



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2023-2149; Project Identifier MCAI-2023-00136-E]

RIN 2120-AA64

#### **Airworthiness Directives; GE Aviation Czech s.r.o. (Type Certificate Previously Held by WALTER Engines a.s., Walter a.s., and MOTORLET a.s.) Engines**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to supersede Airworthiness Directive (AD) 2022-13-16, which applies to all GE Aviation Czech s.r.o. (GEAC) (type certificate previously Held by WALTER Engines a.s., Walter a.s., and MOTORLET a.s.) Model M601D-11 engines; and AD 2022-14-12, which applies to certain GEAC Model M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines. AD 2022-13-16 requires revising the airworthiness limitations section (ALS) of the existing engine maintenance manual (EMM) to incorporate a visual inspection of the centrifugal compressor case for cracks. AD 2022-14-12 requires replacing the propeller shaft for Model M601F engines. AD 2022-14-12 also requires calculating the accumulated life of the propeller shaft and replacing the propeller shaft, if necessary, for model M601D-11, M601E-11, M601E-11A, M601E-11AS, and M601E-11S engines. Since the FAA issued AD 2022-13-16 and AD 2022-14-12, the manufacturer revised the ALS of the existing EMM to introduce new and more restrictive tasks and limitations, expand the applicability to all Model M601 engines, and incorporate certain requirements addressed by AD 2021-13-07 and AD 2023-01-10, which prompted this proposed AD. This proposed AD would require revising the ALS of the existing EMM and the operator's existing approved engine maintenance or inspection program, as applicable, to incorporate new and more restrictive tasks and limitations, as specified in a European Union Aviation Safety Agency (EASA) AD, which is proposed for incorporation by

reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this NPRM 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 [regulations.gov](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.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-2149; 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.

*Material Incorporated by Reference:*

- For service information identified in this NPRM, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); website: [easa.europa.eu](https://easa.europa.eu). You may find this material on the EASA website at [ad.easa.europa.eu](https://ad.easa.europa.eu). It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-2149.

- 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.

**FOR FURTHER INFORMATION CONTACT:** Barbara Caufield, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (781)

238-7146; email: barbara.caufield@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2023-2149; Project Identifier MCAI-2023-00136-E” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) 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 regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

### **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 Barbara Caufield, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA issued AD 2021-13-07, Amendment 39-21612 (86 FR 31601, June 15, 2021) (AD 2021-13-07) for all GEAC Model M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines. AD 2021-13-07 was prompted by an MCAI originated by EASA. EASA issued EASA Emergency AD 2021-0125-E, dated May 7, 2021 (EASA Emergency AD 2021-0125-E) to correct an unsafe condition identified as the manufacturer finding errors in the ALS of the existing EMM, including errors in the formula to determine the consumed equivalent flight cycles of critical parts and errors with certain part numbers. The manufacturer also determined that the life limit of a certain compressor case installed on Model M601E engines was not listed in the ALS of the applicable EMM.

AD 2021-13-07 requires recalculating the life of critical parts and replacing critical parts, if necessary. AD 2021-13-07 also requires replacing a certain compressor case. The FAA issued AD 2021-13-07 to prevent failure of the engine.

The FAA issued AD 2022-13-16, Amendment 39-22102 (87 FR 37986, June 27, 2022) (AD 2022-13-16), for all GEAC Model M601D-11 engines. AD 2022-13-16 was prompted by an MCAI originated by EASA, which is the Technical Agent for the Member States of the European Union. EASA issued AD 2021-0060, dated March 3, 2021 (EASA AD 2021-0060) to correct an unsafe condition identified as the manufacturer revising the ALS to introduce a visual inspection of the centrifugal compressor case for cracks.

AD 2022-13-16 requires revising the ALS of the existing EMM to incorporate a visual inspection of the centrifugal compressor case for cracks. The FAA issued AD 2022-13-16 to prevent failure of the centrifugal compressor case.

The FAA issued AD 2022-14-12, Amendment 39-22117 (87 FR 42066, July 14, 2022) (AD 2022-14-12), for certain GEAC Model M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines. AD 2022-14-12 was prompted by an MCAI originated by EASA. EASA issued AD 2021-0154, dated July 1, 2021 (EASA AD 2021-0154) to correct an unsafe condition identified as the absence of life limits for the propeller shaft part number M601-6081.6 in the ALS of the applicable EMM, as well

as a lack of data necessary for operators to determine the accumulated life of certain propeller shafts, resulting in a propeller shaft life limit that may not have been implemented correctly.

AD 2022-14-12 requires replacing the propeller shaft for Model M601F engines. AD 2022-14-12 also requires calculating the accumulated life of the propeller shaft and replacing the propeller shaft, if necessary, for model M601D-11, M601E-11, M601E-11A, M601E-11AS, and M601E-11S engines. The FAA issued AD 2022-14-12 to prevent failure of the propeller shaft.

