



Aviation Investigation Final Report

Location:	Camden, North Carolina	Accident Number:	ERA09LA293
Date & Time:	May 17, 2009, 10:20 Local	Registration:	N92RG
Aircraft:	GOSSARD RONALD F KITFOX IV	Aircraft Damage:	Substantial
Defining Event:	Part(s) separation from AC	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During cruise flight, the pilot noted an unusual amount of heat on his left leg, followed by engine surges. Despite attempts to adjust the throttle, the engine continued to lose power, and a forced landing was attempted on a dirt road. During the landing, the right wing struck trees and the airplane spun around to the right before coming to a stop. The pilot sustained broken ribs during the forced landing. An examination of the wreckage revealed the 90-degree exhaust pipe from the engine muffler separated in flight. The separation occurred at the weld joint on the muffler body. One of the air filter housings was heat-deformed. With the exhaust pipe missing, hot gases were allowed to impinge upon the carburetor and air filters. The missing exhaust pipe was not recovered.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power due to an in-flight separation of the engine muffler exhaust pipe and resulting impingement of hot exhaust gases on the carburetor.

Findings

Aircraft	(general) - Failure
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Factual Information

History of Flight

Enroute-cruise	Part(s) separation from AC (Defining event)
Enroute-cruise	Loss of engine power (partial)
Landing	Collision with terr/obj (non-CFIT)

On May 17, 2009, about 1020 eastern daylight time, an experimental, amateur built Ronald F. Gossard Kitfox IV, N92RG, was substantially damaged following a forced landing and impact with trees near Camden, North Carolina. The airplane received substantial damage and the private pilot received serious injuries. Visual meteorological conditions prevailed at the time, and no flight plan was filed for the 14 Code of Federal Regulations Part 91 personal flight to First Flight Airport (FFA), Kill Devil Hills, North Carolina. The flight originated at Northeastern Regional Airport (EDE), Edenton, North Carolina, about 1000.

The pilot reported that about 20 minutes after departure from EDE, at about 1,200 feet above ground level (AGL), the engine began to surge. He also noted that prior to the engine surges, he felt an unusual amount of heat on his left leg. He attempted to stabilize the engine with throttle adjustments; however the engine continued to lose power. He made a radio call to friends in another airplane that he was going to attempt a forced landing. He set up the airplane to land into the wind on a dirt road. During the forced landing, the right wing struck a tree and the airplane spun around to the right approximately 120 degrees before coming to a stop with the left wing imbedded against another tree. The pilot exited the airplane and North Carolina Highway Patrol personnel arrived at the scene and rendered assistance. The pilot later checked into a local hospital and was treated for broken ribs and released.

During the recovery of the wreckage, the pilot reported that a 90-degree pipe that directs hot exhaust out of the engine muffler and overboard was broken off and missing. The exhaust pipe was not recovered at the accident site. Paint on the engine cowling adjacent to the missing exhaust pipe was scorched and bubbled. One of the air filter housings that attaches to one of the carburetors was deformed and showed signs of melting. Subsequent examination of the muffler revealed that the exhaust pipe separated along the weld joint on the muffler body. The location of the failed joint would allow hot exhaust gases to impinge on the carburetors and air filters.

The 1038 weather observation for Elizabeth City, North Carolina (ECG), located about 5 miles south of the accident site, included the following: scattered clouds at 2,300 feet, broken clouds at 11,000 feet, surface winds from 250 degrees at 9 knots, 10 statute miles visibility, temperature 25 degrees Celsius, dew point 19 degrees Celsius, and an altimeter setting of 29.97 inches of mercury.

Pilot Information

Certificate:	Private	Age:	40, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
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:	July 3, 2006
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 8, 2007
Flight Time:	330 hours (Total, all aircraft), 32 hours (Total, this make and model), 280 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	GOSSARD RONALD F	Registration:	N92RG
Model/Series:	KITFOX IV	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	1638
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	August 16, 2008 Condition	Certified Max Gross Wt.:	1050 lbs
Time Since Last Inspection:	9 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	79 Hrs at time of accident	Engine Manufacturer:	Bombardier Rotax
ELT:	Installed, not activated	Engine Model/Series:	583UL DCDI
Registered Owner:	On file	Rated Power:	65 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:	ECG,12 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	10:38 Local	Direction from Accident Site:	180°
Lowest Cloud Condition:	Scattered / 2300 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 11000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.96 inches Hg	Temperature/Dew Point:	25°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Edenton, NC (EDE)	Type of Flight Plan Filed:	None
Destination:	Kill Devil Hill, NC (FFA)	Type of Clearance:	None
Departure Time:	10:00 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	36.549999,-76.26667(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Ralph
Additional Participating Persons:	Doug Badgett; FAA/FSDO; Greensboro, NC
Original Publish Date:	April 22, 2010
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=73850

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).