Aviation Investigation Final Report

Location:	Charleston, South Carolina	**Accident Number:**	ATL06LA070
Date & Time:	April 24, 2006, 11:45 Local	**Registration:**	N9GX
Aircraft:	Lancair Lancair 360	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

In a statement provided to an FAA inspector, a witness stated that he saw the airplane make two low passes over runway 17. He also stated that the engine sounded like it was running smoothly, but quietly. On a third pass, the pilot raised the landing gear and started to climb. He began a normal left turn to crosswind. The witness stated that he might have looked away for a second, and "when I looked back, the wings had rotated to what appeared to be almost a 90-degree bank." The witness also said that, " the nose of the aircraft dropped to almost vertical, the aircraft dove into the ground, but I did not observe any fire or smoke." FAA inspectors arrived at the scene and reported that the airplane was located in a marsh area with the nose embedded in the ground, facing the runway. Examination by the FAA inspectors revealed a residual amount of fuel in fuel lines, fuel transducer, and fuel flow divider. Examination of the airplane's structure, flight controls, and engine revealed no evidence of precrash anomalies.

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 sufficient airspeed during a climb to preclude a stall, which resulted in a loss of control and an in-flight collision with terrain. A factor associated with the accident was an inadvertent stall.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CLIMB

Findings
1. (C) AIRSPEED(VS) - NOT MAINTAINED - PILOT IN COMMAND
2. (F) STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
3. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On April 24, 2006, at 1145 eastern daylight time, an experimental Lancair 360, N9GX, registered to and operated by a private individual, as a 14 CFR Part 91 personal flight, lost power and collided with the ground shortly after takeoff from the East Cooper Airport, Charleston, South Carolina. Visual meteorological conditions prevailed at the time of the accident, and no flight plan was filed. The airplane was destroyed by impact forces, and the commercial-rated pilot was fatally injured. The flight was originating from East Cooper Airport at the time of the accident.

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The pilots wife stated that her husband went to the airport to practice touch and go landings. Witnesses at the airport reported seeing the airplane conducting touch and go landings prior to the accident. They reported that the airplane departed from runway 17, entered a high bank angle and "just fell out of the sky." The Charleston County Aviation Authority responded to the crash and found the wreckage approximately 800 feet left of the centerline of runway 17. FAA inspectors arrived at the scene and reported that the airplane was located in a marsh area with the nose embedded in the ground facing the runway. No radio transmissions were received from the pilot prior to the accident.

PERSONNEL INFORMATION

A review of the information on file with the FAA Airman's Certification Division, Oklahoma City, Oklahoma, revealed that the pilot was issued a private pilot certificate on November 7, 2003, with ratings for airplane single engine land and multiengine land instrument airplane. The pilot also held a commercial pilot rating for rotorcraft-helicopter and instrument helicopter. The pilot's last flight review was conducted on October 8, 2005. The pilot held a third-class medical certificate issued on January 31, 2006 with no restrictions. A review of the pilot's logbook pages revealed that the pilot had a total of 3,888.1 flight hours. The last recorded flight in N9GX previous to the accident was on April 03, 2006.

AIRCRAFT INFORMATION

The airplane was an experimental Lancair (serial number 804-320-646FB). It was a two-seated, low-wing airplane of predominantly fiberglass construction with retractable tricycle landing gear. A 160-horsepower Lycoming IO-360-B1F engine (serial number L-28075-51A) powered the airplane.

A review of the aircraft logbook revealed that Interstate Turbine Management preformed a conditional type annual inspection on March 22, 2006. The airframe Hobbs time at annual inspection was 51.9 hours. A review of the engine logbook revealed that the engine was disassembled and reassembled by Triad Aviation IAW AS2004-10-14 for a propeller strike on February 13, 2006. The engine was test run for 2 hours 15 minutes at an RPM 2700, and returned to service. The engine was reinstalled on the airplane on March 22, 2006.

WRECKAGE EXAMINATION

Examination of the wreckage by FAA inspectors and an A&P mechanic revealed that the airplane was located 1,000 feet off the departure end of runway 17. Upon arriving at the site they noticed that there was no smell of fuel. The engine and propeller were embedded 3-feet into the ground. The cockpit and fuselage section of the airplane was fragmented. The empennage was broken off at the front of the vertical stabilizer. Examination of the left wing and primary flight control surfaces revealed that they were fragmented on impact. Examination of the right wing revealed that the leading edge was fragmented and the remainder of the wing was intact. The right wing fuel tank revealed a small trace of residual fuel. The fuel lines were removed from the fuel flow transducer and fuel flow divider, and residual fuel was noted in fuel lines.

Examination of the engine revealed a residual amount of fuel in the gascolator. The header tank was fragmented and no fuel was noted. The propeller governor was removed, the crankshaft turned freely, and continuity of the valve train was observed. The cylinders were removed and the case halves split, and all components were in serviceable condition. The fuel servo was inspected, and no anomalies were noted. The mechanical fuel pump was broken, and when tested by hand was able to pump fuel.

Personnel from the Mount Pleasant Fire Department, who responded to the accident site shortly after the event, did not observed the smell of fuel at the wreckage site. The report filed by the Fire Department determined there was no fuel spill at the accident site.

PATHOLOGICAL INFORMATION

The Medical University of South Carolina preformed a postmortem examination of the commercial-rated pilot on April 25, 2006. The reported cause of death was blunt force trauma. 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, and ethanol.

ADDITIONAL INFORMATION

On March 15, 2006, the pilot purchased 37.20 gallons of 100LL AVGAS from Corporate Wings, Charleston, South Carolina. On March 22, 2006, the pilot requested Interstate Turbine Management to perform a new weight and balance of his airplane. The airplane was defueled to facilitate the weight and balance. After the weight and balance was perform it was returned to the pilot without fuel. There were no records of the airplane being refueled prior to the accident flight.

The airplane was released to Mike Alpha Tango Company on June 12, 2006.

Pilot Information

Certificate:	Commercial	**Age:**	51,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	January 1, 2006
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	October 1, 2005
Flight Time:	3888 hours (Total, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Lancair	**Registration:**	N9GX
Model/Series:	Lancair 360	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	804-320-646FB
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	March 1, 2006 Annual	**Certified Max Gross Wt.:**	1835 lbs
Time Since Last Inspection:	1.1 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	53 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360-B1F
Registered Owner:	On file	**Rated Power:**	180 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CHS,46 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	10:56 Local	**Direction from Accident Site:**	17°
Lowest Cloud Condition:	Few / 6500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.97 inches Hg	**Temperature/Dew Point:**	29°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Charleston, SC (LRO)	**Type of Flight Plan Filed:**	None
Destination:	Charleston, SC (LRO)	**Type of Clearance:**	None
Departure Time:	11:30 Local	**Type of Airspace:**	

Airport Information

Airport:	EAST COOPER 8S5	**Runway Surface Type:**	Asphalt
Airport Elevation:	12 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	17	**IFR Approach:**	None
Runway Length/Width:	3700 ft / 75 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	32.891944,-79.77639

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric
Additional Participating Persons:	Lanny Klien; Columbia FSDO-13; Columbia, SC Mike Childers; Textron Lycoming; williamsport, PA
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Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63630