The FAA issued AD 2023-01-10, Amendment 39-22304 (88 FR 7578, February 6, 2023) (AD 2023-01-10) for certain GEAC Model M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines. AD 2023-01-10 was prompted by an MCAI originated by EASA. EASA issued EASA AD 2021-0264, dated November 22, 2021 (EASA AD 2021-0264) to correct an unsafe condition identified as the exclusion of life limits for certain compressor cases and compressor drums from the ALS of the EMM and certain compressor cases that, following rework, were improperly re-identified and had incomplete engine logbook entries.

AD 2023-01-10 requires recalculating the consumed life for certain compressor cases and compressor drums and replacing certain compressor cases and compressor drums, if necessary. The FAA issued AD 2023-01-10 to prevent failure of the compressor case and compressor drum.

#### **Actions Since the Previous ADs were Issued**

Since the FAA issued AD 2021-13-07, AD 2022-13-16, AD 2022-14-12, and AD 2023-01-10, EASA superseded EASA AD 2021-0060 and EASA AD 2021-0154 and issued EASA AD 2023-0020, dated January 23, 2023 (EASA AD 2023-0020) (also referred to as the MCAI). The MCAI states that the manufacturer revised the ALS to incorporate new and more restrictive tasks and limitations, expand the applicability to all model M601 series engines, and include certain requirements that were previously addressed by EASA Emergency AD 2021-0125-E and EASA AD 2021-0264. The MCAI also states that the manufacturer published service information that specifies instructions to determine the accumulated life of certain propeller shafts.

You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2023-2149.

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

The FAA reviewed EASA AD 2023-0020, which specifies procedures for accomplishment of the actions specified in the ALS, including performing maintenance tasks, replacing life-limited parts, and revising the existing approved maintenance or inspection program, as applicable, by incorporating the instructions and associated thresholds and intervals described in the ALS, as applicable to engine model and depending on engine configuration.

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.

### **FAA's Determination**

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 is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

### **Proposed AD Requirements in this NPRM**

This proposed AD would require accomplishing the actions specified in the MCAI described previously, except for any differences identified as exceptions in the regulatory text of this proposed AD and as discussed under "Differences Between this Proposed AD and the MCAI."

This proposed AD would terminate the requirements of paragraphs (g)(1) through (3) of AD 2021-13-07 for model M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines only.

This proposed AD would terminate the requirements of paragraphs (g)(1) through (3) of AD 2023-01-10 for model M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines only.

The owner/operator (pilot) holding at least a private pilot certificate may revise the ALS of the existing EMM and must enter compliance with the applicable paragraph of this proposed AD into the engine maintenance records in accordance with 14 CFR 43.9(a) and 91.417(a)(2)(v). The pilot may perform this action because it only involves revising the pilot's manual. This action could be performed equally well by a pilot or a mechanic. This is an exception to the FAA's standard maintenance regulations.

### **Explanation of Required Compliance Information**

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has since coordinated with other manufacturers and CAAs to use this process. As a result, the FAA proposes to incorporate by reference EASA AD 2023-0020 in the FAA final rule. This proposed AD would, therefore, require compliance with EASA AD 2023-0020 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Using common terms that are the same as the heading of a particular section in the EASA AD does not mean that operators need comply only with that section. For example, where the AD requirement refers to "all required actions within the compliance times," compliance with this AD requirement is not limited to the section titled "Required Action(s) and Compliance Time(s)" in EASA AD 2023-0020. Service information required by the EASA AD for compliance will be available at regulations.gov under Docket No. FAA-2023-2149 after the FAA final rule is published.

### **Differences Between this Proposed AD and the MCAI**

Where the MCAI applies to Model M601D, M601D-1, M601D-2, M601D-11NZ, M601E, M601E-21, M601FS, and M601Z engines, this proposed AD does not, as these engine models are not type certificated in the United States.

Where the MCAI defines the AMP as the approved Aircraft Maintenance Programme containing the tasks on the basis of which the scheduled maintenance is conducted to ensure the continuing airworthiness of each operated engine, this proposed AD defines the AMP as the aircraft maintenance program containing the tasks on the

basis of which the scheduled maintenance is conducted to ensure the continuing airworthiness of each operated airplane.

Where the MCAI specifies the ALS of GEAC EMM No. 0982309, Revision 21, dated November 18, 2022, this proposed AD specifies the ALS of GEAC EMM No. 0982309, Revision 22, dated March 10, 2023. The ALS in Revision 22 of GEAC EMM No. 0982309 is unchanged from Revision 21.

Where paragraph (3) of the MCAI specifies revising the approved Aircraft Maintenance Programme within 12 months after the effective date of EASA AD 2023-0020, this proposed AD would require revising the ALS of the existing approved engine maintenance or inspection program, as applicable, within 90 days after the effective date of this AD.

This proposed AD would not require compliance with paragraphs (1), (2), (4), and (5) of the MCAI.

