



National Transportation Safety Board Aviation Accident Final Report

Location:	Ludville, GA	Accident Number:	CHI06MA115
Date & Time:	04/19/2006, 1110 EDT	Registration:	N6579X
Aircraft:	Cessna 210A	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The airplane flew into an area of severe thunderstorms identified as a mesoscale convective system (or "MCS") with intense to extreme intensities during cruise flight at 11,000 feet then descended rapidly and impacted the terrain. The on-scene investigation revealed no preimpact mechanical malfunctions or anomalies that would have prevented the normal operation of the airplane or its systems.

The airplane entered the severe convective weather; the pilot then requested and received clearance from the air traffic controller to initiate a turn to escape the weather. The airplane was lost from radar about 30 seconds after the pilot initiated the turn. Before the airplane entered the weather, the controller's radar scope depicted a band of moderate to extreme weather along the accident airplane's projected flightpath that was consistent with an embedded, heavy-precipitation, supercell-type thunderstorm; however, the controller did not provide the pilot with any severe weather advisories and did not advise the pilot of the weather depicted on his radar scope.

Although Federal Aviation Administration directives state that controllers should give first priority to separating aircraft and issuing safety alerts, the directives further state that controllers should use good judgment and first perform the action that is most critical from a safety standpoint. Review of air traffic communications and radar data identified no air traffic control (ATC) radar limitations, no excessive traffic, no radio frequency congestion, and no controller workload issues that would have prevented the controller from issuing pertinent weather information to the accident pilot. On the basis of the controller's workload and available resources, he should have recognized that the adverse weather represented an immediate safety hazard to the accident flight and should have provided appropriate advisories to the pilot.

The pilot obtained several weather briefings before departure. At that time, the current weather along the route of flight showed significant convective activity and a moving squall line, and the forecast predicted significant thunderstorm activity along the planned route of flight. The pilot also discussed the weather with an acquaintance, mentioning that he might need to work his

way around some weather. On the basis of the weather information obtained by the pilot and his comments regarding the weather, the pilot was aware before departure that he would likely encounter adverse weather along the planned route of flight; however, by the time the airplane encountered the weather, the pilot had been airborne for over an hour and had not requested any updated weather information from air traffic controllers. The airplane was equipped with a BF Goodrich WX-950 Stormscope, which has some ability to depict the location and frequency of lightning strikes in the vicinity of the airplane; however, the investigation could not determine if and how this equipment may have been used during the flight. The airplane was not configured to display satellite weather information on its global positioning systems.

In October 2006, the National Transportation Safety Board issued Safety Alert SA-11, "Thunderstorm Encounters," as a result of this accident and three other fatal accidents that involved in-flight encounters with severe weather. The safety alert addresses ATC involvement in these accidents. The alert also states that IFR pilots need to actively maintain awareness of severe weather along their route of flight, and it provides suggestions to assist pilots in avoiding involvement in similar accidents. The safety alert can be found at the Safety Board's Web site at http://www.nts.gov/alerts/SA_011.pdf.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to obtain updated en route weather information, which resulted in his continued instrument flight into a widespread area of severe convective activity, and the air traffic controller's failure to provide adverse weather avoidance assistance, as required by Federal Aviation Administration directives, both of which led to the airplane's encounter with a severe thunderstorm and subsequent loss of control.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: CRUISE

Findings

1. (C) IN FLIGHT WEATHER AVOIDANCE ASSISTANCE - NOT PERFORMED - ATC PERSONNEL(ARTCC)
2. (F) FLIGHT INTO KNOWN ADVERSE WEATHER - ATTEMPTED - PILOT IN COMMAND
3. (F) WEATHER CONDITION - THUNDERSTORM

Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: CRUISE

Findings

4. (C) AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On April 19, 2006, about 1110 (all times referenced are eastern daylight time), a Cessna 210A, N6579X, owned and piloted by a commercial pilot, crashed into remote mountainous terrain near Ludville, Georgia, after entering thunderstorms. The pilot, the sole occupant, was fatally injured. Instrument meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 Code of Federal Regulations Part 91 while on an instrument flight rules (IFR) flight plan. The accident flight departed Prattville/Grouby Field Airport, Prattville, Alabama, about 1005, and was en route to Manassas Regional/Harry P. Davis Field Airport (HEF), Manassas, Virginia.

