Aviation Investigation Final Report

Location:	Fairmount, Georgia	**Accident Number:**	ERA20FA096
Date & Time:	February 8, 2020, 10:13 Local	**Registration:**	N501RG
Aircraft:	Cessna 501	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	4 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While on an instructional flight in icing and instrument meteorological conditions (IMC), the pilots indicated that they were having instrumentation difficulties to air traffic control. They initially reported a problem with the autopilot, then a navigational issue, which they later indicated were resolved, and finally they reported it was a problem with the left side attitude indicator. After air traffic control cleared them to their destination, the airplane entered a descending left turn, which continued into a 360° descending turn. An inflight breakup resulted, with the wreckage being scattered over 7,000 ft of wooded terrain.

Examination of the engines revealed there were no anomalies that would have precluded normal operation prior to the accident. Control cable continuity was established from the flight controls in the cockpit to all flight control surfaces through multiple overload failures. The pitot-static system was examined, and no blockages were noted. Since there was rotational scoring noted on the vertical gyro and the directional gyro, it's likely they were operating at the time of the accident.

Furthermore, the left side attitude indicator examination revealed that there were no anomalies with the instrument. Examination of the deice valves for the deicing boots revealed that the left wing deice valve did not operate. Corrosion was visible in all three valves and it could not be determined if the corrosion was a result of postimpact environmental exposure. Furthermore, since the cockpit switch positions were compromised in the accident, it could not be determined if the pilots were operating the deicing system at the time of the accident. However, most of the pilot reports (PIREPs) in the area indicated light icing and the airplane performed a 6,000 ft per minute climb just before the loss of control. Given this information, it is unlikely the icing conditions made the airplane uncontrollable.

A review of the pilots' flight experience revealed that the pilot in the left seat did not hold a type rating for the accident airplane model but was scheduled to attend flight training to obtain

such a type rating. The pilot in the right seat, who also held a flight instructor certificate, did hold a type rating for the airplane. Given that the remarks section of the filed flight plan described the flight as a “training flight” and the left-seat pilot’s plan to obtain a type rating for the accident airplane model, it is likely the pilot in the left seat was the flying pilot for the majority of the flight.

Although the right-seat pilot's autopsy noted coronary artery disease, the condition was poorly described. The circumstances of the accident are not consistent with sudden physical impairment or incapacitation; therefore, it is unlikely it contributed to the event. Toxicology testing identified diphenhydramine, which can cause significant sedation, in the right-seat pilot’s blood. However, the level present at the time of the accident was too low to quantify. Therefore, it is unlikely effects from diphenhydramine contributed to the accident.

Prior to entering the descending right turn, air traffic control noted that the airplane was not following assigned headings and altitudes and the pilots’ reported having autopilot problems. Subsequently, the pilots’ reported they were using the right attitude indicator as they had difficulties with the left-side indicator. Information was insufficient to evaluate whether the reported difficulties were the result of a malfunction of the autopilot or the pilots’ management of the autopilot system. However, the reported difficulties likely increased the pilots’ workload, may have diverted their attention while operating in IMC and icing conditions, resulting in task saturation, and may have increased their susceptibility to spatial disorientation.

It is also possible that the onset of spatial disorientation was the beginning of the pilots’ difficulties maintaining the airplane’s flight track and what they perceived to be an instrumentation problem. Regardless, since the left seat pilot was not rated to fly the airplane, the right seat pilot’s workload would have increased by having to diagnose the issue, assess the situation, and maintain positive airplane control. The airplane’s track data are consistent with the known effects of spatial disorientation, leading to an inflight loss of control and subsequent inflight breakup.

Probable Cause and Findings

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

The pilots’ loss of control in flight in freezing instrument meteorological conditions due to spatial disorientation and the cumulative effects of task saturation.

