



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

August 25, 2019

AIRFRAME AND ENGINE EXAMINATION

WPR19FA241

This document contains 6 embedded photos.

A. ACCIDENT

Location: Wilkeson, Washington

Date: August 25, 2019

Aircraft: Glaser-Dirks DG 300 / N300GG

NTSB IIC: Fabian Salazar

B. EXAMINATION PARTICIPANTS:

Name: Fabian Salazar

Duty Position: NTSB IIC

National Transportation Safety Board

Federal Way, WA 98003

SUMMARY

Examination of the airframe was conducted at the accident site in Wilkeson, Washington on August 26, 2019. No evidence of preimpact mechanical malfunctions or anomalies were revealed that would have precluded normal operation.

C. DETAILS OF THE INVESTIGATION

Airframe Examination

Cockpit Documentation. The following instruments and controls were examined and found as noted below:

- Airspeed indicator: 19 Knots
- Altimeter: 1520 ft msl
- Variometer: 0
- Control yoke. Attached to control linkages and positioned slightly to the left.
- Rudder pedals: Right pedal pulled aft/ spring stretched aft. Left pedal centered / straight up/ spring straight up. Pedals were stuck and would not move.
- Spoiler handle: stuck in place. Coaxial tubing found bent. Spoilers moved freely when wing was removed from the fuselage.
- Landing Gear: Down. Coaxial tubing bent. stuck in place
- Water Ballast tanks: Empty
- Tow Line Release: intact
- Emergency Canopy Release: The red ball/ handle was pulled out about 1.5 inches.

WRECKAGE AND IMPACT INFORMATION

AIRFRAME

Fuselage. The cockpit area was partially separated from the fuselage and found displaced about ten inches down from the rest of the fuselage. The cockpit exhibited multiple fractures running vertically from the canopy area down to the bottom of the cockpit. The canopy frame was found with the entire acrylic windscreen absent. The fragments of the windscreen were found near the first point of probable impact. The frame of the canopy was removed from the fuselage and found resting on the fuselage. The emergency canopy release handle was pulled out from the instrument panel.

The aft fuselage was found fractured and the entire empennage was separated from the aft fuselage at about 36 inches from the end of the aft fuselage. The empennage remained attached to the aft fuselage via tubing. The elevator remained attached to the top of the vertical fin and moved freely to the limits. The rudder remained attached to the vertical fin at the hinges and moved freely to the limits.

Right Wing. The right wing was partially separated at the root. The forward pin was discovered out of the receptacle. The wing was found elevated above and resting on the pin. The root trailing edge was split open from the root to about 60 inches outboard. The underneath portion of the wing root was displaced down. A large tear of the composite material, about twelve inches long was found on the underside of the wing about ten inches from the root. The remaining underside displayed some tears and creases in the composite skin. The tip of the wing was damaged consistent with contact with the ground. The leading edges, from the tip to about 20 inches inboard was split open at the leading edge and multiple purple paint chips were observed on the ground. Some grass was found wedged in between the composite material. Extensive cracks were observed along the upper portion of the wing tip. The wing tip wheel had separated from the underside of the wing. The aileron was jammed into the wing nearest the wing tip. The wing portion near the inboard corner of the aileron was found fractured with cracks radiating out in a 45° angle. A ground scar with portions of purple paint chips and the wing tip wheel was found near the right-wing tip. The aileron did not move freely. The right spoiler was found in the retracted position and moved freely up and down when the right wing was removed from the fuselage.

Left Wing. The left wing remained attached to the fuselage. Small cracks were noted at the wing root at the trailing edge. Some cracks in the composite material were observed on the top of the wing near the inboard edge of the aileron. The aileron remained attached to the wing at the hinges and was displaced downward. The aileron moved freely by hand manipulation. The tip of the wing displayed cracks at the leading edge, and upper surface. The leading edge forward of the aileron and near the tip of the wing, displayed cracks and wrinkling of the upper surface, and extending inboard. The left-wing tip wheel separated from the underside of the wing. The leading edge displayed a damaged area, with multiple large cracks in the composite material, with brown matter consistent with tree bark and green pine needles wedged into the composite material. The underside of the wing displayed delamination, brown matter, and trapped pine needles in the cracks of the composite material in this area. The left spoiler was found in the retracted position and moved freely after the wing was removed from the fuselage. The wing appeared normal inboard of the damaged leading-edge area to the wing root.

Main Landing Gear (MLG). The single wheel main landing gear was found in the extended position.

Flight Control Continuity. Flight control continuity was established from the control stick to the ailerons and the point where the empennage separated from the aft fuselage, and from the separated portion of the aft fuselage to the rudder. Continuity was established from the rudder pedals to the area where the empennage separated from the aft fuselage and from the area of empennage separation to the rudder. Control continuity of the spoilers was established from the handle to the spoilers.

PHOTO EXHIBIT



Photo 1. N300GG, left-side view



Photo 2. N300GG, right-side view.



Photo 3. View of the empennage



Photo 4. Left wing showing cracks in composite material along with brown colored deposit and pine needles trapped in cracks.



Photo 5. Underside of left wing, showing cracks in composite material, brown colored deposit and pine needles trapped in cracks.



Photo 6. Showing N300GG, with the debris field in the foreground.