



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-9254; Directorate Identifier 2015-CE-030-AD;]**

**RIN 2120-AA64**

**Airworthiness Directives; Piper Aircraft, Inc. Airplanes**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede Airworthiness Directive (AD) 95-26-13, which applies 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 certain technical standard order (TSO) requirements. AD 95-26-13 requires inspections, replacement, and adjustment of the oil cooler hose assemblies, as well as providing for a terminating action. Since we issued AD 95-26-13, the FAA has received requests to clarify the intent of AD 95-26-13. This proposed AD would maintain all of the actions required by AD 95-26-13 and add language to clarify those requirements. We are proposing this AD to prevent rupture or failure of the oil cooler hose assemblies, which could result in engine stoppage with consequent loss of control.

**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.

**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 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, 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](mailto: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-2016-9254; Directorate Identifier 2015-CE-030-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 December 19, 1995, we issued AD 95-26-13, Amendment 39-9472 (60 FR 67321, December 29, 1995) (“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 TSO-C53a Type D requirements. AD 95-26-13 requires repetitive inspections of the oil cooler hose assemblies for deterioration; replacement of the hose assemblies if damage is found; inspection for a minimum clearance between the oil cooler assemblies and the front exhaust stacks, depending on oil cooler location; and adjustment of the clearance if minimum clearance is not found. AD 95-26-13 also provides the option of installing

TSO-C53a Type D oil cooler hose assemblies as a terminating action for the repetitive inspections. AD 95-26-13 resulted from numerous incidents/accidents caused by rupture or failure of the oil cooler hose assemblies. We issued AD 95-26-13 to prevent rupture or failure of the oil cooler hose assemblies, which could result in engine stoppage with consequent loss of control.

#### **Actions Since AD 95-26-13 Was Issued**

The FAA received several recent inquiries repeatedly asking for clarification of the AD's applicability and compliance requirements. For example, the AD did not apply to airplanes equipped with TSO-C53a Type D specification oil cooler hoses, yet, callers repeatedly asked whether the AD applied to airplanes with such hoses. It became apparent that a rewrite of the AD was necessary to stem the mounting time engineers were spending researching and responding to the inquiries. The FAA believes that the proposed NPRM will provide the level of clarification necessary to prevent similar inquiries in the future.

#### **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 all of the requirements of AD 95-26-13 and add language to clarify those requirements.

## Costs of Compliance

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

This proposed AD retains the same actions as AD 95-26-13 and the proposed 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 the proposed 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 proposed 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 X \$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 X \$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 X \$85 per hour = \$85	\$430	\$515	\$12,176,145

Note to Costs of Compliance: 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 proposed 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 proposed inspection. We have no way of determining the number of aircraft that might need these adjustments:

**On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Adjustment of the clearance between the oil cooler hose assembly and the front exhaust stacks	1 work-hour X \$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 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) 95-26-13, Amendment 39-9472 (60 FR 67321, December 29, 1995), and adding the following new AD:

**Piper Aircraft, Inc.:** Docket No. FAA-2016-9254; Directorate Identifier  
2015-CE-030-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 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 oil cooler hose assemblies that do not meet 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) Oil Cooler Mounted at or Aft of the Rear of the Engine**

For applicable airplanes with the oil cooler mounted at or aft of the rear of the engine (See figure 1 to paragraphs (g) and (h)): 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 oil cooler hose assembly for oil soaked in the fire sleeve of the oil hose assembly, a brownish or whitish color of the fire sleeve of the oil hose assembly, and any evidence of brittleness or deterioration of the fire sleeve of the oil hose assembly as a result of heat or oil seepage.

