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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2015-1383; Directorate Identifier 2015-NE-15-AD; Amendment 39-18293; AD 2015-21-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Technify Motors GmbH 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 all Technify Motors GmbH TAE 125-02 reciprocating engines with a dual mass flywheel installed. This AD requires installation of a start phase monitoring system and associated specified software. This AD was prompted by reports of a gearbox drive shaft breaking during starting or restarting of the engine. We are issuing this AD to prevent overload and failure of the gearbox drive shaft, which could result in failure of the engine, in-flight shutdown, and loss of control of the airplane.

**DATES:** This AD becomes effective November 27, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 27, 2015.

**ADDRESSES:** For service information identified in this AD, contact Technify Motors GmbH, Platanenstrasse 14, D-09356 Sankt Egidien, Germany; phone: +49 37204 696 0; fax: +49 37204 696 29125; email: engines.com">info@centurion-engines.com; and Diamond Aircraft Industries GmbH, N. A. Otto-Strasse 5, 2700 Wiener Neustadt, Austria; phone: +43 2622 26700; fax: +43 2622 26700 1369; email: airworthiness@diamond-air.at. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-1383.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-1383; 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 mandatory continuing airworthiness information (MCAI), 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:** Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to the specified products. The NPRM was published in the Federal Register on July 8, 2015 (80 FR 38990). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Cases of a broken gearbox drive shaft have been reported on aeroplanes equipped with TAE 125-02 engines that have a Dual Mass Flywheel installed.

Investigations results showed a possible overload of the gearbox drive shaft during starting of the engine or during restarting of the engine in-flight.

This condition, if not corrected, could lead to engine power loss during flight, possibly resulting in loss of control of the aeroplane.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (80 FR 38990, July 8, 2015).

### **Conclusion**

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

### **Related Service Information Under 1 CFR Part 51**

Technify Motors GmbH has issued Service Bulletin No. SB TMG 125-1018 P1, Revision 1, dated February 5, 2015. The service information describes procedures for installing a start phase monitoring system and associated specified software mapping on particular airplane models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this final rule.

### **Other Related Service Information**

Technify Motors GmbH has also issued Technify Motors SB No. TM TAE 000-0007, Revision 28, dated February 5, 2015; Technify Motors Installation Manual No. IM-02-02, Issue 4, Revision 2, dated January 30, 2015, with Chapter 02-IM-13-02, section 13.8.16, Revision 1, dated November 28,

2014; Technify Motors SB No. SB TMG 601-1007 P1, Revision 3, dated February 5, 2015; and Technify Motors SB No. SB TMG 651-1004 P1, Revision 2, dated February 5, 2015. Diamond Aircraft Industries GmbH (DAI) has issued DAI Mandatory Service Bulletin (MSB) No. 42-109/1, dated February 4, 2015; and DAI MSB No. 42-007/16, dated February 4, 2015. The service information describes procedures for installing a start phase monitoring system and associated specified software mapping.

### **Costs of Compliance**

We estimate that this AD affects 97 engines installed on airplanes of U.S. registry. We also estimate that it will take about 3 hours per engine to comply with this AD. The average labor rate is \$85 per hour. For 13 of the engines, required parts cost about \$285 per engine. For 84 of the engines, required parts cost about \$206 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$45,744.

### **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),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, 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 adding the following new airworthiness directive (AD):



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**2015-21-01 Technify Motors GmbH (Type Certificate Previously Held by Thielert Aircraft Engines GmbH):** Amendment 39-18293; Docket No. FAA-2015-1383; Directorate Identifier 2015-NE-15-AD.

**(a) Effective Date**

This AD becomes effective November 27, 2015.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Technify Motors GmbH TAE 125-02-99 (commercial designation CD-135, formerly Centurion 2.0) and TAE 125-02-114 (commercial designation CD-155, formerly Centurion 2.0S) reciprocating engines, with a dual mass flywheel installed.

**(d) Reason**

This AD was prompted by reports of a gearbox drive shaft breaking during starting or restarting of the engine. We are issuing this AD to prevent overload and failure of the gearbox drive shaft, which could lead to failure of the engine, in-flight shutdown, and loss of control of the airplane.

**(e) Actions and Compliance**

Comply with this AD within the compliance times specified, unless already done.

Within 110 flight hours or at the next scheduled inspection after the effective date of this AD, whichever occurs first, install a start phase monitoring system and software mapping. Use Technify Motors Service Bulletin (SB) No. SB TMG 125-1018 P1, Revision 1, dated February 5, 2015, to do the installation.

**(f) Installation Prohibition**

After the effective date of this AD, do not install onto any airplane any Technify Motors TAE 125-02-99 or TAE 125-02-114 reciprocating engine that is not equipped with a start phase monitoring system and software mapping.

**(g) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

## **(h) Related Information**

(1) For more information about this AD, contact Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2015-0055, dated March 31, 2015, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2015-1383-0002>.

(3) Technify Motors SB No. TM TAE 000-0007, Revision 28, dated February 5, 2015; Technify Motors Installation Manual No. IM-02-02, Issue 4, Revision 2, dated January 30, 2015, with Chapter 02-IM-13-02, section 13.8.16, Revision 1, dated November 28, 2014; Technify Motors SB No. SB TMG 601-1007 P1, Revision 3, dated February 5, 2015; and Technify Motors SB No. SB TMG 651-1004 P1, Revision 2, dated February 5, 2015, which are not incorporated by reference in this AD, can be obtained from Technify Motors GmbH, using the contact information in paragraph (i)(3) of this AD.

(4) Diamond Aircraft Industries GmbH (DAI) MSB No. 42-109/1, dated February 4, 2015; and DAI MSB No. 42-007/16, dated February 4, 2015, which are not incorporated by reference in this AD, can be obtained from Diamond Aircraft Industries GmbH, using the contact information in paragraph (h)(5) of this AD.

(5) For DAI service information identified in this AD, contact Diamond Aircraft Industries GmbH, N. A. Otto-Strasse 5, 2700 Wiener Neustadt, Austria; phone: +43 2622 26700; fax: +43 2622 26700 1369; email: [airworthiness@diamond-air.at](mailto:airworthiness@diamond-air.at).

(6) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

## **(i) Material Incorporated by Reference**

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Technify Motors Service Bulletin (SB) No. SB TMG 125-1018 P1, Revision 1, dated February 5, 2015.

(ii) Reserved.

(3) For Technify Motors GmbH service information identified in this AD, contact Technify Motors GmbH, Platanenstrasse 14, D-09356 Sankt Egidien, Germany; phone: +49-37204-696-0; fax: +49-37204-696-55; email: [info@centurion-engines.com](mailto:info@centurion-engines.com).

(4) You may view this service information at FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information 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 October 6, 2015.  
Ann C. Mollica,  
Acting Directorate Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.