



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Jasper, Tennessee	<b>Accident Number:</b>	CHI07FA046
<b>Date &amp; Time:</b>	December 26, 2006, 11:00 Local	<b>Registration:</b>	N55MB
<b>Aircraft:</b>	Rockwell International 114	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal, 2 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The airplane was established at a cruise altitude of 12,000 feet and the pilot did not report any problems during the en route portion of the flight. Upon initial clearance to descend from cruise altitude, the pilot advised the controller that he might have to stay higher due to ice. The pilot was subsequently cleared to 7,000 feet, instead of the initial 4,000 feet. About 15 miles from the destination airport, the pilot was cleared for a Global Positioning System (GPS) approach and instructed to maintain 3,900 feet until reaching the initial approach fix. The pilot subsequently inquired about descending lower and was cleared to 3,600 feet. The pilot commented that the airplane was "picking up some ice here, so we're trying to be real careful." Track data indicated that the airplane continued toward the airport, descending as low as 3,200 feet. However, about 2.25 miles from the airport, the pilot declared a missed approach, stating: "We're picking up too much ice." The flight was cleared to an alternate airport and instructed to climb to 5,000 feet. However, the airplane was unable to climb above 4,500 feet and the pilot reported that the airplane was still picking up ice. The pilot subsequently stated that he was unable to maintain altitude because of "more ice." He requested vectors out of the icing conditions, but the controller was not aware of any area being better regarding icing. The pilot noted he was "losing altitude now pretty good." The pilot selected an intermediate airport that was closer to his present position. The controller cleared the flight as requested and instructed the pilot to maintain 4,000 feet. The pilot replied, "All I can do is 4,000." Track data indicated that the flight was established on an east-southeasterly course, and passed about 0.6 miles south of the intermediate airport. It entered a left turn to a northeast course and passed the airport, apparently intending to return for landing. The airplane impacted trees and terrain about 1.75 miles northeast of the intermediate airport. A witness stated that the airplane came through the treetops, "nose dived into the ground" and spun around, before coming to rest. GPS altitude data revealed a steadily increasing descent rate after reaching 4,500 during the diversion to the alternate. Airmen's Meteorological Information (AIRMET) advisories for moderate icing were in effect. The AIRMET coverage area included the destination and alternate airports. The pilot obtained two pre-flight weather briefings during

which he was advised of the AIRMET. Although, the AIRMET was updated after the briefings, the predicted icing intensity and geographical coverage area remained the same. A post accident inspection of the airplane did not reveal any anomalies consistent with a pre-impact failure or malfunction. Several ice fragments, consistent in appearance to rime ice, were observed on the ground at the accident site by initial responders. The fragments exhibited a contour approximately matching the profile of the wing leading edge. The Pilot's Operating Handbook stated that the airplane was not certified for flight into known icing conditions. The handbook advised that in the case of an inadvertent icing encounter, "evasive action should be initiated immediately when icing conditions are first encountered."

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inability to maintain altitude due to excessive airframe ice accretion, resulting in an in-flight collision with trees and terrain. Additional causes were the pilot's continued flight in icing conditions once they had been encountered, and his failure to promptly initiate evasive action in order to exit the icing conditions. A contributing factor was the pilot's pre-flight decision to operate into an area of forecast moderate icing conditions in an aircraft not equipped with in-flight icing protection.

### Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

1. (F) PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
2. (F) WEATHER CONDITION - ICING CONDITIONS
3. (C) FLIGHT INTO KNOWN ADVERSE WEATHER - CONTINUED - PILOT IN COMMAND
4. (F) PROCEDURES/DIRECTIVES - NOT COMPLIED WITH - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. OBJECT - TREE(S)

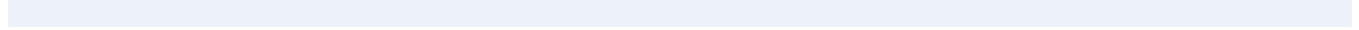
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

6. TERRAIN CONDITION - GROUND



## Factual Information

### HISTORY OF FLIGHT

On December 26, 2006, at 1100 central standard time, a Rockwell International Model 114, N55MB, piloted by a private pilot, was destroyed during an in-flight collision with trees and terrain near Jasper, Tennessee. The flight was operating under 14 CFR Part 91 on an instrument flight rules (IFR) flight plan at the time of the accident. The pilot and one passenger sustained fatal injuries. Two additional passengers sustained serious injuries. The personal flight departed Ottawa Executive Airport (Z98), Zeeland, Michigan, at 0742. The intended destination was Winchester Municipal Airport (BGF), Winchester, Tennessee. However, the flight had executed a missed approach at BGF and was in the process of diverting to Marion County Airport (APT), Jasper, Tennessee, at the time of the accident.

The pilot obtained preflight weather briefings at 0506 and 0638, the morning of the accident. The briefer informed the pilot of forecast icing and instrument conditions along the proposed route of flight and in the vicinity of the intended destination.

The flight departed Z98 and proceeded southbound, climbing to a cruise altitude of 12,000 feet mean sea level (msl). The pilot informed Grand Rapids Air Traffic Control Tower (ATCT) Radar Approach Control (Grand Rapids, Michigan) that the airplane picked up a "little bit of icing" in the climb. The flight leveled at 12,000 feet and proceeded on course.

At 1011, the flight established contact with Nashville ATCT Radar Approach Control (Nashville, Tennessee) and reported level at 12,000 feet. At 1020, the controller instructed the pilot to descend and maintain 4,000 feet. However, the pilot advised the controller that he might have to stay higher than 4,000 feet due to icing concerns. The controller subsequently amended the clearance to maintain 7,000 feet. Air traffic control (ATC) radar track data indicated that the flight was approximately 29 miles east of Nashville at that time and that the pilot began the descent to 7,000 feet promptly.

At 1027, control of the flight was transferred to Memphis Air Route Traffic Control Center (ARTCC). Upon establishing contact, the pilot reported descending through 9,600 feet with 7,000 feet assigned. The controller subsequently advised the pilot to expect the Global Positioning System (GPS) Runway 18 approach into BGF. At 1032:30 (HHMM:SS), the pilot was instructed to descend and maintain 4,000 feet. Radar track data indicated that the flight was approximately 31 miles north of BGF and was descending through 8,300 feet at that time.

At 1038:19, the flight was cleared for the GPS Runway 18 approach into BGF. The pilot was instructed to maintain 3,900 feet until crossing the initial approach fix (IAF), Boiling Fork Non-Directional Beacon (NDB). The flight was approximately 15 miles north of the airport, descending through 4,700 feet. The pilot inquired about descending lower, but the controller

informed him that 3,900 feet was the minimum IFR altitude for the flight's current location. The controller noted that the minimum IFR altitude decreased to 3,600 feet about 5 miles ahead. The pilot replied that he would hold at 3,900 feet. Radar track data indicated that the flight leveled at 3,900 feet about that time. The track data indicated that radar contact was lost about 1042:17 as the airplane descended into BGF. The altitude associated with that data point was 3,800 feet.

A Memphis Center controller stated that radar coverage in the vicinity of Jasper was normally intermittent below 5,000 feet.

At 1042:22, the pilot inquired about descending lower. The controller cleared the flight to descend and maintain 3,600 feet until reaching Boiling Fork IAF. The pilot replied: "Okay, we're just picking up some ice here, so we're trying to be ... real careful."

GPS coordinate data indicated that the flight proceeded toward the airport, descending to approximately 3,200 feet at 1043:52. At 1044:06, the pilot informed the controller: "We're gonna go ahead and go missed now, we're picking up too much ice here." The flight was about 2.25 miles north of the airport. The controller instructed the pilot to execute the missed approach procedure and subsequently cleared the flight to Lovell Field Airport (CHA), Chattanooga, Tennessee, at 5,000 feet as requested by the pilot.

