

NATIONAL TRANSPORTATIONS SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SUMMARY OF AIRCRAFT EXAMINATION

-- CEN22FA406 --

A. ACCIDENT

Location: Cleveland, Tennessee
Date: September 5, 2022
Time: 1711 eastern daylight time
Aircraft: Cessna 182P, N58807

B. PARTICIPANTS

Timothy Sorensen
Senior Aviation Accident Investigator
National Transportation Safety Board
Denver, Colorado

Joseph Kachinski
Aviation Safety Inspector
Federal Aviation Administration
Nashville, Tennessee

Peter Basile
Air Safety Investigator, Sr.
Textron Aviation
Wichita, Kansas

C. ACCIDENT SUMMARY

On September 5, 2022, at 1711 central daylight time, a Cessna 182P airplane, N58807, was destroyed when it was involved in an accident near Cleveland, Tennessee. The pilot and passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. DETAILS OF AIRCRAFT EXAMINATION

An on-scene examination was conducted on September 6 and September 7, 2022. Post-recovery airframe and engine examinations were conducted at AMF Aviation (Springfield, Tennessee) on September 8, 2022. The Federal Aviation Administration and Textron Aviation provided technical support as parties to the investigation.

Summary of Aircraft Examination

E. DESCRIPTION OF ACCIDENT SITE

The airplane impacted a wooded area with tree heights estimated to 80 feet above ground level (agl). The accident site elevation was about 830 feet. Initial tree strike was about 70 feet agl and located at 35.12614 north latitude / 84.72678 west longitude. The debris path was oriented on an approximate bearing of 020° and extended about 480 feet from the initial impact point.

F. SUMMARY OF AIRCRAFT EXAMINATION¹

Airframe – Cessna 182P (s/n 18262310)

The entire airframe was fragmented. The fuselage nose and cockpit area were compromised. The lower fuselage floor was deformed. The upper fuselage structure was separated. The pilot and co-pilot seats were separated from the floor structure. The seat frames were fractured consistent with impact forces. The rear seat bench remained attached to the deformed fuselage floor structure.

The left and right wings were separated from the fuselage and fragmented. The ailerons and wing flaps were similarly separated and fragmented. The aileron bellcranks remained attached to the wing structure, and the aileron control cables remained attached to the bellcranks. Each cable was frayed and separated. The aileron control rods remained attached to the bellcrank and the remaining aileron fragment.

The empennage was separated from the fuselage and fragmented. Each elevator was separated from the bellcrank at the inboard end of the torque tubes. The elevator bellcrank remained attached to the aft fuselage bulkhead. Elevator control continuity was continuous from the bellcrank at the control surface to the control cables at the aft fuselage. The elevator cables were separated forward of the aft fuselage bellcrank consistent with the airframe fragmentation. The rudder cables remained attached to the rudder horn. However, both rudder cables were separated forward of the horn. The elevator trim actuator extension was approximately 1.4 inches, corresponding to about 5° tab trailing edge up. Trim cable segments remained attached to the actuator chain.

A wreckage layout identified portions of airframe structure including both wings/wing tips, both horizontal stabilizers and elevators, vertical stabilizer and rudder, and each flight control surface within the accident site debris field.

Engine – Continental O-470-R (s/n 1009683)

The engine was separated from the airframe and exhibited extensive damage consistent with impact forces. The center portion of the crankcase was broken out, and the No. 4 cylinder was separated. The No. 4 cylinder was recovered at the accident site and exhibited impact-related damage. The No. 4 piston was fractured at the base consistent with overstress. The connecting rod and piston pin appeared intact. The No. 5 cylinder head was separated from the cylinder barrel consistent with impact forces and located within the debris path. The oil pan was fractured and separated. The intake and exhaust ducting were separated with exception of one portion of exhaust ducting. The carburetor was separated, and the housing was fractured; the venturi appeared intact. The throttle and mixture controls were separated. Both magnetos were separated and located within

¹ Directions related to accident site placement and component damage/deformation are with respect to an intact airframe unless otherwise noted.

Summary of Aircraft Examination

F. SUMMARY OF AIRCRAFT EXAMINATIONS *(continued)*

the debris path. Both sustained damaged consistent with impact; neither could be functionally tested.

Propeller – McCauley 2A34C201C/90DA-8 (s/n 733987)

The propeller assembly was separated at the engine propeller flange consistent with impact. The spinner was separated. The propeller hub was intact and both blade roots were retained. One propeller blade exhibited bending and twisting toward low pitch. An approximate 1.5-inch fracture was present along the trailing edge about two-thirds span. The second propeller blade was fractured about 12 inches from the root. The mid-section, about 18 inches in length was separated and recovered at the site. The section was deformed. The outboard 6-inch span of the blade was separated but not recovered. The fracture surfaces appeared consistent with overstress.

----- *end of summary* -----