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**AIRWORTHINESS DIRECTIVE**

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For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (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.

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**Rolls Royce Turbine Engines - Tay Series****AD/TAY/18                      HP Compressor Stator Vane Tip Clearances                      1/2007**

**Applicability:** Rolls-Royce Deutschland Ltd & Co. KG and Rolls-Royce plc, Tay 620 / 650 series engine models:

- |             |   |
|-------------|---|
| Tay 611-8   | Engine Serial Numbers (ESN) prior to 18216; and |
| Tay 611 -8C | ESN prior to 85055; and                         |
| Tay 620-15  | All engine serial numbers; and                  |
| Tay 650-15  | All engine serial numbers; and                  |
| Tay 651-54  | All engine serial numbers.                      |

*Note 1: These engines are installed on, but not limited to, Boeing 727 series, Fokker F28 Mark 0070 and Mark 0100 series, and Gulfstream G-IV and GIV-X series aircraft.*

**Requirement:** Incorporate revised high pressure (HP) compressor vane setting procedure in accordance with the instructions of Rolls-Royce Deutschland alert service bulletin (ASB) TAY-72-A1653 Revision 1 dated 5 October 2006 or later NAA approved revisions.

*Note 2: EASA Airworthiness Directive (AD) number 2006-0336 dated 13 November 2006 refers.*

*Note 3: This AD supersedes and cancels CASA AD/F100/75 Amendment 1 dated June 2006.*

**Compliance:** Unless accomplished previously in accordance with AD/F100/75 at any revision status, following compliance schedule applies:

**For Tay 611-8 Engines:**

- on all engines at the next engine shop visit after the effective date of this directive when the module is disassembled for refurbishment or overhaul.
- if both engines on an aircraft are affected, on at least one engine no later than 5,450 flight hours after the effective date of this directive.

## Rolls Royce Turbine Engines - Tay Series

AD/TAY/18 (continued)

### **For Tay 611-8C Engines:**

- on all engines at the next engine shop visit after the effective date of this directive when the module is disassembled for refurbishment or overhaul.
- if both engines on an aircraft are affected, on at least one engine no later than 6,800 flight hours since new.

### **For Tay 620-15, Tay 620-15/20, Tay 650-15 and Tay 650-15/10 Engines:**

- on all engines at the next engine shop visit after the effective date of this directive when the module is disassembled for refurbishment or overhaul, but not later than 1 January 2015.
- if both engines on the same aircraft are affected, on at least one engine before 1 January 2011.

### **For Tay 651 -54 Engines:**

- on all engines at the next shop visit after the effective date of this directive when the module is disassembled for refurbishment or overhaul, but no later than 8,200 flight hours after the effective date of this directive.

This Airworthiness Directive becomes effective on 18 January 2007.

**Background:** Some engines have experienced heavy High Pressure (HP) compressor stator vane tip rubs with partial loss of the corresponding HP compressor rotor spacer material on the HP compressor stages 4 to 9. This damage can occur because the minimum vane tip clearance between the HP compressor stator vane tips and the corresponding HP compressor rotor spacers can be potentially too small in adverse operating conditions leading to heavy HP compressor stator vane tip rubs potentially leading to an in-flight shut down (IFSD).

This AD introduces a revised HP compressor vane setting procedure to prevent a multiple-engine IFSD.

**Rolls Royce Turbine Engines - Tay Series**

AD/TAY/18 (continued)

The AD/F100/75 was applicable to Tay engines installed on Fokker model F100 aircraft only. This AD replaces AD/F100/75 and mandates the requirements on Tay engines irrespective of the aircraft installation.

A handwritten signature in black ink, appearing to read 'James Coyne', with a stylized flourish at the end.

James Coyne  
Delegate of the Civil Aviation Safety Authority

23 November 2006