GPS coordinate track data indicated that the airplane over flew the airport and started a left turn toward CHA about 1045:20. The GPS altitude at that time was 3,933 feet. ATC radar track data suggested that radar contact was re-established about 0.75 miles east-southeast of BGF at 4,300 feet. The flight proceeded on an approximate magnetic course of 113 degrees toward CHA.

At 1047:39, the pilot informed the controller that the airplane was "still picking up ice" at 4,500 feet and inquired about cloud top reports. The controller replied that he did not have any top reports, but offered the pilot the option of climbing to 7,000 feet. At 1047:55, the pilot stated: "I'm trying to climb and I'm . . . actually not being able to. It looks now I'm gonna stay right where I'm at here . . . I'm not able to climb any longer . . . so I'm gonna have to just hold here I suppose."

At 1050:39, the pilot reported that he was not able to maintain 4,500 feet because of "more ice." He requested radar vectors to "some place warm or out of this ice." The controller asked, "You're not able to hold altitude?" and the pilot replied, "Affirmative we're losing [altitude] very slightly here at 4,400 [feet]." The controller informed the pilot that he was not aware of any area being better with regard to icing. The pilot replied, "Looking for . . . some place that has decent visibility so I can come down and get below it . . . cause I'm in the soup right now . . . and I'm losing altitude now pretty good."

At 1054:46, the controller inquired if the flight was out of the clouds and icing conditions. The pilot replied "Negative." The pilot elected to divert to APT, which was approximately 7 miles

east of the airplane's position at that time. The controller subsequently cleared the flight for an approach to APT. The controller instructed the pilot to maintain 4,000 feet to the "radio beacon." The pilot replied, "All I can do is ... 4,000." The altitude clearance was amended to cruise at or below 4,000 feet. The controller informed the pilot that APT was at his eleven-thirty position and 4.1 miles.

At 1057:28, the controller released the pilot to the airport common traffic advisory frequency. At 1058:23, the pilot contacted the controller, but when the controller acknowledged, "go ahead," the pilot replied, "Nothin." No further communications were received from the accident airplane.

Radar track data indicated that after the missed approach at BGF, the airplane became established on a course toward CHA and climbed to 4,500 feet. However, altitude data suggested that about 1049:31, the airplane began a gradual descent until reaching 4,000 feet at 1055:32. This was the final data point associated with ATC radar. The flight was approximately 5.7 miles west of APT at that time.

GPS track data indicated that the airplane continued on an east-southeast course in a gradual descent. At 1055:33 the GPS recorded an altitude of 3,840 feet. At 1058:10, the flight was located about 0.6 miles south-southwest of APT at 2,866 feet (GPS altitude). About that time, the airplane entered a left turn toward the northeast. The final GPS data point was recorded at 1059:41, and indicated an altitude of 751 feet.

Review of the radar and GPS track data provided average descent rates as the pilot attempted to divert. Between 1049:31 and 1055:32, radar data suggested that the airplane descended 500 feet; an average rate of 83 feet-per-minute (fpm). Between 1055:33 and 1058:10, GPS data indicated that the airplane descended 974 feet; an average descent rate of 372 fpm. Between 1058:10 and 1059:34, GPS data recorded a descent of 1,703 feet; an average descent rate of 1,216 fpm. At 1059:34, the GPS recorded an altitude of 1,163 feet. From this data point until the final GPS data point at 1059:41, the airplane lost 412 feet; an average descent rate of 3,531 fpm.

A witness, who lived in the residence adjacent to the accident site, reported that he had gone out to get the newspaper when he first heard, and then saw, the airplane. He stated that the airplane came through the treetops, "nose dived into the ground" and spun around, before coming to rest.