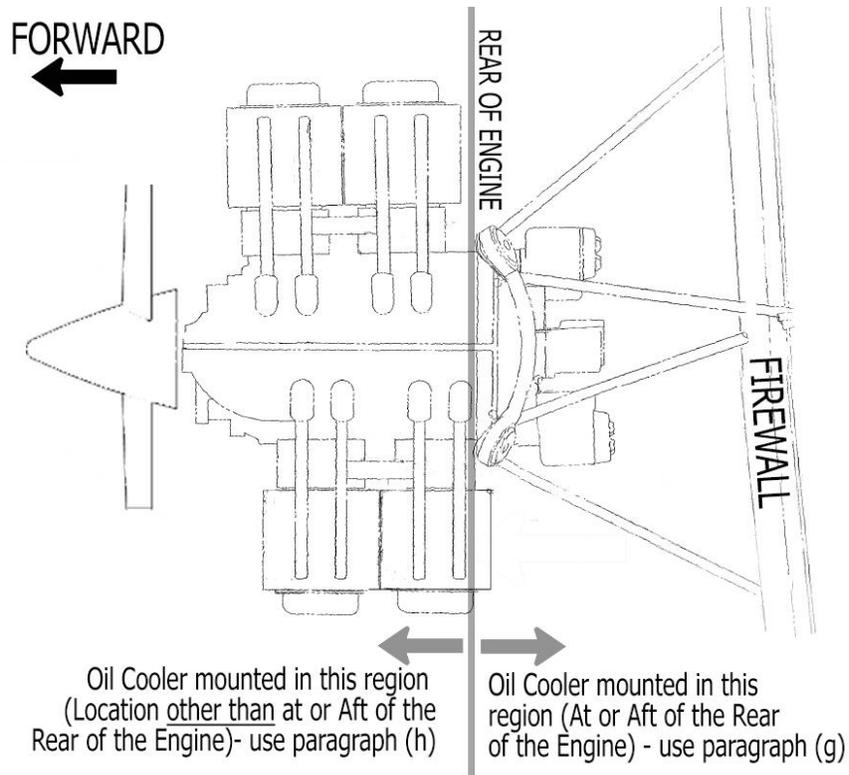


Figure 1 to paragraphs (g) and (h) of this AD: Oil cooler

(1) If any of the conditions described in paragraph (g) of this AD are found on the oil cooler hose assembly during the inspection required in paragraph (g) of this AD, before further flight, replace the oil cooler hose assembly with TSO-C53a Type D oil cooler hose assembly or TSO-C53a Type C oil cooler hose assembly that has been inspected following paragraph (g) of this AD and found to be airworthy.

(2) Replacement of the oil cooler hose assembly with TSO-C53a Type D oil cooler hose assembly is terminating action for this AD.

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

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

**(h) Oil Cooler Mounted in Location Other Than Aft of the Rear of the Engine**

(1) For applicable airplanes with the oil cooler mounted in a location other than at or aft of the rear of the engine (See figure 1 to paragraphs (g) and (h)): 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 assembly for oil soaked in the fire sleeve of the oil hose assembly, a brownish or whitish color of the fire sleeve of the oil hose assembly, and any evidence of brittleness or deterioration of the fire sleeve of the oil hose assembly as a result of heat or oil seepage.

(2) If any of the conditions described in paragraph (h)(1) of this AD are found on the oil cooler hose assembly during the inspection required in paragraph (h)(1) of this AD, before further flight, replace the oil cooler hose assembly with TSO-C53a Type D oil cooler hose assembly or TSO-C53a Type C oil cooler hose assembly that has been inspected following paragraph (h)(1) of this AD and found to be airworthy.

(3) Within the next 100 hours TIS after February 5, 1996 (the effective date retained from AD 95-26-13) and each time the oil cooler hose assembly is replaced for any reason or inspected following paragraph (h)(1) inspect to ensure the installation conditions in paragraphs (h)(3)(i) through (iii) of this AD are met. If the conditions listed in paragraphs (h)(3)(i) through (iii) of this AD are not met, before further flight, make any necessary adjustments. Please see figure 2 to paragraph (h) 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 mount.

(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.

