Airworthiness Directive

AD No.: 2019-0244

Issued: 30 September 2019

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):

H80-200 and H85-200 engines

Effective Date: 14 October 2019

TCDS Number(s): EASA.E.070

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2019-0089 dated 25 April 2019.

ATA 76 – Engine Controls – Push-pull Control and Beta Switch – Inspection / Replacement

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Manufacturer(s):

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

Applicability:

H80-200 engines, in combination with Avia Propeller AV-725 propellers, installed on Aircraft Industries (AI) L 410 UVP-E20 and L 410 UVP-E20 CARGO aeroplanes; and
H85-200 engines (build configuration BC04), in combination with Avia Propeller AV-725 propellers, installed on AI L 410 NG aeroplanes.

Definitions:

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

The SB: GEAC Service Bulletin (SB) SB-H80-76-00-00-0036 Revision 03.

The ASB-1: GEAC Alert SB (ASB) ASB-H80-76-00-00-0048 and ASB-H85-76-00-00-0015 Revision 01 (single document).

The ASB-2: GEAC ASB-H80-76-00-00-0047 and ASB-H85-76-00-00-0018 Revision 03 (single document).

Groups:
Group 1 are H80-200 engines that have a push-pull control Part Number (P/N) M601-76.3 and a beta switch P/N P-S-2 installed.

Group 2 are H80-200 engines that have a push-pull control P/N M601-76.3 but no beta switch P/N P-S-2 installed.

Group 3 are H85-200 engines (build configuration BC04) equipped with push-pull control P/N M601-76.3.

Group 4 are H80-200 engines equipped with push-pull control P/N M601-76.5.

Group 5 are H85-200 engines (build configuration BC04) equipped with push-pull control P/N M601-76.4.

Type 2 inspection: Engine inspection Type 2, as defined in Engine Maintenance Manual (EMM) EMM-0983402 section 72-00-00.

Reason:
In 2017, a fatal accident was reported of an L 410 UVP-E20 aeroplane. The investigation determined that there was an annunciation of Beta mode on the right-hand engine, that the propeller went inadvertently beyond the fine pitch position and reached a negative thrust position, and that the pitch lock system did not intervene. The event occurred on approach at a speed and altitude which did not allow the flight crew to recover this control system malfunction.

This condition, if not corrected, could lead to reduced control or loss of control of the aeroplane.

To address this unsafe condition, GEAC issued the SB, providing inspection and modification instructions, and EASA issued AD 2018-0075 to require a one-time inspection and adjustment of the engine push-pull control and replacement of the beta switch with an improved part. Addressing the same unsafe condition at aeroplane level, EASA also issued AD 2018-0057, requiring modification of affected AI L 410 UVP-E20 and L 410 UVP-E20 CARGO aeroplanes, if equipped with H80-200 engines and Avia Propeller AV 725 propellers.

After EASA AD 2018-0075 was issued, it was identified that the engine push-pull control settings may be inadvertently changed after certain maintenance, repair, or modification action. For that reason, the engine push-pull control needed further inspection and adjustment. Affected maintenance, repair, or modification procedures include, but are not limited to, the replacement of a fuel control unit or a propeller governor. Furthermore, it was determined that H85-200 engines are also affected by the new requirements. Consequently, EASA issued AD 2019-0089, retaining the requirements of EASA AD 2018-0075, which was superseded, and requiring conditional repetitive inspections and, depending on findings, adjustment of the push-pull control settings. That AD also expanded the applicability to include H85-200 engines.

Since that AD was issued, GEAC developed an improved engine push-pull control which reduces further the risk of uncommanded in-flight reverse of the propeller, and published the original issue of the ASB-2. The ASB-2 (at Revision 03) was published during the consultation period of EASA PAD

19-158, providing clarification to the accomplishment instructions. Additional consultation was not deemed in the interest of operators.

For the reason described above, this AD retains the requirements of EASA AD 2019-0089, which is superseded, and requires installation of the new engine push-pull controls. This AD also requires inspections of modified engines. Credit has been added in this AD for actions accomplished in accordance with the instruction of Revision 02 of the ASB-2, which was referenced in EASA PAD 19-158.

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

Required as indicated, unless accomplished previously:

Modification / Inspection(s):

(1) For Group 1 engines: Within 25 flight hours (FH), 20 flight cycles, or 30 days, whichever occurs first after 19 April 2018 [the effective date of EASA AD 2018-0075], inspect and adjust the engine push-pull control P/N M601-76.3, and modify the engine by replacing beta switch P/N P-S-2 with a beta switch P/N P-S-2A, in accordance with the instructions of the SB.

(2) For Group 1, Group 2 and Group 3 engines: From 09 May 2019 [the effective date of EASA AD 2019-0089], before next flight after any maintenance, repair, or modification action on the engine, on the propeller or on the aeroplane, that can affect the settings of the push-pull control, inspect and adjust the engine push-pull control P/N M601-76.3 in accordance with the instructions of the ASB-1.

