



The National Transportation Safety Board

Office of Aviation Safety
Central Region
Memorandum for the Record
Engine and Propeller
Examination Findings
CEN19FA084
Goshen Indiana

The engine and propeller were examined at the accident site and secure facility

Engine

The engine was found mostly separated from the airframe with various cables and wire still attached.

Engine was exposed to a severe post-impact fire. All the rear accessories were mostly consumed by the fire. The engine was removed from the accident site and examined at a secure hangar located at GSH.

The crankshaft was rotated by hand, and drivetrain continuity was established. Thumb compression to the cylinders was established. Normal wear was present on all spark plugs. A borescope inspection of the cylinders did not reveal any anomalies. Both magnetos could not be tested due to fire damage. The oil pickup screen was clear of debris. The fuel pump was partially fire damaged. The fuel inlet screen was clear of debris and its brass plug safety wired. The vacuum pump was partially fire damaged. The turbo charger was fractured.

Propeller

The three-blade Hartzell propeller was separated from the engine. The crankshaft propeller flange was fractured and separated from the crankshaft. The spinner was crushed aft and around the propeller piston dome. One of the propeller blades exhibited a gouge in the leading edge about mid span which was about 3" in length and about .75" in depth. The blade also exhibited aft bending. The next blade exhibited aft bending and captured a section of electric powerline wrapped around the base of the blade at the spinner. There were scratches on the cambered surface of the blade and dark areas consistent with thermal damage around the scratches. The third blade exhibited aft bending and leading-edge damage for about the last 10" to the tip. There was a gouge in the leading edge, located at the inboard end of the leading-edge damage, and a scratch extending from the gouge to the trailing edge on the aft face of the blade.

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