DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2022–1413; Project Identifier MCAI–2021–00077–E; Amendment 39–22302; AD 2023–01–08]

RIN 2120–AA64

Airworthiness Directives; Continental Aerospace Technologies GmbH Reciprocating Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Continental Aerospace Technologies GmbH TAE 125–02–99 and TAE 125–02–114 model reciprocating engines. This AD was prompted by manufacturer reports of fractured main bearing studs. This AD requires the removal and replacement of certain main bearing studs. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective March 9, 2023.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of March 9, 2023.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA–2022–1413; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Continental Aerospace Technologies GmbH, Platanenstrasse 14, 09356 Sankt Egidien, Germany; phone: +49 37204 696 0; email: *support@continentaldiesel.com;* website: *continentaldiesel.com.*
- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222–5110. It is also available at *regulations.gov* under Docket No. FAA–2022–1413.

FOR FURTHER INFORMATION CONTACT: Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238–7146; email: *barbara.caufield@faa.gov.*

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Continental Aerospace Technologies GmbH TAE 125–02–99 and TAE 125–02–114 model reciprocating engines. The NPRM published in the **Federal Register** on November 09, 2022 (87 FR 67572). The NPRM was prompted by AD 2021–0022, dated January 18, 2021, issued by the European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union (referred to after this as ''the MCAI''). The MCAI states that the manufacturer has received reports of fractured main bearing studs. A fractured main bearing stud provides improper support to the crankshaft and increases crankshaft clearance, resulting in crankshaft sensor failures and potential crankshaft fracture. The manufacturer is investigating the root cause of main bearing stud failures. To address this unsafe condition, Continental Aerospace Technologies GmbH published service information to identify the serial numbers (S/Ns) of the affected engines and specify procedures for replacement of certain main bearing studs. The MCAI specifies actions to replace main bearing studs and specifies certain main bearing studs that are not to be installed onto any engine. This condition, if not addressed, could result in engine in-flight shutdown and forced landing, damage to the airplane, and injury to the occupants.

In the NPRM, the FAA proposed to require the removal of certain main bearing studs from service and replacement with parts eligible for installation. The NPRM also proposed to prohibit the installation of certain main bearing studs. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the MCAI in the AD docket at *regulations.gov* under Docket No. FAA–2022–1413.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Continental Aerospace Technologies GmbH Service Bulletin (SB) CG 125–1027 P1, Revision 1, dated May 28, 2021. This service information identifies the S/Ns of the affected engines and specifies procedures for replacing the main bearing studs. The FAA also reviewed Continental Aerospace Technologies GmbH Repair Instruction RI–05–0017–04, Revision 4, dated April 1, 2021. This service information provides instructions for replacing the main bearing studs.

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 **ADDRESSES**.

Costs of Compliance

The FAA estimates that this AD affects 92 engines installed on aircraft of U.S. registry.

The FAA estimates the following costs to comply with this AD:

ESTIMATED COSTS

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace main bearing studs.	16 work-hours × $85 per hour = $1,360	$5,500	$6,860	$631,120

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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.

The FAA is 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

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 that this AD:

(1) Is not a ''significant regulatory action'' under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, 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.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

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:

2023–01–08 Continental Aerospace Technologies GmbH (Type Certificate previously held by Technify Motors GmbH and Thielert Aircraft Engines GmbH): Amendment 39–22302; Docket No. FAA–2022–1413; Project Identifier MCAI–2021–00077–E.

(a) Effective Date

This airworthiness directive (AD) is effective March 9, 2023.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Continental Aerospace Technologies GmbH (Type Certificate previously held by Technify Motors GmbH and Thielert Aircraft Engines GmbH) TAE 125–02–99 and TAE 125–02–114 model reciprocating engines with an engine serial number (S/N) identified in Models Affected, Continental Aerospace Technologies GmbH Service Bulletin (SB) CG 125–1027 P1, Revision 1, dated May 28, 2021.

(d) Subject

Joint Aircraft System Component (JASC) Code 7200, Engine (Turbine/Turboprop).

(e) Unsafe Condition

This AD was prompted by manufacturer reports of fractured main bearing studs. The FAA is issuing this AD to prevent failure of the main bearing stud. The unsafe condition, if not addressed, could result in engine in-flight shutdown and forced landing, damage to the airplane, and injury to the occupants.

(f) Compliance

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

(g) Required Actions

(1) For Group 1 and Group 2 engines, before exceeding the applicable compliance time in Table 1 to paragraph (g)(1) of this AD, remove all main bearing studs from service if one or more main bearing studs with part number (P/N) 05–7211–K009801 and batch number B180703/1, B184216/1, B184216/2, or B191277/1 are installed on the engine and replace with parts eligible for installation in accordance with Instructions, paragraphs 4.2 through 4.2.17 of Continental Aerospace Technologies GmbH Repair Instruction RI–05–0017–04, Revision 4, dated April 1, 2021 (Continental Aerospace Technologies GmbH RI–05–0017–04, Revision 4).

