

## Airworthiness Directive

**AD No.:** 2021-0052

**Issued:** 24 February 2021

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, 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:** 03 March 2021

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

**Foreign AD:** Not applicable

**Supersedure:** None

**ATA 72 – Engine – Propeller Shaft – Replacement [Life Limit]**
**Manufacturer(s):**

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

**Applicability:**

M601D, M601D-1, M601D-11, M601D-11NZ, M601D-2, M601E, M601E-11, M601E-11A, M601E-11AS, M601E-11S, M601E-21, M601F, M601F-11, M601F-22, M601F-32, M601FS, M601T and M601Z engines, 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; PZL "Warszawa-Okęcie" PZL-106 (Kruk) series; RUAG Aerospace Services (formerly Dornier) Do 28 series; Thrush Aircraft (formerly Quality, Ayres, Rockwell) S-2R series; Viking Air Ltd. (formerly de Havilland Canada) DHC-3 Otter; Zlin Aircraft Z-37T series; and PAC FU-24 aeroplanes.

**Definitions:**

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

**The ASB:** GEAC Alert Service Bulletin (ASB) ASB-M601D-72-10-00-0072, ASB-M601E-72-10-00-0103, ASB-M601F-72-10-00-0056 and ASB-M601Z-72-10-00-0056 (issued as a single document).

**Applicable life limit:** Propeller shaft life limit, as identified in the Airworthiness Limitation Section (ALS) of the applicable Engine Maintenance Manual (EMM). If no life limit is identified in the ALS, the life limit, as identified in Table 1 of this AD, applies.

**Serviceable propeller shaft:** A propeller shaft, eligible for installation, which has not exceeded the applicable life limit.

**Groups:** Group 1 are M601D, M601D-11NZ, M601D-2, M601F and M601Z engines, having a propeller shaft part number (P/N) M601-6081.6 installed. Appendix 1 of the ASB provides a list of engines by s/n known to be Group 1.

Group 2 are M601E, M601E-11, M601E-11A and M601E-21 engines, having a propeller shaft P/N M601-6081.6 installed.

Group 3 are M601 engines (all models), having a propeller shaft P/N M601-6081.2 or P/N M601-6081.4 installed.

#### Reason:

Occurrences have been reported of finding propeller shaft P/N M601-6081.6 installed on M601D, M601D-11NZ, M601D-2, M601F and M601Z engines. That propeller shaft is not approved for installation on those engine models, and no overhaul/life limits are published in the applicable ALS for those engines. It was also determined that the applicable life limit is not yet published in the applicable ALS for M601E family engines, for which that propeller shaft is eligible for installation. Finally, it was reported that some data, which can be used to determine the accumulated life of certain propeller shafts, may have not been provided to operators, so the propeller shafts life limit may not have been implemented properly.

These conditions, if not corrected, may lead to failure of a propeller shaft, possibly resulting in detachment of the propeller and consequent damage to the engine and/or the aircraft, and reduced control of the aeroplane.

To address this potential unsafe condition, GEAC issued the ASB, providing applicable instructions.

For the reasons described above, this AD requires implementation of the applicable life limit and replacing each propeller shaft with a serviceable propeller shaft.

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

Required as indicated, unless accomplished previously:

#### Modification(s):

- (1) For Group 1 engines: Within 30 flight hours (FH) after the effective date of this AD, replace the propeller shaft with a serviceable propeller shaft, having P/N M601-6081.2 or P/N M601-6081.5, in accordance with the instructions of the ASB.

#### Life Limit Implementation:

- (2) For Group 2 and Group 3 engines: Before the propeller shaft exceeds the applicable life limit, as defined in this AD, replace that propeller shaft with a serviceable propeller shaft in accordance with the instructions of the ASB (see Note 1 of this AD).



Note 1: The ASB provides additional information which can be used to determine the FH accumulated by certain propeller shafts since first installation on an engine.

Table 1 – Propeller Shaft Life Limit

| P/N                        | Life Limit |
|----------------------------|------------|
| M601-6081.2<br>M601-6081.6 | 12 000 FH  |
| M601-6081.4                | 9 000 FH   |

#### Parts Installation:

- (3) For all engines: From the effective date of this AD, it is allowed to install on any engine a propeller shaft, provided it is a serviceable propeller shaft, as defined in this AD, and that, following installation, it is replaced before exceeding the applicable life limit, as defined in this AD.

#### Ref. Publications:

GEAC ASB-M601D-72-10-00-0072, ASB-M601E-72-10-00-0103, ASB-M601F-72-10-00-0056 and ASB-M601Z-72-10-00-0056 (single document) original issue dated 13 February 2021.

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. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
3. Enquiries regarding this AD 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 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](mailto:tp.ops@ge.com).

