Aviation Investigation Final Report

Location:	Walton, New York	**Accident Number:**	ERA19FA039
Date & Time:	November 9, 2018, 15:00 Local	**Registration:**	N5044J
Aircraft:	Cessna 310	**Aircraft Damage:**	Destroyed
Defining Event:	Fire/smoke (non-impact)	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was conducting an instrument flight rules flight along a route that he had flown frequently in the months before the accident. About 55 minutes into the flight, while at cruise altitude, the pilot stated to air traffic control, "I need to get on the ground immediately." The controller provided the pilot with the nearest airport information; however, no further intelligible radio transmissions were received from the pilot. Radar data showed the airplane enter a turning descent before radar contact was lost about 1.8 nautical miles from the accident site.

A witness near the accident site heard engines revving up and down for about 1 minute and subsequently saw an airplane overhead. She reported that the engines were loud, and as the airplane flew by, she saw gray smoke trailing the airplane and a red/orange glow originating from under the right wing area. The airplane then flew out of view, and she subsequently heard a loud explosion and saw a plume of smoke.

The distribution of the wreckage was consistent with a high-speed impact. Flight control continuity could not be established due to the heavy fragmentation of the wreckage; however, all major flight control components were located in the debris field. Examination of the engines revealed no anomalies or thermal damage that would have precluded normal operation. Both damage signatures and witness accounts indicated that the engines were producing power at the time of the accident.

Autopsy findings were consistent with the pilot's inhalation of smoke/soot before the impact occurred. The wreckage also exhibited evidence of an in-flight fire. Small areas of broomstrawing and localized thermal damage were found on structures located in the left side of the cockpit area, where the pilot was likely seated. In addition, there was evidence of airflow-driven soot tailing on rivets in a few areas of the fuselage. The recovered instrument panel, wiring, and avionics showed no signs of electrical arcing or fire. Although the airplane's combustion cabin heater was not inspected in accordance with the latest airworthiness directive, the interior components of the heater showed no signs of fire. Based on this information, the heavy fragmentation of the wreckage, and the postcrash fire to which it was also exposed, the origin of the in-flight fire could not be determined.

There was no record that the pilot accessed any weather products before or during the accident flight. The pilot likely encountered light to moderate icing conditions about 3 minutes after takeoff, which had been forecast by several products issued before the pilot's departure; however, these conditions deteriorated to moderate or greater turbulence and moderate or greater icing conditions, including supercooled large droplet (SLD) icing, during the final 10 minutes of the flight. These conditions were not forecast or reflected in pilot reports. The pilot did not state that he was accumulating airframe icing at any time during the flight, but it is likely that the SLD icing rapidly accumulated on the airframe to the extent that the airplane could no longer sustain flight.

Although it could not be determined when the in-flight fire occurred it was likely the reason for the pilot stating he had to get on the ground immediately. Further, it is also likely that the SLD and the prevailing instrument meteorological conditions in the area reduced the likelihood that the pilot could have expediently performed an emergency descent and landing.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An in-flight fire of undetermined origin. Contributing to the accident were the severe icing conditions encountered during the final minutes of the flight, which led to a loss of airplane control.

Findings

Not determined	(general) - Unknown/Not determined
Environmental issues	Conducive to structural icing - Effect on operation
Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Attain/maintain not possible

Factual Information

History of Flight

Enroute-cruise	Fire/smoke (non-impact) (Defining event)
Enroute-cruise	Structural icing
Emergency descent	Loss of control in flight
Emergency descent	Collision with terr/obj (non-CFIT)
Post-impact	Explosion (post-impact)

HISTORY OF FLIGHT

On November 9, 2018, about 1500 eastern standard time, a Cessna 310R, N5044J, was destroyed when it was involved in an accident near Walton, New York. The airline transport pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations (CFR)* Part 91 personal flight.

According to Leidos Flight Service, the pilot filed an instrument flight rules (IFR) flight plan from Niagara Falls International Airport (IAG), Niagara Falls, New York, to Teterboro Airport (TEB), Teterboro, New Jersey. The pilot was employed by a 14 CFR Part 135 charter company based at TEB and was assigned to begin a charter flight as the second-in-command pilot the next day.

