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**AIRWORTHINESS DIRECTIVE**

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On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/TFE 731/33 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.

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**AlliedSignal (Garrett/AiResearch) Turbine Engines - TFE731 Series****AD/TFE 731/33  
Amdt 1****LPT Stage 1 Nozzle and Disks****26/2011**

**Applicability:** Honeywell International Inc. (formerly AlliedSignal Inc. and Garrett Turbine Engine Co.) TFE731-2 and -2C series, and TFE731-3, -3A, -3AR, -3B, -3BR, and -3R series turbofan engines, with low pressure turbine (LPT) stage 1 discs, part numbers (P/Ns) 3072070-All, 3072351-All, 3073013-All, 3073113-All, 3073497- All, and 3074103-All, (where All denotes all dash numbers), installed.

*Note 1: These engines are installed on, but not limited to, the following aeroplanes: Avions Marcel Dassault Falcon 10 and Mystere Falcon 50 series Learjet 31, 35, 36, and 55 series Lockheed-Georgia 1329-25 series Israel Aircraft Industries 1124 series and 1125 Westwind series Cessna Model 650, Citations III and VI Raytheon British Aerospace HS-125 series Sabreliner NA-265-65.*

**Requirement:**     **1. Initial Inspection for TFE731-2 and -2C Series Engines**

For TFE731-2 and -2C series engines with Low Pressure Turbine (LPT) stage 1 disc, Part Number (P/N) 3072070-All, or 3073013-All, installed, do the following:

- (a) Measure throat dimensions, air flow and determine serviceability of the LPT stage 1 nozzle assembly using paragraphs 2.A. (3) through 2.A. (5) of Honeywell International Inc. Service Bulletin (SB) No. TFE731-72-3369RWK, Revision 6, dated 26 June 2002; and
- (b) If necessary, adjust the LPT stage 1 nozzle assembly using paragraph 2.B of Honeywell International Inc. SB No. TFE731-72- 3369RWK, Revision 6, or replace with a serviceable LPT stage 1 nozzle assembly.

**2. Repetitive Inspections for TFE731-2 and -2C Series Engines.**

For TFE731-2 and -2C series engines, do the following:

- (a) Measure throat dimensions, air flow and determine serviceability of the LPT stage 1 nozzle assembly using paragraphs 2.A.(3) through 2.A.(5) of Honeywell International Inc. SB No. TFE731-72-3369RWK, Revision 6.
- (b) If necessary, adjust the LPT stage 1 nozzle assembly using paragraph 2.B of Honeywell International Inc. SB No. TFE731-72- 3369RWK, Revision 6, or replace with a serviceable LPT stage 1 nozzle assembly.

## AlliedSignal (Garrett/AiResearch) Turbine Engines - TFE731 Series

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### 3. Disc Replacement for TFE731-3, -3A, -3AR, and -3R Series Engines.

For TFE731-3, -3A, - 3AR, and -3R series engines with LPT stage 1 disc, P/N 3072351-All, 3073113-All, or 3074103-All, installed, replace the LPT stage 1 disc with a serviceable disc.

### 4. Disc Replacement for TFE731-3B and -3BR Series Engines.

For TFE731-3B and -3BR series engines do the following:

- (a) Replace LPT stage 1 disc, P/N 3073497-All, with a serviceable LPT stage 1 disc.
- (b) Perform the actions specified in requirement (4) (a) of this Directive, by converting the TFE731-3B and -3BR series engines to a TFE731- 3C series engine. This conversion allows the installation of a serviceable LPT stage 1 disc.

### Optional Terminating Action

As optional terminating action to the repetitive inspections required by this Directive, replace the applicable LPT stage 1 disc with a more robust serviceable disc. Information on installing a serviceable disc can be found in Honeywell International Inc. SB No. TFE731-72-3704, SB No. TFE731-72-3705 and SB No. TFE731-72-3706 all dated 15 September 2004.

### Definitions

For the purposes of this Directive:

- (a) Next access to the LPT stage 1 nozzle assembly is defined as when the low-pressure tie-shaft is unstretched.
- (b) A serviceable LPT stage 1 disc is defined as a disc having a part number not listed in this Directive.
- (c) A serviceable LPT stage 1 nozzle assembly is defined as an LPT stage 1 nozzle assembly that passes the acceptance referenced in requirements (1)(a) and (2)(a) of this Directive.

### Alternative Method of Compliance (AMOC)

An Alternative Method of Compliance (AMOC) to FAA 2005-05-15 Amdt 39-14004, approved by the United States Federal Aviation Administration (FAA) and issued after the effective date of the original issue of this Airworthiness Directive, is considered acceptable for compliance with the equivalent requirements of this AD.

**AlliedSignal (Garrett/AiResearch) Turbine Engines - TFE731 Series**

AD/TFE 731/33 Amdt 1 (continued)

An Alternative Method of Compliance (AMOC) to this Airworthiness Directive, approved by CASA and issued after the effective date of the original issue of this Airworthiness Directive, is considered acceptable for compliance with the equivalent requirements of this AD.

*Note 2: FAA AD 2005-05-15 Amdt 39-14004 refers.*

Compliance:

**1. Initial Inspection for TFE731-2 and -2C Series Engines.**

At the next major periodic inspection (MPI) or at next access to the LPT stage 1 nozzle assembly, after the effective date of this AD, whichever occurs first, but not to exceed 2,200 hours time-in-service (TIS) since the last LPT stage 1 nozzle assembly inspection.

**2. Repetitive Inspections for TFE731-2 and -2C Series Engines.**

Thereafter at every MPI, but not to exceed 2,200 hours TIS since the last LPT stage 1 nozzle assembly inspection.

**3. Disc Replacement for TFE731-3, -3A, -3AR, and -3R Series Engines.**

At the next MPI, or at next access to the LPT stage 1 nozzle assembly, after the effective date of this Directive, or before December 31, 2011, whichever occurs first.

**4. Disc Replacement for TFE731-3B and -3BR Series Engines.**

At the next MPI, or at next access to the LPT stage 1 nozzle assembly, after the effective date of this Directive, or before December 31, 2011, whichever occurs first.

This Amendment becomes effective on 23 December 2011.

The original issue of this Airworthiness Directive became effective on 4 August 2005.

Background:

This Directive results from a report of an uncontained failure of the LPT stage 1 disc installed in a TFE731-3-1H turbofan engine. The actions detailed in this Directive are intended to prevent additional uncontained failure of the LPT stage 1 disc, and possible damage to the aeroplane.



David Villiers  
Delegate of the Civil Aviation Safety Authority

21 December 2011