

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 39**

[Docket No. FAA-2009-0201; Directorate Identifier 2008-NE-47-AD]

RIN 2120-AA64

Airworthiness Directives; Thielert Aircraft Engines GmbH (TAE) Models TAE 125-01 and TAE 125-02-99 Reciprocating Engines Installed in, But Not Limited to, Diamond Aircraft Industries Model DA 42 Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental Notice of proposed rulemaking (NPRM); reopening of comment period.

SUMMARY: This supplemental NPRM revises an earlier proposed airworthiness directive (AD) for the products listed above. This proposed AD results from additional 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: Engine in-flight shutdown incidents have been reported on Diamond Aircraft Industries DA 42 airplanes equipped with TAE 125 engines. The investigations showed that it was mainly the result of failure of the Proportional Pressure Reducing Valve (PPRV) (also known as Propeller Control Valve) due to high vibrations. This condition, if not corrected, could lead to further cases of engine in-flight shutdown, possibly resulting in reduced control of the aircraft. Since the release of European Aviation Safety Agency (EASA) AD 2008-0145, the engine gearbox has been identified as the primary source of vibrations for the PPRV, and it has also been determined that failure of the electrical connection to the PPRV could have contributed to some power loss events or in-flight shutdowns. We are proposing this AD to prevent engine in-flight shutdown, possibly resulting in reduced control of the aircraft.

DATES: We must receive comments on this proposed AD by March 25, 2010.

ADDRESSES: You may send comments by any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

- *Mail:* Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building

Ground Floor, Room W12-140, Washington, DC 20590-0001.

- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- *Fax:* (202) 493-2251.

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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is the same as the Mail address provided in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Tara Chaidez, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: tara.chaidez@faa.gov; telephone (781) 238-7773; fax (781) 238-7199.

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-2009-0201; Directorate Identifier 2008-NE-47-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 based on 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 with FAA personnel concerning this proposed AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477-78).

Discussion

EASA, which is the Technical Agent for the Member States of the European Community, has issued AD 2009-0224, dated October 20, 2009, AD 2009-0193, dated August 27, 2009, and AD 2009-0193R1, dated December 1, 2009 (referred to after this as "the MCAIs"), to correct an unsafe condition for the specified products. These MCAIs state:

Engine in-flight shutdown incidents have been reported on Diamond Aircraft Industries DA 42 airplanes equipped with TAE 125 engines. The investigations showed that it was mainly the result of failure of the PPRV due to high vibrations. This condition, if not corrected, could lead to further cases of engine in-flight shutdown, possibly resulting in reduced control of the aircraft.

Since the release of EASA AD 2008-0145, the engine gearbox has been identified as the primary source of vibrations for the PPRV, and it has also been determined that failure of the electrical connection to the PPRV could have contributed to some power loss events or in-flight shutdowns.

Since we issued the original proposed AD on April 13, 2009 (74 FR 17795, April 17, 2009):

- TAE has identified the gearbox as the primary source of vibrations causing the failures of the propeller control valves.

- EASA revised AD 2008-0145 with AD 2008-0145R1, which reduced the applicability to cover only TAE 125-01 engines, superseded AD 2008-0145R1 with AD 2009-0193, and revised that AD with AD 2009-0193R1. AD 2009-0193R1 requires, for TAE 125-01 engines, initial and repetitive replacements of the PPRV, inspection of the electrical connectors of the PPRV and replacement of the connectors if damaged, installation of a vibration isolator between the engine gearbox and the propeller's constant speed unit, replacement of the aluminum pipe that connects the PPRV to the constant speed unit with a flexible hose, and replacement of the de-icing nozzle bracket with a redesigned bracket.

- EASA also issued AD 2009-0151 and superseded it with AD 2009-0224, which requires for TAE 125-02-99 engines, initial and repetitive replacements of the PPRV, and installation of a vibration isolator between the engine gearbox and the propeller's constant speed unit. You may obtain further information by examining the MCAIs in the AD docket.