Review of air traffic control communications and radar data provided by the Federal Aviation Administration (FAA) revealed that, about 1442, the pilot contacted the Binghamton, New York, approach controller and reported flying at 7,000 ft mean sea level (msl). The controller provided the altimeter setting, which the pilot read back. About 1459, the pilot stated, "I need to get on the ground immediately." The controller advised the pilot that the nearest airport was behind him. There were no further intelligible radio transmissions from the pilot. At 1500:21, the airplane had descended to 6,550 ft, slowed from about 200 knots (kts) to 151 kts groundspeed, and began a turn to the northeast. The airplane continued flying northeast and, at 1500:36, the airplane had descended to 5,100 ft at 196 kts groundspeed. The final radar return was recorded at 1500:50 about 1.8 nautical miles from the initial impact point and showed that the airplane had climbed to 7,350 ft msl on a heading of 308° and was at 151 kts groundspeed.

A witness, who was located about 1/2 mile from the accident site, reported that she was outside and heard engines revving up and down for about 1 minute. She subsequently realized the noise was coming from the air, and then saw an airplane "overhead." She stated, "it was so loud" and it flew in a straight line over a pond near her. She reported that she could see a "gray round column of smoke" trailing the airplane and saw a "red orange glow" originating from under the right wing area. The airplane flew out of view; she then heard a loud explosion and subsequently saw a plume of smoke.

PERSONNEL INFORMATION

According to FAA records, the pilot also held a mechanic certificate with airframe and powerplant ratings. The pilot's logbook was not recovered; however, according employer records, he completed an airman competency/proficiency check on July 6, 2018. An airplane logbook that detailed recent flights the pilot had flown in the airplane was located in the debris. The entries that were legible revealed that, from July 11, 2018, through the date of the accident, the pilot had flown 16 hours in the accident airplane, and each of the flights originated from IAG or TEB.

AIRCRAFT INFORMATION

Fragments of the original maintenance records were located in the debris field; the majority of the records located were damaged and illegible. Copies of annual inspections completed on July 14, 2017, and August 21, 2018, were provided by the maintenance facility that completed the inspections. The July 2017 annual endorsement stated in part that FAA Airworthiness Directive (AD) FAA-AD-81-09-09 for the Stewart Warner Combustion cabin heater was found to be previously complied with and noted that the heater Hobbs total time was 305.3 hours.

FAA AD-2017-06-03 became effective on May 5, 2017, and superseded FAA-AD-81-09-09. There was no record in the 2017 or 2018 annual endorsements that the new AD had been complied with.

FAA AD-2017-06-03 stated in part: "This AD was prompted by an airplane accident and reports we received that the combustion heater was malfunctioning. We are issuing this AD to detect and correct a hazardous condition caused by deterioration of the combustion heater, which could lead to ignition of components and result in smoke and fumes in the cabin." The AD was required to be complied with within the next 10 hours of service of the combustion heater after May 5, 2017, or at the next scheduled annual inspection, which for the accident airplane would have occurred on July 14, 2017. The AD required checking several components of the combustion heater in addition to performing a pressure decay test.

According to the August 2018 annual inspection endorsement, the onboard weather radar system's components, which included the radar display indicator (King Model KI-244) and radar antenna (Narco Model KA-126), were removed for repair. According to work orders from an avionics repair facility, burning and overheating electrical discrepancies were identified with the weather radar system. The facility repaired the radar display and shipped a replacement radar antenna to the pilot. There were no records found indicating that the radar antenna, which had recently been delivered to the pilot's hangar, was re-installed on the accident airplane, nor was the antenna located in the wreckage. However, according to a friend of the pilot who was familiar with the ongoing troubleshooting of the radar unit, the replacement antenna was not located in the pilot's hangar where he had last seen it.

METEOROLOGICAL INFORMATION

Station models around the accident site depicted air temperatures in the low 30°F to low 40°F, a southeast to east wind of 5 to 15 knots, overcast sky cover, mist, light rain and snow to the west and north of the accident site, and light to heavy rain to the south and east of the accident site.

At 1456, the weather observation at Sullivan County International Airport (MSV), Monticello, New York, 29 nautical miles (nm) southeast of the accident site, reported wind from 350° at 4 knots, 5 miles visibility, light rain and mist, overcast ceiling at 2,000 ft above ground level (agl), temperature 1°C, dew

point temperature 0°C; with remarks that rain began at 1448, snow ended at 1448, and freezing rain information was not available.

