

SERVICE INFORMATION NO. SI D4-091/1

SUPERSEDES SERVICE INFORMATION SI D4-091

NOTE: SI's are used **only**:

- 1) To distribute information from DAI to our customers.
- 2) To distribute applicable information / documents from our suppliers to our customers with additional information.

Typically there is no revision service for SI's. Each new information or change of that will be send along with a new SI.

I. TECHNICAL DETAILS

1.1 Airplanes affected:

All DA 40 D with TAE 125-02-99 engine installed, engine S/N according to EASA EAD 2008-0027-E

1.2 Subject:

EASA EAD No. 2008-0027-E

Thielert Service Bulletin TM TAE 125-1005 P1 Bracket HP Line HPP-Fuel Rail, Rev. 1

ATA-Code: 73-00

1.3 Reason:

EASA has issued an Emergency Airworthiness Directive concerning the TAE Service Bulletin TM TAE 125-1005 P1 Bracket HP Line HPP-Fuel Rail, Revision 1 which requires the exchange of the high pressure fuel line and an additional installation of a supporting bracket to the high pressure fuel line.

1.4 Information:

For detailed technical information see the mentioned EASA EAD which is applicable without any further additions or restrictions.


Additional recommendation from Diamond Aircraft Industries GmbH:

- Flights in IMC (Instrumental Meteorological Conditions) should be avoided until the measures of the mentioned EASA EAD have been accomplished, and
- Regardless of the TTSN of the engine the prescribed measures of the mentioned EASA EAD should be accomplished within the next 10 hours of operation from the date of effectivity of the EASA Emergency Airworthiness Directive or with the next inspection, whichever occurs first.

II. OTHERS

The EASA EAD No. 2008-0027-E and Thielert Service Bulletin TM TAE 125-1005 P1 Bracket HP Line HPP-Fuel Rail, Rev. 1 are attached to this SI.

In case of doubt contact Thielert Aircraft Engines GmbH or Diamond Aircraft Industries GmbH.

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE	
	<p>EAD No.: 2008-0027 - E</p> <p>Date: 13 February 2008</p>	
Type Approval Holder's Name:		Type/Model designation(s):
Thielert Aircraft Engines		TAE125-02-99 engines
TCDS Numbers: EASA E.055		
Foreign AD: None		
Supersedure: None		
ATA 73	Engine Fuel Injection System – High-Pressure Fuel Line Bracket – Installation	
Manufacturer:	Thielert Aircraft Engines	
Applicability:	<p>TAE125-02-99 (CENTURION 2.0) engines, all serial numbers (s/n) from 02-02-1500, up to and including s/n 02-02-2279.</p> <p>These engines are known to be installed on, but not limited to, Cessna 172 and (Reims-built) F172 series (EASA STC Nr. EASA.A.S.01527); Piper PA-28 series (EASA STC Nr. EASA.A.S.01632), APEX (Robin) DR 400 series (EASA STC Nr. EASA.A.S.01380); and Diamond DA40 and DA42 aircraft.</p>	
Reason:	<p>In-flight engine shutdown incidents were reported on aircraft equipped with a TAE125-02-99 engine.</p> <p>This was found to be mainly the result of a cracked high pressure fuel line between high-pressure pump and fuel rail. These cracks were caused by vibration.</p> <p>For the reasons stated above, this Airworthiness Directive (AD) requires the installation of a supporting bracket on all affected TAE125-02-99.</p>	
Effective Date:	15 February 2008	
Compliance	<p>Required as indicated, unless accomplished previously:</p> <p>(1) <u>Total Engine Time below 20h:</u> before achieving 30 hours total engine time or at the next engine inspection, whichever occurs first, install supporting high pressure fuel line bracket in accordance with the instructions of Thielert Aircraft Engines Service Bulletin TM TAE 125-1005 P1, Revision 1</p>	

	<p>(2) <u>Total Engine Time above 20h:</u> within the next 10 flight hours or at the next engine inspection, whichever occurs first, install supporting high pressure fuel line bracket in accordance with the instructions of Thielert Aircraft Engines Service Bulletin TM TAE 125-1005 P1, Rev 1</p>
Ref. Publications:	<p>Thielert Aircraft Engines Service Bulletin TM TAE 125-1005 P1, Revision 1 dated 11 February 2008</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated EASA can accept Alternative Methods of Compliance for this AD 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions concerning the content of this PAD, please contact: Thielert Aircraft Engines Platanenstraße 14 D-09350 Lichtenstein, Germany Telephone +49-37204-696-0; Fax +49-37204-696-55; E-mail info@centurion-engines.com

