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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0747; Directorate Identifier 2009-NE-28-AD; Amendment 39-16199; AD 2010-04-06]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Thielert Aircraft Engines GmbH (TAE) Model TAE 125-01 Reciprocating Engines**

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

**ACTION:** Final rule.

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**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:

An in-flight engine shutdown incident was reported on an aircraft equipped with a TAE 125-01 engine. This was found to be mainly the result of a blockage of the scavenge oil gear pump due to a broken axial bearing of the turbocharger. The broken parts were sucked into the oil pump and caused seizure. With the pump inoperative, the separator overfilled, causing the engine oil to escape via the breather vent line. This caused a loss of oil that resulted in the engine overheating and subsequent shutdown.

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

**DATES:** This AD becomes effective March 30, 2010. The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of March 30, 2010.

**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:** 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:**

### **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 September 17, 2009 (74 FR 47759). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

An in-flight engine shutdown incident was reported on an aircraft equipped with a TAE 125-01 engine. This was found to be mainly the result of a blockage of the scavenge oil gear pump due to a broken axial bearing of the turbocharger. The broken parts were sucked into the oil pump and caused seizure. With the pump inoperative, the separator overfilled, causing the engine oil to escape via the breather vent line. This caused a loss of oil that resulted in the engine overheating and subsequent shutdown.

### **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 available data and determined that air safety and the public interest require adopting the AD as proposed.

### **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and, in general, agree with its substance. But we have found it necessary to change the compliance from "within the next 50 flight hours after the effective date of this directive, but not later than 31 October 2007, whichever occurs first", to "within the next 50 flight hours after the effective date of this AD."

### **Costs of Compliance**

Based on the service information, we estimate that this AD will affect about 250 products of U.S. registry. We also estimate that it will take about one work-hour per product to comply with this AD. The average labor rate is \$80 per work-hour. Required parts will cost about \$80 per product. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$40,000.

### **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 (telephone (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, 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 adding the following new AD:



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**2010-04-06 Thielert Aircraft Engines GmbH:** Amendment 39-16199. Docket No. FAA-2009-0747; Directorate Identifier 2009-NE-28-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective March 30, 2010.

**Affected ADs**

- (b) None.

**Applicability**

(c) This AD applies to Thielert Aircraft Engines GmbH (TAE) model TAE 125-01 reciprocating engines, all serial numbers (S/N) up to- and- including S/N 02-01-1018. These engines are installed in, but not limited to, Diamond Aircraft Industries Model DA42, Piper PA-28-161 (Supplemental Type Certificate (STC) No. SA03303AT), Cessna 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, 172R, 172S, F172F, F172G, F172H, F172K, F172L, F172M, F172N, and F172P (STC No. SA01303WI) 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:

An in-flight engine shutdown incident was reported on an aircraft equipped with a TAE 125-01 engine. This was found to be mainly the result of a blockage of the scavenge oil gear pump due to a broken axial bearing of the turbocharger. The broken parts were sucked into the oil pump and caused seizure. With the pump inoperative, the separator overfilled, causing the engine oil to escape via the breather vent line. This caused a loss of oil that resulted in the engine overheating and subsequent shutdown.

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 within the next 50 flight hours after the effective date of this AD:

- (1) Modify the engine oil system by installing a filter adaptor to the catch tank.

(2) Use the installation instructions in Thielert Service Bulletin No. TM TAE 125-0016, Revision 1, dated June 15, 2007, to install the filter adaptor.

### **FAA AD Differences**

(f) This AD differs from the Mandatory Continuing Airworthiness Information (MCAI) as follows:

(1) The MCAI compliance time states "within the next 50 flight hours after the effective date of this directive, but not later than 31 October 2007, whichever occurs first".

(2) This AD compliance time states "within the next 50 flight hours after the effective date of this AD."

### **Related Information**

(g) Refer to European Aviation Safety Agency AD 2007-0232, dated August 23, 2007, for related information.

(h) 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**

(i) You must use Thielert Service Bulletin No. TM TAE 125-0016, Revision 1, dated June 15, 2007, 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: +49-37204-696-55; 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>.

Issued in Burlington, Massachusetts, on February 8, 2010.  
Peter A. White,  
Assistant Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.