Aviation Investigation Final Report

Location:	Greeneville, Tennessee	**Accident Number:**	ATL04FA051
Date & Time:	December 11, 2003, 10:47 Local	**Registration:**	N1592T
Aircraft:	Cessna 414	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	4 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation		

Analysis

The pilot was on a circling approach for landing in instrument icing conditions. The landing gear were extended and the flaps were lowered to15 degrees. The alternate air induction system was not activated. The surviving passenger stated when the airplane came out of the clouds and the airplane started to buffet and shake. The pilot was heard to state on the UNICOM frequency by the fixed base operator and a lineman, "Emergency engine ice." The airplane was observed to make a 60-degree angle of bank and collided with trees and terrain. The Pilot's Operating Handbook states the airplane will stall at 129 miles per hour with the landing gear and flaps down at 15-degrees. The maximum landing weight for the Cessna 414 is 6,430 pounds. The total aircraft weight at the crash site was 6,568.52 pounds. Witnesses who knew the pilot stated the pilot had flown one other known flight in icing conditions before the accident flight.

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 airspeed while maneuvering in icing conditions on a circling approach for landing resulting in an inadvertent stall and collision with trees and terrain. A factor in the accident was a partial loss of engine power due to the pilot's failure to activate the alternate induction air system, and exceeding the maximum landing weight of the airplane.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - NONMECHANICAL
Phase of Operation: MANEUVERING

Findings
1. (F) WEATHER CONDITION - ICING CONDITIONS
2. (F) INDUCTION AIR CONTROL,ALTERNATE AIR/DOOR - NOT ACTIVATED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings
3. (C) AIRSPEED(VSO) - NOT MAINTAINED - PILOT IN COMMAND
4. STALL - INADVERTENT - PILOT IN COMMAND
5. (F) AIRCRAFT WEIGHT AND BALANCE - EXCEEDED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
6. OBJECT - TREE(S)
7. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On December 11, 2003, at 1047 eastern standard time, a Cessna 414, N1592T, registered to Young Forever Inc., operated by Young Forever Inc., and Saunders Advisory Group as a 14 CFR Part 91 business flight, collided with trees and terrain during a circling approach to runway 23 at Greeneville-Greene County Municipal Airport, Greeneville, Tennessee. Instrument meteorological conditions prevailed and an instrument flight rules flight plan was filed. The airplane was destroyed and there was a post-crash fire. The commercial pilot and three passengers were fatally injured. A pilot-rated passenger sustained serious injuries. The flight originated from Port Columbus International Airport, Columbus, Ohio, on December 11, 2003, at 0915.

A witness, who was located next to a mailbox at 3055 Whitehouse Road, stated he observed a twin-engine airplane, with the landing gear down, in straight and level flight between 200-250 feet above the ground. He initially thought the airplane had departed from the Greeneville Airport. The airplane was heading almost due north when it made a sharp left turn; estimated at a 60-degree angle of bank. The airplane collided with trees and the ground followed by a ball of fire.

The surviving passenger stated the pilot delayed the takeoff from Columbus, Ohio, due to icing conditions. They departed Columbus and encountered icing conditions while in instrument conditions. The pilot informed him to keep a look out for ice on the leading edges of the wings and engine nacelles. The pilot did not want more than 1/4 inch of ice on the surfaces. The pilot inflated the deicing boots two times during the climb and applied propeller anti ice. He did not see the pilot apply alternate air. They leveled off at 6,000 feet and were flying above the clouds.

Upon reaching York VOR, the pilot requested and received clearance to climb to 8,000 feet to avoid clouds along their route of flight. The pilot informed him that he wanted to remain up as long as he could to stay out of the ice, and the pilot wanted to descend rapidly to keep from building up any ice. Tri Cities Approach Control cleared them to descend to 4,600 feet and to expect the Localizer 5 approach at Greeneville. They leveled off at their assigned altitude, and the pilot commented that he did not understand why ATC was keeping them in the clouds. A short time later the controller started vectoring them for the localizer approach and descended them to a lower altitude. The airplane started building up ice and the pilot activated the propeller ice, deice boots, and sprayed the windshield. The pilot contacted Greeneville UNICOM and obtained the weather and runway information. They performed the before landing check, intercepted the localizer, and the pilot lowered the landing gear and extended flaps one notch. The pilot made a call on the UNICOM frequency and informed them they were the localizer inbound.

