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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2004-18019; Directorate Identifier 2003-NE-65-AD; Amendment 39-14004; AD 2005-05-15]**

**RIN 2120-AA64**

### **Airworthiness Directives; Honeywell International Inc. TFE731-2 and -3 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for Honeywell International Inc. (formerly AlliedSignal Inc. and Garrett Turbine Engine Co.) TFE731-2 and -3 series turbofan engines with certain part number (P/N) low pressure turbine (LPT) stage 1 disks installed. This AD requires for TFE731-2 and -2C series engines, initial and repetitive measurements and calculations to determine acceptance, and adjustment or replacement if necessary, of the LPT stage 1 nozzle assembly. This AD also requires for TFE731-3, -3A, -3AR, -3B, -3BR, and -3R series engines, replacement of LPT stage 1 disks with serviceable disks. This AD also allows replacement of the LPT stage 1 disk with a disk having a part number not listed in the AD as optional terminating action to the repetitive actions. This AD results from a report of an uncontained failure of the LPT stage 1 disk installed in a TFE731-3-1H turbofan engine. We are issuing this AD to prevent additional uncontained failure of the LPT stage 1 disk, and possible damage to the airplane.

**DATES:** This AD becomes effective April 18, 2005. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of April 18, 2005.

**ADDRESSES:** Contact Honeywell Engines and Systems (formerly AlliedSignal Inc. and Garrett Turbine Engine Co.) Technical Publications and Distribution, M/S 2101-201, P.O. Box 52170, Phoenix, AZ 85072-2170; telephone: (602) 365-2493 (General Aviation), (602) 365-5535 (Commercial Aviation), fax: (602) 365-5577 (General Aviation), (602) 365-2832 (Commercial Aviation) for the service information identified in this AD.

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood CA 90712-4137; telephone: (562) 627-5246; fax: (562) 627-5210.

**SUPPLEMENTARY INFORMATION:** We proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to Honeywell International Inc. (formerly AlliedSignal Inc. and Garrett Turbine Engine Co.) TFE731-2 and -3 series turbofan engines with certain P/N LPT stage 1 disks installed. We published the proposed AD in the Federal Register on June 16, 2004 (69 FR 33590). That action proposed to require for TFE731-2 and -2C series engines, initial and repetitive measurements and calculations to determine acceptance, and adjustment or replacement if necessary, of the LPT stage 1 nozzle assembly. That action also proposed to require for TFE731-3, -3A, -3AR, -3B, -3BR, and -3R series engines, replacement of LPT stage 1 disks with serviceable disks. Also, that action proposed to allow replacement of the LPT stage 1 disk with a disk having a part number not listed in the AD as optional terminating action to the repetitive actions.

### **Examining the AD Docket**

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the DMS Docket Offices between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Question About Which Service Bulletin Is Correct**

One commenter states that the service bulletin (SB) referenced in the proposed AD seems to be incorrect. The commenter was able to find references to the subject matter of the proposed AD in Honeywell International Inc. SB No. TFE731-72-3367, instead of Honeywell International Inc. SB No. TFE-72-3369RWK, which is referenced in the proposed AD. The commenter asks which SB is correct.

Honeywell International Inc. SB No. TFE731-72-3369RWK, Revision 6, dated June 26, 2002, is the correct SB. It was initially distributed only to Honeywell-authorized service centers. We believe Honeywell corrected the distribution of this SB and it is now available to anyone that wants a copy, through Honeywell Engines and Systems at the address listed under ADDRESSES in this AD.

We reviewed the information in SB No. TFE731-72-3367 that the commenter thought pertains to this AD, and found that it does not pertain to this AD.

### **Clarification of the Compliance for the Initial and Repetitive Inspections**

For clarification of the compliance for the initial and repetitive inspections, paragraphs (f)(1) and (g)(1), we have reworded the first half of the sentences from "Measure and determine the acceptance of the LPT stage 1 nozzle assembly "to Measure throat dimensions, airflow, and determine serviceability, of the LPT stage 1 nozzle assembly".

## **Clarification of the Compliance for TFE731-3B and -3BR Series Engines**

For clarification of the compliance for TFE731-3B and -3BR series engines, we have moved references to TFE731-3B and -3BR series engines disk replacement, from paragraph (h) to paragraph (i). Also, for clarification, we have moved the phrase "after the effective date of this AD" to the beginning of paragraph (h) and paragraph (i) and deleted the phrase "or at disk life limit" because it was redundant with the "next access" compliance time. We have also changed paragraph (i) of the AD from stating "For TFE731-3B and -3BR series engines, no replacement LPT stage 1 disk is available for disk P/N 3073497-All. Conversion from the TFE731-3B and -3BR series engines to the TFE731-3C series engine changes the turbine rotor configuration to allow installation of a serviceable LPT stage 1 disk", to stating:

"(i) For TFE731-3B and -3BR series engines, do the following:

(i)(1) After the effective date of this AD, replace LPT stage 1 disk, P/N 3073497-All, with a serviceable LPT stage 1 disk, at next MPI, or at next access to the LPT stage 1 nozzle assembly, or before December 31, 2011, whichever occurs first.

(i)(2) Perform the actions specified in paragraph (i)(1) of this AD, 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 disk."

## **Service Bulletin References Added to the Optional Terminating Action**

We added three service bulletin references to Optional Terminating Action paragraph (j), of the AD. Paragraph (j) now states "Information on installing a serviceable disk 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 September 15, 2004."