Findings

Aircraft	Directional control - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Personnel issues	Aircraft control - Copilot
Environmental issues	Below VFR minima - Effect on personnel
Environmental issues	Equipment/operational - Effect on personnel
Personnel issues	Spatial disorientation - Pilot
Personnel issues	Spatial disorientation - Copilot

Factual Information

History of Flight

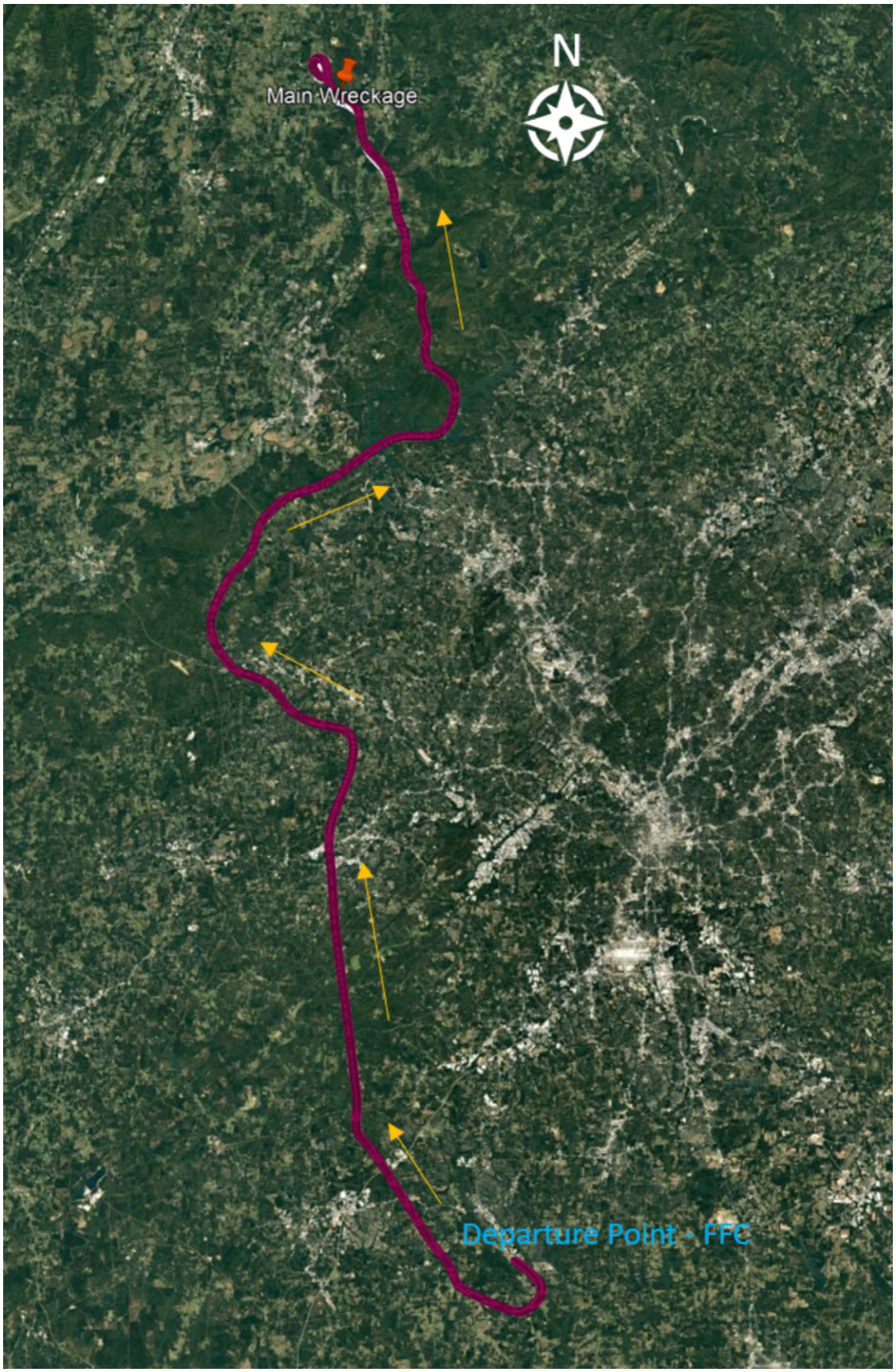
Enroute-climb to cruise	Loss of control in flight (Defining event)

On February 8, 2020, at 1013 eastern standard time, a Cessna 501, N501RG, was substantially damaged after an inflight breakup near Fairmount, Georgia. The private pilot, commercial pilot, and two passengers were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

According to a fuel receipt, the airplane was "topped off" with 104 gallons of Jet A fuel that was premixed with a fuel system icing inhibitor prior to departing on the accident flight.