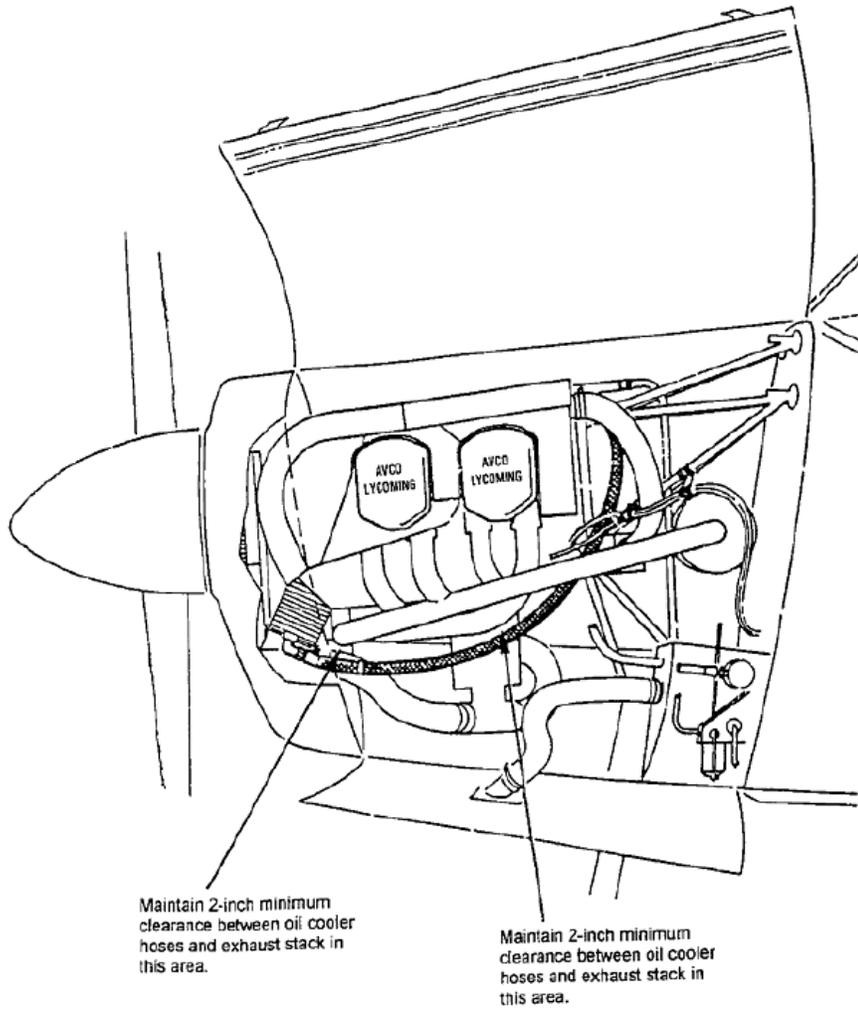


Figure 2 to paragraph (h) of this AD: Acceptable clearances

(3) Replacement of the oil cooler hose assembly with TSO-C53a Type D oil cooler hose assembly and meeting the installation conditions listed in paragraphs (h)(3)(i) through (iii) of this AD terminate the requirements of this AD.

**(i) Replacement of Oil Cooler Hose Assembly**

For all applicable airplanes installed with a TSO-C53a Type C oil cooler hose assembly: When the oil cooler hose assembly accumulates 8 years or 1,000 hours TIS, whichever occurs first, replace the oil cooler hose assembly. If the oil cooler is mounted in a location other than at or aft of the rear of the engine, before further flight after replacement, you must do the actions required in paragraph (h)(3) of this AD.

(1) Replacement of the oil cooler hose assembly with TSO-C53a Type D oil cooler hose assembly terminates the requirements of this AD provided it meets the installation conditions listed in paragraph (h)(3)(i) through (iii) of this AD.

(2) You may at any time before 8 years or 1,000 hours TIS, whichever occurs first, replace the oil cooler hose assembly with TSO-C53a Type D oil cooler hose assembly to terminate the requirements of this AD provided it meets the installation conditions listed in paragraph (h)(3)(i) through (iii) of this AD.