The passenger stated he continued to look for ice. They broke out of the clouds at 1,700 AGL. The airport was to his right and below. About the same time the airplane came out of the clouds, the airplane started to buffet and shake. He asked the pilot, "What is it? What is it?" The pilot stated, "I think I know what it is." The pilot applied full throttle, full rpm, and mixture full rich. It appeared that the pilot was attempting to get some power to establish a climb while the airplane was descending. The passenger stated he knew they were going to crash, and he started removing the approach plate holders from both control yokes. The pilot made a "May Day" call. The airplane started going to the left and the mountain tops were getting closer. He turned around and instructed the passengers to fasten their seatbelts tighter and to put a coat or a blanket over their face. He turned around and tightened his lap belt and shoulder harness. The treetops were closer and the pilot made a comment as they collided with the mountain.

PERSONNEL INFORMATION

Review of information on file with the FAA Airman's Certification Division, Oklahoma City, Oklahoma, revealed the commercial pilot was issued a commercial pilot certificate on November 2, 2000, with ratings for airplane single engine land, airplane multiengine land, and instrument airplane. In addition the pilot held a flight instructor certificate issued on June 17, 2003, with ratings for airplane single engine land, airplane multiengine land, and instrument airplane. The pilot also held an advanced ground instructor certificate issued on September 11, 2000. The pilot held a first class medical certificate issued on June 13, 2003, with the restriction must wear corrective lenses.

The pilot's biennial flight review was conducted on September 12, 2002, and his last instrument proficiency flight check was conducted on September 13, 2002, at SIMCOM. Review of the pilot's logbook revealed his first flight in the Cessna 414 was on April 12, 2002. The pilot's last logbook entry was on December 6, 2003. The pilot's total time including the flight from Tampa, Florida, to the accident site is 4,845 hours. The pilot had a total of 341.5 multiengine hours. The pilot had flown 160.1 hours in the Cessna 414 of which 155.7 hours were as pilot-in-command. The pilot had flown one flight in the Cessna 414 in icing conditions before the accident flight. The pilot's last logbook instrument flight in the Cessna 414 was on November 24, 2003.

AIRCRAFT INFORMATION

The Cessna 414 airplane is equipped with a deice boot system that provides protection to the wings, horizontal stabilizer and vertical stabilizer. The system is manually controlled. The complete inflation and deflation cycle will last approximately 30 seconds. The Cessna 414 Owners Manual states that when ice has accumulated to about 1/2 inch thick on the leading edges, that the deicing switch should be turned on. The manual states in a NOTE, "Since wing, horizontal stabilizer and vertical stabilizer deice boots alone do not provide adequate protection for the entire aircraft, known icing conditions should be avoided wherever possible. If icing is encountered, close attention should be given to the pitot static system, propellers,

induction systems, and other components subject to icing." No discrepancies pertaining to the deice boots were written in the airframe logbook.

The Cessna 414 airplane is equipped with a alcohol windshield deice system, which consists of an alcohol tank, a pump, left and right-hand dispersal tubes, and a switch breaker. No discrepancies pertaining to the windshield deice, were written in the airframe logbook.

A work order obtained from Lane Aviation, Columbus, Ohio, revealed the airplane underwent maintenance on December 10, 2003, for a broken wire on the right main landing gear. The left and right main down lock switches were replaced at Hobbs time was 2770.6. The airplane was topped off with 98 gallons of 100 low lead fuel on December 10, 2003.