The airplane impacted trees and terrain about 250 feet north of the final GPS data point. It came to rest in the front yard of the witness' residence located in a rural area approximately 1.75 miles northeast of APT.

#### PERSONNEL INFORMATION

The pilot held a private pilot certificate with single engine land and instrument airplane ratings. He held a second-class airman medical certificate issued on May 26, 2005, with a limitation for

corrective lenses.

A reliable record of the pilot's flight time was not obtained by the NTSB. FAA records indicated that the pilot added an instrument rating to his private pilot certificate on June 17, 2006, approximately 7 months prior to the accident. On the rating application, he reported a total flight time of 1,718 hours, with 48 hours of instrument flight time. The pilot was initially issued his private pilot certificate on July 4, 2001.

#### AIRCRAFT INFORMATION

The accident airplane was a 1978 Rockwell International Model 114, serial number 14395. It was a four-place, low wing, single-engine airplane, configured with retractable tricycle landing gear. A 260-horsepower IO-540-T4B5D Lycoming engine, serial number L-17793-48A, powered the airplane. The airplane was not equipped with airframe in-flight icing protection or deicing capability.

Airplane maintenance logs indicated that an annual inspection was completed on January 27, 2006. The recording tachometer at that time was 1,267.01 hours. Altimeter, altitude reporting, transponder and static system checks were also accomplished on that date, according to the logs.

The Pilot's Operating Handbook stated that the airplane was not certified for flight into known icing conditions. The handbook advised that in the case of an inadvertent icing encounter, "evasive action should be initiated immediately when icing conditions are first encountered."

#### METEOROLOGICAL INFORMATION

The Lovell Field Airport (CHA) Automated Surface Observing System (ASOS), located approximately 20 miles east of APT, at 1053, recorded conditions as: Few clouds at 1,900 feet above ground level (agl), broken clouds at 2,900 feet agl, overcast clouds at 5,500 feet agl; wind from 280 degrees at 9 knots; visibility 10; temperature and dew point 6 degrees and 1 degree Celsius, respectively; and altimeter 29.94 inches of mercury.

The BGF airport manager recalled conditions about 1100 on the day of the accident as overcast clouds at 900 feet agl, 10 miles visibility, and wind from 260 degrees at about 8 knots.

The area forecast for Tennessee, valid from 0445 to 1700, predicted marginal visual flight rules (VFR) conditions. For the middle one-third of the state, the forecast predicted overcast ceilings at 1,500 feet agl, with cloud tops to 10,000 feet. After 0900, the possibility of light rain and snow showers was forecast. Between 1400 and 1600, conditions were expected to improve to 2,500 feet scattered.

For the eastern one-third of the state, the forecast predicted overcast ceilings at 1,500 feet, with tops to 12,000 feet. The forecast noted the possibility of visibilities restricted to 5 miles in light rain and mist.

The terminal forecast for CHA, valid beginning at 0600, called for winds from 300 degrees at 8 knots, gusting to 15 knots, broken clouds at 2,000 feet agl, and overcast clouds at 6,000 feet agl. Visibility was expected to be at or above 6 miles, with showers in the vicinity. At 1400, conditions were forecast to improve to scattered clouds at 2,000 feet agl, broken clouds at 3,500 feet agl, and overcast clouds at 7,000 feet agl.

There were no Significant Meteorological Information (SIGMET) advisories applicable to the route in effect during the accident flight. The pilot was, however, advised of a SIGMET for severe icing during the pre-flight briefing. SIGMET Oscar 3 was in effect from 0220 until 0535, and warned of occasional severe mixed or rime icing between 4,000 feet and 12,000 feet. The coverage area included southern Michigan, and northeast and east-central Indiana.

Airmen's Meteorological Information (AIRMET) Zulu was issued at 0245 and was in effect until 0900. The AIRMET warned of moderate icing conditions below 16,000 feet along the route of flight.

