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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9254; Directorate Identifier 2015-CE-030-AD; Amendment 39-18948; AD 2017-14-04]

RIN 2120-AA64

Airworthiness Directives; Piper Aircraft, Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 95-26-13 for certain Piper Aircraft, Inc. Models PA-28-140, PA-28-150, PA-28-151, PA-28-161, PA-28-160, PA-28-180, PA-28-181, PA-28-235, PA-28-236, PA-28R-180, PA-28R-200, PA-28R-201, PA-28S-160, PA-28S-180, PA-32-260, PA-32-300, PA-32-301, PA-32-301T, PA-32R-300, PA-32R-301 (SP), PA-32R-301 (HP), PA-32R-301T, PA-32RT-300, PA-32RT-300T, and PA-32S-300 airplanes equipped with oil cooler hose assemblies that do not meet certain technical standard order (TSO) requirements. AD 95-26-13 required inspections, replacement, and adjustment of the oil cooler hose assemblies, as well as providing for a terminating action. This AD retains all of the requirements of AD 95-26-13 and adds language to clarify those requirements. This AD was prompted by several inquiries asking for clarification of the AD's applicability and compliance requirements. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD is effective August 15, 2017.

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-2016-9254; 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, FAA, Atlanta Aircraft Certification Office, 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 95-26-13, Amendment 39-9472 (60 FR 67321, December 29, 1995) ("AD 95-26-13"). AD 95-26-13 applied to certain Piper Aircraft, Inc. Models PA-28-140, PA-28-150, PA-28-151, PA-28-161, PA-28-160, PA-28-180, PA-28-181, PA-28-235, PA-28-236, PA-28R-180, PA-28R-200, PA-28R-201, PA-28S-160, PA-28S-180, PA-32-260, PA-32-300, PA-32-301, PA-32-301T, PA-32R-300, PA-32R-301 (SP), PA-32R-301 (HP), PA-32R-301T, PA-32RT-300, PA-32RT-300T, and PA-32S-300 airplanes equipped with oil cooler hose assemblies that do not meet technical standard order C53a (TSO-C53a) Type D requirements. The NPRM published in the Federal Register on October 21, 2016 (81 FR 72742). The NPRM was prompted by several inquiries asking for clarification of the AD's applicability and compliance requirements. The NPRM proposed to retain all of the requirements of AD 95-26-13 and add language to clarify those requirements. 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. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request the Unsafe Condition Be Addressed by Department of Commerce

G. Fenton requested this unsafe condition be addressed through the Department of Commerce instead of the Federal Aviation Administration because the NPRM applied to airplanes used for commercial purposes.

We disagree with this comment because the Federal Aviation Administration is charged by Congress to provide for the safe and efficient use of national airspace by commercial and private airplane operators.

We have not changed the AD based on this comment.

Request To Change Labor Rate in Cost of Compliance

G. Fenton requested we change the labor rate in the Cost of Compliance section to $72.50 per hour instead of $85 per hour. He thought the increased cost from $60 per hour from the 1995 AD to $85 per hour for this AD is unnecessary. He thought we should adjust the cost of the labor rate to a value between the two.

We disagree with this comment. The rate of $85 per hour is provided by the FAA Office of Aviation Policy and Plans for us to use when estimating the labor costs of complying with AD requirements.

We have not changed the AD based on this comment.

Request We Compile Changes From the Previous AD Into One Location

Jonathan Hartley requested we put all of the changes to this AD from AD 95-26-13 in a conspicuous location to reduce confusion and workload associated with compliance.

We partially agree with this comment. We agree there are instances where compliance confusion and workload could exist with the wording in the NPRM. However, we disagree with compiling the changes into one location because of formatting constraints in the AD structure.

We have made language changes to the regulatory text in the AD to clarify the compliance confusion and to reduce workload.

Request We Include an Outline for Maintaining Other Types of Oil Cooler Hoses

Jonathan Hartley requested we include in this AD an outline maintaining specific requirements for other types of oil cooler hoses.

We disagree with this comment. The unsafe condition addressed by this AD applies only to Type C and Type D oil cooler hoses. The requirements for maintaining other types of oil cooler hoses are not required to comply with the actions of this AD.

We have not changed the AD based on this comment.

Request We Include Additional Information Describing the Types of Hoses

George Ballard requested we include in the AD information explaining what constitutes a Type C and Type D hose assembly. He doesn't think the TSO adequately explains the difference between the Type C and Type D hose assemblies.

We disagree with this comment. The differences between the Type C and Type D hoses are provided in great detail in TSO-C53a and its referenced documents. This AD does not require that level of detail to comply with the inspections or corrective actions specified in the AD.

We have not changed the AD based on this comment.

