National Transportation Safety Board
Office of Aviation Safety
Washington, DC 20594

WPR24FA004

ACCIDENT SITE EXAMINATION

October 5, 2023

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A. ACCIDENT

Location: Newberg, OR
Date: October 3, 2023
Time: 18:47 PDT
Airplane: N8360K, Piper, PA-44-180

B. ACCIDENT SITE EXAMINATION

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Air Safety Investigator	Kristyn Blocher National Transportation Safety Board Federal Way, Washington
FAA Inspector	Keith Ruconich Federal Aviation Administration Portland, Oregon

C. SUMMARY

On October 3, 2023, about 1847 Pacific daylight time, a Piper, PA-44-180, N8360K, was substantially damaged when it was involved in an accident near Newberg, Oregon. The flight instructor and the pilot receiving instruction were fatally injured; a pilot rated passenger was seriously injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 instructional flight.

D. DETAILS OF THE EXAMINATION

1.0 Accident Site

GPS Location: 45.3141 / –122.9494
Elevation: 249 ft mean sea level (msl)

Examination of the accident site revealed that the airplane impacted a residence 10 miles northwest of the Aurora State Airport (KUAO), Aurora, Oregon, as seen in figure 1. The airplane came to rest in a near vertical attitude in a residential structure ([redacted] Newburg, Oregon), on a heading of about 285° magnetic, at an elevation of 249 ft msl. No visible ground scars were observed surrounding the wreckage. All major structural components of the airplane were located within about 10 ft of the main wreckage.

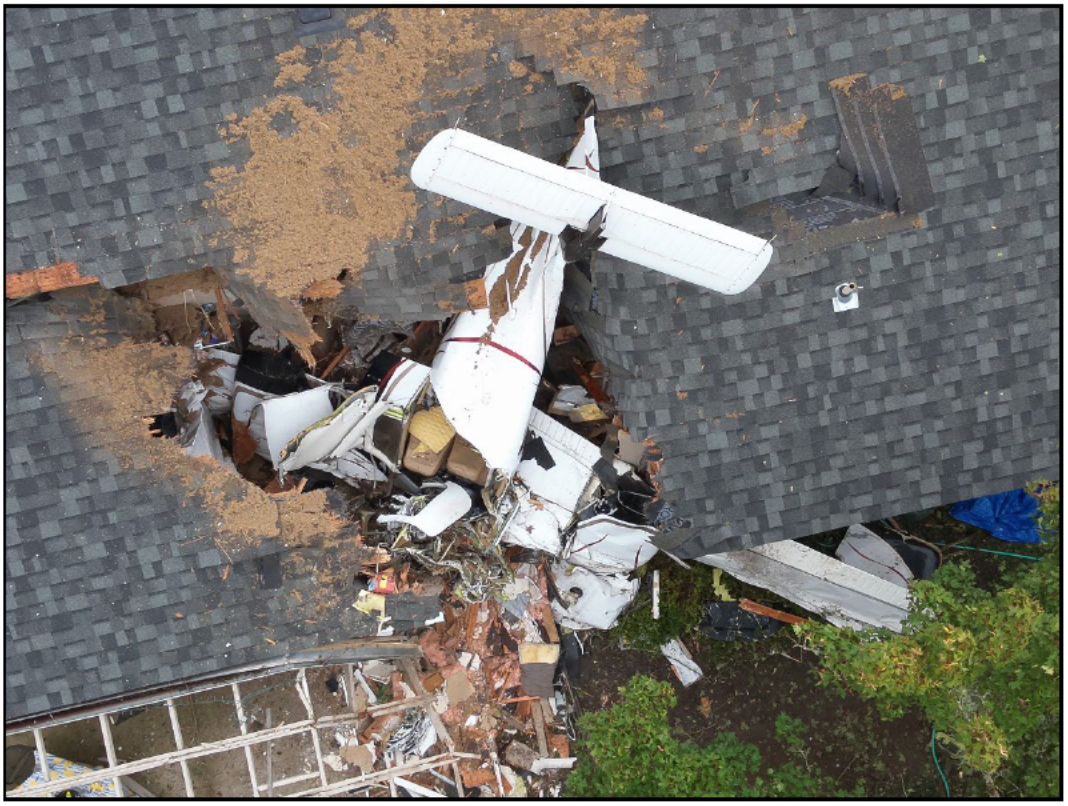

Figure 1: View of accident airplane from above. (courtesy of local law enforcement)

