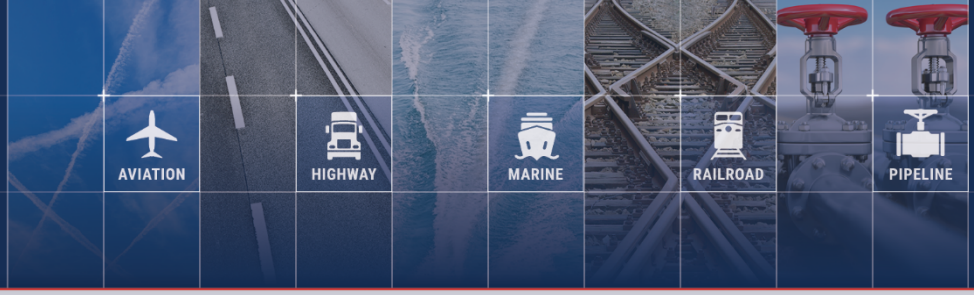

Aviation Investigation Final Report

Location:	Gilford, New Hampshire	**Accident Number:**	ERA23FA384
Date & Time:	September 30, 2023, 19:42 Local	**Registration:**	N6312G
Aircraft:	Cessna 150K	**Aircraft Damage:**	Substantial
Defining Event:	VFR encounter with IMC	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was completing a cross-country flight at night and had arrived in the area of the destination airport. After entering an extended downwind leg of the traffic pattern, he was flying over a lake when the accident occurred. The airplane entered a left base-to-final turn that developed into a steep, spiral dive to the right, and continued until the airplane impacted the lake. The airplane lacked an autopilot; therefore, it was being manually flown by the pilot. No preimpact malfunctions of the airplane were identified during a postaccident examination of the recovered wreckage.

The pilot was not instrument-rated and had no recent experience flying at night. Witnesses indicated visibility in the area was reduced by wildfire smoke. Surveillance video confirmed that the sky was obscured and that the airplane was flying through low clouds immediately before the loss of control occurred. Few ground lights or other visual references were available in the vicinity of the lake that could have helped the pilot maintain orientation or aid in recovery after he lost control of the airplane. Loss of outside visual references during a visual flight rules (VFR) flight creates a high risk of spatial disorientation and loss of control for pilots who are not instrument-rated and current/proficient. Several risk factors for spatial disorientation were present in this case: reduced visibility, manual control, and maneuvering flight. Therefore, the pilot likely experienced spatial disorientation followed by a loss of control in flight.

The pilot was advised by a flight instructor before departing on the accident flight that meteorological information indicated visibility might be diminished by the time he arrived at the destination airport, but he decided to depart anyway. According to the instructor, who was a friend of the pilot, the pilot had experienced multiple delays returning the accident airplane to his home and had plans with a friend that evening. Thus, the pilot appears to have disregarded

information that the flight might have been unsafe to operate under VFR, and he likely did not divert because he was motivated to avoid further delays and attend to a social obligation.

Probable Cause and Findings

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

The pilot's loss of control during visual flight rules flight in night instrument meteorological conditions due to spatial disorientation. Contributing to the accident was the pilot's motivation to depart on the flight despite being made aware that conditions might be unsafe and his continuation of the flight as weather conditions deteriorated.

Findings

Personnel issues	Spatial disorientation - Pilot
Personnel issues	Aircraft control - Pilot
Personnel issues	Decision making/judgment - Pilot
Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Approach-VFR pattern base	VFR encounter with IMC (Defining event)
Approach-VFR pattern base	Loss of control in flight
Uncontrolled descent	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On September 30, 2023, about 1942 eastern daylight time, a Cessna 150, N6312G, was substantially damaged when it was involved in an accident near Gilford, New Hampshire. The private pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot departed in visual meteorological conditions from Rhode Island T.F. Green International Airport (PVD) Providence, Rhode Island, about 1610 eastern daylight time, and was destined for the Laconia Municipal Airport (LCI), Laconia, New Hampshire. According to the pilot's friend/flight instructor, the pilot had flown to PVD earlier in the month for a flight review, but due to weather, had not been able to return to New Hampshire after the review was completed. The purpose of the accident flight was to return the airplane back to his home in New Hampshire. The pilot planned to land at LCI and have dinner with his girlfriend, who was waiting for him at LCI when the accident occurred. ADS-B data revealed that the pilot entered a 45° entry (about mid-field) to the right downwind for runway 26 at LCI between 1,300 and 1,400 ft mean sea level (msl). A review of airport surveillance video revealed the runway lights were turned on when the airplane entered the traffic pattern. The airplane continued on the downwind and after passing abeam the threshold of runway 26, the airplane continued 1.6 miles on a course about 66 degrees true (80 degrees magnetic). The airplane then crossed the shore of Lake Winnipesaukee and continued on the same course for an additional 0.4 nm. The airplane's position and altitude were uncertain for part of this time due to missing data points. However, the last three recorded data points showed the airplane beginning a left turn 0.4 miles beyond the shoreline of the lake at an altitude of 1,275 ft msl.

A witness was sitting in his truck with the window open on the shore of the lake when he saw the "bright" landing lights of the airplane pass by him from left to right. The airplane was less than 100 ft above the water and was in a descending right turn. He said the airplane impacted the water at an angle and did not go straight in. The witness said the accident happened so fast that he did not recall if he heard the airplane's engine or not. He said the wind was calm, and he did not observe any fog in the area. The moon was full, but the haze from wildfires diminished its illumination and it was dark over the lake.

Another witness was on the shore of the lake when he observed the airplane. He said he was looking out at the water when he heard the sound of the airplane's engine to his left and looked up. The witness saw the airplane just above the tree line of Welch Island. The weather was a little "foggy" out, but he could see the airplane's red/green position lights and its white landing lights. The airplane then suddenly went "full throttle" and "dove down" in a descending right turn. Seconds later, the airplane impacted the water. The witness reiterated that the airplane's engine was "running fine" and going "full power" when it hit the water.

Video obtained from a surveillance camera about 1.3 nm southeast of the accident location revealed the airplane appeared to be in a shallow descent with its lights partially obscured by clouds. About 12 seconds later, the airplane emerged from the clouds in a steep, spiral dive and impacted the water.

The airplane was located the following morning about 3 miles east north-east of LCI in 57 ft of water.

PILOT INFORMATION

The 70-year-old pilot held a private pilot certificate with a rating for airplane single-engine land. He did not hold an instrument rating. His last FAA third-class medical was issued on May 2, 2023. Although his third-class medical was still valid at the time of the accident, the pilot had also applied for BasicMed and completed the BasicMed Course and Comprehensive Medical Examination Checklist (CMEC) on May 2, 2023.

A review of the pilot's flight logbook revealed he had logged numerous flights in and out of LCI. His last flight review was on September 9, 2023, which was the last entry before the accident. At that time, he had logged a total of 674.8 flight hours. Additional review of the logbook, which went back to December 2020, revealed there were no logged flights at night, nor was there any simulated or actual instrument flight time logged.

AIRPLANE INFORMATION

The single-engine, two-seat accident airplane was not equipped with an autopilot. The airframe maintenance logbook was found in the airplane; however, the engine and propeller maintenance logs were not located. A review of the airplane logbook revealed that the airplane's last annual inspection was completed on March 12, 2023, at a tachometer time of 2,599.6 hours.

METEOROLOGICAL INFORMATION

The weather conditions at LCI at 1956 were reported as wind calm, visibility 5 statute miles in haze, clear skies, temperature 14 degrees C, (dewpoint not reported), and a barometric altimeter setting of 30.19 inHg.

The sunset occurred about 1829, about 73 minutes before the accident. Smoke from wildfires resulted in the sky being obscured haze on the evening of the accident, reducing the full

moon’s illumination. An eyewitness described the conditions as “dark” and “hazy” due to wildfire smoke. Surveillance video of the accident indicated that the sky was overcast, as there were no visible sources of lunar illumination or cultural lighting along the shoreline of the lake.

WRECKAGE INFORMATION

The airplane wreckage was recovered from the water and examined. All major components of the airplane were recovered and there was no evidence of any preimpact fire or impact with birds. Both wings and the tail control surfaces sustained extensive impact damage. Flight control continuity was established for all major flight control surfaces to the cockpit. The flap actuator was in the fully retracted position. The elevator trim tab was not recovered, but the trim tab actuator remained attached to the right horizontal stabilizer. The rod end of the actuator had been pulled out from impact forces and no measurement could be obtained.

The cockpit area sustained extensive impact damage. The throttle/mixture/carburetor heat controls were all full forward.

The engine and its two-blade propeller sustained impact damage. Both blades were bent aft mid-span and exhibited some twisting. The engine’s crankshaft was manually rotated via the propeller. When rotated, compression and valvetrain continuity were confirmed on each cylinder. The top spark plugs were removed, and the electrodes were covered in mud, but appeared to be in good condition. Both magnetos remained attached to the engine and several tears were noted to the ignition harness. The magnetos were removed and both couplings snapped when rotated. Spark could not be obtained to the ignition leads due to water damage.

The vacuum pump also separated from the engine and sustained impact damage. The pump was disassembled, and the rotors were heavily fractured. All but one of the vanes was intact. Rotational scoring was observed 360°around the interior wall of the pump.

