National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: ERA10FA356	Aircraft Registration Number: N527MJ
Occurrence Date: 07/12/2010	Most Critical Injury: Fatal
Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone	
Chapel Hill	NC	27514	1513	EDT	

Airport Proximity: On Airport/Airstrip

Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
CIRRUS	SR20/NO SERIES	Airplane

Revenue Sightseeing Flight: No

Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

*** Note: NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report. ***

HISTORY OF FLIGHT

On July 12, 2010, at 1513 eastern daylight time, a Cirrus SR20, N527MJ, operating as a 14 Code of Federal Regulations Part 91 personal flight, collided with pine trees and a perimeter fence after it veered off runway 9 while landing at Horace Williams Airport (IGX), Chapel Hill, North Carolina. Visual meteorological conditions prevailed, and no flight plan was filed. The certificated private pilot was killed. The front seat passenger received serious injuries and the rear seat passenger received minor injuries. The flight originated at Sussex County Airport, Georgetown, Delaware, between 1230 and 1245.
According to FAA personnel the flight had been receiving VFR flight following with air traffic control, but cancelled in the vicinity of IGX.

The front seat passenger stated in a statement through his attorney that he had no recollection of the events after the pilot perform the descent arrival checklist for landing at IGX.
According to the rear seat passenger, the flight was uneventful until landing at IGX. Upon arrival, the pilot made a left “U” turn to final. The airplane touched down on the runway, “hopped” back into the air, touched back down again, and hopped twice more before making a final landing on the runway, about midfield. The pilot applied power, and the airplane went off the left side of the runway. Without enough speed to get airborne, the airplane collided with some trees and a fence, and came to a complete stop.

Two friends of the rear seat passenger were waiting at IGX. According to one of the friends, the airplane overflew the runway and entered left traffic for runway 9. “The airplane appeared to be coming in faster than usual for a small plane and according to the windsock beside the runway, the plane was landing with the wind not against it. The initial landing was pretty hard and there was a small bounce and all three wheels left the ground. When the plane came down the second time , the front wheel hit first and there was a bigger bounce. The plane bounced a third and fourth time, each time the front wheel hitting first and each bounce getting more pronounced. At this point it seemed like the airplane was out of control. It passed out of sight behind a structure on the airfield so I could not see it for about three seconds, but I heard the engine rev loudly. I believe he was trying to lift off for another pass. When the plane came into view again it was sliding or gliding across the grass on the left side of the runway. As it was sliding it rotated almost 180 degrees to the left so it was facing back towards the direction it had landed from. The right side of the plane struck the fence and tree. Almost immediately following the impact, the rocket assisted parachute fired out in the direction the plane was originally traveling.”

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Narrative (Continued)

Three witnesses, who were standing in front of their maintenance hangar, reported seeing the airplane in the vicinity of the last third of the runway. All of the witnesses reported that the engine was running at “full power.” One witness stated that the airplane went into the grass off the north side of runway 9. Another witness estimated the airplane was traveling between 60 to 70 miles per hour when it departed the runway, and the third witness stated the nose of the airplane was observed in a 45-degree nose-up attitude. The nose leveled out back on the ground and the airplane continued forward until it collided with the trees and the airport perimeter fence. The engine then stopped and the ballistic parachute activated.

PERSONNEL INFORMATION

The pilot, age 66, held a private pilot certificate issued on October 6, 2004, with an airplane single-engine land rating. The pilot's latest flight review was on July 5, 2009. The pilot held Federal Aviation Administration third class medical certificate, issued on November 17, 2009, with no restrictions. Review of the pilot's logbook and Excel spread sheet revealed he had 462.16 total flight hours; 197.16 hours were in the Cirrus SR20, and of those, 194.46 hours were as pilot in command. The pilot had flown 19.57 hours in the last 90 days, and 12.67 hours in the last 30 days, including 2.83 hours on the accident flight. Examination of the pilot’s logbook revealed that the accident flight was the first time he had landed at IGX.

AIRCRAFT INFORMATION

The Cirrus SR20 was a four-place airplane with a fixed tricycle landing gear, serial number 1056, manufactured in 2000. A Teledyne Continental, 210-horsepower, horizontally-opposed six-cylinder engine powered the airplane. Review of the airplane logbooks revealed that the last annual inspection was conducted on March 5, 2010, at a recorded HOBBS time of 1,343.3 hours. The HOBBS meter at the accident site indicated 1,394.7 hours. The airplane flew 51.4 hours since the last annual inspection. The engine was overhauled on March 12, 2004, by Teledyne Mattituck Services, Inc, at 923 hours time in service. The airplane was last refueled at New Castle Airport (ILG), Wilmington, Delaware, on July 11, 2010, with 25.9 gallons of 100 low lead fuel. The actual amount of fuel on board at take off could not be determined.

METEOROLOGICAL INFORMATION

The 1253 IGX surface weather observation was: wind from 170 degrees true at 4 knots, visibility 10 miles, clear skies, temperature 28 degrees Celsius, dew point temperature 21 degrees Celsius, and altimeter 29.91 inches of mercury.

