



National Transportation Safety Board Aviation Accident Final Report

Location:	Joliet, IL	Accident Number:	CEN09FA111
Date & Time:	01/01/2009, 2048 CST	Registration:	N3603R
Aircraft:	LANTZAIR FLYERS INC LANCAIR 360	Aircraft Damage:	Destroyed
Defining Event:	Loss of control in flight	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot landed with 4 to 5 gallons of fuel on board following a 4.5-hour cross-country flight. After landing, the pilot made numerous attempts to locate fuel in order to continue the flight so that his passenger could be at work in the morning. The pilot left a note and money after having siphoned fuel from another airplane parked at the airport. After about 2 hours and 45 minutes on the ground, the airplane took off again. Impact marks indicate that the airplane stalled during the takeoff, impacting the terrain with the left wing prior to catching fire and coming to rest inverted. The accident occurred at night as the airplane was departing on the second leg of a cross-country flight. Calculations show that the airplane was slightly over the maximum gross takeoff weight and the center of gravity (CG) was slightly aft of the aft limit at the time of the accident. A pilot of another single-engine airplane, who landed a few minutes after the accident airplane landed, and who took off about 30 minutes later (which would have been about 2 hours before the accident) reported that he had to wipe a "slight frost buildup" off of his wings and tail with a towel prior to takeoff. The investigation could not determine whether the slight frost, slight overgross condition, or slight aft CG contributed, either individually or in combination, to the aerodynamic stall of the airplane. Additionally, several people reported that it was not uncommon to see deer on the airport property and one person reported seeing many deer on the runway earlier in the day prior to when the pilot landed; however the investigation could not determine whether deer were present on the runway at the time of the accident.

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 adequate flying speed during the night takeoff for undetermined reasons, which resulted in an inadvertent aerodynamic stall and subsequent loss of control

Findings

Aircraft	Airspeed - Not attained/maintained (Cause) CG/weight distribution - Not specified
Personnel issues	Aircraft control - Pilot (Cause)
Environmental issues	Dark - Not specified

Factual Information

HISTORY OF FLIGHT

On January 1, 2009, at 2048 central standard time, a Lancair 360, N3603R, impacted the terrain following a loss of control while taking off on runway 12 (2,937 feet by 100 feet, dry asphalt) at the Joliet Regional Airport (JOT), Joliet, Illinois. The commercial pilot and passenger were fatally injured. The airplane was destroyed by impact forces and a post impact fire. Visual meteorological conditions prevailed and no flight plan was filed. The personal flight was operating under 14 Code of Federal Regulations Part 91. The flight was originating at the time of the accident with an intended destination of the Watertown Municipal Airport (RYV), Watertown, Wisconsin.

The first segment of the cross country flight originated from the Executive Airport (ORL), Orlando, Florida, between 1000 and 1100 on the day of the accident.

The pilot landed at JOT about 1800. A pilot flying a Diamond DA-40XL who was landing at JOT at the same time stated the accident pilot asked him over the radio if he could land first as he was low on fuel. After landing, the accident pilot discovered there were no fuel services available due to the New Year's holiday. The accident pilot left a message on the airport answering machine asking that his airplane be fueled so that he could depart by 0700 the following morning so his passenger could get to work. He requested they fuel the airplane with 10 gallons of fuel in each wing.

The accident pilot told several people that he landed with 4 to 5 gallons of fuel on board and that he needed fuel to continue the flight to Wisconsin. He called a friend who researched nearby airports where he could possibly obtain fuel. The friend stated she called two near-by airports one of which was closed. The other, the DuPage County Airport (DPA), was open and did have fuel. DPA personnel recalled this telephone call which was followed by another call from a person identifying himself as the pilot of the airplane at Joliet. The pilot asked if they would sell him 5 gallons of fuel in a fuel container. DPA personnel told the pilot that they normally only sold fuel that was put directly into airplanes; however, if he was stuck, they would sell him the fuel. DPA personnel stated the pilot never came to the airport to purchase the fuel.