2.0 Airframe Examination

N8360K – Piper, PA-44-180
SR# 44-8195018
Hobbs: 4771.0 (at time of dispatch)
Tach: 62.3 (at time of dispatch)
Annual inspection conducted: 6/7/2023

Examination of the airframe revealed that the forward section of the cockpit was heavily impact damaged and crushed aft. The instrument panel was impact damaged with multiple instruments displaced. The fuselage was mostly intact, crushing and bending were observed throughout. The landing gear lever was observed in the down position. The forward portion of the fuselage was impact damaged and displaced aft. The flap handle was observed in the 40˚ position.

The cockpit flight controls were separated and exhibited impact damage throughout. The rudder pedals were observed in the cockpit area with heavy impact damage. Flight control continuity was not established due to impact damage and location of the wreckage.

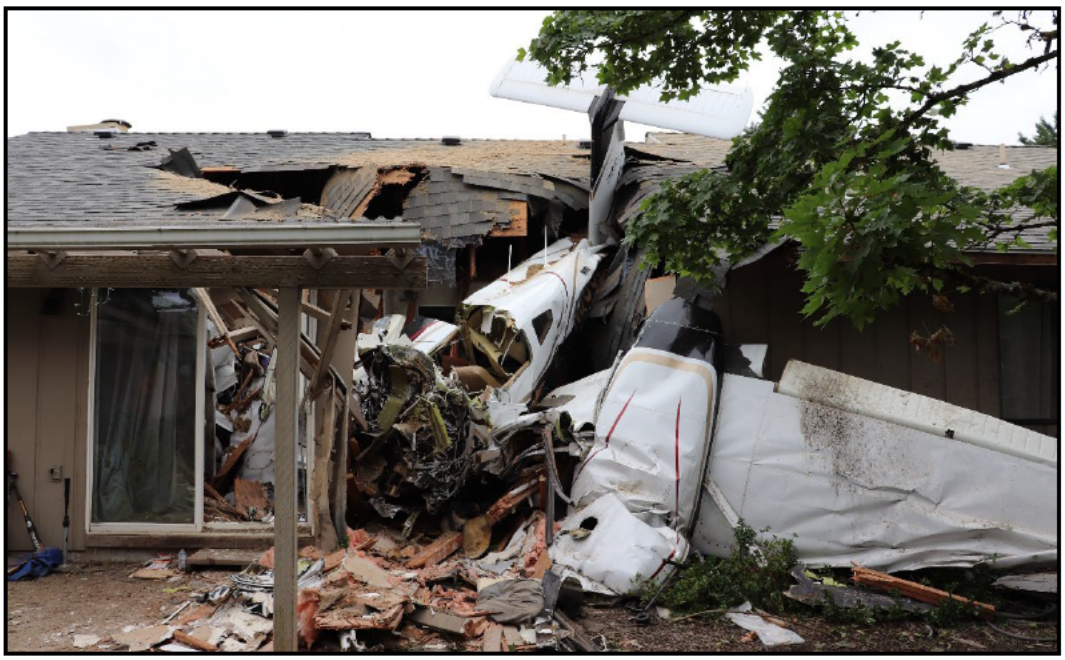

Figure 2: Front view of accident airplane.

