EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2015-0055 **Date: 31 March 2015** Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, 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 EU 748/2012, Part 21.A.3B. In accordance with 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 [EU 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Design Change Approval Holder's Name:	**Type/Model designation(s):**
TECHNIFY MOTORS GmbH	TAE 125-02 engines

TCDS Number:	EASA.E.055
Foreign AD:	Not applicable
Supersedure:	None

ATA 80	**Starting – Software Mapping / Start Phase Monitoring System – Installation**
Manufacturer(s):	Technify Motors GmbH (TMG), formerly Thielert Aircraft Engines (TAE).
Applicability:	TAE 125-02-99 (commercial designation CD-135, formerly Centurion 2.0) and TAE 125-02-114 (commercial designation CD-155, formerly Centurion 2.0S) engines, all serial numbers (S/N), if a Dual Mass Flywheel is installed, and if the engine is installed on one of the following aeroplane types: - Cessna 172 and (Reims-built) F172 series with engine installed through Supplemental Type Certificate (STC) EASA 10014287. - Piper PA-28 series with engine installed through STC EASA 10014364. - CEAPR (APEX, Robin) DR 400 series with engine installed through STC EASA.A.S.01380 or STC EASA 10014219, all aeroplane S/N up to 2674 (included), with STC installed before December 2014. - Diamond (DAI) DA 40 D model, S/N D4.001 through D4.399 and S/N 40.DS001 through 40.DS135 (engine installed during aeroplane manufacture), or any other S/N with engine installed through STC EASA 10036328. - DAI DA 42 and DA42 M models, S/N 42.004 through 42.427, S/N 42.AC001 through 42.AC151 and S/N 42.M001 through 42.M027 (engine installed during aeroplane manufacture), or any other S/N with engine installed through STC EASA 10048730. Engines having a Dual Mass Flywheel installed can be identified by marking on the fuel rail (sticker "Dual Mass Flywheel installed"), or record in the engine log book ("Dual Mass Flywheel" listed as engine component on page 4 "Main Engine Components").

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Reason:	Cases of a broken gearbox drive shaft have been reported on aeroplanes equipped with TAE 125-02 engines that have a Dual Mass Flywheel installed. Investigations results showed a possible overload of the gearbox drive shaft during starting of the engine or during restarting of the engine in-flight. This condition, if not corrected, could lead to engine power loss during flight, possibly resulting in loss of control of the aeroplane. To address this unsafe condition, TMG has developed an improved software mapping and a start phase monitoring system. See TMG Service Bulletin (SB) TM TAE 125-1018 P1 for further details. For the reason described above, this AD requires the installation of the improved software mapping and of the start phase monitoring system.
Effective Date:	14 April 2015
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) Within 110 flight hours or at the next scheduled maintenance event, whichever occurs first after the effective date of this AD, install the software mapping specified in Appendix 1 of this AD, as applicable to engine model and aeroplane type, in accordance with the instructions of TMG SB TM TAE 000-0007, Revision 28. (2) Concurrent with the software mapping installation as required by paragraph (1) of this AD, install a start phase monitoring system in accordance with TMG Installation Manual IM-02-02, Chapter 13.08.16, Issue 4, Revision 1, using the instructions specified in Table 1 of this AD, as applicable to aeroplane type and engine installation approval (TC/STC).

Table 1 – Installation of Start Phase Monitoring System

Aeroplane type / model (TC/STC)	Instructions
Cessna 172 (STC EASA 10014287)	TMG SB TMG 601-1007 P1 Rev. 3
Piper PA-28 (STC EASA 10014364)	TMG SB TMG 651-1004 P1 Rev. 2
CEAPR DR 400 (STC EASA 10014219 or STC EASA.A.S.01380)	CEAPR SB B.S. n° 141201 Rev. 1
DAI DA 40 D (STC EASA 10036328)	TMG SB TMG 691-1002 P1 Rev. 2
DAI DA 40 D (TC EASA.A.022)	DAI MSB D4-097/2
DAI DA 42 and DA 42 M (TC EASA.A.005 or EASA.A.513)	DAI MSB 42-109/1
DAI DA 42 (STC EASA 10048730)	EASA Approved Modification

(3) From the effective date of this AD, it is only allowed to install a TAE 125-02-99 or TAE 125-02-114 engine on an aeroplane type listed in the Applicability of this AD provided the engine is equipped with start phase monitoring system as required by this AD and a software mapping version as required by this AD or later.

