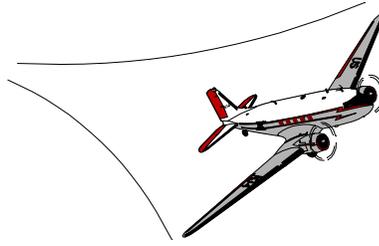


SPECIAL AIRWORTHINESS INFORMATION BULLETIN



U.S. Department
of Transportation

**Federal Aviation
Administration**

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Aircraft Certification Service
Washington, DC

We post SAIBs on the internet at "av-info.faa.gov"

This is information only. Recommendations are not mandatory.

Introduction

The FAA issued Airworthiness Directive (AD) 2002-23-06, effective November 19, 2002, which superseded Emergency AD 2002-20-51. The AD requires the owners of certain Lycoming engines to remove and replace the crankshaft gear retention bolt. ***This Special Airworthiness Information Bulletin (SAIB) clarifies the applicability of AD 2002-23-06.***

We sent AD 2002-23-06 to all owners of Lycoming AEIO-540, IO-540, O-540, LTIO-540 and TIO-540 series reciprocating engines. It is applicable to engines with a Lycoming P/N STD-2209 crankshaft gear retaining bolt installed. **The AD is not applicable to an engine with a different P/N bolt installed**, such as a FAA Parts Manufacturing Approval (PMA) bolt. For example, an engine with a PMA bolt installed that was manufactured by Superior Air Parts with P/N SL-STD-2209 is not affected by AD 2002-23-06.

Background

During the two year period between November 1996 and November 1998, nonconforming -540 series engine crankshaft gear retaining bolts were installed in Lycoming engines and shipped as spare parts. The FAA issued AD 99-03-05 for engines installed in Robinson helicopters only, and AD 2002-23-06, for the remaining -540 series engine population.

When developing AD 2002-23-06, the FAA recognized that not all -540 series engines had the nonconforming bolts installed. Specifically, those engines that had a PMA bolt installed, and those Robinson helicopter engines that had previously complied with AD 99-03-05 (and had not had another bolt installed after the AD compliance) had conforming bolts. To address PMA bolts in the AD, the FAA specified the P/N of the nonconforming Lycoming bolts (P/N STD-2209) in the applicability section, thereby limiting the AD to only those engines with those bolts installed. *Consequently, engines with bolts that have a different P/N such as PMA bolts are not affected by AD 2002-23-06.*

If the bolt was installed by Lycoming between November 27, 1996 and November 10, 1998, during manufacture, overhaul or repair, the engine serial number is listed in Table 1 of Lycoming Mandatory Service Bulletin (MSB) 554. If Lycoming installed the bolt during this time period and the engine serial number is not listed in Table 1 of MSB 554 contact Lycoming at (570) 323-6181.

If the bolt was installed in the field between November 27, 1996 and November 19, 2002, (the effective date of AD 2002-23-06), owners of –540 series engines need to first make a determination of applicability by reviewing their engine records to identify the P/N of the bolt installed in their engine. If it can be confirmed that a different P/N bolt is installed, or if Lycoming kit 05K19987 was used, or if a bolt from Lycoming kit 05K19987 was used, **then you do not have to comply with any part of the AD. However, owners are cautioned to verify the P/N of the bolt installed, not just the supplier of the bolt.** This is because bolts manufactured by Lycoming, including the nonconforming bolts, could have been procured from many different sources, including PMA manufacturers. For example, it has been confirmed that Superior Air Parts did supply Lycoming bolts (P/N STD-2209) on some occasions in lieu of PMA bolts. These Lycoming bolts, P/N STD-2209, are affected by AD 2002-23-06 and must be replaced.

Recommendations

Upon receipt of AD 2002-23-06, aircraft owners should determine if a Lycoming crankshaft gear retaining bolt P/N STD-2209 is installed in their engine, when it was installed and the shop that installed the bolt (Lycoming or in the field). This can be done by a review of the engine records to identify the P/N of the bolt installed, by contacting the facility that installed the bolt, or by visual inspection of the bolt head.

If it is confirmed that a Lycoming P/N STD-2209 bolt was installed, do the following:

- If the installation was done by Lycoming, between November 27, 1996 and November 10, 1998, and the engine S/N is listed in the Table 1 of MSB 554, replace the bolt.
- If the installation was done by Lycoming during this time period and the engine serial number is not listed in Table 1 of Lycoming MSB 554, contact Lycoming at (570) 323-6181 for additional information.
- If the installation was done in the field between November 27, 1996 and November 19, 2002, (the effective date of AD 2002-23-06), and a bolt from Lycoming kit 05K19987 was not used, replace the bolt.

Until Lycoming issues a bolt with a new P/N (a new P/N bolt will not be affected by the AD), a replacement bolt must be a bolt in Lycoming kit 05K19987. This is necessary to avoid the installation of a Lycoming STD-2209 bolt that has been stored in the stock room of a repair shop.

If it is confirmed that a PMA bolt with a different P/N was installed (i.e., manufactured by Superior Air Parts with P/N SL-STD-2209), then the engine is not affected by the AD and no further action is required. It should also be noted that PMA bolts manufactured by Superior Air Parts can also be identified visually by confirming that an “SL” is marked on the bolt head. The head of the Lycoming bolt, STD-2209, is not marked. Other PMA bolts may have special markings to identify their brand of bolts. Therefore, check with the bolt manufacturer to determine what markings are used on their bolt.

If review of your engine records can not determine the bolt P/N, you must comply with AD 2002-23-06.

FOR FURTHER INFORMATION CONTACT

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