The flight's planned route was over Rome, Georgia; Snowbird, Tennessee; Roanoke, Virginia; Montebello, Virginia; Casanova, Virginia; to HEF. The pilot's requested cruise altitude was 11,000 feet mean sea level. After departure, the pilot contacted Montgomery air traffic control and was cleared to climb to 10,000 feet. About 1011, the accident airplane was handed off to Atlanta Air Route Traffic Control Center (ARTCC) sector 9. About 1018, the pilot checked in with Atlanta ARTCC and reported that he was climbing through 8,000 feet for 10,000 feet. The accident airplane was then cleared to 11,000 feet. About 1026, the pilot was told to contact Atlanta ARTCC sector 4 when the airplane was level at 11,000 feet. When the airplane reached 11,000 feet, the pilot contacted Atlanta ARTCC sector 4 and was given the local altimeter setting.

About 1038, another controller took over the sector 4 radar position, and the outgoing controller provided a position relief briefing. Included in that briefing was information about an area of severe weather north of Atlanta that was causing departing aircraft to deviate to the west instead of continuing northbound after takeoff. The briefing did not include specific references to the accident airplane. About 1045, the sector 4 controller told the pilot to contact Atlanta ARTCC sector 5. About 1046, the pilot checked in with the sector 5 controller and reported being level at 11,000 feet. The pilot was subsequently given two local altimeter settings. About 1100, the pilot was told to contact Atlanta ARTCC sector 38. The pilot checked in about 1101, stating that he was level at 11,000 feet. The pilot's initial call did not receive a response, so he repeated it, and the sector 38 controller provided the local altimeter setting.

About 1109, the pilot transmitted, "Atlanta, this is seven niner x-ray I'd like to deviate south weather." The controller replied, "Six five seven niner x-ray roger we'll show you deviating south for weather and your mode C indicates one one thousand five hundred." The pilot did not respond. About 1110, radar contact was lost with the airplane at 5,500 feet.

A plot of the aircraft radar track data indicated that the airplane entered a level 6 (extreme) thunderstorm before the loss of radar contact. Local law enforcement located the wreckage on April 20, 2006. The airplane impacted remote mountainous terrain about 3.3 nautical miles (nm) northwest of Ludville.

PERSONNEL INFORMATION

According to Federal Aviation Administration (FAA) records, the pilot, age 84, held a commercial certificate with airplane single-engine land, multiengine land, and instrument

airplane ratings. The pilot's multiengine airplane rating was limited to visual flight rules (VFR). The pilot's last aviation medical examination was completed on December 14, 2004, when he was issued a third-class medical certificate with the restriction "Must wear lenses for distance vision and possess glasses for near vision."

On the pilot's application for his most recent medical certificate, he reported his total flight experience exceeded 9,000 hours. The pilot's logbook recovered at the accident site indicated that he had flown 95.5 hours during the previous 12 months, 28.5 hours during the prior 6 months, and 23.1 hours during the previous 30 days. During the prior year, all of the pilot's logged flights were in the accident airplane. The pilot's last flight review was completed on August 27, 2004.

The pilot's logbook indicated that his total flight experience in actual instrument conditions was 423.1 hours and that an additional 106.0 hours were accumulated using a view-limiting device. The pilot logged 5.4 hours of instrument flight time and completed two instrument approaches during the previous 12 months. The pilot had not logged any instrument flight time or instrument approaches during the 6 months before the accident flight. According to the logbook, the pilot did not receive instrument instruction or complete an instrument proficiency flight within the previous 12 months.

The pilot formerly was an aeronautical research pilot with the National Advisory Committee for Aeronautics (NACA) High-Speed Flight Station at Edwards Air Force Base, California. During his 5 years with NACA, he flew the X-1, XF-92, X-4, X-5, Douglas D-558-I Skystreak, and the Douglas D-558-II Skyrocket. On November 20, 1953, he became the first human to fly faster than twice the speed of sound in the Douglas D-558-II Skyrocket. From 1955 to 1960, he was employed by North American Aviation as the chief engineering test pilot during the development and testing of the X-15 rocketplane.