Request We Clarify Terminating Action for Installation of Type D Hose Assemblies

Greg Dodson stated the requirement to inspect the oil cooler hose assembly installation for an oil cooler mounted in a location other than at or aft of the rear of the engine any time the oil cooler hose assembly is replaced conflicts with the installation of a Type D oil cooler hose assembly being terminating action for the AD.

We agree with this comment. The installation of the Type D oil cooler hose assembly terminates the requirement for the installation inspection.

We have changed the language in the AD to address the contradiction.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Costs of Compliance

We estimate that this AD affects 23,643 airplanes of U.S. registry.

This AD retains the same actions as AD 95-26-13 and the costs do not add any cost burden than that already in effect by AD 95-26-13. The difference in the Costs of Compliance with this AD and AD 95-26-13 is that we use $85 an hour as a labor rate in 2016 as opposed to $60 per hour in 1995.

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
Inspection of the oil cooler hose assembly	1 work-hour × $85 per hour = $85	Not applicable	$85	$2,009,655.
Inspection of the clearance between the oil cooler hose assembly and the front exhaust stacks	.5 work-hour × $85 per hour = 42.50	Not applicable	$42.50	$1,004,827.50 See note 1 to Cost of Compliance.
Replacement of the oil cooler hose assembly	1 work-hour × $85 per hour = $85	$430	$515	$12,176,145.

Note: The estimated cost of the inspection of the clearance between the oil cooler hose assembly and the front exhaust stacks is for all airplanes affected by this AD; however, the inspection applies only to airplanes with the oil cooler mounted in a location other than at or aft of the rear of the engine. We have no way of knowing how many affected airplanes have that particular installation.

We estimate the following costs to do any necessary adjustments that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these adjustments:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Adjustment of the clearance between the oil cooler hose assembly and the front exhaust stacks	1 work-hour × $85 per hour = $85	Not applicable	$85

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) 95-26-13, Amendment 39-9472 (60 FR 67321, December 29, 1995), and adding the following new AD:

2017-14-04 Piper Aircraft, Inc.: Amendment 39-18948; Docket No. FAA-2016-9254; Directorate Identifier 2015-CE-030-AD.

(a) Effective Date

This AD is effective August 15, 2017.

(b) Affected ADs

This AD replaces AD 95-26-13, Amendment 39-9472 (60 FR 67321, December 29, 1995) ("AD 95-26-13").

(c) Applicability

This AD applies to Piper Aircraft, Inc. Models PA-28-140, PA-28-150, PA-28-151, PA-28-161, PA-28-160, PA-28-180, PA-28-181, PA-28-235, PA-28-236, PA-28R-180, PA-28R-200, PA-28R-201, PA-28S-160, PA-28S-180, PA-32-260, PA-32-300, PA-32-301, PA-32-301T, PA-32R-300, PA-32R-301 (SP), PA-32R-301 (HP), PA-32R-301T, PA-32RT-300, PA-32RT-300T, and PA-32S-300 airplanes, all serial numbers, that are:

(1) Equipped with one or more oil cooler hose assemblies that do not meet technical standard order C53a (TSO-C53a), Type D requirements; and

(2) Certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 79, Engine Oil.

(e) Unsafe Condition

AD 95-26-13 was prompted by numerous incidents/accidents caused by rupture or failure of the oil cooler hose assemblies. This AD action was prompted by requests to clarify the intent of AD 95-26-13. We are issuing this AD to prevent rupture or failure of the oil cooler hose assemblies, which could result in engine stoppage with consequent loss of control.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done. You may review the flow chart found in appendix 1 to assist you in complying with the actions of this AD.

(g) Inspection Procedures for an Oil Cooler Mounted AT or AFT of the Rear of the Engine

For any oil cooler hose assemblies that do not meet TSO-C53a, Type D requirements: Within the next 100 hours time-in-service (TIS) after February 5, 1996 (the effective date retained from AD 95-26-13), and repetitively thereafter at intervals not to exceed 100 hours TIS, inspect the fire sleeve of

each oil cooler hose assembly for soaked oil, a brownish or whitish color, and any evidence of brittleness or deterioration as a result of heat or oil seepage. See figure 1 to paragraphs (g) and (h) of this AD for additional information.

Figure 1 to paragraphs (g) and (h) of this AD: Oil cooler

Note 1 to paragraphs (g) and (h)(1) of this AD: Although not required by this AD, the FAA recommends that an oil cooler hose assembly flexibility test be done at 100-hour TIS intervals by gently lifting each oil cooler hose assembly in several places along its bottom surface, ideally at the center of an arc. If the oil cooler hose assembly moves slightly, either from side-to-side or upward, then some flexibility remains. If the oil cooler hose assembly appears hardened or inflexible, replacement is recommended.

