



National Transportation Safety Board Aviation Accident Final Report

Location:	Peachtree City, GA	Accident Number:	ATL06LA115
Date & Time:	08/03/2006, 0755 EDT	Registration:	N93TR
Aircraft:	McWhorter Skystar Vixen	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal

Flight Conducted Under: Part 91: General Aviation - Personal

Analysis

A witness observed the airplane to level out about 200 feet above the runway on initial takeoff climb. The witness heard a change in engine noise and observed the airplane start a descent and shallow left turn. The airplane started a second left turn with an angle of bank exceeding 45-degrees and the witness described the airspeed of the airplane as slow. The nose of the airplane was observed to pitch up, the left wing dropped down, the airplane entered a left spiral descended out of view and collided with the ground. Examination of the left wing revealed the left wing was pushed aft and the left wing tip was bent upward. The leading edge of the left wing had compression damage from the wing tip extending inboard about four feet. The right wing was accelerated forward. According to the co-owner of the airplane the stall speed of the airplane is 52 mph. The engine was removed, examined, and placed in a test cell for an engine run. The engine was started, ran and developed power with stepped increases in engine rpm. The throttle was returned to the idle position for cool down, and the engine was shut down.

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 to reverse his direction following loss of engine power shortly after takeoff resulting in an inadvertent stall and collision with the ground. A factor in the accident was a loss of engine power for undetermined reasons.

Findings

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

Findings

1. (F) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING - TURN TO REVERSE DIRECTION

Findings

2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
3. STALL - INADVERTENT - PILOT IN COMMAND

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

Findings

4. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On August 3, 2006, at 0755 eastern daylight time, a McWhorter, Skystar Vixen, N93TR, registered to a private owner, operating as a 14 CFR Part 91 personal flight, collided with the ground while maneuvering after take off following a reported loss of engine power. Visual meteorological conditions prevailed and no flight plan was filed. The airplane received substantial damage. The airline transport rated pilot was fatally injured. The flight originated from Peachtree City-Falcon Field, Peachtree City, Georgia, on August 3, 2006, at 0753.

A witness stated he observed the airplane at a high speed while taxiing to runway 31. The pilot continued on to the runway and departed without conducting an engine run up. Witnesses reported hearing a change in engine noise after the airplane departed and they looked in the direction of the airplane. The airplane was initially observed in a climb attitude, leveled out about 200 feet above the runway, started a descent, and then made a shallow left turn. The airplane was observed to make a second left turn with an angle of bank exceeding 45-degrees. Witnesses described the airspeed as slow. The nose of the airplane was observed to pitch up, the left wing dropped down, the airplane entered a spiral to the left, descended out of view, and collided with the ground.

PERSONNEL INFORMATION

Review of information on file with the FAA Airman's Certification Division, Oklahoma City, Oklahoma, revealed the pilot was issued an airline transport pilot certificate on April 25, 2002, with ratings for airplane multiengine land, private pilot certificate with ratings for airplane single engine land, and airplane instrument rating. The pilot's logbook was not located. The pilot's last flight review could not be determined. The co-owner of the airplane stated the pilot had 400 hours in make and model. In addition the pilot holds a mechanic certificate with ratings for airframe and power plant issued on April 25, 2002. The pilot holds a third class medical certificate issued on June 8, 2006, with the limitation "must wear corrective lenses". The pilot indicated on his application for the third class medical certificate that he had accumulated 1800 total flight hours.

AIRCRAFT INFORMATION

The aircraft logbooks were not located. The co-owner stated the last condition inspection was conducted in February or March 2006. He estimated the total time on the Rotax 912UL, 80 horsepower engine was about 475 hours. The airplane has flown about 20 hours since the last inspection. The co-owner stated the stall speed is 52 mph and the gross weight of the airplane is 1320 pounds. The co-owner further stated the airplane was last refueled with automotive gasoline on July 30, 2006, and he estimated there was 15 gallons total fuel on board the airplane at the time of the accident.

