# National Transportation Safety Board
# Aviation Accident Final Report

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| **Location:** | Raleigh, NC | **Accident Number:** | MIA02FA044 |
| **Date & Time:** | 12/12/2001, 1904 EST | **Registration:** | N41003 |
| **Aircraft:** | Piper PA-46-350P | **Aircraft Damage:** | Destroyed |
| **Defining Event:** | | **Injuries:** | 3 Fatal |
| **Flight Conducted Under:** | Part 91: General Aviation - Business | | |

## Analysis

The flight was cleared for the ILS approach to runway 5R. The flight was at mid runway, at 2,100 feet, heading 049 degrees, at a speed of 163 knots, when the pilot stated "...missed approach." He was instructed to maintain 2,000, and to fly runway heading. Radar showed N41003 started a right turn, was flying away from the airport/VOR, descending. At a point 0.57 miles from the airport/VOR, the flight had descended to 1,500 feet, was turning right, and increasing speed. The flight had descended 400 feet, and had traveled about 0.32 miles in 10 seconds. When radio and radar contact were lost, the flight was 2.35 miles from the airport/VOR, level at 1,600 feet, on a heading of 123 degrees, and at a speed of 169 knots. The published decision height (DH) was 620 feet mean sea level (msl). The published minimum visibility was 1/2 mile. The published Missed Approach in use at the time of the accident was; "Climb to 1,000 [feet], then climbing right turn to 2,500 [feet] via heading 130 degrees, and RDU R-087 [087 degree radial] to ZEBUL Int [intersection] and hold." A witness stated that the aircraft was flying low, power seemed to be in a cruise configuration, and maintaining the same sound up until the crash. The reported weather at the time was: Winds 050 at 5 knots, visibility 1/2 statute mile, obscuration fog and drizzle, ceiling overcast 100, temperature and dew point 11 C, altimeter 30.30 in HG. At the time of the accident the pilot had 10 total flight hours in this make and model airplane; 33 total night flight hours; and 59 total instrument flight hours.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's failure to maintain control of the airplane, due to spatial disorientation, while performing a missed approach, resulting in an uncontrolled descent, and subsequent impact

with a tree and a house.  Factors in this accident were dark night, fog, drizzle, the pilot's lack of total instrument time, and his lack of total experience in this type of aircraft.

## Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MISSED APPROACH (IFR)

Findings
1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) WEATHER CONDITION - FOG
3. (F) WEATHER CONDITION - DRIZZLE/MIST
4. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
5. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
6. OBJECT - TREE(S)
7. OBJECT - RESIDENCE

## Factual Information

HISTORY OF FLIGHT

On December 12, 2001, about 1904 eastern standard time, a Piper PA-46-350P, N41003, operated by M&M Aero LLC, as a Title 14 CFR Part 91 business flight impacted with a private home in a residential area about 2 miles southeast of the Raleigh/Durham International (RDU) Airport, Raleigh, North Carolina. Instrument meteorological conditions prevailed. An instrument flight rules (IFR) flight plan was filed. The airplane was destroyed. The private rated-pilot and two passengers were fatally injured. There were no injuries on the ground. The flight had originated from the Dothan, Alabama Airport, at 1648 (1548 central standard time).

At 1358, central standard time (CST), the pilot contacted the Anniston AFSS (Automated Flight Service Station), Flight Data position to file an IFR flight plan, and received a standard weather briefing from Dothan, to RDU. The pilot estimated the time en route to be about 2 hours 15 minutes, and 7 hours of fuel on board. The pilot was told there was an AIRMET (Airman's Meteorological Information Network) for IFR across the entire route, and "low IFR" basically the current condition at Dothan. He was told that the RDU forecast was; "...winds [at] zero six zero [060 degrees] at three, half a mile fog overcast two hundred with occasional two miles mist overcast eight hundred...valid till twelve hundred Zulu [0800]." He was told that RDU was expecting "...half a mile fog and overcast two hundred...about a forty percent probability it may go to 2 miles with mist overcast 800." The specialist said, "...I'll be real honest with you I doubt you'll see that...I don't believe your going to get that break." The pilot asked the specialist for an alternate airport, something that was VFR [visual flight rules]. He was told there was nothing in Georgia or the Carolinas; maybe there was something in northeast Tennessee or Virginia. The pilot said, he wanted something with an ILS (instrument landing system), and decided on Tri City, Tennessee. The pilot was then given the following PIREP (pilot reports); 20 miles southwest of Raleigh at 4,000 feet a Beech Baron reported IMC (instrument metrological conditions) at 400 feet, light rain and turbulence. The briefing ended at 1404: 19 CST.

