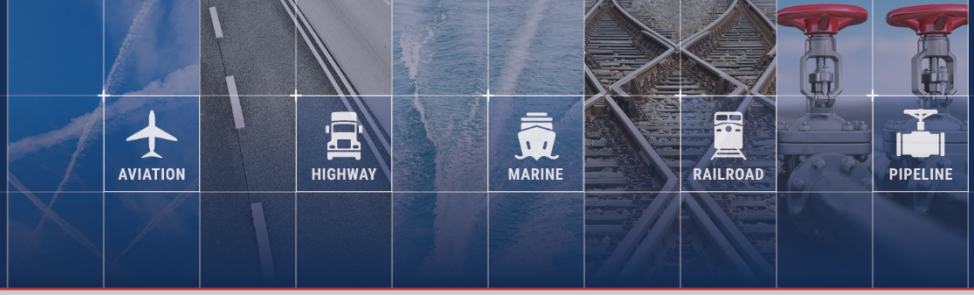


# Aviation Investigation Factual Report

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| **Location:** | Rossville, Indiana | **Accident Number:** | CEN18FA107 |
| **Date & Time:** | February 22, 2018, 19:39 Local | **Registration:** | N771XW |
| **Aircraft:** | Cessna 441 | **Aircraft Damage:** | Destroyed |
| **Defining Event:** | Loss of control in flight | **Injuries:** | 3 Fatal |
| **Flight Conducted Under:** | Part 91: General aviation | | |

On February 22, 2018, at 1939 eastern standard time, A Cessna 441 Conquest II airplane, N771XW, impacted terrain following a loss of control in Rossville, Indiana. The airline transport rated pilot and two passengers were fatally injured, and the airplane was destroyed. The airplane was registered to and operated by Ponderosa Aviation LLC under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a business flight. Night instrument meteorological conditions prevailed for the flight, which was operating on an instrument flight plan. The flight originated from the Eagle Creek Airpark (EYE), Indianapolis, Indiana, about 1920, with an intended destination of the Green Bay Austin Straubel International Airport (GRB), Green Bay, Wisconsin.

After takeoff the pilot contacted Indianapolis departure control and was cleared direct to the Boiler (BVT) VHF Omni-directional Range & Tactical Air Navigation (VORTAC) system. About a minute after the pilot checked in on the frequency, the airplane deviated from its assigned altitude and course, and the controller received a Standard Terminal Automation Replacement System (STARS) Minimum Safe Altitude Warning (MSAW) for the airplane. The controller queried the pilot regarding his heading and altitude. The pilot stated the airplane was "… a little out of control." The controller asked the pilot if he needed assistance and there was no reply. The controller then asked the pilot what his altitude was, and the pilot replied that he was at 5,500 ft and he asked for a block altitude and a heading of 090°. The controller instructed the pilot to maintain at or above 5,000 ft, and to fly any heading that he needed. The pilot then requested a block altitude of 4,500 ft to 5,000 ft. The controller instructed the pilot to remain at or above 4,000 ft on a heading of 090°.

The pilot then turned the airplane to a heading of 090° and explained to the controller that he had a trim problem and difficulty controlling the airplane, but that he had the airplane back to straight and level. The pilot was issued a turn to a heading of 310° direct to BVT, followed by a clearance to climb and maintain 13,000 ft. The pilot was then instructed to contact the Chicago Air Route Traffic Control Center (ZAU). The pilot checked in with ZAU57 sector stating that he was climbing from 10,600 ft to 13,000 ft. The pilot was cleared to climb to FL200 (20,000 ft) followed by a climb to FL230 (23,000 ft) direct to GRB. The pilot was instructed to change frequencies to ZAU46 sector. The pilot then transmitted that he needed to get control of the airplane and "… my trim kind of going out on me." Communications and radar contact were then lost. The last radar data was in the vicinity of the accident site and the last altitude data recorded was 18,300 ft.

Several witnesses reported hearing the airplane flying overhead. They all described the airplane as being very loud and that the engine sound was continuous up until they heard the impact.

