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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0437; Directorate Identifier: 2012-CE-036-AD]

RIN 2120-AA64

Airworthiness Directives; Piper Aircraft, Inc.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) that applies to certain Piper Aircraft, Inc. Models PA-31P airplanes. AD 76-06-09 currently requires repetitive inspection of certain exhaust system parts with replacement of parts mating with the turbocharger, as necessary, and allows installation of a certain tailpipe v-band coupling as terminating action. Since we issued AD 76-06-09, there have been reports of exhaust system failures, the manufacturer issued new service information, and the tailpipe v-band coupling used for terminating action is obsolete. This proposed AD would require the use of the new service information and expand the scope of the inspections of the turbocharger exhaust system. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed 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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, use the following contact information, as applicable, Piper Aircraft, Inc., 2926 Piper Drive, Vero Beach, Florida 32960; telephone: (772) 567-4361; fax: (772) 978-6573; Internet: www.piper.com/home/pages/Publications.cfm; or Lycoming Engines, 652 Oliver Street, Williamsport, Pennsylvania 17701; telephone: (570) 323-6181; Internet: <http://www.lycoming.textron.com/support/publications/index.html>. You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

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-2014-0437; 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 proposed 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: Gary Wechsler, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, 1701 Columbia Avenue, College Park, Georgia 30337; telephone: (404) 474-5575; fax: (404) 474-5606; email: gary.wechsler@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2014-0437; Directorate Identifier 2012-CE-036-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed 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 proposed AD.

Discussion

On October 17, 1978, we issued AD 76-06-09, Amendment 39-3325 (43 FR 50417, October 30, 1978), for certain Piper Aircraft, Inc. Model PA-31P airplanes. AD 76-06-09 requires repetitive inspection of certain exhaust system parts with replacement of parts mating with the turbocharger, as necessary, and allows installation of a certain tailpipe v-band coupling as terminating action. AD 76-06-09 resulted from reports of exhaust system failure. We issued AD 76-06-09 to preclude failure of the engine exhaust system.

Actions Since Existing AD Was Issued

Since we issued AD 76-06-09, Amendment 39-3325 (43 FR 50417, October 30, 1978), there have been exhaust system failures, the manufacturer issued new service information, and the tailpipe v-band coupling used for terminating action is obsolete.

Relevant Service Information

We reviewed Textron Lycoming Mandatory Service Bulletin No. 393C, dated November 26, 1976; Piper Aircraft Corporation Service Bulletin No. 462A, dated November 3, 1975; Piper Aircraft, Inc. Service Bulletin No. 492A, dated May 29, 2012; Piper Aircraft, Inc. Service Bulletin No. 644E, dated May 9, 2012; Piper Aircraft Corporation kit part number (P/N) 760 974, dated February 19, 1976; Piper Aircraft Corporation kit P/N 761 045, dated February 19, 1976; and Piper Aircraft Corporation kit P/N 761 047, dated February 19, 1976. The service information describes procedures for inspecting and replacing parts of the turbocharger exhaust v-band couplings, vibration isolators, and support brackets.

FAA's Determination

We are proposing 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.

Proposed AD Requirements

This proposed AD would retain certain requirements of AD 76-06-09, Amendment 39-3325 (43 FR 50417, October 30, 1978). This proposed AD would require the use of the new service information and expand the scope of the inspections of the turbocharger exhaust system.

Costs of Compliance

We estimate that this proposed AD affects 85 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Visual inspection	3 work-hours X \$85 per hour = \$255	Not applicable	\$255	\$21,675
Review of maintenance records	.5 work-hour X \$85 per hour = \$42.50	Not applicable	\$42.50	\$3,612.50

We have no way of determining how much damage may be found on each airplane during the proposed inspection. The scope of damage on the exhaust system could vary from airplane to airplane due to the manner and environments the airplane may operate. We estimate the following costs to do any necessary modification/installation/replacement that would be required based on the results of the proposed inspection. We have no way of determining what damage may be found or the number of airplanes that might need these modification/installation/replacements:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Modification of the exhaust pipe slip joint	5 work-hours X \$85 per hour = \$425	\$2,841	\$3,266
Installation of the bracket and clamp assembly	5 work-hours X \$85 per hour = \$425	\$5,000	\$5,425
Replacement of v-band coupling	2 work-hours X \$85 per hour = \$170	\$780	\$950

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 proposed 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 proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 the proposed regulation:

- (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),
- (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.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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) 76-06-09, Amendment 39-3325 (43 FR 50417, October 30, 1978), and adding the following new AD:

Piper Aircraft, Inc.: Docket No. FAA-2014-0437; Directorate Identifier 2012-CE-036-AD.

(a) Comments Due Date

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

(b) Affected ADs

This AD supersedes AD 76-06-09, Amendment 39-3325 (43 FR 50417, October 30, 1978).

(c) Applicability

This AD applies to Piper Aircraft, Inc. Models PA-31P airplanes, serial numbers 31P-1 through 31P-80 and 31P-7300110 through 31P-7730012, that are certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 78, Engine Exhaust.

(e) Unsafe Condition

This AD was prompted by reports of exhaust system failures, new service information issued by the manufacturer, and the tailpipe v-band coupling used for terminating action is obsolete. We are issuing this AD to prevent the possibility of an in-flight powerplant fire due to an exhaust system failure.

(f) Compliance

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

(g) Inspection of Exhaust System

(1) Within the next 60 hours time-in-service (TIS) after the effective date of this AD or within the next 6 months after the effective date of this AD, whichever occurs first, and repetitively thereafter at intervals not to exceed 60 hours TIS or 6 months, whichever occurs first, inspect the parts as specified in table 1 of paragraph (g)(1) of this AD, if installed.