At 1511, the weather observation at Greater Binghamton Airport (BGM), Binghamton, New York, 35 nm west of the accident site, reported wind from 130° at 11 knots, visibility 1 1/2 miles, light snow, mist, broken ceiling at 500 ft agl, broken skies 1,100 ft agl, overcast skies 1,600 ft agl, temperature 0°C, and dew point temperature -1°C.

The Geostationary Operational Environmental Satellite number 16 (GOES-16) visible and infrared images indicated an extensive layer of cloud cover over the accident site moving from southwest to northeast. Review of the infrared imagery indicated the approximate cloud-top heights over the accident site were 34,000 ft at 1502. Upper air data indicated that the freezing level was about 2,000 ft msl at the accident site.

The GOES-16 Icing index imagery for 1445 and 1515 for the accident area suggested likely moderate to heavy icing. Additional review of the BGM Weather Surveillance Radar (WSR-88D) revealed reflectivity values that indicated light to heavy precipitation was falling at 1457 along the route of flight and near the accident site. (refer to Figure 1.)

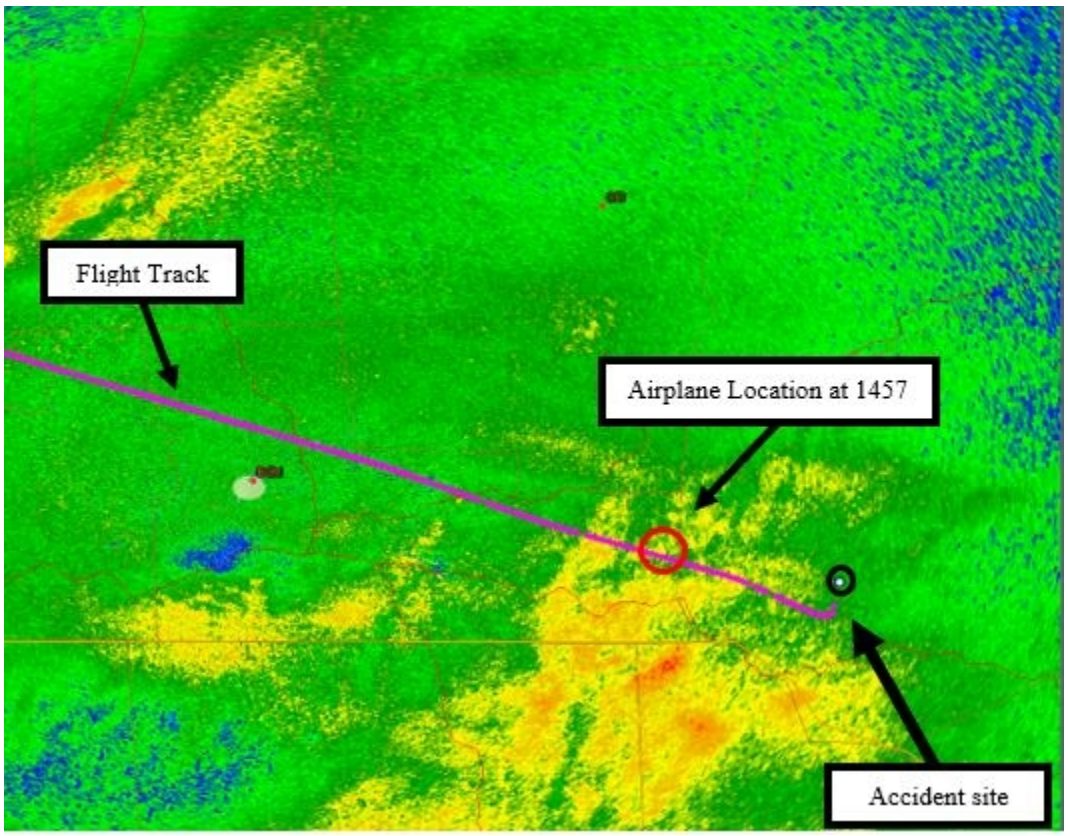

Figure 1. Weather Radar Imagery at 1457, with the airplane's flight track noted by the magenta line, the airplane's position at 1457 circled in red, and the accident site circled in black.

Review of the WSR-88D Dual-Polarization Product revealed signatures consistent with Supercooled Large Droplet (SLD) icing conditions.