**(j) 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.

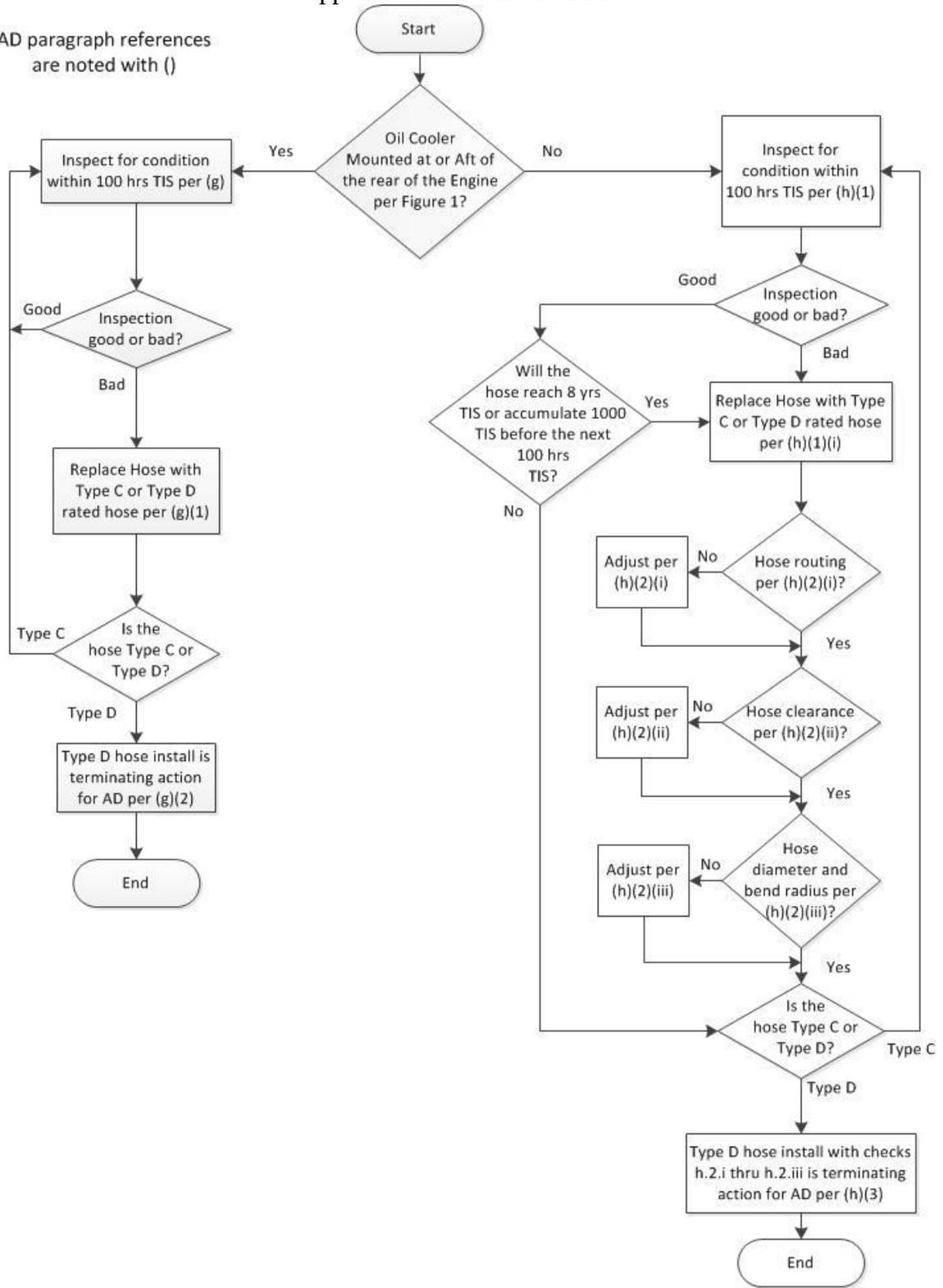
(3) AMOCs approved for AD 95-26-13 (60 FR 67321, December 29, 1995) are approved as AMOCs for the corresponding provisions of this AD.

**(k) 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](mailto:gary.wechsler@faa.gov).

Appendix 1 to Docket FAA-2016-9254

AD paragraph references are noted with ()



Issued in Kansas City, Missouri, on October 7, 2016.

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

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