According to an instrument flight plan filed with a commercial vendor, the accident flight was scheduled to depart at 0930 from Falcon Field (FFC), Atlanta, Georgia, and arrive at John C. Tune Airport (JWN), Nashville, Tennessee, around 1022. Another flight plan was filed from JWN back to FFC departing at 1030 and arriving at FFC around 1119. In addition, the accident flight plan noted in the remarks section that the flight was a "training flight" and both flight plans indicated that the pilot in the right seat was the pilot-in-command.

A review of air traffic control communications and radar data revealed that the flight departed FFC at 0949 (see figure 1). A controller issued local weather information and instructed the flight to climb to 7,000 ft mean sea level (msl). The controller provided a PIREP for trace to light rime icing between 9,000 ft and 11,000 ft, and one of the pilots acknowledged. The controller then instructed the flight to climb to 10,000 ft and to turn right to 020°.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Main Wreckage
Departure Point - FFC

Figure 1 -Overview of flight track data. Magenta line depicts the airplane's flight track for the accident flight and orange arrows indicate the direction of flight.

The controller observed the airplane on a northwesterly heading and asked the flight to verify their heading. A pilot responded that they were returning to a 320° heading, to which the controller instructed him to maintain 10,000 ft. The controller asked if everything was alright, and a pilot responded that they had a problem with the autopilot. The controller instructed the flight again to maintain 10,000 ft and to advise when they were able to accept a turn. The controller again asked if everything was alright or if they needed assistance; however, neither pilot responded. The controller again asked if everything was under control and if they required assistance, to which one of the pilots replied that they were "OK now."

The airplane climbed to 10,500 ft and the controller instructed the flight to maintain 10,000 ft and again asked if everything was under control. A pilot responded in the affirmative and stated that they were "playing with the autopilot" because they were having trouble with it, and the controller suggested that they turn off the autopilot and hand-fly the airplane. The airplane descended to 9,000 ft and the controller instructed the pilots to maintain 10,000 ft and asked them if they could return to the departure airport to resolve the issues. One of the pilots requested a higher altitude to get into visual flight rules (VFR) conditions, and the controller instructed him to climb to 12,000 ft, advised that other aircraft reported still being in the clouds at 17,000 ft, and asked their intentions. The pilot requested to continue to their destination. The controller instructed him to climb to 13,000 ft, maintain wings level, and to change radio frequencies.

One of the pilots established communication with the next controller at 11,500 ft and stated they were climbing to 13,000 ft on a 360° heading. The controller instructed the pilot to climb to 16,000 ft and inquired if their navigation issues were corrected. A pilot advised the controller that they had problems with the left side attitude indicator and that they were working off the right side. From 1011:23 to 1011:55, the airplane climbed from 12,000 ft to 15,000 ft. The controller cleared the airplane direct to JWN and asked if they were above the clouds as they were climbing through 15,000 ft. The airplane then began a descending left turn and soon after radar contact was lost at 1013. The controller attempted numerous times to contact the pilots with no response. There was no emergency call received from the pilots prior to the accident.

Co-pilot Information

Certificate:	Private	**Age:**	68,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	January 1, 2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 805 hours (Total, all aircraft)		

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	65,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	December 10, 2019
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	October 17, 2019
Flight Time:	5924.2 hours (Total, all aircraft), 55 hours (Last 90 days, all aircraft), 8.3 hours (Last 30 days, all aircraft)		

According to Federal Aviation Administration (FAA) airman records, the right seat pilot, the pilot-in-command, held a commercial pilot certificate with ratings for airplane multiengine land, airplane single-engine land, airplane single-engine sea, and instrument airplane. In addition, he held a flight instructor certificate with ratings for airplane single-engine, airplane multiengine, and instrument airplane. He was also type rated in the CE-500. His most recent second-class medical certificate was issued December 10, 2019. According to the pilot's logbook, he accumulated 5,924.4 total hours of flight time, of which, he accumulated 88.6 hours of flight time in the same make and model as the accident airplane in the year before the accident. The logbook also indicated that he accumulated 573.4 total hours of instrument flight time, of which, 40.7 hours were in the year prior to the accident.

