



National Transportation Safety Board Aviation Accident Final Report

Location:	Walhalla, SC	Accident Number:	ATL06LA060
Date & Time:	04/02/2006, 0945 EDT	Registration:	N9085N
Aircraft:	Just Aircraft LLC Highlander	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

According to the builder/owner of the airplane, the airplane was certified as a Light Sport Airplane (LSA) on March 28, 2006, and was being prepared for an air show in Florida. During the preparation of the airplane, the builder/owner stated that they noticed that a vacuum hose was loose. They repaired the hose and the pilot flew the airplane around for an hour, and everything checked out "ok". The builder/owner stated that on the morning of the accident the pilot flew the airplane around again to check to make sure they had good "temperatures". The pilot took off again and after climbing to approximately 100 feet AGL the engine began to sputter in and out. He landed the airplane and shut the engine down. The builder/owner stated that when the pilot started up the airplane again he conducted 2 run-ups before take off. Both run-ups sounded good. The pilot took off again and the engine again began to sputter during the climb out. A witness who was located across the lake from the airstrip heard the engine sputtering as he observed the airplane above the tree line adjacent to the lake. The airplane made a hard left turn but was "still on a level plain". The airplane went below the tree line and disappeared from view. The witness heard "the engine race one last time before the sound of impact." Examination of the fuel pumps revealed that both pumps had a fine mesh screens on the inlet side of the pumps. The screens were found to have excessive debris build up. Examination of the debris revealed it appeared to be fiberglass fibers, and the fibers were consistent with the fuel tank construction materials.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot and owner/builders failure to determine the reason for partial loss of engine power resulting in loss of engine power due to fuel system contamination on a subsequent flight.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. FUEL SYSTEM - CONTAMINATION
 2. (C) MAINTENANCE,INSPECTION - IMPROPER - COMPANY MAINTENANCE PERSONNEL
 3. FLUID,FUEL - STARVATION
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Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - EMERGENCY

Findings

4. OBJECT - TREE(S)
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Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On April 2, 2006, at 0945 eastern daylight time, a Just Aircraft, Highlander, N9085N, registered to and operated by G-Dawg LLC, as a 14 CFR Part 91 personal flight, crashed following a loss of engine power during climb after takeoff at a private strip in Walhalla, South Carolina. Visual meteorological conditions prevailed at the time of the accident and no flight plan was filed. The airplane was substantially damaged, and the private pilot received serious injuries. The flight was originating at the time of the accident.

According to the builder/owner of the airplane, the airplane was certified as a Light Sport Airplane (LSA) on March 28, 2006, and was being prepared for an air show in Florida. During the preparation of the airplane, the builder/owner stated that they noticed that a vacuum hose was loose when they were at the Oconee County Regional Airport, Clemson, South Carolina. They repaired the hose and the pilot flew the airplane around for an hour, and everything checked out "ok". The builder/owner stated that on the morning of the accident the pilot flew the airplane around again to check to make sure they had good "temperatures". Everything looked fine and the pilot landed the airplane. He took off again and after climbing to 100 feet AGL the engine began to sputter. The pilot landed the airplane and shut the engine down. The builder/owner stated that when the pilot started up the engine again he conducted 2 run-ups before take off, both run-ups sounded good according to the builder/owner. The pilot departed and the engine again began to sputter during the climb out.

A witness who was located across the lake from the airstrip heard the airplane take off. The engine started sputtering and he observed the airplane above the tree line adjacent to the lake. The airplane made a hard left turn but was "still on a level plane". The airplane went below the tree line and disappeared from his view. The witness heard "the engine race one last time before the sound of impact." The witness telephoned the 911 emergency services and reported the accident. The Oconee County Sheriffs department located the airplane down an embankment off of Duck Pond road, in Walhalla, South Carolina.

PILOT INFORMATION

Review of information of file with FAA Airman's Certification Division, Oklahoma City, Oklahoma, revealed the pilot was issued a private pilot certificate on November 17, 2002, with ratings for airplane single-engine land and sea, instrument airplane. The pilot possess a third-class medical certificate issued on March 6, 2006, with the restriction, "must wear corrective lenses." The FAA airman's report revealed that the pilot had a total of 4,030 civil hours. The pilot's logbooks were not recovered for review, and the pilot reported 1,500 flight hours in make and model airplane.

