



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0136; Project Identifier MCAI-2019-00114-E]

RIN 2120-AA64

Airworthiness Directives; Austro Engine GmbH Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2018-18-02, which applies to certain Austro Engine GmbH model E4 engines and to all Austro Engine E4P engines. AD 2018-18-02 requires replacement of the timing chain and amending certain airplane flight manuals (AFMs) to limit the use of windmill restarts only as an emergency procedure. Since the FAA issued AD 2018-18-02, Austro Engine GmbH revised the applicable Airworthiness Limitation Section (ALS) including the limitation required by AD 2018-18-02 for the timing chain subjected to a windmill restart. This proposed AD would require amendment of certain existing AFMs to limit the use of windmill restarts and remove the timing chain replacement requirement that exists in AD 2018-18-02. The timing chain replacement requirement in accordance with new life limits defined in the revised ALS will be proposed in a new and separate AD. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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 <https://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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For Austro Engine GmbH service information identified in this NPRM, contact Austro Engine GmbH, Rudolf-Diesel-Strasse 11, A-2700 Weiner Neustadt, Austria; phone: +43 2622 23000; fax: +43 2622 23000-2711; website: www.austroengine.at. For Diamond Aircraft Industries service information identified in this NPRM, contact Diamond Aircraft Industries, N. A., Otto-Straße 5, A-2700 Wiener Neustadt, A2700, Austria; phone: +43 2622 26700; fax: +43 2622 26780; website: www.diamondaircraft.com. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0136; 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 NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Mehdi Lamnyi, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7743; fax: 781-238-7199; email: Mehdi.Lamnyi@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2020-0136; Project Identifier MCAI-2019-00114-E” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

Except for Confidential Business Information as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Mehdi Lamnyi, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803. Any commentary that the FAA receives which

is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Discussion

The FAA issued AD 2018-18-02, Amendment 39-19381 (83 FR 53802, October 25, 2018), (“AD 2018-18-02”), for certain Austro Engine GmbH model E4 engines and for all Austro Engine E4P engines. AD 2018-18-02 requires replacement of the timing chain and amending certain AFMs to limit the use of windmill restarts. AD 2018-18-02 resulted from reports of considerable wear of the timing chain on these engines. The FAA issued AD 2018-18-02 to prevent failure of the engine timing chain.

Actions Since AD 2018-18-02 Was Issued

Since the FAA issued AD 2018-18-02, the European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2017-0103R1, dated February 25, 2019 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

Considerable wear of the timing chain has been detected on some engines. This may have been caused by windmilling restarts, which are known to cause high stress to the timing chain.

This condition, if not detected and corrected, could lead to failure of the timing chain and consequent engine power loss, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, AE included instructions in the engine maintenance manual to periodically inspect the condition of the timing chain and, depending on findings, to replace the timing chain and the chain wheel. The operation manual was updated to allow windmilling restart only as

an emergency procedure. AE also published Mandatory Service Bulletin (MSB) MSB-E4-017/2, providing instructions to replace the timing chain for engines with known windmilling restarts, and EASA issued AD 2017-0103, requiring replacement of the timing chain for engines with known windmilling restarts, and amendment of the applicable Aircraft Flight Manual (AFM). Since that [EASA] AD was issued, AE revised the applicable Airworthiness Limitation Section (ALS) including, among others, the limitation required by that AD. Consequently, EASA published AD 2019-0041, requiring accomplishment of the actions specified in the ALS.

For the reason described above, this [EASA] AD is revised accordingly, removing the requirement of timing chain replacement. This action remain required through EASA AD 2019-0041.

This proposed AD, which supersedes AD 2018-18-02, retains the AFM amendment requirements and removes the timing chain replacement requirement. The timing chain replacement requirement in accordance with new life limits defined in the revised ALS will be mandated by a proposed new and separate AD.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0136.

Related Service Information under 1 CFR Part 51

The FAA reviewed Diamond Aircraft (DA) Temporary Revision (TR) TR-MÄM-42-973, dated August 12, 2016, for the Diamond Aircraft Industries (DAI) model DA 42 NG Airplane Flight Manual (AFM) and DA TR TR-MÄM-62-240, dated August 12,

2016, for the DAI model DA 62 NG AFM. These TRs define the removal of the normal operation procedure for windmilling restart for the respective airplanes. 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.