METEOROLOGICAL INFORMATION

The 0753 surface weather observation at Peachtree City-Falcon Field, Peachtree City, Georgia, was wind calm, visibility 3 miles, clear clouds, temperature 79 degrees Fahrenheit, dew point temperature 73 degrees Fahrenheit, and altimeter 30.09.

WRECKAGE AND IMPACT INFORMATION

The wreckage was located in the grass adjacent to the over run to runway 31 at Peachtree City-Falcon Field, Peachtree City, Georgia. Examination of the wreckage revealed the airplane collided with the ground in a left wing low, nose down attitude, on a heading of 270-degrees magnetic. The lower engine cowling was damaged and the upper engine cowling was not damaged. The engine assembly remained attached to the engine mounts and the nose section was bent upward at the firewall. The propeller remained attached to the propeller flange. The spinner was damaged. Two of the composite propeller blades were broken at the hub, and no leading edge damage was present. The remaining propeller blade was intact and not damaged. The nose wheel was bent rearward.

The cabin area was compressed aft and upward. The airplane was equipped with an electronic Hobbs meter and tachometer and no information was retrieved from either unit. The fuel selector valve was in the on position. The airplane was equipped with a seatbelt and shoulder harness and the pilot's seatbelt and shoulder harness was in use at the time of the accident. Continuity of the flight controls was confirmed from both controls sticks aft to all flight control surfaces. A smoke generator system with oil tank and oil pump was installed behind the pilot area. The smoke system was not in use at the time of the accident. Oil was present in the oil line going to the engine exhaust system. The aircraft registration and airworthiness certificate was located in the airplane. The left and right main landing gear remained attached to the airframe and was bent rearward.

The right wing remained attached to the airframe and was accelerated forward. The right wing tip was damaged and the leading edge of the wing was not damaged. The right main fuel tank was not ruptured and the right main fuel cap had a tight seal. No contamination was present in the in line fuel filter and filter screens. No fuel was present in the filters. The flaprons remained attached to their attachment points and were not extended. The right main wing strut was damaged and attached to the right wing and the fuselage.

The empennage was not damaged. The vertical fin, left and right horizontal stabilizers, left and right elevators, and rudder were not damaged.

The left wing remained attached to the airframe. The left wing was pushed aft and the left wing tip was bent upward. The leading edge of the left wing had compression damage from the wing tip extending inboard about four feet. The left main fuel tank was not ruptured. The fuel line from the left main fuel tank was separated and fuel was draining down the inside leading edge of the left wing. The left main fuel cap was intact and had a tight seal. No contamination was present in the in line fuel filter and filter screens. No fuel was present in the filters. The flaprons remained attached to their attachment points and were not extended. The left main wing strut was damaged and separated at the wing attachment point. The wing strut was not attached at the fuselage.

Examination of the engine revealed the engine crankcase was not breached. The oil cooler and the water radiator were damaged. Oil was leaking from the oil cooler and water was leaking from the water radiator. The No. 2 and No. 4 cylinder wiring and cylinder heads were discolored. The left and right carburetors were held in place by carburetor sockets. The 8 mm spacers were not installed on both carburetor sockets. Red silicone was present on both socket boots. The Rotax Maintenance Manual does not require any adhesives on the socket boots.

Both carburetors were removed from the engine. The idle stop screws on both carburetors were

bent. Both carburetors were disassembled, and fuel was present in both float bowls. The jet needles were set in the No. 2 position. Staining was present on the carburetor floats and the needle seats were not sticking. The right carburetor float arm pin was damaged and the left carburetor float pin was not damaged. The left carburetor roller slide suspension was installed incorrectly. The slide was sitting 45-degrees offset in the venturi. All o-rings inside both carburetor jetting circuits were damaged.

Examination of the engine revealed the oil pump housing was not damaged and the oil filter remained attached to the engine. Oil was visible on the dipstick. The oil lines were breached under the oil cooler. The oil reservoir was not damaged. The fuel lines were intact. The electrical fuel pump was intact.

