

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

SUMMARY OF EXAMINATION

-- CEN19LA163 --

A. ACCIDENT

Location: Switz City, Indiana
Date: June 11, 2019
Time: 2100 central daylight time
Aircraft: Griff Challenger II (s/n CH2-0708-LSS-LW-0151), N582L

B. PARTICIPANTS

Chris House
Principal Maintenance Inspector
Federal Aviation Administration
Indianapolis, Indiana

Jordan Paskevich
Chief Accident Investigator
Rotech Flight Safety, Inc.
Vernon, British Columbia, Canada

C. ACCIDENT SUMMARY

On June 11, 2019, about 2100 eastern daylight time, an amateur-built Griff Challenger II airplane, N582L, was substantially damaged during a forced landing following a loss of engine power near Switz City, Indiana. The pilot sustained serious injuries. The airplane was registered to and operated by the pilot as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Visual meteorological condition prevailed, and the flight was not operated on a flight plan. The local flight departed from Shawnee Field (1I3), Bloomfield, Indiana, about 1930.

E. DETAILS OF EXAMINATION

The airplane was recovered to the owner's hangar at the Shawnee Field Airport (1I3). The engine examination was conducted on July 19, 2019. Investigative oversight was provided by the Federal Aviation Administration. The NTSB was not present for the exam.

Summary of Examination

F. SUMMARY OF EXAMINATION¹

The engine remained attached to the airframe. The propeller had been removed. A preliminary visual examination did not reveal any anomalies.

The PTO cylinder and piston appeared intact and displayed normal operating signatures. The MAG cylinder contained a build-up of metallic debris. The cylinder head and piston exhibited mechanical peening damage. The top piston ring was stuck in the land groove, and the land groove was deteriorated. Further disassembly revealed that the lower connecting rod bearing had failed. The metallic debris appeared consistent with fragmented bearing material. Corrosion was evident on the connecting rod; however, the connecting rod appeared otherwise intact. Excessive play was noted between the rod and the crankshaft journal consistent with the failure of the bearing. The valve train appeared intact.

The spark plugs common to the power-takeoff side (PTO) cylinder exhibited oil on the electrode but appeared undamaged. The spark plugs common to the magneto side (MAG) cylinder exhibited mechanical damage to the electrodes and contained metal fragments.

The fuel system, including the fuel pump, appeared intact and undamaged. Both carburetors were intact. Upon disassembly, both sieve screens were crushed on the mixing tube. Each carburetor was unremarkable; both contained fuel which appeared to be free of sediment or debris.

The oil tank was deformed and breached consistent with impact forces. Injection oil was observed in the intake system. The cooling system was not breached and contained the minimum amount of coolant.

The gearbox appeared intact. An after-market belt reduction drive system was installed. No anomalies were observed. The induction and exhaust systems were unremarkable.

----- End of Summary -----

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