Airworthiness Directive

AD No.: 2017-0034R1

Issued: 18 January 2018

Note: This Airworthiness Directive (AD) 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.

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 (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:
TECHNIFY MOTORS GmbH

Type/Model designation(s):
TAE 125-02 engines

Effective Date:	Revision 01: 18 January 2018 Original Issue: 06 March 2017
TCDS Number(s):	EASA.E.055
Foreign AD:	Not applicable
Revision:	This AD revises EASA AD 2017-0034 dated 20 February 2017.

ATA 72 – Engine – Gearbox – Modification / Inspection

Manufacturer(s):
Technify Motors GmbH (TMG), formerly Thielert Aircraft Engines GmbH (TAE)

Applicability:
TAE 125-02-99 and TAE 125-02-114, all serial numbers (s/n).

These engines are known to be installed, but not limited to, Diamond DA 40, DA 42, DA 42M, CEAPR DR 400, Cessna 172 and Piper PA-28 aeroplanes. The installation of these engines was either done by the respective aeroplane manufacturer or through modification of the aeroplane by Supplemental Type Certificate.

Reason:
A temporary power loss occurred during flight on a TAE 125-02-powered aeroplane. Following investigation, it was determined that an improper lapping of the gearbox driveshaft led to insufficient sealing of the gearbox radial shaft sealing ring, eventually resulting in oil leakage and oil contamination of the clutch.

This condition, if not detected and corrected, could lead to permanent engine power loss, possibly resulting in reduced control of the aeroplane.

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To address this potential unsafe condition, TMG published Service Bulletin (SB) TMG 125-1020 P1, providing modification and inspection instructions. Consequently, EASA issued AD 2017-0034, requiring modification of the engine by replacing the clutch with a dual mass flywheel, inspection of affected gearboxes identified by s/n and, depending on findings, replacement of the gearbox.

Since that AD was issued, it has been determined that identification of affected gearboxes must be based also on Part Number (P/N), and TMG revised SB TMG 125-1020 P1 accordingly.

For the reason stated above, this AD is revised to provide references to the P/N for affected s/n gearboxes.

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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, an “affected gearbox” has a P/N and s/n as listed in Table 1 of this AD, and did not pass an inspection as required by this AD.

Note 2: For the purpose of this AD, an “affected engine” is equipped with a clutch and has an affected gearbox (see Note 1 of this AD) installed.

Note 3: Engines having a dual mass flywheel installed can be identified checking the mark on the fuel rail (sticker “Dual Mass Flywheel installed”), or reviewing the record in the engine log book (“Dual Mass Flywheel” listed as engine component on page 4 “Main Engine Components”).

Note 4: EASA AD 2015-0055 requires installation of improved software mapping and of the start phase monitoring system on TAE 125-02-99 and TAE 125-02-114 engines equipped with a dual mass flywheel.

Modification:

(1) For an affected engine (see Notes 1 and 2 of this AD), within 55 flight hours after 06 March 2017 [the effective date of the original issue of this AD], replace the clutch with dual mass flywheel in accordance with the instructions of SB TMG 125-1020 P1 (see Note 4 of this AD).

Inspection:

(2) Concurrent with the modification as required by paragraph (1) of this AD, inspect the affected gearbox of that engine for oil leaks in accordance with the instructions of SB TMG 125-1020 P1.

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Table 1 – Affected Gearbox P/N and s/n

P/N	s/n
05-7212-K033305	01351, 01711
05-7212-K033405	00160, 00171, 00327, 00396, 00884, 00957, 01048, 01106, 01311, 01388, 01598, 01655, 01881, 01883, 01884, 01893, 01928, 01978, 02026, 02141, 02189, 02304, 02354, 02432
05-7212-K033505	00139, 00688, 01125, 01236, 01288, 01357, 01427, 01704, 01786, 01887, 01904, 01935, 02040, 02041, 02167, 02228, 02314, 02316
05-7212-K035804	00095, 00107, 00224, 01534
05-7212-K035904	01237
05-7212-K043501	00179, 00697, 00923, 01081, 01082, 01245, 01361, 01418, 01487, 01561, 01634, 01762, 01891, 01933
05-7212-K043601	00459, 01019, 01314
05-7212-K043901	00172, 00189, 00432, 00481, 00564, 01241, 01529, 01755, 01844, 01951, 01977, 01986, 02127, 02289, 02298

Corrective Action:

(3) If, during the inspection as required by paragraph (2) of this AD, an oil leak is detected, before next flight, replace the affected gearbox with a serviceable one in accordance with the instructions of SB TMG 125-1020 P1.

Parts Installation:

(4) From 06 March 2017 [the effective date of the original issue of this AD], do not install on any engine an affected gearbox (see Note 1 of this AD).

(5) Do not install a clutch on an engine, as required by paragraph (5.1) or (5.2) of this AD, as applicable.

(5.1) For an affected engine (see Note 2 of this AD): After modification of the engine as required by paragraph (1) of this AD.

(5.2) For engines as identified in Note 3 of this AD: From 06 March 2017 [the effective date of the original issue of this AD].

(6) From 06 March 2017 [the effective date of the original issue of this AD], do not install on any aeroplane an affected engine (see Note 2 of this AD).

Ref. Publications:

Technify Motors SB TMG 125-1020 P1 dated 27 January 2016 and revision 1 dated 05 January 2018.

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

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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 19 January 2017 as PAD 17-009 for consultation until 16 February 2017. The Comment Response Document can be found in the EASA Safety Publications Tool, in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. For any question concerning the technical content of the requirements in this AD, please contact: Technify Motors GmbH, Platanenstraße 14, D-09356 Sankt Egidien, Germany
Telephone: +49-37204-696-0, Fax +49-37204-696-2912,
E-mail: info@centurion-engines.com.

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