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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0892; Directorate Identifier 2010-NE-32-AD; Amendment 39-16615; AD 2011-05-06]

RIN 2120-AA64

Airworthiness Directives; Thielert Aircraft Engines GmbH Models TAE 125-02-99 and TAE 125-02-114 Reciprocating Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

Service experience has shown that fracture of the timing chain has occurred due to chain wear. This condition, if not corrected, could lead to in-flight cases of engine shutdown.

We are issuing this AD to prevent engine in-flight shutdown leading to loss of control of the airplane by requiring life limits for the timing chain.

DATES: This AD becomes effective March 30, 2011.

ADDRESSES: The Docket Operations office is located at Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

FOR FURTHER INFORMATION CONTACT: Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: alan.strom@faa.gov; telephone (781) 238-7143; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on October 28, 2010 (75 FR 66342). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Service experience has shown that fracture of the timing chain has occurred due to chain wear. This condition, if not corrected, could lead to in-flight cases of engine shutdown.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

Based on the service information, we estimate that this AD will affect about 112 engines installed on airplanes of U.S. registry. We also estimate that it will take about 8 work-hours per product to comply with this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$162 per engine. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$94,304.

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 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 this AD:

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); and

3. 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office 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 street address for the Docket Operations office (phone (800) 647-5527) is provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, 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 adding the following new AD:



2011-05-06 Thielert Aircraft Engines GmbH: Amendment 39-16615. Docket No. FAA-2010-0892; Directorate Identifier 2010-NE-32-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective March 30, 2011.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Thielert Aircraft Engines GmbH models TAE 125-02-99 and TAE 125-02-114 reciprocating engines installed in, but not limited to, Cessna 172 and (Reims-built) F172 series (European Aviation Safety Agency (EASA) Supplemental Type Certificate (STC) No. EASA.A.S.01527); Piper PA-28 series (EASA STC No. EASA.A.S. 01632); APEX (Robin) DR 400 series (EASA STC No. A.S.01380); and Diamond Aircraft Industries Models DA 40, DA 42, and DA 42M NG airplanes.

Reason

(d) This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

Service experience has shown that fracture of the timing chain has occurred due to chain wear. This condition, if not corrected, could lead to in-flight cases of engine shutdown.

We are issuing this AD to prevent engine in-flight shutdown leading to loss of control of the airplane by requiring life limits for the timing chain.

Actions and Compliance

- (e) Unless already done, do the following actions.

Initial Replacement of Timing Chain

(1) For engines with serial numbers (S/Ns) listed in Table 1 of this AD, replace the timing chain within 600 flight hours-since-new, or no later than 55 flight hours after the effective date of this AD, whichever occurs later.

Table 1—S/Ns of Engines Affected by the Compliance Time in Paragraph (e)(1) of This AD

02-02-01510 to 02-02-01514 inclusive
02-02-01518 to 02-02-01520 inclusive
02-02-01529
02-02-01717
02-02-01718
02-02-01720
02-02-01721
02-02-01727
02-02-01728
02-02-01730 to 02-02-01733 inclusive
02-02-01739 to 02-02-01752 inclusive

(2) For engines with S/Ns not listed in Table 1 of this AD, replace the timing chain within 910 flight hours-since-new, or no later than 55 flight hours after the effective date of this AD, whichever occurs later.

Repetitive Replacements of Timing Chains for All TAE 125-02-99 and TAE 125-02-114 Engines

(3) Thereafter, for all TAE 125-02-99 and TAE 125-02-114 engines, repetitively replace the timing chain within every additional 910 flight hours.

(4) Guidance on replacing the timing chain can be found in Thielert Aircraft Engines GmbH Service Bulletin No. TM TAE 125-1010 P1, Revision 2, dated May 26, 2010.

FAA AD Differences

(f) This AD differs from the MCAI and/or service information, which require initial replacement of the timing chain for the engines listed in paragraph (e)(1) above within either the next 110 flight hours or at the next maintenance, whichever occurs first, for those engines having accumulated between 500 and 600 flight hours time-since-new. The reason for the difference is to ensure that the compliance requirements for all engines in paragraph (e)(1) above are consistent.

Alternative Methods of Compliance (AMOCs)

(g) The Manager, Engine Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

Related Information

(h) Refer to MCAI European Aviation Safety Agency AD 2010-0136, dated June 30, 2010, and Thielert Aircraft Engines GmbH Service Bulletin No. TM TAE 125-1010 P1, Revision 2, dated May 26, 2010, for related information. Contact Thielert Aircraft Engines GmbH, Platanenstrasse 14 D-09350, Lichtenstein, Germany, telephone: 37204-696-0; fax: 37204-696-55; e-mail: engines.com">info@centurion-engines.com, for a copy of this service information.

(i) Contact Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: alan.strom@faa.gov; telephone (781) 238-7143; fax (781) 238-7199, for more information about this AD.

Material Incorporated by Reference

(j) None.

Issued in Burlington, Massachusetts, on February 16, 2011.
Peter A. White,
Acting Manager, Engine and Propeller Directorate,
Aircraft Certification Service.