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## **SERVICE INFORMATION LETTER NO. SID4-196**

NOTE: Service information letters (SILs) are used only:

1. To distribute information from Diamond Aircraft Industries Inc. to our customers.
2. To distribute applicable information/documents from our suppliers to our customers with additional information.

NOTE: Typically there is no revision service for SILs. Each new information or change will be sent along with a new SIL.

### **1. TECHNICAL DETAILS**

#### **1.1 Aircraft Affected**

All DA 40 D aircraft equipped with TAE 125-02-99 with the serial numbers indicated in Continental Aerospace Technologies GmbH SB CG 125-1027 P1 Revision 1 (attached to this SIL).

#### **1.2 Subject**

EASA AD 2021-0022 - Continental Aerospace Technologies Engine Main Bearing Studs Replacement, and Continental Aerospace Technologies GmbH SB CG 125-1027 P1 Revision 1.

ATA-Code: 72-00

#### **1.3 Reason**

Continental Aerospace Technologies (CAT) has issued Priority 1 Safety Service Bulletin No. CAT SB CG 125-1027 P1 Revision 1 regarding the replacement of the studs of the crankshaft main bearing caps on specified TAE 125-02-99 engines. The European Union Aviation Safety Agency (EASA) has issued AD 2021-0022 mandating the incorporation of CAT SB CG 125-1027 P1. If left uncorrected, crankshaft sensor failures, and/or crankshaft failure may occur, which may lead to a total loss of power and subsequent forced landing.

At revision 1 of CAT SB CG 125-1027 P1, the time of compliance has been updated to indicate corrective measures are to be accomplished immediately.

#### **1.4 Information**

For detailed technical information, refer to EASA AD 2021-0022 and CAT SB CG 125-1027 P1 Revision 1, which are applicable without any further additions or restrictions.

This SIL supersedes Diamond Aircraft SIL SID4-195.

EASA AD 2021-0022 and CAT SB CG 125-1027 P1 Revision 1 are attached to this SIL.

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**2. OTHER DETAILS**

To obtain satisfactory results, procedures specified in this service information letter must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service information letter. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service information letter if it is not incorporated. If you no longer own the aircraft to which this service information letter applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries Inc. at the address below.

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## Airworthiness Directive

**AD No.:** 2021-0022

**Issued:** 18 January 2021

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:

CONTINENTAL AEROSPACE TECHNOLOGIES GmbH

### Type/Model designation(s):

TAE 125 engines

**Effective Date:** 01 February 2021

**TCDS Number(s):** EASA.E.055

**Foreign AD:** Not applicable

**Supersedure:** None

## ATA 72 – Engine – Main Bearing / Studs – Replacement

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### Manufacturer(s):

Continental Aerospace Technologies GmbH (CG), formerly Technify Motors GmbH, Thielert Aircraft Engines GmbH (TAE)

### Applicability:

TAE 125-02-99 and TAE 125-02-114 engines, all serial numbers (s/n) listed in the SB, as defined in this AD.

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

### Definitions:

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

**The SB:** Continental Aerospace Technologies Service Bulletin (SB) CG 125-1027 P1.

**Affected part:** Main bearing studs, having Part Number 05-7211-K009801, and identified by batch number B180703/1, B184216/1, B184216/2 or B191277/1 (installed on the engine s/n as listed in the SB).



**Serviceable part:** Any main bearing stud, eligible for installation, which is not an affected part.

**Groups:** Group 1 are single-engine aeroplanes which have an affected part installed on the engine, and twin-engine aeroplanes which have an affected part installed on both engines. Group 2 are twin-engine aeroplanes which have an affected part installed on only one engine.

**Reason:**

Cases of broken main bearing studs have been reported. A broken main bearing stud provides improper support to the crankshaft, increases crankshaft clearance, which triggers crankshaft sensor failures, and, in some cases, can lead to crankshaft fracture. Investigation on the root cause for the rupture is still ongoing.

This condition, if not corrected, could lead to engine in-flight shutdown and forced landing, possibly resulting in damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, CG published the SB to provide instructions for stud replacement.

For the reason described above, this AD requires replacement of affected parts and prohibits re-installation.

