



# Aviation Investigation Final Report

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<b>Location:</b>	Jefferson, North Carolina	<b>Accident Number:</b>	ERA16LA040
<b>Date &amp; Time:</b>	November 13, 2015, 09:10 Local	<b>Registration:</b>	N334CM
<b>Aircraft:</b>	CIRRUS DESIGN CORP SR22	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

The private pilot was conducting a long personal cross-country flight. The pilot reported that the airplane was in cruise flight for almost 1 hour at 11,500 ft and that everything was normal. He then noticed that the autopilot pitch was starting to increase in order to maintain altitude and that the manifold air pressure was decreasing. At this time, the rpm and oil pressure were normal. The airplane then started losing altitude, and the manifold air pressure gauge's needle was shaking. The pilot increased the throttle, but he noted no change in power or rpm. The pilot attempted to divert to the nearest airport, but on final approach, the headwind was stronger than he expected, and he knew that the airplane was not going to reach the runway because the engine had lost all power. He subsequently deployed the airplane's parachute system, and the airplane descended into a field. Examination of the wreckage revealed that adequate fuel was onboard. The engine was subsequently test run to full power with no anomalies noted.

## Probable Cause and Findings

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

A total loss of engine power for reasons that could not be determined during a postaccident test run of the engine.

## Findings

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**Not determined**

(general) - Unknown/Not determined

## Factual Information

### History of Flight

<b>Enroute-cruise</b>	Loss of engine power (total) (Defining event)
<b>Emergency descent</b>	Off-field or emergency landing
<b>Landing</b>	Collision with terr/obj (non-CFIT)

On November 13, 2015, about 0910 eastern standard time, a Cirrus SR22, N334CM, operated by private individual, was substantially damaged during a forced landing, following a total loss of engine power near Jefferson, North Carolina. The private pilot and passenger were not injured. Visual meteorological conditions prevailed and no flight plan was filed for the flight, which was destined for Lancaster Airport (LNS), Lancaster, Pennsylvania. The personal flight was operated under the provisions of Title 14 Code of Federal Regulations Part 91. The flight originated from Dekalb-Peachtree Airport (PDK), Atlanta, Georgia about 0800.

According to the pilot, he was in cruise flight for almost 1 hour at 11,500 feet and everything was normal. Then he noticed the autopilot pitch of the airplane was starting to increase in an effort to maintain altitude and the manifold air pressure was decreasing. At this time, the rpm and oil pressure were normal. The airplane started losing altitude and the needle for the manifold air pressure gauge was shaking. The pilot increased throttle, but no change in power or rpm was indicated. The pilot further stated that he diverted direct to the nearest airport, which was Ashe County Airport (GEV), Jefferson, North Carolina. The airplane was high over the airport and the pilot circled the airport three times to lose altitude. On his last turn to final approach, the headwinds were stronger than expected and the pilot knew the airplane was not going to reach the runway as the engine had lost all power. At that time, he deployed the Cirrus Airframe Parachute System and the airplane descended into a field.

Examination of the wreckage at the accident site revealed that the firewall was damaged. The engine cowlings were crushed and the propeller blades were bent. The airframe and engine were examined at a recovery facility in preparation for a test-run. The fuel that was drained at the accident site was used for the engine run. The propeller was removed and a spare propeller was placed on the engine. The airplane was secured to a trailer and the engine mounts were also secured. The engine started after approximately one to two revolutions of the propeller. Engine oil pressure was 59 psi and came down slightly after warm up. The engine was set to 1,000 rpm and allowed to run for 4 to 5 minutes before the engine was shut down with the mixture lever so replacement manifold air pressure and fuel flow gage could be utilized. The engine was restarted and all gauges were functional. The engine was not run to high power due to the engine mounts being fractured. There were no discrepancies noted that would have prevented the engine from reaching its designed rated horsepower.

The engine was then sent to the manufacturer for a full power test-run. The engine was secured to an engine run stand and a three-bladed propeller was installed. The engine started immediately and was idled for several minutes to warm up before the high power runs. The engine was run at several different

power settings from idle to full power and all parameters were within manufactures specification limits. After approximately 30 minutes of run time, the engine was shut down and no anomalies were noted.

According to FAA records, the pilot held a private pilot certificate with an instrument rating. He held an FAA third-class medical certificate, issued May 22, 2012. The pilot reported that he had accumulated 335 hours total flight experience, and 273 hours total flight experience in the accident airplane make and model at the time of the accident.

According to FAA and aircraft maintenance records, the airplane was originally issued an airworthiness certificate on June 9, 2004, and registered to the owner on December 26, 2012. It was powered by a Continental IO-550-N engine and driven by a three bladed Hartzell propeller. According to maintenance records the most recent annual inspection was conducted on July 29, 2015, with a recorded time in service of 2,559.0 hours. The engine was overhauled on May 4, 2015, and had accumulated 112.1 total hours at the time of the accident.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	36, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	May 22, 2012
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	May 12, 2015
<b>Flight Time:</b>	(Estimated) 335 hours (Total, all aircraft), 273 hours (Total, this make and model), 311 hours (Pilot In Command, all aircraft), 29 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	CIRRUS DESIGN CORP	<b>Registration:</b>	N334CM
<b>Model/Series:</b>	SR22 NO SERIES	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2004	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	0952
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	July 29, 2015 Annual	<b>Certified Max Gross Wt.:</b>	3400 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2559 Hrs as of last inspection	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IO-550N
<b>Registered Owner:</b>	RAN AIR LLC	<b>Rated Power:</b>	310 Horsepower
<b>Operator:</b>	RAN AIR LLC	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	GEV,3177 ft msl	<b>Distance from Accident Site:</b>	5 Nautical Miles
<b>Observation Time:</b>	14:15 Local	<b>Direction from Accident Site:</b>	280°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots / 25 knots	<b>Turbulence Type Forecast/Actual:</b>	/ None
<b>Wind Direction:</b>	310°	<b>Turbulence Severity Forecast/Actual:</b>	/ N/A
<b>Altimeter Setting:</b>	30.01 inches Hg	<b>Temperature/Dew Point:</b>	5°C / -6°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	ATLANTA, GA (PDK )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Lancaster, PA (LNS )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	08:00 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	ASHE COUNTY GEV	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	3177 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	28	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5000 ft / 75 ft	<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	36.43,-81.419998(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Boggs, Daniel
<b>Additional Participating Persons:</b>	Sarah E Allen; FAA/FSDO; Greensboro, NC John Kent; Continental Motors; Mobile, AL Brad Miller; Cirrus Aircraft; Duluth, MN
<b>Original Publish Date:</b>	October 3, 2016
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=92322">https://data.nts.gov/Docket?ProjectID=92322</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).