



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

October 7, 2020

EXAMINATION SUMMARY

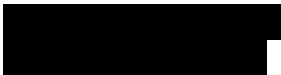
ERA20LA272

A. ACCIDENT

Location: Alabaster, Alabama
Date: August 2, 2020
Time: 1010 CDT
Airplane: Piper PA-30, N7750Y

B. INVESTIGATION PARTICIPANTS

Ralph E. Hicks – Sr. ASI
Eastern Region Aviation (ERA)
National Transportation Safety Board
Marietta, Georgia 30068



C. SUMMARY

On August 2, 2020, about 1010 central daylight time, a Piper PA-30, N7750Y, was substantially damaged when it was involved in an accident at Shelby County Airport (EET), Alabaster, Alabama. The flight instructor and student pilot were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The wreckage was examined at the facilities of AMF Aviation LLC, Springfield, Tennessee on October 6, 2020.

1.0 Right Engine Examination

Right Engine Model: LIO-320-B1A

Right Engine Serial Number: L-1276-66A

Observed at the salvage facility, the engine had minimal impact damage. Fittings on the lower sump were damaged, allowing for oil leakage. The bottom spark plugs were removed for examination. All four plugs exhibited light soot and normal wear when compared to a Champion Check-A-Plug chart. The no. 2 cylinder plug was oil soaked. The magnetos were undamaged. They were not removed for testing. The ignition harness was undamaged. The fuel servo was undamaged. Oil dipstick indicated less than 1 qt.

The engine was turned through by hand using the propeller. Compression and suction were observed on all four cylinders. Camshaft continuity was confirmed. All valve springs were intact and valve action was correct.

Borescope examination of the cylinders: There was light scoring on the cylinder walls. Normal deposits on the piston heads; no evidence of detonation. Intake and exhaust valve heads were normal in appearance.

Flow divider: the flow divider was disassembled. There was no residual fuel observed, nor odor of fuel. The diaphragm was supple and undamaged. The spring was intact and the ports were unobstructed.

Fuel servo: Undamaged. All linkages connected and secure. Butterfly normal. Fuel screen clean and unobstructed. Diaphragm clean, supple and undamaged. Trace amount of residual fuel inside unit.

Injectors: All clean and unobstructed.

Engine-driven fuel pump: removed for examination. Lever type, pumped fuel when operated manually. About 2 oz fuel inside unit.

Magnetos: Undamaged. Produced spark when rotated by hand.

Harness: Undamaged.

2.0 Right Propeller Examination

Propeller Model: Hartzell HC-E2YL-2BSLF

Propeller Serial Number: UNK

Observed at the salvage facility, one blade was bent aft about 45° and exhibited chordwise scratching and leading edge gouges. The other blade exhibited “s” bending, chordwise scratching, and leading edge gouges.

3.0 Left Engine Examination

Left Engine Model: IO-320-B1A

Left Engine Serial Number: L-2788-55A

Observed at the salvage facility, the engine had minimal impact damage. Fittings on the lower sump were damaged, allowing for oil leakage. The bottom spark plugs were removed for examination. All four plugs exhibited normal color and wear when compared to a Champion Check-A-Plug chart. The magnetos were undamaged. They were removed for testing and both sparked on all towers when rotated with a power drill. The ignition harness was undamaged. The fuel servo was undamaged.

The engine was turned through by hand using the propeller. Compression and suction were observed on all four cylinders. Camshaft continuity was confirmed. All valve springs were intact and valve action was correct.

Flow divider: the flow divider was disassembled. There was some residual fuel observed, and there was odor of fuel. The diaphragm was supple and undamaged. The spring was intact and the ports were unobstructed.

Fuel servo: Undamaged. All linkages connected and secure. Butterfly normal. Fuel screen clean and unobstructed. Diaphragm clean, supple and undamaged. About 2 oz. of fuel inside unit.

Injectors: All clean and unobstructed.

Engine-driven fuel pump: removed for examination. Lever type, pumped fuel when operated manually. About 1 oz fuel inside unit.

Magnetos: Undamaged. Produced spark when rotated by power drill.

Harness: Undamaged.

4.0 Left Propeller Examination

Right Propeller Model: Hartzell HC-E2YL-2BSF

Right Propeller Serial Number: UNK

Observed at the salvage facility, one blade was bent aft about 45° and exhibited chordwise scratching and leading edge gouges. The other blade was bent forward about 35° and exhibited chordwise scratching and leading edge gouges.

5.0 Airframe Examination

Flight controls: Control continuity was confirmed from the ailerons, rudder, and stabilator.

Fuel selector: The cockpit fuel tank selector handles were in the OFF positions.