



Airworthiness Directive

AD No.: 2017-0151R1

Issued: 05 December 2018

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, H75, H80 and H85 engines

Effective Date: Revision 01: 05 December 2018
Original issue: 01 September 2017

TCDS Number(s): EASA.E.070

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2017-0151 dated 18 August 2017.

ATA 72 – Engine – Exhaust System – Modification

Manufacturer(s):

GE Aviation Czech 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, M601Z, H75-100, H75-200, H80, H80-100, H80-200 and H85-100 and H85-200 engines, all serial numbers.

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

Definitions:

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

The ASB: Alert Service Bulletin (ASB) ASB-M601E-72-00-00-0070, ASB-M601D-72-00-00-0053, ASB-M601F-72-00-00-0036, ASB-M601T-72-00-00-0029, ASB-M601Z-72-00-00-0039, ASB-H75-72-00-00-0011, ASB-H80-72-00-00-0025 and ASB-H85-72-00-00-0007 (single document), Revision 02.



Affected Part: All parts identified by part name and Part Number (P/N) in Table 2, Table 3, Table 4 and Table 5 of this AD, as applicable.

Groups: Group 1 engines are those that, on 01 September 2017 [the effective date of the original issue of this AD], had an affected part installed. Group 2 engines are those that on 01 September 2017 did not have an affected part installed. Engines with a date of manufacture on or after on 01 September 2017 are Group 2.

Qualified engine shop visit: Engine overhaul, or an engine in-shop maintenance that includes power turbine disassembly.

Engine equivalent cycle: Engine cycle as defined in the Airworthiness Limitations, section 2 of the applicable Engine Maintenance Manual (EMM).

The applicable ALS: For H- series engines, the Airworthiness Limitations Section (ALS) in EMM No. 0983402, Critical Part equivalent cycles life limits and time between overhaul (TBO) limits. For M601 series engines, TBO limits as listed in the appropriate EMM No. 0982051, 0982055, 0982062, 0982302, 0982304 or 0982309, as applicable.

Reason:

A recent design review identified the possibility of failure of the power turbine (PT) or quill shaft splines.

This condition, if not corrected, could lead to a PT rotor overspeed, with consequent release of PT blade(s), possibly resulting in high energy debris and damage to, and/or reduced control of, the aeroplane.

To address this potential unsafe condition, GE Aviation Czech (GEAC) designed a modification (mod) of the engine outlet system and issued the ASB, later revised, providing instructions for modification of engines in service, and EASA issued AD 2017-0151, requiring modification of the affected engines, and prohibiting installation of pre-mod parts.

Since that AD was issued, GEAC completed a TBO extension program, and revised the ASB (now at Revision 03) and the applicable EMM accordingly.

For the reasons stated above, this AD is revised to include reference to the revised EMM.

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

Required as indicated, unless accomplished previously:

Modification:

- (1) For Group 1 engines: During the next qualified engine shop visit, or within the compliance as identified in the applicable ALS, or within the compliance time identified in Table 1 of this AD, as applicable, whichever occurs first after 01 September 2017 [the effective date of the original issue of this AD], modify the engine in accordance with the instructions of the ASB.



Table 1 – Modification

Engine Date of Manufacture	Date of Release to Service after last Shop Visit	Compliance Time
31 December 2008 or before	Never subjected to engine shop visit	5 years
01 January 2009 or later		10 years
any	09 February 2014 or before	5 years
any	10 February 2014 or later	10 years

Part(s) Installation:

(2) Do not install on any engine an affected part as required by paragraph (2.1) or (2.2) of this AD, as applicable.

(2.1) For a Group 1 engine: After modification of that engine as required by paragraph (1) of this AD.

(2.2) For a Group 2 engine: From 01 September 2017 [the effective date of the original issue of this AD].

Table 2 – Exhaust Systems M601-4.2, M601-4.5, M601-4.51, M601-4.52, M601-4.61, and M601-4.62

Engine models	Part Name	P/N
M601E, M601E-11, M601E-11A, M601E-11AS, M601E-11S, M601E-21, M601F, M601FS, M601F-11, M601F-22, M601F-32, M601T, H75-100, H75-200, H80, H80-100, H80-200, H85-100, and H85-200	Containment Ring	M601-426.5
	Insulation Cover	M601-422.3, M601-422.2
	Supporting Cone	M601-457.7, M601-457.3
	Support	M601-4512.5

Table 3 – Exhaust System M601-4.1, M601-4.6, and M601-4.7

Engine models	Part Name	P/N
M601D, M601D-1, M601D-2, M601D-11, M601D-11NZ, M601E, M601E-11, M601E-11A, M601E-11AS, M601E-11S, M601E-21, M601Z	Containment Ring	M601-461.7 (for M601Z engines) M601-426.5 (for M601D and M601E engines)
	Insulation Cover	M601-422.3, M601-422.2
	Support	M601-4512.5
	Supporting Cone	M601-457.7, M601-457.3
	Outlet Duct	M601-416.6



Table 4 – Countershaft Case Complete (Reduction Gearbox Subassembly)
M601-62.2, M601-62.7, M601-60.3

Engine models	Part Name	P/N
All	Bolt	M601-6170.9
	Ring	M601-6014.9

Table 5 – Torque Meter (Reduction Gearbox Subassembly)
M601-673.6, M601-667.7, M601-605.3

Engine models	Part Name	P/N
All	Torque Meter Holder	M601-643.9

Ref. Publications:

GE Aviation Czech ASB-M601E-72-00-00-0070, ASB-M601D-72-00-00-0053, ASB-M601F-72-00-00-0036, ASB-M601T-72-00-00-0029, ASB-M601Z-72-00-00-0039, ASB-H75-72-00-00-0011, ASB-H80-72-00-00-0025, and ASB-H85-72-00-00-0007 (single document), Revision 02 dated 12 June 2017, or Revision 03 dated 16 July 2018.

EMM No. 0983402 Revision 16.

EMM No. 0982051 Revision 11.

EMM No. 0982055 Revision 14.

EMM No. 0982062 Revision 11.

EMM No. 0982302 Revision 13.

EMM No. 0982304 Revision 00.

EMM No. 0982309 Revision 14.

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 original issue of this AD was posted on 16 June 2017 as PAD 17-079 for consultation until 14 July 2017. 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](#).
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, Tel.: +420 222 538 999; E-mail: tp.ops@ge.com.