After takeoff and climb to altitude, the flight was transferred through several sectors and proceeded without incident until 1844, when the pilot of N41003 reported on the Raleigh East Arrival Radar (E-AR) frequency, level at 9,100 feet, heading 028 degrees, and reducing speed to 191 knots. The pilot of N41003 was advised to expect the ILS Runway 5R.

At 1849:38, the E-AR controller instructed the pilot of N41003 to fly heading 070, join the runway 5R localizer, and maintain 6,000 feet. The initial read back was incorrect, the altitude was restated, and the second read back was correct.

At 1853:59, the controllers conducted a position relief briefing between E-AR and the Raleigh West Final Radar (W-FR). W-FR opened and assumed appropriate airspace and traffic.

At 1854:48, the pilot of N41003 was instructed by the W-FR controller to keep "his speed up," and asked by the control what speed he was indicating. The pilot answered "approximately 190 knots." The pilot reported passing through 5,600 feet, for 3,000 feet.

At 1855:26, the flight joined the Runway 5R localizer on an 18.75 mile final, at a speed of 195 knots, and descended through 5,200 feet.

At 1857:25, the W-FR controller issued the pilot of N41003, an ILS Runway 5R clearance,

which instructed him to maintain at least 170 knots until the Final Approach Fix. The pilot responded, "...we'll try it sir." Radar showed that the flight was on the localizer, on a 12.5-mile final, below the glide slope, descending through 3,700 feet, and at a speed of 185 knots.

The pilot of N41003 contacted the Raleigh Local Control East (LC-E), when the flight was at 3,000 feet. He was issued a clearance to land, and told that the RVR (runway visual range) roll out was 4,000 feet. The pilot acknowledged.

At 1859:12, radar showed N41003 was on the localizer, on glide path, on a 7.25 mile final, at an altitude of 2,900 feet, and reducing speed to 167 knots. At 1859:44, the flight was at the Final Approach Fix (5.8 miles from the runway threshold), on the localizer, above the glide slope, at an altitude of 2,900 feet, and reducing speed to 148 knots. At 1900:47, on the localizer, on the glide slope, on a 3.5 mile final, at an altitude of 2,900 feet, and reducing speed to 124 knots. At 1901:35, the flight began a descent out of 2,900, was on localizer, above glide slope, 1.9 from the runway threshold, at 119 knots.

At 1902:17, N41003 was at the runway threshold, descending to 2,200 feet, on a heading of 052 degrees, increasing speed to 159 knots.

At 1902:30, responding to the LC-E controller's inquiry, the pilot of N41003 stated "...going around, missed approach," the LC-E controller instructed the pilot of N41003 to maintain 2,000, and to fly runway heading. The pilot's read back was correct. At this time radar data showed N41003 was mid runway, level 2,100, heading 049, at 163 knots.

Radar showed that at 1902:55, N41003 started a right turn, on the RDU VOR (Very High Frequency Omni-directional radio-range) 360-degree radial, 0.25 miles from the VOR, descending to 1,900, turning 076 degrees, and reducing speed to 118 knots.

At 1903:05, the LC-E controller attempted to verify the heading of N41003, and there was no response. Radar data showed N41003 was on the RDU VOR 083 radial, 0.57 miles from the VOR, descending to 1,500, turning 122 degrees, and increasing speed to 154 knots.

Radar data showed that the flight had descended 400 feet in 10 seconds, which calculated to 2,400 feet-per-minute rate of descent, and had traveled about 0.32 miles in 10 seconds.

