



## Notification of a Proposal to issue an Airworthiness Directive

**PAD No.: 21-112R1**

**Issued: 20 October 2021**

Note: This Proposed Airworthiness Directive (PAD) 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.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

### Design Approval Holder's Name:

GE AVIATION CZECH

### Type/Model designation(s):

M601 engines

**Effective Date:** [TBD - standard: 14 days after AD issue date]

**TCDS Number(s):** EASA.E.070

**Foreign AD:** Not applicable

**Supersedure:** None

## 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.

**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 log books 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.

For the reasons described above, this AD requires replacement of the affected parts and engine logbook correction. This AD also provides conditions and clarifications for parts installation.

After the issuance of EASA PAD 21-112, prompted by new information, it was determined that additional instructions are required to address the unsafe condition. This PAD is revised accordingly.

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

Required as indicated, unless accomplished previously:

#### Part(s) Replacement:

- (1) For Group 1 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, replace that part with a serviceable part, eligible for installation, in accordance with the instructions of the ASB.
- (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 the effective date 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 the effective date 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 paragraphs (4.1), (4.2) and (4.3) 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) The recalculated life of that compressor case has not exceeded the applicable life limit.
- (4.3) Following installation, the compressor case is replaced before exceeding the applicable life limit.

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 the effective date of this AD, review the engine log book 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) Revision 01 dated 15 October 2021.

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

**Remarks:**

1. This Proposed AD will be closed for consultation on 17 November 2021.
2. The original issue of this PAD was posted on 23 August 2021 for consultation until 31 August 2021. No comments were received during the consultation period.
3. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto: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 PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, 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 PAD 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 PAD, 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](mailto:tp.ops@ge.com).

