

2010-11-09 Thielert Aircraft Engines GmbH: Amendment 39-16314. Docket No. FAA-2009-0201; Directorate Identifier 2008-NE-47-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective July 13, 2010.

Affected 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) 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.

Material Incorporated by Reference

(k) You must use the service information specified in Table 1 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

(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 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.

(3) You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Table 1--Material Incorporated by Reference

Thielert Service Bulletin No.	Page	Revision	Date
TM TAE 125-1007 P1 Total Pages: 4	ALL	2	April 29, 2009
TM TAE 125-1009 P1 Total Pages: 26	ALL	3	October 14 ,2009
TM TAE 125-0018 Total Pages: 2	ALL	1	November 12, 2008
TM TAE 125-0020, including Annexes A and B Total Pages: TM TAE 125-0020, 42; Annex A, 3;Annex B, 4	ALL	1	November 25, 2009