The left wing remained attached to the fuselage. The wing exhibited buckling, crushing and tearing of the skin from the wing root to about mid span. Crushing and bending were observed throughout the wingspan. The left flap and aileron remained attached via their respective mounts. The flap was observed partly extended. The left aileron had separated from the bellcrank at the aft control rod end. The aileron control cable was observed exiting the fuselage near the wing root. The left main landing gear remained attached via the wing mounts and was partly extended. The left main fuel tank fuel cap was observed in place and secure. The left wing bladder style fuel tank was torn.

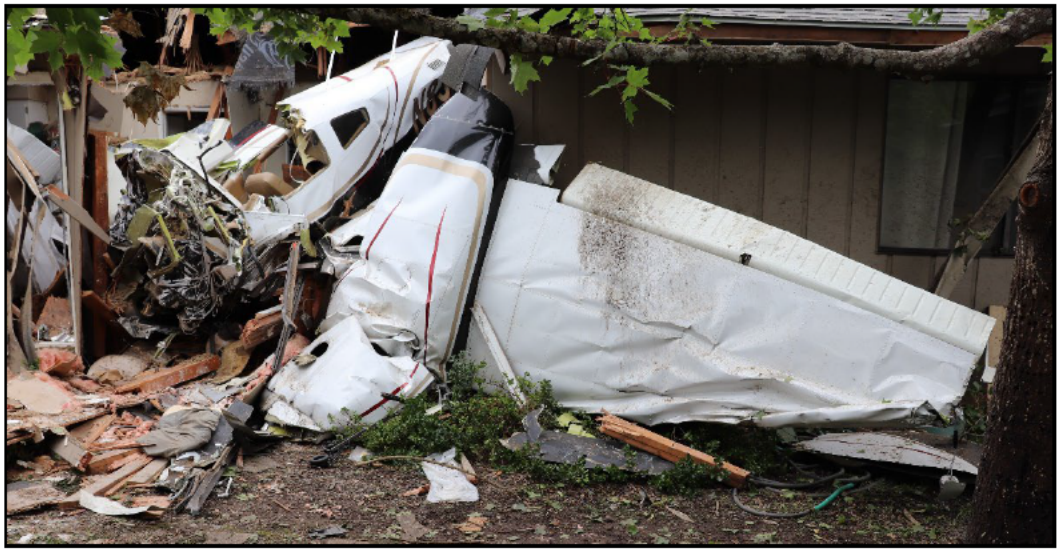

Figure 3: View of left wing.

The right wing remained attached to the fuselage. The wing exhibited buckling, crushing and tearing of the skin. The wing separated outboard of the engine nacelle, was folded upward and remained tethered via various cables and wires. The flap remained attached to the wing via its attachment points. The aileron remained attached to the wing via the two outboard attachment points. The right aileron had separated from the bellcrank at the aft control rod end. An engine mount support structure was crushed aft, protruding into the filler neck of the right fuel tank. The fuel cap was not observed. The right wing bladder style fuel tank was torn.