Technische Mitteilung / Service Bulletin**PRIORITY 1 – Safety**

<u>Technische Mitteilung Nr. / Datum:</u>	TM TAE 125-1005 P1, Rev. 1 / 11.02.2008
<u>Service Bulletin No. / Date:</u>	TM TAE 125-1005 P1, Rev. 1 / February 11, 2008
<u>Betrifft:</u>	Installation Halter Kraftstoffhochdruckleitung
<u>Subject:</u>	Installation of Bracket High-Pressure Fuel Line
<u>Betroffenes Luftfahrtgerät:</u>	TAE 125-02-99 (CENTURION 2.0)
<u>Type affected:</u>	TAE 125-02-99 (CENTURION 2.0)
<u>Betroffene Geräte-Nr.:</u>	Motorseriennummern 02-02-1500 bis 02-02-2279
<u>Models affected:</u>	Engine Serial Number 02-02-1500 to 02-02-2279
<u>Einstufung:</u>	Kategorie P1 – Sicherheit
<u>Classification:</u>	Category P1 – Safety
<u>Ausführung bis:</u>	Gesamtmotorlaufzeit unter 20 Std.: Maßnahmen sind vor Erreichen einer Gesamtmotorlaufzeit von 30 Std. oder mit der nächsten Inspektion durchzuführen, maßgebend ist das ersteintreffende Ereignis. Gesamtmotorlaufzeit über 20 Std.: Maßnahmen sind innerhalb der nächsten 10 Flugstunden oder mit der nächsten Inspektion durchzuführen, maßgebend ist das ersteintreffende Ereignis.
<u>Time of Compliance:</u>	<i>Total Engine Time below 20h: Measures have to be accomplished before achieving 30 hours total engine time or with the next inspection, whichever occurs first.</i> <i>Total Engine Time above 20h: Measures have to be accomplished within the next 10 flight hours or with the next inspection, whichever occurs first.</i>

Grund: Aufgrund von möglichen Schwingungsbrüchen an der Kraftstoffhochdruckleitung müssen die folgenden Arbeiten durchgeführt werden.

Reason: *Because of possible fractures by vibration on the High-Pressure Fuel Line, the following work sequences must be accomplished.*

Maßnahmen:

1. Die Schraube am Ventildeckel demontieren. Siehe Bild 1.
2. Den Abstandshalter montieren. Siehe Bild 3.

Anzugsmoment:

12 Nm

3. Die Kraftstoffhochdruckleitung demontieren. Siehe Bild 2.

▲ **WARNUNG:** Brandgefahr durch austretenden Kraftstoff! Die einschlägigen Unfallverhütungsvorschriften für den Umgang mit Kraftstoffen müssen eingehalten werden!

■ **ACHTUNG:** Offene Kraftstoffanschlüsse des Motors vor Verschmutzung schützen!

4. Die neue Kraftstoffhochdruckleitung montieren. Siehe Bild 2.

◆ **Hinweis:** Die Überwurfmutter noch nicht festziehen.

5. Den Halter und die Beilage an die Kraftstoffhochdruckleitung montieren. Siehe Bild 3.

6. Den Halter mit einer Schraube und einer Scheibe an den Abstandshalter montieren. Siehe Bild 3.

◆ **Hinweis:** Die Schraube noch nicht festziehen.

7. Den Halter und die Kraftstoffhochdruckleitung zueinander ausrichten.

■ **ACHTUNG:** Die Kraftstoffhochdruckleitung und der Halter müssen spannungsfrei montiert sein!

8. Die Schraube des Halters festziehen. Siehe Bild 3.

Anzugsmoment:

7 Nm

9. Die Überwurfmutter der Kraftstoffhochdruckleitung festziehen. Siehe Bild 2.

Anzugsmoment:

Überwurfmutter Hochdruckpumpe (SW14): 22 Nm

Überwurfmutter Fuel Rail (SW18): 27 Nm

10. Einen Motortestlauf mit Datenaufzeichnung gemäß dem aktuellen Operation & Maintenance Manual OM-02-02 durchführen.

11. Eine visuelle Sichtprüfung durchführen und auf Dichtigkeit prüfen.

Correction:

1. Detach the screw of the cylinder head cover. See Fig. 1.
2. Attach the spacer to the cylinder head cover. See Fig. 3.

Tightening torque:

12 Nm

3. Remove the high-pressure fuel line. See Fig. 2.

▲ **WARNING:** Risk of fire from fuel! The relevant accident prevention regulations for fuel handling must be obeyed!

■ **CAUTION:** Protect open fuel connections of the engine against contamination!

4. Attach the new high-pressure fuel line. See Fig. 3

◆ **Note:** Do not tighten the union nuts yet.

5. Attach the fastener and the insert to the high-pressure fuel line. See Fig 3.
6. Attach the fastener to the spacer using one bolt and one washer. See Fig. 3.

◆ **Note:** Do not tighten the bolt yet.

7. Align the high-pressure fuel line and the fastener to each other.

■ **CAUTION:** The high-pressure fuel line and the fastener must be installed free of any tension!

8. Tighten the screw of the fastener. See Fig. 3.

Tightening torque:

7 Nm

9. Tighten the union nuts of the high-pressure fuel line. See Fig. 2.

Tightening torque:

Union nut high-pressure pump (wrench size 14mm): 22 Nm

Union nut fuel rail (wrench size 18mm): 27 Nm

10. Carry out a ground run with data recording in accordance with the current Operation & Maintenance Manual OM-02-02.
11. Carry out a visual inspection and check for leaks.

