

National Transportation Safety Board

Office of Aviation Safety

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WRECKAGE EXAMINATION

January 1, 2024

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A. ACCIDENT

Location: Marienville, Pennsylvania
Date: December 29, 2023
Time: 2157 EST
Airplane: N7628Y, Piper PA-30

B. WRECKAGE EXAMINATION

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C. SUMMARY

On December 29, 2023, about 2157 eastern standard time, an experimental, amateur-built Zenith STOL CH 701, N4209W, was destroyed when it was involved in an accident near Marienville, Pennsylvania. The private pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. DETAILS OF THE EXAMINATION

1.0 Accident Site

The airplane crashed on wooded terrain inside the confines of the Allegheny National Forest at coordinates 41.45361, -79.06972 (see Figure 1). The initial impact point was the top of a 70-foot-tall tall hardwood tree, and the airplane

continued at a 60° descent angle until the main wreckage lodged in another hardwood tree.

The magnetic heading from the initial tree strike to the main wreckage was 140°, and the fuselage was found oriented on a heading of 320°.

The entire wreckage path was about 65 ft long and about 25 ft wide.



Figure 1 - Wreckage Diagram

2.0 Airframe Examination

The wreckage was examined and documented at the accident site on January 1, 2024. A follow-up examination at a salvage facility was not necessary.

2.1 Fuselage

A majority of the fuselage and empennage (termed “main wreckage” for purposes of this report) remained lodged about 12 feet up a large hardwood tree. The fuselage had numerous crushing signatures and a large section was wrapped around a tree trunk.

2.2 Empennage

The all-moving vertical tail was separated and found about 10 feet southeast of the main wreckage. The vertical tail horn remained with the empennage and the control cables remained attached. The cables were continuous to the cockpit area, where overload separations were noted. There were numerous crushing and rubbing signatures on the skin surfaces.

The horizontal stabilizer and right elevator remained attached to the empennage, and the control cables were attached and in place. The cables were continuous to the cockpit area. The left elevator was separated from impact and found adjacent to the main wreckage. There were numerous crushing and rubbing signatures on the skin surfaces.

2.3 Wings

The left wing separated from the fuselage from impact with trees. It was found about 7 feet south of the main wreckage. The wing tip was separated and adjacent to the main left wing section. The flaperons were fragmented and partially separated from the wing. The separated sections of the flaperons were found adjacent to the wing. Flight control continuity could not be established due to the fragmentation of the wreckage. There were numerous crushing and rubbing signatures on the skin surfaces.

The right wing separated from the fuselage into two sections from impact with trees. The outboard section, including the wing tip, was found lodged in the top of small tree about 40 feet northwest of the main wreckage. The inboard section was found about 10 feet north of the main wreckage. The flaperons and wing lift struts were fragmented. Flight control continuity could not be established due to the fragmentation of the wreckage. There were numerous crushing and rubbing signatures on the skin surfaces.

2.4 Landing Gear

The nose gear remained attached to the main wreckage. The right main landing gear strut was found about 34 feet northwest of the main wreckage and adjacent to the right wing outboard section. The left main landing gear strut was separated from the fuselage and was found under the fuselage, on the ground. Both main landing gear tires/wheels separated during impact and were found within the debris field.

2.5 Cockpit

The cockpit was fragmented. Some cockpit gauges were missing or destroyed. The airspeed indicator was found loose in the debris field and indicated 45 mph. The vertical speed indicator was found loose in the debris field and indicated 1,000 fpm climb.

2.6 Survivability

The accident was not survivable. The seat belt harnesses remained attached to the fuselage at their mounts.

2.7 Fuel/Fuel System

The left and right wing tanks were compromised and no residual fuel was quantified. There was a noticeable fuel odor at the accident site. The fuel lines were separated from impact and contained no residual fuel.

3.0 Engine Examination

The engine separated from the firewall and was found loose on the ground. There was heavy impact damage to the engine: several components, including both carburetors, intake manifold, one cylinder head cover, the oil tank, and numerous hoses and lines were separated. The engine could not be rotated due to impact damage.

4.0 Propeller Examination

The three-bladed composite propeller hub remained attached to the engine. All three composite carbon fiber blades were separated at the root. The fractured blade fibers were bent opposite the direction of rotation. Several large cuts in the trees were found with smooth, angular cuts and black blade transfer marks.

Submitted by:

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