AIRMET Zulu was updated at 0845 and was in effect until 1500. Approximately the last two-thirds of the accident flight was within the coverage area of this AIRMET. The accident site was located near the southeastern boundary of the coverage area. The AIRMET warned of moderate icing conditions below 10,000 feet. These conditions were expected to continue beyond 1500, ending about 1800.

AIRMET Zulu was revised at 1030 and covered the same geographical area as the previous update. However, the maximum altitude of the advisory area was increased to 12,000 feet. The conditions were still expected to continue beyond 1500 and to end about 1800.

Several pilot reports (PIREP) related to icing encounters were on file at the time of the accident. However, none were in the immediate proximity of APT. About 0916, an Embraer 145 in the vicinity of Nashville, Tennessee, reported light to moderate icing between 3,000 feet and 4,000 feet. Nashville was located approximately 85 miles northwest of APT.

At 0937, a Cessna 421 reported light rime icing between 5,000 feet and 6,000 feet, about 43 miles east of Nashville.

About 0940, a Bombardier/Canadair Regional Jet encountered moderate rime icing between 3,000 feet and 11,000 feet, during descent into McGhee Tyson Airport (TYS), Knoxville, Tennessee. The encounter began 40 miles west of TYS, and continued until the flight was 5 miles west of TYS. TYS was located approximately 90 miles northeast of APT.

#### AIRPORT INFORMATION

Winchester Municipal Airport (BGF), the intended destination, consisted of a single asphalt runway. Runway 18-36 was 5,003 feet long by 75 feet wide. The airport elevation was 979 feet.



The airport was served by a Non-Directional Beacon (NDB) / GPS instrument approach to runway 18. The minimum descent altitude (MDA) for the NDB / GPS runway 18 approach was 1,680 feet msl for category A and B aircraft. This was approximately 700 feet above the airport elevation. One statute mile visibility was required to descend from the MDA and land.

An Automated Weather Observing System was installed on the airport. Conditions were available via aircraft radio or telephone. However, weather conditions at BGF were not provided to the National Oceanic and Atmospheric Administration for dissemination. In addition, conditions were not archived by the airport management.

Marion County Airport (APT), the alternate destination, also consisted of a single asphalt runway. Runway 4-22 was 3,500 feet long by 75 feet wide. The airport elevation was 641 feet msl.

The airport was served by a NDB / GPS instrument approach to runway 4. The MDA for the approach was 2,220 feet msl. This was approximately 1,600 feet above the airport elevation. One and one-quarter statute mile visibility was required to descend from the MDA and land.

APT was not equipped with any weather observing system.

#### WRECKAGE AND IMPACT INFORMATION

The accident site was located about 1.75 miles northeast of APT in a rural residential area. The site was located in the front yard of a residence. Tree strikes were observed in a wooded area approximately 330 feet south of the main wreckage. Several tree limbs were down and exhibited fresh breaks. A second tree located approximately 180 feet south of the main wreckage also exhibited fresh breaks.

A ground impact scar was located approximately 137 feet south of the main wreckage. The ground scar measured about 8 feet wide by 18 feet long. A tree limb about 4 feet in length and 8 inches in diameter, exhibiting fresh breaks, was lying adjacent to the ground scar. Small debris fragments were located in the ground scar area.

The impact path was oriented on an approximate magnetic bearing of 010 degrees. The fuselage came to rest on a magnetic heading of 255 degrees.

Several ice fragments, consistent in appearance to rime ice, were observed on the ground at the accident site by initial responders. The fragments exhibited a contour approximately matching the profile of the wing leading edge.

The right wing was separated from the airframe and was located under the second tree, about 180 feet south of the main wreckage. The outboard section of the wing and aileron had separated from the remainder of the wing. The inboard aileron hinge and aileron control arm remained attached. The outboard one-half of the right flap had separated from the wing and

came to rest near the fuselage.

