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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2011-0547; Directorate Identifier 2011-NE-13-AD; Amendment 39-16947; AD 2012-03-06]

RIN 2120-AA64

Airworthiness Directives; Superior Air Parts, Lycoming Engines (Formerly Textron Lycoming), and Continental Motors, Inc., Fuel-Injected Reciprocating Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are superseding an existing airworthiness directive (AD) for Superior Air Parts and Lycoming Engines fuel-injected reciprocating engines. That AD currently requires removing AVStar Fuel Systems, Inc. (AFS) fuel servos installed after May 20, 2010, if the servo contained an AFS diaphragm, part number (P/N) AV2541801 or P/N AV2541803, from certain production lots. This AD expands the applicability, and changes the compliance interval for all affected Superior Air Parts, Lycoming Engines, and Continental Motors, Inc., fuel-injected reciprocating engines. This AD was prompted by an accident involving a Piper PA32R-301 airplane, and by the discovery of additional engines being affected by the unsafe condition since we issued the existing AD. We are issuing this AD to prevent an in-flight engine shutdown due to a failed fuel servo diaphragm, and damage to the airplane.

DATES: This AD is effective February 24, 2012.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 16, 2011 (76 FR 45655, August 1, 2011).

We must receive any comments on this AD by March 26, 2012.

ADDRESSES: You may send comments 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 AD, contact AVStar Fuel Systems, Inc., 1365 Park Lane South, Jupiter, FL 33458; phone: (561) 575-1560; Web site: www.avstardirect.com. You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803. 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>; 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: Kevin Brane, Aerospace Engineer, Atlanta Certification Office, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5582; fax: (404) 474-5606; email: kevin.brane@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

On July 13, 2011, we issued AD 2011-15-10, Amendment 39-16757 (76 FR 45655, August 1, 2011), for Superior Air Parts and Lycoming Engines fuel-injected reciprocating engines. That AD requires, before further flight, removing AFS fuel servos installed after May 20, 2010, if the servo contained an AFS diaphragm, P/N AV2541801 or P/N AV2541803, from certain production lots. That AD resulted from an accident involving a Piper PA32R-301 airplane. We issued that AD to prevent an in-flight engine shutdown due to a failed fuel servo diaphragm, and damage to the airplane.

Actions Since AD Was Issued

Since we issued AD 2011-15-10, Amendment 39-16757 (76 FR 45655, August 1, 2011), five commenters made us aware of eight additional engine models affected by the unsafe condition. We concur with the commenters. Discussions with AFS as a result of the comments indicated that the diaphragm problem extended to other reciprocating engines. AFS also indicated that the problem diaphragms could be installed on other unknown fuel injected engines. Therefore, we determined that we need to change the applicability from a table of specific engine models, to all Superior Air Parts, Lycoming Engines, and Continental Motors, Inc., fuel injected reciprocating engine models with an AFS fuel servo diaphragm, P/N AV2541801 or P/N AV2541803, installed.

Also since we issued AD 2011-15-10, Amendment 39-16757 (76 FR 45655, August 1, 2011), we relaxed the compliance from before further flight to within 5 flight hours after the effective date of the AD.

Relevant Service Information

We reviewed AFS Mandatory Service Bulletin (MSB) No. AFS-SB6, Revision 2, dated April 6, 2011. The MSB provides P/Ns and serial numbers (S/Ns) of affected servos.

FAA's Determination

We conducted an updated risk analysis using the known number of diaphragms potentially still in service and concluded that an unacceptable risk of an in-flight engine shutdown still exists. 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 within 5 flight hours after the effective date of this AD, that you determine if an AFS fuel servo diaphragm P/N AV2541801 or P/N AV2541803 from specific production lots, as identified in AFS MSB No. AFS-SB6, Revision 2, dated April 6, 2011, was installed in your fuel servo at any time after May 20, 2010, and if installed, that you remove the fuel servo from service before further flight.

This AD also replaces Table 1 of the existing AD with the statement that this AD applies to all Superior Air Parts, Lycoming Engines, and Continental Motors, Inc., fuel injected reciprocating engine models with an AFS fuel servo diaphragm, P/N AV2541801 or P/N AV2541803, installed.