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

Required as indicated, unless accomplished previously:

**Replacement:**

- (1) Within the compliance time as specified in Table 1 of this AD, replace each affected part in accordance with the instructions of the SB.

Table 1 – Stud Replacement (see Note 1 of this AD)

Group	Flight Hours (FH)	Compliance Time (whichever occurs first)
1	100 FH or less	Before exceeding 115 FH, or during the next scheduled maintenance
	More than 100 FH	Within 15 FH after the effective date of this AD, or during the next scheduled maintenance
2	100 FH or less	Before exceeding 200 FH, or during the next scheduled maintenance
	More than 100 FH	Within 100 FH after the effective date of this AD, or during the next scheduled maintenance

Note 1: Unless specified otherwise, the FH indicated in Table 1 of this AD are those accumulated by the engine, on the effective date of this AD, since first installation on an aeroplane.



**Parts Installation:**

- (2) From the effective date of this AD, do not install an affected part on any engine, or an engine with an affected part on any aeroplane.

**Ref. Publications:**

Continental Aerospace Technologies SB CG 125-1027 P1 original issue dated 18 December 2020.

The use of later approved revisions of the above-mentioned document 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. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto: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](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact: Continental Aerospace Technologies GmbH, Platanenstrasse 14, 09356 Sankt Egidien, Germany; Telephone: +49 37204 696 0; Fax: +49 37204 696 2912; E-Mail: [support@continentaldiesel.com](mailto:support@continentaldiesel.com) or [airworthiness@continental.aero](mailto:airworthiness@continental.aero).





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SB CG 125-1027 P1

# SERVICE BULLETIN

## PRIORITY 1 – SAFETY

**Service Bulletin No. /** SB CG 125-1027 P1, Revision 1 / May 28, 2021  
**Date:**

**Subject:** Studs of the Crankshaft Main Bearing Caps

**Type affected:** TAE 125-02-99 and TAE 125-02-114

**Models affected:** The following engine S/N are affected:

TAE 125-02-99 / S / N 02-02-xxxxx:

04172	04488	04847	04849	04851	04857	04858	04861	04862	04863
04864	04865	04866	04867	04868	04869	04870	04871	04872	04873
04874	04875	04876	04877	04878	04879	04880	04881	04882	04883
04884	04885	04886	04887	04888	04889	04890	04891	04892	04893
04894	04895	04896	04897	04898	04899	04900	04901	04902	04903
04904	04905	04906	04907	04908	04909	04910	04911	04912	04913
04914	04915	04916	04917	04918	04919	04920	04921	04922	04923
04924	04925	04926	04927	04928	04929	04930	04931	04932	04933
04934	04935	04936	04937	04938	04939	04941	04942	04943	04944
04945	04946	04947	04948	04949	04950	04951	04952	04953	04954
04955	04956	04957	04958	04959	04960	04961	04962	04963	04964
04965	04966	04967	04968	04969	04970	04971	04972	04973	04974
04975	04976	04977	04978	04979	04980	04981	04982	04983	04984
04985	04986	04987	04988	04989	04990	04991	04992	04993	04994
04995	04996	04997	04998	04999	05000	05001	05002	05003	05004
05005	05006	05007	05008	05009	05010	05011	05012	05013	05014
05015	05016	05017	05019	05020	05021	05022	05023	05024	05025
05026	05027	05028	05029	05030	05031	05032	05033	05034	05035
05036	05037	05038	05039	05040	05041	05042	05043	05044	05045
05046	05047	05048	05049	05050	05051	05052	05053	05054	05055
05056	05057	05058	05059	05060	05061	05062	05063	05064	05065
05066	05067	05068	05069	05070	05071	05072	05073	05074	05075
05076	05077	05078	05079	05080	05081	05082	05083	05084	05085
05086	05087	05088	05089	05090	05091	05092	05093	05094	05095
05096	05097	05098	05099	05100	05101	05102	05103	05104	05105
05106	05107	05108	05109	05110	05111	05114	05115	05116	05117
05120	05121	05122	05123	05124	05130				

TAE 125-02-114 / S/N 02-02-xxxxx:

10566	10576	10616	10718	10984	10993	10994	11062	11063	11064
11098	11099	11102	11104	11105	11106	11107	11108	11110	11111
11120	11142	11143	11144	11145	11146	11147	11148	11150	11171
11172	11173	11174	11178	11179	11210	11211	11212	11213	11214
11215	11216	11237	11238	11239	11240	11241	11242	11243	11244
11266	11267	11278	11279	11280	11281	11282	11283	11284	11285
11286	11347	11348	11349	11350	11351	11352	11353	11354	11355
11356	11357	11358	11359	11362	11363	11394	11395	11396	11398
11399	11400	11401	11422	11423	11424	11426	11427	11430	11432
11438	11491								

Checked <i>18.05.21</i> A. Wille, CVE	Approved <i>[Signature]</i> D. Hartung, Office of Airworthiness
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SB CG 125-1027 P1

**Classification:** Category P1 – SAFETY

**Time of Compliance:** Measures have to be accomplished immediately.  
Continued operation is permitted only as a ferry flight to the next maintenance station to meet the requirements of this service bulletin. The maximum flight duration is 3 hours and is limited to VFR conditions.

**Reason:** Fractured main bearing studs were reported to Continental Aerospace Technologies GmbH. This could lead to a total loss of power, if not corrected. The root cause could not yet be fully verified and is still under analysis. However, Continental Aerospace Technologies GmbH has decided to replace all affected batches of main bearing studs.

**Correction:** Remove the engine from service and, before its release to service, replace the main bearing studs P/N 05-7211-K009801 (Batch No. B180703/1, B184216/1, B184216/2 and B191277/1). This replacement can be accomplished by (or under authorisation of) Continental Aerospace Technologies GmbH.

**Remarks:** Engine shipping details:  
Please fill out the attached CD-135 / 155 Engine Procedure Sheet and send it by email or fax to Continental Aerospace Technologies GmbH. Ensure the delivery of the listed parts therein. Please leave the engine loom installed on the engine.

Labor Effort:

In accordance with the current labor allowance list.

Credit:

Based on the current published service time of the affected part(s) (refer to OM-02-02, Chapter 5 and 6 and TM TAE 125-0001) the remaining useful service time will be credited for part(s) and labor effort.

**Approval:** The technical information contained in this document has been approved under the authority of EASA Design Organisation Approval No. EASA.21J.010.

## Sales / Service Procedure Sheet

### CD-135/155 ENGINE PROCEDURE SHEET

Enclosure belonging to Authorization Request no. \_\_\_\_

**BASIC DATA:**

Engine Serial Number:	
Aircraft Registration, Aircraft Serial Number:	
Total Time Engine:	

**ITEMS TO BE PROVIDED WITH THE ENGINE TO TMG BY CUSTOMER:**

Signed statement in writing with serial numbers and operating time details of following components:	SIN	TSI (time since inspection)
> Engine		
> Gearbox		
> Prop Control Valve		
> Rail Pressure Control Valve	X	
> High Pressure Pump		
> Alternator		
> ECU		
> Feed Pump		
> Clutch	X	
> friction disk		
> Dual mass flywheel		
> Turbo Charger		
> Engine Loom		

**SHIPPING INFORMATION:**

Location of engine before pick up:	
Company name:	
Street:	
ZIP code, City:	
Country:	
Contact person:	
Tel. no.:	

**DO NOT SEND:**

- > Throttle Quadrant
- > Manifold Pressure Lines
- > Propeller
- > AED
- > CED
- > Exhaust Pipe
- > Coolers / Radiators

**ENSURE THAT:**

- > Engine oil is drained completely
- > Gearbox oil is drained completely
- > Coolant is drained completely
- > All openings are appropriately protected against contamination
- > Engine Logbook is included in the engine box

**CONTACT DETAILS:**

Operator:	
Owner:	

**Note:**

Authorization Request must be submitted to Continental Aerospace Technologies GmbH for the returned engine. All works will be performed according to Continental Aerospace Technologies GmbH's General Terms and Conditions which the orderer hereby accepts.

Customer / Orderer:

City, Date

signature

printed name, title

company stamp

**Signature and company stamp are mandatory!**