According to FAA airman records, the left seat pilot, held a private pilot certificate with ratings for airplane single-engine land and instrument airplane. His most recent third-class medical certificate was issued January 10, 2019, at which time he reported 805 hours of total flight experience. According to an email and training materials located in the wreckage, the pilot was scheduled to attend flight training to obtain a CE-500 type rating.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N501RG
Model/Series:	501 No Series	**Aircraft Category:**	Airplane
Year of Manufacture:	1981	**Amateur Built:**	
Airworthiness Certificate:	Transport	**Serial Number:**	501-0260
Landing Gear Type:	Tricycle	**Seats:**	9
Date/Type of Last Inspection:	February 5, 2020 Continuous airworthiness	**Certified Max Gross Wt.:**	12650 lbs
Time Since Last Inspection:		**Engines:**	2 Turbo fan
Airframe Total Time:	8078.7 Hrs as of last inspection	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	C91A installed, not activated	**Engine Model/Series:**	JT15D-1A
Registered Owner:	On file	**Rated Power:**	2200 Lbs thrust
Operator:	On file	**Operating Certificate(s) Held:**	None

According to FAA records, the airplane was manufactured in 1981, and was most-recently registered to a corporation in January 2019. In addition, it was equipped with two Pratt & Whitney Canada, JT15D-1A series, engines, which could each produce 2,200 pounds of thrust. The most recent maintenance performed on the airplane was completed on February 5, 2020. At that time, a Phase B inspection was performed in accordance with the airframe manufacturer's maintenance manual, and at that time, the airplane had accumulated 8,078.7 hours of total time. In addition, the left engine had accumulated 8078.7 hours of total time since new and the right engine had accumulated 8034.7 hours of total time since new.

According to the airplane flight manual, the airplane was equipped with anti-ice and deice systems. “The anti-ice system consists of bleed air heated engine inlets, bullet nose, stators, windshields (left and right), electrically heated pitot tubes, static ports, angle-of-attack probe (if installed) and wing leading edge segments ahead of each engine. The wing outboard of the electric elements, the horizontal stabilizer and vertical stabilizer are deiced by pneumatic boots. Windshield alcohol anti-ice is also provided as a backup system for the left windshield.”

Furthermore, in the limitations section of the airplane flight manual it stated that the minimum flight crew for all operations was “1 pilot and 1 copilot or 1 pilot in the left-hand seat and the following equipment operative: 1 autopilot with approach coupling, 1 flight director, 1 boom microphone or headset mounted microphone, transponder ident switch on the pilot’s control wheel.”

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CZL,655 ft msl	**Distance from Accident Site:**	9 Nautical Miles
Observation Time:	10:15 Local	**Direction from Accident Site:**	270°
Lowest Cloud Condition:		**Visibility**	0.75 miles
Lowest Ceiling:	Indefinite (V V) / 500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots / None	**Turbulence Type Forecast/Actual:**	Clear air / Unknown
Wind Direction:	330°	**Turbulence Severity Forecast/Actual:**	Moderate / Unknown
Altimeter Setting:	30.29 inches Hg	**Temperature/Dew Point:**	0°C / 0°C
Precipitation and Obscuration:	Light - None - Snow		
Departure Point:	Atlanta, GA (FFC)	**Type of Flight Plan Filed:**	IFR
Destination:	Nashville, TN (JWN)	**Type of Clearance:**	IFR
Departure Time:	09:49 Local	**Type of Airspace:**	

The 1015 recorded weather observation at an airport that was about 9 miles to the west of the accident location, included wind from 330° at 3 knots, visibility 3/4 mile, light snow, vertical visibility 500 ft above ground level (agl), temperature 0° C, dew point 0° C; and an altimeter setting of 30.29 inches of mercury.

The High-Resolution Rapid Refresh (HRRR) numerical model data indicated that the freezing level was at 2,026 ft and predominantly light rime type icing conditions between 1,300 ft through 15,000 ft with a shallow layer of moderate rime ice at 7,500 ft.

The National Weather Service issued a Graphic-AIRMET at 0945 that advised of mountain obscuration conditions, moderate turbulence between 10,000 ft and 18,000 ft, and for moderate icing between the freezing level through 16,000 ft. In addition, AIRMET Sierra update 2 was issued at 0945 that indicated instrument meteorological conditions in the area of the accident around the time of the accident.