A review of the airframe maintenance records revealed that RAM Aircraft Corporation overhauled the left and right engines on September 25, 2000. The left and right engines and left and right McCauley Propeller systems were installed on October 16, 2000, at Hour Meter 2307. The aircraft total time was 4,640 hours. The last annual inspection was conducted on July 20, 2003, at Hobbs Meter 2702.4. The airplane had flown 69.8 hours since the last annual inspection and had 4,989.2 total airframe hours at the time of the accident. The total time since the RAM conversion was 465.2 hours at the time of the accident. The pitot static system pressure test and transponder test were completed on March 28, 2003.

METEOROLOGICAL INFORMATION

The Greeneville 1100 weather observation was wind was 260-degrees at 8 knots, gusting to 14 knots, visibility 10 miles, ceiling overcast at 900 feet, temperature 32-degrees Fahrenheit, dew point temperature 29-degrees Fahrenheit, altimeter 29.97.

The Area Forecasts for eastern Tennessee was for ceilings broken at 2,500 feet agl with tops to 10,000 feet.

The Tri Cities Airport located 26 miles northeast of the accident site reported overcast skies at 1,700 feet above ground level (agl). The Terminal Forecast at Tri-Cities Airport was for winds from the 270 degrees at 15 knots, visibility better than 6 miles, ceiling overcast at 2,000 feet, with temporary condition between 0700 and 1100 of 5 miles in light snow showers and a ceiling overcast at 1,500 feet.

The National Weather Service issued AIRMET Zulu for occasional moderate rime to mixed icing in clouds and in-precipitation below 6,000 feet for portions of Tennessee and Kentucky. AIRMET Sierra was issued for IFR conditions and mountain obscuration. The Current Icing Potential (CIP) product indicated a high probability of icing at 3,000 and 6,000 feet.

The upper air data obtained from the Nashville Regional Forecast Office revealed an inversion with relative humidity greater than 75 percent existed from the surface to about 5,000 feet. A high potential for icing existed below the base of the inversion from 1,231to 4,400 feet with the

high relative humidity there was an 86 percent probability of light rime to mixed icing.

Numerous pilot reports were recorded over Tennessee surrounding the time of the accident. A wide range of icing reports from light to moderate rime to mixed icing was reported below 6,500 feet. Cloud tops were reported in the range of 6,000 to 8,000 feet in the immediate area.

The pilot filed an IFR flight plan on December 10, 2003, for the flight from Columbus, Ohio to Greeneville, Tennessee, through the use of the Direct Users Access Terminal computer briefing (DUAT). In addition the pilot received a pre-flight weather briefing for the IFR flight on December 11, 2003. No deficiencies were noted in the DUAT briefing.

WRECKAGE AND IMPACT INFORMATION

The main wreckage of the airplane was located in a wooded area on a 20-degree upslope adjacent to 3055 Whitehouse Road, and one nautical mile north northeast of the approach end of runway 23 at Greeneville-Greene County Municipal Airport, Greeneville, Tennessee.

Examination of the crash site revealed the airplane collided with a trees separating the left wing 6 feet inboard of the wing tip, left main tip tank, the outboard 8 feet of the right wing, and the right main tip tank.. The main wreckage rested inverted 106-feet 7-inches down the debris line on a heading of 003-degrees magnetic.

The airplane was fire damaged from the nose baggage area extending aft to the aft pressure bulkhead. The left fuel selector cable was not located, and the left fuel valve handle and placard were destroyed by fire. Emergency response personnel cut the right fuel selector cable. The right fuel valve handle and placard sustained fire damage. The left fuel valve and placard were not located. The flight control cables were intact from the control column aft to the elevator and rudder bell crank. The aileron control column chain and turn buckle separated from the control column sprocket and received fire damage. The left side aileron cable separated 21-inches from the end of the aileron control column chain. The right side aileron cable separated 48-inches from the end of the aileron control column chain. The remaining left and right aileron control cables extending aft to the fuselage bell crank were not located. The nose landing gear was partially separated and extended to the full down position.