AIRCRAFT INFORMATION

The accident airplane was a 1960 Cessna 210A, serial number 21057579. The Cessna 210A was an all-metal airplane that incorporated a semimonocoque fuselage and empennage design. The airplane was equipped with externally braced wings, wing flaps, a constant speed propeller, and a retractable tricycle landing gear. The airplane was configured to seat four occupants and had a certified maximum takeoff weight of 2,900 pounds.

Owned and operated by the accident pilot, the airplane was issued an FAA standard airworthiness certificate on December 6, 1960. The FAA issued the current aircraft registration certificate on December 11, 1989. The airplane (and its engine) had a total service time of 4,987.4 hours at the time of the accident. The last annual inspection was completed on March 19, 2006, and the airplane had accumulated 27.5 hours since the inspection. On March 22, 2006, tests on the static system, altimeter system, automatic pressure altitude reporting system, and transponder were completed. A review of the airframe maintenance records found no history of unresolved operational issues.

The airplane was equipped with a 260-horsepower Teledyne Continental Motors IO-470-E engine, serial number 77583-0-E. The IO-470-E is a six-cylinder, horizontally opposed, 470 cubic inch displacement, fuel-injected, reciprocating engine. The engine had accumulated 1,259.8 hours since the last major overhaul. A review of the engine maintenance records found no history of unresolved operational issues.

The propeller was a three-bladed McCauley D3A36C435/80VEA-0, hub serial number 042476.

The propeller was installed on the accident engine on October 13, 2005.

The airplane was equipped with a BFGoodrich WX 950 stormscope, a Garmin GNC 250 GPS/Com (global positioning system), and a Garmin GNS 430 GPS/Com/Nav. The GNC 250 was limited to VFR flight only. The Garmin GNS 430 system was approved for IFR domestic flight, including en route and non-precision approaches.

On April 17, the airplane was topped off with 77.1 gallons of 100 low-lead aviation fuel at the departure airport. The accident occurred during the first flight after being refueled.

METEOROLOGICAL INFORMATION

At the time of the accident, the area forecast for northern Georgia expected an area of IFR to marginal VFR conditions during the morning hours, with isolated thunderstorms and moderate rain expected after 1000. These thunderstorms had a possibility of being severe, with cloud tops reaching 43,000 feet.

About 0856, the National Weather Service (NWS) Storm Prediction Center described an ongoing cluster of strong to severe thunderstorms moving into northern Georgia, as a forward-propagating Mesoscale Convective System or squall line. The area was expected to further destabilize by midday because of surface heating, thus, enhancing the threat of organized severe thunderstorms and supercell thunderstorms. These thunderstorms had the high likelihood of producing hail, damaging high winds, and possible tornadoes.

Imagery from Geostationary Operations Environmental Satellite number 12 depicted cumulonimbus clouds associated with the squall line. These clouds extended from extreme northeastern Alabama, across northern Georgia, southern Tennessee, and into western North and South Carolina. The accident site was located on the southern side of the system where cloud tops were near 37,000 feet. Higher cloud tops of 46,000 feet were observed to the west of the accident site and were associated with the observed squall line. According to aircraft radar track data, the accident airplane's last radar return was located under the anvil of a cumulonimbus cloud.

The closest NWS Weather Surveillance Radar, WSR-88D, was located at the Peachtree City Airport, Atlanta, Georgia, approximately 70 miles south of the accident site. Based on radar height calculations, the 0.5-degree elevation scan depicted the weather conditions, which were encompassing altitudes between 4,400 to 11,460 feet over the accident site. The accident airplane's assigned cruise altitude was 11,000 feet. The base reflectivity images surrounding the accident airplane's flightpath indicated a large cluster of level 5 to 6 (intense to extreme) echoes moving southward across northern Georgia. These observed echoes intersected the airplane's recorded flightpath and were consistent with those of a heavy precipitation supercell thunderstorm.

Between 1100 and 1115, the National Lightning Detection Network detected 55 cloud-to-ground lightning strikes within 15 statute miles (sm) of the accident site. The observed lightning strikes were clustered northwest to the north-northeast of the accident site and moved southward. No cloud-to-ground lightning strikes were detected within 5 sm of the accident airplane's position before the time of the accident.

