



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Central Region

February 16, 2022

AIRFRAME AND ENGINE EXAMINATION

CEN22FA111

This document contains 11 embedded photos.

A. ACCIDENT

Location: Hutchinson, MN
Date: January 31, 2022
Aircraft: Cirrus SR22, Registration N227BD, Serial #3134
NTSB IIC: Samantha Link

B. EXAMINATION PARTICIPANTS:

Samantha Link
Aviation Accident Investigator
National Transportation Safety Board
Denver, Colorado

Greg Thurston
Aviation Safety Inspector
Federal Aviation Administration
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Air Safety Investigator
Cirrus Aircraft
Duluth, MN

C. SUMMARY

Examination of the airframe and engine was conducted on February 16, 2022, at the facilities of Wentworth Aircraft in Lakeville, Minnesota.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

- Parachute D-bag and rocket were recovered.
 - The deployment bag appeared normal.
 - The incremental bridal stitches were completely unzipped.
 - The rocket remained intact and remained secured to the deployment bag.
- The parachute itself was laid out. All retention lines remained attached and secured.
- The slider was found at the bottom of the straps.
- The connection between the parachute retention straps and the airplane straps remained intact and secured.
- The airplane straps were fully extended and cut by first responders.
 - The line cutter cut the tail straps and the snub was fully extended.

- The fuel selector handle was able to be manipulated by hand.
 - The faceplate was removed and the pin between the shaft between the valve handle and to the valve shaft housing was fractured at the shaft. The pin remained in the bottom of the handle.
 - The shaft housing was removed, and the shaft remained intact.
 - The fuel valve itself was removed from the airframe.
 - The valve was found in between the right fuel tank and off.
- The fuel inlet screen from each wing was clear of debris.
- The left wing header tank had a small amount of fuel.
- The right wing header tank had a small amount of fuel.
- All wing fuel vents were clear of debris
- Air was blown between:
 - The fuel lines from the left wing root to the fuel valve. And were clear of debris
 - The fuel lines on the right wing root to the fuel valve and was clear of debris.
 - The fuel line between the fuel valve and fuel strainer was clear of debris.

1.1 Airframe photos



Figure 1: Overview of Airplane



Figure 2: Parachute

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Figure 3: Parachute Straps

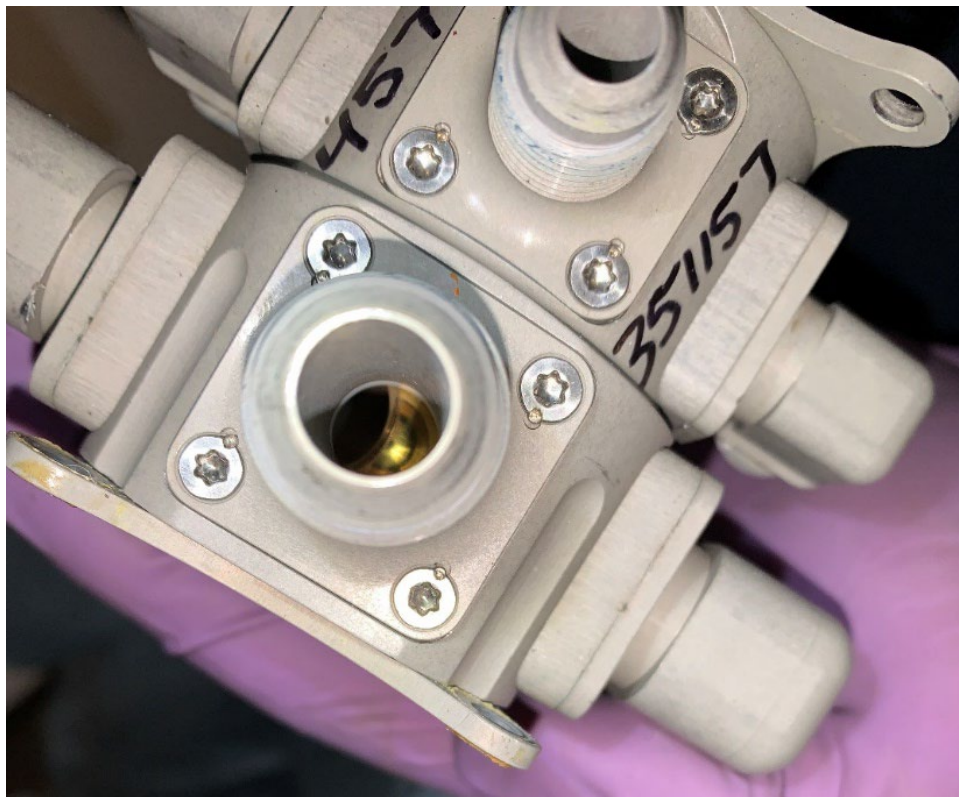


Figure 4: Fuel Selector Valve



Figure 5: Left Wing

2.0 Engine Examination

- Throttle control was manipulated in the cockpit and correspond motion was observed at the fuel servo.
- The mixture control was manipulated in the cockpit and corresponding motion was observed at the fuel pump.
- The propeller governor control was manipulated in the cockpit and corresponding motion was observed at the propeller governor.
- The Left side intercooler was removed to access the cylinders.
- The upper spark plugs for cylinders 2, 4, and 6 were removed and were consistent with normal operations
- Cylinders 2, 4, and 6 were borescoped
 - The piston heads, valves, lower spark plugs, and cylinder walls were all consistent with normal operations.
- The B-nuts for all engine fuel lines were examined and were greater than finger tight.
- The fuel inlet line to the fuel servo was removed and no fuel was noted.
- The fuel inlet line to the boost pump was removed and no fuel was noted.
- The fuel strainer was damaged and unable to be reached.

2.1 Engine Photos



Figure 6: Left Side of Engine



Figure 7: Right Side of Engine



Figure 8: Bottom of Engine

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Figure 9: Chamber Side of Propeller Blades



Figure 10: Fracture Surfaces



Figure 11: Face Side of Propeller Blades

END.

Submitted by: Samantha Link