The right wing separated outboard of the right engine nacelle. The separated 8-foot section of the right wing sustained fire damage and was located to the right of the cabin area. The inboard section of the right wing flap was consumed by fire. The outboard flap sustained fire damage and was attached to the wing. The aileron separated from the wing. The auxiliary fuel tank was ruptured and consumed by fire. The right main tip fuel tank sustained fire damage and was ruptured and separated from the right wing. The right fuel valve was located in the right wing. The engine assembly remained attached to the engine mounts. The left aft engine mount was fire damaged. The right main landing gear separated and was in the extended position. The landing gear actuator housing was fire damaged. The flap actuator was separated from its mounting bracket. The flaps were extended 15-degrees. Both turnbuckles to

the left flap were melted. One turnbuckle was connected to the right flap and the other turnbuckle was melted. The aileron control cables remained attached to the aileron bell crank in the outboard section of the wing. The cables extended inboard to the engine nacelle and separated. The aileron wing bell crank received fire damage and was partially separated from the wing. The push pull arm on the aileron bell crank was separated. The aileron cables extending from the engine nacelle inboard to the aileron fuselage bell crank were not located.

The right propeller assembly separated from the propeller flange and was located beneath the engine. One propeller blade was bent aft from the propeller hub to the propeller tip. The leading edge of the propeller blade had gouges at mid-span of the propeller blade to the propeller tip. The propeller blade tip was bent aft 90-degrees with longitudinal scratches. The face of the propeller blade had longitudinal scratches 6-inches inboard of the propeller tip. Another propeller blade was bent aft 90-degrees 9-inches inboard from the propeller blade tip with longitudinal scratches. A 5-inch area mid-span of the trailing edge of the propeller sustained gouges. The last 2-inches of the propeller blade sustained "s" bending. No scratches were present on the face of the propeller blade. The remaining propeller blade had "s" bending with the propeller blade tip curled forward and chord wise scratching was present on the propeller tip. The leading and trailing edges of the propeller blade had gouges present 5-inches inboard from the propeller blade tip. No scratches were present on the face of the propeller blade. The propeller spinner was intact and received fire damage.

The right engine was intact and received fire damage. The throttle and fuel control assembly received heat damage. All cylinders, both magnetos, fuel manifold valve, fuel injection lines and nozzle, the top sparkplugs Nos.1, 3, and 5, vacuum pump, starter and adapter, alternate air box, turbocharger, oil pump, fuel pump, oil canister, right exhaust runner and Nos. 1, 3, and 5 ignition harness were intact and not damaged. The No. 2, 4, and 6 ignition harness and top spark plugs, air oil separator, oil cooler, left exhaust runner, freon compressor, propeller governor, induction balance tube, alternator, and air filter, were damaged. The engine was rotated by hand 360-degrees and continuity was confirmed to the magnetos and alternator. The crankshaft was dye penetrate inspected and found cracked at the aft crankshaft to propeller flange transition radius. An engine run could not be conducted. Disassembly of the engine revealed no anomalies.

The aft fuselage received fire damage. The vertical stabilizer was damaged, and was compressed aft and downward 8-inches above the rudder trim tab actuator. The rudder was bent to the left and attached to the vertical stabilizer by the lower hinge point. A 21-inch section of the rudder with the balance weight separated from the rudder. The rudder trim tab was damaged and deflected to the left.

The right horizontal stabilizer remained attached to the fuselage and received fire damage. The stabilizer was twisted downward 90-degrees. The right elevator remained attached to horizontal stabilizer by the torque tube. The elevator trim tab actuator rod was extended 1.5 inches. The trim tab push pull tube was broken 1.5 inches aft of the actuator rod and the trim tab remained attached to the elevator.

The left horizontal stabilizer was attached to the fuselage and received fire damage. A diagonal crease was present at mid-span of the horizontal stabilizer. The left elevator was attached at the inboard and center hinges. The outboard 48-inches of the elevator separated and was located to the right of the main cabin area.