The eyewitness stated that at the time of the accident, it was "snowing and sleeting very heavy" and "everything from the kitchen sink was coming down." Another witness located about 1/4 mile from the initial impact point heard the impact and reported that, at the time of the accident, it was snowing and sleeting "very heavy." He further stated that it was "very windy," and you "couldn't see anything."

There was no record of the pilot retrieving any weather information before or during the accident flight from Leidos Flight Service or their third-party providers.

Before the pilot departed on the accident flight, AIRMET advisories Sierra, Tango, and Zulu were issued and remained valid for the accident site at the accident time for altitudes below FL200 (20,000 ft msl). The AIRMETs warned of IFR conditions due to precipitation, mist, and fog, mountain obscuration conditions due to clouds and precipitation, moderate icing between the freezing level and FL200, and moderate turbulence below 10,000 ft.

At 1254, the BGM Terminal Aerodrome Forecast stated in part to expect temporary conditions between 1300 and 1600 of 3 miles visibility, light snow and mist, scattered clouds at 800 ft agl, and an overcast ceiling at 1,200 ft agl.

Review of the publicly-available National Weather Service Forecast Icing Potential (FIP) charts issued before the pilot's departure indicated a 30 to 70% probability of icing at 6,000 ft to 8,000 ft above the accident site at 1500. The FIP also indicated that the icing near the accident site would likely be light to moderate.

WRECKAGE AND IMPACT INFORMATION

The airplane sustained extensive impact damage and displayed evidence of a fire. The wreckage path was oriented on a 320° heading, and the initial impact point coincided with two 50-ft-tall trees atop a ridgeline at an elevation about 2,000 ft msl. Two additional trees atop the ridgeline that were about 40 ft tall and located about 20 ft forward of the initial impact point also displayed impact damage. The wreckage path continued through a heavily-wooded, down-sloping ravine about 620 ft, consistent with the airplane impacting trees atop the ridgeline in a steep, nose-down attitude.

All major components of the airplane were accounted for at the accident site. Flight control continuity could not be established due to the fragmentation of the wreckage. The cockpit, main cabin area, and instrument panel were fragmented, scattered throughout the debris field and displayed varying degrees of thermal damage and sooting.

Both engines separated from their respective engine mounts and were found in the debris field. The left and right upper engine cowlings were located in the debris field and were fragmented. Neither cowling displayed thermal damage or sooting. Both cowlings displayed impact damage and numerous engine accessories had separated from their attach points. Examination of the engines and their located accessories revealed no preaccident mechanical malfunctions or failures that would have precluded normal operation. Both of the engines' 3-bladed propellers displayed varying levels of leading-edge gouging, blade polishing, and s-bending.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was performed by the Lourdes Hospital Department of Pathology, Binghamton, New York. The cause of death was massive blunt injury. In addition, the final autopsy diagnoses stated in part: "Soot in trachea, consistent with fire, thermal injury on hands."

Toxicology testing performed at the FAA Forensic Sciences Laboratory identified ranitidine (treatment for heartburn) in muscle and warfarin (a prescription blood thinner) in muscle and liver. Neither medication was considered to be impairing. Testing for carbon monoxide and cyanide was not performed.

FIRE

The airplane was examined for evidence of an in-flight fire. Small areas of broomstrawing and localized thermal damage were found on a pedestal structure located in the left side of the cockpit area, where the pilot was likely seated (broomstrawing is an effect that occurs when aluminum components become semi-molten due to exposure to heat and are then subjected to a shock loading, such as an impact.) Figure 2 shows three numerically labeled photographs; the first shows the accident airplane's cockpit about 1 year before the accident, with the red circle highlighting the area where broomstrawing was located. The second photograph shows the wreckage postaccident, and the third photograph is a closer image of the area highlighted by the yellow box, showing an area of broomstrawing.

