

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN23LA022

FIELD NOTES

January 10, 2023

A. ACCIDENT

Location: Evansville, IN
Date: October 30, 2022
Time: 1358 EDT
Airplane: Piper PA-32R-300; N349SB

B. FIELD NOTES

IIC	Aaron Sauer NTSB Denver, CO
Party Coordinator	James "Mike" Childers Lycoming Williamsburg, PA

C. SUMMARY

On October 30, 2022, about 1358 eastern daylight time, a Piper PA-32R-300 airplane, N349SB, was substantially damaged when it was involved in an accident near Evansville, Indiana. The pilot and one passenger sustained serious injuries, and two passengers were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

Airframe:

- Bracket air filter clean; filter to servo scat hose intact and undamaged.
- Compressed air applied to firewall fuel fitting. Air applied to both the left and right wing fuel tanks through fuel selector valve - no obstructions noted within the fuel system from the firewall fitting, through the selector, to each wing fuel tank.

Engine:

Model: Lycoming; IO-540-K1G5D; L-15521-48A

Maintenance: Annual/100-hour - October 6, 2022 - Tach 3122.0; HOBBS - 1853.8; SMOH - 535.2

Accident Tach: 3128.8

The engine was partially attached to the engine mount was in a recovery bag at the facilities of AMF Aviation, Springfield, Tennessee. The engine was removed from the bag, suspended from a lift, and partially disassembled to facilitate additional examination. The engine mount, rear mounted vacuum pump, oil filter, and dual magneto displayed impact damage. The exhaust pipes were partially crushed, but the exhaust system was otherwise unobstructed. The crankshaft was rotated by turning the propeller by hand and continuity of the crankshaft to the rear accessory gears and to the valve train was confirmed. Compression and suction were noted on all six cylinders. The interiors of all six cylinders were observed using a lighted borescope, and no anomalies noted.

The propeller remained attached to the engine crankshaft flange. The propeller spinner remained attached to the propeller and was undamaged. One propeller blade was bent aft about 5 degrees at about mid-span. The other propeller blade was bent aft about 60 degrees at about mid-span. The propeller governor remained attached to the engine and no damage was noted. The propeller governor cable remained attached to the governor control arm. The governor was removed, and the governor drive assembly rotated freely by hand. The governor oil screen was absent of debris.

The fuel injector servo remained attached to the engine and no damage was noted. The throttle control cable remained attached to the servo throttle control arm, and the arm could be rotated freely by hand. The mixture control cable remained attached to the servo mixture control arm. The mixture control arm was bent but could be rotated freely by hand. The injector servo was removed from the engine and aviation gasoline (fuel) drained from the servo. The servo fuel inlet screen was removed and was absent of debris. The servo pressure regulator section was partially disassembled, and no damage was noted to the rubber diaphragms or other internal components. The regulator cover brass plug was secure. The fuel flow divider remained attached to the engine and no damage was noted. The fuel injector steel lines were secure. The flow divider was partially disassembled and no damage to the rubber diaphragm or other components noted. The GAMI injector fuel injector nozzles were unobstructed. The engine driven fuel pump remained attached to the engine and no damage noted. It was removed and produced air at the outlet port when actuated by hand. The pump was partially disassembled, and no damage was noted to the rubber diaphragms, internal check valves or other components. Aviation gasoline was observed in all fuel lines forward of the firewall and in the engine driven fuel pump, fuel injector servo, and the fuel flow divider.

The single-drive dual magneto remained attached to the engine accessory case. The magneto hold down nuts were not tight, and the magneto could be rotated on the accessory case freely with hand pressure. The lower magneto case was impact

damaged. There were impact marks on the magneto mounting flange, and on the engine accessory case magneto mounting pad. The magneto was rotated using an electric drill and produced spark from all 12 ignition towers. The spark plugs' electrodes exhibited dark gray coloration and worn normal condition. The ignition harness was impact damaged and was not tested. The starter remained attached to the engine, and no damage was noted. The alternator remained attached to the engine, and no damage was noted. The alternator belt remained in place and was unbroken. The vacuum pump remained attached to the engine accessory case, but the rear housing and rotor was damaged by impact.

Oil was observed on the exterior surfaces of the engine accessory case and on the engine rear mounted accessories. All the engine rear mounted oil lines were in place. The hose fitting near the engine oil pump of the hose from the right oil cooler was finger loose. The right oil cooler sustained impact damage which was consistent with the loose oil line. No oil was observed on the engine oil dipstick when it was removed. Oil drained from the cylinder heads when the rocker covers were removed, and from the oil suction screen cover plug when the plug was removed to access the screen. The oil suction screen was absent of debris. No debris was observed between the folds of the oil filter media.

** No evidence of mechanical issues noted in the engine.

Submitted by:

Aaron Sauer
Sr. Air Safety Investigator