
Environmental issues	Below VFR minima - Decision related to condition

Factual Information

History of Flight

Enroute	VFR encounter with IMC (Defining event)
Enroute	Controlled flight into terr/obj (CFIT)

On February 27, 2023, about 1656 eastern standard time, a Cessna 150G, N2991J, was substantially damaged when it was involved in an accident near Hillsville, Virginia. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

A friend of the pilot reported that the pilot flew from Twin County Airport (HLX), Hillsville, Virginia, to Burlington/Alamance Regional Airport (BUY), Burlington, North Carolina, to pick up parts for an engine the pilot was working on. A witness reported speaking to the owner of the maintenance shop, where the pilot was going to pick up the engine parts, who confirmed that the pilot arrived to pick up the parts and subsequently departed.

According to a GPS device that was downloaded at the National Transportation Safety Board Vehicle Recorders Laboratory, the airplane departed BUY at 1612. The pilot flew a nearly direct northwestern route towards HLX. About 15 miles from the destination, at 1653, the airplane began flying over mountainous terrain. Then, the airplane entered a descending left turn for 1 1/2 revolutions (540°) until the flight track straightened and reversed course on a southeasterly heading (figure 1). Examination of the GPS altitude data revealed that the airplane descended from about 3,250 ft to 3,000 ft, about 200 ft agl, during the final minute of flight. The final GPS data point was about 650 ft from where the main wreckage was located.

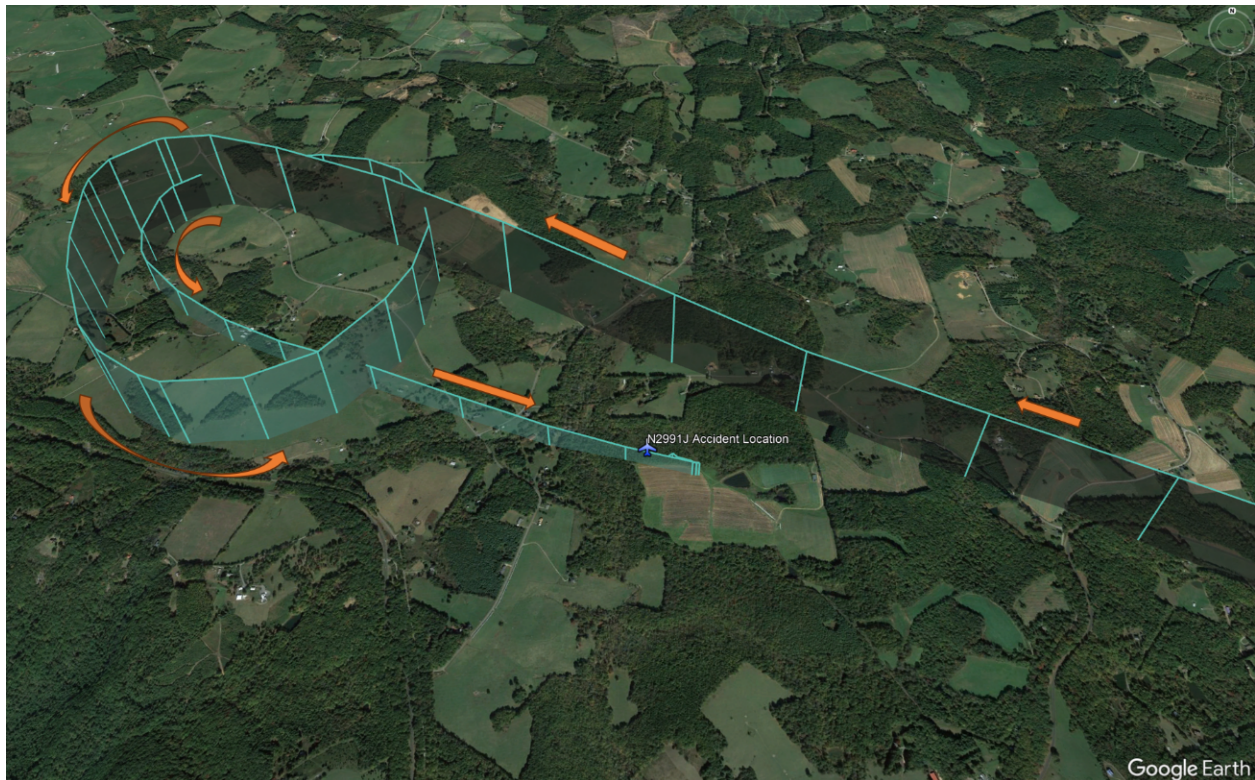


Figure 1. View of flight track for the final 4 minutes of flight. The blue track indicates the airplane flight track and the orange arrows indicate the direction of flight.