Examination of the ignition system revealed the engine had modified wiring from prior repairs. The wires were connected with automotive style butt connectors. While removing the engine, wire ends came off of one ignition ground wire and another wire end was loose. The lower spark plugs were removed from the engine. The electrodes were normal (light colored to brown) as depicted in the Rotax Maintenance Manual. The engine was not fitted with an overload clutch system. The gearbox was checked by turning the propeller and the gear lash was normal. Continuity of the gearbox was completed by rotating the propeller by hand and no anomalies were noted. A thumb compression check was completed and compression was present on all cylinders. The valve covers were removed and the valve train was observed to rotate while rotating the propeller by hand. The valve covers and sparkplugs were reinstalled and the engine was removed from the airframe pending shipment to an authorized repair facility for an engine run.

The engine was mounted in a test stand. A test club propeller, test oil supply tank, oil temperature gauge, oil pressure gauge, RPM gauge, cylinder head temperature gauge, engine controls, and ignition grounding wires were installed. The engine was started and ran at 3,000 rpm until 120-degrees oil temperature. The engine run progressed with stepped increases in rpm from 3,500 up to 5,300 rpm to include an ignition check at 4,000 rpm. The rpm drop on the left and right ignition check was less than 150 rpm per side. . The throttle was advanced and was unable to achieve 5,500 rpm (full throttle.) The throttle was returned back to the idle position for cool down and the engine was shut down after two minutes. After the initial engine run one ignition wire was disconnected. The engine was started and ran at 4,000 rpm and one ignition switch was moved to the off position. The engine became extremely rough, began to stall, would not maintain rpm, and the engine was shut down.

MEDICAL AND PATHOLOGICAL INFORMATION

The Georgia Bureau of Investigation Medical Examiner conducted a postmortem examination of the pilot, on August 4, 2006. 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.

ADDITIONAL INFORMATION

The airframe was released to the co-owner by the FAA on August 16, 2006. The engine was released to the co-owner by the NTSB on October 11, 2006.

Pilot Information

Certificate:	Flight Instructor; Private	Age:	55, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	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 3 With Waivers/Limitations	Last Medical Exam:	06/01/2006
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	1800 hours (Total, all aircraft), 400 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	McWhorter	Registration:	N93TR
Model/Series:	Skystar Vixen	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	ECV004
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	02/01/2006, Conditional	Certified Max Gross Wt.:	1200 lbs
Time Since Last Inspection:	20 Hours	Engines:	1 Reciprocating
Airframe Total Time:	475 Hours	Engine Manufacturer:	
ELT:	Installed, not activated	Engine Model/Series:	
Registered Owner:	Leo A. Giles Jr.	Rated Power:	
Operator:	Leo A. Giles Jr.	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KFFC, 808 ft msl	Observation Time:	0753 EDT
Distance from Accident Site:		Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	26 °C / 23 °C
Lowest Ceiling:	None	Visibility	3 Miles
Wind Speed/Gusts, Direction:	Calm	Visibility (RVR):	
Altimeter Setting:	30.09 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Peachtree City, GA (KFFC)	Type of Flight Plan Filed:	None
Destination:	(KFFC)	Type of Clearance:	None
Departure Time:	0753 EDT	Type of Airspace:	

Airport Information

Airport:	Peachtree City-Falcon Field (KFFC)	Runway Surface Type:	Asphalt
Airport Elevation:	808 ft	Runway Surface Condition:	Dry
Runway Used:	31	IFR Approach:	None
Runway Length/Width:	5219 ft / 100 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal		

Administrative Information

Investigator In Charge (IIC):	Carrol A Smith	Adopted Date:	01/31/2007
Additional Participating Persons:	Daniel Egy; College Park FSDO-11; College Park, GA Eric Tucker; Rotax; Nassau,		
Publish Date:			
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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