

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA25LA003

WRECKAGE EXAMINATION

November 26, 2024

TABLE OF CONTENTS

A. ACCIDENT.....	3
B. WRECKAGE EXAMINATION.....	3
C. SUMMARY	3
D. DETAILS OF THE EXAMINATION.....	3
1.0 AIRFRAME EXAMINATION.....	3
1.1 Fuselage.....	4
1.2 Empennage	4
1.3 Aircraft Wings.....	6
1.4 Landing Gear.....	10
1.5 Cockpit.....	10
1.6 Survivability.....	13
1.7 Fuel/Fuel System.....	13
1.8 Other Systems	16
2.0 ENGINE EXAMINATION	17
2.1 Induction and Exhaust System	19
2.2 Magnetos	19
2.3 Ignition System.....	22
2.4 Fuel System.....	22
2.5 Lubrication System	26
3.0 PROPELLER EXAMINATION	28

A. ACCIDENT

Location: Tampa Bay, FL
Date: October 3, 2024
Time: 1140 EDT
1540 UTC
Airplane: N8575F; Piper PA-28-181

B. WRECKAGE EXAMINATION

IIC Joshua Young
National Transportation Safety Board
Washington, DC

C. SUMMARY

On October 3, 2024, about 1140 eastern daylight time, a Piper PA-28-181, N8575F, was substantially damaged when it was involved in an accident in Tampa Bay, Florida. The student pilot was not injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 instructional flight.

The student pilot reported that the morning of the accident he performed a preflight inspection of the accident airplane and reported that there was about 50 gallons of fuel aboard. The student pilot and his flight instructor then flew from Albert Whitted Airport (SPG), St Petersburg, Florida to Sebring Regional Airport (SEF), Sebring, Florida and back on a cross-country flight. Upon returning to SPG the flight instructor exited the airplane, and the student pilot subsequently departed on a solo cross-country flight from SPG to SEF and back. The student pilot reported that when he dropped off his instructor he had not taken on any more fuel. While enroute back to SPG the student pilot reported that about 10 NM from the destination and about 800 ft above ground level the engine "stalled, came back and stalled again." The airplane descended and impacted the water below, substantially damaging the left wing.

D. DETAILS OF THE EXAMINATION

1.0 Airframe Examination

As first viewed the fuselage and wings were separated to facilitate recovery.

1.1 Fuselage

The fuselage remained intact. The left side of the fuselage exhibited impact damage 24 inches to 40 inches aft of the left wing main spar.



Photo 1: View of the fuselage.

1.2 Empennage

The stabilator had been cut to facilitate recovery, 21.5 inches remained attached to the empennage. Control continuity of the stabilator was confirmed from the flight controls in the cockpit to the flight control surface. Control continuity of the stabilator trim was confirmed from the flight control in the cockpit to the flight control surface. The vertical stabilizer was undamaged, and the rudder remained attached at all attachment points. Flight control continuity of the rudder was confirmed from the flight control in the cockpit to the flight control surface.



Photo 2: View of the vertical stabilizer and rudder.



Photo 3: View of the remaining portions of the stabilator and stabilator trim.

1.3 Aircraft Wings

The right wing was undamaged and had been removed from the fuselage to facilitate recovery. The right aileron remained attached to the wing at all attachment points. Flight control continuity was confirmed from the flight control surface to the flight controls in the cockpit through cuts made to facilitate recovery. The right flap remained attached to the wing at all attachment points and control continuity was confirmed from the flight control surface to the flight control in the cockpit.



Photo 4: View of the right wing.



Photo 5: View of the trailing edge of the right wing.

The left wing had been removed to facilitate recovery. The left wing leading edge was impact crushed aft from the wing tip to about 65 inches inboard of the wingtip. The left wing root exhibited buckling aft of the main wing spar. The left aileron remained attached to the wing at all attachment points. Control continuity was confirmed from the flight control surface to the flight controls in the cockpit through impact separation of the control cable. The control cable fracture was consistent with overload and exhibited a broomstraw appearance. The left flap remained attached to the wing at all attachment points. Control continuity was confirmed from the flight control in the cockpit to the flight control surface through an overload fracture of the flap actuation pushrod.



Photo 6: View of the left wing.



Photo 7: View of damage to the left wing.



