Thursday, 01/07/2019

Inspectors Eric Haft, and Gary Knaggs witnessed an engine teardown of Lycoming IO-540-K1G5D, s/n L-13642-48A. The teardown was performed by A &P/IA John Larson (Larson).

The fuel level was verified that was onboard the aircraft. Wing tank gauges indicated approx. 16 gallons in Right wing, and 25 gallons in left wing. The right wing had indications of fuel leaking from the bottom.

Larson removed the magneto inspection plug, and rotated the engine by pulling the propeller thru. The magneto did not turn. Larson removed magneto p/n 10-682560-13, s/n F082780 and we inspected the magneto for physical integrity, then bench checked magneto for spark, spark was confirmed.

Larson pulled prop thru again, and we inspected the gear train for rotation through the magneto mounting area, and there was no indication of rotation observed in the gear train.

Larson removed the #4 cylinder valve cover and pulled prop through again. There was no indication of valve train movement.

Larson then removed upper spark plugs, pulled prop through, confirmed movement of all 6 pistons.

Larson removed propeller, then removed engine from aircraft to gain access to the accessory drive gearbox. Upon removal of the accessory gearbox cover the following discrepancies were discovered:

1. Tach drive shaft was missing the retaining snap ring from the cam shaft
2. Crankshaft gear attachment bolt was broken, the lock tab severely worn, and the crankshaft gear had dislodged from the end of the crankshaft.

Larson removed the oil pickup screen. No extensive amount debris was present.

The bolt shank and head was retrieved from the oil sump along with the remains of the lock tab. The threaded portion of the broken bolt half was removed from rear of crankshaft by hand.

Inspector Haft secured the drive gear, lock tab and broken bolt for further investigation by NTSB lab.

Respectfully Submitted

Eric Haft ASI, GL-23
Gary Knaggs ASI, GL-23