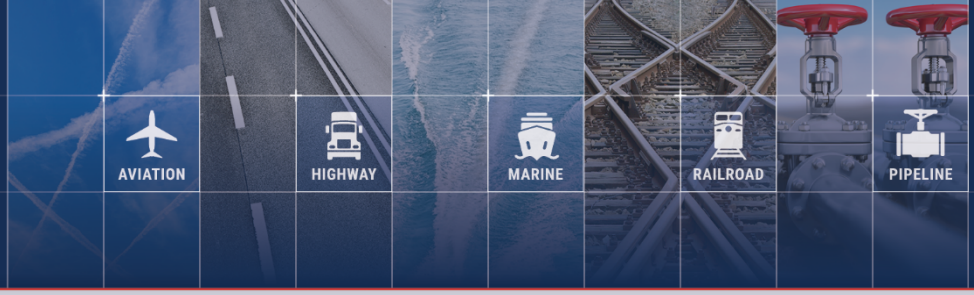

Aviation Investigation Final Report

Location:	Siler City, North Carolina	**Accident Number:**	ERA15LA231
Date & Time:	June 2, 2015, 08:00 Local	**Registration:**	N985K
Aircraft:	Beech A36	**Aircraft Damage:**	Substantial
Defining Event:	Aerodynamic stall/spin	**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The purpose of the accident flight was to reposition the accident airplane in order to have maintenance performed on its alternator. The accident pilot planned to fly with the airplane's landing gear extended for the duration of the flight and used a handheld radio for communications, presumably because of the intermittent or non-functional state of the alternator. Another pilot, who was flying in his own airplane, accompanied the accident flight, and they arrived in the vicinity of the destination airport about the same time. As the accident pilot maneuvered his airplane to land, the accompanying pilot watched as the accident airplane flew a downwind traffic pattern leg very close to the runway, then entered a "tight" base-to-final turn. The airplane subsequently entered what the accompanying pilot described as an accelerated aerodynamic stall and descended in a nose-down attitude toward the ground. The airplane impacted trees and terrain about 500 ft short of the runway threshold. A postaccident examination of the wreckage revealed no evidence of any preimpact mechanical malfunctions or failures, with the exception of the alternator, which failed a diagnostic test run.

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 adequate airspeed and his exceedance of the airplane's critical angle of attack while maneuvering for landing, which resulted in an aerodynamic stall.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Airspeed - Not attained/maintained
Aircraft	Angle of attack - Not attained/maintained

Factual Information

History of Flight

Approach-VFR pattern final	Loss of control in flight
Approach-VFR pattern final	Aerodynamic stall/spin (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On June 2, 2015, about 0800 eastern daylight time, a Beech A36, N985K, was substantially damaged when it impacted terrain while attempting to land at Siler City Municipal Airport (SCR), Siler City, North Carolina. The private pilot was seriously injured, and the commercial pilot-rated passenger was fatally injured. The airplane was privately owned and operated under the provisions of 14 *Code of Federal Regulations* Part 91. Instrument meteorological conditions prevailed, and no flight plan was filed for the personal flight, which originated from Moore County Airport (SOP), Pinehurst, North Carolina.

According to a friend of the pilot, the purpose of the accident flight was to reposition the airplane in order to have maintenance performed on the alternator. The accident airplane departed from SOP, and, due to concerns related to the airplane's electrical system, the pilot kept the landing gear extended for the duration of the flight and planned to utilize a handheld communication radio. The friend departed SOP a short time later in his own airplane and arrived in the area of SCR before the accident airplane. The friend reported that a "haze" layer was present near the north side of the airport that was not present toward the south. The friend subsequently maneuvered his airplane so that the accident airplane could enter the traffic pattern and land first.

The accident airplane initially entered the traffic pattern on a downwind leg for landing on runway 22, but upon noting the haze to the north, the pilot announced that they would transition over top of the airport to a left downwind for landing on runway 4. The friend intermittently observed the accident airplane as it maneuvered and noted that, while on the downwind-to-base turn to the runway, the airplane was near the runway in a left bank and nose-high attitude. He further described the turn from base to final as "too tight," and he thought that the airplane had entered an accelerated stall. When he next saw the airplane, it was in a nose-down attitude heading toward a stand of trees that bordered the runway's east side short of the runway threshold. The friend did not observe the impact, but when he did not receive a reply to his inquiries as to their position, he assumed that the airplane had crashed. He subsequently orbited the area where he last observed the airplane and located the accident site. He then landed his own airplane, contacted emergency services, and proceeded to the accident site to render assistance.

