



MEMORANDUM FOR RECORD

Doug Brazy
Air Safety Investigator
Eastern Region

Date: 10/10/19
Subject: ERA20FA003, N2651G, Pembroke Pines, FL 10/5/19
Wreckage Examination

The wreckage was initially examined at the accident site on October 6, 2019, and again at a salvage facility on October 9, 2019. The following observations were noted:

Examination of the wreckage revealed that the airplane came to rest upright, leaning towards the left and partially submerged in water, at coordinates N 25.9957 W 80.46838. All major components of the airplane were present at the accident site. The left wing was separated from the fuselage at the root, and largely intact. The right wing was partially separated at the root, with leading edge damage at the tip and forward of the aileron. The right wing was bent upward and downward along its span, forward of the aileron. It was also crushed from top and bottom along most of its length. The left door, fuselage fabric, and panels were partially separated forward of the aft seat. All 5 anchor points for both seat harnesses remained intact. Flight control continuity was confirmed from the pilot's controls to the respective flight control surfaces though several overload breaks in the control cables. Both fuel tank caps were intact, seated, and in good condition. All fuel lines were fractured at the wing tank fittings and both fuel tanks were devoid of fuel. The fuel lines remained intact at the fuel selector and the fuel selector handle was separated from the valve.

The engine remained attached to the mounts and was found partially submerged. The carburetor was separated from the intake manifold. The throttle, mixture, and carburetor heat controls remained attached to their control arms on the carburetor and inlet airbox. The carburetor was partially disassembled. The bowl contained clear liquid with black sediment, which was consistent with the water at the accident site. Both metal floats remained attached to the hinge and were undamaged. The inlet needle valve functioned normally. Fluid with an odor consistent with fuel sprayed out of the carburetor throat when the accelerator pump was actuated by hand. The propeller and spinner remained attached to the crankshaft flange; both were largely undamaged. One propeller blade was slightly bent in the aft direction. The propeller and crankshaft were rotated by hand, and thumb compression and suction was present on all cylinders. Crankshaft and valvetrain continuity were confirmed from the propeller flange to the accessory gears at the rear of the engine. All valve springs, stems and pushrod ends were coated in oil and moved during crankshaft rotation. All spark plug leads remained intact and attached at both

ends except for the No. 3 bottom lead which was severed about 8 inches from the right magneto. Both magnetos were removed from the engine, water dripped from both as they were removed. The right magneto produced spark on all ignition leads when rotated. The left magneto did not produce spark on any of the leads. All top spark plugs were dry, the electrodes and insulators were tan/grey in color and appeared "worn normal" when compared to a Champion check-a-plug chart. The No. 3 spark plug had deposits on the insulator and center electrode. The bottom spark plugs for cylinder Nos. 2, 3, and 4 were wet, oily, and appeared worn normal when compared to a Champion check-a-plug chart. The No. 1 bottom spark plug could not be removed due to impingement on the plug by the displaced exhaust manifold.

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