

N3918T, Piper Arrow, PA-28R-180, S/N: 28R-30255, Lycoming IO-360-B1E, S/N: L-4412-51A

Upon inspection prior to a pre-buy I noticed a defective exhaust gasket on #4 cylinder. During removal one exhaust stud was broken, also it was discovered that there was a deformation (slight erosion) of the subject cylinder exhaust flange mating surface. Time was a constraint as there was an individual coming to perform a pre-buy and possibly purchase the aircraft. I made the decision to replace the cylinder assembly instead of waiting to have the original cylinder repaired.

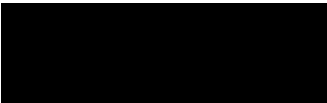
The cylinder was removed as outlined in the Lycoming Operators Manual for the O-360 and Associated Models Manual, P/N: 60297-12, Revision Number 60297-12-5, dated October 2005 and subsequent Revision dated December 2009. Section 5: Maintenance Procedures, Item 4: Cylinders, Items: A thru C.

After removal I test fit the piston pin in the connecting rod and felt the play was excessive as there is only a maximum of 0.0025" "Loose" fit between the two parts. After determining that the piston pin was within Factory New tolerance's it was decided to remove the connecting rod for bushing replacement. The rod was removed and the owner elected to take it to Heartland Aircraft in Atchison, Kansas to be rebushed and checked for straightness. Upon return the Rod Bolts P/N: 75061 and Rod Nuts P/N: LW-12186 were replaced and the connecting rod was reinstalled as per Overhaul Manual – Lycoming Aircraft Engines Direct Drive, P/N: 60294-7, Revision Number 60294-7-14, Current Revision July 2011, Section 7: Crankcase, Crankshaft and Reciprocating Parts, Item 7-67. Rod Nuts were torqued as per Section 10: "Table of Limits" of the above overhaul manual, SSP-1776-B current Revision January 2011, Part 1: Direct Drive Engines, Section "V": Special Torque Requirements, Reference (new) 900, Page 1-34. This engine is a Chart "S" code as listed on page "ii" of the Table of Limits. Rod nuts were torqued to 480 in-lbs. / 40 ft-lbs.

Replacement cylinder assembly was received from Gibson – Aviation LLC. All items were visually inspected and deemed serviceable. Piston was marked “Standard OK” on the dome. Cylinder and piston installation was performed as per Lycoming Operators Manual, P/N: 60297-12, Revision December 2009, Section 5: Maintenance Procedures, Item 4: Cylinders, Items: D and E. Cylinder base nuts ½” dia. were torqued as per the above Manual procedures with a final torque of 600 in-lbs. / 50 ft-lbs. and 3/8” dia. nuts were torqued to 300 in-lbs. / 25 ft-lbs. These torque numbers are also listed in the “Table of Limits” of the Overhaul Manual Section 10, Part 1, Section “V”, Reference (new) 929, Page 1-35.

Torque Wrench used during this maintenance procedure was a Snap-On, Model: QD2FR75, S/N: 1205510524. Calibration Date: 4/29/2014, Calibration Due: 4/29/2015. Last calibration was performed by Express Calibration Services, Lee’s Summit, MO. The above Torque Wrench has never been loaned out and has never been dropped.

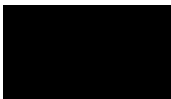
Cylinder break-in procedures were performed as per Lycoming SI 1427C. All functions were normal during all procedures.

The appropriate maintenance actions were entered into the Engine log book. The 8130 for the Cylinder Overhaul was stapled to Gibson – Aviation LLC’s invoice and was unintentionally not included in the Engine log book or Aircraft records. Since then a copy has been forwarded to Edward Malinowski of the NTSB 

Following the above maintenance action the aircraft was flown to Higginsville, MO for IFR Certification, and returned to East Kansas City Airport (3GV). No abnormalities were reported to the owner or myself by the pilot of that flight.

On February 13th, the prospective buyer and his mechanic arrived. Mechanic and buyer performed a pre-buy inspection of the aircraft and upon completion of the inspection the

owner, buyer and mechanic departed East Kansas City Airport (3GV) for a demonstration flight. Upon their return no abnormalities were reported and the owner and buyer completed their transaction for the purchase of the aircraft. New owner took possession of the aircraft and all log books. New owner and his mechanic departed 3GV after new owner returned his rental car, exact time of departure is unknown to me.

It has been brought to my attention by Mr. Wes Williamson that the buyer has stated he did not receive the aircraft records or log books. This statement is untrue, upon completion of the demonstration flight I surrendered all known records for N3918T, to include Airframe, Engine, Propeller log books and numerous other items pertinent to the aircraft and systems to Mr. Williamson and was present when the above articles were surrendered to the new owner. I have also been told by Mr. Williamson that the buyer either did not disclose that a pre-buy inspection was performed or that the buyer stated a pre-buy inspection was not performed. This is also untrue, I was personally present for approximately 1.5 hours while the buyer and his mechanic performed portions of the pre-buy inspection. When I arrived at the hanger the co-pilot seat was removed and the mechanic was inspecting items inside the cockpit. I also witnessed him inspecting the tail cone of the fuselage and inside under wing panels. The cowling top had also been removed upon my arrival as it was not secured to the lower cowling and was ajar. The buyer and mechanic spent approximately 3 hours inside the hanger with the aircraft both observed and unobserved. -----END----- William A. Latham, Jr. A& 
02/22/2015

Communication Summary

4/7/2016

Information From: Mr. Al Latham, A&P mechanic



Summary & Factual Information:

Mr. Latham was asked to confirm the break-in flight time as indicated in the logbook endorsement. He, in part, indicated:

I had forgotten that the plane had flown previously until I spoke with the owner. There was approximately 2.5 hours flown prior to the flight with the owner and buyer. Although it didn't fly for two hours continuously, there was two flights lasting approximately 30 minutes each, and then another flight for approximately 1.5 hours. The owner and I had discussed the break-in procedures and it was performed IAW Lycoming SI 1427C with the exception of the two hour single flight.

The cylinder write-up was signed off while the previous and new owner were standing out by the aircraft, I didn't sign it off in the physical presence of the new owner as I had taken the logbook into my hanger and entered the write-up.

I can attest that the above summary is correct to the best of my knowledge:

Edward F. Malinowski
National Transportation Safety Board
Air Safety Investigator