Photo 8: View of damage to the leading edge of the left wing.

1.4 Landing Gear

The nose and main landing gear remained attached to the airplane and were undamaged.

1.5 Cockpit

The cockpit had been submerged in salt water and exhibited corrosion consistent with the saltwater immersion. The XPDR circuit breaker was the only one popped out. The keys were not installed, and the ignition was turned to OFF. The flap handle was in the fully extended position. The stabilator trim was slightly nose down. The fuel selector was selected to the left tank. The throttle and carburetor heat controls were continuous from the cockpit to the controls on the carburetor and moved from stop to stop. The mixture lever was found in the full rich position and could not be moved by hand. The following switch positions were observed:

- Avionics master - ON
- Master BAT ALT - ON
- Fuel Pump - ON
- Landing Light - ON
- Anti Coll - ON
- Pitot heat - OFF



Photo 9: View of the stabilator trim control and flap control handle.



Photo 10: View of the circuit breaker panel.



Photo 11: View of cockpit switches.



Photo 12: View of throttle quadrant.

1.6 Survivability

The cockpit seats remained installed on the seat rails. The 2 pilot seats were equipped with 3 point harnesses, and both operated normally when tested.

1.7 Fuel/Fuel System

Both wing fuel tank caps remained installed on the respective wings. The aircraft fuel selector was selected to the left main fuel tank. The fuel strainer was removed and examined. The strainer bowl contained debris consistent with saltwater immersion. The fuel strainer screen was removed, examined, and exhibited minimal obstruction consistent with saltwater immersion.



Photo 13: View of fuel strainer.



Photo 14: View of fuel strainer bowl.



Photo 15: View of fuel strainer screen.

1.8 Other Systems

The ELT remained installed on the airplane in its mounting bracket and was connected to the antenna.



Photo 16: View of the front of the ELT.



Photo 17: View of the ELT.

2.0 Engine Examination

The engine was a Lycoming O-360-A4A rated to 180 horsepower at 2700 RPM. The engine remained attached to the fuselage via the undamaged engine mount. The cowling and baffling were removed to facilitate an examination of the engine. The engine exhibited compression and suction on all cylinders using the thumb method when the propeller was rotated by hand through 720° of rotation. Continuity of the valve train was confirmed through multiple rotations of the propeller by hand.



Photo 18: View of the Nos. 2 & 4 cylinders with rocker box covers removed.



Photo 19: View of the Nos. 1 & 3 cylinders with rocker box covers removed.

2.1 Induction and Exhaust System

The induction system was undamaged and unobstructed. The engine air filter was removed and examined and was unobstructed.

The exhaust system was undamaged and remained attached to the engine.



Photo 20: View of the unobstructed engine air filter.

2.2 Magnetos

The left and right magnetos remained installed on the engine accessory case and were tight. Both magnetos were removed for examination. Both magnetos were rotated using an electric drill and no spark was observed. Both magnetos were disassembled and exhibited extreme corrosion throughout.



Photo 21: View of the left magneto.

