



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 17-079

Issued: 16 June 2017

Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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, H75, H80 and H85 engines

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

TCDS Number(s): EASA.A.070

Foreign AD: Not applicable

Supersedure: None

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, 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 to AT-502), Grumman AG CAT, Fletcher FU-24, Technoavia SM-92T Finist, Lancair IV-P, RUAG (formerly Dornier) Do 28 and Aircraft Industries (formerly LET) L-410 aeroplanes.

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 Alert Service Bulletins (ASB) ASB-H75-72-00-00-00011, ASB-H80-72-00-00-00025, ASB-H85-72-00-00-00007, ASB-M601E-72-50-00-00070, ASB-M601D-72-50-00-00053, ASB-M601F-72-50-00-00036, ASB-M601T-72-50-00-00029 and ASB-M601Z-72-50-00-00039 (single document, hereafter referred to as “the ASB” in this AD), providing instructions for modification of engines in service.

For the reason described above, this AD requires modification of the affected engines, and prohibits installation of pre-mod parts.

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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, an “affected part” is a part that has a Part Number (P/N) as identified in Table 2 or Table 3 or Table 4 or Table 5 of this AD, as applicable.

Note 2: For the purpose of this AD, Group 1 engines are those that, on the effective date of this AD, have an affected part installed (see Note 1 of this AD). Group 2 engines are those that do not have an affected part installed. Engines with a date of manufacture on or after the effective date of this AD are Group 2.

Note 3: For the purpose of this AD, a qualified engine shop visit is an engine overhaul, or an engine in-shop maintenance requiring power turbine disassembly.

Note 4: For the purpose of this AD, an “engine equivalent cycle” is as defined in the Airworthiness Limitations, section 2 of the applicable Engine Maintenance Manual.

Modification:

- (1) For Group 1 engines (see Note 2 of this AD): During the next qualified engine shop visit (see Note 3 of this AD), or within 6 600 engine equivalent cycles (see Note 4 of this AD) since new or since last overhaul, as applicable, or within the compliance time identified in Table 1 of this AD, as applicable, whichever occurs first after the effective date 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 (see Note 1 of this AD) as required by paragraph (2.1) or (2.2) of this AD, as applicable (see Note 2 of this AD).

(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 the effective date of this AD.

Table 2 – Exhaust Systems M601-4.2, -4.5, -4.51, -4.52, -4.61, and -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, -4.6, and -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 E 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 – Torquemeter (Reduction Gearbox Subassembly)
M601-673.6, M601-667.7, M601-605.3

Engine models	Part Name	P/N
All	Torquemeter 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.

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

Remarks:

1. This Proposed AD will be closed for consultation on 14 July 2017.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
3. 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
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