The accident pilot spoke with the Diamond pilot who landed after him and two other people who were at JOT to meet the Diamond pilot regarding his need to obtain fuel. The Diamond pilot stated he gave the accident pilot an outdated Airport Facility Directory so that he would have some information regarding nearby airports. In addition, the Diamond pilot stated he had to clear frost off the wings of his airplane prior to taking off about 30 minutes after he landed. The two other people at the airport gave the pilot and his passenger a ride to a restaurant located next to the airport.

An employee and the owner of the restaurant recalled the pilot and passenger. They stated the pilot used the employee's computer to look up information regarding nearby airports. The pilot told them they were flying from Orlando to Madison and that the flight from Orlando to JOT took 4.5 hours. They landed with 5 gallons of fuel on board and talked about going to DPA to get fuel. They also spoke about siphoning fuel from another airplane at the airport and leaving money for the fuel. The pilot also stated that the global positioning unit in the airplane was not working. There were no other known witnesses who saw the pilot and passenger after

they left the restaurant.

The accident sequence was recorded on a security camera at a gas station located near the approach end of the runway. Night conditions existed at the time of the accident and the lights from the airplane are visible in the recording. At 2041, the airplane can be seen taxiing from the ramp area to the approach end of the runway. At 2047, the airplane's strobe lights are activated while the airplane is on the runway. At 2048, a flash is seen off the left side of the runway followed seconds later by a larger flash.

PERSONNEL INFORMATION

The pilot-in-command, age 50, held a commercial pilot certificate with airplane single-engine land and sea and instrument airplane ratings. The certificate also contained private pilot privileges for multi-engine land airplanes. The pilot was issued a second-class medical certificate on November 20, 2008. The medical certificate did not contain any limitations.

The pilot's family provided a copy of a computerized pilot log. The flights in this log were dated between April 3, 1991, and February 19, 2008. The log was not complete as there were entries which did not have any flight times associated with them. The log showed the pilot had a total time of 2,058.65 hours of flight time. On his application for medical certificate dated November 20, 2008, the pilot reported having 3,425 hours of flight time of which 85 hours were flown in the previous 6 months.

The aircraft maintenance logbook showed the pilot was checked out to fly the accident airplane on June 12, 1996. The co-owner of N3603R provided an aircraft flight log for N3603R. This log contained entries dated between April 10, 1996, and December 18, 2002, indicating times that the pilot flew the airplane. Those entries totaled 221.4 hours of flight time. None of the records indicated the date of the pilot's last biennial flight review.

AIRCRAFT INFORMATION

The accident airplane was an amateur-built Lancair 360, serial number 238-320-007. The Lancair 360 is a high performance, laminar flow low-wing, two place composite airplane. The airplane flight manual indicates the airplane consumes 10.5 gallons per hour of fuel at a 75 percent power setting at sea level. The total fuel capacity is 57 gallons.

The airplane was built by a flying club and the first flight was logged on September 27, 1992. The pilot became a member of the flying club after the airplane was built. The pilot and a co-owner purchased the airplane from the flying club in November 2008.

The airplane was powered by a 180-horsepower, Lycoming O-360-A1A engine, serial number L-663-36.

The last condition inspection on both the airframe and engine was performed on February 13, 2008, at a total aircraft time of 1,429.3 hours. The aircraft total time at the time of the accident was 1,445.5 hours.