AIRCRAFT INFORMATION

The airplane was a Just Aircraft Highlander (serial number JAESC 0019), certificated light sport airplane. It was a two-seat, high-wing airplane of tubular aluminum and fabric covered construction with tail-wheel landing gear orientation. A Rotax 914UL engine powered Light-Sport airplane. The engine was an overhauled engine with 4.4 hours time since overhaul, and was rebuilt as an experimental engine. A Light-Sport Aircraft statement of compliance, and special airworthiness certificate was issued on March 28, 2006. The "production flight testing operating limitation for Light Sport Aircraft" was issued on March 28, 2006.

WRECKAGE EXAMINATION

Examination of the wreckage by an FAA inspector revealed that the airplane collided with trees while descending, and eventually collided with the ground in a nose down attitude. The airplane was on a heading of 270-degrees magnetic. The spinner was crushed into the flange, and two blades remained attached to the three bladed-propeller assembly. The propeller blades revealed chordwise scoring. Flight control continuity was established to the primary and secondary flight controls. The engine assembly remained attached to the engine mounts, and was pushed back into the cockpit area. The cabin section of the airplane was crushed. Examination of the engine tachometer indicated five hours of engine operation. The throttle was in the full forward position, and the mixture lever was full rich. The fuel selector was in the "on" position.

Examination of the fuselage and empennage revealed wrinkles in the fabric covering the airframe structure. The main landing gears and tail wheel remained attached to the airframe. The main fuselage, vertical and horizontal stabilizers were not damaged. The rudder and elevators were not damaged.

The left wing was attached to the forward upper attachment point, and accelerated forward. The wing showed wrinkles in the fabric throughout the span of the wing. The aileron and flap remained attached to their attachment fittings. The left wing strut remained attached to the wing and the fuselage attachment point. The fuel tank was not ruptured, and the fuel cap had a tight seal. Examination of the fuel tank revealed fuel was present in the fuel tank.

The right wing remained attached to the rear attachment point, and was pushed aft. The wing showed wrinkles in the fabric throughout the span of the wing. The aileron and flap remained attached to their attachment fittings. The right wing strut remained attached to the wing and the fuselage attachment point. The fuel tank was not ruptured, and the fuel cap had a tight seal. Examination of the fuel tank revealed fuel was present in the fuel tank.

Examination of the engine revealed the gearbox showed impact damage that moved the propeller shaft back into the crankcase. The propeller shaft was unable to rotate due to the impact damage. The gearbox was removed and all mechanical parts moved freely. Due to the extensive damage to the gearbox, propeller shaft, intake system, air box, and sensors for the turbo control unit, the engine could not be test run.

ADDITIONAL INFORMATION

Examination of the fuel pumps revealed that both pumps had a fine mesh screens on the inlet side of the pumps. The screens were found to have excessive debris build up. Examination of the debris revealed it appeared to be fiberglass fibers, and the fibers were consistent with the fuel tank construction materials. The airplane was not equipped with a fuel pressure gauge, thus the loss of fuel pressure could not be monitored by the pilot.

The aircraft was released to Just Aircraft LLC on April 2, 2006.

Pilot Information

Certificate:	Private	Age:	52, Male
Airplane Rating(s):	Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last FAA Medical Exam:	03/01/2006
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	3850 hours (Total, all aircraft), 1500 hours (Total, this make and model), 3800 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Just Aircraft LLC	Registration:	N9085N
Model/Series:	Highlander	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:		Serial Number:	JAESC0019
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:		Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:	5 Hours	Engines:	1 Reciprocating
Airframe Total Time:	5 Hours at time of accident	Engine Manufacturer:	Rotax
ELT:	Installed, not activated	Engine Model/Series:	914
Registered Owner:	Just Aircraft LLC.	Rated Power:	115 hp
Operator:	Gary W Schmitt	Operating Certificate(s) Held:	None
Operator Does Business As:	G-Dawg LLC	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CEU, 892 ft msl	Distance from Accident Site:	3 Nautical Miles
Observation Time:	0954 EDT	Direction from Accident Site:	180°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:	Variable	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.07 inches Hg	Temperature/Dew Point:	19° C / 8° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Walhalla, SC	Type of Flight Plan Filed:	None
Destination:	Walhalla, SC	Type of Clearance:	Unknown
Departure Time:	0945 EDT	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	34.725000, -83.085000

Administrative Information

Investigator In Charge (IIC):	Eric H Alleyne	Report Date:	06/27/2007
Additional Participating Persons:	Bob Jenkins; Columbia FSDO-13; Columbia, SC		
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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