## **Conclusion**

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Costs of Compliance**

There are about 5,462 TFE731-2 and -3 series turbofan engines of the affected design in the worldwide fleet. We estimate that 3,572 engines installed on airplanes of U.S. registry will be affected by this AD. We also estimate that it will take about 8 work hours per engine to perform the measurements and calculations during major periodic inspection (MPI), and about 2 work hours per engine to replace the disk during MPI. The average labor rate is \$65 per work hour. Required replacement parts will cost about \$30,000 per engine. We expect about 1,900 engines to have the LPT stage 1 disk replaced. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$58,151,000.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with

promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary at the address listed under ADDRESSES.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 as follows:

#### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2005-05-15 Honeywell International Inc.:** Amendment 39-14004. Docket No. FAA-2004-18019; Directorate Identifier 2003-NE-65-AD.

## Effective Date

- (a) This airworthiness directive (AD) becomes effective April 18, 2005.

## Affected ADs

- (b) None.

## Applicability

(c) This AD applies to 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 disks, part numbers (P/Ns) 3072070-All, 3072351-All, 3073013-All, 3073113-All, 3073497-All, and 3074103-All, (where All denotes all dash numbers), installed. These engines are installed on, but not limited to, the following airplanes:

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

## Unsafe Condition

(d) This AD results from a report of an uncontained failure of the LPT stage 1 disk installed in a TFE731-3-1H turbofan engine. We are issuing this AD to prevent uncontained failure of the LPT stage 1 disk, and possible damage to the airplane.

## Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

## **Initial Inspection for TFE731-2 and -2C Series Engines**

(f) For TFE731-2 and -2C series engines with LPT stage 1 disk, P/N 3072070-All, or 3073013-All, installed, 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, do the following:

(1) 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 June 26, 2002; and

(2) If necessary, adjust the LPT stage 1 nozzle assembly using paragraph 2.B of Honeywell International Inc. SB No. TFE731-72-3369RWK, Revision 6, dated June 26, 2002, or replace with a serviceable LPT stage 1 nozzle assembly.

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

(g) Thereafter, for TFE731-2 and -2C series engines, at every MPI, but not to exceed 2,200 hours TIS since the last LPT stage 1 nozzle assembly inspection, do the following:

(1) 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, dated June 26, 2002; and

(2) If necessary, adjust the LPT stage 1 nozzle assembly using paragraph 2.B of Honeywell International Inc. SB No. TFE731-72-3369RWK, Revision 6, dated June 26, 2002, or replace with a serviceable LPT stage 1 nozzle assembly.

## **Disk Replacement for TFE731-3, -3A, -3AR, and -3R Series Engines**

(h) After the effective date of this AD, for TFE731-3, -3A, -3AR, and -3R series engines with LPT stage 1 disk, P/N 3072351-All, 3073113-All, or 3074103-All, installed, replace the LPT stage 1 disk with a serviceable disk, at next MPI, or at next access to the LPT stage 1 nozzle assembly, or before December 31, 2011, whichever occurs first.

## **Disk Replacement for TFE731-3B and -3BR Series Engines**

(i) For TFE731-3B and -3BR series engines, do the following:

(1) After the effective date of this AD, replace LPT stage 1 disk, P/N 3073497-All, with a serviceable LPT stage 1 disk, at next MPI, or at next access to the LPT stage 1 nozzle assembly, or before December 31, 2011, whichever occurs first.

(2) Perform the actions specified in paragraph (i)(1) of this AD, 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 disk.

## **Optional Terminating Action**

(j) As optional terminating action to the repetitive inspections required by this AD, replace the applicable LPT stage 1 disk with a more robust serviceable disk. Information on installing a serviceable disk 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 September 15, 2004.

## Definitions

(k) For the purposes of this AD:

(1) Next access to the LPT stage 1 nozzle assembly is defined as when the low-pressure tie-shaft is unstretched.

(2) A serviceable LPT stage 1 disk is defined as a disk having a part number not listed in this AD.

(3) A serviceable LPT stage 1 nozzle assembly is defined as an LPT stage 1 nozzle assembly that passes the acceptance referenced in paragraphs (f)(1) and (g)(1) of this AD.

## Additional Information

(l) For additional information regarding the training and tooling recommended to perform the inspection and adjustment of the LPT stage 1 nozzle assembly, contact Honeywell Engines, Systems & Services, Customer Support Center, M/S 26-06/2102-323, P.O. Box 29003, Phoenix, AZ 85038-9003, Telephone: (Domestic) 1-800-601-3099 (International) 1-602-365-3099, FAX: 1-602-365-3343.

## Alternative Methods of Compliance

(m) The Manager, Los Angeles Aircraft Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

## Material Incorporated by Reference

(n) You must use the Honeywell Engines and Systems service information specified in Table 1 of this AD to perform the measurements, adjustments, calculations, and replacements required by this AD. The Director of the Federal Register approved the incorporation by reference of the document in Table 1 of this AD in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Honeywell Engines and Systems Technical Publications and Distribution, M/S 2101-201, P.O. Box 52170, Phoenix, AZ 85072-2170; telephone: (602) 365-2493 (General Aviation), (602) 365-5535 (Commercial Aviation), fax: (602) 365-5577 (General Aviation), (602) 365-2832 (Commercial Aviation), for a copy of this service information. You may review copies at the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001, on the internet at <http://dms.dot.gov>, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). Table 1 follows:

**TABLE 1.—INCORPORATION BY REFERENCE**

<b>Honeywell Service Bulletin No.</b>	<b>Page</b>	<b>Revision</b>	<b>Date</b>
TFE731-72-3369RWK	1-2	6	June 26, 2002.
	3	5	August 9, 2001.
	4-5	6	June 26, 2002.
	6-14	5	August 9, 2001.

**Related Information**

(o) None.

Issued in Burlington, Massachusetts, on March 3, 2005.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 05-4686 Filed 3-11-05; 8:45 am]

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