Aviation Investigation Final Report

Location:	Ft. Thomas, Kentucky	**Accident Number:**	CHI06FA141
Date & Time:	May 30, 2006, 18:09 Local	**Registration:**	N5212U
Aircraft:	Cessna 210N	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation		

Analysis

The airplane impacted trees and terrain during a return to the departure airport approximately two minutes after takeoff. The pilot reported to air traffic control that he wanted to return for unspecified reasons and did not declare an emergency or respond appropriately to ATC directions or inquiries. The airplane was not in a landing configuration and the debris path was consistent with an impact substantially higher than a landing speed. Examination of the wreckage did not reveal any mechanical anomalies that would have precluded operation. The pilot had a number of significant medical conditions. At the time of the accident, the pilot had not received a letter from the Federal Aviation Administration recertifying his airman medical certificate.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot failed to maintain altitude/clearance with trees while attempting to return to the airport.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: APPROACH

Findings
1. OBJECT - TREE(S)

2. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
3. PHYSIOLOGICAL CONDITION - PILOT IN COMMAND
4. LACK OF CERTIFICATION - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. (C) OBJECT - TREE(S)

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

Findings
6. TERRAIN CONDITION - GROUND

Factual Information

"THIS CASE WAS MODIFIED ON APRIL 4, 2008"

On May 30, 2006, at 1809 eastern daylight time, a Cessna 210N, N5212U, piloted by a private pilot, received substantial damage on impact with trees and terrain near Ft. Thomas, Kentucky, while returning to the departure airport. Visual meteorological conditions prevailed at the time of the accident. The Title 14 CFR Part 91 flight was not operating on a flight plan. The pilot was fatally injured. The flight originated from Cincinnati Municipal Airport-Lunken Field (LUK), Cincinnati, Ohio, and was en route to Greene County-Lewis A. Jackson Regional Airport (I19), Dayton, Ohio.

At 1603:15, a caller representing N5212U called Dayton Automated Flight Service Station requesting a briefing for a visual flight rules flight from LUK to I19, "transporting a plane about 1730."

The following is a transcription of transmissions from N5212U, Lunken Local Tower/Ground Control (LC/GC), and Cincinnati Approach Control (CVG APCH):

1754:45, LC/GC, are ya going to be remaining clear of the class b airspace of cincinnati or do you want flight following

1754:49, N5212U, negative i i'll be alright i'm familiar with the route

1755:53, N5212U, one two uniform i guess i missed golf here

1755:57, LC/GC, ok alright i tell you what uh five two one uniform just hold your position there do you see the sign that says hold here for two one left

1756:04, N5212U, affirmative

1756:05, LC/GC, hold there for two one left i'll get ya a two one left departure and call me on eighteen seven when you're ready

1756:12, N5212U, one two one uniform roger

1758:14, N5212U, lunken tower uh one two uniform ready for takeoff

1758:16, LC/GC, one two uniform uh lunken tower cross runway two five runway two one cleared for takeoff

1758:24, N5212U, cross runway two five two one cleared for takeoff left two one two one left

1759:40, LC/GC, five two one uniform right turn north northwest bound approved

1759:47, N5212U, ah right turn approved one two uniform roger

1800:13, LC/GC, five two one uniform squawk one two zero zero

1800:41, LC/GC, five two one uniform squawk one two zero zero please

1801:00, LC/GC, november five two one uniform north northwest bound approved remain clear of the arrival path for the two one left tra traffic inbound

1801:09, N5212U, ah one two uniform roger

1802:23, LC/GC, five two one uniform traffic eleven o'clock three miles south bound altitude indicates three thousand two hundred

1802:35, N5212U, one two uniform looking

1803:03, N5212U, one two uniform lunkin i want to circle and come back in

1803:14, LC/GC, cessna five two one uniform you want to make a right turn back towards the airport you say

1803:57, LC/GC, cessna five two one uniform lunken tower

1803:36, LC/GC, cessna five two one uniform lunken tower

1803:47, N5212U, lunken approach i want to return

1703:50, LC/GC, november five two one uniform roger turn right and head southbound toward the airport uh are you alright

There were no further transmissions from N5212U and at 1704, there was no response when LC/GC asked the N5212U to squawk ident if he heard the transmission. LNK ATCT then cleared N5212U to land on either runway, 21R or 21L. but there was no response. At 1707, LC/GC observed one radar hit of a primary target approximately 1 mile southwest of the airport but did not see N5212U visually.

A witness reported that he was driving an automobile when he saw the airplane. He stated that the landing gear was retracted and the propeller was turning, but he could not hear any engine sounds. The airplane was at a "very low" altitude. He observed the airplane banking left to go over the Ohio River. It did not appear to him that the airplane had enough altitude or

speed to make it to LUK. The airplane was "sinking" in altitude when it was over the Ohio River.

A second witness stated that she was watering flowers when she heard an airplane engine "revving" and it "sounded very close." She looked up and heard branches breaking and saw a small airplane hit the ground and break apart.

A third witness stated that he saw the airplane flying at "tree top level" and the engine was "skipping and sputtering." He said that the airplane was in a "hard left bank turn" and that he could only see the underside of the airplane to illustrate the degree of turn that the airplane was in. Approximately 3 seconds after he lost sight of the airplane, he heard the airplane impact trees or the ground.

