

National Transportation Safety Board

Office of Aviation Safety

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ERA22LA244

WRECKAGE EXAMINATION SUMMARY

July 13, 2022

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A. ACCIDENT

Location: Monongahela, Pennsylvania
Date: May 27, 2022
Time: 1900 EDT
Airplane: Aeronca 7AC, N84583

B. WRECKAGE EXAMINATION SUMMARY

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C. DETAILS OF THE INVESTIGATION

On May 27, 2022, about 1900 eastern daylight time, an Aeronca 7AC, N84583, was substantially damaged when it was involved in an accident near Monongahela, Pennsylvania. The pilot was seriously injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal flight.

According to the Federal Aviation Administration (FAA) inspector who responded to the accident site, witnesses reported that the airplane departed Rostraver Airport (FWQ), Monongahela, Pennsylvania, and was practicing touch and go landing maneuvers. After takeoff, the airplane pitched up "sharply, then went straight down."

D. AIRFRAME EXAMINATION

1.0 Fuselage

The forward section of the fuselage was impact separated from the aft section but remained attached through fabric. The lower sections of the cabin seats remained attached to the airframe at all attach points. The front seat back was partially separated. The instrument panel was impact damaged. The tach indicated 1718.43 hrs. The ignition switch had an OFF-LEFT-RIGHT position and it was in the RIGHT position. The fuel was in the ON position. The throttle control was in the full forward position. Flight control cable continuity was established from the flight controls in the cockpit to the flight control surfaces through multiple cuts made by recovery personnel.



Figure 1. View of Fuselage.

The fuel tank was located forward of the instrument panel. The fuel cap remained seated. The fuel tank was breached and no fuel was noted in the tank.

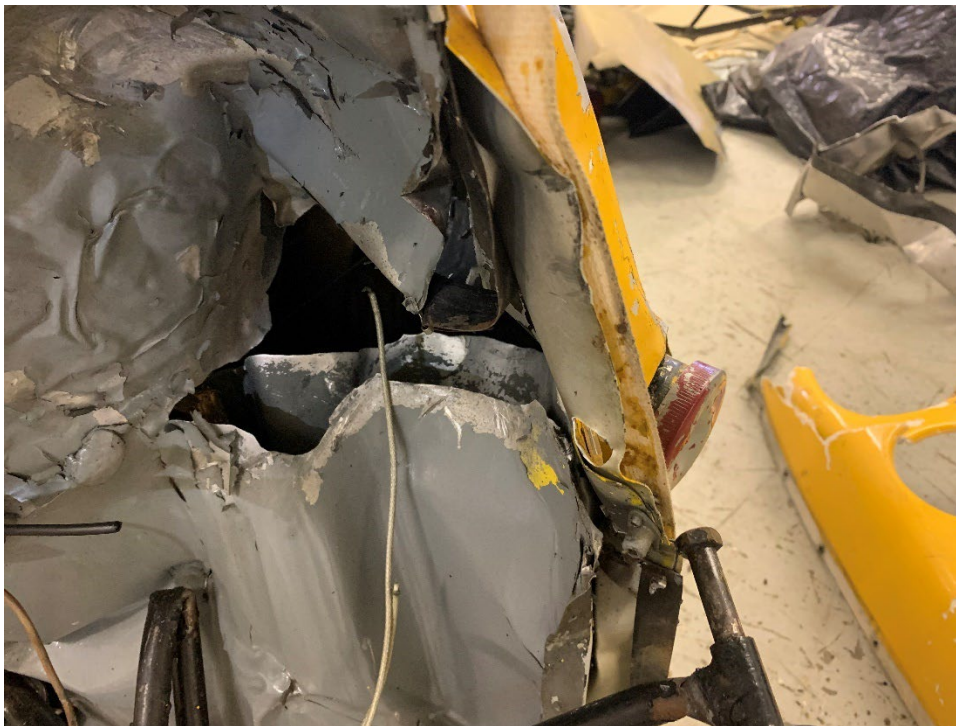


Figure 2. View of breached fuel tank.

The gascolator was removed from the firewall and no fluid was in the bowl, however the valve was depressed. The gascolator screen was examined and no debris was noted.