The outboard right wing section exhibited leading edge crushing damage consistent with a tree strike. The wing section and aileron were recovered from the vicinity of the wing. A section of the right wing, which contained the right main landing gear was separated and came to rest near the fuselage. A portion of the right wing remained attached to the fuselage as detailed later in this section.

The left wing was separated from the fuselage at the root. It was located about 8 feet south of the main wreckage; between the ground impact scar and the fuselage. The leading edge was crushed and the skin torn in an area outboard of mid span consistent with a tree strike. The left main landing gear was intact and was stowed in the wheel well. The gear assembly extended when the wing was raised off the ground.

The left aileron and flap remained with the wing. The aileron hinges remained secured to the airframe and control surfaces; however, the hinges had separated. The aileron control rod was bent but remained connected. The aileron bellcrank was intact and control continuity was confirmed to the wing root. The cable end was intact; however, the control wheel chain had pulled out of the cable end. The balance cable was separated and frayed consistent with an overload failure.

The fuselage came to rest on its left side. A section of the right wing remained attached to the airframe. This section included the inboard portion of the flap. The right aileron bellcrank was dislocated from the outboard section of the wing. The control cables remained attached to the bellcrank. The bellcrank was separated from the control arm.

The empennage remained attached to the airframe; however, it was dislocated to the right. The elevator and rudder remained attached to the empennage. Rudder and elevator control continuity from the flight control surfaces to the cabin area was confirmed.

Observed breaks in the flight control cables were consistent in appearance with tensile overload failures.

Examination of the engine revealed no anomalies associated with a pre-impact failure. Internal engine continuity was confirmed via crankshaft rotation. Compression and suction was observed at all cylinders. Appearance of all spark plug electrodes was consistent with normal wear. When the magnetos were rotated, sparks were observed across all magneto leads, with the exception of one lead. The vacuum pump was intact and the drive was free to rotate. The fuel distributor was intact and the diaphragm appeared undamaged. Traces of a fluid consistent in appearance and odor to aviation fuel were present. The propeller remained attached. The propeller blades were bent and exhibited leading edge gouges. Engine control continuity was confirmed.

The recording hour meter read 446.3 hours, and the recording tachometer indicated 1,558.14

hours, when observed at the accident site.

#### MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was performed at the State of Tennessee Center for Forensic Medicine on December 27, 2006. The cause of death was attributed to multiple blunt force injuries sustained in the accident. The FAA Forensic Toxicology Report was negative for all substances tested.

#### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	51, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	May 1, 2005
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1718 hours (Total, all aircraft)		

#### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Rockwell International	<b>Registration:</b>	N55MB
<b>Model/Series:</b>	114	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal; Utility	<b>Serial Number:</b>	14395
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	January 1, 2006 Annual	<b>Certified Max Gross Wt.:</b>	3140 lbs
<b>Time Since Last Inspection:</b>	228 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1558 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-540-T4B5D
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	260 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Instrument (IMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	CHA,688 ft msl	<b>Distance from Accident Site:</b>	20 Nautical Miles
<b>Observation Time:</b>	10:53 Local	<b>Direction from Accident Site:</b>	90°
<b>Lowest Cloud Condition:</b>	Few / 1900 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Broken / 2900 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	9 knots / 0 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	280°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.94 inches Hg	<b>Temperature/Dew Point:</b>	6°C / 1°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Zeeland, MI (Z98 )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Jasper, TN (APT )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	07:42 Local	<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	Marion County-Brown Field APT	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	641 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>		<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Fatal, 2 Serious	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Fatal, 2 Serious	<b>Latitude, Longitude:</b>	35.076389,-85.555557

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Sorensen, Timothy
<b>Additional Participating Persons:</b>	Tim Allen; FAA-Nashville FSDO; Nashville, TN Mike Childers; Lycoming Engines; Elizabethton, TN
<b>Original Publish Date:</b>	May 28, 2008
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB traveled to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=65069">https://data.nts.gov/Docket?ProjectID=65069</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).