The left wing separated outboard of the left engine nacelle. A 33-inch section of the left wing outboard of the engine nacelle was fire damaged. The outboard 6 feet of the left wing separated and was located near the second tree impact. The flaps were destroyed by fire. The aileron control cables from the fuselage bell crank extending outboard to the wing bell crank were not located. The left engine's right side mount legs were broken. The engine assembly remained mounted in the engine nacelle. The left main landing gear separated from all but one pivot location and was in the extended position.

The left propeller assembly separated from the propeller flange and the propeller was located beneath the engine. The crankshaft propeller flange was bent, cracked, and an engine run could not be conducted. One propeller blade was exposed to the post-crash fire. Three inches of the propeller blade tip was missing and not located. A 2-inch section of the leading edge of the propeller blade was gouged inboard of the separated propeller tip, and "s" bending was present on the trailing edge of the propeller blade. The trailing edge of the propeller blade tip was curled forward. Another propeller blade was bent aft starting at the propeller blade hub. Chord wise and longitudinal scratching was present on the camber side of the propeller blade. The trailing edge of the propeller blade was dented from the propeller tip extending inboard 8-inches. No scratches were present on the face of the propeller blade. The remaining propeller blade was bent aft at mid-span of the propeller blade. The propeller blade sustained "s" bending outboard of the mid-span bend. Longitudinal scratches were present on the camber side of the propeller blade from the propeller hub extending outboard to the mid-span of the propeller blade. Chord wise scratching was present on the face of the propeller blade extending outboard from the bend in the propeller blade. The propeller spinner was damaged.

The left engine received fire damage. The fuel pump, tachometer generator, turbocharger, throttle body/metering unit, induction tubes, induction balance tube, oil pump, oil sump, oil cooler, after cooler, starter, starter adapter, ignition harness, throttle body, and right exhaust runner were damaged. The alternate air box was destroyed. All cylinders, vacuum pump, both magnetos, spark plugs, propeller governor, freon compressor, fuel manifold valve, fuel injection lines, and nozzles were intact. The engine was rotated by hand and continuity was confirmed to the magnetos and alternator. Disassembly of the engine revealed no anomalies.

MEDICAL AND PATHOLOGICAL INFORMATION

A Forensic Pathologist from East Tennessee State University, College of Medicine, Johnson City, Tennessee, conducted a postmortem examination of the commercial pilot on December 15, 2003. The reported cause of death was "multiple blunt force injuries." The Forensic Toxicology Research Section, Federal Aviation Administration, Oklahoma City, Oklahoma,

performed postmortem toxicology of specimens from the pilot. The results were negative for carbon monoxide, cyanide, ethanol, basic, acidic, and neutral drugs. Bisoprolol, and diphenhydramine, were detected in the blood and urine.

The private pilot passenger sustained fractured C2 vertebrate, cracked ribs, minor facial cuts and a burn to his right thumb. No toxicology specimens were requested.

A Certificate of Death was issued by the Green County Medical Examiner, Greeneville, Tennessee on December 23, 2003, for the 3 passengers. The reported cause of death was "multiple injury, blunt trauma secondary to an airplane crash." No forensic toxicology of specimens was requested.

TEST AND RESEARCH

The Manager at Tri Cities Tower, Blountville, Tennessee, stated the base of the radar coverage for the ASR-8 radar in the vicinity of the Greeneville-Greene County Municipal Airport, Greeneville, Tennessee, is 3,600 feet.

Review of the Cessna Model 414 OWNER'S MANUAL states on page 2-9 in Section II, Description and Operating Details, ALTERNATE INDUCTION AIR SYSTEM, "The induction system employed on these engines is considered to be non-icing. However two manually operated alternate induction air systems are incorporated to assure satisfactory operation. Should the induction air inlet, or the induction system air filter become obstructed with ice, the alternate air doors should be manually opened by pulling the alternate air controls to the first detent. The operating of these alternate air doors will provide the engine with cool unfiltered air. If a decrease in manifold pressure is again experienced, it is an indication of SEVERE icing conditions and that the alternate air inlet source has iced up. Under these circumstances, the alternate air controls should be pulled full open which will admit warm unfiltered air to the engines. Both systems will provide continued satisfactory engine operation.

