



NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety

Wreckage Examination Group Field Notes

November 30, 2021

A. ACCIDENT WPR22FA330

Location: Bernard, Idaho
Date: August 28, 2021
Time: 1318 MDT
Operator: Private
Aircraft: Cessna TU206F
Registration: N922MA

B. SUMMARY

On August 28, 2021, about 1318 mountain daylight time, a Cessna TU206F, N922MA, was substantially damaged when it was involved in an accident near Bernard, Idaho. Both passengers were fatally injured, and the pilot sustained serious injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 135 nonscheduled charter flight.

According to the operator, the scenic flight was scheduled on the morning of the accident flight to fly over Soldier Bar Airport, a strip within the Frank Church Wilderness operated by the United States Forest Service.

The airplane was located on the east side of a mountain in the Payette National Forest at an elevation of about 8,370 ft msl, about 1,000 ft below the mountain's peak, and about 50 miles northeast of its intended destination. The point of initial impact was marked by an approximately 60-foot-tall tree that was severed at the top, located 120 ft from the main wreckage. A 50-ft-wide debris path oriented on a northwestern heading was identified by several broken trees between the point of initial impact and the main wreckage. The broken trees were severed in descending order with the tallest trees near the point of initial impact on the left side of the debris path and the shorter trees on the right side of the debris path. A portion of the right wing was located in the debris path a few feet from the main wreckage, which comprised the rest of the airplane. The

airplane was oriented on an eastern heading. All four corners of the airplane were accounted for at the accident site.

C. DETAILS OF THE INVESTIGATION

The airplane was recovered to Inter-State Aviation in Pullman, Washington where an examination was completed on November 30, 2021.



Photograph 1: Accident airplane prior to examination

D.1 Airframe Examination

D.1.1 Flight Controls

The left and right aileron flight controls were continuous from the control the wing roots to the cockpit pulleys.

The elevator control cables were continuous from the cockpit pulleys to a separation at the empennage that was made by recovery personnel. Elevator control was continuous from the separation to the elevator through the vertically mounted elevator bellcrank.

The rudder control cables were continuous from the rudder pedals to the empennage, where they had been cut by recovery personnel. Continuity was continuous from the separation at the empennage to the rudder through the rudder bellcrank.

The elevator trim actuator measurement was outside the normal operation in the tab trailing end up deflection.

The fuel selector valve and handle were in the left tank position and was partially seized. The gascolator bowl displayed a trace amount of fuel that contained an odor consistent with 100 low lead aviation grade gasoline. The gascolator screen was free of debris.



Photograph 2: Gascolator bowl

D.2 Engine

The engine was a Continental Motors IO-520-CCM, s/n 601419, an air-cooled, 285 hp reciprocating engine. The engine baffling was damaged, the induction tubes were crushed as were the exhaust tubes. The accessory case was intact, with exception of the alternator accessory

case pulley, which had been partially damaged. The pulley was also in contact with the throttle body, which inhibited movement of the propeller.



Photograph 3: Engine prior to examination

After the throttle body was removed, mechanical continuity was established throughout the rotating group, valve train and accessory section as the crankshaft was manually by hand rotated at the propeller. Thumb compression was achieved at all cylinders and the valves displayed normal lift when the crankshaft was rotated. Examination of the cylinders combustion chamber interior components using a lighted borescope revealed, normal piston face and valve signatures, and no indications of catastrophic engine failure.

The magnetos were intact, but had moved slightly from their original position as indicated by slightly displaced torque stripe. The left magneto was a Continental Motors, Inc. SGRN-1225, s/n F17EA150R. The right magneto was a Continental Motors, Inc. SGRN-1225, s/n F16KA253R. Most of the ignition harness coils were secured tightly to their respective spark plugs. The top 5 ignition harness coil was loose. The bottom 2 and bottom 6 ignition harness leads were cut due to impact damage. Spark was observed at the bottom 1, 3, and 5 coils, and the top 2, 4, and 6 coils and the left magneto impulse coupling was heard as the propeller was rotated by hand. Both magnetos were subsequently removed and spark was observed on all 6 ignition harness leads while the magnetos were rotated using a drill. The top and bottom spark plugs were manufactured by Champion RHB 32E massive electrode plugs. All six of the top spark plugs were gray in appearance, consistent with normal wear. The bottom 6 spark plugs were grey in appearance with some carbon deposits.



Photograph 4: Top spark plugs



Photograph 5: Bottom spark plugs

The flow divider remained attached to the top of the engine case; the divider filter was free of debris and the diaphragm was normal in appearance. A trace amount of fuel was observed in the fuel flow gauge line from the divider to the instrument panel. The throttle body screen was also free of debris. All 6 of the fuel injectors were clear.

The oil filter was disassembled and did not display any evidence of foreign contamination or metallic fragments.