PIREPs were reviewed and indicated that icing conditions were below 12,000 ft and turbulence conditions above 15,000 ft to 24,000 ft. Of the icing PIREPs the intensity or severity of icing ranged from NIL, (2 reports), a trace, (1 report), light (12 reports), and moderate (2 reports). Icing type ranged from rime type ice (11 reports), mixed (1 report), and clear or glaze ice (1 report), which could indicate variable droplet size or temperature range where the ice was encountered. The icing layer reported ranged from 4,000 ft up to 12,000 ft with most of the reports of icing between 9,000 ft and 10,000 ft.

A search of the FAA contract Automated Flight Service Station (AFSS) provider Leidos indicated that they had no contact with the pilots on the day of the accident and did not provide any weather briefing or flight planning services. A search of other third-party vendors indicated that the left seat pilot had a ForeFlight account. He did not view any static weather imagery or graphic images during the period prior to departure but obtained other textual observation and forecast products for Birmingham-Shuttlesworth International Airport (BHM), Birmingham, Alabama, Nashville International Airport (BNA), Nashville, Tennessee, and Jeffries Farm Airport (6KY6), Louisville, Kentucky.

Another third-party weather vendor, FltPlan.com had recorded that the right seat pilot obtained a weather briefing for the route of flight twice on February 7th at 1114 and then later at 1948. The forecasts and advisories in that briefing were updated several times before the flight's departure and the accident and were not reflective of the current conditions the flight encountered on February 8th. There were no other weather briefings recorded on the day of the accident.

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	4 Fatal	**Latitude, Longitude:**	34.461944,-84.756385

The main wreckage of the airplane was located in a wooded area, inverted, and partially submerged in a creek at an elevation of 703 ft msl. Several parts of the airplane were not located in the vicinity of the main wreckage but were in the wooded area surrounding the main wreckage, consistent with an inflight breakup. The debris path was about 7,000 ft long along a 005° magnetic heading.

The wreckage was recovered to a salvage facility for further examination, which included the identification of parts that were separated in flight and were located along the debris path. The top of the fuselage was crushed downward, and the wings were wrinkled. Control cable continuity was established from the flight controls in the cockpit to all flight control surfaces through multiple overload failures. The pitot-static system was examined, and no blockages were noted. The wing deice inspection light, on the left side of the fuselage, was examined and the filament was not stretched.

The left wing remained attached to the fuselage and exhibited crush damage. The left aileron remained attached to the left wing. The left flap remained attached to the wing and was in the retracted position. In addition, the left speed brake was in the stowed position.

The outboard 8 ft section of the right wing was separated and located along the debris path. The aileron was separated from the outboard section of wing and the midsection was located along the debris path. The inboard section of the wing remained attached to the fuselage and was impact damaged. The fractured section of the spar caps of the right wing were examined and were bent in an upward direction. The fracture surfaces exhibited rough 45° angle surfaces, consistent with overload failures. Several sections of wing skin were located along the debris path.

The horizontal stabilizers and elevators separated and were located along the debris path. The outboard 6 ft of the left horizontal stabilizer was separated from the inboard section and located along the debris path. The fractured section of the spar caps of the left horizontal stabilizer were bent in a downward direction. The inboard 2 ft of the left elevator was separated from the horizontal stabilizer and located along the debris path. The forward spar of the vertical stabilizer remained attached to the fuselage, was bent aft, and twisted to the right. The aft spar of the vertical stabilizer was located along the debris path. The rudder was separated from the fuselage and the 3 ft top section and 5 ft bottom section were recovered from the debris field.

The engines remained attached to the fuselage and were submerged in creek water. They were removed from the fuselage to facilitate recovery and examination. The engine cowling was removed and both low-pressure compressors would not rotate. Both low-compressor turbine blades exhibited damaged and were bent the opposite direction of rotation. The inner stator vanes did not exhibit any damage. The fuel and oil filters were examined with no anomalies noted. There were no anomalies with the engines that would have precluded normal operation prior to the accident.

Examination of the cockpit switches showed that they were compromised during impact which revealed unreliable switch positions during the accident sequence.

The compass directional gyro and vertical gyro instruments were removed from the wreckage and examined. Both gyros exhibited rotational scoring. The left position attitude indicator was removed, examined, and no anomalies were noted with the instrument that would have precluded normal operation before the accident.

