

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2011-0604; Directorate Identifier 2011-NE-21-AD; Amendment 39-16791; AD 2011-18-09]**

**RIN 2120-AA64**

**Airworthiness Directives; Lycoming Engines Model IO-720-A1B Reciprocating Engines**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain model IO-720-A1B Lycoming Engines reciprocating engines. This AD requires a crankshaft inspection for certain parts that may be installed. This AD was prompted by the failure of a crankshaft due to incorrect parts installed. We are issuing this AD to prevent engine crankshaft failure and damage to the airplane.

**DATES:** This AD is effective September 29, 2011.

We must receive comments on this AD by October 31, 2011.

**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.

**Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 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:** 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; e-mail: [Norman.perenson@faa.gov](mailto:Norman.perenson@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We received a report of a crankshaft failing after a repair station installed a crankshaft that had improper counterweight washers installed. The repair station has determined that two additional engines require inspection, to determine if the crankshaft they installed has the same improper washers. However, the two engines which have not been inspected, cannot be located. This condition, if not corrected, could result in engine crankshaft failure and damage to the airplane.

### **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 in other products of the same type design.

### **AD Requirements**

This AD requires removing four cylinders from each affected engine and inspecting the engine crankshaft counterweight washers.

### **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 a crankshaft with improper damper washers installed, failed after 440 hours of operation. The location of the two additional engines that require inspection, and the unknown current time-since-overhaul on those engines, warrants immediate notice to advise the current or subsequent owner of the need to inspect the engines before further flight. 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 AD. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2011-0604 and Directorate Identifier 2011-NE-21-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD 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 AD.

### **Costs of Compliance**

We estimate that this AD will affect two Lycoming Engines model IO-720-A1B reciprocating engines, installed on airplanes of U.S. registry. We also estimate that the inspection will take about 0.5 work-hour per engine to perform, and that the average labor rate is \$85 per work-hour. Required parts would cost \$0 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$170.

## **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, 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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**2011-18-09 Lycoming Engines (formerly Textron Lycoming Division, AVCO Corporation):**  
Amendment 39-16791; Docket No. FAA-2011-0604; Directorate Identifier 2011-NE-21-AD.

**Effective Date**

(a) This AD is effective September 29, 2011.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to Lycoming Engines reciprocating engines, model IO-720-A1B, serial number L-1457-54A and serial number L-1458-54A. These engines were last known to be installed in a Beech U-8F (Queen Air) N51779 and operating in the southern U.S. and Mexico.

**Unsafe Condition**

(d) This AD was prompted by the failure of a crankshaft due to incorrect parts installed. We are issuing this AD to prevent engine crankshaft failure and damage to the airplane.

**Compliance**

(e) Comply with this AD before further flight after the effective date of this AD, unless already done.

**Crankshaft Inspection**

(f) Remove the four cylinders from one side of the engine. Guidance on removing the cylinders can be found in the Lycoming Engines Overhaul Manual.

(g) Each counterweight has two rollers that should be held in place by washers, Lycoming part number (P/N) 71907. The washers can be identified as having three holes each, with a diameter of 0.185 inch. These washers are located at the front and rear of each counterweight for a total of four P/N 71907 washers per counterweight. The eight counterweights are located at the top and bottom of each crankshaft cheek, totaling 32 washers per crankshaft.

(h) Rotate the crankshaft to inspect the holes in washers at the front and rear of each counterweight as well as the top and bottom of each cheek.

(i) If each hole, in each of the 32 washers, measures 0.185 inch, then no further action is required. Reinstall the cylinders and test the engine. Guidance on reinstalling and testing can be found in the Lycoming Engines Overhaul Manual.

(j) If any of the 32 washers have one or more holes that do not measure 0.185 inch, then remove the crankshaft assembly and replace it with a serviceable crankshaft assembly. Scrap the non-conforming crankshaft.

## **Special Flight Permits**

(k) Special flight permits are authorized only if the engine has less than 400 hours time since overhaul.

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

(l) The Manager, New York Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD if requested using the procedures found in 14 CFR 39.19.

## **Related Information**

(m) 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; e-mail: Norman.perenson@faa.gov.

## **Material Incorporated by Reference**

(n) None.

Issued in Burlington, Massachusetts, on August 18, 2011.  
Peter A. White,  
Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.