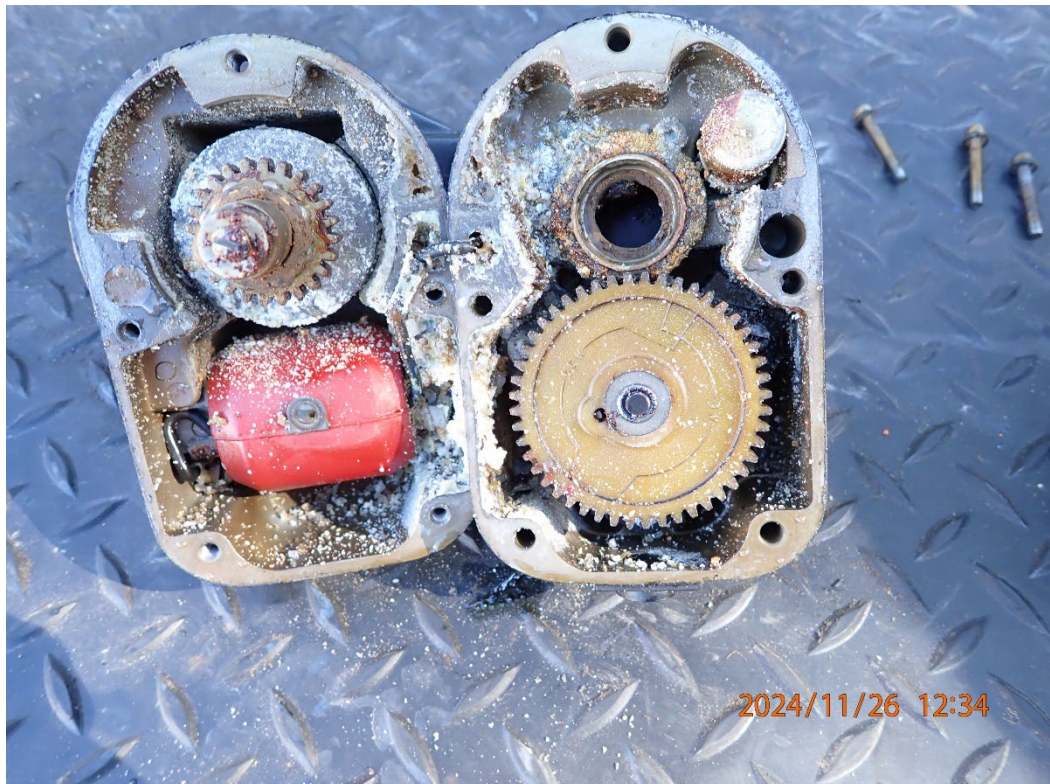


Photo 22: View of the inside of the left magneto.



Photo 23: View of the right magneto.

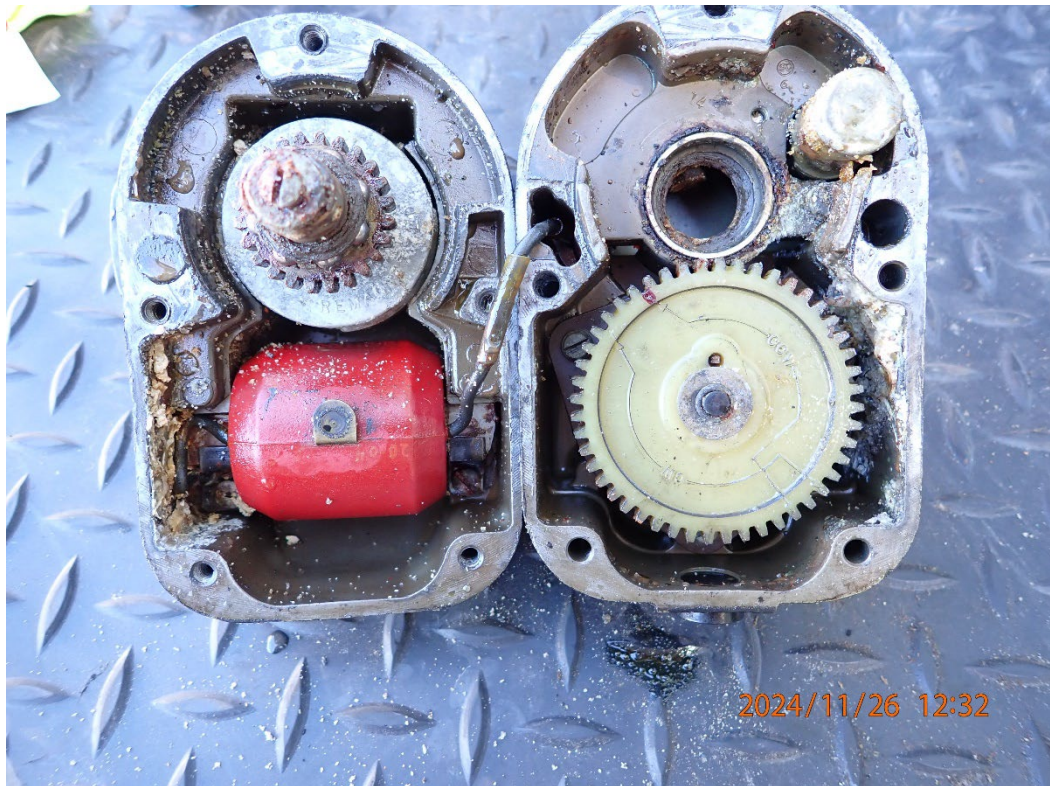


Photo 24: View of the inside of the right magneto.