Figure 3. View of gascolator screen.

2.0 Wings

The right wing was separated to facilitate recovery. The struts remained attached to the wing. The right aileron remained attached to the right wing by the forward attach point. The aft attach point was impact separated. About 4 ft from the wing tip the leading edge exhibited impact damage.



Figure 4. View of Right Wing

The left wing was separated from the fuselage but remained attached to the cabin roof. The left aileron was partially separated from the left wing but remained attached through the outboard attach point. The entire span of the leading edge was impact damaged.



Figure 5. View of Left Wing

3.0 Empennage

The empennage was cut from the fuselage to facilitate recovery. The elevator remained attached to the horizontal stabilizer. The vertical stabilizer remained attached to the empennage and the rudder remained attached to the vertical stabilizer. The tailwheel remained attached to the empennage.



Figure 6. View of Empennage

E. ENGINE EXAMINATION

The engine was removed from the fuselage to facilitate examination. The top spark plugs were removed and compression and suction were observed on all cylinders. Crankshaft and valvetrain continuity were confirmed by rotating the propeller by hand. The cylinders were examined with a lighted boroscope and no anomalies were noted with the piston faces, cylinder walls, or valves.



Figure 7. Top View of Engine



Figure 8. View of Cylinder Nos. 1 & 3



Figure 9. View of No. 1 cylinder piston face and valve faces.



Figure 10. View of No. 3 cylinder piston face and valve faces.



Figure 11. View of Cylinder Nos. 2 & 4



Figure 12. View of No. 2 Cylinder piston face and valve faces.