Since the higher intake air temperature, when using the manual (hot) alternate air induction system, results in a decrease in engine power and turbocharger capability, it is recommended that this system should not be utilized until indications of alternate air inlet source icing is actually observed.

Should additional power be required, the following procedure may be employed:

(1) Increase RPM as required.
(2) Move throttles forward to maintain desired manifold pressure.
(3) Readjust mixture controls for smooth engine operation."

The left and right manually operated alternate induction air system controls were found in the closed position at the crash site.

Review of Section I OPERATING CHECKLIST, on page 1-11, BEFORE LANDING, states,

(3) Alternate Air Controls - IN.
(6) Wing Flaps - 15-degrees below 180 MPH CAS.
(7) Landing Gear - Down below 160 MPH CAS.

Review of RAM Aircraft Corporation, Airplane Flight Manual Supplement for the Cessna 414, states on page 7, with zero thrust at 6,765 pounds, that with the gear down and flaps at 15-degrees the airplane will stall at 94 miles per hour (mph) with a 20- degree angle of bank. The airplane will stall at 104 mph with a 40-degree angle of bank. and 129 mph with a 60-degree angle of bank. Review of radar data obtained from Indianapolis Center and Atlanta center revealed that N1592T ground speed in a left turn at 1046:33 was 100 knots, and was 68 knots at 1046:43.

The RAM Aircraft Corporation maximum certificated ramp weight for the Cessna 414 is 6,800 pounds. The total aircraft weight on takeoff from Columbus, Ohio was 6,840.17 pounds. The maximum landing weight for the Cessna 414 is 6,430 pounds. The total aircraft weight at the time of the accident was 6,471.62 pounds.

ADDITIONAL INFORMATION

The wreckage was released to Atlanta Air Recovery, Griffin, Georgia, on February 5, 2004. The pilot's log books were released to the wife of the pilot on January 7, 2004. The airplane log books were released to the insurance adjuster on behalf of the registered owner on January 30, 2004.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	49,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 13, 2003
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 12, 2002
Flight Time:	4845 hours (Total, all aircraft), 160 hours (Total, this make and model), 4721 hours (Pilot In Command, all aircraft), 99 hours (Last 90 days, all aircraft), 40 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N1592T
Model/Series:	414	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	414-0372
Landing Gear Type:	Retractable - Tricycle	**Seats:**	7
Date/Type of Last Inspection:	July 20, 2003 Annual	**Certified Max Gross Wt.:**	6350 lbs
Time Since Last Inspection:	70 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	4989 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-520-NB
Registered Owner:	Young Forever Inc.	**Rated Power:**	335 Horsepower
Operator:	Saunders Advisory Group	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	GCY,1608 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	11:00 Local	**Direction from Accident Site:**	230°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 900 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / 14 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.96 inches Hg	**Temperature/Dew Point:**	0°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Columbus, OH (CMH)	**Type of Flight Plan Filed:**	IFR
Destination:	Greeneville, TN (GCY)	**Type of Clearance:**	IFR
Departure Time:	09:15 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Greeneville-Greene County Muni GCY	**Runway Surface Type:**	Asphalt
Airport Elevation:	1608 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	23	**IFR Approach:**	Circling;Localizer only
Runway Length/Width:	6302 ft / 100 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	3 Fatal, 1 Serious	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-ground
Total Injuries:	4 Fatal, 1 Serious	**Latitude, Longitude:**	36.21389,-82.813888

Administrative Information

Investigator In Charge (IIC):	Smith, Carrol
Additional Participating Persons:	James Smith; Nashville FSDO-03; Nashville, TN Robert August; Cessna Aircraft; Wichita, KS Albert Butler; Teledyne Continental; Mobile, AL Thomas M Knopp; Mc Cauley Propeller Systems; Vandalia, OH
Original Publish Date:	December 28, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=58474