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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2008-0420; Directorate Identifier 2008-NE-10-AD; Amendment 39-15793; AD 2009-02-03]**

**RIN 2120-AA64**

**Airworthiness Directives; Lycoming Engines IO, (L)IO, TIO, (L)TIO, AEIO, AIO, IGO, IVO, and HIO Series Reciprocating Engines, Teledyne Continental Motors (TCM) LTSIO-360-RB and TSIO-360-RB Reciprocating Engines, and Superior Air Parts, Inc. IO-360 Series Reciprocating Engines With Certain Precision Airmotive LLC RSA-5 and RSA-10 Series, and Bendix RSA-5 and RSA-10 Series, Fuel Injection Servos**

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

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

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) for Lycoming Engines IO, (L)IO, TIO, (L)TIO, AEIO, AIO, IGO, IVO, and HIO series reciprocating engines, TCM TSIO-360-RB reciprocating engines, and Superior Air Parts, Inc. IO-360 series reciprocating engines with certain Precision Airmotive LLC RSA-5 and RSA-10 series fuel injection servos. That AD currently requires inspecting servo plugs for looseness and damage on fuel injection servos that have a servo plug gasket, part number (P/N) 365533, installed, and if loose, inspecting the servo regulator cover threads for damage, inspecting the gasket for damage, reinstalling acceptable parts, and torquing the servo plug to a new, higher torque to maintain the proper clamp-up force between the plug and cover. This AD requires the same inspections, except if the plug is found loose, servo plug gasket, P/N 365533, must be replaced with a new, improved gasket, P/N 2577258. This AD also requires replacement by December 31, 2009, of servo plug gaskets, P/N 365533, manufactured and made available on or after August 22, 2006, as mandatory terminating action to the repetitive inspections required by this AD. This AD also prohibits the installation of any servo plug gasket, P/N 365533. This AD also clarifies the TCM engine model applicability, and adds Bendix RSA-5 and RSA-10 series fuel injection servos to the applicability. This AD results from Precision Airmotive LLC introducing the installation of a new improved servo plug gasket, P/N 2577258, to the affected Precision Airmotive LLC RSA-5 and RSA-10 series, and Bendix RSA-5 and RSA-10 series, fuel injection servos. We are issuing this AD to prevent a lean running engine, which could result in a substantial loss of engine power and subsequent loss of control of the airplane.

**DATES:** Effective February 9, 2009.

We must receive any comments on this AD by March 24, 2009.

**ADDRESSES:** Use one of the following addresses to comment on this AD.

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: (202) 493-2251.

**FOR FURTHER INFORMATION CONTACT:** For Precision Airmotive LLC and Bendix, Richard Simonson, Aerospace Engineer, Propulsion Branch, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055; e-mail: [Richard.simonson@faa.gov](mailto:Richard.simonson@faa.gov); telephone (425) 917-6507; fax (425) 917-6590.

For Lycoming Engines, Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, Engine & Propeller Directorate, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; e-mail: [Norman.perenson@faa.gov](mailto:Norman.perenson@faa.gov); telephone (516) 228-7337; fax (516) 794-5531.

For Teledyne Continental Motors, Kevin Brane, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Blvd., Suite 450, Atlanta, GA 30349; e-mail: [kevin.brane@faa.gov](mailto:kevin.brane@faa.gov); telephone (770) 703-6063; fax (770) 703-6097.

For Superior Air Parts, Inc., Tausif Butt, Aerospace Engineer, Special Certification Office, FAA, Rotorcraft Directorate, Southwest Regional Headquarters, 2601 Meacham Blvd., Fort Worth, Texas 76137; e-mail: [Tausif.butt@faa.gov](mailto:Tausif.butt@faa.gov); telephone (817) 222-5195; fax (817) 222-5785.

**SUPPLEMENTARY INFORMATION:** The FAA amends 14 CFR part 39 by superseding AD 2008-08-14, Amendment 39-15466 (73 FR 19977, April 14, 2008). That AD requires:

- Inspecting servo plugs for looseness and damage on fuel injection servos that have a servo plug gasket, P/N 365533 installed since August 22, 2006, and if loose;
- Inspecting both the threads on the servo plug and the servo regulator cover for damage;
- Inspecting the gasket for damage, reinstalling acceptable parts; and
- Torquing the servo plug to a new, higher torque to maintain the proper clamp-up force between the plug and cover.

That AD was the result of eighteen reports of fuel injection servo plugs, P/N 383493 that had loosened or completely backed out of the threaded plug hole on the regulator cover of the fuel injection servo. That condition, if not corrected, could result in a lean running engine, which could result in a substantial loss of engine power and subsequent loss of control of the airplane.

