



EASA Safety Information Notice

No.: 2007-34

Issued: 27 September 2007

Subject: Use of Non-Approved Gearbox Oil in TAE 125 series engines

Ref. Publication: Thielert Aircraft Engines Service Center Circular No. 31a/2007 dated 27 September 2007 (copy attached).

Introduction: EASA has received information from Thielert Aircraft Engines (TAE), Type Certificate holder for the TAE 125 engine design, about the use of non-approved gearbox oils in TAE 125 engines. According to the Operation and Maintenance Manual OM-02-01 and OM-02-02, only Shell EP 75W-90 API GL-4 or Shell Spirax GSX 75W-80 type oils are approved for use in gearboxes of the TAE 125-01 and TAE 125-02 series engines. Operation of these engines with non-approved gearbox oils (esp. GL-5 oils) causes damage to the gearbox and failures of the propeller control. This may lead to engine overspeed- or engine in-flight shutdown events.

TAE recommends that the following actions be complied with:

- Before next flight, check the documentation whether an approved gearbox oil is being used; and
- If it cannot be established that an approved type gearbox oil is being used, within 50 Flight Hours (FH), at the next scheduled 100FH-inspection or within three months, whichever occurs first, remove the gearbox in accordance with RM-02-01 or RM-02-02 and return it to TAE for inspection.

According to Article 15(1) of Regulation (EC) No 1592/2002 of the European Parliament and of the Council of 15 July 2002 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, EASA has only taken over Member States obligations that are related to design approval. As a consequence, EASA is only authorised to issue ADs related to design approval. EASA has determined that the above referenced unsafe condition is not related to design approval, as it is the result of the use of non-approved gearbox oils and that the engine type design is not affected. However, this is a serious safety issue and this Safety Information has been issued accordingly. The National Aviation Authorities of the EU member states may adopt the above referenced TC holder's recommendations into mandatory measures under their State of Registry responsibility.

Applicability: TAE 125-01 and TAE 125-02 series engines (EASA TCDS E.055). These engines are known to be installed on single- and twin-engine aircraft certificated under US, Canadian or European Part 23 airworthiness codes.

Recommendation: Mandatory measures by NAA's are recommended.

Contact: For further information contact the Airworthiness Directives, Safety and Research Section, Certification Directorate, EASA.
E-mail: ADs@easa.europa.eu.

1 Usage of approved fluids only

For current reason we urgently have to point out that exclusively the usage of the fluids given in the Operation and Maintenance Manuals for Centurion engines is approved.

We have been informed from different sides that, in particular concerning gearbox oils, there have also been GL-5 gearbox oils used by Diamond Canada for DA42 aircraft prior and after delivery to customers. This gearbox oil is not approved. Furthermore this non-approved GL-5 gearbox oil was delivered to their service centers, too. Especially for DA42 aircraft installation the usage of GL-5 gearbox oil might result in an unsafe condition.

The use of GL-5 oil leads to the **expiry of possible warranty** claims. To regain warranty, an in house inspection at the customer's expense of the gearbox has to be performed in the TAE facility.

Please **do not use any GL5** product instead of the 2 officially approved gearbox oils from TAE. Those 2 products (either Shell Gearbox Oil EP 75W-90 API GL4 or Shell Spirax GSX 75W-80) are GL4 products and, therefore, completely different to any GL5 products.