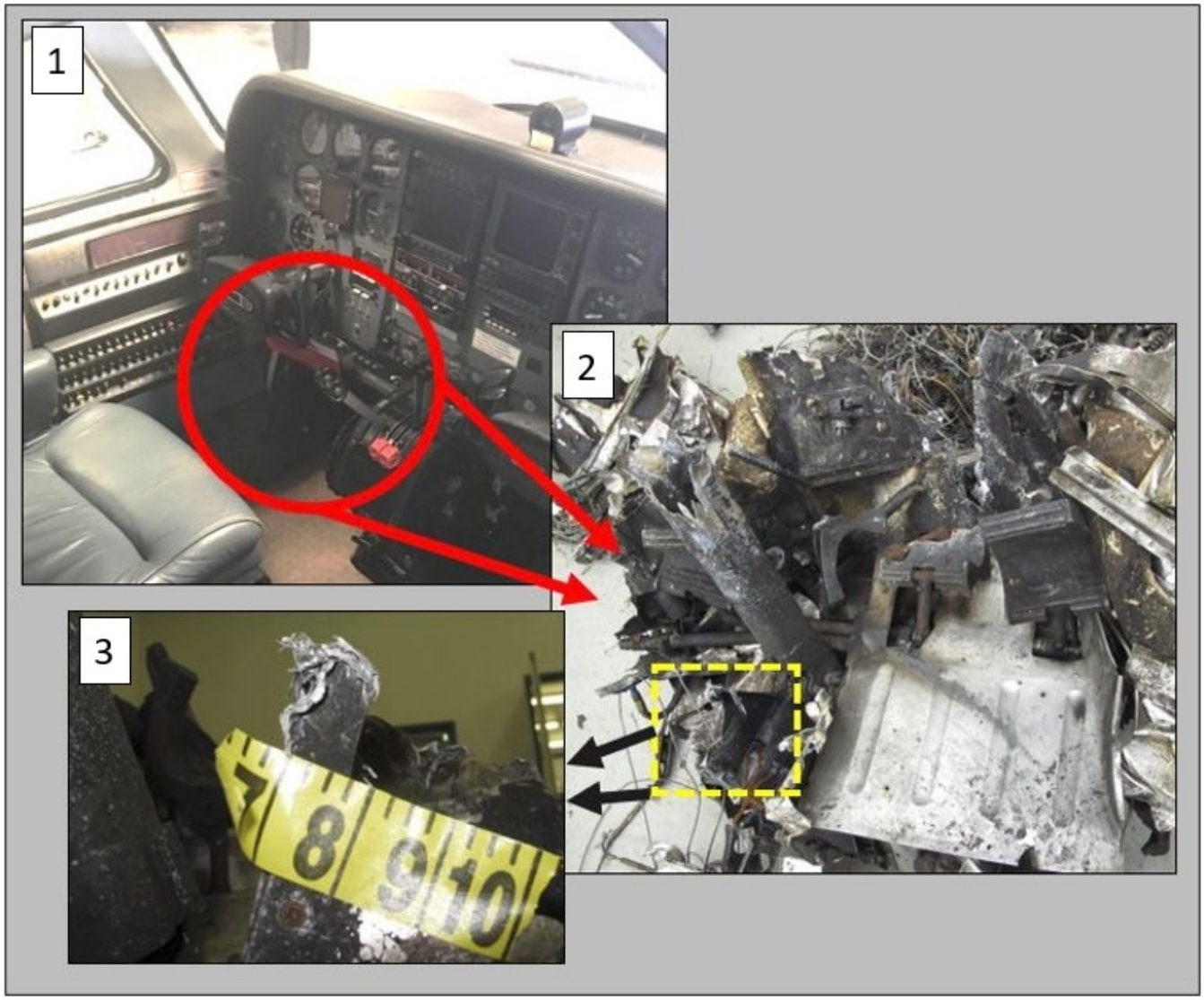

Figure 2: Photographs of the cockpit area preaccident (image 1) and postaccident showing the area where broomstrawing was found (images 2 and 3).

Sections of the cockpit floor area also exhibited heavy sooting and varying levels of thermal damage. The exterior skin directly beneath the cockpit exhibited a localized area of thermal damage. In this area, the exterior paint was missing, and the primer was discolored white and exhibited a powdery appearance. There were other, smaller areas of localized paint damage on the exterior surface. In these areas, the paint was discolored black with some localized bubbling. The left section exhibited general mechanical damage and was heavily sooted with varying levels of soot tailing (an airflow-driven pattern) along the rivet lines. There were no other exterior areas that exhibited thermal damage.

The radar display unit showed severe impact damage and some localized thermal damage. The shape of the burn pattern on the back side of the housing was consistent with the thermal damage occurring after the crush damage. A portion of the housing was removed to access the interior of the display. The internal section displayed no evidence of thermal damage or electrical shorting/arcing. The radar antenna was not recovered.