METEOROLOGICAL CONDITIONS

The weather conditions reported at JOT at 2045, were: Wind from 210 degrees at 8 knots; visibility 10 statute miles; broken clouds at 9,000 feet; temperature minus 1 degree Celsius; dew point minus 4 degrees Celsius; altimeter 29.80 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The main wreckage was located in the grass on the north side of the taxiway which runs parallel to the north side of runway 12. The position of the wreckage was approximately 1,800 feet from the departure end of the runway. The magnetic heading of the debris path from initial impact to the main wreckage was 84 degrees. The initial impact ground scar was located approximately 96 feet north of the runway in an area of grass between the runway and parallel taxiway. This impact mark was approximately 27 feet long and it contained pieces of red glass consistent with the red position light which would have been located on the left wing of the airplane. The next impact area contained two slashes in the terrain, one of which contained a red paint transfer. These marks were followed by pieces of canopy and debris which led up to the south edge of the taxiway. A scattering of wreckage was present across the taxiway. Scorched terrain was visible beginning on the northern half of the taxiway up to and approximately 70 feet beyond the location of the main wreckage. The main wreckage was located approximately 140 feet from the north edge of the taxiway. The propeller separated from the crankshaft and was located between the taxiway and the main wreckage. One propeller blade was loose in the hub. Both propeller blades tips were gouged and the propeller spinner was shattered.

The airplane came to rest inverted. The wreckage was burned from the engine rearward to aft of the cockpit area. Photographs taken by rescue personnel show the wings, engine, and empennage were attached to one another after the accident. However, these sections were cut and separated by rescue personnel to facilitate removal of the occupants.

The left wing sustained impact damage to the leading edge. The wingtip was separated and both the upper and lower surfaces of the wing were burned. The left wing from the fuselage attach point outboard to the landing gear contained only the front and rear spar. The portion of the wing between the spars in this area was consumed by the post impact fire. The left wing flap was attached to the wing at the inboard attach point. An outboard portion of the aileron remained attached to the wing and the inboard portion of the left aileron was burned away.

The entire lower surface of the right wing was burned with the exception of the aileron and wingtip. Both the flap and the upper portion of the aileron remained attached to the wing. As with the left wing, the inboard section of the right wing from the fuselage attach point outboard to the landing gear contained only the front and rear spar. The portion of the wing between the spars in this area was consumed by post impact fire. The upper surface of the right wing from the landing gear attach point outboard to the wing tip was not burned. The upper surface of the right wing tip, forward of the position light, was scraped. Both main landing gear remained attached to their respective wings and were in the extended position. The position of the flap actuator was consistent with a 10 degree flap extension.

The forward section of the aft fuselage was burned. The leading edge of the top of the vertical stabilizer sustained impact damage and the top of the vertical stabilizer was split open. The rudder was relatively undamaged and it remained attached to the stabilizer at its lowest attach point.

Continuity of the flight control system could not be established due to the extent of the impact and fire damage. The elevator push tube was intact from the elevator to the aft cockpit area where it had been cut by rescue personnel.

The engine sustained heat and fire damage. The top of the number 2 cylinder sustained impact

damage with one of the push rods separated and found along the wreckage path and the other push rod was bent. All of the ignition leads sustained fire and heat damage. The magnetos were removed from the engine and spark was visible on all 4 terminals of both magnetos when they were turned by hand. The fuel line from the electric fuel pump to the engine driven fuel pump was removed and no fuel was present in the line. The fuel line from the engine driven fuel pump to the carburetor was also removed and no fuel was present. The engine driven fuel pump was removed and no fuel was present in the pump. The pump rotated smoothly when turned by hand. The engine rotated freely when turned by hand. The top spark plugs were removed from each cylinder and the cylinders were inspected with a boroscope. No anomalies were noted with the cylinders with the exception of debris present in the number 4 cylinder. The number 4 cylinder exhaust pipe was crushed open at the flange. Thumb compression was noted on the number 1, 2, and 3 cylinders. Compression was achieved on the number 4 cylinder after debris was cleared from around the valves. Movement was visible on all of the cylinder valves with the exception of the number 2 cylinder which had the missing and damaged push rods. All of the accessory gears moved when the engine was rotated.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot on January 3, 2009, by the Will County Coroner's Office. The autopsy report listed the cause of death as "Blunt Head and Chest Trauma."

Forensic Toxicology Fatal Accident Reports were prepared for the pilots by the FAA Civil Aeromedical Institute, Oklahoma City, Oklahoma. The results for all tests conducted were negative.

