AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/THIELERT/1 Amdt 1 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Thielert Piston Engines

AD/THIELERT/1 Amdt 2	**Engine Failure Due to Electrical System Failure**	**5/2005 DM**

Applicability: All TAE125-01 aircraft engines.

Requirement:

1. Modify the electrical power supply system by accomplishing one of the following three modifications in accordance with relevant aircraft manufacturer or supplemental type certificate holder documentation (Thielert Aircraft Engine GmbH Service Bulletin TM TAE 125-008 Revision 2 dated 4 February 2005 also refers):

   a. Replace alternator part number (P/N) 02-7150-55002R2 with alternator P/N 02-7150-55002R3.

   b. **For Existing Installations -** Replace alternator P/N 02-7150-55002R2 with alternator and alternator regulator sets as follows:

      (i) **Diamond aircraft** - P/N 02-7150-55008R1 (Alternator Set 14V DAI with ALTREG FF).

      (ii) **All other** - P/N 02-7150-55016R1 (Alternator Set 14Vwith ALTREG FFL).

   c. Install a stabilising capacitor.

   Note 1: Replacements of alternators on Diamond aircraft in accordance with previous issues of this Directive before the effective date of this Directive are considered acceptable for compliance with this Directive.

2. Check the actual capacity of the aircraft battery in accordance with Gill Aircraft Battery Service Manual (Gill Document Number Q01-1120) Chapter 7.7 - Continued Airworthiness Determination for Gill Aircraft Batteries.

3. For new installations the following Alternator Sets must be used:

   a. **Diamond aircraft** - P/N 02-7150-55800R1 (Alternator Set 14V DAI with ALTREG).

   b. **All other - P/N 02-7150-55018R1** (Alternator Set 14Vwith ALTREG).

Thielert Piston Engines

AD/THIELERT/1 Amdt 2 (continued)

Note 2: LBA AD D-2004-457R2 (EASA approval 2005-1968) refers.

Compliance: For Requirement 1 - At the next 300 hourly inspection, but no later than 30 April 2005.

For Requirement 2 - At each 100 hourly inspection until Requirement 1 is accomplished.

For Requirement 3 - As of the effective date of this Directive.

This Amendment becomes effective on 6 April 2005.

Background: The German Luftfhart-Bundesamt advised that during tests of the electrical system conducted by the engine manufacturer it was found that in case of a failure of the battery line, of the battery relay or of the battery the engine may fail. It was established that the reason for this failure was an electrical malfunction of the alternator.

The actions specified in the original issue of this Directive were intended to prevent an in-flight engine failure in case of a failure of the electrical aircraft power supply, which could result in an emergency landing or loss of power of the aircraft.

Amendment 1, whilst reflecting the requirements of the original issue, extended the compliance time and introduced a repetitive battery capacity check until modifications were accomplished. The amendment also introduced minor formatting changes.

This Amendment introduces a revised P/N for replacement alternator sets in existing installations (except for Diamond aircraft) and added requirements for new installations.

The original issue of this Directive became effective on 23 December 2004.

Amendment 1 became effective on 19 January 2005.

James Coyne
Delegate of the Civil Aviation Safety Authority

31 March 2005