FAA’s Determination

The FAA is proposing this AD because it evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain certain requirements of AD 2018-18-02. This proposed AD would retain the requirement for amending certain AFMs to limit the use of windmill restarts to emergency procedures and would remove the requirement for replacing the timing chain.

Costs of Compliance

The FAA estimates that this proposed AD affects 211 engines installed on airplanes of U.S. registry.

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

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Amend AFM	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$17,935

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

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

- (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 Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 removing airworthiness directive (AD) 2018-18-02, Amendment 39-19381 (83 FR 53802, October 25, 2018), and adding the following new AD:

Austro Engine GmbH: Docket No. FAA-2020-0136; Project Identifier MCAI-2019-00114-E.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2018-18-02, Amendment 39-19381 (83 FR 53802, October 25, 2018).

(c) Applicability

This AD applies to Austro Engine GmbH model E4 engines with serial numbers that have a "-B" or "-C" configuration and to model E4P engines, all serial numbers.

(d) Subject

Joint Aircraft System Component (JASC) Code 8520, Reciprocating Engine Power Section.

(e) Unsafe Condition

This AD was prompted by reports of considerable wear of the timing chain on the affected engines. The FAA is issuing this AD to prevent failure of the engine timing chain. The unsafe condition, if not addressed, could result in failure of the engine timing chain, 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

(1) Within 30 days after the effective date of this AD, under the Emergency Procedures chapter, amend the applicable airplane flight manual (AFM) by adding the information in Figure 1 to paragraph (g)(1) of this AD to limit the use of a windmilling restart to only an emergency procedure.

Figure 1 to Paragraph (g)(1) – Restart In-Flight by Windmilling

<p>Restart In-Flight by Windmilling</p> <p>In case of an engine malfunction, determine the root cause and only continue if a safe restart is possible.</p> <ol style="list-style-type: none">1. Max. demonstrated altitude for immediate restart by windmilling: 15,000 ft.2. Max. demonstrated altitude for restart after 10 min. and ambient air temperature higher than ISA by windmilling: 10,000 ft.3. Max. demonstrated altitude for restart after 5 min. and ambient air temperature between ISA and ISA minus 10°C by windmilling: 10,000 ft.4. Max. demonstrated altitude for restart after 2 min. and ambient air temperature below ISA minus 10°C by windmilling: 10,000 ft.5. Airspeed: See applicable Aircraft Flight Manual.6. Power Levers – “IDLE”7. Engine Master – “ON” <p>Move power lever slightly forward to a power rating that assures the referring engine is delivering thrust as a rotating propeller is not a guarantee for a running engine.</p>
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(2) For affected Austro Engine GmbH model E4 engines installed on Diamond Aircraft Industries (DAI) model Diamond Aircraft (DA) 42 NG and DA 42 M-NG airplanes, and for Austro Engine GmbH model E4P engines installed on DAI model DA

62 airplanes, using AFM Temporary Revision (TR) TR-MÄM-42-973, and AFM TR TR-MÄM-62-240, both dated August 12, 2016, updating the applicable AFM is an acceptable method to comply with paragraph (g)(1) of this AD.

(h) Credit for Previous Actions

You may take credit for actions required by paragraph (g) of this AD if you amended the AFM for the affected engine before the effective date of this AD in accordance with AD 2018-18-02.

(i) 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 ECO Branch, send it to the attention of the person identified in paragraph (j)(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.

(j) Related Information

(1) For more information about this AD, contact Mehdi Lamnyi, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7743; fax: 781-238-7199; email: Mehdi.Lamnyi@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2017-0103R1, dated February 25, 2019, for more information. You may examine the EASA AD in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating it in Docket No. FAA-2020-0136.

(3) For Austro Engine GmbH service information identified in this AD, contact Austro Engine GmbH, Rudolf-Diesel-Strasse 11, A-2700 Wiener Neustadt, Austria; phone: +43 2622 23000; fax: +43 2622 23000-2711; website: www.austroengine.at. For Diamond Aircraft Industries service information identified in this AD, contact Diamond Aircraft Industries, N. A., Otto-Straße 5, A-2700 Wiener Neustadt, A2700, Austria; phone: +43 2622 26700; fax: +43 2622 26780; website: www.diamondaircraft.com. You may view this referenced service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued on March 10, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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