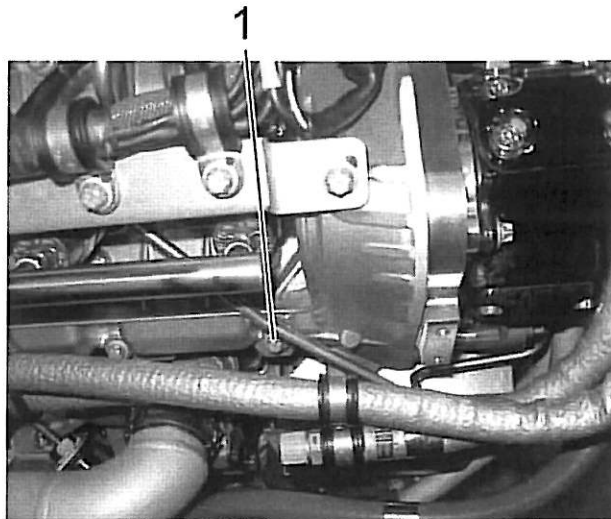


Bild 1 / Fig. 1

- 1 Schraube /
Screw

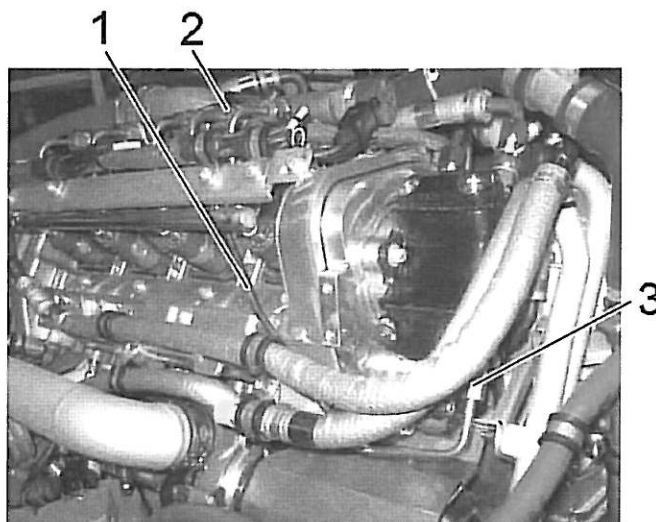


Bild 2 / Fig. 2

- 1 Kraftstoffhochdruckleitung /
High-Pressure Fuel Line
2 Überwurfmutter Fuel Rail (SW18) /
Union Nut Fuel Rail (wrench size 18mm)
3 Überwurfmutter Hochdruckpumpe (SW14) /
Union Nut High-Pressure Pump (wrench size 14mm)

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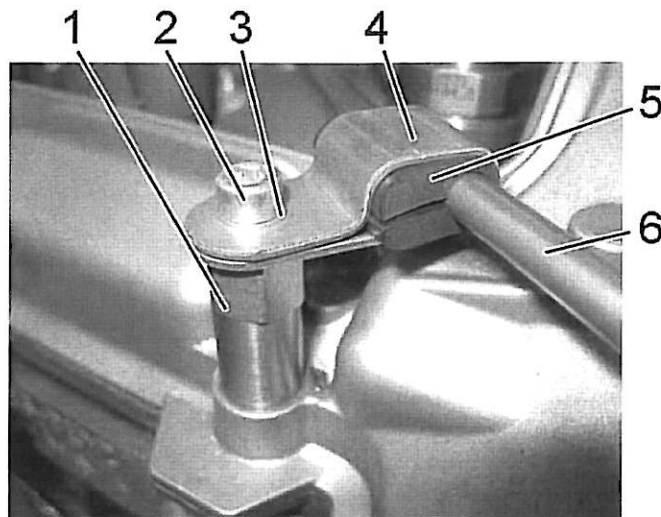


Bild 3 / Fig. 3

- 1 Abstandshalter /
Spacer
- 2 Schraube /
Screw
- 3 Scheibe /
Washer
- 4 Halter /
Fastener
- 5 Beilage /
Insert
- 6 Kraftstoffdruckleitung /
High-Pressure Fuel Line

Bemerkungen:

-

Remarks:

-

Teile:
Parts:

Teile Nummer / Part Number	Beschreibung / Description	Menge / Quantity
05-7313-K001301	Kraftstoffhochdruckleitung / High-Pressure Fuel Line	1
05-7231-K004201	Abstandshalter / Spacer	1
NM-0000-0194801	Halter / Fastener	1
NM-0000-0194901	Beilage / Insert	1
NM-0000-0165701	Schraube / Screw	1
NM-0000-0015101	Scheibe / Washer	1

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Zulassung:

Die technischen Informationen, die in diesem Dokument enthalten sind, wurden im Rahmen der Befugnisse der EASA- Genehmigung als Entwicklungsbetrieb Nr. EASA.21J.010 genehmigt.

Approval:

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

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