



MEMORANDUM FOR RECORD

Todd Gunther
Air Safety Investigator
Eastern Region

Date: March 8, 2020
Subject: Accident Site and Wreckage Examination
NTSB Case Number: ERA20FA119

Examination of the accident site revealed that the airplane had struck a 40-inch diameter, 18-foot-high palm tree, severing it about 5-feet above ground level. The airplane came to rest against a fence in a 22° nose-down attitude, on a 33° magnetic heading, about 30 feet from the back wall of a residence. A debris path composed mostly of debris from the palm tree, light objects from the interior of the airplane, and Plexiglas from the windshield and sliding cockpit canopy, continued from the main wreckage on a magnetic heading of 44° for about 71 feet, until it met the western edge of the Lake Ida Canal which paralleled the backyards of the residences surrounding the accident site.

Examination of the wreckage revealed no evidence of any preimpact fire or explosion. The left wing was found to be partially separated from the fuselage. The left wing appeared largely intact, with the wing flaps and ailerons remaining attached. The wing was curled forward with the leading-edge showing evidence of impact damage with roughly five separate wrinkles in the skin of the leading edge. The Pitot tube was blocked with soil and debris from the accident site and was found separated from its mounting position.

The right wing was found partially separated from the fuselage mounting points and remained attached to the fuselage by the flap and aileron control tubes. The right wing was broken nearly in half at mid span with both the aileron and wing flap assemblies damaged and bent rearward with the arc of the bend matching the circumference of the broken off palm tree which displayed paint transfer and debris from the wing, which were imbedded in the lower portion of the tree. Evidence of tree material was also present inside the structure of the right wing.

Flight control continuity was established from the rudder and elevator control surfaces to the cockpit, and from the left aileron and wing flap, and right aileron and wing flap to the cockpit.

Examination of the cockpit revealed that the throttle control was out about 2 inches, bent to the left, and broken off. The mixture control was full forward, and the engine primer was in and locked. The fuel selector handle was bent to the left, towards the left tank position. The

tachometer indicated 2,031.7 total hours of operation. No emergency locator transmitter was installed, nor was an automatic dependent surveillance-broadcast unit.

Examination of the fuel system revealed that the left-wing fuel tank displayed significant damage and was ruptured at the inboard end near the fuselage, and the right-wing fuel tank was ruptured at the inboard end and middle section. There was no evidence of residual fuel inside either of the fuel tanks, there was no odor of fuel, and no observed fuel blight (browning of vegetation).

Disassembly of the fuel selector valve revealed that it was devoid of fuel, and it was not in the detent, for either the left or right fuel tanks. Disassembly of the engine driven fuel pump also revealed that it was devoid of fuel, and disassembly of the carburetor revealed that a trace amount (about 2 drops) of fuel were present inside the carburetor float bowl.

Examination of the propeller revealed that one blade of the two-bladed propeller was bent back about 20°, and the other blade was relatively straight with a slight wave in it about mid-span. Neither propeller blade displayed leading edge gouging, chordwise scratching, or S-bending.

Examination of the engine revealed that there was oil in the sump, galleries, and rocker boxes, the left magneto would produce spark at all four towers, and the right magneto though impact damaged, when disassembled and examined internally, displayed no evidence of any preimpact failure or malfunction. Thumb compression and suction was present on all four cylinders, and continuity was confirmed from the crankshaft to the accessory gears and to the valvetrain.