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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-1295; Directorate Identifier 2010-CE-060-AD; Amendment 39-16635; AD 2011-06-10]

RIN 2120-AA64

Airworthiness Directives; Piper Aircraft, Inc. (Type Certificate Previously Held by The New Piper Aircraft, Inc.) Models PA-46-310P, PA-46-350P, and PA-46R-350T Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding an existing airworthiness directive (AD) that applies to certain Piper Aircraft, Inc. Models PA-46-310P and PA-46-350P airplanes that are equipped with a Lewis or Transicoil turbine inlet temperature (T.I.T.) gauge and associated probe. That AD currently requires cleaning, inspecting, and calibrating the T.I.T. system; replacing any T.I.T. system that fails the calibration test; repetitively replacing the T.I.T. probe on certain airplanes; and inserting a copy of the AD into the pilot's operating handbook (POH) for certain airplanes. This new AD retains the actions required by the previous AD (AD 99-15-04 R1), adds certain Model PA-46R-350T airplanes to the Applicability section, expands the applicability to include other T.I.T. systems, and incorporates new service information. This AD was prompted by the manufacturer revising related service information and adding an airplane model to the list of affected airplanes. We are issuing this AD to prevent improper engine operation caused by improperly calibrated T.I.T. indicators or defective T.I.T. probes, which could result in engine damage/failure with consequent loss of control of the airplane.

DATES: This AD is effective May 6, 2011.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of May 6, 2011.

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: http://www.newpiper.com/company/publications.asp. You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust St., 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; 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: Darby Mirocha, Aerospace Engineer, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5573; fax: (404) 474-5605; e-mail: darby.mirocha@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 99-15-04 R1, Amendment 39-11747 (65 FR 33745, May 25, 2000). That AD applies to certain Piper Aircraft, Inc. (type certificate previously held by The New Piper Aircraft, Inc.) Models PA-46-310P and PA-46-350P airplanes that are equipped with a Lewis or Transicoil T.I.T. gauge and associated probe. The NPRM published in the Federal Register on December 30, 2010 (75 FR 82329). That NPRM proposed to continue to require cleaning, inspecting, and calibrating the T.I.T. system on certain airplanes; replacing any T.I.T. system that fails the inspection and calibration test; repetitively replacing the T.I.T. probe on certain airplanes; and inserting a copy of the AD into the pilot's operating handbook (POH). That NPRM also proposed to add certain Model PA-46R-350T airplanes to the Applicability section, expand the applicability to include other T.I.T. systems, and incorporate new service information.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM 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 the 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 for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Costs of Compliance

We estimate that this AD affects 898 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
Clean and inspect the T.I.T gauge and probe for certain Models PA-46-310P and PA-46-350P airplanes	1 work-hour X $85 per hour = $85	Not applicable	$85	$85 X 780 affected airplanes = $66,300
Calibrate the T.I.T. gauge for certain Models PA-46-310P and PA-46-350P airplanes	4 work-hours X $85 per hour = $340	Not applicable	$340	$340 x 427 affected airplanes = $145,180
Incorporate emergency procedures into POH	1 work-hour X $85 per hour = $85	Not applicable	$85	$85 X 898 affected airplanes = $76,330

The requirements of this AD add no additional economic burden other than the addition of an airplane model to the Applicability section.

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

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replace probe	1 work-hour X $85 per hour = $85	$384	$469

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) 99-15-04 R1, Amendment 39-11747 (65 FR 33745, May 25, 2000), and adding the following new AD:

2011-06-10 Piper Aircraft, Inc. (Type Certificate Previously Held by The New Piper Aircraft, Inc.): Amendment 39-16635; Docket No. FAA-2010-1295; Directorate Identifier 2010-CE-060-AD.

Effective Date

(a) This airworthiness directive (AD) is effective May 6, 2011.

Affected ADs

(b) This AD supersedes AD 99-15-04 R1, Amendment 39-11747.

Applicability

(c) This AD applies to the following Piper Aircraft, Inc. (type certificate previously held by The New Piper Aircraft, Inc.) Models PA-46-310P, PA-46-350P, and PA-46R-350T airplanes that are:

(1) Certificated in any category; and

(2) equipped with a turbine inlet temperature (T.I.T.) system identified in table 3 of this AD. Relief from this AD is available only if the gauge and probe are replaced through STC and not if a second T.I.T. gauge was installed while retaining the Lewis or Transicoil T.I.T. gauge and probe.

Table 1–Group 1 (Airplanes Previously Affected by AD 99-15-04 R1)

Models	Serial Numbers (S/N)
PA–46–310P (Malibu)	46–8408001 through 46–8608067 and 4608001 through 4608140.
PA–46–350P (Malibu Mirage)	4622001 through 4622200 and 4636001 through 4636020.

Table 2–Group 2 (Airplanes Not Previously Affected by AD 99-15-04 R1)

Models	S/N
PA–46–350P (Malibu Mirage)	4636021 and subsequent.
PA–46R–350T (Matrix)	4692001 and subsequent.