At the time of the accident, in-flight weather advisories were issued for severe thunderstorms over northern Georgia. Convective SIGMET 15E, issued about 1055, warned of an area of severe embedded thunderstorms over portions of Alabama, Georgia, Tennessee, and North

Carolina. The thunderstorms were moving southward at 35 knots and had cloud tops reaching 45,000 feet. The thunderstorms had the potential for 2 inches of hail at the surface and aloft, wind gusts to 60 knots, severe to extreme turbulence, severe icing, localized IFR conditions, and microburst potential. Severe Weather Forecast Alert number 208, issued about 1100, warned of a line of strong to severe thunderstorms moving southward through an area that encompassed the accident site.

The closest weather reporting facility to the accident site was at the Dalton Regional Airport (DNN), Dalton, Georgia, located about 16 miles northwest of the accident site. The airport was equipped with an automated surface observing system (ASOS). About 1118, the DNN ASOS reported: Wind 340 degrees true at 5 knots, gusting to 13 knots; visibility 3 sm in thunderstorm and heavy rain; scattered clouds at 800 feet above ground level (agl), broken ceiling at 4,800 feet agl, overcast ceiling at 8,000 feet agl; temperature 16 degrees Celsius; dew point 15 degrees Celsius; altimeter setting 29.94 inches of mercury. Remarks: Hourly precipitation 0.14 inches and lightning distant in all quadrants.

The accident pilot obtained five Direct User Access Terminal weather briefings between April 18 and 19. The last briefing before departure was recorded on the morning of the accident about 0656. The pilot obtained weather-briefing material that included area forecasts, convective outlooks, weather watches, convective SIGMETs, airman's meteorological information (AIRMET), meteorological aviation routine weather reports (METAR), radar reports, terminal forecasts, and winds and temperature aloft data. Based on the information in the briefing, thunderstorms were forecast along the planned route of flight. Before departure, the pilot discussed the weather with an acquaintance and mentioned that he "might need to work his way around some weather, but it did not look serious."

The pilot had an active weather account with XM Satellite Radio and subscribed to the basic weather package (XM Wx Aviator LT). According to XM Satellite Radio, no outages or interruptions of service were encountered on the day of the accident. XM Satellite Radio does not have the ability to track its product's location or to identify if and when a subscriber accesses or uses its weather products. The airplane was not modified with the required antenna and datalink receiver to display satellite weather information, according to airplane maintenance records and FAA documentation.

COMMUNICATIONS

The pilot was communicating with Atlanta ARTCC at the time of the accident. Transcripts of the voice communications between Atlanta ARTCC and the accident airplane are included with the docket material associated with this factual report.

A review of Atlanta ARTCC communications with the accident airplane confirmed that the pilot was not provided any severe weather advisories nor was he advised of the radar-depicted weather displayed on the sector 38 radar controller's scope. According to recorded display system information, moderate to extreme weather was depicted along the accident airplane's flightpath. The airplane entered the depicted weather while at 11,000 feet, just before the pilot asked to deviate south because of weather. Radar contact was lost with the accident airplane at 5,500 feet, about 30 seconds after it initiated the turn to the south.

When interviewed, the sector 38 radar controller acknowledged that adverse weather was present "all over" his sector with varying intensities. The controller stated that northbound departures out of Atlanta were encountering adverse weather and were "picking their way

through holes in the weather." He acknowledged that controllers are required to issue known adverse weather to pilots. The controller also stated that his scope depicted adverse weather in the accident airplane's projected flightpath. The displayed weather included all three levels of precipitation (moderate, heavy, and extreme). The controller said that, even though adverse weather was throughout the area, he did not issue the information to the pilot because he felt that weather conditions displayed on his radarscope were unreliable. The controller believed that the displayed weather can be between 6 and 15 minutes old and is widely viewed as being unreliable. He stated that pilots have a better idea of where adverse weather is and that he expects them to inform him on what actions they need to take to avoid it. By not issuing weather reports to the pilot, the controller violated several paragraphs in FAA Order 7110.65, "Air Traffic Control."

