

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA23LA356

ENGINE AND AIRFRAME EXAMINATION

December 7, 2023

A. ACCIDENT

Location: North Myrtle Beach, NC
Date: July 31, 2023
Time: 1130 EDT
1530 UTC
Airplane: Piper PA-12

B. ENGINE AND AIRFRAME EXAMINATION

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SUMMARY

On July 31, 2023, at 1130 eastern daylight time, a Piper PA-12 airplane, N3036M, was substantially damage when it was involved in an accident near Myrtle Beach, South Carolina. The commercial pilot sustained minor injuries. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 banner tow flight.

The pilot stated that he was towing a banner about 500 ft above ground level parallel to the beach, when the airplane's engine stopped producing power. He restarted the engine, but it quit once again moments later. The pilot ditched the airplane in the ocean just offshore of the beach, which resulted in substantial damage to the fuselage.

C. DETAILS OF THE EXAMINATION

Both wings had been removed from the airplane by a mechanic who was hired by the operator to recover the airplane from the ocean and bring it to the operator's facility. The fuselage, empennage and the engine remained as one section, and both stabilizers had been removed. The propeller, starter, ignition harness, and the drive gears for both magnetos had been removed prior to the airplane being recovered by the insurance company.

A large amount of sand was on the floor of the fuselage and also in each wing. The fabric skin was torn is several locations and the frame exhibited impact damage. Flight control continuity was established for both wings to the wing root, and the tail control surfaces when the control stick was manually moved.

Both wing fuel tanks were missing their fuel caps; however, both tanks were intact. Shop air was blown into each tank and pressure was established. The fuel lines

from the wing roots were pinched by recovery personnel, and both fuel selectors were in the "on" position. The fuel strainer was undamaged and still attached to the firewall. The bowl was removed and was about half-full of 100 LL fuel and the screen was absent of debris. A very small amount of water was observed. The line between the fuel strainer and carburetor was removed and small amount of fuel was observed. The line was clear. Shop air was blown through the fuel lines at the wing root, and fuel spray was observed coming from the fuel strainer. The carburetor remained secure to the engine and was removed. The drain plug was corroded and was easily pulled out by hand. There was no fuel in the drain. The fuel finger screen was absent of debris. The carburetor was disassembled, and small amount of rust colored fluid was observed in the injector chamber and some corrosion. The composite floats were intact.

The magnetos were removed from the engine, and both gear drives were missing. Both magnetos were rotated with a power drill and spark was observed at each tower. The spark plugs were removed. Each appeared to have a varying amount of corrosion, especially the No. 2 and No. 3 bottom plugs. The oil screen was absent of debris.

The valve covers were removed, and the engine was manually rotated via the propeller flange. The engine rotated about 180 degrees and locked up before valve train continuity or thumb compression could be fully established. Several attempts to lubricate the engine were made, but the engine still would not rotate.

Each cylinder was examined with borescope, and some debris was noted in the No. 3 cylinder. However, no mechanical deficiencies were observed that would have precluded normal operation of the engine.

No further examination of the engine was conducted.

Submitted by:

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