AIRPORT INFORMATION

Runway 9 at IGX is 4,005 feet long, 75 feet wide, and consisted of asphalt.

WRECKAGE INFORMATION

Examination of runway 9 revealed the airplane departed the left side of the runway at a laser-measured 2,476 feet from the approach end, on a heading of 080 degrees magnetic. There was evidence of three tail strikes in the grass. The first strike was located 344 feet, extending to 359 feet from where the airplane departed the runway. The second tail strike was located 511 feet, extending to 526 feet from where the airplane departed the runway. The final tail strike was located 586 feet, extending to 598 feet from where the airplane departed the runway. The airplane traveled 840 feet before the left wing collided with pine trees and a perimeter fence, rotated to the left, and came to rest on a heading of 297 degrees magnetic, 191 feet north of the runway. Propeller “V” cuts were present on separated tree branches, and browning of vegetation was present under both wings.

The upper and lower engine cowlings were fractured and remained attached to the engine. The engine assembly was displaced forward and to the right. The engine separated from all engine mounts except for the right front engine mount. All accessories remained attached to the engine except for the oil filter. The firewall was crushed inward and bent.

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The nose landing gear remained attached to the airframe.

The propeller assembly remained attached to the propeller crankshaft flange. The spinner was crushed and exhibited torsional damage. Chordwise scarring was present on the cambered and non cambered side of all propeller blades.

The forward cabin area windscreen was broken. The cabin roof was fragmented aft to both “B” pillars. The forward cabin area separated forward of the spar tunnel. The instrument panel was crushed inward on the right side. Aileron, elevator and rudder continuity was confirmed to all flight control surfaces. The flap actuator was found extended 4 inches, which is consistent with the flaps in the “UP” position.

The rear cabin roof was intact from the “B” pillars extending aft to the aft baggage compartment bulkhead. The left side window and rear windows were intact. The right side window was broken. The left and right cabin doors separated from the fuselage and the cabin door handles were in the locked position.

The right wing remained attached to the fuselage attachment bolts. The right wing leading edge was crushed inward 4 feet outboard of the wing root, extending outboard 6 feet. Pine branches and needles were imbedded in the damaged leading edge. The right wing tip was damaged and blue fuel staining was present on the right lower wing skin next to the wing tip. The right fuel cap was secure with a tight seal. The right fuel tank was ruptured. The right rear upper and lower wing skins were buckled upward at the wing root. The right flap remained attached to its attachment points. The right flap was buckled at mid-span and in the retracted position. The right aileron remained attached to its attachment points and was not damaged. The right main landing gear remained attached to the right wing. The right wheel fairing was damaged and grass was imbedded between the tire and the rim. The right wheel temperature sticker on the brake caliper was white in color.

The Cirrus Airframe Parachute System (CAPS) safety pin was not installed in the handle and was located near the wreckage. The CAPS had been activated.

The aft fuselage and empennage was fractured 1 foot aft of the parachute enclosure. The vertical stabilizer was intact and damaged. The rudder remained attached to all of its attachment points and the rudder balance weight was intact. A 45-degree crease was present on the rudder at the top of the rudder trim tab, extending downward. The tail tie-down remained attached to the empennage and grass was embedded on the forward side of the tie-down. A flat spot was present on the lower aft side of the tie-down and it was bent aft and to the left. The right and left horizontal stabilizers remained attached to the empennage and were damaged, and both balance weights remained intact. The right and left elevators remained attached to their attachment fittings and were damaged.

The left wing remained attached to the fuselage attachment bolts. The upper and lower wing skins separated at the leading edge. A section of the torque box assembly and the left upper and lower wing skins separated from the wing about 5 feet outboard of the wing root, extending outboard to the wing tip. Pieces of the left wing tip were located next to the initial left wing tree impact. The left main fuel cap was present with a tight seal. The left fuel tank was ruptured, and blue fuel staining was present on the lower wing skins. The left flap remained attached at the inboard and mid-span attachment points. The flap was damaged at mid-span and at the outboard end. The left flap was in the retracted position. The left aileron was separated, damaged, and was located next to the wreckage. The left main landing gear remained attached to the left wing. The left wheel fairing was damaged. The left wheel temperature sticker on the brake caliper was white in color.
Examination of the engine revealed the engine exhaust assembly was damaged. Both magnetos produced spark at all ignition leads when the crankshaft was rotated by hand. The ignition harness was not damaged. The engine driven fuel pump remained attached to the engine and was not damaged. Fuel was present in the engine driven fuel pump. The engine driven fuel pump was rotated by hand and functioned. The engine driven fuel pump was disassembled and no anomalies were noted. The inlet and outlet fuel hoses remained attached to the engine driven fuel pump. Fuel was present between the engine driven fuel pump and the throttle body fuel control unit.

All rocker covers were removed and no damage was present on the valves or valve springs. The starter was not damaged. The No. 1 and No. 2 alternators were intact and not damaged. The top and bottom sparkplugs were removed.