Paragraph 2-1-1, "ATC Service," of that order defines ATC's role. In part, the paragraph states:

- * The primary purpose of the ATC system is to prevent a collision between aircraft operating in the system and to organize and expedite the flow of traffic.
- * In addition to its primary function, the ATC system has the capability to provide (with certain limitations) additional services.
- * Controllers shall provide additional service procedures to the extent permitted by higher priority duties and other circumstances. The provision of additional services is not optional on the part of the controller, but rather is required when the work situation permits.

Because controllers are required to divide their attention to a variety of tasks, FAA Order 7110.65 also explains how controllers should prioritize those tasks. Paragraph 2-1-2, "Duty Priority," states, in part, that controllers should:

- * Give first priority to separating aircraft and issuing safety alerts as required in this order.
- * Use good judgment when prioritizing all other provisions of this order, based on the requirements of the situation at hand.
- * First perform the action that is most critical from a safety standpoint.
- * Provide additional services to the extent possible, contingent only on higher priority duties and other factors, including limitations of radar, volume of traffic, frequency congestion, and workload.

At the time of the accident, the Atlanta ARTCC sector 38 controller's workload consisted of the accident airplane and one other airplane. Review of sector 38 communications and radar data failed to identify any limitations of radar, excessive traffic, frequency congestions, or workload issues that would have prevented the controller from issuing pertinent weather information to the accident airplane.

FAA Order 7110.65, paragraph 2-6-4, "Weather and Chaff Services," defines a controller's duties in the event of significant weather conditions. The paragraph states, in part:

- * Issue pertinent information on observed/reported weather or chaff areas. Provide radar navigation guidance and/or approve deviations around weather or chaff areas when requested by the pilot.
- * Issue weather and chaff information by defining the area of coverage in terms of azimuth (by referring the 12-hour clock) and distance from the aircraft or by indicating the general width of

the area of coverage in terms of fixes or distance and direction from fixes.

- * Issue the level of echo intensity when that information is available.
- * When a deviation cannot be approved as requested and the situation permits, suggest an alternative course of action.
- * In areas of significant weather, plan ahead and be prepared to suggest, on the pilot's request, alternative routes/altitudes.
- * Weather significant to the safety of aircraft includes conditions, such as tornadoes, lines of thunderstorms, embedded thunderstorms, large hail, wind shear, microbursts, moderate to extreme turbulence (including clear air turbulence), and light to severe icing.

FLIGHT RECORDERS

The accident airplane was not equipped, nor was it required to be equipped, with a cockpit voice recorder or flight data recorder.

WRECKAGE AND IMPACT INFORMATION

The National Transportation Safety Board's on-scene investigation began on April 21, 2006.

A GPS receiver was used to identify the position of the main wreckage as 34 degrees 30.767 minutes north latitude, 84 degrees 39.492 minutes west longitude. The main wreckage was located about 3.3 nm northwest of Ludville, in remote mountainous terrain. The GPS elevation of the accident site was 1,269 feet. The associated debris was located in two general areas, situated about 0.8 nm from each other. The overall wreckage distribution was consistent with a low altitude, in-flight breakup.

The main wreckage was located in an impact crater that measured 4 1/2 feet deep and 6 feet wide. Damage to the dense overhead foliage was limited, consistent with a near vertical descent path. The main wreckage consisted of the cockpit, engine, propeller, left and right main wing spar assemblies, nose and main landing gear, left and right flap, and portions of the empennage. The second area of wreckage consisted of portions of the left and right wing leading edges, the upper portion of the vertical stabilizer leading edge and tip rib, a small section of right aileron skin, and the left cabin door. The wing tips, the majority of the left aileron, and the outboard portion of the right horizontal stabilizer and right elevator were not recovered.

The major airframe structural components, engine, and recovered propeller blades were transported to a local Department of Transportation accident reconstruction yard. A layout of the wreckage confirmed that all major airframe structural components, except those that were not recovered (as previously noted), were accounted for. A majority of the airframe's primary structure exhibited severe impact damage and fragmentation. The lower firewall, cabin floor, and instrument panel were crushed upward and aft. Both wings were found in multiple sections. The observed wing damage was in various directions, and no definite failure direction was noted. All cable discontinuities in the flight control systems were consistent with tension overload or had been cut to facilitate wreckage recovery. The rudder, elevator, and elevator trim tab did not reveal any signs of overtravel. The flaps and landing gear were fully retracted as observed during the wreckage layout. Functional testing and disassembly of the wet vacuum pump showed no evidence of preimpact failure. No gyro instruments were found intact, and no detached gyros were found at the accident site.