## Pilot Information

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| **Certificate:** | Airline transport; Flight instructor | **Age:** | 35,Male |
| **Airplane Rating(s):** | Single-engine land; Multi-engine land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | Unknown |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | No |
| **Instructor Rating(s):** | Airplane multi-engine; Airplane single-engine; Instrument airplane | **Toxicology Performed:** | Yes |
| **Medical Certification:** | Class 2 With waivers/limitations | **Last FAA Medical Exam:** | March 30, 2017 |
| **Occupational Pilot:** | Yes | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | 2248.3 hours (Total, all aircraft), 454.6 hours (Total, this make and model), 1732.8 hours (Pilot In Command, all aircraft), 22.3 hours (Last 90 days, all aircraft) | | |

The pilot held an airline transport pilot certificate with a multi-engine and Eclipse 500 ratings. The certificate listed commercial privileges for single-engine land airplanes. He also held a flight instructor certificate with airplane single-engine, airplane multi-engine, and instrument airplane ratings. The instructor certificate was issued May 23, 2017.

The pilot's logbook contained entries between September 13, 2004, and January 20, 2018. The pilot had logged a total flight time of 2,248.3 hours of which 454.6 hours were in Cessna 441 airplanes. The pilot held a Federal Aviation Administration (FAA) second-class medical certificate issued March 30, 2017. The medical certificate contained the limitation, "Must wear corrective lenses." The pilot's last flight review was on February 2, 2017, in a Cessna 441 airplane.

The pilot was hired by Ponderosa Aviation LLC to fly the airplane for the company. The first flight logged in the accident airplane was on December 20, 2017, with 24.2 hours logged before the accident.

The pilot had received unusual attitude and upset training in February 2016.

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Cessna | **Registration:** | N771XW |
| **Model/Series:** | 441 NO SERIES | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | 1978 | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 441-0065 |
| **Landing Gear Type:** | | **Seats:** | |
| **Date/Type of Last Inspection:** | November 1, 2017 Continuous airworthiness | **Certified Max Gross Wt.:** | |
| **Time Since Last Inspection:** | 65 Hrs | **Engines:** | Turbo prop |
| **Airframe Total Time:** | 6907.5 Hrs as of last inspection | **Engine Manufacturer:** | Honeywell |
| **ELT:** | Installed, not activated | **Engine Model/Series:** | TPE331-10N-53 |
| **Registered Owner:** | PONDEROSA AVIATION LLC | **Rated Power:** | 715 Horsepower |
| **Operator:** | PONDEROSA AVIATION LLC | **Operating Certificate(s) Held:** | None |

The Cessna 441 Conquest II is an eight to ten-place, twin-engine airplane, with a pressurized cabin and retractable tricycle landing gear. The airplane is certificated as a normal category airplane, with a maximum operating altitude of 35,000 ft. The main cabin entry door is located on the left side of the airplane, aft of the wing and common to the aft portion of the cabin.

The airplane is equipped with an icing protection system including: pneumatic deice devices (boots) for the wings and stabilizers, and electrical deice elements for the propeller, windshield, pitot tubes, and stall warning sensor. Flight into known icing conditions is approved, except for severe icing conditions.

The airplane is powered by two Honeywell TPE331-10N turboprop engine that can produce 715 shaft horsepower at 2,000 rpm. The engine design featured an integral gearbox, two stage centrifugal compressor, reverse flow annular combustor, and a three-stage axial flow. The propellers were Hartzell propeller assemblies with four-blade, hydraulically actuated, constant speed design configuration, with feathering and reverse pitch capability.

Ponderosa Aviation LLC purchased the airplane on October 13, 2017. Phase 2, 3, & D inspections were accomplished on the airframe and engines on November 1, 2017, at a total aircraft time of 6,907.5 hours. At the time of this inspection, the time since overhaul of both engines was 2,095.6 hours.

The last entry in the airframe logbook was dated February 19, 2018, which documented the removal and replacement of the left horizontal situation indicator (HSI) at an aircraft total time of 6,972.7 hours. The maintenance records show that both elevator trim tab actuators were disassembled, cleaned, inspected, primed and reinstalled on October 23, 2017.

The person who coordinated the maintenance of the airplane stated the only open discrepancy he was aware of was an issue with a fluctuating oil pressure indication. He stated that the oil pressure had been checked and it was ok, but they were still trying to determine why there was a fluctuating indication.

The airplane was fueled with 230 gallons of Jet A fuel before the flight.

