



Airworthiness Directive

AD No.: 2021-0264R1

Issued: 28 March 2023

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 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, or Annex Vb Part ML.A.301, as applicable, 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 Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

GE AVIATION CZECH

Type/Model designation(s):

M601 engines

Effective Date: Revision 1: 04 April 2023
Original issue: 06 December 2021

TCDS Number(s): EASA.E.070

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2021-0264 dated 22 November 2021.

ATA 72 – Engine – Critical Parts – Replacement

Manufacturer(s):

GE Aviation Czech (GEAC) s.r.o., formerly Walter Engines a.s.

Applicability:

M601E, M601E-11, M601E-11A, M601E-11AS, M601E-11S, M601E-21, M601F and M601FS, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Aircraft Industries (formerly LET) L-410 series and L-420; Air Tractor AT-300, AT-400 and AT-500 series; Allied Ag Cat Productions Inc. (formerly Grumman) G-164 series; Thrush Aircraft (formerly Quality, Ayres, Rockwell) S-2R series; Viking Air Ltd (formerly de Havilland Canada) DHC-3 Otter aeroplanes.

Definitions:

For the purpose of this AD, the following definitions apply:

The ASB: GEAC Alert Service Bulletin (ASB) ASB-M601E-72-30-00-0110 and ASB-M601F-72-30-00-0061 (issued as a single document) Revision 01.

The ALS: The Airworthiness Limitations Section of the GEAC Engine Maintenance Manual (EMM) No. 0982309 Revision 21, No. 0982055 Revision 21, No. 0982302 Revision 20 and No. 0982051



Revision 17, or later approved revisions.

Affected compressor case: Compressor cases, having Part Number (P/N) M601-154.51, which include compressor cases identified as, and/or recorded in the engine logbook as, P/N M601-154.6.

Affected compressor drum: Compressor drums, having P/N M601-130.7 or P/N M601-134.7.

Applicable life limit: For affected compressor cases: 11 000 equivalent flight cycles (FC); for affected compressor drums: 6 750 equivalent FC.

Recalculated life: For an affected compressor case or compressor drum, the consumed life calculated in accordance with the instructions of section 2 of the ASB.

Groups: Group 1 are M601E-11, M601E-11A and M601F engines. Group 2 are M601E-11S, M601E-11AS and M601FS engines.

Reason:

It has been determined that the life limit for affected parts was not published in the applicable ALS for certain M601 engines models. In addition, it was found that, following rework of certain compressor cases from P/N M601-154.6 to P/N M601-154.51, no proper re-identification was done and relevant engine logbooks have not been updated. Consequently, a part could inadvertently remain in service beyond its applicable life limit.

This condition, if not corrected, may lead to failure of an affected part, possibly resulting in engine mount failure and/or high energy debris release.

To address this potential unsafe condition, GEAC issued the ASB, providing applicable instructions. Consequently, EASA published AD 2021-0264 to require replacement of the affected parts and engine logbook correction. That AD also provided conditions and clarifications for parts installation.

Since that AD was issued, GEAC published the ALS, taking over the replacement requirements for Group 1 engines addressed by EASA AD 2021-0264, and EASA published AD 2023-0020, requiring accomplishment of the actions specified in the ALS.

For the reasons described above, this AD is revised to remove the requirements that have been included in the ALS.

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

Required as indicated, unless accomplished previously:

Part(s) Replacement:

- (1) [Deleted]
- (2) For Group 2 engines having an affected compressor case installed: Before the recalculated life of an affected compressor case exceeds the applicable life limit, as defined in this AD, or within 12 months after 06 December 2021 [the effective date of the original issue of this AD],



whichever occurs first, replace that part with a serviceable part, eligible for installation, in accordance with the instructions of the ASB.

- (3) For all engines having an affected compressor drum installed: Before the recalculated life of an affected compressor drum exceeds the applicable life limit, as defined in this AD, or within 12 months after 06 December 2021 [the effective date of the original issue of this AD], whichever occurs first, replace that part with a serviceable part, eligible for installation, in accordance with the instructions of the ASB.

Part(s) Installation:

- (4) For Group 1 engines: From the effective date of this AD, it is allowed to install a compressor case having P/N M601-154.51 on an engine, provided the conditions as specified in paragraph (4.1) of this AD are met.

(4.1) The compressor case is identified as M601-154.51, with no reference to additional or other P/N.

(4.2) [Deleted]

(4.3) [Deleted]

Note: On the effective date of this AD, no approved instructions exist for any of the following in-service installations:

- Installation of a compressor case P/N M601-154.6 on a Group 1 or Group 2 engine.
- Installation of a compressor case P/N M601-154.51 on a Group 2 engine.
- Installation of an affected compressor drum on any engine.

Engine Logbook Correction:

- (5) For Group 1 and Group 2 engines with an affected compressor case installed: Within 6 months after 06 December 2021 [the effective date of the original issue of this AD], review the engine logbook and correct the compressor case P/N, as applicable, in accordance with the instructions of the ASB.

Ref. Publications:

GEAC ASB-M601E-72-30-00-0110 and ASB-M601F-72-30-00-0061 (issued as a single document) original issue dated 26 July 2021, or Revision 01 dated 15 October 2021, or Revision 02 dated 14 March 2023.

The use of later approved revisions of the above-mentioned 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. The original issue of this AD was posted on 03 August 2021 as PAD 21-112 for consultation until 31 August 2021, and republished as PAD 21-112R1 on 20 October 2021 for additional



consultation until 17 November 2021. No comments were received during the consultation period.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact: GE Aviation Czech, Beranových 65, 199 02 Praha 9 – Letňany, Czech Republic, Telephone: +420 222 538 999, Website: <https://www.geaviation.cz/customer-support>, E-mail: tp.ops@ge.com.