At 1903:18 the pilot of N41003 was responding to the second LC-E controller's attempt, and the pilot's last radio transmission stated he was "turning back to a heading 050." Radar showed that N41003 was level at 1,600 feet, In a right turn, increasing speed to 166 knots. The LC-E controller instructed the pilot of N41003 to fly a heading 120 degrees, maintain 2,000 feet, and did not get a response.

At 1903:37, the Raleigh Tower Supervisor notified Raleigh South Departure Radar (S-DR) of N41003's go around, missed approach instructions, and lost radio contact.

Radar contact was lost at 1903:47, and N41003 last known radar position was 117 degrees from the RDU VOR, at 2.35 miles, level at 1,600 feet, on a heading of 123 degrees, at a speed of 169 knots.

ATC initiated emergency notifications, air traffic operations were suspended at RDU, and at 1908:40, the Wake County Emergency Services confirmed N41003 had crashed on the east side of Umstead Park.

A witness who lived near the accident site, and who was a private pilot with an instrument rating, stated that he heard the aircraft flying low near his home. The power seemed to be in a

cruise configuration, maintaining the same sound up until the crash.

PERSONNEL INFORMATION

The pilot held an FAA private pilot certificate, with airplane single engine land, instrument airplane last issued on September 25, 2001. He held an FAA class 3 medical certificate issued on June 22, 2001, with limitations; "available glasses for near vision." The pilot last received a biennial flight review, as required by 14 CFR Part 61, on September 25, 2001, the same day he received his instrument rating. The pilot's personal flight logbooks revealed, he had accumulated a total of 926 total flight hours, in all aircraft; 10 total flight hours in this make and model airplane; 33 total night flight hours; and 59 total instrument flight hours. A Certificate of Completion was found in the pilot records from a company called ATM, and stated that the pilot "...has satisfactorily completed 28 hour Piper Malibu Mirage ground and flight initial course," on November 9, 2001.

The pilot's personal flight records revealed that there were no flights entered after September 25, 2001, although a friend of the pilot said he was flying after that date. According to the records, the pilot did not have a record of three takeoffs and landings to a full stop at night in the last 90 days before the accident. There were no records at all of any flights in the 78 days immediately preceding the accident.

AIRCRFT INFORMATION

The airplane was a Piper; model PA-46-350P, serial number 46-22044, manufactured in 1989. At the time of the accident the airframe had accumulated 1,598.8 total flight hours. The airplane received an annual inspection on July 10, 2001, 51.3 hours before the accident. The airplane was equipped with one Lycoming TSIO-540-AE2A, 350-horsepower engine. According to the maintenance records, the engine at the time of the accident had a total time of 1,598.8 hours.

Maintenance records showed that the last pitot-static system check was completed on May 12, 1999. These checks had expired as of May 30, 2001. According to 14 CFR Part 91.413 (a) the pitot-static system check is required every 24 months in order for the aircraft to be operated in IFR conditions in controlled airspace. The altimeter test was conducted on May 12, 1999, to an altitude of 35,000 feet. The transponder was last inspected on May 12, 1999. The last recorded ELT inspection was March 16, 1998, and the ELT battery was due on July 2002. According to 14 CFR 91.207, the ELT was required to be inspected/tested within the past 12 months, in order for the aircraft to be considered airworthy. No such record of the ELT being tested within the required period was found.

METEOROLOGICAL INFORMATION

The Raleigh/Durham weather at 1900 was: Winds from 050 at 5 knots, visibility 1/2 statute mile, obscuration fog and drizzle, ceiling overcast 100, temperature 11 degrees C, dew point 11degrees C, altimeter 30.31 inHg. Remark: Surface visibility 2 and 1/2.

An acquaintance of the pilot at Dothan stated that, on the day of the accident, he spoke with the pilot. He had just flown into Dothan, which was in "low IFR conditions" when he landed. He saw the pilot around his airplane and spoke to him about the weather, as well as the fact that he considered the weather to be a "PRO IFR" day (a day when only aviation professionals really should be flying). He asked the pilot where he was headed and what the weather was like there. The pilot replied that he was headed for Raleigh, North Carolina, and the weather at his

destination was similar to the weather at Dothan. He made a comment to the pilot about being careful and not hurting himself during the trip, particularly given his "low time in the aircraft." The pilot replied that he would indeed be careful and the two departed company.