(h) Inspection Procedures for an Oil Cooler Mounted in a Location Other Than AT or AFT of the Rear of the Engine

(1) For any oil cooler hose assemblies that do not meet TSO-C53a, Type D requirements: Within the next 100 hours TIS after February 5, 1996 (the effective date retained from AD 95-26-13), and repetitively thereafter at intervals not to exceed 100 hours TIS, inspect the fire sleeve of each oil cooler hose assembly for soaked oil, a brownish or whitish color, and any evidence of brittleness or deterioration as a result of heat or oil seepage. See figure 1 to paragraphs (g) and (h) of this AD for additional information.

(2) For any oil cooler hose assemblies that do not meet TSO-C53a, Type D requirements: Within the next 100 hours TIS after February 5, 1996 (the effective date retained from AD 95-26-13) and repetitively thereafter at intervals not to exceed 100 hours TIS, inspect the oil cooler hose assemblies

to ensure the installation conditions in paragraphs (h)(2)(i) through (iii) of this AD are met. See figure 1 to paragraphs (g) and (h) of this AD for additional information. If the conditions listed in paragraphs (h)(2)(i) through (iii) of this AD are not met, before further flight, make any necessary adjustments. See figure 2 to paragraph (h)(2) of this AD for additional information.

(i) The oil cooler hose assemblies pass underneath and behind the electrical ground cable and in front of the lower of the two engine mounts.

(ii) The oil cooler hose assemblies are secured to the engine mount strut and a clearance of at least 2 inches exists between the oil cooler hose assemblies and the exhaust stack.

(iii) Oil cooler hose assemblies with a minimum outer diameter of 0.75 inch are installed with a bend radius of at least 6.5 inches.

Figure 2 to paragraph (h)(2) of this AD: Acceptable clearances

(i) Corrective Actions

(1) If any of the conditions described in paragraph (g) or (h)(1) of this AD are found on an oil cooler hose assembly during the inspection required in paragraph (g) or (h)(1) of this AD, as applicable, before further flight, replace the oil cooler hose assembly with a serviceable new or used TSO-C53a Type D oil cooler hose assembly or TSO-C53a Type C oil cooler hose assembly. If a used TSO-C53a Type C oil cooler hose assembly is installed, it must have documented hours TIS.

Note 2 to paragraphs (i)(1) and (j) of this AD: If only one of the two oil cooler hose assemblies requires replacement, the FAA recommends replacing both of the oil cooler hose assemblies to simplify tracking the hours TIS of the assemblies.

(2) If a newly installed oil cooler hose assembly is a TSO-C53a Type C oil cooler hose assembly and it is mounted in a location other than at or aft of the rear of the engine, then replacement of the oil cooler hose assembly must meet the conditions listed in paragraphs (h)(2)(i) through (iii) of this AD.

(3) If compliance with paragraphs (i)(1) and (i)(2) of this AD results in both oil cooler hose assemblies of an airplane meeting TSO-C53a Type D requirements, then the requirements of this AD are terminated for the airplane.

(j) Life Limit of TSO-C53a Type C Oil Cooler Hose Assemblies

(1) When a TSO-C53a Type C oil cooler hose assembly accumulates 8 years or 1,000 hours TIS, whichever occurs first, replace the oil cooler hose assembly with a serviceable new or used TSO-C53a Type D oil cooler hose assembly or TSO-C53a Type C oil cooler hose assembly. If a used TSO-C53a Type C oil cooler hose assembly is installed, it must have documented hours TIS. If the newly installed oil cooler is a TSO-C53a Type C oil cooler hose assembly and it is mounted in a location other than at or aft of the rear of the engine the installation must meet the conditions listed in paragraphs (h)(2)(i) through (iii) of this AD.

(2) You may at any time before a TSO-C53a Type C oil cooler hose assembly exceeds the life limit in paragraph (j)(1) of this AD, replace a TSO-C53a Type C oil cooler hose assembly with a TSO-C53a Type D oil cooler hose assembly.

(3) If compliance with paragraphs (j)(1) or (j)(2) of this AD results in both oil cooler hose assemblies of an airplane meeting TSO-C53a Type D requirements, then the requirements of this AD are terminated for the airplane.

(k) 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 paragraph (k) 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.

(3) AMOCs approved for AD 95-26-13 (60 FR 67321, December 29, 1995) are not approved as AMOCs for the corresponding provisions of this AD.

(l) Related Information

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

Appendix 1 to AD 2017-14-04

Issued in Kansas City, Missouri, on June 29, 2017.

Pat Mullen,
Acting Manager, Small Airplane Directorate,
Aircraft Certification Service.