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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; Amendment 39-18019; AD 2014-23-03]

RIN 2120-AA64

Airworthiness Directives; Piper Aircraft, Inc.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 76-06-09 for certain Piper Aircraft, Inc. Model PA-31P airplanes. AD 76-06-09 required repetitive inspection of certain exhaust system parts with replacement of parts mating with the turbocharger, as necessary, and allowed installation of a certain tailpipe v-band coupling as terminating action. This new AD requires the use of new service information and expands the scope of the inspections of the turbocharger exhaust system. This AD was prompted by reports of exhaust system failures, new service information, and the tailpipe v-band coupling used for terminating action is obsolete. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD is effective December 18, 2014.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of December 18, 2014.

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of July 17, 2013 (78 FR 35110, June 12, 2013).

ADDRESSES: For service information identified in this AD, contact 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>; as applicable. 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 AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

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:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 76-06-09, Amendment 39-3325 (43 FR 50417, October 30, 1978), ("AD 76-06-09"). AD 76-06-09 applied to certain Piper Aircraft, Inc. Model PA-31P airplanes. The NPRM published in the Federal Register on July 9, 2014 (79 FR 38806). The NPRM was prompted by reports of exhaust system failure. The NPRM proposed to retain certain requirements of AD 76-06-09. The NPRM also proposed to require the use of the new service information and expand the scope of the inspections of the turbocharger exhaust system. We are issuing this AD to correct the unsafe condition on these products.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (79 FR 38806, July 9, 2014) or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 38806, July 9, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 38806, July 9, 2014).

Costs of Compliance

We estimate that this AD affects 85 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
Visual inspection	3 work-hours × \$85 per hour = \$255	Not applicable	\$255	\$21,675
Review of maintenance records	.5 work-hour × \$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 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, and/or replacement that would be required based on the results of the inspection. We have no way of determining what damage may be found or the number of airplanes that might need the modification, installation, and/or replacement:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Modification of the exhaust pipe slip joint	5 work-hours × \$85 per hour = \$425	\$2,841	\$3,266
Installation of the bracket and clamp assembly	5 work-hours × \$85 per hour = \$425	5,000	5,425
Replacement of v-band coupling	2 work-hours × \$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 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 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 removing Airworthiness Directive (AD) 76-06-09, Amendment 39-3325 (43 FR 50417, October 30, 1978), and adding the following new AD:



2014-23-03 Piper Aircraft, Inc.: Amendment 39-18019; Docket No. FAA-2014-0437; Directorate Identifier 2012-CE-036-AD.

(a) Effective Date

This AD is effective December 18, 2014.

(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. Model 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 December 18, 2014 (the effective date of this AD) or within the next 6 months after December 18, 2014 (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 No.	With a light and mirror or other method capable of achieving an equivalent visual resolution, inspect for the following conditions
Airplane	Piper	PA-31P	
Engine	Lycoming	TIGO-541-E series	
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 Textron 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 Corporation Service Bulletin No. 462A, dated November 3, 1975; and Piper Aircraft, Inc. Mandatory Service Bulletin No. 492A, dated May 29, 2012.

(h) Exhaust System Modifications

(1) Within the next 100 hours TIS after December 18, 2014 (the effective date of this AD) or within the next 12 months after December 18, 2014 (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. Mandatory Service Bulletin No. 492A, dated May 29, 2012; and Textron Lycoming Mandatory 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. Mandatory 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)(iii), as applicable.

(i) Exhaust pipe slip joint modification following Piper Aircraft, Inc. Mandatory Service Bulletin No. 492A, dated May 29, 2012, and Textron Lycoming Mandatory 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. Mandatory Service Bulletin No. 492A, dated May 29, 2012; or Piper Aircraft Corporation 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, paragraph (j)(1) 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

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.

(k) 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.

(3) The following service information was approved for IBR on December 18, 2014.

(i) Piper Aircraft Corporation Service Bulletin No. 462A, dated November 3, 1975.

(ii) Piper Aircraft, Inc. Mandatory Service Bulletin No. 492A, dated May 29, 2012.

(iii) Textron Lycoming Mandatory Service Bulletin SB 393C, dated November 26, 1976.

(4) The following service information was approved for IBR on July 17, 2013 (78 FR 35110, June 12, 2013).

(i) Piper Aircraft, Inc. Mandatory Service Bulletin No. 644E, dated May 9, 2012.

(ii) Lycoming Service Instruction No. 1238B, Revision B, dated January 6, 2010.

(iii) Lycoming Service Instruction No. 1320, dated March 7, 1975.

(iv) Textron Lycoming Service Instruction No. 1391, dated October 5, 1979.

(5) For the service information identified in this AD, contact 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>; as applicable.

(6) 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.

(7) 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 Kansas City, Missouri, on November 4, 2014.

Earl Lawrence,
Manager, Small Airplane Directorate,
Aircraft Certification Service.