

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

SUMMARY OF AIRPLANE EXAMINATION

-- CEN20LA314 --

A. ACCIDENT

Aircraft: Piper PA-28R-200, N15302

B. PARTICIPANTS

Craig Hatch
Aerospace Engineer
National Transportation Safety Board
Denver, Colorado

Josh Lindberg
Air Safety Investigator
National Transportation Safety Board
Denver, Colorado

C. ACCIDENT SUMMARY

See factual report

D. DETAILS OF ENGINE EXAMINATION

A post-recovery examination was conducted at Air Salvage of Dallas, Lancaster, Texas, on March 25, 2021.

E. SUMMARY OF ENGINE EXAMINATION

Airframe – Piper PA-28R

Engine – Lycoming IO360-C1C

Propeller – 3 Bladed, constant speed Hartzell

- The engine mount was broken and there was heavy damage to the airplane. An engine test run was not able to be performed.
 - The fuselage (with engine) was placed on stands; the wings which had been moved for transport, were set next to the fuselage.
- The 3-bladed propeller remained attached to the engine crankshaft flange. One blade was twisted and curled back, a second blade had a small bend in the blade tip, the third blade had leading edge damage on the outboard 2 ft of the blade.
- An initial inspection of the engine did not reveal any pre-impact abnormalities.
- The engine driven fuel pump was removed; A lever was attached to the pump and moved; the pump operated. A small amount of residual fuel was present.

Summary of Engine Examination

- The top set of sparkplugs were removed; normal wear was observed, the sparkplug electrodes were black in color. The Nos. 1 and 3 plugs were darker than the others
- The P-leads were disconnected from each of the magnetos. The magnetos were turned, and spark was observed on the top set of ignition leads. The magnetos were removed from the engine and rotated; spark was observed on each terminal lead.
- Thumb compress and section was obtained for each cylinder when the engine was manually rotated via the propeller. Continuity thru the valve train and accessory drive was confirmed.
- The oil filter was removed; the filter element was cut opened and inspected: no contaminants were noted.
- The controls remained attached to the fuel servo. The inlet fuel screen was clear of debris.
- The airplane had two wing fuel tanks. Both wings sustained heavy damage and both tanks had been breached in the accident.
- The fuel selector was placed in the left position, air was blown into the left side fuselage fuel pickup point, air was noted at the fuel line leading to the fuel pump. The test was repeated with the fuel selector on the right side and air was again noted at the fuel line leading to the fuel pump. Each fuel injector line was also clear from the fuel manifold, to the injector. Each fuel injector was removed and checked: no blockages or contaminants were found.
- The gascolator was opened and was dry and free of contaminants.
- Magneto to engine timing appeared to be 20-degrees.
- No preimpact anomalies were noted during the airplane examination.