AERODROME AND GROUND FACILITIES

At the time of the accident the pilot was cleared for the straight-in ILS approach to runway 5R at RDU. The published decision height (DH) was 620 feet mean sea level (msl), which was 200 feet above the runway touchdown zone elevation of 420 feet. The published minimum visibility was 1/2 mile. The approach profile showed an inbound course of 052 degrees, and a minimum altitude of 4,000 feet msl, at a distance of 12.8 statute miles from the runway threshold. Then a descent to a minimum altitude 2,400 feet msl at a distance of 5.4 miles from the runway threshold. The missed approach point was located .06 miles from the runway threshold.

The published Missed Approach in use at the time of the accident was; "Climb to 1,000 [feet], then climbing right turn to 2,500 [feet] via heading 130 degrees, and RDU R-087 [087 degree radial] to ZEBUL Int [intersection] and hold."

WRECKAGE AND IMPACT INFORMATION

The airplane impacted with a home located at 7609 Stone Horse Circle, Raleigh, North Carolina, about 2.5 miles southeast of the airport. In addition to the house, a car, and a boat were destroyed and consumed in the post impact fire. The accident occurred during the hours of darkness at 35:52:298 north and 78:44:632 west.

An examination of the trees on the property indicated that the first sign of impact damage to the trees was found on the northeast section of the property. The trees were about 45 to 50 feet high, and were about 50 feet from the house. A small belly blade type avionics antenna was found at the base of one of the trees. The magnetic heading from the trees to the house was about 054 degrees.

The left wing and flap were destroyed and consumed by the postimpact fire. The landing gear had separated and was destroyed. One fuel cap was found, and it was in the locked position. The aileron was not found. The flap had separated from its attachment points. The flap jackscrew was separated from its attachment points, and the actuator was found partially melted. The shaft extension measured 4 5/8 inches and displayed 25 threads, which translated to between 20-degrees and 36-degrees of flap extension. The flap jackscrew actuator was partially melted. The flap bellcrank was found and had been destroyed by fire.

The right wing, aileron and flap, were found destroyed and consumed by the postimpact fire. The inboard section of the wing was found about 250 feet from the main wreckage. The landing gear had separated, and was destroyed. The aileron had separated from its attachment points. The flap was found separated from its attachment points. The flap bellcrank was found and was destroyed by fire.

The empennage was destroyed and separated from the main fuselage near the aft baggage compartment. The vertical fin was attached. The rudder had separated from its attachment points. The rudder bellcrank was found separated and broken into two pieces. The stops were intact. The elevator had separated from its attachment points and consumed in the postimpact fire. The elevator trim drum measured 1 inch and displayed 11 threads, which translated to a

neutral, to a nose up position.

The fuselage was consumed in the postimpact fire. The fuel selector valve and fuel filter were found, but both were destroyed. The selector handle had separated, and was destroyed by fire.

All the seats were consumed in the postimpact fire. Two seat belt buckles were found buckled and one male buckle was found. One of the buckled seat belts was released and operational. The other belt buckle could not be released; this buckle had melted metal on the belt buckle.

The postimpact fire destroyed most of the instruments. The instruments that were readable revealed that one altimeter was found with the needle stuck at 7,700 feet. The other altimeter displayed 5?,3?? feet. Manifold pressure displayed 32.5 inches, and the fuel flow needle was missing. The attitude indicator was found stuck in a right wing low position about 50 to 60 degrees, and the gyro was found jammed in position. The attitude gyro was disassembled and no scoring was observed.

The engine was destroyed and consumed in the post impact fire. The engine was separated from its mounts. Continuity was established to the camshaft and rear accessory drive gears.