The autopilot computer was examined and disassembled. There were no anomalies noted with the autopilot system that would have precluded normal operation before the accident.

The three pneumatic ejector flow control valves (EFCV) for the deice boots were removed and examined. The valves were two-way, two-position, solenoid-operated poppet type valves that used regulated engine bleed air to provide either vacuum or pressure to the de-icers. When power was removed from the EFCVs the conical main spring pushed the poppet valve and

stainless-steel ball out to close the inflate port. When power was applied to the EFCV, the solenoid opened the poppet against the spring. It could not be determined if the valves were exposed to the creek water or precipitation at the accident site prior to removal. Examination of all three valves revealed that the poppets were in the closed position.

Examination of the left wing EFCV revealed that when power was initially applied to the solenoid there was no movement. When the solenoid was pushed by hand, the solenoid moved. On subsequent applications of power, the solenoid moved very slowly. The right wing EFCV passed the functional test with the solenoid and poppet both showing movement when electrical power was applied. When the poppet was moved by hand, no anomalies were noted. The tail EFCV was examined and when assistance was provided to the solenoid to change position, the resultant valve flows were within specifications. If the valve solenoid was not given assistance, the valve would partially open, and the resultant flows were below specifications. All EFCV valves contained corrosion in the assembly when they were disassembled.

Medical and Pathological Information

Toxicology testing performed by the FAA's Forensic Sciences Laboratory identified rosuvastatin in the left seat pilot's blood and urine. This drug was not considered impairing.

An autopsy was performed on the left seat pilot by the Division of Forensic Sciences, Georgia Bureau of Investigation. The cause of death was multiple blunt traumatic injuries, and the manner of death was accident.

An autopsy was performed on the right seat pilot by the Division of Forensic Sciences, Georgia Bureau of Investigation. The cause of death was multiple blunt traumatic injuries, and the manner of death was accident. The examination was limited by the severity of injury. The autopsy noted "coronary artery disease" without any further description.

Toxicology testing performed by the FAA's Forensic Sciences Laboratory identified diphenhydramine (in an amount too low to quantify and lower than the lowest level believed to result in symptoms) and losartan in the right seat pilot's blood and urine. While losartan is not considered impairing, diphenhydramine is sedating. Diphenhydramine is a sedating antihistamine used to treat allergy symptoms and as a sleep aid. It is available over the counter under the names Benadryl and Unisom. Diphenhydramine carries the following FDA warning: may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery). Compared to other antihistamines,

diphenhydramine results in marked sedation; it is also classed as a CNS depressant and this is the rationale for its use as a sleep aid. Altered mood and impaired cognitive and psychomotor performance may also be observed.

Additional Information

Spatial Disorientation

The FAA Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25B) contained guidance on spatial disorientation, which stated the following:

…under normal flight conditions, when there is a visual reference to the horizon and ground, the sensory system in the inner ear helps to identify the pitch, roll, and yaw movements of the airplane. When visual contact with the horizon is lost, the vestibular system becomes unreliable. Without visual references outside the airplane, there are many situations where combinations of normal motions and forces can create convincing illusions that are difficult to overcome.

The handbook also advised, "unless a pilot has many hours of training in instrument flight, flight in reduced visibility or at night when the horizon is not visible should be avoided."

Airplane Flying Handbook

The AFM stated the following about spatial disorientation:

The pilot must believe what the flight instruments show about the airplane's attitude regardless of what the natural senses tell. The vestibular sense (motion sensing by the inner ear) can and will confuse the pilot. Because of inertia, the sensory areas of the inner ear cannot detect slight changes in airplane attitude, nor can they accurately send the attitude changes which occur at a uniform rate over a period of time. On the other hand, false sensations are often generated, leading the pilot to believe the attitude of the airplane has changed when, in fact, it has not. These false sensations result in the pilot experiencing spatial disorientation.