Relevant Service Information

Thielert Aircraft Engines GmbH has issued Service Bulletin (SB) No. TM TAE 125-1007 P1, Revision 2, dated April 29, 2009, SB No. TM TAE 125-1009 P1, Revision 3, dated October 14,

2009, SB No. TM TAE 125–0018, Revision 1, dated November 12, 2008, and SB No. TM TAE 125–0020, Revision 1, dated November 25, 2009. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

Differences Between This Proposed AD and the MCAI

We have reviewed the MCAIs and, in general, agree with their substance. But we have found it necessary to not reference the second paragraph of the unsafe condition from EASA AD 2009–0224. That sentence stated that the problem has only manifested itself on those Thielert engines installed on Diamond Aircraft Industries DA 42 aircraft. The affected engines which require a PPRV could be used on other make and model airplanes in the future.

We also did not incorporate the February 28, 2010 compliance date which is in EASA AD 2009–0193R1, or the January 31, 2010 compliance date which is in EASA AD 2009–0224.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of Germany and is approved for operation in the United States. Pursuant to our bilateral agreement with Germany, EASA has notified us of the unsafe condition described in the MCAI. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design. This proposed AD would require initial and repetitive replacements of the PPRV and installation of a vibration isolator to the gearbox assembly.

Costs of Compliance

Based on the service information, we estimate that this proposed AD would affect about 300 TAE 125–01 and TAE 125–02–99 reciprocating engines installed in Diamond Aircraft Industries Model DA 42 airplanes of U.S. registry. We also estimate that it would take about 0.25 work-hour per engine to replace a PPRV and install a vibration isolator to the gearbox assembly. The average labor rate is \$85 per work-hour. Required parts would cost about \$275 per product. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$88,875.

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 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 this 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); 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 proposed AD and placed it in the AD docket.

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 adding the following new AD:

Thielert Aircraft Engines GmbH: Docket No. FAA–2009–0201; Directorate Identifier 2008–NE–47–AD.

Comments Due Date

- (a) We must receive comments by March 25, 2010.

Affected Airworthiness Directives (ADs)

- (b) None.

Applicability

(c) This AD applies to Thielert Aircraft Engines GmbH (TAE) models TAE 125–01 and TAE 125–02–99 reciprocating engines designated with part number (P/N) 05–7200–K000301 or 02–7200–1401R1. The engines are installed on, but not limited to, Diamond Aircraft Industries Model DA 42 airplanes.

Reason

(d) Engine in-flight shutdown incidents have been reported on Diamond Aircraft Industries DA 42 airplanes equipped with TAE 125 engines. The investigations showed that it was mainly the result of failure of the Proportional Pressure Reducing Valve (PPRV) (also known as Propeller Control Valve) due to high vibrations. This condition, if not corrected, could lead to further cases of engine in-flight shutdown, possibly resulting in reduced control of the aircraft.

Since the release of European Aviation Safety Agency (EASA) AD 2008–0145, the engine gearbox has been identified as the primary source of vibrations for the PPRV, and it has also been determined that failure of the electrical connection to the PPRV could have contributed to some power loss events or in-flight shutdowns.

We are issuing this AD to prevent engine in-flight shutdown, possibly resulting in reduced control of the aircraft.

Actions and Compliance

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

TAE 125–02–99 Reciprocating Engines

(1) For TAE 125–02–99 reciprocating engines with engine P/N 05–7200–K000301, within 55 flight hours after the effective date of this AD:

(i) Replace the existing PPRV with PPRV, P/N 05–7212–E002801. Use paragraphs A. through B. of Thielert Service Bulletin (SB) No. TM TAE 125–1007 P1, Revision 2, dated April 29, 2009, to do the replacement.

(ii) Install a vibration isolator, P/N 05–7212–K022302, to the gearbox assembly. Use paragraphs 1 through 20 of Thielert SB No. TM TAE 125–1009 P1, Revision 3, dated October 14, 2009, to do the installation.

Repetitive PPRV Replacements

(2) Thereafter, within every 300 flight hours, replace the PPRV, P/N 05–7212–E002801, with the same P/N PPRV.

TAE 125–01 Reciprocating Engines

(3) For TAE 125–01 reciprocating engines with engine P/N 02–7200–1401R1, within 55 flight hours after the effective date of this AD:

(i) Replace the existing PPRV with a PPRV, P/N NM–0000–0124501 or P/N 05–7212–K021401. Use paragraph 1 of Thielert SB No. TM TAE 125–0018, Revision 1, dated November 12, 2008, to do the replacement.