(3) For Group 1, Group 2 and Group 3 engines: Within 9 months after the effective date of this AD, modify the engine by installing the engine push-pull control P/N M601-76.5 or P/N M601-76.4, as applicable to the engine model, in accordance with the instructions of the ASB-2.

(4) For all engines: Within the compliance time as identified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 100 FH (see Note 1 of this AD), inspect the push-pull control P/N M601-76.5 or P/N M601-76.4, as applicable, in accordance with the instructions of the ASB-2.

Table 1 – Compliance Time

Engine Configuration	**Compliance Time** (see Note 1 of this AD)
Engine modified as required by paragraph (3) of this AD	Within 100 FH or during the next Type 2 inspection, whichever occurs first after the engine modification as required by paragraph (3) of this AD
Other engines	Within 100 FH or during the next Type 2 inspection, whichever occurs first since first installation on an aeroplane

Note 1: A non-cumulative tolerance of 10 FH may be applied to the 100 FH interval specified in paragraph (4) of this AD to allow synchronization of the required checks with other required maintenance tasks for which a non-cumulative tolerance is already granted in the applicable EMM.

Corrective Action(s):

(5) If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, any deficiencies are detected, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the SB or the ASB-1, as applicable.

(6) If, during any inspection as required by paragraph (4) of this AD, any deficiencies are detected, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the ASB-2, as applicable.

Terminating Action:

(7) Passing (no defects found) 6 consecutive inspections of an engine within an interval of at least 600 FH, as required by paragraph (4) of this AD, constitutes terminating action for the inspections as required by paragraph (4) of this AD for that engine.

Parts Installation:

(8) Do not install a beta switch P/N P-S-2 on any engine, as required by paragraph (8.1), (8.2) or (8.3) of this AD, as applicable.

(8.1) For Group 1 engines: After modification of the engine as required by paragraph (1) of this AD.

(8.2) For Group 2 and Group 4 engines: From 19 April 2018 [the effective date of EASA AD 2018-0075].

(8.3) For Group 3 and Group 5 engines: From 09 May 2019 [the effective date of EASA AD 2019-0089].

(9) Do not install a push-pull control P/N M601-76.3 on any engine, as required by paragraph (9.1) or (9.2) of this AD, as applicable.

(9.1) For Group 1, Group 2 and Group 3 engines: After modification of the engine as required by paragraph (3) of this AD.

(9.2) For Group 4 and Group 5 engines: From the effective date of this AD.

Engine Installation:

(10) From the effective date of this AD, it is allowed to install (see Note 2 of this AD) on any AI L 410 UVP-E20 or L 410 UVP-E20 CARGO aeroplane an H80-200 engine, provided it is a Group 4 engine, as defined in this AD.

(11) From the effective date of this AD, it is allowed to install (see Note 2 of this AD) on any AI L 410 NG aeroplane an H85-200 engine, provided it is a Group 5 engine, as defined in this AD.

Note 2: For the purpose of this AD, removal of an engine from an aeroplane and subsequent re-installation of that engine on that same aeroplane within the same aeroplane maintenance visit does not constitute “install” as specified in paragraph (10) or (11) of this AD, as applicable.

Credit:

(12) Inspection(s) and corrective action(s) on an engine, accomplished before the effective date of this AD in accordance with the instructions of Revision 02 of the SB, are acceptable for compliance with the requirements of paragraphs (1) and (5) of this AD, as applicable, for that engine.

(13) Inspection(s) and corrective action(s) on an engine, accomplished before the effective date of this AD in accordance with the instructions of the original issue of the ASB-1 are acceptable for compliance with the requirements of paragraphs (2) and (5) of this AD, as applicable, for that engine.

(14) Inspection(s) and corrective action(s) on an engine, or modification of an engine, accomplished before the effective date of this AD in accordance with the instructions of the original issue, Revision 01 or Revision 02 of the ASB-2 are acceptable for compliance with the modification requirements of paragraph (3), and the initial inspection requirements of paragraphs (4) and (6) of this AD, as applicable, for that engine.

Ref. Publications:

GE Aviation Czech SB-H80-76-00-00-0036 Revision 02 dated 29 March 2018, and Revision 03 dated 12 April 2019.

GE Aviation Czech ASB-H80-76-00-00-0048, ASB-H85-76-00-00-0015 (single document), original issue dated 29 March 2019, and Revision 01 dated 12 April 2019.

GE Aviation Czech ASB-H80-76-00-00-0047, ASB-H85-76-00-00-0018 (single document), original issue dated 27 June 2019, Revision 01 dated 12 July 2019, Revision 02 dated 07 August 2019 and Revision 03 dated 27 September 2019.

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 August 2019 as PAD 19-158 for consultation until 13 September 2019. No comments were received during the consultation period.

3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness 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; https://www.geaviation.cz/customer-support; E-mail: tp.ops@ge.com.