Differences Between the AD and the Service Information

AFS MSB No. AFS-SB6, Revision 2, dated April 6, 2011, does not specify a compliance time and recommends limiting special flight permits to delivery to a service location. This AD requires performing the actions within 5 flight hours and prohibits special flight permits.

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 of the compliance requirement of 5 flight 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 we did not provide you with notice and an opportunity to provide your comments before it becomes effective. 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-2011-0547 and directorate identifier 2011-NE-13-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 61,000 engines installed on aircraft of U.S. registry. We also estimate that it will take about 0.5 work-hour per engine to perform the inspection, 2.0 work-hours per engine to remove the servo from 261 engines with a discrepant AFS diaphragm, P/N AV2541801 or P/N AV2541803 installed, and that the average labor rate is \$85 per work-hour. We estimate the

parts cost to be \$565 per servo. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$2,784,335.

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 part 39 of the Federal Aviation Regulations (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 removing airworthiness directive (AD) 2011-15-10, Amendment 39-16757 (76 FR 45655, August 1, 2011) and adding the following new AD:



CORRECTED: The AD number at the beginning of the regulatory text was incorrectly listed as "012-03-06" in the Federal Register. The Office of the Federal Register will issue a correction.

2012-03-06 Superior Air Parts, Lycoming Engines (formerly Textron Lycoming), and Continental Motors, Inc. (formerly Teledyne Continental Motors, Continental) Fuel-Injected Reciprocating Engines: Amendment 39-16947; Docket No. FAA-2011-0547; Directorate Identifier 2011-NE-13-AD.

(a) Effective Date

This AD is effective February 24, 2012.

(b) Affected ADs

This AD supersedes AD 2011-15-10, Amendment 39-16757 (76 FR 45655, August 1, 2011).

(c) Applicability

This AD applies to all Superior Air Parts, Lycoming Engines, and Continental Motors, Inc., fuel injected reciprocating engine models with an AVStar Fuel Systems, Inc. (AFS) fuel servo diaphragm, part number (P/N) AV2541801 or P/N AV2541803, installed.

(d) Unsafe Condition

This AD was prompted by an accident involving a Piper PA32R-301 airplane, and by the discovery of additional engines being affected by the unsafe condition since we issued AD 2011-15-10, Amendment 39-16757 (76 FR 45655, August 1, 2011). We are issuing this AD to prevent an in-flight engine shutdown due to a failed fuel servo diaphragm, and damage to the airplane.

(e) Compliance

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

(f) Remove Fuel Servo

(1) Within 5 flight hours after the effective date of this AD, determine if an AFS fuel servo diaphragm P/N AV2541801 or P/N AV2541803, from an affected production lot was installed in your fuel servo at any time after May 20, 2010. Use AFS Mandatory Service Bulletin (MSB) No. AFS-SB6, Revision 2, dated April 6, 2011 to determine if your fuel servo has an affected diaphragm. If you determine that your fuel servo has an affected diaphragm, remove the fuel servo from service before further flight.

(2) After the effective date of this AD, do not install any fuel servo containing an AFS fuel servo diaphragm, P/N AV2541801 or P/N AV2541803 from the production lots listed in AFS MSB No. AFS-SB6, Revision 2, dated April 6, 2011, into any airplane.

(g) Special Flight Permit

Special flight permits are not authorized.

(h) Alternative Methods of Compliance (AMOCs)

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

(i) Related Information

For more information about this AD, contact Kevin Brane, Aerospace Engineer, Atlanta Certification Office, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5582; fax: (404) 474-5606; email: kevin.brane@faa.gov.

(j) Material Incorporated by Reference

(1) You must use AVStar Fuel Systems Mandatory Service Bulletin No. AFS-SB6, Revision 2, dated April 6, 2011, to do the actions required by this AD, unless the AD specifies otherwise.

(2) The Director of the Federal Register approved the incorporation by reference (IBR) under 5 U.S.C. 552(a) and 1 CFR part 51 on August 16, 2011.

(3) For service information identified in this AD, contact AVStar Fuel Systems, Inc., 1365 Park Lane South, Jupiter, FL 33458; (561) 575-1560; Web site: www.avstardirect.com.

(4) You may review copies of the service information at the FAA, 12 New England Executive Park, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7125.

(5) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call (202) 741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Burlington, Massachusetts, on January 31, 2012.

Peter A. White,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.