



Service Instruction

ENGINE COMPONENTS, INC.

S.I. No.: 03-11

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Title: HIGH CHROME GUIDES IN ECI® TITAN® CYLINDER ASSEMBLIES

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Technical Portions are FAA DER Approved.

- 1.0 SUBJECT:** Hi-Chrome Exhaust Guide usage and inspection requirements on Engine Components, Inc. (ECi®) TITAN® Cylinder Assemblies.
- 2.0 MODELS AFFECTED:** All ECI TITAN cylinder assemblies approved for use in Lycoming engines except those installed on a rotary-wing aircraft.
- 3.0 TIME OF COMPLIANCE:** Halfway to TBO or at 1,000 hours of operation, whichever occurs first.
- 4.0 BACKGROUND:** Because of unusual guide wear, in November 2004, Textron Lycoming issued Mandatory Service Bulletin 388, which applies to all engines and requires operators to check for valve guide wear every 400 hours of operation (or 300 hours on helicopter installations). SB 388 also sets limits for maximum guide wear by measuring valve side movement (commonly referred to as the “wobble check”).

To further deal with this problem, Lycoming introduced Hi-Chrome guides in 1998. These guides are geometrically identical to the original design, but they are fabricated using a special Ni-Resist material that has increased chrome content. The use of Hi-Chrome guides has reportedly reduced valve guide wear significantly. Because of this increased performance, Lycoming issued SI 1485 in December 1998 (revised July 2003), which removed the requirements of SB 388 and recommended an inspection at 1,000 hours or half way to TBO whichever occurs first.

ECi began installation of Hi-Chrome guides (P/N AEL74230HC) on Parallel TITAN Cylinder Assemblies in June 2003.¹ Since this time, ECI has also noticed a reduction in guide wear due to the use of the Hi-Chrome material. This Service Instruction is provided to effect the same change in inspection requirements as Lycoming SI 1485A dated July 2003.

- 5.0 GUIDE IDENTIFICATION:** ECI Hi-Chrome guides are easily identifiable by the letters “HC”, which are metal-stamped immediately after the guide part number as shown in Figure 1 and Figure 2.
- 6.0 CYLINDER IDENTIFICATION:** Effective with serial number 7000, ECI parallel cylinder assemblies have incorporated Hi-Chrome guides. The serial number can be found on the cylinder as referenced in Figure 3 (next page). Additionally, the letter “C” is stamped inside a circle near the boss for oil drain back fitting.
- 7.0 INSPECTION REQUIREMENTS:** Once Hi-Chrome guides have been installed, it is no longer necessary to comply with SB 388. However, ECI recommends that the inspection procedure outlined in SB 388 be completed at 1,000 hours of operation or halfway to TBO, whichever occurs first. Please note that ALL cylinders must have Hi-Chrome guides before the SB 388 inspections can be discontinued. Upon installation of the ECI TITAN cylinder assemblies that contain Hi-Chrome guides, a logbook entry must be made for future reference.

¹ High Chrome valve guide P/N AEL75838HC for Lycoming Angle Valve Cylinders and valve guide P/N AEL11626HC for O-235 cylinders are available, and this Service Instruction applies to their installation.



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Figure 1: Standard Ni-Resist Guide AEL74230 Rev T



Figure 2: Hi-Chrome Guide AEL74230HC Rev T

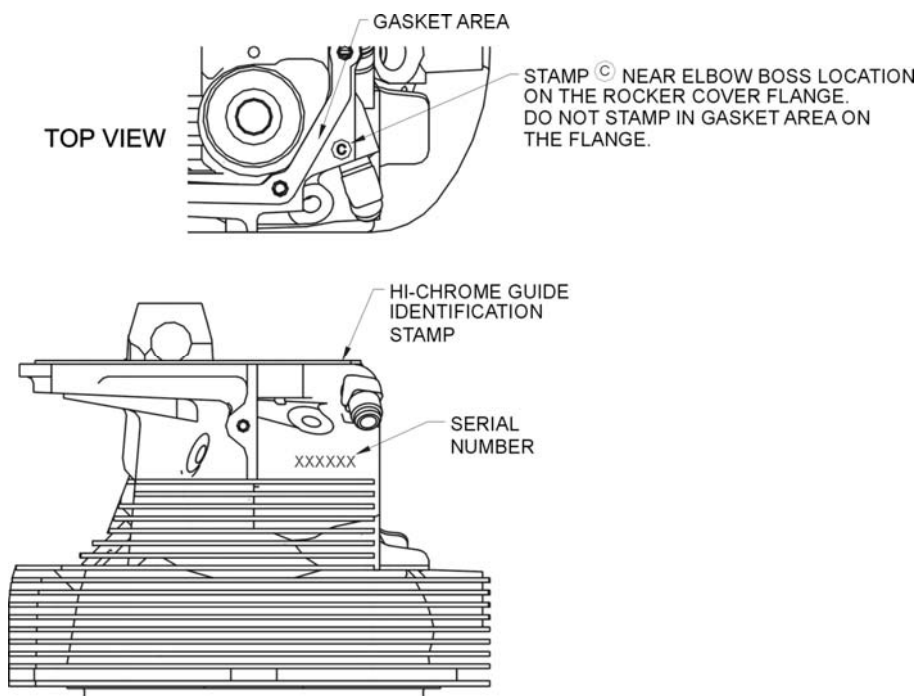


Figure 3: Serial Number Location on the Cylinder Assembly