Table 1 of paragraph (g)(1) of this AD: Inspection for Piper and Lycoming Exhaust System Parts

Product/Part Nomenclature	Make	Model/Part Number	With a light and mirror or other method capable of achieving an equivalent visual resolution, inspect for the following conditions
Airplane	Piper	PA-31P	Bulges, cracks, and exhaust leak stains
Engine	Lycoming	TIGO-541-E series	Bulges, cracks, and exhaust leak stains
Pipe, exhaust, right-rear	Lycoming	78012	Bulges, cracks, and exhaust leak stains
Pipe, exhaust, left-rear	Lycoming	78008	Bulges, cracks, and exhaust leak stains
Pipe, rear exhaust adapter	Lycoming	LW-13027	Bulges, cracks, and exhaust leak stains
Tail pipe assembly, upper	Piper	46323-05	Bulges, cracks, and exhaust leak stains
Tail pipe assembly, lower	Piper	48788-05	Bulges, cracks, and exhaust leak stains
V-band coupling	Lycoming	LW-12093-5	Cracks and exhaust leak stains
V-band coupling	Piper	555-366 or 557-369	Cracks and exhaust leak stains
Isolator (CA-3383-1)	Piper	467-442	Cracks, looseness, and distortion
Bracket – isolator, upper	Piper	47014-02	Cracks, looseness, and distortion
Bracket – isolator, lower	Piper	47013-02	Cracks, looseness, and distortion

(2) If any damage is found in any inspection required in paragraph (g)(1) of this AD, before further flight, do the corrective actions, as applicable, in paragraphs (g)(2)(i) through (g)(2)(iv).

(i) Replace Piper v-band couplings exhibiting cracks and/or exhaust leak stains with airworthy parts following Piper Aircraft, Inc. Mandatory Service Bulletin No. 644E, dated May 9, 2012. Replace Lycoming v-band couplings exhibiting cracks and/or exhaust leak stains with airworthy parts following Lycoming Service Instruction No. 1238B, Revision B, dated January 6, 2010.

Note to paragraphs (g)(2)(i) and (h)(2)(iii): During replacement of v-band couplings, we recommend not opening the v-band coupling more than the MINIMUM diameter necessary to clear coupled flanges. It is recommended to replace any locknuts and/or mating couplings with airworthy parts when locknuts do not exhibit a prevailing torque when installed.

(ii) Replace Lycoming exhaust system parts exhibiting bulges, cracks, and/or exhaust leak stains with airworthy parts following Lycoming Service Instruction No. 1320, dated March 7, 1975; or Lycoming Service Instruction No. 1391, dated October 5, 1979, as applicable.

(iii) Replace Piper tail pipe assembly parts exhibiting bulges, cracks, and/or exhaust leak stains with airworthy parts following Piper Aircraft, Inc. Mandatory Service Bulletin No. 644E, dated May 9, 2012.

(iv) Replace Piper isolators and brackets exhibiting cracks, looseness and/or distortion following Piper Aircraft, Inc. Service Bulletin No. 462A, dated November 3, 1975; and Service Bulletin No. 492A, dated May 29, 2012.

(h) Exhaust System Modifications

(1) Within the next 100 hours TIS after the effective date of this AD or within the next 12 months after the effective date of this AD, whichever occurs first, review the airplane maintenance records to positively identify whether the modifications described in paragraphs (h)(1)(i) through (h)(1)(iii) of this AD have been done.

(i) Exhaust pipe slip joint modification following Piper Aircraft, Inc. Service Bulletin No. 492A, dated May 29, 2012; and Lycoming Service Bulletin No. 393C, dated November 26, 1976.

(ii) Installation of bracket and clamp assembly following Piper Kit No. 760-974 as specified in Piper Aircraft, Inc. Service Bulletin No. 492A, dated May 29, 2012; or Piper Aircraft, Inc. Service Bulletin 462A, dated November 3, 1975.

(iii) Replacement of Piper v-band coupling, part number 556-053, with Piper v-band coupling, part number 557-369, following Piper Aircraft, Inc. Mandatory Service Bulletin No. 644E, dated May 9, 2012.

(2) If you cannot positively identify that the modifications described in paragraphs (h)(1)(i) through (h)(1)(iii) of this AD have been done, before further flight, you must do the modifications described in paragraphs (h)(2)(i) through (h)(2)(ii), as applicable.

(i) Exhaust pipe slip joint modification following Piper Aircraft, Inc. Service Bulletin No. 492A, dated May 29, 2012, and Lycoming Service Bulletin SB 393C, dated November 26, 1976.

(ii) Installation of bracket and clamp assembly following Piper Kit No. 760-974 as specified in Piper Aircraft, Inc. Service Bulletin No. 492A, dated May 29, 2012; or Piper Aircraft, Inc. Service Bulletin 462A, dated November 3, 1975.

(iii) Replacement of Piper v-band coupling, part number 556-053, with Piper v-band coupling, part number 557-369, following Piper Aircraft, Inc. Mandatory Service Bulletin No. 644E, dated May 9, 2012.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Atlanta Aircraft Certification Office (ACO), 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 ACO, send it to the attention of the person identified in the Related Information section 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.

(j) Related Information

(1) For more information about this AD, contact Gary Wechsler, Aerospace Engineer, Atlanta ACO, FAA, 1701 Columbia Avenue, College Park, Georgia 30337; telephone: (404) 474-5575; fax: (404) 474-5606; email: gary.wechsler@faa.gov.

(2) For service information identified in this AD, contact FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued in Kansas City, Missouri, on June 24, 2014.

Timothy Smyth,
Acting Manager, Small Airplane Directorate,

Aircraft Certification Service.

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