



Airworthiness Directive

AD No.: 2023-0020

Issued: 23 January 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 s.r.o.

Type/Model designation(s):

M601 engines

Effective Date: 06 February 2023

TCDS Number(s): EASA.E.070

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2021-0060 dated 03 March 2021 and EASA AD 2021-0154 dated 01 July 2021.

ATA 05 – Time Limits / Maintenance Checks – Airworthiness Limitations Section – Amendment

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 and M601Z engines, all serial numbers.

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; Pacific Aerospace FU-24; PZL "Warszawa-Okecie" PZL-106 (Kruk) series; GENERAL ATOMICS AeroTec Systems GmbH (formerly RUAG, Dornier) Do 28 series; Thrush Aircraft (formerly Quality, Ayres, Rockwell) S-2R series; Viking Air Ltd. (formerly de Havilland Canada) DHC-3 Otter aeroplanes; Zlin Aircraft a.s. Z 37 T and Z 137 T; and Pacific Aerospace Corporation (formerly Fletcher) FU-24 aeroplanes.



Definitions:

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

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.

The ASB: GEAC Alert Service Bulletin (ASB) ASB-H75-72-10-00-0062, ASB-H80-72-10-00-0107, ASB-H85-72-10-00-0051, ASB-M601F-72-10-00-0070, ASB-M601E-72-10-00-0120, ASB-M601D-72-10-00-0087 and ASB-M601Z-72-10-00-0069, issued as a single document.

The AMP: 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. For an engine installed on an aeroplane operated under EU regulations, the operator or the owner ensures compliance with the AMP as stipulated in Commission Regulation (EU) [1321/2014](#).

New and/or more restrictive instructions: This includes all instructions that are new and all instructions for which a threshold or interval was reduced, which were introduced into the ALS (as defined in this AD) since the previous ALS revision that is currently incorporated in the AMP.

Reason:

The airworthiness limitations for M601 engines, which are approved by EASA, are currently defined and published in the GEAC M601 EMM No. 0982309. These instructions have been identified as mandatory for continued airworthiness.

Failure to accomplish these instructions could result in an unsafe condition.

Previously, EASA issued AD 2021-0060 to require the actions described in GEAC EMM No. 0982309 at Revision 18 for certain M601 engine models. EASA also published AD 2021-0125-E to require replacement of certain engine parts, the recalculated life of which exceeded the applicable life limit, and replacement of certain compressor cases; AD 2021-0154 to require implementation of the applicable life limit and replacement of certain propeller shafts; and AD 2021-0264 to require replacement of certain compressor cases and compressor drums.

Since those ADs were issued, GEAC published the ALS, which contains new and/or more restrictive tasks and limitations, expands applicability to all M601 series engines, takes over the requirements of EASA AD 2021-0154, and includes certain requirements addressed by EASA AD 2021-0125-E and AD 2021-0264. GEAC also published the ASB, as defined in this AD, providing instructions to determine the accumulated life of certain propeller shafts.

For the reason described above, this AD retains the requirements of EASA AD 2021-0060 and AD 2021-0154, which are superseded, partially takes over the requirements of EASA AD 2021-0125-E and AD 2021-0264, and requires accomplishment of the actions specified in the ALS.



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

Required as indicated, unless accomplished previously:

Mandatory Inspections and Replacement of Life Limited Parts:

- (1) From the effective date of this AD, accomplish the following instructions, as specified in the ALS, as applicable to engine model and depending on engine configuration (see Note 1 and Note 2 of this AD):
 - (1.1) Replace each component before exceeding the applicable life limit, and
 - (1.2) Within the thresholds and intervals, accomplish all applicable maintenance tasks.

Note 1: For the purpose of this AD, the thresholds and intervals include specific tolerances for certain tasks, as defined in the ALS.

Note 2: The ASB provides additional information and instructions which can be used to determine the flight hours and/or flight cycles accumulated by certain 'propeller shaft complete' since first installation on an engine.

Corrective Action(s):

- (2) In case of finding discrepancies during accomplishment of any task as required by paragraph (1) of this AD, before next flight, accomplish the applicable corrective action(s) in accordance with the applicable GEAC maintenance documentation. If a detected discrepancy cannot be corrected by using existing GEAC instructions, before next flight, contact GEAC for approved instructions and accomplish those instructions accordingly.

AMP Revision:

- (3) Within 12 months after the effective date of this AD, revise the approved AMP by incorporating the instructions and associated thresholds and intervals described in the ALS, as applicable to engine model and depending on engine configuration.

Credit:

- (4) If, before the effective date of this AD, the AMP has been revised to incorporate the maintenance tasks and life limitations as specified in a previous ALS revision, that action ensures the continued accomplishment of those tasks and limitations.

Consequently, for an engine to which that AMP applies, it is acceptable to accomplish the new and/or more restrictive tasks and limitations as specified in the ALS, as applicable, depending on engine configuration, within the compliance times (see Note 1 of this AD) as specified in the ALS to comply with paragraph (1) of this AD.

For that AMP, it is acceptable to incorporate the new and/or more restrictive tasks and limitations as specified in the ALS, as applicable, depending on engine configuration, into the AMP to comply with paragraph (3) of this AD.



Recording AD Compliance:

(5) When the AMP of an aeroplane has been revised as required by paragraph (3) or (4) of this AD, as applicable, that action ensures continued accomplishment of the tasks as required by paragraphs (1) and (2) of this AD for that aeroplane. Consequently, after revising the AMP, as required by paragraph (3) or (4) of this AD, as applicable, it is not necessary that accomplishment of individual action is recorded for demonstration of AD compliance on a continued basis.

Ref. Publications:

GEAC M601D-1, M601D-2, M601D-11, M601D-11NZ and M601Z EMM No. 0982309 Revision 21 dated 18 November 2022.

GEAC M601E and M601E-21 EMM No. 0982055 Revision 21 dated 18 November 2022.

GEAC M601E-11, M601E-11S, M601E-11AS, M601F and M601FS EMM No. 0982302 Revision 20 dated 18 November 2022.

GEAC M601D EMM No. 0982051 Revision 17 dated 18 November 2022.

GEAC ASB-H75-72-10-00-0062, ASB-H80-72-10-00-0107, ASB-H85-72-10-00-0051, ASB-M601F-72-10-00-0070, ASB-M601E-72-10-00-0120, ASB-M601D-72-10-00-0087 and ASB-M601Z-72-10-00-0069, published as a single document, original issue dated 15 December 2022 and Revision 01 dated 20 January 2023.

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. This AD was posted on 16 December 2022 as PAD 22-173 for consultation until 13 January 2023. 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 – Letnany, Czech Republic, Telephone: +420 222 538 999, Website: <https://www.geaviation.cz/customer-support>, E-mail: tp.ops@ge.com.