Table 3–Affected Airplane Models and Corresponding Affected Turbine Inlet Temperature (T.I.T.) System

Models	S/N	Indication System P/N	Probe P/N
PA-46-310P	46-8408001 through 46-8608067 and 4608001 through 4608140	Lewis T.I.T. analog indicators P/N 471-008	471-009 or 481-387
PA-46-350P	4622001 through 4622200 and 4636001 through 4636020	Lewis T.I.T. analog indicators P/N 471-008	481-389 or 481-392 or 686-216 (preferred)
PA-46-350P	4636021 through 4636374	Lewis T.I.T. digital indicators P/N 548-811	481-389 or 481-392 or 686-216 (preferred)
PA-46-350P	4636375 and subsequent	Avidyne Entegra or other Electronic Flight Information System (EFIS) display	686-216
PA-46R-350T	4692001 and subsequent	Avidyne Entegra or other EFIS display	686-216

Subject

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 77, Engine Indicating.

Unsafe Condition

(e) This AD was prompted by field reports that indicated service accuracy problems with the existing T.I.T. system on certain Models PA-46-310P, PA-46-350P, and PA-46R-350T airplanes. We are issuing this AD to prevent improper engine operation caused by improperly calibrated T.I.T. indicators or defective T.I.T. probes, which could result in engine damage/failure with consequent loss of control of the airplane.

Compliance

(f) For Group 1 airplanes: Comply with this AD within the compliance times specified, unless already done.

Table 4–Group 1 Airplanes (Airplanes Previously Affected by AD 99-15-04 R1)

Actions	Compliance	Procedures
(1) Clean and inspect the T.I.T. gauge and probe.	Within the next 100 hours time-in-service (TIS) after August 31, 1999 (the effective date retained from AD 99-15-04).	Follow Piper Airplane Maintenance Manual PA-46-310P/PA-46-350P Part Number 761-783, Chapter 77-20-00, section A.(1)(d), pages 1 and 2, dated July 1, 1998; and Piper Airplane Maintenance Manual PA-46-350P/PA-46R-350T Part Number 761-876, Chapter 77-20-00, section 1.C, pages 1 and 2, dated July 31, 2008, as applicable.

(2) Calibrate the T.I.T. system.	Within the next 100 hours TIS after August 31, 1999 (the effective date retained from AD 99-15-04).	Follow Piper Airplane Maintenance Manual PA-46-310P/PA-46-350P Part Number 761-783, Chapter 77-20-00, section A.(1)(g), pages 3 and 4, dated July 1, 1998; and Piper Airplane Maintenance Manual PA-46-350P/PA-46R-350T Part Number 761-876, Chapter 77-20-00, section 1.F, page 2, dated July 31, 2008, and pages 3 and 4, dated August 28, 2007, as applicable; or Piper Service Bulletin No. 995C, dated November 17, 2009.
(3) If the T.I.T. probe fails the inspection required in paragraph (f)(1) of this AD and/or the T.I.T. system indicator cannot be calibrated as required in paragraph (f)(2) of this AD, replace any failed parts with a serviceable part listed in table 3 of this AD as long as it has been inspected, passed the inspection, and been properly calibrated.	Before further flight after the cleaning and inspection required in paragraph (f)(1) and the calibration required in paragraph (f)(2) of this AD.	Follow Piper Airplane Maintenance Manual PA-46-310P/PA-46-350P Part Number 761-783, Chapter 77-20-00, section A.(1)(f), page 2, dated July 1, 1998; and Piper Airplane Maintenance Manual PA-46-350P/PA-46R-350T Part Number 761-876, Chapter 77-20-00, section 1.E., page 2, dated July 31, 2008, as applicable; or Piper Service Bulletin No. 995C, dated November 17, 2009.
(4) Incorporate the information from Appendix 1 and Appendix 2, as applicable, of this AD into the Emergency Procedures section of the pilot operating handbook (POH). This may be done by inserting a copy of this AD into the POH.	Within the next 100 hours TIS after August 31, 1999 (the effective date retained from AD 99-15-04).	Not applicable.
(5) Only install a part listed in table 3 of this AD after it has been inspected and properly calibrated.	As of July 28, 2000 (the effective date of AD 99-15-04 R1).	Not applicable.
(6) Model PA-46-350P airplanes only: Replace the T.I.T. probe with a new part number 481-389, 481-392, or 686-216 probe (preferred). This action is not required for Model PA-46-310P.	Upon accumulating 250 hours TIS on the currently installed T.I.T. probe or within the next 100 hours TIS after August 31, 1999 (the effective date retained from AD 99-15-04), whichever occurs later, and thereafter at intervals not to exceed 250 hours TIS.	For serial numbers 4622001 through 4622200: Follow Piper Airplane Maintenance Manual PA-46-310P/PA-46-350P Part Number 761-783, Chapter 77-20-00, section A.(1)(f), page 2, dated July 1, 1998; or Piper Service Bulletin No. 995C, dated November 17, 2009. For serial numbers 4636001 through 4636020: Follow Piper Airplane Maintenance Manual PA-46-350P/PA-46R-350T Part Number 761-876, Chapter 77-20-00, section 1.E., page 2, dated July 31, 2008; or Piper Service Bulletin No. 995C, dated November 17, 2009.