The pilot seated in the left seat held a private pilot certificate with a rating for airplane single-engine land. He held a Federal Aviation Administration (FAA) third-class medical certificate, which was issued in June 2014. On the application for that certificate, he reported 1,430 total hours of flight experience. The pilot-rated passenger, who was seated in the right seat, held a commercial pilot certificate with ratings for airplane single- and multi-engine land, and instrument airplane, as well as a flight instructor certificate with ratings for airplane single- and multi-engine land and instrument airplane. The passenger

held an FAA second-class medical certificate, which was issued in September 2014, and on the application for that certificate, she reported 4,900 total hours of flight experience. According to the friend, the passenger was not operating in the capacity of a flight instructor on the accident flight.

An FAA inspector examined the airplane at the accident site and identified the initial impact point as a tree located about 500 ft southeast of the runway 4 approach threshold and about 300 ft southeast of the extended runway centerline. The wreckage came to rest about 65 ft from the initial impact point on a 65° magnetic bearing. First responders advised the inspectors of an odor of fuel at the accident site but indicated that there was no postimpact fire.

Detailed examination of the wreckage confirmed flight control continuity from the control column and rudder pedals to each flight control surface. The landing gear selector switch was found in the extended position, and examination of the landing gear actuators revealed positions consistent with the landing gear being extended at impact. The flap actuator was found in the retracted position. One of the three propeller blades was separated from the propeller hub, and all three blades exhibited chordwise scratching. The airplane's alternator was removed and placed on a test bench. The alternator failed the diagnostic test run, with the report noting that the unit produced "low output" and recommending replacement of the stator and/or rotor.

The 0755 weather observation at SCR included calm wind, 7 statute miles visibility, a broken ceiling at 200 ft, and overcast ceiling at 9,000 ft, temperature 19°C, dew point 19°C, and an altimeter setting of 30.04 inches of mercury. At 0815, the weather conditions included 5 statute miles visibility in light rain, scattered clouds at 200 ft, scattered clouds at 6,500 ft, and an overcast ceiling at 8,000 ft.

The North Carolina Department of Health and Human Services, Office of the Chief Medical Examiner, Raleigh, North Carolina, performed an autopsy of the pilot-rated passenger. The reported cause of death was "multiple injuries."

Pilot Information

Certificate:	Private	**Age:**	72,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	June 1, 2014
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1430 hours (Total, all aircraft)		

Pilot-rated passenger Information

Certificate:	Commercial	**Age:**	69,Female
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	September 1, 2014
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	4900 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N985K
Model/Series:	A36	**Aircraft Category:**	Airplane
Year of Manufacture:	1981	**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	E-1947
Landing Gear Type:	Retractable - Tricycle	**Seats:**	
Date/Type of Last Inspection:	June 17, 2013 Annual	**Certified Max Gross Wt.:**	3651 lbs
Time Since Last Inspection:		**Engines:**	Reciprocating
Airframe Total Time:	3501 Hrs as of last inspection	**Engine Manufacturer:**	Continental Motors
ELT:	C91A installed	**Engine Model/Series:**	IO-520-BB
Registered Owner:	BHB OF THE SANDHILLS LLC	**Rated Power:**	
Operator:	BHB OF THE SANDHILLS LLC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KSCR,614 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:55 Local	**Direction from Accident Site:**	73°
Lowest Cloud Condition:	200 ft AGL	**Visibility**	7 miles
Lowest Ceiling:	Broken / 200 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.04 inches Hg	**Temperature/Dew Point:**	19°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	PINEHURST/SOUTHERN PINES, NC (SOP)	**Type of Flight Plan Filed:**	None
Destination:	Siler City, NC (SCR)	**Type of Clearance:**	None
Departure Time:	07:20 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Siler City Municipal Airport SCR	**Runway Surface Type:**	Asphalt
Airport Elevation:	615 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:	4	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 75 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious	**Latitude, Longitude:**	35.697223,-79.508331

Administrative Information

Investigator In Charge (IIC):	Diaz, Dennis
Additional Participating Persons:	Cecil J Land; FAA/FSDO; Greensboro, NC Andrew Hall; Textron Aviation; Wichita, KS Christopher Lang; Continental Motors; Mobile, AL
Original Publish Date:	May 9, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=91285