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Ref. Publications:	TMG SB TM TAE 125-1018 P1 Revision 1, dated 05 February 2015. TMG SB TM TAE 000-0007 Revision 28, dated 05 February 2015. TMG Installation Manual IM-02-02, Chapter 13.08.16, Issue 4, Revision 1, dated 02 December 2014. TMG SB TMG 601-1007 P1 Revision 3, dated 05 February 2015. TMG SB TMG 651-1004 P1 Revision 2, dated 05 February 2015. TMG SB TMG 691-1002 P1 Revision 2, dated 05 February 2015. CEAPR SB n° 141201 Revision 1, dated 05 February 2015. DAI MSB D4-097/2 (Issue 2), dated 04 February 2015. DAI MSB 42-109/1 (Issue 1), dated 04 February 2015. The use of later approved revisions of these 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 24 February 2015 as PAD 15-015 for consultation until 24 March 2015. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Certification Directorate, EASA. 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 +49-37204-696-55; E-mail info@centurion.aero.

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Appendix 1 – Instructions for Software Mapping

TAE 125-02-99 engines				
Software (Firmware)	Type	Voltage	Software Mapping	Part Number
FADEC D48 TAE-125 m3.30 P/N 02-7610-55101R14	Cessna 172	14V	O14D330CES	20-7610-E020101
	Cessna 172	28V	O28D330CES	20-7610-E021101
	Piper PA28	14V	O14D330PIP	40-7610-E020101
	Piper PA28	28V	O28D330PIP	40-7610-E021101
	Apex DR400	14 V	O14D330APEX	60-7610-E020101
	Diamond DA40	14 V	O14D330DA40	50-7610-E020101
	Diamond DA42	28 V	O28D330DA42	52-7610-E020501
FADEC D4 D4-v1.40 P/N 05-7610-E001003	Cessna 172	14 V	F14D140CES	20-7610-E012101
	Cessna 172	14 V	F14D141CES	20-7610-E012102
	Cessna 172	28 V	F28D140CES	20-7610-E013101
	Cessna 172	28 V	F28D141CES	20-7610-E012102
	Piper PA28	14 V	F14D140PIP	40-7610-E012101
	Piper PA28	28 V	F28D140PIP	40-7610-E013101
	Apex DR400	14 V	F14D140APEX	60-7610-E012101
	Diamond DA40	14 V	F14D140DA40	50-7610-E012101
	Diamond DA42	28 V	F28D140DA42	52-7610-E012101

TAE 125-02-114 engines				
Software (Firmware)	Type	Voltage	Software Mapping	Part Number
FADEC D48 TAE-125 m3.30 P/N 02-7610-55101R14	Cessna 172	14V	P14D330CES	20-7610-E022001
	Cessna 172	28V	P28D330CES	20-7610-E023001
	Piper PA28	14V	P14D330PIP	40-7610-E022001
	Piper PA28	28V	P28D330PIP	40-7610-E023001
	Apex DR400	14 V	P14D330APEX	60-7610-E022001
	Diamond DA40	14 V	P14D330DA40	50-7610-E022001
FADEC D4 D4-v1.40 P/N 05-7610-E001003	Cessna 172	14 V	G14D140CES	20-7610-E012301
	Cessna 172	28 V	G28D140CES	20-7610-E013301
	Piper PA28	14 V	G14D140PIP	40-7610-E012301
	Piper PA28	28 V	G28D140PIP	40-7610-E013301
	Apex DR400	14 V	G14D140APEX	60-7610-E012301
	Diamond DA40	14 V	G14D140DA40	50-7610-E012301
	Diamond DA42	28 V	G28D130DA42	52-7610-E012601

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