An alert notice (ALNOT) was issued by the Federal Aviation Administration at 1914 after family and friends reported the airplane missing. The airplane was located by a private citizen about 1030 the following day.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	74,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Glider; Helicopter	Restraint Used:	None
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	Yes
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	June 20, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	March 20, 2022
Flight Time:	(Estimated) 10000 hours (Total, all aircraft)		

A review of the pilot's flight log revealed that he only documented flight reviews in his logbook. His most recent flight review was completed on March 20, 2022. As of the most recent medical exam, on June 20, 2022, the pilot reported 10,000 flight hours, of which 150 hours were in the 6 months before the examination.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N2991J
Model/Series:	150G	Aircraft Category:	Airplane
Year of Manufacture:	1966	Amateur Built:	
Airworthiness Certificate:	Utility	Serial Number:	15065791
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	January 17, 2023 100 hour	Certified Max Gross Wt.:	1600 lbs
Time Since Last Inspection:	30.3 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	3850 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	C126 installed, not activated	Engine Model/Series:	O-200A
Registered Owner:	On file	Rated Power:	100 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	HLX, 2693 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	17:15 Local	Direction from Accident Site:	296°
Lowest Cloud Condition:		Visibility	2 miles
Lowest Ceiling:	Overcast / 200 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.55 inches Hg	Temperature/Dew Point:	9°C / 9°C
Precipitation and Obscuration:	Moderate - None - Mist		
Departure Point:	Burlington, NC (BUY)	Type of Flight Plan Filed:	None
Destination:	Hillsville, VA (HLX)	Type of Clearance:	None
Departure Time:	14:12 Local	Type of Airspace:	

A review of preflight weather briefing information revealed that the pilot did not obtain preflight information from Leidos Flight Services or ForeFlight.

Graphical-Airmen's Meteorological Information (G-AIRMET) advisories were valid for the accident location below FL180 at both 1600 and 1900 for moderate icing between the surface and FL210, moderate turbulence from the surface to FL180, low-level wind shear, instrument flight rule conditions (IFR) and mountain obscuration. Graphical Forecasts for Aviation (GFA) forecast imagery depicted broken and overcast sky conditions in the immediate accident region with a point to the southwest of the accident site valid at 1600 identifying overcast clouds at 2,600 ft with tops to 11,000 ft. The GFA surface forecasts valid at 1600 and 1900 depicted southerly to southwesterly gusting surface winds of 15-25 knots near the accident location with rain showers across the region.

A High-Resolution Rapid Refresh (HRRR) model sounding for near the accident site at 1700 using an elevation of 2,745 ft indicated clouds were identified between about 3,000 and 16,500 ft.

At 1655, the HLX automated weather observation station reported a wind from 180° at 6 knots and variable between 160° and 220°, visibility 1 3/4 statute miles, mist, ceiling overcast at 200 ft agl, temperature of 9°C and dew point temperature of 9°C, altimeter setting of 29.57 inches of mercury.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	36.656234,-80.542626

The airplane came to rest in a wooded area at an elevation of 2,776 ft above mean sea level. The airplane impacted a tree about 205 ft before the wreckage came to rest. There was no evidence of fire, and all major components of the airplane were located in the vicinity of the main wreckage.

The left wing, outboard of the flap, was impact separated and located 60 ft before the main wreckage and exhibited a 1.5 ft semicircular impact area. The remainder of the left wing was attached to the fuselage and the leading edge was impact crushed aft. The fuselage remained intact and exhibited impact damage. The right wing was partially impact separated outboard of the flap and remained attached by an aileron control cable. The remainder of the right wing was attached to the fuselage. The empennage remained attached to the fuselage and all surfaces exhibited impact damage. Flight control continuity was confirmed from all flight controls to all respective control surfaces.

The engine remained attached to the fuselage through the engine mounts. Crankshaft and valvetrain continuity were confirmed by rotating the propeller through 720° of rotation. Compression and suction were confirmed on all cylinders. The cylinders were examined with a lighted borescope and no anomalies were noted. The magnetos remained attached to the accessory case and produced spark on all leads. The carburetor remained attached to the engine; when removed and examined no anomalies were noted. Oil was present throughout the engine and the oil filter remained attached to the engine. There were no anomalies found with the engine that would have precluded normal operation.

The fixed-pitch propeller remained attached to the crankshaft flange and the two blades remained attached to the hub. One blade exhibited chordwise scratching and was bent about 10°. The other blade exhibited chordwise scratching and s-bending. There were multiple pieces of tree branches found along the debris path that were cut at a 45° angle and had black/grey paint transfer marks, consistent with propeller strikes.

The emergency locator transmitter remained secure in the fuselage and its switch was found in the OFF position.

Medical and Pathological Information

An autopsy of the pilot was performed by the Department of Health, Office of the Chief Medical Examiner, Roanoke, Virginia. The autopsy report was reviewed and stated the cause of death was blunt force injuries.

Administrative Information

Investigator In Charge (IIC):	Kemner, Heidi
Additional Participating Persons:	Jerry Morgan; FAA/FSDO; Charleston, WV Kurt Gibson; Textron Aviation Inc.; Wichita, KS
Original Publish Date:	May 2, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=106797

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