Airplane wreckage on stands, ready for inspection

Summary of Engine Examination



Damage to the three bladed propeller



Clear and dry gascolator

Summary of Engine Examination



Top set of sparkplugs

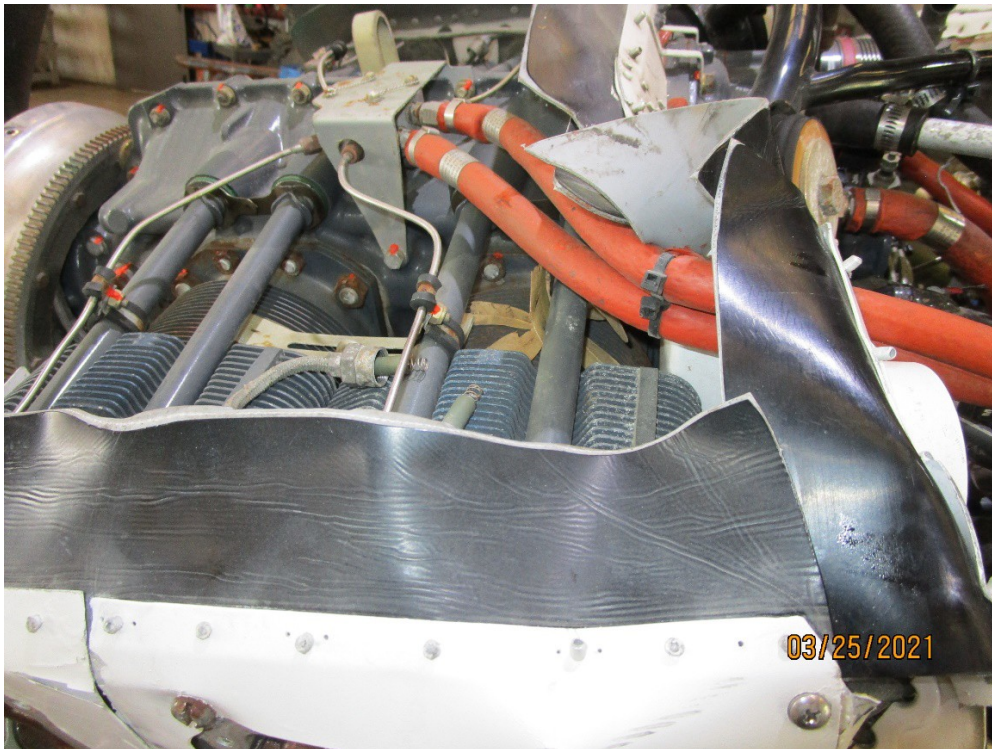


Oil filter, cut open and element inspected.

Summary of Engine Examination

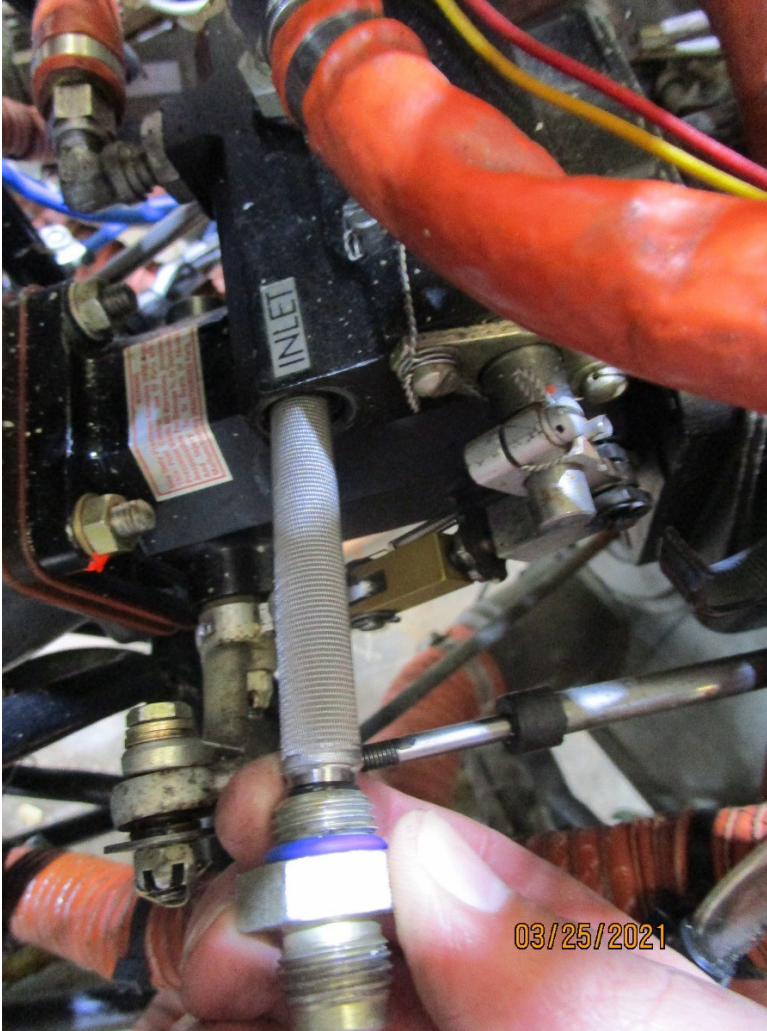


Testing engine driven fuel pump



Overview of engine; no visual pre-impact abnormalities noted.

Summary of Engine Examination



Fuel inlet screen, clear of debris

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