AIRCRAFT INFORMATION

The 1984 Cessna 210N, serial number 21064854, was powered by a Teledyne Continental Motors (TCM) IO-520-L19, serial number 577286, engine. The airplane and engine were last inspected during an annual inspection dated February 14, 2006, at a tachometer time of 2196.8.

PERSONNEL INFORMATION

The pilot held a private pilot certificate with airplane single-engine land, multiengine land limited to center thrust and VFR only, and instrument airplane ratings. He reported a total flight time of 3,900 hours at the time of issuance of his last medical certificate. The pilot received an Authorization for Special Issuance of Medical Certificate dated September 14, 2005.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy of the pilot was conducted by Northern Kentucky Regional Medical Examiners Office, Fort Thomas, Kentucky, on May 31, 2006.

The FAA Final Forensic Toxicological Fatal Accident Report states:

No carbon monoxide detected in blood
No cyanide detected in blood
No ethanol detected in vitreous
0.033 (ug/ml, mg/g) diphendyrnamine detected in blood
Diphenhydramine detected in liver

A review of the FAA Aerospace Medical Certification Division blue ribbon medical records and the autopsy revealed that the pilot had a number of significant medical conditions, including congestive heart failure, chronic atrial fibrillation, morbid obesity, high blood pressure, diabetes, high cholesterol, diverticulitis, hypothyroidism, and severe obstructive sleep apnea.

He had an installed pacemaker that kept his heart rate at a minimum of 50 beats per minute, and was on a blood thinner to reduce his risk of stroke. He had stopped using the blood thinner without notifying his physician approximately nine months prior to the accident, and had apparently restarted his medication only after having his Special Issuance medical certificate withdrawn by the FAA approximately two months prior to the accident. He had provided evidence of use of the blood thinner to the FAA, and an internal FAA memo dated five days prior to the accident indicates that he was to be recertified. The letter conveying that decision was dated one week following the accident.

WRECKAGE AND IMPACT INFORMATION

The main wreckage of the airplane, which consisted of the fuselage, wings and empennage was resting upright in a grass area located approximately 1 1/2 nautical miles from the approach end of runway 25. The wreckage path was approximately 95 feet in length and oriented on a southerly heading along a grass area behind a house. The northern area of the wreckage path contained a tree about 30 feet in height with broken tree limbs that were about 1-foot diameter. Approximately 75 feet south from the broken tree was the main wreckage and approximately 20 feet south of the main wreckage was the engine. The right trailing edge flap and the landing gear were in the retracted positions.

The engine was attached to a three-bladed propeller assembly. One blade of the propeller assembly was separated at its hub and displayed twisting about the longitudinal axis. The engine was shipped to Teledyne Continental Motors for further examination.

A blue colored liquid consistent with 100 low lead aviation fuel was drained from the gascolator bowl. The bowl was removed and the screen was inspected and did not contain debris.

The flight control cables were inspected from their flight control surface attach point to their respective cockpit controls. Cable separations within the flight control system were consistant with overload and there was no evidence of asymmetric wear on the pulley surfaces.

The ignition key switch was in the "both" position, the master battery switch was "on," and the master alternator split switch was "on" for number 1 and "off" for number 2.

Electrical continuity of both magnetos was confirmed upon rotation.

The Hobbs meter indicated 666.2 and the tachometer indicated 2,250.

TESTS AND RESEARCH

The engine underwent a disassembly at Teledyne Continental Motors, Mobile, Alabama due to

impact damage. No engine component anomalies were noted that would have precluded operation.

Examination of the autopilot system at Sigma-Tek, Wichita, Kansas, did not reveal any anomalies that would have precluded operation.

ADDITIONAL INFORMATION

The Cessna Aircraft Company, the FAA, Teledyne Continental Motors, and Sigma-Tek were parties to the investigation.

Pilot Information

Certificate:	Private	**Age:**	79,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):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3	**Last FAA Medical Exam:**	September 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	3900 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N5212U
Model/Series:	210N	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	21064854
Landing Gear Type:	Retractable - Tricycle	**Seats:**	
Date/Type of Last Inspection:	May 1, 2006 Annual	**Certified Max Gross Wt.:**	3800 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Teledyne Continental
ELT:	Installed	**Engine Model/Series:**	IO-520-L19
Registered Owner:	Wheels Auto Leasing	**Rated Power:**	285 Horsepower
Operator:	Pilot	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	LUK,509 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	17:53 Local	**Direction from Accident Site:**	45°
Lowest Cloud Condition:	Clear	**Visibility**	8 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.04 inches Hg	**Temperature/Dew Point:**	29°C / 21°C
Precipitation and Obscuration:			
Departure Point:	Cincinnati, OH (LUK)	**Type of Flight Plan Filed:**	None
Destination:	Dayton, OH (I19)	**Type of Clearance:**	VFR
Departure Time:	17:58 Local	**Type of Airspace:**	

Airport Information

Airport:	CINCINNATI MUNI AIRPORT LUNKEN LUK	**Runway Surface Type:**	
Airport Elevation:	483 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	Visual
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

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:**	39.079746,-84.449935(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	James E Siegman; Federal Aviation Administration; Louiville, KY Emile Loehman; Cessna Aircraft Company; Wichita, KS Andrew Swick; Teledyne Continental Motors; Mobile, AL Jerry Wasinger; Sigma Tek; Wichita, KS
Original Publish Date:	October 31, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63810