TABLE 1 TO PARAGRAPH (g)(1)—MAIN BEARING STUD REPLACEMENT

Group	Flight hours (FHs) since new	Compliance time
1	100 FHs or less	Before exceeding 115 FHs since new, or during the next scheduled maintenance, whichever occurs first after the effective date of this AD.
1	More than 100 FHs.	Before exceeding 15 FHs from the effective date of this AD, or during the next scheduled maintenance, whichever occurs first after the effective date of this AD.
2	100 FHs or less	Before exceeding 200 FHs since new, or during the next scheduled maintenance whichever occurs first after the effective date of this AD.
2	More than 100 FHs.	Before exceeding 100 FHs from the effective date of this AD, or during the next scheduled maintenance, whichever occurs first after the effective date of this AD.

Note 1 to paragraph (g)(1): FHs since new indicated in Table 1 to paragraph (g)(1) of this AD are FHs accumulated by the engine since first installation on an airplane, on the effective date of this AD.

(2) For engines not installed on an airplane as of the effective date of this AD, before further flight, remove all main bearing studs if one or more main bearing studs with P/N 05–7211–K009801 and batch number B180703/1, B184216/1, B184216/2, or B191277/1 are installed on the engine and replace with parts eligible for installation in accordance with Instructions, paragraphs 4.2 through 4.2.17 of Continental Aerospace Technologies GmbH RI–05–0017–04, Revision 4.

(h) Installation Prohibition

After the effective date of this AD, do not install onto any engine a main bearing stud with P/N 05–7211–K009801 and batch number B180703/1, B184216/1, B184216/2, or B191277/1.

(i) Definitions

(1) For the purpose of this AD, Group 1 engines are affected engines installed on single-engine airplanes, with main bearing stud with P/N 05–7211–K009801 and batch number B180703/1, B184216/1, B184216/2, or B191277/1 installed on the engine, and affected engines installed on twin-engine airplanes, with main bearing stud with P/N 05–7211–K009801 and batch number B180703/1, B184216/1, B184216/2, or B191277/1 installed on both engines.

(2) For the purpose of this AD, Group 2 engines are affected engines installed on twin-engine airplanes, with main bearing stud with P/N 05–7211–K009801 and batch number B180703/1, B184216/1, B184216/2, or B191277/1 installed on only one engine.

(3) For the purpose of this AD, parts eligible for installation are any main bearing studs that do not have P/N 05–7211–K009801 and batch number B180703/1, B184216/1, B184216/2, or B191277/1.

(j) Alternative Methods of Compliance (AMOCs)

The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in § 39.19. In accordance with § 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k)(2) of this AD and email to: *ANE-AD-AMOC@faa.gov.* Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Additional Information

(1) Refer to European Union Aviation Safety Agency (EASA) AD 2021–0022, dated January 18, 2021, for related information. This EASA AD may be found in the AD docket at *regulations.gov* under Docket No. FAA–2022–1413.

(2) For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238–7146; email: *barbara.caufield@faa.gov.*

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference 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) Continental Aerospace Technologies GmbH Service Bulletin CG 125–1027 P1, Revision 1, dated May 28, 2021.

(ii) Continental Aerospace Technologies GmbH Repair Instruction RI–05–0017–04, Revision 4, dated April 1, 2021.

(3) For Continental Aerospace Technologies GmbH service information identified in this AD, contact Continental Aerospace Technologies GmbH, Platanenstrasse 14, 09356 Sankt Egidien, Germany; phone: +49 37204 696 0; email: *support@continentaldiesel.com;* website: *continentaldiesel.com.*

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222–5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: *fr.inspection@nara.gov,* or go to: *www.archives.gov/federal-register/cfr/ibr-locations.html.*

Issued on January 6, 2023.

Christina Underwood,

Acting Director, Compliance & Airworthiness Division, Aircraft Certification Service.

[FR Doc. 2023–02154 Filed 2–1–23; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2023–0027; Project Identifier AD–2022–01586–E; Amendment 39–22319; AD 2023–02–12]

RIN 2120–AA64

Airworthiness Directives; Continental Aerospace Technologies, Inc. Reciprocating Engines With a Certain Superior Air Parts, Inc. Intake Valve Installed

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Continental Aerospace Technologies, Inc. (Continental) GTSIO–520, IO–470, IO–520, IO–550, IOF–550, LIO–470, LIO–520, LTSIO–520, O–470, TSIO–470, TSIO–520, TSIO–550, TSIOF–550, and TSIOL–550 model reciprocating engines with a certain Superior Air Parts, Inc. (SAP) cylinder assembly or intake valve installed. The affected cylinder assemblies and intake valves are installed as a replacement part under parts manufacturer approval (PMA) on certain affected Continental engines. This AD was prompted by three intake valve failures on reciprocating engines that resulted in engine damage and emergency landing or aborted takeoff. This AD requires replacement of the affected engine intake valve. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective February 17, 2023.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of February 17, 2023.

The FAA must receive comments on this AD by March 20, 2023.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

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

AD Docket: You may examine the AD docket at *regulations.gov* by searching for and locating Docket No. FAA–2023–0027; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Superior Air Parts, Inc., 621 S Royal Lane, Suite 100, Coppell, TX 75019; phone: (800) 420–4727; email: *sales@superiorairparts.com;* website: *superiorairparts.com.*
- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222–5110. It is also