(g) For Group 2 airplanes: Comply with this AD within the compliance times specified, unless already done.

Table 5–Group 2 Airplanes (Airplanes Not Previously Affected by AD 99-15-04 R1)

Actions	Compliance	Procedures
(1) Model PA-46-350P airplanes, S/Ns 4636021 through 4636374 only: Clean and inspect the T.I.T. gauge and probe.	Within the next 100 hours TIS after the effective date of this AD.	Follow Piper Airplane Maintenance Manual PA-46-350P/PA-46R-350T Part Number 761-876, Chapter 77-20-00, section 1.C, page 1, dated August 28, 2007, and page 2, dated July 31, 2008.
(2) Model PA-46-350P airplanes, S/Ns 4636021 through 4636374 only: If the T.I.T. probe fails the inspection required in paragraph (g)(1) of this AD, replace any failed parts with a serviceable part listed in table 3 of this AD as long as it has been inspected and has passed the inspection.	Before further flight after the cleaning and inspection required in paragraph (g)(1) of this AD.	Follow Piper Service Bulletin No. 995C, dated November 17, 2009.
(3) All Group 2 airplanes: Replace the T.I.T. probe with a new part number 686-216 probe.	Upon accumulating 250 hours TIS on the currently installed T.I.T. probe or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed 250 hours TIS.	Piper Service Bulletin No. 995C, dated November 17, 2009.
(4) All Group 2 airplanes: Incorporate the information from Appendix 2 of this AD into the Emergency Procedures section of the POH. This may be done by inserting a copy of this AD into the POH.	Within the next 100 hours TIS after the effective date of this AD.	Not applicable.
(5) All Group 2 airplanes: Only install a part listed in table 3 of this AD after it has been inspected and properly calibrated.	As of the effective date of this AD.	Not applicable.

Alternative Methods of Compliance (AMOCs)

(h)(1) The Manager, Atlanta Aircraft Certification Office, 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 Principal Maintenance Inspector or Principal Avionics Inspector, as appropriate, or lacking a principal inspector, your local Flight Standards District Office.

(3) AMOCs approved for AD 99-15-04 R1 are approved as AMOCs for this AD.

Related Information

(i) For more information about this AD, contact Darby Mirocha, Aerospace Engineer, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5573; fax: (404) 474-5605; e-mail: darby.mirocha@faa.gov.

Material Incorporated by Reference

(j) You must use the service information contained in Table 6 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

Table 6–All Material Incorporated by Reference

Document	Revision	Date
Piper Service Bulletin No. 995C	N/A	November 17, 2009
Piper Airplane Maintenance Manual PA-46-310P/PA-46-350P Part Number 761-783, Chapter 77, ‘‘Engine Indicating,’’ Section 77–20–00, pages 1 through 4.	N/A	July 1, 1998
Piper Airplane Maintenance Manual PA-46-350P/PA-46R-350T Part Number 761-876, Chapter 77, ‘‘Engine Indicating,’’ Section 77–20–00, pages 1 through 4.	N/A	July 31, 2008. Section 77–20–00: pages 1, 3, and 4, dated August 28, 2007; page 2, dated July 31, 2008.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) 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: http://www.piper.com/home/pages/publications.cfm.

(3) You may review copies of the service information at the FAA, Small Airplane Directorate, 901 Locust St., Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call 202-741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Appendix 1 to AD 2011-06-10–Model PA-46-310P (Malibu); Emergency Procedures for the Pilot's Operating Handbook (POH)

(1) If the turbine inlet temperature indication fails or is suspected of failure during takeoff, climb, descent, or landing, maintain FULL RICH mixture to assure adequate fuel flow for engine cooling.

(2) If the turbine inlet temperature indication fails or is suspected of failure after cruise power has been set, maintain cruise power setting and lean to 6 gallons per hour (GPH) fuel flow above that specified in the Power Setting Table in Section 5 of the AFM/POH. Continually monitor engine cylinder head and oil temperatures to avoid exceeding temperature limits.

Appendix 2 to AD 2011-06-10–Model PA-46-350P (Malibu Mirage) and Model PA-46R-350T (Matrix); Emergency Procedures for the Pilot's Operating Handbook (POH)

(1) If the turbine inlet temperature indication fails or is suspected of failure during takeoff, climb, descent or landing, set power per the POH Section 5 Power Setting Table and then lean to the approximate POH Power Setting Table fuel flow plus 4 GPH.

(2) If the turbine inlet temperature indication fails or is suspected of failure after cruise power has been set, maintain the power setting and increase indicated fuel flow by 1 GPH. Continually monitor engine cylinder head and oil temperatures to avoid exceeding temperature limits.

Issued in Kansas City, Missouri, on March 9, 2011.
Earl Lawrence,
Manager, Small Airplane Directorate,
Aircraft Certification Service.