FAA Advisory Circular 60-4A, "Pilot's Spatial Disorientation," stated the following on spatial disorientation:

> *The attitude of an aircraft is generally determined by reference to the natural horizon or other visual reference with the surface. If neither horizon nor surface*

references exist, the attitude of an aircraft must be determined by artificial means from the flight instruments. Sight, supported by other senses, allows the pilot to maintain orientation. However, during periods of low visibility, the supporting senses sometimes conflict with what is seen. When this happens, a pilot is particularly vulnerable to disorientation. The degree of orientation may vary considerably with individual pilots. Spatial disorientation to a pilot means simply the inability to tell which way is 'up.'…Surface references and the natural horizon may at times become obscured, although visibility may be above flight rule minimums. Lack of natural horizon or such reference is common on over water flights, at night, and especially at night in extremely sparsely populated areas, or in low visibility conditions…. The disoriented pilot may place the aircraft in a dangerous attitude… therefore, the use of flight instruments is essential to maintain proper attitude when encountering any of the elements which may result in spatial disorientation.

Recognizing a work overload situation is also an important component of managing workload. The first effect of high workload is that the pilot may be working harder but accomplishing less. As workload increases, attention cannot be devoted to several tasks at one time, and the pilot may begin to focus on one item. When a pilot becomes task saturated, there is no awareness of input from various sources, so decisions may be made on incomplete information and the possibility of error increases. When a work overload situation exists, a pilot needs to stop, think, slow down, and prioritize. It is important to understand how to decrease workload. For example, in the case of the cabin door that opened in VFR flight, the impact on workload should be insignificant. If the cabin door opens under IFR different conditions, its impact on workload changes. Therefore, placing a situation in the proper perspective, remaining calm, and thinking rationally are key elements in reducing stress and increasing the capacity to fly safely. This ability depends upon experience, discipline, and training.

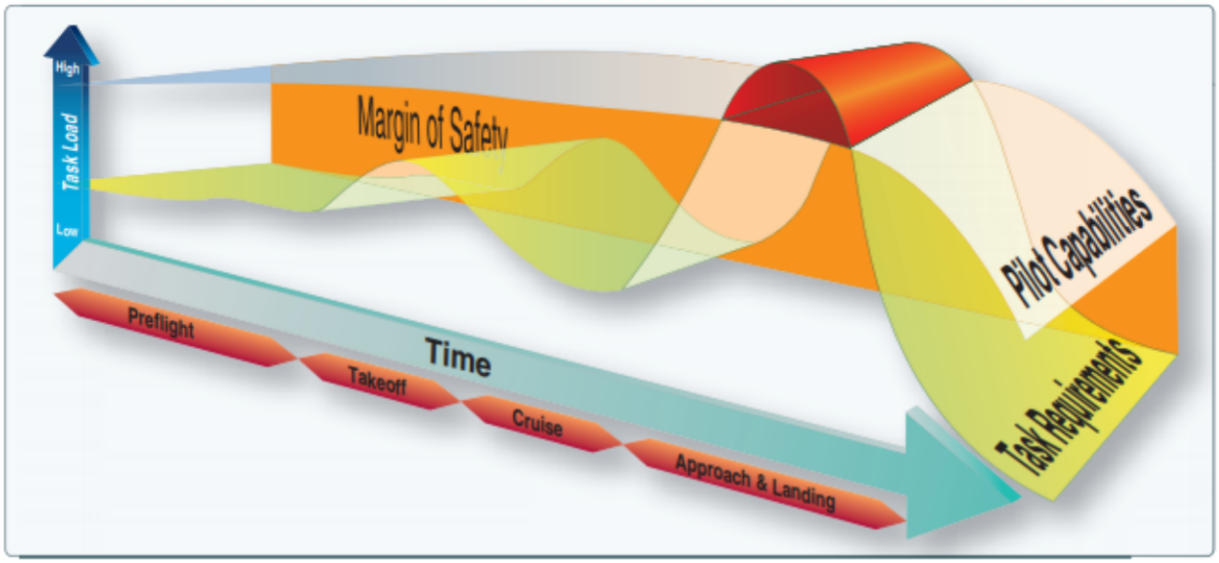

Figure 14-1. *The pilot has a limited capacity of doing work and handling tasks, meaning there is a point at which the tasking exceeds the pilot's capability. When this happens, either tasks are not done properly or some are not done at all.*

Administrative Information

Investigator In Charge (IIC):	Kemner, Heidi
Additional Participating Persons:	Bob Guy; FAA/FSDO; Atlanta, GA Casey Love; Textron Aviation; Wichita, KS Leslie Ederer; Pratt & Whitney Canada; Montreal Beverley Harvey; Transportation Safety Board of Canada; Gatineau, OF
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