National Transportation Safety Board
Aviation Accident Final Report

Location:	Eufala, AL	**Accident Number:**	ERA16LA014
Date & Time:	10/14/2015, 1445 CDT	**Registration:**	N4931M
Aircraft:	GROSS MICHAEL E STOL CH 701	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The private pilot had purchased the airplane a day earlier and, while flying it back to his home airport, stopped at an en route airport to refuel. The pilot stated that, about midfield during the takeoff, the engine began to run roughly and vibrate, was not producing full power, and the flight controls "got mushy." Shortly after the takeoff, at an altitude of 50 ft, the airplane veered to the left, impacted the ground, and nosed over. The pilot noted that the airplane took longer to take off due to a crosswind; however, weather recorded at the airport 13 minutes after the accident included calm winds. Postaccident examination of the airframe and engine revealed no evidence of any preexisting mechanical anomalies that would have precluded normal operation, and the reason for the loss of engine power could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A partial loss of engine power during takeoff for reasons that could not be determined, because postaccident examination revealed no evidence of any preimpact mechanical malfunctions or failures. Also causal was the pilot's decision to continue the takeoff following the loss of power.

Findings

Aircraft	
	Angle of attack - Capability exceeded
Personnel issues	Incorrect action performance - Pilot (Cause)

Factual Information

On October 14, 2015, about 1445 central daylight time, an experimental amateur-built Zenith STOL CH701, N4931M, was substantially damaged shortly after taking off from Weedon Field (EUF), Eufala, Alabama. The private pilot was not injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the flight to Eu-Wish Airport (MU68), Hermann, Missouri. The personal flight was operating under the provisions of 14 Code of Federal Regulations Part 91.

After the accident, the pilot was granted permission by the NTSB investigator in charge to transport the airplane to his home in Missouri, being advised that additional information would be requested. The pilot subsequently failed to respond to any NTSB information requests, either directly or through his attorney. The investigation could thus only rely on the information gathered onsite by the responding Federal Aviation Administration (FAA) inspector, and on a written statement from the pilot subsequently provided through his attorney to the FAA inspector.

According to the pilot, he had purchased the airplane the day before in Florida, and was flying it home to Missouri, stopping at EUF to refuel. After refueling, the engine would not start, and the battery discharged. After charging the battery, the engine started "normally."

In a written statement the day of the accident, the pilot stated that after takeoff, about 50 feet above the runway, the airplane "turned left and did not respond to any control inputs to trim right and stay over the runway. Instead, it continued a left bank and impacted the ground."

In a later statement, the pilot stated that he had performed an engine run-up at 4,000 rpm without noting any anomalies. After which, he taxied to south end of runway 36 and commenced the takeoff. After applying full power, the airplane took longer than normal to take off due to crosswind conditions. About 50 feet above the runway, at mid-field, the engine began to run roughly and vibrate, and was not producing full power. The pilot attempted to "smooth out" the engine by adjusting the throttle; there was no mixture control.

The pilot then attempted to land the airplane back on the runway, but in the process, it veered off the left side and flipped upside-down. The pilot egressed the airplane, and reached back in to turn off the fuel valve as the emergency vehicles arrived.

According to the responding FAA inspector, the airplane had been moved to a hangar prior to her arrival. There, she noted that one blade of the three-bladed composite propeller was broken off and one was cracked. There was no bending or twisting of the propeller blades. There was no dripping or splattering of oil on the engine cowling. No anomalies were noted within the engine compartment.

The fuel bowl on the left side of the engine was full, and both wing fuel tanks were full of fuel. The inspector also drained fuel from each of the two wing tanks, and the fuel sump on the underside of the fuselage, just aft the engine compartment, and all samples were "clear and clean."

The inspector noted no control binding to the elevator or rudder, and while checking for aileron binding (none noted), the pilot stated that the controls "got mushy."

The FAA inspector subsequently drove out along the runway to where the airplane was recovered, which was about 3,200 feet from the departure end of the 5,000-foot runway.

Weather, recorded at the airport 13 minutes after the accident, included clear skies and calm winds.

History of Flight

Initial climb	Loss of control in flight (Defining event)

Pilot Information

Certificate:	Private; Sport Pilot	**Age:**	66, Male
Airplane Rating(s):	Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	10/10/2015
Flight Time:	218 hours (Total, all aircraft), 6 hours (Total, this make and model), 8 hours (Last 90 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	GROSS MICHAEL E	**Registration:**	N4931M
Model/Series:	STOL CH 701	**Aircraft Category:**	Airplane
Year of Manufacture:	2006	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental	**Serial Number:**	7-4931
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	02/11/2015, Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	25 Hours	**Engines:**	1 Reciprocating
Airframe Total Time:	738 Hours	**Engine Manufacturer:**	ROTAX
ELT:	Installed	**Engine Model/Series:**	912UL
Registered Owner:	Karl H. Paubel	**Rated Power:**	hp
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	EUF, 285 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	1958 UTC	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	Calm /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	29.99 inches Hg	**Temperature/Dew Point:**	28°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Eufala, AL (EUF)	**Type of Flight Plan Filed:**	None
Destination:	Hermann, MO (MU68)	**Type of Clearance:**	None
Departure Time:	1445 CDT	**Type of Airspace:**	Class G

Airport Information

Airport:	Weedon Field (EUF)	**Runway Surface Type:**	Asphalt
Airport Elevation:	285 ft	**Runway Surface Condition:**	Dry
Runway Used:	36	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 100 ft	**VFR Approach/Landing:**	Forced Landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	31.951389, -85.128889 (est)

Administrative Information

Investigator In Charge (IIC):	Paul R Cox	**Report Date:**	01/25/2018
Additional Participating Persons:	Nina McBride; FAA/FSDO; Birmingham, AL		
Publish Date:	01/25/2018		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=92181		