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Instrument (IMC) | **Condition of Light:** | Night |
| **Observation Facility, Elevation:** | LAF,606 ft msl | **Distance from Accident Site:** | 17 Nautical Miles |
| **Observation Time:** | 19:54 Local | **Direction from Accident Site:** | 263° |
| **Lowest Cloud Condition:** | | **Visibility** | 10 miles |
| **Lowest Ceiling:** | Overcast / 1500 ft AGL | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 3 knots / None | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 120° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 30.37 inches Hg | **Temperature/Dew Point:** | 7°C / 5°C |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | Indianapolis, IN (EYE ) | **Type of Flight Plan Filed:** | IFR |
| **Destination:** | Green Bay, WI (GRB ) | **Type of Clearance:** | IFR |
| **Departure Time:** | 19:20 Local | **Type of Airspace:** | Class A |

Two Airmen's Meteorological Information notices (AIRMET) that covered the route of flight were in effect at the time of the accident. AIRMET SIERA called for instrument meteorological conditions with ceilings below 1,000 ft and 3 statute miles of visibility with precipitation, mist, and fog. AIRMET TANGO called for moderate turbulence between 18,000 ft and 35,000 ft.

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 Fatal | **Aircraft Damage:** | Destroyed |
| **Passenger Injuries:** | 2 Fatal | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 3 Fatal | **Latitude, Longitude:** | 40.464721,-86.612777 |

The accident site was located about 0.34 miles north of the town of Rossville, Indiana.

The airplane impacted terrain in a plowed field (upper field) which was soft and muddy. A shallow linear disruption of the dirt was present which was about 250 ft in length. The impact mark was present up to the crest of a slight incline where the main pieces of wreckage began. Trees bordered the east end of the field and just beyond the tree line was a tree-covered hill which descended about 50 ft at a slope

of about 50°. The trees on the hillside were about 80 to 100 ft tall. At the bottom of the hill was an 8 - 10 ft wide creek. The east bank of the creek was treelined and beyond the trees were two open fields (lower fields) which were divided by a row of small trees and brush. The wreckage was scattered in the upper field, down the hillside, and into the lower fields. The entire wreckage path was about ¼ mile in length.

The wreckage path in the upper field was scattered after the initial terrain impact point and along a magnetic heading of about 110°. The first pieces of wreckage along the path were the nose baggage doors. The upper left engine cowling and the rudder were the next major pieces of wreckage along the path followed by the outboard section of the left wing, the elevators, and the outboard section of the right wing. Both outboard flaps and the right-wing inboard flap were found in the upper field along with pieces of the left inboard flap.

The vertical stabilizer, the cockpit wiring bundle, and the cockpit flight controls including the throttle quadrant were the major pieces of wreckage found on the hillside.

The wreckage located in the lower field consisted of the fragmented pressure vessel, the aft pressure bulkhead, the left and right engines, both propellers, avionics, pieces of the instrument panel, all three-landing gear, and a section of the left wing between the aileron and the engine. The left engine was the main piece of wreckage that was located furthest from the initial impact in the upper field.

A postaccident examination was conducted by the National Transportation Safety Board (NTSB) investigator-in-charge, and FAA inspectors, with the assistance of a representative of the engine and airplane manufacturers. The examination did not reveal any anomalies consistent with a preimpact failure or malfunction. A detailed summary of the examination is included in the docket associated with the investigation.

## Medical and Pathological Information

An autopsy on the pilot was conducted on February 25, 2018, by the Indiana Forensic & Surgical Pathology at the request of the Carroll County, Indiana Coroner's Office. The pilot's cause of death was attributed to injuries sustained in the aircraft accident.

Toxicology testing performed by the FAA Bioaeronautical Research Sciences Laboratory, Oklahoma City, Oklahoma, was negative for carbon monoxide, cyanide, and ethanol. The testing was negative for drugs in the testing profile.

## Tests and Research

The Honeywell enhanced ground proximity warning system (EGPWS) was examined and downloaded at the Honeywell facility in Redmond, Washington, on March 20, 2018. The EGPWS does not record continuous flight history; it is an event driven recording. The version of the terrain database on the unit

was not the most current version. No terrain warnings were recorded at the end of the flight and some of the recorded data was invalid.

The radar data ground track showed the airplane made a turn to the west followed by a turn to the north shortly after takeoff. The airplane then made a 270 ° left turn before heading east. The airplane then turned to the northwest as it continued to climb. The airplane then entered a sweeping right turn before entering a 450° turn and rolling out on a northerly heading. The ground track then turned northeasterly before ending.

## Administrative Information

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| **Investigator In Charge (IIC):** | Sullivan, Pamela |
| **Additional Participating Persons:** | Terry Kleiser; FAA; Indianapolis, IN<br>Steven Stombaugh; FAA; Indianapolis, IN<br>Henry Solerlund; Textron Aviation; Wichita, KS<br>Dana Metz; Honeywell; Phoenix, AZ |
| **Report Date:** | October 8, 2019 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | The NTSB traveled to the scene of this accident. |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=96777 |