### **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 42 engines installed on airplanes of U.S. registry.

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

#### **Estimated costs**

<b>Action</b>	<b>Labor Cost</b>	<b>Parts Cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Revise the ALS	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$3,570

### **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 that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would 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:

- a. Removing Airworthiness Directive 2022-13-16, Amendment 39-22102 (87 FR 37986, June 27, 2022); and Airworthiness Directive 2022-14-12, Amendment 39-22117 (87 FR 42066, July 14, 2022); and

- b. Adding the following new airworthiness directive:

**GE Aviation Czech s.r.o. (Type Certificate Previously Held by WALTER Engines a.s., Walter a.s., and MOTORLET a.s.):** Docket No. FAA-2023-2149; Project Identifier MCAI-2023-00136-E.

**(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

(1) This AD affects AD 2021-13-07, Amendment 39-21612 (86 FR 31601, June 15, 2021) (AD 2021-13-07).

(2) This AD replaces AD 2022-13-16, Amendment 39-22102 (87 FR 37986, June 27, 2022) (AD 2022-13-16).

(3) This AD replaces AD 2022-14-12, Amendment 39-22117 (87 FR 42066, July 14, 2022) (AD 2022-14-12).

(4) This AD affects AD 2023-01-10, Amendment 39-22304 (88 FR 7578, February 6, 2023) (AD 2023-01-10).

**(c) Applicability**

This AD applies to GE Aviation Czech s.r.o. (GEAC) (type certificate previously held by WALTER Engines a.s., Walter a.s., and MOTORLET a.s.) Model M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7210, Turbine Engine Reduction Gear.

**(e) Unsafe Condition**

This AD was prompted by the manufacturer revising the airworthiness limitations section (ALS) of the existing engine maintenance manual (EMM) to introduce new and more restrictive tasks and limitations and associated thresholds and intervals for life-limited parts. The FAA is issuing this AD to prevent failure of the engine. The unsafe condition, if not addressed, could result in uncontained release of a critical part, damage to the engine, and damage to the airplane.

## **(f) Compliance**

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

## **(g) Required Actions**

(1) Except as specified in paragraph (h) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2023-0020, dated January 23, 2023 (EASA AD 2023-0020).

(2) The action required by paragraph (g)(1) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a) and 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

## **(h) Exceptions to EASA AD 2023-0020**

(1) Where EASA AD 2023-0020 defines the AMP as “The Aircraft Maintenance Programme (AMP) contains the tasks on the basis of which the scheduled maintenance is conducted to ensure the continuing airworthiness of each operated engine,” replace that text with “the aircraft maintenance program containing the tasks on the basis of which the scheduled maintenance is conducted to ensure the continuing airworthiness of each operated airplane.”

(2) Where EASA AD 2023-0020 specifies the ALS as “The Airworthiness Limitations Section of the GEAC Engine Maintenance Manual (EMM) No. 0982309 Revision 21,” replace that text with “The Airworthiness Limitations Section of the GEAC Engine Maintenance Manual (EMM) No. 0982309 Revision 22.” The ALS in Revision 22 of the EMM is unchanged from Revision 21.

(3) Where EASA AD 2023-0020 refers to its effective date, this AD requires using the effective date of this AD.

(4) Where paragraph (3) of EASA AD 2023-0020 specifies “Within 12 months after the effective date of this AD, revise the approved AMP,” replace that text with “Within 90 days after the effective date of this AD, revise the ALS of the existing approved engine maintenance or inspection program, as applicable.”

(5) This AD does not require compliance with paragraphs (1), (2), (4), and (5) of EASA AD 2023-0020.

(6) This AD does not adopt the Remarks paragraph of EASA AD 2023-0020.

**(i) Provisions for Alternative Actions and Intervals**

After performing the actions required by paragraph (g) of this AD, no alternative actions and associated thresholds and intervals, including life limits, are allowed unless they are approved as specified in the provisions of the “Ref. Publications” section of EASA AD 2023-0020.

**(j) Terminating Action for Certain Actions Required by Affected ADs**

(1) Accomplishing the actions required by paragraph (g) of this AD terminates the requirements of paragraphs (g)(1) through (3) of AD 2021-13-07 for model M601D-11, M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines only.

(2) Accomplishing the actions required by paragraph (g) of this AD terminates the requirements of paragraphs (g)(1) through (3) of AD 2023-01-10 for model M601E-11, M601E-11A, M601E-11AS, M601E-11S, and M601F engines only.

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

(1) The Manager, International Validation 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 International Validation Branch, send it to the attention of the person identified in paragraph (l) of this AD and email to [ANE-AD-AMOC@faa.gov](mailto: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) Additional Information**

For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (781) 238-7146; email: [barbara.caufield@faa.gov](mailto:barbara.caufield@faa.gov).

**(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) European Union Aviation Safety Agency (EASA) AD 2023-0020, dated January 23, 2023.

(ii) [Reserved]

(3) For EASA AD 2023-0020, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); website: [easa.europa.eu](http://easa.europa.eu). You may find this EASA AD on the EASA website at [ad.easa.europa.eu](http://ad.easa.europa.eu).

(4) You may view this service information at 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 material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on November 2, 2023.

Victor Wicklund, Deputy Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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