



Aviation Investigation Final Report

Location:	Atlanta, Georgia	Accident Number:	ERA17LA078
Date & Time:	January 5, 2017, 17:00 Local	Registration:	N683AM
Aircraft:	AIRCRAFT MFG & DEVELOPMENT CO CH 2000	Aircraft Damage:	Substantial
Defining Event:	Aerodynamic stall/spin	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot attempted a short-field takeoff procedure, and air traffic control tower personnel observed the airplane about 200 ft above ground level about 900 ft from the beginning of the runway. The airplane then drifted left, descended, and impacted trees. Although the pilot subsequently reported a loss of engine power and climb performance, a test run of the engine following the accident revealed no anomalies. The pilot had an approximate 5-year gap in flying experience and had not completed a flight review, although he reported about 21 hours of flight experience in the 90 days preceding the accident. He reported a total flight experience of 143.3 hours, of which 59 hours were in the accident airplane make and model. It is likely that the pilot exceeded the airplane's critical angle of attack while attempting a short-field takeoff, which resulted in an aerodynamic stall at an altitude too low to recover.

Probable Cause and Findings

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

The pilot's exceedance of the airplane's critical angle of attack while attempting a short-field takeoff, which resulted in an aerodynamic stall.

Findings

Personnel issues

Aircraft control - Pilot

Aircraft

Angle of attack - Not attained/maintained

Factual Information

History of Flight

Initial climb	Aerodynamic stall/spin (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On January 5, 2017, about 1700 eastern standard time, an Aircraft MFG & Development Co, CH 2000, N683AM, was substantially damaged when it collided with trees, during the initial climb after takeoff from Cobb County International Airport (RYY), Atlanta, Georgia. The private pilot was seriously injured. The airplane was operated by the private pilot as a personal flight conducted under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed and no flight plan was filed for the planned local flight.

The pilot reported that he had planned to perform some touch-and-go landings at RYY. During initial takeoff on runway 27, he applied full power and initiated a climb at the appropriate airspeed. Shortly thereafter, the airplane experienced a loss of engine power and climb performance. The left wing and nose dropped, but no stall warning horn sounded. The pilot leveled the wings and configured the airplane quickly for landing, before colliding with trees.

The pilot further reported that he had acquired his private pilot license in 2009, but had not flown between 2010 and 2015. He also had not completed a current flight review. The pilot reported a total flight experience of 143.3 hours; of which, 59 hours were in the same make and model as the accident airplane. He had flown 21.3 hours during the 90-day period preceding the accident.

According to a Federal Aviation Administration (FAA) inspector, air traffic control personnel observed the airplane about 200 feet above ground level as it was approximately 900 feet from the beginning of runway 27. The airplane then drifted left, descended, and impacted trees.

The inspector further stated that the airplane came to rest in a wooded area south of runway 27, about 1,400 feet from the beginning of the runway. The inspector examined the wreckage at the accident site and noted that during the impact, the airplane suffered damage to both wings and the fuselage. The inspector observed the flaps in the full-extended position. He also found an airplane operating handbook in the cockpit and observed that it was open to a page describing short field takeoffs and landings. He added that due to impact damage, some fuel had leaked from the airplane.

After the wreckage was recovered to a salvage facility, a test-run of the engine on the airframe was conducted under the supervision of an FAA inspector. The engine started without hesitation and ran for several minutes at different power settings, including full power.

The recorded wind at RYY, at 1647, was from 300 degrees at 3 knots.

Pilot Information

Certificate:	Private	Age:	44, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	January 14, 2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	143 hours (Total, all aircraft), 59 hours (Total, this make and model), 21 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIRCRAFT MFG & DEVELOPMENT CO	Registration:	N683AM
Model/Series:	CH 2000 UNDESIGNAT	Aircraft Category:	Airplane
Year of Manufacture:	2002	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	20-1006
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	March 1, 2016 Annual	Certified Max Gross Wt.:	1692 lbs
Time Since Last Inspection:	45 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1586 Hrs as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	C91A installed, activated	Engine Model/Series:	O-235-N2C
Registered Owner:	On file	Rated Power:	116 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:	RYY,1040 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	16:47 Local	Direction from Accident Site:	360°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 7500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	300°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.88 inches Hg	Temperature/Dew Point:	10°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Atlanta, GA (RYY)	Type of Flight Plan Filed:	None
Destination:	Atlanta, GA (RYY)	Type of Clearance:	Traffic advisory
Departure Time:	17:00 Local	Type of Airspace:	

Airport Information

Airport:	Cobb County International Airp RYY	Runway Surface Type:	
Airport Elevation:	1040 ft msl	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	6295 ft / 100 ft	VFR Approach/Landing:	None

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:	34.013053,-84.596946(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Greer Parramore; FAA/FSDO; Atlanta, GA
Original Publish Date:	November 6, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=94573

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](#).