#### **Actions Since AD 2008-08-14 Was Issued**

Since that AD was issued, Precision Airmotive LLC introduced the installation of a new improved servo plug gasket, P/N 2577258, to the Precision Airmotive LLC, RSA-5 and RSA-10 series, and Bendix, RSA-5 and RSA-10 series, fuel injection servos. Installation of this gasket with a new higher torque eliminates repetitive inspections of the servo plug.

Also since that AD was issued, we discovered that we inadvertently omitted certain Bendix, RSA-5 and RSA-10 series, fuel injection servos, from the AD applicability. We now include those fuel injection servos in this AD applicability.

## **FAA's Determination and Requirements of This AD**

The unsafe condition described previously is likely to exist or develop on other engines of the same type design. We are issuing this AD to prevent a lean running engine, which could result in a substantial loss of engine power and subsequent loss of control of the airplane. This AD requires:

- Inspecting servo plugs for looseness and damage on affected fuel injection servos that have a servo plug gasket, P/N 365533, installed, and if loose;
- Inspecting both the servo plug and regulator threads for damage;
- Replacing gasket P/N 365533, with gasket P/N 2577258;
- Torquing the servo plug to a new, higher torque to maintain the proper clamp-up force between the plug and cover; and
- By December 31, 2009, as mandatory terminating action to the repetitive inspections required by this AD, replacing all servo plug gaskets, P/N 365533 on affected servos, with new, improved gasket, P/N 2577258, and prohibiting the installation of P/N 365533 gaskets.

## **FAA's Determination of the Effective Date**

Since an unsafe condition exists that requires the immediate adoption of this AD, we have found that notice and opportunity for public comment before issuing this AD 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 us any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2008-0420; Directorate Identifier 2008-NE-10-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

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 with FAA personnel concerning this AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office 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 Operations office (telephone (800) 647-5527) is the same as the Mail address provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

## **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**

We have determined that 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 the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

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

Air transportation, Aircraft, Aviation safety, Safety.

### **Adoption of the Amendment**

Under the authority delegated to me by the Administrator, the Federal Aviation Administration 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 Amendment 39-15466 (73 FR 19977, April 14, 2008), and by adding a new airworthiness directive, Amendment 39-15793, to read as follows:



**2009-02-03 Precision Airmotive LLC and Bendix:** Amendment 39-15793. Docket No. FAA-2008-0420; Directorate Identifier 2008-NE-10-AD.

### **Effective Date**

- (a) This airworthiness directive (AD) becomes effective February 9, 2009.

### **Affected ADs**

- (b) This AD supersedes AD 2008-08-14, Amendment 39-15466.

### **Applicability**

(c) This AD applies to the following reciprocating engines with a Precision Airmotive LLC, RSA-5 or RSA-10 series, or Bendix, RSA-5 or RSA-10 series, fuel injection servo, having a servo plug gasket, part number (P/N) 365533, that was installed under the fuel injection servo plug, P/N 383493, on or after August 22, 2006:

- (1) Lycoming Engines IO, (L)IO, TIO, (L)TIO, AEIO, AIO, IGO, IVO, and HIO series reciprocating engines.
- (2) Teledyne Continental Motors LTSIO-360-RB and TSIO-360-RB reciprocating engines.
- (3) Superior Air Parts, Inc. IO-360 series reciprocating engines.

(d) This AD also applies to any other Precision Airmotive LLC RSA-5 or RSA-10 series, or Bendix, RSA-5 or RSA-10 series, fuel injection servo:

- (1) That was received for installation on an engine on or after August 22, 2006 without a P/N 2577258 gasket and it does not have a letter "G" on the fuel injection servo plug, P/N 383493; or
- (2) Any fuel injection servo that the installation history is not known.

### **Unsafe Condition**

(e) This AD results from Precision Airmotive LLC introducing the installation of a new improved servo plug gasket, P/N 2577258, to the affected Precision Airmotive LLC RSA-5 and RSA-10 series, and Bendix, RSA-5 and RSA-10 series, fuel injection servos. We are issuing this AD to prevent a lean running engine, which could result in a substantial loss of engine power and subsequent loss of control of the airplane.

### **Compliance**

(f) You are responsible for having the actions required by this AD performed before further flight, unless the actions have already been done.

### **Initial Inspection**

(g) Before further flight, inspect the fuel injection servo plug, P/N 383493, for looseness, by attempting to turn it by hand, while being careful not to damage the safety wire or seal. If the plug moves, it is loose.

(h) If the plug is not loose, go to paragraph (j) of this AD.

(i) If the plug is loose, do the following:

(1) Carefully cut and remove the safety wire that spans between the servo plug and regulator cover only.

(2) Remove the servo plug and gasket, P/N 365533, that is behind the plug. The gasket may be slightly stuck to the regulator cover.