Narrative (Continued)

The electrodes exhibited light gray combustion deposits, and were worn normal when compared to the Champion Check A Plug Chart. The fuel manifold valve was removed, disassembled, and the diaphragm remained intact. Fuel was present in the fuel manifold and the fuel screen was clear. The oil filter was examined and free of contaminants. The engine was rotated by hand with the propeller. Compression and suction were obtained on all cylinders. The rocker arms and valves moved when the crankshaft was rotated. Continuity of the crankshaft was confirmed to the rear accessory gears and to the valve train. The interiors of all cylinders were examined using a lighted bore scope and no anomalies were noted.

MEDICAL AND PATHOLOGICAL INFORMATION

The Office of the Chief Medical Examiner, Chapel Hill, North Carolina, conducted an autopsy on the pilot on July 13, 2010. The cause of death was multiple blunt force injuries. The Forensic Toxicology Research Section, FAA, Oklahoma City, Oklahoma performed postmortem toxicology of specimens from the pilot. The specimens were negative for carbon monoxide, cyanide, ethanol, basic, acidic, and neutral drugs.

ADDITIONAL INFORMATION

Review of the Cirrus Design SR20 Pilot's Operating Handbook states in Section 4 Normal Procedures, Balked Landing/Go-Around, “In a balked landing (go-around) climb, disengage autopilot, apply full power, then reduce the flap setting to 50 percent….

1. Autopilot Disengage
2. Power Lever Full Forward
3. Flaps 50 percent
4. Airspeed Best Angle of Climb (81-83 KIAS)
After clear of obstacles:
5. Flaps Up"
Updated on Apr 7 2011 12:01PM

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Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Horace Williams Airport	IGX	512 Ft. MSL	09	4005	75

Runway Surface Type:

Runway Surface Condition: Dry

Approach/Arrival Flown: NONE

VFR Approach/Landing: Traffic Pattern

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
CIRRUS	SR20/NO SERIES	1056

Airworthiness Certificate(s): Normal

Landing Gear Type: Tricycle

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
No	4	3000 LBS	1

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Reciprocating	Continental	IO-360ES	210 HP

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
Annual	03/2010	51 Hours	1395 Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site?
Yes / C91	Yes	No

Owner/Operator Information

Registered Aircraft Owner	Street Address	City	State	Zip Code
Thomas F. Pitts LLC		Wilmington	DE	19809

Operator of Aircraft	Street Address	City	State	Zip Code
Thomas F. Pitts		Wilmington	DE	19809

Operator Does Business As:

Operator Designator Code:

- Type of U.S. Certificate(s) Held: None

Air Carrier Operating Certificate(s):

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 91: General Aviation

Type of Flight Operation Conducted: Personal

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First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File	On File	65

Sex: M | Seat Occupied: Left | Occupational Pilot? No | Certificate Number: On File

Certificate(s): Private

Airplane Rating(s): Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): None

Instructor Rating(s): None

Current Biennial Flight Review? 07/2009

Medical Cert.: Class 3 | Medical Cert. Status: None | Date of Last Medical Exam: 11/2009

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	462	197	462							
Pilot In Command(PIC)		194								
Instructor										
Instruction Received										
Last 90 Days	20	20	20							
Last 30 Days	13	13	13							
Last 24 Hours										

Seatbelt Used? Yes | Shoulder Harness Used? Yes | Toxicology Performed? Yes | Second Pilot? No

Flight Plan/Itinerary

Type of Flight Plan Filed: None

Departure Point	State	Airport Identifier	Departure Time	Time Zone
Georgetown	DE	GED	1230	EDT

Destination	State	Airport Identifier
Same as Accident/Incident Location		IGX

Type of Clearance: VFR Flight Following

Type of Airspace: Class G

Weather Information

Pilot's Source of Wx Information:

National Weather Service

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Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
IGX	1256	EDT	512 Ft. MSL	NM	Deg. Mag.

Sky/Lowest Cloud Condition: Clear Ft. AGL | Condition of Light: Day

Lowest Ceiling: None Ft. AGL | Visibility: 10 SM | Altimeter: 29.91 "Hg

Temperature: 28 °C | Dew Point: 21 °C | Weather Conditions at Accident Site: Visual Conditions

Wind Direction: 170 | Wind Speed: 4 | Wind Gusts:

Visibility (RVR): Ft. | Visibility (RVV) SM

Precip and/or Obscuration:
No Obscuration; No Precipitation

Accident Information

Aircraft Damage: Substantial | Aircraft Fire: None | Aircraft Explosion None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers		1	1		2
- TOTAL ABOARD -	1	1	1		3
Other Ground					
- GRAND TOTAL -	1	1	1		3

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Administrative Information

Investigator-In-Charge (IIC)

Carrol A. Smith

Additional Persons Participating in This Accident/Incident Investigation:

James E Ragsdale
FAA Greensboro FSDO
Greensboro, NC

Brad Miller
Cirrus Design Corporation
Duluth, MN

Sara Irwin
Teledyne Continental
Mobile, AL