2.3 Ignition System

The ignition harness from the magnetos to the sparkplugs was undamaged. The spark plugs remained installed in all cylinders. All sparkplugs exhibited corrosion consistent with submersion in salt water.



Photo 25: View of the sparkplugs.

2.4 Fuel System

The engine driven fuel pump was removed and examined. The pump did not pump air when operated by hand. The pump was then disassembled and exhibited extreme amounts of corrosion throughout consistent with the saltwater immersion the engine sustained.

The carburetor was removed and examined. The throttle control arm remained installed on the carburetor and moved from stop to stop when actuated by hand. The carburetor heat control arm remained installed and operated normally from stop to stop when actuated by hand. The mixture control arm remained installed on the carburetor and moved from stop to stop when actuated by hand. The accelerator pump operated normally when the throttle was manipulated by hand. The carburetor was partially disassembled to facilitate examination. The bowl was filled with a brown

liquid consistent in color and odor with saltwater. There was a small amount of debris in the bowl consistent with saltwater corrosion. The bowl floats were undamaged. Internal components throughout exhibited corrosion consistent with saltwater immersion. The carburetor fuel inlet screen was removed, examined, and contained a small amount of debris.

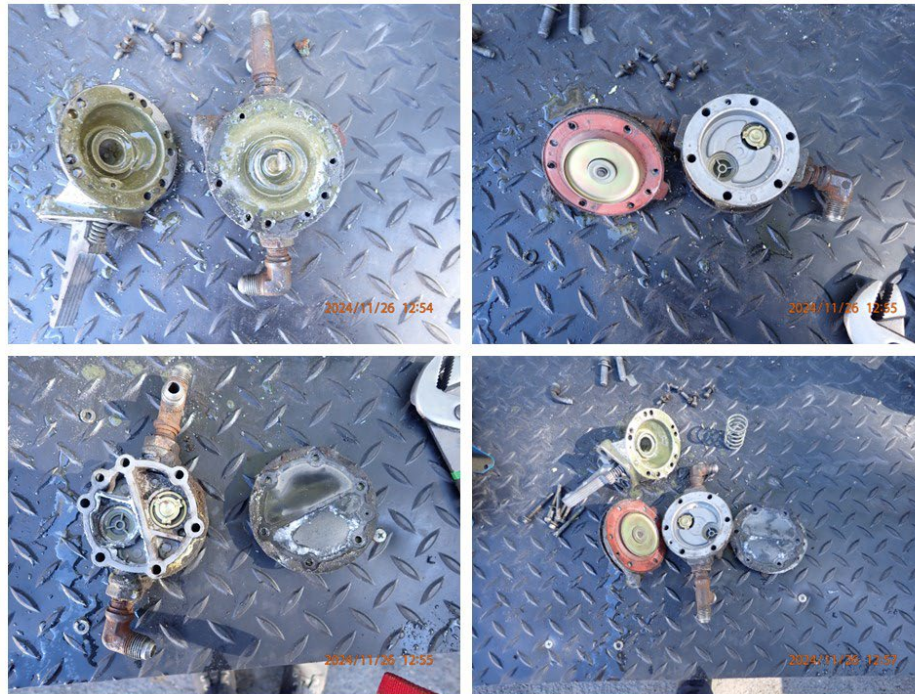


Photo 26: View of the disassembled engine driven fuel pump.



Photo 27: View of the carburetor removed from the engine.



Photo 28: View of the carburetor bowl.



Photo 29: View of the disassembled carburetor.



Photo 30: View of the carburetor bowl after the removal of the liquid.



Photo 31: View of the carburetor fuel inlet screen.

2.5 Lubrication System

The dipstick was removed, and the amount of oil present was not able to be determined. The oil suction screen was removed and a small amount of debris was observed in the screen. The oil filter dated 8/20/20 was removed and cut open. The filter pleats were removed and examined and were unobstructed.



Photo 32: View of the oil suction screen.



Photo 33: View of the oil filter.



Photo 34: View of the oil filter media.

3.0 Propeller Examination

The propeller remained attached to the crankshaft flange and was undamaged.



Photo 35: View of the undamaged propeller attached to the airplane.



Photo 36: View of the undamaged propeller removed from the airplane.

Submitted by:

Joshua Young
Air Safety Investigator