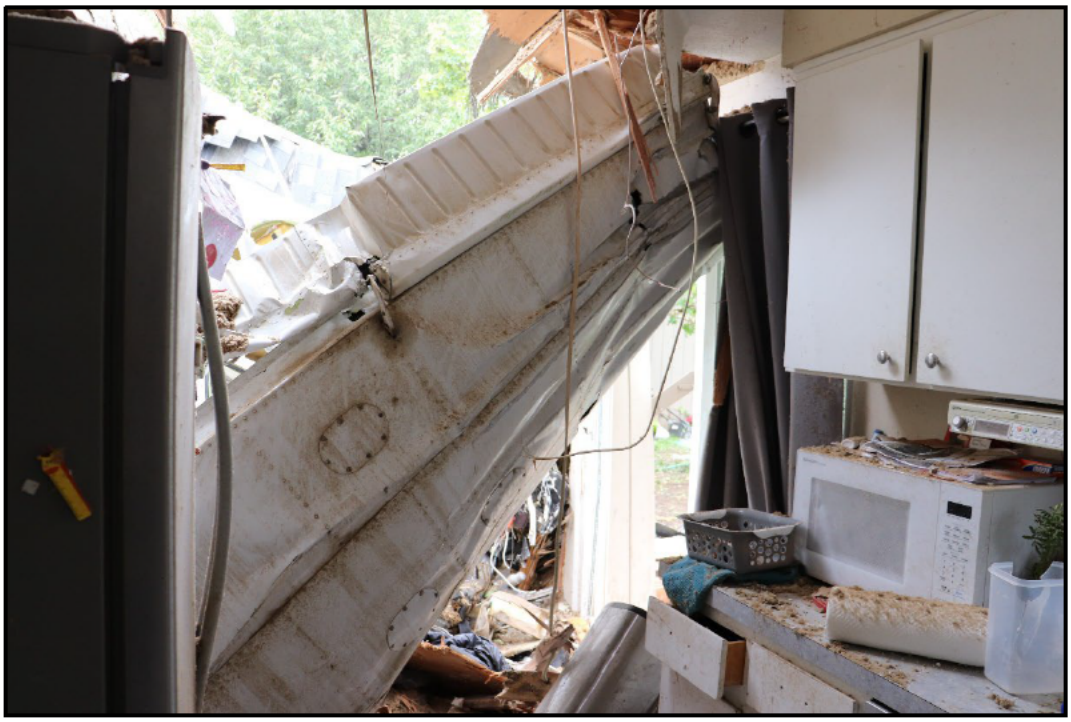

Figure 4: View of right wing.

The vertical stabilizer, rudder, stabilator, and elevator trim tabs remained attached and secure to their respective mounts. Crushing and bending was observed throughout. The empennage, aft of the cargo compartment was separated by recovery personnel to facilitate wreckage recovery.

3.0 Engine Examination

Left Engine
Engine Manufacturer: Lycoming
Engine Model Number: O-360-E1A6D
Engine Serial Number: L-358-77T

The left engine remained attached via the engine mount and was displaced upward. Impact damage was observed throughout. The crankshaft was fracture

separated at the propeller flange. The propeller governor remained attached; however, the propeller control cable was separated near the control arm. The single drive magneto and the oil filter had separated from the accessory case and exhibited impact damage. The exhaust system remained secure to the cylinders. Crushing and bending was observed throughout.

Right Engine
Engine Manufacturer: Lycoming
Engine Model Number: LO-360-E1A6D
Engine Serial Number: L-418-72T

The right engine remained attached via the engine mount. Impact damage was observed throughout. The propeller governor remained attached with the control cable attached to the control arm. The oil filter had separated from the accessory case and exhibited impact damage. The exhaust system remained secure to the cylinders. Crushing and bending was observed throughout.

4.0 Propeller Examination

Left Propeller
Manufacturer: Hartzell
Model Number: HC-C2YR-2CLEUF
Serial Number: AU11842B

The left engine was equipped with a two blade Hartzell propeller. The propeller and propeller hub separated at the propeller flange. Propeller blade A exhibited aft bending at the hub, with unidirectional striations on the cambered side of the blade and polishing along the leading edge. Propeller blade B exhibited aft bending about mid span and chordwise striations along the cambered side.

Right Propeller
Manufacturer: Hartzell
Model Number: HC-C2YR-2CLEUF
Serial Number: AU12562B

The airplane was equipped with a two blade Hartzell propeller. The propeller and propeller hub remained attached to the engine. Propeller blades C and D exhibited aft bending about mid span, with unidirectional striations on the cambered side of the blades.

5.0 Meteorological Information

KUAO 040153Z 36003KT 10SM FEW048 18/13 A3024 RMK AO2 SLP238 T01830128

At 1853, the automated weather observation station at KUAO reported wind from 360° at 3 knots, visibility 10 statute miles, few clouds at 4800 ft, temperature 18°C, dew point 13°C, and an altimeter setting of 30.24 inches of mercury.

Submitted by:

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Air Safety Investigator