



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0788; Product Identifier 2017-NE-27-AD; Amendment 39-18988; AD 2017-16-11]

RIN 2120-AA64

Airworthiness Directives; Lycoming Engines Reciprocating Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain models of Lycoming Engines reciprocating engines. This AD requires an inspection of connecting rods and replacement of affected connecting rod small end bushings. This AD was prompted by several reports of connecting rod failures resulting in uncontained engine failure and in-flight shutdowns (IFSDs). We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

We must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, 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. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0788.

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-2017-0788; 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 final rule, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Norman Perenson, Aerospace Engineer, New York ACO Branch, FAA, 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 have received 5 reports of uncontained engine failures and IFSDs due to failed connecting rods on various models of Lycoming Engines reciprocating engines listed in Table 1 of Lycoming Engines Mandatory Service Bulletin (MSB) No. 632B, dated August 4, 2017, that were overhauled or repaired using any replacement part listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017, which was shipped from Lycoming Engines during the dates listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017. This AD requires accomplishing the instructions in Lycoming Engines MSB No. 632B, dated August 4, 2017, except for the instruction to complete the online survey as specified in the MSB. This condition, if not corrected, could result in uncontained engine failure, total engine power loss, IFSD, and possible loss of the airplane. We are issuing this AD to prevent connecting rod failure.

Related Service Information under 1 CFR part 51

Lycoming Engines Mandatory Service Bulletin (MSB) No. 632B, dated August 4, 2017. The MSB describes procedures for inspecting connecting rods and replacing connecting rod small end bushings. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

AD Requirements

This AD requires accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between the AD and the Service Information”.

Differences Between this AD and the Service Information

Lycoming Engines MSB No. 632B, dated August 4, 2017 requires you to complete an online survey at www.lycoming.com/SB632, review your inventory of any part listed in Table 2 of the MSB, and sending certain parts to Lycoming Engines. This AD does not include those requirements.

FAA’s Justification and Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because compliance is required within 10 operating hours. Therefore, we find that notice and opportunity for prior public comment are impracticable and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2017-0788 and Product Identifier 2017-NE-27-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. We will consider all comments received by the closing date and may amend this final rule because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this final rule.

Costs of Compliance

We estimate that this AD affects 778 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---------------|---|-------------------|-------------------------|---|
| Inspection | 15 work-hours X \$85 per hour = \$1,275 per inspection cycle | \$150.00 | \$1,425 | \$1,108,650.00 per inspection cycle |

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these replacements:

On-condition costs

| Action | Labor cost | Parts cost | Cost per product |
|---|--|-------------------|-------------------------|
| Connecting rod replacement on 4-cylinder engine | 12 work-hours X \$85 per hour = \$1,020.00 | \$1,150.00 | \$2,170.00 |
| Connecting rod replacement on 6-cylinder engine | 18 work-hours X \$85 per hour = \$1,530.00 | \$5,150.00 | \$6,680.00 |
| Connecting rod replacement on 8-cylinder engine | 20 work-hours X \$85 per hour = \$1,700.00 | \$5,150.00 | \$6,850.00 |

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

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, 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):

2017-16-11 Lycoming Engines Reciprocating Engines (Type Certificate previously held by Textron Lycoming Division, AVCO Corporation): Amendment 39-18988; Docket No. FAA-2017-0788; Product Identifier 2017-NE-27-AD.

(a) Effective Date

This AD is effective [INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to:

(1) all Lycoming Engines reciprocating engines listed in Table 1 of Lycoming Engines Mandatory Service Bulletin (MSB) No. 632B, dated August 4, 2017, and

(2) all Lycoming Engines reciprocating engines that were overhauled or repaired using any replacement part listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017, which was shipped from Lycoming Engines during the dates listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017.

(d) Subject

Joint Aircraft System Component (JASC) Code 8520, Reciprocating Engine Power Section.

(e) Unsafe Condition

This AD was prompted by several reports of connecting rod failures resulting in uncontained engine failure and in-flight shutdowns (IFSDs). We are issuing this AD to prevent connecting rod failure. The unsafe condition, if not corrected, could result in uncontained engine failure, total engine power loss, IFSD, and possible loss of the airplane.

(f) Compliance

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

(g) Required Actions

(1) For all affected engines, within 10 operating hours after the effective date of this AD, inspect all affected connecting rods as specified in Lycoming Engines MSB No. 632B, dated August 4, 2017, except for the instruction to complete the online survey and the instruction to review your inventory.

(2) Replace all connecting rods that fail the inspection required by paragraph (g)(1) of this AD with parts eligible for installation.

(h) Installation Prohibition

After the effective date of this AD:

(1) do not install any Lycoming Engines reciprocating engine that was overhauled or repaired using any replacement part listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017, which was shipped from Lycoming Engines during the dates listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017, and

(2) do not install any part listed in Table 2 of Lycoming Engines MSB No. 632B, dated August 4, 2017 into any Lycoming Engines reciprocating engine.

(i) Credit for Previous Actions

You may take credit for the actions required by paragraph (g) of this AD if you performed those actions before the effective date of this AD using Lycoming Engines MSB No. 632A, dated July 23, 2017 or earlier versions.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

For more information about this AD, contact Norman Perenson, Aerospace Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: 516-228-7337; fax: 516-794-5531; email: norman.perenson@faa.gov.

(l) 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 Mandatory Service Bulletin No. 632B, dated August 4, 2017.

(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:
www.lycoming.com/Lycoming/SUPPORT/TechnicalPublications/ServiceBulletins.aspx.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information that is incorporated by reference 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 August 7, 2017.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.
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