TESTS AND RESEARCH

Records obtained from ORL showed N3603R was fueled with 47.7 gallons of fuel when it arrived there on December 26, 2008. The pilot purchased a quarter bushel of grapefruit prior to departing from ORL. According to the merchant the weight of the quarter bushel of grapefruit was about 12 pounds. The baggage and miscellaneous contents were recovered from the airplane, dried, and weighed following the accident. The total weight for these items was 125 pounds. Weight and balance calculations indicate the weight of the airplane at takeoff was approximately 1,809 pounds with a center of gravity (cg) of 66.2 inches. The maximum takeoff gross weight for the airplane is listed in the operating manual as being 1,800 pounds with a cg range of 59.9 to 65.7 inches.

Flight plan information was found among the paperwork scattered around the accident site. This information showed a flight planned from (ORL) to the Lebanon Municipal Airport (M54), Lebanon, Tennessee, then to RYV. Personnel at M54 reported there was no record that N3603R fueled at their airport.

On January 2, 2009, a note and money were found inside a Cessna 172 operated by JF Aviation at JOT. The note stated, "We were stuck and needed 5 gal of 100LL from your left wing tank here is \$30 Thanks." This airplane was full of fuel following its last flight on December 31, 2008. After the note was discovered, the airplane was fueled and it was determined that 21.1 gallons of fuel were missing. Approximately 5 to 6 gallons of fuel were missing from the left fuel tank and the remainder was missing from the right fuel tank. A step ladder and a piece of garden hose were found near the fuel pumps. The inside of the hose had an odor similar to aviation fuel.

Two people contacted the investigator in charge stating that they had seen deer on or near the

runway at JOT. One caller stated that around 1700 on the day of the accident he saw approximately a dozen deer out on the runway. In addition to these callers, several other people stated that it was not unusual to see deer near the runway. The south side of the airport is bordered by a portion of the Will County Forest Preserve. A 4-foot high chain link fence runs along the south, west, and north side of the airport. The southeast corner and east side of the airport are not fenced.

History of Flight

Takeoff	Aerodynamic stall/spin Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)
Post-impact	Fire/smoke (post-impact)

Pilot Information

Certificate:	Commercial	Age:	50, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	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 1 Without Waivers/Limitations	Last Medical Exam:	11/20/2008
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	3425 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	LANTZAIR FLYERS INC	Registration:	N3603R
Model/Series:	LANCAIR 360	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	238-320-007
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	02/13/2008, Conditional	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:	16 Hours	Engines:	1 Reciprocating
Airframe Total Time:	1446 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-A1A
Registered Owner:	Stuart Seffern	Rated Power:	180 hp
Operator:	Stuart Seffern	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	JOT, 582 ft msl	Observation Time:	2045 CST
Distance from Accident Site:		Condition of Light:	Night
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	-1 °C / -4 °C
Lowest Ceiling:	Broken / 9000 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	8 knots, 210°	Visibility (RVR):	
Altimeter Setting:	29.8 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Precipitation		
Departure Point:	Joliet, IL (JOT)	Type of Flight Plan Filed:	VFR
Destination:	Watertown, WI (RYV)	Type of Clearance:	None
Departure Time:	2048 CST	Type of Airspace:	Class E

Airport Information

Airport:	Joliet Regional Airport (JOT)	Runway Surface Type:	Asphalt
Airport Elevation:	581 ft	Runway Surface Condition:	Dry
Runway Used:	12	IFR Approach:	None
Runway Length/Width:	3228 ft / 125 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	2 Fatal		

Administrative Information

Investigator In Charge (IIC):	Pamela S Sullivan	Adopted Date:	06/22/2009
Additional Participating Persons:	Vic Libertore; FAA; West Chicago, IL Dave Bear; FAA; West Chicago, IL Colleen Eichmann; FAA; West Chicago, IL Gregg Erikson; Lycoming; Williamsport, PA		
Publish Date:	04/07/2011		
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.nts.gov/pubdms/ .		

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