

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN23FA057

EXAMINATION SUMMARY

December 6, 2022

A. FACTUAL INFORMATION

1.0 Accident Site

- Main wreckage located at N32.323764, W97.431479
- Wreckage elevation: 770 ft msl
- Hard pack terrain in vacant construction site

2.0 Airframe Examination

2.1 Fuselage

- Highly fragmented with extensive thermal damage present

2.2 Empennage

- Bottom of empennage remained attached to tail structure
- Top separated at the location of vertical stabilizer attach point
- Right horizontal stabilizer displayed signature consistent with exposure to heat
- Leading edge abrasion tape was melted along the leading edges of both horizontal stabilizers
- Right elevator counter weight and tip separated and was located at the secondary impact location
- Right elevator remained attached to the horizontal stabilizer at all 3 attach points
- Left horizontal stabilizer leading edge was damaged consistent with impact damage
- Left elevator remained attached to the left horizontal stabilizer at all three attach points and was relatively free of impact damage
- Left elevator displayed signatures consistent with exposure to high heat
- Vertical stabilizer displayed signatures consistent with exposure to heat
- Aft crushing damage located about 3 ft below the vertical fin light

2.3 Wings

- Left aileron control continuity was established from the cockpit through multiple tension separations to the control surface.
- Right aileron control cable continuity was partially established for the direct cable. The direct cable remained attached to the bellcrank and to the cockpit control chain, a small section of the aileron cable was not able to be located at the time of the examination. All of the observed breaks were consistent with tension overload. The balance cable was confirmed from both bellcranks through a break consistent with tension overload.
- Both ailerons fragmented into multiple sections

- Right wing
 - Skin separated from the spar
 - Outboard 3 ft of wing spar separated from the rest but remained attached by the electrical wiring for the wing tip light
 - Right flap was located with the main wreckage
 - Right wingtip navigation light lens located at the point of initial impact
 - Right wingtip separated and was located at the secondary impact location.
- Left Wing
 - Separated from the fuselage and was located adjacent to the main wreckage
 - Extensive thermal and heat damage present

2.4 Landing Gear

- Separated from the airframe
- Right main landing gear found adjacent to the main wreckage
- Left main landing gear found within the debris field past the main wreckage
- Nose gear found under the main wreckage

2.5 Cockpit

- Highly fragmented with extensive thermal damage

2.6 Survivability

- Right seat passenger was found unsecured
- Left seat passenger was found with 4-point restraint still connected and secured in the seat.
- No survivable space remained

2.7 Fuel/Fuel System

- Fuel selector was located secure in place
- Selector handle was not present
- When opened, the selector was found in an intermediate position between the right and off position.
- Position at time of impact could not be determined due to severity of impact

3.0 Engine Examination

- Engine was impact damaged
- Crankshaft visible through fracture on the front of the case
- Extensive thermal damage present

- A hole about 1 inch x 2 inches present on the top of the case between the Nos. 4 and 6 cylinders contained evidence of impact damage.
 - Edges were curled inward
 - Signs of metal impact adjacent to the hole
- Top 6 spark plugs were removed and inspected with no anomalies noted
- All cylinders examined by use of a lighted borescope with no anomalies noted to the inside of the cylinders or surfaces of the pistons.
- Both magnetos separated from the engine and were recovered within the debris field
 - Could not be tested due to impact damage and presence of extensive biohazard

4.0 Propeller Examination

- Located within the debris field slightly past the secondary impact point
- Contained signatures consistent with exposure to high heat
- 1 blade was missing the outboard 3" which separated at an estimated 45° angle
 - Fracture surface was smooth and contained evidence of impact with terrain
- Remaining blades remained intact
- Chordwise striations present on camber side of prop