

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN22FA211

WRECKAGE EXAMINATION

May 25, 2022

A. ACCIDENT

Location: Seagraves, TX
Date: May 24, 2022
Time: Unknown Time
Airplane: Piper PA-18; N78466

B. WRECKAGE EXAMINATION

IIC	Aaron Sauer NTSB Denver, CO
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C. SUMMARY

On May 24, 2022, about 0700, a Piper PA-12 airplane, N78466 sustained substantial damage when it was involved in an accident near Seagraves, Texas. The pilot sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to local authorities and family acquaintances, the pilot had been flying in the local area for several weeks with aspirations to become an agricultural pilot. During those weeks, the airplane had been observed by several local persons to be flying at low altitude and performing "ag-type maneuvers" over the fields. The airplane wreckage was located by a farmer about 1150, and there were no witnesses to the accident.

Airframe:

Postaccident examination of the accident site revealed the airplane impacted the terrain in a nose and right-wing low attitude. The initial ground scar was consistent with the propeller, engine, forward fuselage, left and right wings. The main wreckage was located about 45 ft forward of the initial ground scar. Plexi-glass debris was noted between the ground scar and main wreckage. The airplane sustained substantial damage to the fuselage, wings, and empennage.

The left wing displayed forward to aft accordion-type crush damage along the entire length of the wing. The wing tip was separated and located in the debris field.

The fabric covering the wing was torn and destroyed. The wing strut was bent and separated from the wing and fuselage. The aileron and flap remained partially attached to the wing. The fuel cap was secure, and the wing tank was ruptured.

The right wing displayed forward to aft accordion-type crush damage along the entire length of the wing. The wing tip was separated and located in the debris field. The fabric covering the wing was torn and destroyed. The wing strut was bent and separated from the wing and fuselage. The aileron and flap remained partially attached to the wing. The fuel cap was secure, and the wing tank was ruptured.

The forward fuselage was crushed aft and destroyed. All fuselage frames were bent and distorted, consistent with the impact sequence. The instrument panel was destroyed. The main landing gear was bent up and aft.

The empennage was crushed, and the rudder was attached and deflected (trapped by structure) in the full right position. The elevators were attached to the horizontal stabilizer.

Flight control continuity was established from the cockpit to all flight control surfaces.

The propeller blades displayed forward twist in the direction of rotation, s-bending, chordwise scratching, and leading-edge damage. The propeller spinner was crushed and molded around the propeller hub.

The cockpit engine controls were full forward - throttle and mixture.

No preimpact mechanical malfunctions or failures were noted with the airframe.



Engine:

Model: Lycoming O-320-E2D; s/n: L-39328-27A

The powerplant is a four-cylinder, air cooled, direct drive, horizontally opposed, normally aspirated (carburetor), internal combustion engine rated at 150hp @ 2700rpm.

The engine remained partially attached to the airframe by the impact damaged engine mount. The engine had sustained significant impact energy to the right lower section encompassing the oil sump, exhaust, and induction system pipes. The starter, alternator and carburetor bowl had been liberated from the engine. The engine case had been cracked and significantly displaced resulting from the absorption of impact energy. Visual examination of the engine revealed no evidence of pre-impact catastrophic mechanical malfunction or fire.

The top spark plugs were removed, examined, and photographed. The crankshaft rotation was attempted by hand utilizing the propeller. Rotation of the crankshaft was precluded due to impact damage to the engine case and crankshaft at

the nose of the engine. The rocker covers were removed. The complete valve train within the rocker box areas appeared to be free of any pre-mishap mechanical malfunction. The combustion chamber of each cylinder was examined through the spark plug holes utilizing a lighted borescope. The combustion chambers and bottom spark plug electrodes remained mechanically undamaged and there was no evidence of foreign object ingestion. The valves were intact and undamaged. There was no evidence of valve to piston face contact observed. The gas path and combustion signatures observed at the spark plugs, combustion chambers and exhaust system components displayed coloration consistent with normal operation. There was no oil residue observed in the exhaust system gas path.

There were no findings observed that would have precluded normal operation of the engine.

Submitted by:

Aaron Sauer
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