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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. 2000-NE-53-AD; Amendment 39-12506; AD 2001-23-09]**

**RIN 2120-AA64**

**Airworthiness Directives; Honeywell International Inc. TFE731-2, -3, and -4 Series Turbofan Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment supersedes two existing airworthiness directives (ADs), applicable to Honeywell International Inc. (formerly AlliedSignal Inc. and Garrett Turbine Engine Co.) TFE731-2, -3, and -4 series turbofan engines. Those AD's currently require removing certain fan rotor discs from service in accordance with a drawdown schedule, and establishing new fan rotor disc life limits. This amendment requires stricter life limits for certain fan rotor discs. This amendment is prompted by the availability of an improved fan rotor disc and by a reduction in the probability of fan rotor disc failure by terminating the life of the older, high-stressed, fan rotor disc. The actions specified in this AD are intended to prevent failure of the fan rotor disc due to fatigue cracking in the dovetail slots, which could result in in-flight engine shutdown, uncontained engine failure, and damage to the airplane.

**DATES:** Effective date December 21, 2001.

**ADDRESSES:** The service information referenced in this AD may be obtained from 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). This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

**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:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 86-11-05, Amendment 39-5325 (51 FR 2025, June 4, 1986), and AD 96-18-13, Amendment 39-9737 (61 FR 47806, September 11, 1996), which are applicable to Honeywell International Inc. (formerly AlliedSignal Inc. and Garrett Turbine Engine Co.) TFE731-2, -3, and -4 series turbofan engines, was published in the Federal Register on May 2, 2001 (66 FR 21896). That action proposed to require replacing fan rotor discs part numbers (P/N's) 3072162-All, 3072816-All, 3073436-All, 3073539-All, and 3074529-All (where All denotes all dash numbers).

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

## **Economic Analysis**

There are approximately 1,400 engines with affected discs in the worldwide fleet. The FAA estimates that 1,100 engines installed on aircraft of U.S. registry would be affected by this AD. The FAA also estimates that it would take approximately one work hour per engine to accomplish this action during a normally scheduled fan rotor disc removal period, and approximately six work hours per engine to accomplish this action during an unscheduled fan rotor disc removal period, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$20,400 per engine. Based on these figures, the total cost effect of this AD on U.S. operators is estimated to be \$22,509,000.

## **Regulatory Analysis**

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would 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. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic effect, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

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

Air transportation, Aircraft, Aviation safety, Safety.

## **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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.

### **Sec. 39.13 [Amended]**

2. Section 39.13 is amended by removing Amendment 39-5325 (51 FR 2025, June 4, 1986), and Amendment 39-9737 (61 FR 47806, September 11, 1996) and by adding a new airworthiness directive, Amendment 39-12506, to read as follows:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

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

*We post ADs on the internet at "av-info.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).

**2001-23-09 Honeywell International Inc.:** Amendment 39-12506. Docket 2000-NE-53-AD.  
Supersedes AD 86-11-05, Amendment 39-5325 and AD 96-18-13, Amendment 39-9737.

## *Applicability*

This airworthiness directive (AD) is applicable to Honeywell International Inc. (formerly AlliedSignal Inc. and Garrett Turbine Engine Co.) TFE731-2, -3, and -4 series turbofan engines, with fan rotor discs part numbers (P/N's) 3072162-All, 3072816-All, 3073436-All, 3073539-All, and 3074529-All (where All denotes all dash numbers). These engines are installed on, but not limited to, Avions Marcel Dassault Falcon 10, 50, and 100 series; Learjet 31, 35, 36, and 55 series; Lockheed-Georgia 1329-23 and -25 series; Israel Aircraft Industries 1124 series and 1125 Westwind series; Cessna Model 650, Citations III, VI, and VII; Raytheon British Aerospace HS-125 series; and Sabreliner NA-265-65 airplanes.

**Note 1:** This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

## *Compliance*

Compliance with this AD is required as indicated, unless already done.

To prevent failure of the fan rotor disc due to fatigue cracking in the dovetail slots, which could result in in-flight engine shutdown, uncontained engine failure, and damage to the airplane, do the following:

(a) Remove fan rotor discs P/N's 3072162-All, 3072816-All, 3073436-All, 3073539-All, and 3074529-All (where All denotes all dash numbers), and replace with serviceable fan rotor discs at next access to the fan rotor disc, at the next scheduled fan rotor disc inspection, or prior to December 31, 2002, whichever occurs earliest. Fan rotor disc replacement information is available in Honeywell International Inc. Alert Service Bulletin TFE731-A72-3668, dated October 25, 2000.

## **Definitions**

- (b) For the purpose of this AD, the following definitions apply:
- (1) Access to the fan rotor disc is whenever the fan shaft is unstretched.
  - (2) A serviceable disc is a disc that does not have a P/N listed in this AD.

## **Alternative Methods of Compliance**

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office (LAACO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, LAACO.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the LAACO.

## **Special Flight Permits**

(d) Special flight permits may be issued in accordance Secs. 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

## **Effective Date**

(e) This amendment becomes effective on December 21, 2001.

Issued in Burlington, Massachusetts, on November 7, 2001.

**Donald E. Plouffe,**

*Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.*

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**BILLING CODE 4910-13-P**