



AIRFRAME AND ENGINE EXAMINATION

NTSB ACCIDENT NUMBER: ERA20LA064

AIRCRAFT REGISTRATION: N323SR

OPERATOR: Individual

ACCIDENT LOCATION: Kenansville, North Carolina

Investigative Team:

NTSB IIC: Adam Gerhardt

FAA Coordinator: Bradley McCauley, Inspector (AW), Greensboro FSDO*

Cirrus: Brannon Mayer, Air Safety Investigator

Continental Aerospace Technologies: Mike Council, Air Safety Investigator

**Not on-site*

BRIEF NARRATIVE

On January 2, 2020, about 1015 eastern standard time, a Cirrus Design Corp. SR-22, N323SR, was substantially damaged when it impacted trees and terrain after the Cirrus Airframe Parachute System (CAPS) was activated near Kenansville, North Carolina. The commercial pilot and passenger were not injured. The airplane was registered to Cornerstone Aviation LLC. and operated by the commercial pilot as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Day visual meteorological conditions prevailed, and a visual flight rules flight plan was filed. The flight originated from Worcester Regional Airport (ORH), Worcester, Massachusetts at 0645 and was destined for Curtis L Brown Jr. Field Airport (EYF), Elizabethtown, North Carolina.

DETAILS OF EXAMINATION

The NTSB investigator-in-charge and party members from Cirrus Aircraft and Continental Aerospace Technologies examined the airframe and engine on February 4, 2020 at Atlanta Air Recovery, in Griffin, Georgia. This report details the factual findings from the investigative activities.

AIRFRAME EXAMINATION

The left and right wings were intact and were removed from the fuselage for recovery purposes. The aileron surfaces moved normally. The fuel lines for each wing were cut by recovery personnel. The lower inner and outer engine cowling did not exhibit evidence of fuel spraying or leaking. The airplane was not equipped with a Cirrus recoverable data module (RDM). The primary flight display and multi-function display data card were removed and shipped to the NTSB Recorders Laboratory in Washington, DC for data extraction.

ENGINE EXAMINATION

According to maintenance records, the engine was assembled and manufactured at Continental Motors and shipped to the customer on July 15, 2017. The factory new engine was installed on August 5, 2017 and had accumulated 707 hours at the time of the accident. The engine was last inspected, in accordance with the Cirrus Inspection program for a phase III inspection on September 22, 2019. The engine had accumulated 21 hours since the inspection.

The engine displayed minor impact damage. The top spark plugs were removed and displayed worn out normal operating signatures, as compared to the Champion Check-a-Plug chart. When the engine was rotated manually by hand, thumb compression was attained on all cylinders, with exception to the No. 4 and 5 cylinders. The No. 5 cylinder intake valve displayed damage to the face of the valve and an impact witness mark was observed. The No. 4 cylinder exhaust valve exhibited a damage mark. The No. 6 cylinder displayed a small witness mark, and its piston displayed an impact mark.

When the engine was rotated manually by hand, the No. 1 and 2-cylinder exhaust and intake valves moved normally (No. 1, 2 valve train continuity was confirmed), however, no other cylinder's valves moved. All pistons moved normally, confirming crankshaft continuity. Camshaft continuity was not confirmed. Both magnetos were firing when the engine was rotated manually by hand. The engine contained 7.5 quarts of oil. The engine will be removed from the airframe and sent to Continental's Factory in Mobile, AL for further disassembly and examination.

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