(3) Examine the threads on the servo plug and regulator cover for damage. Threads should be smooth and consistent, with no burrs or chips. The servo plug outer diameter threads should also measure within 0.7419-0.7500-inch.

(4) If the threads on either the servo plug or the regulator cover are damaged, or do not measure within the limits in paragraph (i)(3) of this AD, the servo is not eligible for any installation and must be replaced before further flight.

(5) Replace the gasket, P/N 365533, with a new improved gasket, P/N 2577258.

(6) While the hex plug is removed, stamp or scribe the letter "G" onto the face of the hex plug. Information on stamping or scribing can be found in Precision Airmotive LLC Mandatory Service Bulletin (MSB) No. PRS-107 Revision 4, dated July 16, 2008.

(7) When reassembling, do not install any servo plug or regulator cover that is not eligible for installation. Install a new gasket, P/N 2577258, onto the servo plug and reassemble the servo plug to the regulator cover.

(8) Torque the servo plug to a new, higher torque of 90-100 in-lbs, to maintain the proper clamp-up force between the plug and cover.

(9) Safety wire the servo plug with 0.015 thru 0.025 inch diameter wire to the regulator cover screws. Information on properly safety wiring the plug can be found in Precision Airmotive LLC MSB No. PRS-107, Revision 4, dated July 16, 2008.

(10) Inspect all other safety wire on the servo. Replace any that are damaged.

### **Repetitive Inspections**

(j) For servo plugs that passed inspection with a gasket, P/N 365533 installed, at every engine oil change or within every 50 hours of engine run time, whichever occurs first, repeat the inspection and remedial steps specified in paragraphs (g) through (i)(10) of this AD.

### **Mandatory Terminating Action**

(k) By December 31, 2009, as mandatory terminating action to the repetitive inspections required by this AD, replace all servo plug gaskets, P/N 365533 that are installed on servos affected by this AD, with gasket, P/N 2577258.

(l) Use paragraphs (i)(1) through (i)(10) of this AD, to do the gasket replacements. Prohibition of Installing Gasket P/N 365533

(m) After the effective date of this AD, do not install gasket, P/N 365533, onto any fuel injection servo.

### **Identification of Servo Plug Gaskets**

(n) Servo plug gaskets, P/N 365533, are identified as being made of either a paper or fiber material, impregnated with synthetic rubber. They are relatively flexible and have a rough surface.

(o) Servo plug gaskets, P/N 2577258, are identified as being made of metal with a coating of synthetic rubber. They are relatively rigid and have a smooth surface.

## **Special Flight Permits Prohibited**

(p) Under 14 CFR part 39.23, we are prohibiting special flight permits.

## **Alternative Methods of Compliance**

(q) The Manager, Seattle Aircraft Certification Office, may approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

## **Related Information**

(r) For Precision Airmotive LLC, Richard Simonson, Aerospace Engineer, Propulsion Branch, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055; e-mail: Richard.simonson@faa.gov; telephone (425) 917-6507; fax (425) 917-6590.

(s) For Lycoming Engines, Norm Perenson, Aerospace Engineer, New York Aircraft Certification Office, FAA, Engine & Propeller Directorate, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; e-mail: Norman.perenson@faa.gov; telephone (516) 228-7337; fax (516) 794-5531.

(t) For Teledyne Continental Motors, Kevin Brane, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Blvd., Suite 450, Atlanta, GA 30349; e-mail: kevin.brane@faa.gov; telephone (770) 703-6063; fax (770) 703-6097.

(u) For Superior Air Parts, Inc., Tausif Butt, Aerospace Engineer, Special Certification Office, FAA, Rotorcraft Directorate, Southwest Regional Headquarters, 2601 Meacham Blvd., Fort Worth, Texas 76137; e-mail: Tausif.butt@faa.gov; telephone (817) 222-5195; fax (817) 222-5785.

(v) FAA Special Airworthiness Information Bulletin NE-09-04, dated January 9, 2009, also pertains to checking servo plugs for looseness on Precision Airmotive LLC RSA-5 and RSA-10 series, and Bendix RSA-5 and RSA-10 series, earlier produced fuel injection servos, not affected by this AD.

(w) Precision Airmotive LLC MSB No. PRS-107, Revision 4, dated July 16, 2008, also pertains to the subject of this AD. Contact Precision Airmotive LLC, 14800 40th Avenue, NE., Marysville, Washington 98271; telephone (360) 651-8282; <http://www.precisionairmotive.com>, for a copy of this MSB.

## **Material Incorporated by Reference**

(x) None.

Issued in Burlington, Massachusetts, on January 13, 2009.  
Peter A. White,  
Assistant Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.