



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

August 15, 2022

EXAMINATION SUMMARY

ERA22LA235

A. ACCIDENT

Location: Caryville, Florida
Date: May 22, 2022
Time: 1952 CDT
Airplane: Cessna 310R, N310DC

B. INVESTIGATION PARTICIPANTS

Ralph E. Hicks - IIC
Eastern Region Aviation (ERA)
National Transportation Safety Board
Marietta, Georgia

Ernest C. Hall
Textron Aviation Inc.
Wichita, Kansas

C. SUMMARY

On May 22, 2022, about 1952 central daylight time, a Cessna 310R, N310DC, was substantially damaged when it was involved in an accident near Caryville, Florida. The commercial pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

1.0 Wreckage Examination

The examination of the wreckage was performed on August 15, 2022, at the facilities of Atlanta Air Recovery, Griffin, Georgia.

Fuel System

The right-wing tip (main) fuel tank exhibited impact damage and was breached; it contained dry, organic debris from the impact sequence and contained no fuel. The right-wing auxiliary fuel tank was intact and contained fuel. The right auxiliary fuel pump and the transfer pump were removed from the tip tank and tested for operation. The auxiliary fuel pump and transfer pump both operated. An undetermined amount of air was blown through the auxiliary fuel pump line at the tip tank through the fuel selector valve, through the right engine fuel metering valve, and out the fuel line that connects to the right engine driven fuel pump with no restrictions. The fuel metering valve inline filter was removed and was clean and free of debris.

The left-wing tip (main) fuel tank was destroyed by fire and contained no fuel. The left-wing auxiliary fuel tank was breached and fire-damaged; it contained a combination of fuel and water and was exposed to the elements prior to wreckage recovery. The auxiliary fuel pump and the transfer pump could not be tested due to thermal damage. An undetermined amount of air was blown through the auxiliary fuel pump line at the wing tip to the thermal damage opening in the leading edge. An undetermined amount of air was blown in the thermally damaged opening fuel line in the leading edge through the fuel selector valve, through the left engine fuel metering valve, and out the fuel line that connects to the left engine driven fuel pump, air could be felt. The fuel metering valve inline filter was removed and was clean and free of debris.

The fuel was completely drained and captured from the right-wing auxiliary fuel tank during the examination. The fuel level prior to draining was not quantified; however, the fuel level was near capacity. The fuel recovered was light blue in color and was free of particulates. There was a trace amount (about one teaspoon) of water in the drained fuel.

Engines

Both engines were examined. Valve train continuity and thumb compression at each cylinder were confirmed on both engines. Both engine magnetos produced a spark at each lead. Both engine fuel injectors were clear and free of debris. The engine-driven fuel pump coupling was intact on both engines. Fuel was present in each engine fuel distribution valve. The fuel screen in each engine fuel distribution valve was clean and free of debris. The top spark plugs on both

engines were removed and exhibited normal conditions according to the Champion Aviation Check-A-Plug Chart. An undetermined amount of air was blown through the fuel line from the engine driven fuel pump to the fuel distribution valve with no restrictions noted on both engines. An undetermined amount of air was blown through the fuel distribution valve and out each fuel injector line with no restrictions noted on both engines.

The interiors of the cylinders on both engines were examined with a lighted borescope. The cylinder walls, pistons and valve heads were undamaged and exhibited minimal wear.

Propellers

The left propeller assembly, one blade was bent to the non-camber side approximately 12" from the root. The blade exhibited tip and leading-edge polishing. A second blade exhibited a bend to the non-camber side approximately mid-section. The blade exhibited tip and leading-edge polishing. The third blade exhibited tip and leading-edge polishing. Chordwise scratching was observed on all blades.

The right propeller assembly, one blade exhibited a bend to the non-camber side. The blade exhibited tip and leading-edge polishing. The other two blades exhibited a bend to the non-camber side approximately mid-section. Both blades exhibited tip and leading-edge polishing. Chordwise scratching was observed on all blades.