



Summary of Findings

AIRPLANE EXAMINATION

NTSB ACCIDENT NUMBER: ERA20LA206

AIRCRAFT REGISTRATION: N135VE

OPERATOR: Individual

ACCIDENT LOCATION: Eatonton, Georgia

Investigative Team:

NTSB IIC: Leah Read

FAA Coordinator: David Detscher, ATL FSDO

Party Member(s):

Jonathon Hirsch, Piper Aircraft

Summary of Events:

On June 5, 2020, about 1520 eastern daylight time, a Piper PA-31T, N135VE, was destroyed when it was involved in an accident near Eatonton, Georgia. The two pilots and the three passengers were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

A review of air traffic control communications (ATC) and radar data provided by the Federal Aviation Administration (FAA) revealed that the airplane was on a northerly heading en route to New Castle Henry County Marlatt Field (UWL) New Castle, Indiana, at an altitude of 25,000 ft mean sea level (msl).

When the airplane was about 50 miles south of Eatonton, Georgia, one of the pilot's told ATC that he was deviating "to the right a little" to avoid weather. When the airplane passed over Eatonton, one of the pilot's advised ATC that they wanted to proceed direct to their destination on a 353° heading, and ATC approved. This was the last communication between ATC and the airplane. About a minute later, the airplane was observed on radar entering a right turn, followed by a rapid descent. Radar contact was lost about 1520. There were no distress calls made by either pilot.

Several witnesses observed the airplane as it was descending and took video with their cell phones. A review of these videos revealed the airplane was spinning as it descended, was on fire and trailing black smoke.

The main wreckage of the airplane impacted densely wooded terrain inverted. The airplane continued to burn and the cockpit, fuselage, empennage, inboard sections of both wings and the right engine sustained extensive fire damage. The outboard sections of both wings and the tail section had separated from the airplane as it descended and were located within 3 miles of the where the main wreckage came to rest. The left engine also separated and was never located.

The airplane wreckage was examined under the supervision of the National Transportation Safety Board on April 27-28, 2021, at Atlanta Air Recovery, Griffin, Georgia.

Examination:

The airplane wreckage was laid out on a hangar floor in situ and examined. Examination of the cockpit and fuselage area revealed that it was crushed and mostly consumed by fire. The instrument panel, avionics, gauges, switches, and cockpit controls were either thermally damaged or consumed by fire. A Sandel SN3500 electronic horizontal situation indicator was removed and sent to the NTSB Recorders laboratory to determine if any data could be retrieved from the unit. Though the unit's memory chips were located, they were too damaged from fire and no data could be recovered. A handheld Appareo Stratus 2S that recorded GPS position and Attitude Heading Reference System (AHRS) information was also found in the wreckage. Non-volatile memory was downloaded from the unit and provided to an NTSB aircraft performance engineer for review.

Flight control cable continuity for the ailerons, rudder, elevator, and elevator trim could not be established due to impact and fire damage. Several breaks in the flight control system were observed due to either tensile overload or from cuts made by salvage personnel. The stability augmentation system (SAS) servo actuator arm appeared intact and was observed near the lower scribe mark on the servo motor housing.

The autopilot controller was destroyed in the fire and the system could not be tested.

Both wings sustained extensive thermal and impact damage. The left-wing tip tank had separated from the wing tip and appeared undamaged. The aileron remained attached to the outboard portion of the wing by its hinges. The aileron balance cable remained attached to the aileron bellcrank and extended inboard to the wing root where it exhibited broomstraw fracturing, consistent with tensile overload. The aileron bellcrank arm for the aileron control cable was fractured and the cable end, including hardware, were not observed. The aileron bellcrank stops were intact and unremarkable. A segment of the lower cap of the main wing spar, approximately 8-inches, was bent upwards about 90° outboard of the chordwise separation. The corresponding upper spar cap in that area remained straight. The fracture surfaces appeared dull grey with a granular texture. The left flap (which appeared to be retracted) was partially separated from the wing and sustained fire damage.

The right-wing tip tank was separated from the wing tip and was not initially recovered with the main wreckage. The tank was later located by property owners and turned over to investigators. The tank appeared undamaged. The right aileron remained attached to the outboard portion of the wing by its hinges. The aileron control and balance cables remained attached to the aileron bellcrank and extended inboard to the wing root where they exhibited broomstraw fracturing, consistent with overload. The aileron bellcrank stops were intact and unremarkable. The aileron trim tab remained attached to the aileron by its hinge. The aileron trim screw was extended forward from the drum approximately ½-inch, which corresponded to a neutral trim setting. Aileron trim control cable continuity could not be confirmed from the wing root to the cockpit trim control due to impact and thermal damage. The right-wing main spar lower cap was separated and the outboard portion of the cap and was bent downward and twisted. The upper spar cap was separated. All of the spar fracture surfaces exhibited a dull grey color and granular texture. The right flap was separated from the wing and separated chordwise approximately midspan. The inboard portion of the flap exhibited extensive thermal damage and remained attached to a portion of the wing by one hinge. The flap actuator was separated from the flap and appeared to be in the retracted position.

The vertical stabilizer was separated from the aft fuselage and not recovered except for the aft spar which was separated into two sections. A portion of the rudder remained attached to the upper portion of the vertical stabilizer aft spar and exhibited extensive crumpling throughout. The rudder was separated chordwise. The rudder trim tab was separated from the rudder and exhibited impact damage. The rudder trim screw was extended about 1 5/8-inch which corresponded to a trim tab trailing edge right deflection (aircraft nose to the left trim setting).

The left horizontal stabilizer was separated spanwise along the forward spar. The forward spar was fractured near the fuselage and exhibited bending in the downward direction. The left elevator was also separated chordwise. The portion of the elevator was not recovered. The inboard portion of the elevator remained attached to the horizontal stabilizer by a hinge. The elevator was also separated chordwise. The left elevator trim tab remained attached to the inboard fragment of the elevator. The left elevator trim screw was extended forward of the drum (no threads visible) which is beyond the normal trim setting range.

The right horizontal stabilizer was fragmented into several pieces. The forward spar was separated from the rest of the horizontal stabilizer and remained attached to the fuselage. The forward spar of the right horizontal stabilizer and exhibited bending in the downward and aft direction. The right elevator was separated from the horizontal stabilizer and fragmented into three main pieces. The elevator trim tab on the right side remained attached to the inboard section of the right elevator. The right elevator trim screw was extended forward of the drum about 1 1/4-inches which corresponds to a mostly full deflection of the trim tab trailing edge in the downward direction and resulting aircraft nose up trim setting.

Examination of the airplane revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation.