
SERVICE INFORMATION LETTER NO. SI40NG-063

NOTE: Service Information Letters are used only:

1. To distribute information from Diamond Aircraft Industries Inc. to our customers.
2. To distribute applicable information/documents from our suppliers to our customers with additional information.

NOTE: Typically there is no revision service for Service Information Letter (SIL). Each new information or change will be sent along with a new SIL.

1. TECHNICAL DETAILS

1.1 Aircraft Affected

All DA40NG aircraft

1.2 Subject

EASA Airworthiness Directive No. 2017-0250
FAA Airworthiness Directive No. 2018-07-16
ATA-Code: 72-00

1.3 Reason

EASA issued Airworthiness Directive No. 2017-0250 mandating MSB-E4-002 Rev. 2 introducing a lifetime limit to waste gate controller and replacement of waste gate rod circlips to prevent unsafe condition due to disconnection. The FAA has issued Airworthiness Directive No. 2018-07-16 also mandating MSB-E4-022 Rev. 2.

1.4 Information

For detailed technical information refer to EASA Airworthiness Directive No. 2017-0250, FAA Airworthiness Directive No. 2018-07-16 and Austro Engine Mandatory Service Bulletin No. MSB-E4-022 Rev. 2, which is applicable without any further additions or restrictions.

EASA Airworthiness Directive No. 2017-0250 is attached to this Service Information.

FAA Airworthiness Directive No. 2018-07-16 is attached to this Service Information.

2. OTHER DETAILS

To obtain satisfactory results, procedures specified in this service information letter must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service information letter. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service information letter if it is not incorporated. If you no longer own the aircraft to which this service information letter applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries Inc. at the address below.

Diamond Aircraft Industries Inc.
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Customer Support: Phn: (519)457-4041 Fax:(519)457-4045 Email: customersupport@diamondair.com
Technical Publications: Email: techpubs@diamondair.com



Airworthiness Directive

AD No.: 2017-0250

Issued: 18 December 2017

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

AUSTRO ENGINE GmbH

Type/Model designation(s):

E4 engines

Effective Date: 01 January 2018

TCDS Number(s): EASA.E.200

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – Turbocharger Waste Gate Controller and Control Rod Circlip – Life Limit

Manufacturer(s):

Austro Engine GmbH

Applicability:

Model E4 and E4P engines, all serial numbers.

These engines are known to be installed on, but not limited to, Diamond Aircraft Industries DA 40 NG, DA 42 NG, DA 42 M-NG and DA 62 aeroplanes.

Reason:

Occurrences have been reported where, on some engines, turbocharger waste gate control rods were found broken and/or disconnected. Investigation results indicate that these failures were due to insufficient fatigue life or improper handling of the waste gate control rod and improper installation of the non spring loaded waste gate control rod circlip.

These conditions, if not corrected, could lead to improper operation of the waste gate with consequent engine power loss, possibly resulting in reduced control of the aeroplane.

To address these potential unsafe conditions, Austro Engine designed a new spring loaded waste gate control rod circlip and published Mandatory Service Bulletin (MSB) MSB-E4-022, later revised,



introducing a life limit for the affected waste gate controllers and waste gate control rod circlips (hereafter referred to as “circlip” in this AD).

For the reason described above, this AD requires implementation of those life limits, and prohibits reinstallation of non spring loaded circlips.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, a Group 1 engine has configuration “-B” or “-C”, and is installed on DA 42 M-NG aeroplane with external containers; or has configuration “-A”. A Group 2 engine is an engine that is not a Group 1 engine.

Replacement:

- (1) Within the compliance time as identified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 250 flight hours (FH), replace the waste gate controller and the circlip in accordance with the instructions of Austro Engine MSB-E4-022/2.

Table 1 – Initial replacement compliance time

Engine Group	Compliance Time (A or B, whichever occurs later)	
1	A	Within 50 FH or 2 months, whichever occurs first after the effective date of this AD
	B	Within 250 FH since first installation on an engine
2	A	Within 100 FH or 5 months, whichever occurs first after the effective date of this AD
	B	Within 250 FH since first installation on an engine

Parts Installation:

- (2) From the effective date of this AD, do not install on any engine a non spring loaded circlip Part Number DIN6799-5.

Ref. Publications:

Austro Engine MSB MSB-E4-022 revision 2 dated 27 November 2017.

The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication



3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. For any question concerning the technical content of the requirements in this AD, please contact: Austro Engine GmbH, Rudolf-Diesel-Str. 11, A-2700 Wiener Neustadt, Austria Telephone +43-2622-23000-2525, E-mail service@austroengine.at.

The referenced publication can be downloaded directly from the Austro Engine GmbH [Service Bulletin](#) webpage.



[Federal Register Volume 83, Number 71 (Thursday, April 12, 2018)]

[Rules and Regulations]

[Pages 15733-15736]

From the Federal Register Online via the Government Publishing Office [www.gpo.gov]

[FR Doc No: 2018-07540]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0153; Product Identifier 2018-NE-03-AD; Amendment 39-19247; AD 2018-07-16]

RIN 2120-AA64

Airworthiness Directives; Austro Engine GmbH Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for all Austro Engine GmbH model E4 and E4P diesel piston engines. This AD requires replacement of the waste gate controller and the control rod circlip. This AD was prompted by reports of broken or disconnected turbocharger waste gate control rods on some engines. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective April 27, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 27, 2018.

We must receive comments on this AD by May 29, 2018.

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 <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 W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this final rule, contact Austro Engine GmbH, Rudolf-Diesel-Strasse 11, A-2700 Weiner Neustadt, Austria; phone: +43 2622 23000; fax: +43 2622 23000-2711; internet: www.austroengine.at. You may view this service information at the FAA, Engine &

Propeller Standards Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7759. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0153.

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-2018-0153; 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 regulatory evaluation, any comments received, and other information. The street address for the Docket Operations (phone: 800-647-5527) is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Robert Green, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2017-0250, dated December 18, 2017 (referred to after this as the MCAI), to address an unsafe condition for the specified products. The MCAI states:

Occurrences have been reported where, on some engines, turbocharger waste gate control rods were found broken and/or disconnected. Investigation results indicate that these failures were due to insufficient fatigue life or improper handling of the waste gate control rod and improper installation of the non spring loaded waste gate control rod circlip.

These conditions, if not corrected, could lead to improper operation of the waste gate with consequent engine power loss, possibly resulting in reduced control of the aeroplane.

To address these potential unsafe conditions, Austro Engine designed a new spring loaded waste gate control rod circlip and published Mandatory Service Bulletin (MSB) MSB-E4-022, later revised, EASA AD No. 2017-0250 introducing a life limit for the affected waste gate controllers and waste gate control rod circlips.

For the reason described above, this [EASA] AD requires implementation of those life limits, and prohibits reinstallation of non spring loaded circlips.

You may obtain further information by examining the MCAI in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0153.

Related Service Information Under 1 CFR Part 51

We reviewed Austro Engine Mandatory Service Bulletin (MSB) No. MSB-E4-022/2, Rev. No. 2, November 27, 2017. The MSB describes procedures for replacement of the waste gate controller and the control rod circlip. 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.

Other Related Service Information

We also reviewed Austro Engine GmbH MSB No. MSB-E4-002/2, Rev. No. 2, dated April 1, 2015. This MSB describes E4 and E4P model engine configurations.

FAA's Determination

This product has been approved by EASA, and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are issuing this AD because we evaluated all the relevant information provided by EASA and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

AD Requirements

This AD requires replacement of the waste gate controller and the control rod circlip.

FAA's Justification and Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because the compliance time for the action is less than the time required for public comment. The FAA has reviewed and agrees with EASA's determination that certain affected waste gate controller and control rod circlip must be replaced within 50 flight hours or 2 months. Failure to replace these parts within the required compliance times could lead to improper operation of the waste gate controller with consequent engine power loss and reduced control of the airplane. Therefore, we find good cause that notice and opportunity for prior public comment are impracticable. In addition, for the reason stated above, we find that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2018-0153 and Product Identifier 2018-NE-03-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. We will consider all comments received by the closing date and may amend this final rule because of 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 we receive about this final rule.

Costs of Compliance

We estimate that this AD affects 211 engines installed on airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace Turbocharger Waste Gate Controller and Circlip	1.5 work-hours × \$85 per hour = \$127.50	\$235	\$362.50	\$76,488

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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

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 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, 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):



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-07-16 Austro Engine GmbH Engines: Amendment 39-19247; Docket No. FAA-2018-0153; Product Identifier 2018-NE-03-AD.

(a) Effective Date

This AD is effective April 27, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Austro Engine GmbH model E4 and E4P diesel piston engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 8560, Reciprocating Engine Supercharger.

(e) Unsafe Condition

This AD was prompted by reports of broken or disconnected turbocharger waste gate control rods on some engines. We are issuing this AD to prevent failure of the turbocharger waste gate control rod. The unsafe condition, if not addressed, could result in loss of engine thrust control and reduced control of the airplane.

(f) Compliance

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

(g) Required Actions

Within the compliance times identified in Table 1 to paragraph (g) of this AD, and thereafter at intervals not to exceed 250 flight hours (FHs), replace the waste gate controller and control rod circlip in accordance with the Accomplishment Instructions, Paragraph 2.1, of Austro Engine GmbH Mandatory Service Bulletin (MSB) No. MSB-E4-022/2, Rev. No. 2, dated November 27, 2017.

Table 1 to Paragraph (g) – Initial Replacement Compliance Time

Group	Compliance Time (A or B, whichever occurs later)	
1	A	Within 50 FHs or 2 months, whichever occurs first after the effective date of this AD
	B	Within 250 FHs since first installation on an engine
2	A	Within 100 FHs or 5 months, whichever occurs first after the effective date of this AD
	B	Within 250 FHs since first installation on an engine

(h) Installation Prohibition

Do not install on any engine a non-spring loaded waste gate control rod circlip, part number DIN6799-5, after the effective date of this AD.

(i) Definitions

For the purpose of this AD, a Group 1 engine is an Austro Engine GmbH model E4-B or E4-C engine installed on a DA 42 M-NG airplane with external containers or an E4-A engine. A Group 2 engine is any other Austro Engine GmbH model E4 and E4P engine.

(j) Credit for Previous Actions

You may take credit for replacement of the waste gate controller and control rod circlip required by paragraph (g) of this AD if you performed this action before the effective date of this AD using earlier versions of Austro Engine MSB No. MSB-E4-022.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 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 (l)(1) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) 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.

(l) Related Information

(1) For more information about this AD, contact Robert Green, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

(2) Refer to European Aviation Safety Agency (EASA) AD 2017-0250, dated December 18, 2017, for more information. You may examine the EASA AD in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2018-0153.

(m) 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) Austro Engine GmbH Mandatory Service Bulletin No. MSB-E4-022/2, Rev. No. 2, dated November 27, 2017.

(ii) Reserved.

(3) For Austro Engine GmbH service information identified in this AD, contact Austro Engine GmbH, Rudolf-Diesel-Strasse 11, A-2700 Weiner Neustadt, Austria; phone: +43 2622 23000; fax: +43 2622 23000-2711; internet: www.austroengine.at.

(4) You may view this service information at FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7759.

(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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on April 3, 2018.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.