The engine was removed from the crash site and examined. The examination revealed that the crankshaft could not be completely rotated because of restrictions to the number 3 and 5 cylinder barrels that had inward bends at the ends of the cylinder barrels. However, movement was observed from all six pistons, rear accessory gears, the camshaft, through the oil filler tube opening by means of a lighted borescope, and the propeller governor drive gear.

The propeller hub remained attached to the crankshaft flange, however the composite blades of the propeller were destroyed. All of the blades were broken off at the blade roots.

The two case halves were visually examined and there were no holes found in the cases. Both case halves sustained impact and postcrash fire damage. Cylinders 2, 4, and 6 remained relatively intact and attached to the engine case pads. The push rod assemblies for these cylinders sustained impact and postcrash fire damage. The interiors of these cylinders were visually examined with a lighted borescope. Each of the valve heads and piston tops were intact. The combustion chamber was coated with a pale buildup of combustion deposits.

Examination of cylinder number 1 revealed that the barrel remained attached to the case pad and the head assembly was broken, exposing portions of both valve assemblies. The intake rocker assembly was missing while the exhaust rocker assembly remained in place. The intake push rod housing and rod were bent. The exhaust push rod assembly was missing. The combustion chamber was examined with a lighted borescope. Both valve heads and the top of the piston were intact. There was a pale coating of combustion deposit coating the chamber surfaces. The top spark plug was broken down to the barrel nut, however the fire nose core of the spark plug remained intact.

Examination of cylinder number 3 revealed that the cylinder barrel remained attached to the engine case pad. The cylinder head was broken into several sections enough so that the threaded portion of the barrel was exposed. The intake valve assembly was exposed. The exhaust valve assembly and both push rod assemblies were missing.

Examination of cylinder number 5 revealed that the complete cylinder head assembly was missing. The edges of the barrel displayed several inward and outward tears. Some of the top cooling fins on the barrel appeared to have been shaved inward toward the cylinder base. The cylinder barrel remained attached to the engine case pad. Both of the push rod assemblies

were missing.

Both of the magnetos were found broken away from the mounting pads. One of the magneto's sustained impact and postcrash fire damage. The other magneto body remained relatively intact, it had sustained impact and postcrash fire damage to the extent that the rotor could not be rotated. An examination of magneto model 6360 (right) revealed that it had separated from the accessory mounting pad, and the housing assembly was destroyed. Magneto model 6363 (left) revealed the magneto had separated away from the accessory-mounting pad. Sections of the mounting flange had broken off. The housing body showed signs of impact and postcrash fire damage. The rotor shaft could not be rotated by hand due to postcrash damage. The remaining accessories were destroyed by either impact or post crash fire, and were not examined.

The fuel injector body revealed that the throttle was found near the full power stop. The mixture control arm was at the full rich stop. The fuel inlet screen was visibly inspected and found clear. There was no evidence of fuel on the inlet screen.

The fuel distributor revealed that most of the supply lines to the cylinders had been destroyed. The fuel piston was clean, as was the diaphragm. The piston moved freely by hand. There was evidence of fuel within the piston chamber.

The left turbocharger housing had been broken off. The intake turbine impeller blades were broken off and bent. The remaining assembly sustained impact and postcrash fire damage. The exhaust waste gate valve position could not be verified. The exhaust pipes that remained attached to the assembly had a soft characteristic appearance. The single rotating shaft could not be rotated. The right turbocharger exhaust impeller remained intact while the intake impeller blades were destroyed. The single rotating shaft could be rotated by hand.

The rear accessory housing revealed the remote oil supply adapter, part of the engine-driven fuel pump, and the oil scavenge pump assembly remained attached to the housing. The air/oil induction housing assembly was broken off exposing the dented, partially melted, and scorched oil sump baffle. The charred oil filter element was visually examined and there were no visible metal particles within the element folds.

The vacuum pumps were found detached from the accessory case. Both pumps were destroyed by impact and postimpact fire damage, and neither could be rotated by hand. The interior of both pumps displayed scratches and scoring marks in the direction of rotation.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot, at the Office of the Chief Medical Examiner, Chapel Hill, North Carolina, on December 13, 2001. According to the autopsy report the cause of death was "...Massive blunt force Trauma." No significant preexisting disease was noted on the autopsy.