A large portion of the avionics wiring was recovered and no signs of electrical arcing (beading, pitting, or fused wire conductors) were observed. Small fragments of the circuit breaker panel face plate and surrounding paneling displayed heavy thermal damage. The paneling was delaminated, and no identifiable circuit breakers were recovered.

The cabin heater exhibited impact damage and some localized thermal discoloration with some light sooting on the outer casing. Polymeric materials on the flapper valve and thermostat inside the exhaust duct were located, and no evidence of thermal damage/melting or sooting internal to the recovered portions of the cabin heater was observed.

ADDITIONAL INFORMATION

Electrical System

According to the Airplane Flight Manual, electrical energy was supplied by a 28-volt, negative-ground, direct current system powered by a 100 ampere engine-driven alternator on each engine. The electrical system had independent circuits for each side; each alternator had its own regulator and overvoltage protection relay. The 24-volt battery was located in the left wing just outboard of the engine.

Circuit Breaker Panel

The airplane was equipped with a circuit breaker panel located on the left wall in the cockpit. All electrical circuits in the aircraft were protected by push-to-reset type circuit breakers or switch breakers, except the alternator field, which was protected with a fuse. Should an overload occur in any circuit, the resulting heat rise will cause the controlling circuit breaker to "pop" out, opening the circuit or allowing the switch breaker to return to the OFF position. After allowing the circuit breaker to cool for about 3 minutes, it may be pushed in (until a click is heard or felt) to re-energize the circuit. However, the circuit breaker should not be held in if it opens the circuit a second time, as this indicates a short circuit.

The emergency procedure for an in-flight cabin fire or smoke stated:

IN FLIGHT CABIN FIRE OR SMOKE

(1) Electrical Load – Reduce to minimum required
(2) Attempt to isolate the source of the fire or smoke
(3) Wemacs – OPEN
(4) Cabin Air Controls – OPEN (all vents including windshield defrost). If intensity of smoke increases – CLOSE.
(5) Land and evacuate aircraft as soon as practical

CAUTION: Opening the foul weather window or cabin door will create a draft in the cabin and may intensify a fire

De-Ice Systems

The airplane was equipped with de-ice boots, which were intended to remove airframe icing from the wings after the ice had accumulated, rather than preventing its formation. The manual further stated:

NOTE:

Since wing and horizontal stabilizer deice boots alone do not provide adequate protection for the entire aircraft, known icing conditions should be avoided whenever possible. If icing is encountered close attention should be given to the pitot-static system, propellers, induction systems, and other components subject to icing.

The airplane was equipped with electrically-heated propeller de-ice boots, which received their power through a deice timer. The manual provided an emergency procedure for the propeller de-ice system, which stated in part that abnormal operation of the propeller deice system is indicated by the propeller deice switch breaker tripping to the off position. Failure of the switch breaker to stay reset indicates that deicing is impossible for the propellers.

The airplane was equipped with a windshield deice system. The alcohol windshield deice system comprised an alcohol tank, a pump, left and right dispersal tubes, and a switch battery. The alcohol tank capacity was 3 gallons. To activate the windshield deice system, the pilot must select its switch breaker to the "on" position. The manual stated that the maximum endurance of the 3-gallon tank was approximately 1 hour with continuous use in en route icing conditions.

Cabin Heater

The airplane was equipped with a gasoline combustion-type heater. Fresh air was picked up from the air inlet in the nose of the aircraft, heated by the heater, and ducted to the pilot and passenger compartments. The heater depended upon the airplane's fuel system for its fuel supply. The heater was equipped with an amber overheat warning light. When illuminated, the light indicated that the heater overheat switch had been actuated and that the heater had been shut off and could not be restarted until the overheat switch, located in the right forward nose compartment outside of the cockpit, was reset.

FAA Guidance on In-Flight Icing Conditions

FAA Advisory Circular (AC) 91-74B, "Pilot Guide: Flight In Icing Conditions," defined SLD as water drops with a diameter greater than 50 micrometers that exist in a liquid form at air temperatures below 0°C. SLD conditions include freezing drizzle drops and freezing raindrops. The AC stated that:

A significant reduction in CLmax (maximum coefficient of lift) and a reduction in the AOA (angle of attack) where stall occurs can result from a relatively small ice accretion. A reduction of CLmax by 30 percent is not unusual, and a large-horn ice accretion can result in reductions of 40 percent to 50 percent. Drag tends to increase steadily as ice accretes. An airfoil drag increase of 100 percent is not unusual, and, for large-horn ice accretions, the increase can be 200 percent or even higher.