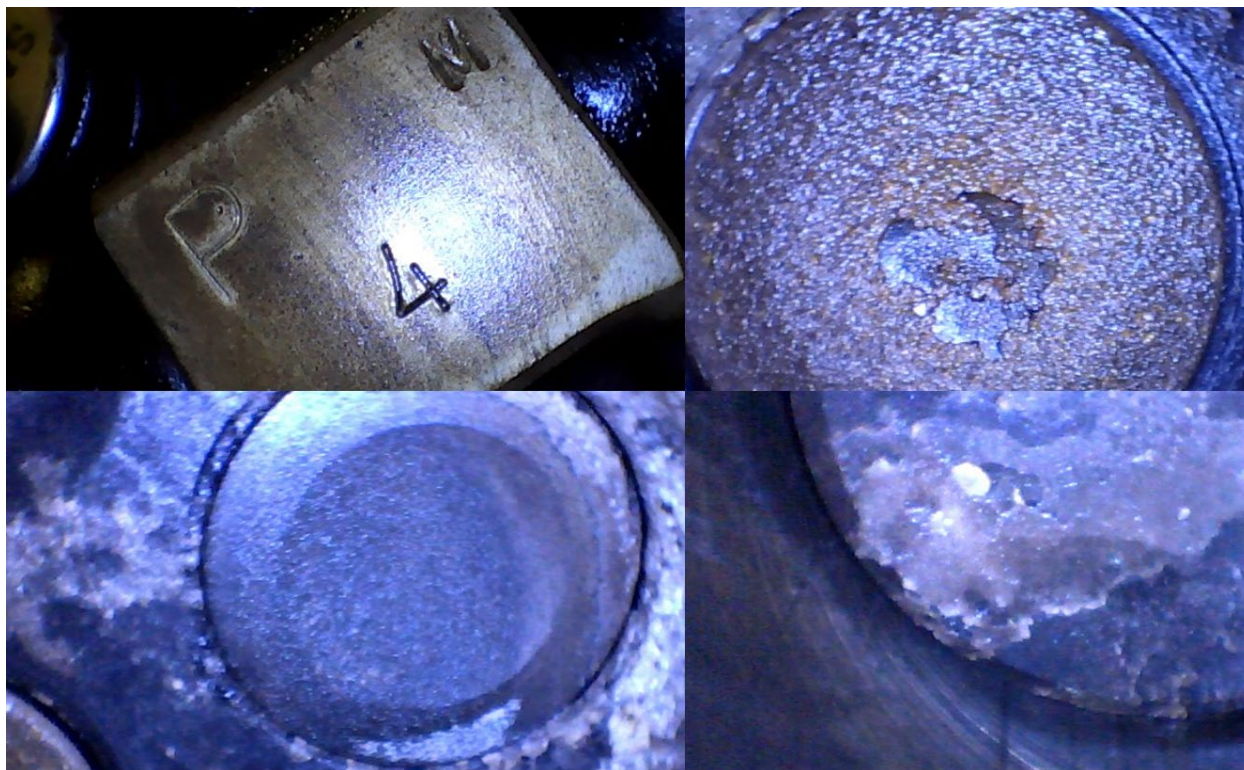


Figure 13. View of No. 4 Cylinder piston face and vavle faces.

All spark plugs were removed and were light grey in color and in normal condition when compared to the Champion Check-A-Plug Chart. They were two different types of spark plugs.

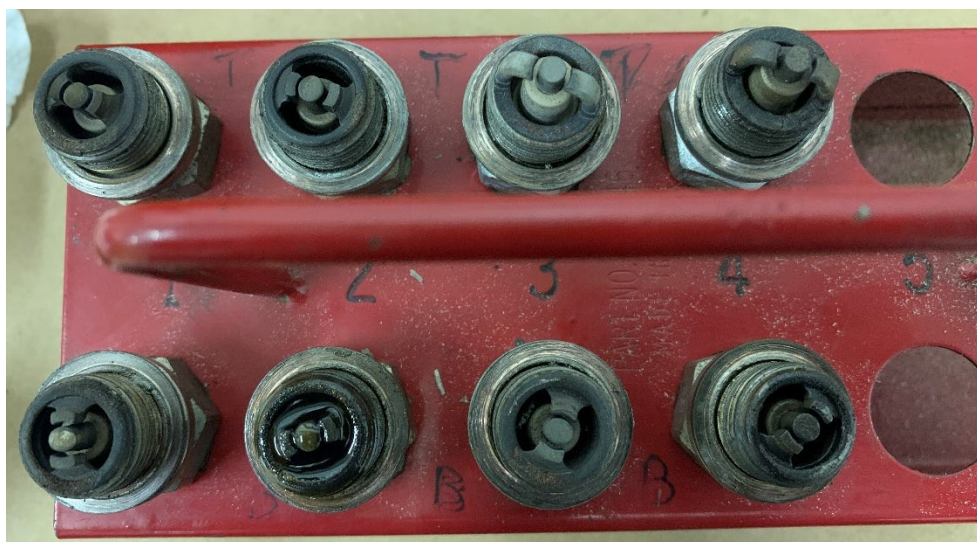


Figure 14. View of Spark Plugs

The throttle control cable remained attached to the carburetor and was cut to facilitate examination. The carburetor was removed from the engine and the throttle valve could be moved by the throttle arm. The fuel screen was removed, was not

obstructed, but contained a small amount of debris. The carburetor was disassembled and the float was intact, contained no holes. The needle valve was removed and no anomalies were noted. There was no fluid in the carburetor bowl, but a small amount of debris was noted.



Figure 15. View of Carburetor Bowl

The intake air filter was removed from the engine and the filter element contained dirt and debris.

The oil tank was examined, and 3.5 quarts of oil was measured with the oil dipstick. The oil screen was removed and examined. It was not obstructed, but contained non-ferrous material.



Figure 16. View of oil suction screen.

The left magneto was impact separated from the engine but remained attached through the ignition wires. The right magneto remained attached to the engine. They were removed, examined, and each produced spark on all towers.



Figure 17. View of Magnetos

F. PROPELLER EXAMINATION

The wooden propeller remained attached to the hub. Both blades were splintered. Blade A exhibited leading edge gouging and was fractured about 3 inches from the hub. Blade B was fractured about 22 inches from the hub. The propeller could be rotated through 360° of motion.



Figure 18. View of propeller blades.

G. RECOVERY PERSONNEL STATEMENTS

The recovery personnel noted that a small amount of fuel was dripping from the front of the airplane when they arrived. Also, the accident site had an odor similar to 100LL aviation fuel.

Submitted by:

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