

Emergency Airworthiness Directive

AD No.: 2021-0125-E

Issued: 07 May 2021

Note: This Emergency 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, 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 (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

GE AVIATION CZECH

Type/Model designation(s):

M601 engines

Effective Date: 11 May 2021

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:

M601D, M601D-1, M601D-2, M601D-11, M601D-11NZ, M601E, M601E-11, M601E-11A, M601E-11AS, M601E-11S, M601E-21, M601F, M601FS, M601F-11, M601F-22, M601F-32, M601T and M601Z engines, all engine serial numbers (ESN).

These engines are known to be installed on, but not limited to, Aircraft Industries (formerly LET) L-410 series; Air Tractor AT-300, AT-400 and AT-500 series; Allied Ag Cat Productions Inc. (formerly Grumman) G-164 series; PZL "Warszawa-Okęcie" PZL-106 (Kruk) series; RUAG Aerospace Services (formerly Dornier) Do 28 series; Thrush Aircraft (formerly Quality, Ayres, Rockwell) S-2R series; and Viking Air Ltd. (formerly de Havilland Canada) DHC-3 (Otter) aeroplanes.

Definitions:

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

The ASB1: GEAC Alert Service Bulletin (ASB) ASB-M601D-72-00-00-0075, ASB-M601E-72-00-00-0106, ASB-M601F-72-00-00-0057 and ASB-M601Z-72-00-00-0057 (issued as a single document).

The ASB2: GEAC ASB-M601E-72-30-00-0105.

Applicable ALS: The Airworthiness Limitation Section (ALS) of the applicable Engine Maintenance Manual (EMM), amended in accordance with the instructions of section 2.1 of the ASB1, as applicable.

Critical part: Engine parts, as identified by Part Number in Table B of the ASB1.

Serviceable part: A critical part, the recalculated life of which has not exceeded the applicable life limit, as published in the applicable ALS, as defined in this AD.

Recalculated life: For a critical part, the consumed life calculated in accordance with the instructions of section 2.2 of the ASB1.

Groups: Group 1 engines have an ESN as listed in Attachment 1 of the ASB1. Group 2 engines are all other ESN.

Reason:

Errors have been identified in the ALS section of the EMM, including errors in the formula to determine the equivalent flight cycles of critical parts, and certain part numbers. It was also determined that, inadvertently, certain M601E engines have a compressor case P/N M601-154.61 installed, the life limit of which is not listed in the ALS section of the applicable EMM.

These conditions, if not corrected, may lead to operation of an engine beyond the life limit of one or more critical parts, possibly resulting in failure of the engine and consequent reduced control of the aeroplane.

To address this potential unsafe conditions, GEAC issued the ASB1, providing instructions to recalculate the consumed life of certain critical parts, and the ASB2, providing instructions for certain M601E engines to replace the compressor case with an eligible part.

For the reason described above, this AD requires replacement of critical parts, the recalculated life of which exceeds the applicable life limit, and replacement of the compressor case on certain M601E engines.

This AD is considered to be an interim action and further AD action may follow.

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

Required as indicated, unless accomplished previously:

Replacement:

- (1) For M601E engines, having a compressor case P/N M601-154.61 installed (see Note 1 of this AD): Before the recalculated life, as defined in this AD, exceeds 11 000 equivalent flight cycles, or within 350 flight hours from the effective date of this AD, whichever occurs first, replace the compressor case with a compressor case having P/N M601-154.6 or P/N M601-154.65 in accordance with the instructions of the ASB2.



Note 1: The ASB2 provides a list of ESN of M601E engines known to have a compressor case P/N M601-154.61 installed. Additional engines may be affected by the requirements of paragraph (1) of this AD.

Life Limit Implementation:

- (2) For Group 1 engines: Before the recalculated life of any critical part exceeds the applicable life limit as specified in the applicable ALS, as defined in this AD, or within 1 flight cycle after the effective date of this AD, whichever occurs later, replace that critical part with a serviceable part in accordance with the instructions of the ASB1.
- (3) For Group 2 engines: Before the recalculated life of any critical part exceeds the applicable life limit as specified in the applicable ALS, as defined in this AD, or within 30 days after the effective date of this AD, whichever occurs later, replace that critical part with a serviceable part in accordance with the instructions of the ASB1.

Parts Installation:

- (4) For Group 1 and Group 2 engines: From the effective date of this AD, it is allowed to install on any engine a critical part, provided it is a serviceable part, as defined in this AD, and that, following installation, it is replaced before exceeding the applicable life limit as specified in the applicable ALS, as defined in this AD.

Engine Installation:

- (5) From the effective date of this AD, do not install (see Note 2 of this AD) on any aeroplane an engine with a critical part installed, unless the recalculated life of that part does not exceed the applicable life limit as specified in the applicable ALS.

Note 2: Removal of an engine from an aeroplane and reinstallation of that engine on the same aeroplane (and at the same position) during a single maintenance visit does not constitute 'install' as specified in paragraph (5) of this AD.

Ref. Publications:

GEAC ASB-M601D-72-00-00-0075, ASB-M601E-72-00-00-0106, ASB-M601F-72-00-00-0057 and ASB-M601Z-72-00-00-0057 (single document) original issue dated 07 May 2021.

GEAC ASB-M601E-72-30-00-0105 original issue dated 07 May 2021.

The use of later approved revisions of the above-mentioned documents 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 results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.



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.

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