The AC also stated that a pilot may detect airframe icing as a loss of airspeed or an increase in the power required to maintain the same airspeed:

The longer the icing encounter, the greater the drag increase; even with increased power, it may not be possible to maintain airspeed. If the aircraft has relatively limited power (as is the case with many aircraft with no ice protection), it may soon approach stall speed and a dangerous situation.

Pilot Information

Certificate:	Airline transport	**Age:**	65,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	June 4, 2018
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	July 6, 2018
Flight Time:	(Estimated) 19800 hours (Total, all aircraft), 16 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N5044J
Model/Series:	310 R	**Aircraft Category:**	Airplane
Year of Manufacture:	1975	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	310R0164
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	August 21, 2018 Annual	**Certified Max Gross Wt.:**	5500 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	5416.6 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-550-A3B
Registered Owner:		**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MSV,1638 ft msl	**Distance from Accident Site:**	29 Nautical Miles
Observation Time:	14:56 Local	**Direction from Accident Site:**	141°
Lowest Cloud Condition:		**Visibility**	5 miles
Lowest Ceiling:	Overcast / 2000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	Unknown / Unknown
Wind Direction:	350°	**Turbulence Severity Forecast/Actual:**	Moderate / Moderate
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	1°C / 0°C
Precipitation and Obscuration:	Heavy - None - Snow		
Departure Point:	Niagara Falls, NY (IAG)	**Type of Flight Plan Filed:**	IFR
Destination:	Teterboro, NJ (TEB)	**Type of Clearance:**	IFR
Departure Time:	14:05 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	Both in-flight and on-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	42.076946,-75.214447(est)

Preventing Similar Accidents

Aircraft Inflight Icing

As little as 1/4 inch of leading-edge ice can increase your airplane's stall speed 25 to 40 knots. Sudden departure from controlled flight is possible with only 1/4 inch of leading-edge ice accumulation at normal approach speeds. The danger is that some 1/4-inch accumulations have minimal impact on level-flight characteristics and pilots become overconfident. Further, using the autopilot can hide changes in the handling qualities of the airplane that may be a precursor to premature stall or loss of control. Turn off or limit the use of the autopilot in order to better "feel" changes in the handling qualities of the airplane.

For 60 years, pilots have been taught to wait for a prescribed accumulation of leading-edge ice before activating the deice boots because of the believed threat of ice bridging. However, ice bridging is extremely rare, if it exists at all. In theory, ice bridging could occur if the expanding boot pushes the ice into a frozen shape around the expanded boot, thus rendering the boot ineffective at removing ice. Yet

there have been no known cases where ice bridging has caused an incident or accident, but there have been numerous incidents and accidents involving a delayed activation of deice boots.

Early activation of the deice boots limits the effects of leading-edge ice and improves the operating safety margin. Many pneumatic deice boot systems only provide a means to manually cycle the system and have no provision for continuous operation. While icing conditions exist, continue to manually cycle the deice system unless the system has a provision for continuous operation.

Leading-edge deice boots should be activated as soon as icing is encountered, unless the aircraft flight manual or the pilot's operating handbook specifically directs not to activate them. If the aircraft flight manual or the pilot's operating handbook specifies to wait for an accumulation of ice before activating the deice boots, maintain extremely careful vigilance of airspeed and any unusual handling qualities. Many airplanes still require pilots to visually identify ice on the wings and its thickness, which can be difficult to see from the cockpit. Be aware that some aircraft manufacturers maintain that waiting for the accumulation of ice is still the most effective means of shedding ice.

See http://www.ntsb.gov/safety/safety-alerts/documents/SA_014.pdf for additional resources.

The NTSB presents this information to prevent recurrence of similar accidents. Note that this should not be considered guidance from the regulator, nor does this supersede existing FAA Regulations (FARs).

Administrative Information

Investigator In Charge (IIC):	Gerhardt, Adam
Additional Participating Persons:	Scott M Gillson; FAA/ FSDO; Albany, NY Jennfier Barclay; Textron Aviation; Wichita, KS Nicole L Charnon; Continental Motors; Mobile, AL
Original Publish Date:	July 13, 2020
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=98620