The engine remained attached to the airframe by only cables and wiring. Internal engine and valve train continuity was confirmed as the engine crankshaft was rotated. Compression and suction were noted on all cylinders in conjunction with crankshaft rotation. The right magneto was found separated from the engine and exhibited impact damage. The left magneto remained attached to the engine but was loose in its mounts. Both magneto drive gears were intact and undamaged. The ignition harness remained attached to the magnetos and exhibited multiple-point fraying throughout its length. The spark plugs were removed, and their electrodes exhibited normal wear. All cylinders were inspected with a lighted boroscope, and no discrepancies were noted. The engine-driven fuel pump rotated freely, and suction was confirmed. The fuel flow-divider was not recovered. Two of the three propeller blades were recovered, both of which exhibited chordwise scratches, blade twist, and leading edge damage. The on-scene investigation did not reveal any preimpact anomalies that would have prevented the normal operation of the airplane or its associated systems.

MEDICAL AND PATHOLOGICAL INFORMATION

On April 21, 2006, the Georgia Bureau of Investigation performed an autopsy on the pilot at its Northwestern Regional Crime Laboratory.

Toxicology samples for the pilot were submitted to the FAA Civil Aeromedical Institute, Oklahoma City, Oklahoma. The toxicology report noted that the samples were received in a putrefied condition. The toxicology results indicated that ethanol was detected in liver and muscle samples, consistent with putrefaction. Quinine was detected in liver and kidney samples.

ADDITIONAL INFORMATION

The main wreckage was released to a representative of the owner on May 31, 2006.

Parties to the investigation included the FAA, Cessna Aircraft Company, Teledyne Continental Motors, and the National Air Traffic Controllers Association.

In October 2006, the NTSB issued Safety Alert SA-11, entitled "Thunderstorm Encounters." The alert cited four recent fatal accidents that involved in-flight encounters with severe weather (this accident was one of the four accidents cited). The Safety Alert addressed ATC involvement in these recent accidents. It also stated that "IFR pilots need to actively maintain awareness of severe weather along their route of flight," and provided suggestions for pilots to avoid becoming involved in similar accidents. The Safety Alert can be found at the following address: http://www.nts.gov/alerts/SA_011.pdf

Pilot Information

Certificate:	Commercial	Age:	84, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With Waivers/Limitations	Last FAA Medical Exam:	12/01/2004
Occupational Pilot:		Last Flight Review or Equivalent:	08/01/2006
Flight Time:	9000 hours (Total, all aircraft), 28 hours (Last 90 days, all aircraft), 23 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N6579X
Model/Series:	210A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	21057579
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	03/01/2006, Annual	Certified Max Gross Wt.:	2900 lbs
Time Since Last Inspection:	27.5 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4987.4 Hours at time of accident	Engine Manufacturer:	Teledyne Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-470-E
Registered Owner:	On file	Rated Power:	260 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	DNN, 710 ft msl	Distance from Accident Site:	16 Nautical Miles
Observation Time:	1118 EDT	Direction from Accident Site:	315°
Lowest Cloud Condition:	Scattered / 800 ft agl	Visibility	3 Miles
Lowest Ceiling:	Broken / 4800 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	5 knots / 13 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	340°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	16 °C / 15 °C
Precipitation and Obscuration:	Heavy - Thunderstorms - Rain		
Departure Point:	Prattville, AL (1A9)	Type of Flight Plan Filed:	IFR
Destination:	Manassas, VA (HEF)	Type of Clearance:	IFR
Departure Time:	1005 EDT	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	34.512778, -84.658333

Administrative Information

Investigator In Charge (IIC):	Andrew T Fox	Report Date:	09/27/2007
Additional Participating Persons:	Victoria E Anderson; FAA - Office of Accident Investigation; Washington, DC Jan R Smith; Cessna Aircraft Company; Wichita, KS Andrew L Hall; Cessna Aircraft Company; Wichita, KS Eric A Thomas; Teledyne Continental Motors; Mobile, AL Scott A Bronger; National Air Traffic Controllers Association; Miami Beach, FL		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).