



# Aviation Investigation Final Report

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<b>Location:</b>	Carpenter, Wyoming	<b>Accident Number:</b>	CEN19FA305
<b>Date &amp; Time:</b>	September 7, 2019, 14:40 Local	<b>Registration:</b>	N5502S
<b>Aircraft:</b>	Champion 7GCBC	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Aerodynamic stall/spin	<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

The pilot departed from a field and was climbing the airplane through about 100 to 200 ft above ground level. Witnesses stated, and surveillance video of the accident confirmed, that the airplane entered a left bank that increased to about 60° degrees as the airplane turned about 180°. The left bank continued to increase until the airplane entered a nose-down descent into the ground, consistent with an aerodynamic stall. Both witnesses reported that the engine was operating throughout.

Examination of the airplane and engine revealed no mechanical anomalies that would have precluded normal operation. Based on the available information, it is likely that the pilot exceeded the airplane’s critical angle of attack while turning during the initial climb, which resulted in an aerodynamic stall and loss of control at an altitude too low for recovery.

## 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 during the initial climb after takeoff, which resulted in an aerodynamic stall and loss of control at an altitude too low for recovery.

## Findings

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**Personnel issues**

Aircraft control - Pilot

**Aircraft**

Angle of attack - Capability exceeded

## Factual Information

### History of Flight

<b>Enroute</b>	Aerodynamic stall/spin (Defining event)
<b>Uncontrolled descent</b>	Collision with terr/obj (non-CFIT)

On September 7, 2019, about 1440 mountain daylight time, a Bellanca 7GCBC, N5502S, was destroyed when it was involved in an accident near Carpenter, Wyoming. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The airplane departed a rough, dry field with areas of vegetation. Two witnesses near the field stated that they heard the airplane's engine operating, and one of the witnesses said that it appeared as if the airplane "did not have enough airspeed" and stalled. Surveillance video of the flight showed the airplane enter a left bank that increased to about 60° until the airplane entered a nose-down descent into the ground from an estimated altitude of 100 to 200 ft above ground level.

Examination of the airplane confirmed flight control continuity from the cockpit to the flight control surfaces. The wing flaps were retracted. The engine was rotated by hand at the propeller and valve and drive train continuity were established. There was evidence of fuel spillage at the accident site. There were no mechanical anomalies of the airframe or engine that would have precluded normal operation.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	62, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	August 13, 2019
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	(Estimated) 524 hours (Total, all aircraft), 52 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Champion	<b>Registration:</b>	N5502S
<b>Model/Series:</b>	7GCBC No Series	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1978	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Aerobatic	<b>Serial Number:</b>	1036-78
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	August 2, 2019 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>	12 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1071 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	O-320-A2D
<b>Registered Owner:</b>	Pilot	<b>Rated Power:</b>	150
<b>Operator:</b>	Pilot	<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>	CYS,6160 ft msl	<b>Distance from Accident Site:</b>	25 Nautical Miles
<b>Observation Time:</b>	14:53 Local	<b>Direction from Accident Site:</b>	285°
<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>	14 knots / 27 knots	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	260°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	30.13 inches Hg	<b>Temperature/Dew Point:</b>	27°C / 1°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Carpenter, WY	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Fort Morgan, CO	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	14:40 Local	<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal	<b>Latitude, Longitude:</b>	41.029998,-104.24639(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Gallo, Mitchell
<b>Additional Participating Persons:</b>	Bruce Hanson; Federal Aviation Administration; Casper FSDO; Casper, WY Mike Childers; Lycoming; Williamsport, PA
<b>Original Publish Date:</b>	July 15, 2021
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 3</a>
<b>Note:</b>	The NTSB traveled to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=100206">https://data.ntsb.gov/Docket?ProjectID=100206</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](#).