(ii) Inspect the electrical connectors of the PPRV and replace the connectors if damaged, and install a vibration isolator, P/N 05-7212-K023801, to the gearbox assembly. Use paragraphs 1 through 27 of Thielert SB No. TM TAE 125-0020, Revision 1, dated November 25, 2009, to do the inspection and installation.

Repetitive PPRV Replacements

(4) Thereafter, within every 300 flight hours, replace the PPRV with a PPRV, P/N NM-0000-0124501 or P/N 05-7212-K021401.

FAA Differences

(f) We have found it necessary to not reference the second paragraph of the unsafe condition from the MCAI EASA AD 2009-0224. That sentence stated that the problem has only manifested itself on those Thielert engines installed on Diamond Aircraft Industries DA 42 aircraft. The affected engines which require a PPRV could be used on other make and model airplanes in the future.

(g) We also did not reference the February 28, 2010 compliance date, which is in EASA AD 2009-0193R1, or the January 31, 2010 compliance date which is in EASA AD 2009-0224.

Alternative Methods of Compliance (AMOCs)

(h) 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

(i) Refer to EASA AD 2009-0224, dated October 20, 2009 (TAE 125-02-99), and EASA AD 2009-0193R1, dated December 1, 2009 (TAE 125-01), for related information.

(j) Refer to Thielert SB No. TM TAE 125-1007 P1, Revision 2, dated April 29, 2009, and Thielert SB No. TM TAE 125-1009 P1, Revision 3, dated October 14, 2009 (TAE 125-02-99), for related information.

(k) Refer to Thielert SB No. TM TAE 125-0018, Revision 1, dated November 12, 2008, and Thielert SB No. TM TAE 125-0020, Revision 1, dated November 25, 2009 (TAE 125-01), for related information.

(l) Contact Thielert Aircraft Engines GmbH, Platanenstrasse 14 D-09350, Lichtenstein, Germany, telephone: +49-37204-696-0; fax: +49-37204-696-2912; e-mail: info@centurion-engines.com, for a copy of the service information referenced in this AD.

(m) Contact Tara Chaidez, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; e-mail: tara.chaidez@faa.gov; telephone (781) 238-7773; fax (781) 238-7199, for more information about this AD.

Issued in Burlington, Massachusetts, on February 16, 2010.

Francis A. Favara,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 2010-3484 Filed 2-22-10; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0714; Directorate Identifier 2009-NM-041-AD]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-135 and -145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental notice of proposed rulemaking (NPRM); reopening of comment period.

SUMMARY: We are revising an earlier NPRM for the products listed above. This action revises the earlier NPRM by expanding the scope. This proposed AD results from mandatory continuing airworthiness information (MCAI) originated 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:

It was reported that after commanding the landing gear lever to down the three green landing gear positioning indication was displayed followed by the LG/LEVER DISAGREE EICAS [engine indicating and crew alerting system] message. The crew decided to continue the approach and landing procedure. As soon as the crew identified that the landing gear was not extended properly, a go-around procedure was successfully performed. During maneuver, the airplane settled momentarily onto the flaps and belly.

* * * * *

The unsafe condition is the landing gear remaining in the up and locked position during approach and landing. This condition could be accompanied by an invalid EICAS landing gear position indication, which could result in landing with gear in the up position and eliminate controllability of the airplane on the ground. This may consequently result in structural damage to the airplane. The proposed AD would require actions that are intended to address the unsafe condition described in the MCAI.

DATES: We must receive comments on this proposed AD by March 22, 2010.

ADDRESSES: You may send comments 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:** U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-40, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Empresa Brasileira de Aeronautica S.A. (EMBRAER), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170—Putim—12227-901 São Jose dos Campos—SP—BRASIL; telephone: +55 12 3927-5852 or +55 12 3309-0732; fax: +55 12 3927-7546; e-mail: distrib@embraer.com.br; Internet: <http://www.flyembraer.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT:

Todd Thompson, Aerospace Engineer, International Branch, ANN-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149.

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-2009-0714; Directorate Identifier 2009-NM-041-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