Toxicological tests were conducted at the Federal Aviation Administration, Research Laboratory, Oklahoma City, Oklahoma, and revealed, "No ethanol or drugs were detected "

ADDITIONAL INFORMATION

At 2253, the Atlanta Area Operations Center notified Raleigh Airway Facilities of no need to conduct equipment certifications of any equipment. There were no reports from preceding and/or succeeding aircraft of any navigational equipment anomalies.

The airplane was released to Mr. Chris Cartwright, Atlanta Air Salvage, on behalf of owner's Insurance Company on December 14, 2001. There were no representatives of the airplane's owner in the area at the time the wreckage was released.

## Pilot Information

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| **Certificate:** | Private | **Age:** | 51, Male |
| **Airplane Rating(s):** | Single-engine Land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | Seatbelt, Shoulder harness |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | No |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | Yes |
| **Medical Certification:** | Class 3 Valid Medical--w/ waivers/lim. | **Last FAA Medical Exam:** | 06/22/2001 |
| **Occupational Pilot:** | | **Last Flight Review or Equivalent:** | 09/25/2001 |
| **Flight Time:** | 926 hours (Total, all aircraft), 10 hours (Total, this make and model) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Piper | **Registration:** | N41003 |
| **Model/Series:** | PA-46-350P | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | No |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 4622044 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 6 |
| **Date/Type of Last Inspection:** | 07/10/2001, Annual | **Certified Max Gross Wt.:** | 4318 lbs |
| **Time Since Last Inspection:** | 51.3 Hours | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | 1679 Hours at time of accident | **Engine Manufacturer:** | Lycoming |
| **ELT:** | Installed, not activated | **Engine Model/Series:** | TSIO-540-AE2A |
| **Registered Owner:** | M&M Aero LLC | **Rated Power:** | 350 hp |
| **Operator:** | Thomas D. Motley | **Operating Certificate(s) Held:** | None |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Instrument Conditions | **Condition of Light:** | Night |
| **Observation Facility, Elevation:** | RDU, 435 ft msl | **Distance from Accident Site:** | 2 Nautical Miles |
| **Observation Time:** | 1900 EST | **Direction from Accident Site:** | 308° |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 0.5 Miles |
| **Lowest Ceiling:** | Overcast / 100 ft agl | **Visibility (RVR):** | 4000 ft |
| **Wind Speed/Gusts:** | 5 knots / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 50° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 30.31 inches Hg | **Temperature/Dew Point:** | 11°C / 11°C |
| **Precipitation and Obscuration:** | | | |
| **Departure Point:** | DOTHAN, AL (DHN) | **Type of Flight Plan Filed:** | IFR |
| **Destination:** | Raleigh, NC (RDU) | **Type of Clearance:** | IFR |
| **Departure Time:** | 1648 CST | **Type of Airspace:** | Class B |

## Airport Information

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| **Airport:** | RALEIGH-DURHAM INTERNATIONAL (RDU) | **Runway Surface Type:** | Asphalt |
| **Airport Elevation:** | 435 ft | **Runway Surface Condition:** | Wet |
| **Runway Used:** | 5R | **IFR Approach:** | ILS |
| **Runway Length/Width:** | 7500 ft / 150 ft | **VFR Approach/Landing:** | None |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 Fatal | **Aircraft Damage:** | Destroyed |
| **Passenger Injuries:** | 2 Fatal | **Aircraft Fire:** | On-Ground |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 3 Fatal | **Latitude, Longitude:** | 35.874444, -78.747222 |

## Administrative Information

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| **Investigator In Charge (IIC):** | Alan J Yurman | **Report Date:** | 12/30/2003 |
| **Additional Participating Persons:** | E. James Creider; FAA; Greensboro, NC<br>Robert P Martellotti; Piper; Vero Beach, FL<br>Dave Moore/Greg Erikson; Lycoming; Ardsley, PA | | |
| **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.ntsb.gov/pubdms/. | | |