No evidence of any preimpact mechanical malfunctions or failures were identified that would have precluded normal operation of the engine or airplane at the time of the accident.

MEDICAL AND PATHOLOGICAL INFORMATION

The State of New Hampshire Office of the Chief Medical Examiner performed an autopsy on the pilot. The cause of death was determined to be “multiple blunt injuries.”

Toxicology testing performed at the FAA Forensic Sciences Laboratory was negative for drugs.

ADDITIONAL INFORMATION

The pilot did not hold an instrument rating and had no recent experience operating at night or in instrument meteorological conditions. According to the pilot’s friend and flight instructor, who had recently provided the pilot’s flight review, he said he discouraged the pilot from making the flight to LCI because the temperature-dewpoint spread was forecast to converge that evening.

The friend reported that the pilot had experienced previous weather-related delays and insisted on flying to New Hampshire that night. The pilot's girlfriend was supposed to pick him up after he landed at LCI. After the accident, the pilot's friend learned from the pilot's girlfriend that they had plans for a "special dinner," though he did not know what occasion they were celebrating.

The pilot's friend said he sent a text message to the pilot about 1849 to ask how the flight was going and the pilot replied by sending him a photo of the instrument panel of his airplane. This photo showed his iPad fastened to the yoke and presenting a primary flight display as well as a navigation display with a VFR sectional chart overlay. The cockpit was illuminated by a red overhead light and traditional "round dial" flight instruments were visible behind the iPad. A lower portion of the windscreen was included in the photo, but no horizon or ground lights could be seen. The pilot's friend sent several additional text messages between 1916 and 1917 warning the pilot that instrument meteorological conditions (IMC) were present at LCI and urging him to divert to another airport. The pilot did not respond. The pilot's friend said he believed the pilot's decision making was degraded by "get-there-itis." The friend was watching the flight via FlightAware and observed the airplane enter the traffic pattern, turn downwind, and then continue out over the lake. He said the pilot could have turned sooner on to the base leg, and he was not sure why the pilot extended the downwind over the lake.

Various factors have been implicated in pilots' improper decisions to continue VFR flight into IMC conditions. Shortcomings in a pilot's in-flight decision making may occur in the situation assessment or action selection stage. Errors in the situation selection may stem from an inability to accurately assess the weather conditions. Errors in the action selection stage could stem from a flawed mental risk assessment. Risk assessment can be influenced by motivational factors. For example, pilots are more likely to press on in deteriorating conditions if they have already invested a significant amount of time in a flight, likely to avoid the inconvenience of diverting or returning to their airport of origin. Social pressure is another motivational factor that can create motivational conflicts between social obligations and the desire to maintain an adequate safety margin. This could contribute to plan continuation bias, a reluctance to delay or divert a flight, despite evidence that it is no longer safe to continue the flight as planned. Loss of outside visual references during VFR flight poses a high risk of spatial disorientation and loss of control for pilots who are not instrument trained, and the risk of such accidents is also higher at night.

Pilot Information

Certificate:	Private	**Age:**	70,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	May 2, 2023
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 9, 2023
Flight Time:	674.8 hours (Total, all aircraft), 12.2 hours (Last 30 days, all aircraft), 1.5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N6312G
Model/Series:	150K	**Aircraft Category:**	Airplane
Year of Manufacture:	1970	**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	15071812
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	March 12, 2023 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2599 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	C91A installed, not activated	**Engine Model/Series:**	O-200-A
Registered Owner:	ASHE ROBERT W	**Rated Power:**	100 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	2356,545 ft msl	**Distance from Accident Site:**	3 Nautical Miles
Observation Time:	19:56 Local	**Direction from Accident Site:**	260°
Lowest Cloud Condition:	Clear	**Visibility**	5 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:	30.19 inches Hg	**Temperature/Dew Point:**	14°C
Precipitation and Obscuration:	In the vicinity - None - Haze		
Departure Point:	Providence, RI (PVD)	**Type of Flight Plan Filed:**	None
Destination:	Laconia, NH (LCI)	**Type of Clearance:**	VFR flight following
Departure Time:		**Type of Airspace:**	Unknown

Airport Information

Airport:	LACONIA MUNI LCI	**Runway Surface Type:**	Asphalt
Airport Elevation:	545 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	26	**IFR Approach:**	Visual
Runway Length/Width:	5890 ft / 100 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	43.587014,-71.3531

Administrative Information

Investigator In Charge (IIC):	Read, Leah
Additional Participating Persons:	David Roakes; FAA/FSDO; Portland, ME Ernest Hall; Textron; Wichita, KS
Original Publish Date:	February 20, 2025
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=193165