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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2014-0540; Directorate Identifier 2014-NE-10-AD; Amendment 39-18074; AD 2015-02-07]**

**RIN 2120-AA64**

**Airworthiness Directives; Lycoming Engines Reciprocating Engines (Type Certificate previously held by Textron Lycoming Division, AVCO Corporation)**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain serial number (S/N) Lycoming Engines reciprocating engines. This AD was prompted by propeller governor shaft set screws coming loose due to improper installation. We are issuing this AD to prevent the propeller governor shaft set screw from coming loose, causing damage to the engine and damage to the airplane.

**DATES:** This AD is effective March 11, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 11, 2015.

**ADDRESSES:** For service information identified in this AD, contact Lycoming Engines, 652 Oliver Street, Williamsport, PA 17701; phone: 800-258-3279; fax: 570-327-7101; Internet: [www.lycoming.com/Lycoming/SUPPORT/TechnicalPublications/ServiceBulletins.aspx](http://www.lycoming.com/Lycoming/SUPPORT/TechnicalPublications/ServiceBulletins.aspx). You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0540; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of

Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, Engine & Propeller Directorate, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: 516-228-7337; fax: 516-794-5531; email: norman.perenson@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain S/N Lycoming Engines reciprocating engines. The NPRM published in the Federal Register on September 11, 2014 (79 FR 54218). The NPRM was prompted by events of propeller governor shaft set screws coming loose due to improper installation. If the set screws come loose, the engine may lose oil resulting in damage to the engine and damage to the airplane. The NPRM proposed to require application of Loctite 290, or equivalent, to the threads of the propeller governor shaft set screw at each installation of the set screw in addition to the peening of crankcase hole threads. We are issuing this AD to prevent the propeller governor shaft set screw from coming loose, causing damage to the engine and damage to the airplane.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (79 FR 54218, September 11, 2014) or on the determination of the cost to the public.

We did however; find that we directed the use of LocTite 290, a commercial product by brand name. We changed the AD to remove the requirement to use any particular brand like LocTite 290, from this AD.

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed.

### **Related Service Information**

We reviewed Lycoming Engines Service Instruction No. 1343B, dated June 15, 2007. The service instruction describes procedures for application of sealant for the propeller governor shaft set screw and the peening of crankcase hole threads. You can find this information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0540.

### **Costs of Compliance**

We estimate that this AD will affect about 2,330 engines installed on airplanes of U.S. registry. We also estimate that it will take about 0.1 hours per engine to comply with this AD. The average labor rate is \$85 per hour. Prorated parts life will cost about \$1 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$22,135.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):



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**2015-02-07 Lycoming Engines (Type Certificate previously held by Textron Lycoming Division, AVCO Corporation):** Amendment 39-18074; Docket No. FAA-2014-0540; Directorate Identifier 2014-NE-10-AD.

**(a) Effective Date**

This AD is effective March 11, 2015.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all Lycoming Engines wide deck aerobatic reciprocating engines that have either an "A" or an "E" at the end of the serial number (e.g., L-12345-51A, or L-12345-51E) and are equipped with a front-mounted propeller governor. Affected reciprocating engine models include, but are not limited to Lycoming Engines AEIO-320-D1B; AEIO-360-A1E, -A1E6, -B1H, -H1B; AEIO-540-D4A5, -D4B5, -D4D5, -L1B5, -L1B5D, -L1D5; AEIO-580-B1A; and IO-540-K1K5 (with aerobatic kit installed).

**(d) Unsafe Condition**

This AD was prompted by propeller governor shaft set screws coming loose due to improper installation. We are issuing this AD to prevent the propeller governor shaft set screw from coming loose, causing damage to the engine and damage to the airplane.

**(e) Compliance**

Comply with this AD within the compliance times specified, unless already done.

After the effective date of this AD, at each installation of the propeller governor shaft set screw, secure the set screw in place in accordance with the instructions of Lycoming Engines Service Instruction No. 1343B, dated June 15, 2007. Use a thread-locking, anaerobic, single-component sealing compound that meets military specification Mil-S-46163A, Type III, Grade R, and peen the crankcase hole threads.

**(f) Alternative Methods of Compliance (AMOCs)**

The Manager, New York Aircraft Certification Office, FAA, may approve AMOCs to this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(g) Related Information**

(1) For more information about this AD, contact Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, Engine & Propeller Directorate, 1600 Stewart Avenue,

Suite 410, Westbury, NY 11590; phone: 516-228-7337; fax: 516-794-5531; email: norman.perenson@faa.gov.

**(h) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Lycoming Engines Service Instruction No. 1343B, dated June 15, 2007.

(ii) Reserved.

(3) For Lycoming Engines service information identified in this AD, contact Lycoming Engines, 652 Oliver Street, Williamsport, PA 17701; phone: 800-258-3279; fax: 570-327-7101; Internet: <http://www.lycoming.com/Lycoming/SUPPORT/TechnicalPublications/ServiceInstructions.aspx>.

(4) You may view this service information at FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on January 13, 2015.  
Thomas A. Boudreau,  
Acting Directorate Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.