

# PŘÍKAZ K ZACHOVÁNÍ LETOVÉ ZPŮSOBILOSTI

CAA-AD-023/2001

Datum vydání: 15. března 2001

## MOTOR - DISK DMYCHADLA - KONTROLA/VÝMĚNA

**Týká se:** motorů CFM56-3, -3B a -3C, vyrobených firmou CFM International, S.A.(CFMI). Tyto motory mohou být nainstalovány na letadlech Boeing 737, ale nejen na těchto.

**Datum účinnosti:** 19. dubna 2001

**Provést v termínech:** Jak je popsáno v FAA AD 2001-04-06 od data účinnosti tohoto PZZ.

**Postup provedení prací:** Dle FAA AD 2001-04-06 (příloha tohoto PZZ).

Poznámky: Provedení tohoto PZZ musí být zapsáno do motorové knihy. Případné dotazy týkající se tohoto PZZ adresujte na ÚCL technický inspektorát - Ing. Toman. Pokud to vyžaduje povaha tohoto PZZ, musí být zapracován do příslušné části dokumentace pro obsluhu, údržbu a opravy letadla. Tento PZZ byl vypracován na základě FAA AD 2001-04-06.

**Ing. Pavel MATOUŠEK**  
**Ředitel technického inspektorátu**  
**Úřad pro civilní letectví**

**2001-04-06 CFM International:** Amendment 39-12124. Docket 98-ANE-57-AD.

**Applicability:** CFM International, S.A.(CFMI) CFM56-3, -3B, and -3C series turbofan engines, installed on but not limited to Boeing 737 series aircraft.

**Note 1:** This airworthiness directive (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 (I) 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:** Required as indicated, unless accomplished previously.

To prevent fan disk failure, which could result in an uncontained engine failure and damage to the aircraft, accomplish the following:

### **Wear Measurement (Thrust Rating Category A Only)**

(a) For CFM56-3, -3B, and -3C series engines operating at the category A thrust rating on the effective date of this AD that have never previously operated at the category B or C thrust ratings, perform a one time fan disk dovetail wear measurement in accordance with section 2.B. (1) of Service Bulletin (SB) CFMI CFM56-3/-3B/-3C, No. 72-854, Revision 1, dated August 7, 1998, or section 2.B.(1) of SB CFMI CFM56-3/-3B/-3C, No. 72-854, Revision 2, dated November 29, 1999, using the intervals defined in section 1.D.(1)(a)(1) and 1.D.(1)(a)(2) of the SB's, and the current fan disk time and cycles on the effective date of the AD.

### **Inspection**

(1) Perform a local ultrasonic inspection for cracks in the fan disk in accordance with section 2.B.(2) of the SB, if required by the wear criteria described in section 1.D.(1)(b)1 of the SB.

## **Removal**

- (i) Remove from service prior to further flight fan disks that do not meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, and replace with a serviceable part.
  - (ii) Remove from service within 50 cycles-in-service (CIS), fan disks that meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, if the wear measurement is greater than or equal to 9 mils.
- (2) Install dampers, as required, in accordance with the compliance times and criteria described in section 1.D.(1)(b)1 of the SB.

## **Wear Measurement (Thrust Rating Category A, if the Engine was Previously Operated at Thrust Rating Categories B or C)**

- (b) For CFM56-3, -3B, and -3C series engines operating at the category A thrust rating on the effective date of this AD that have previously operated at the category B or category C thrust ratings, perform a one-time fan disk dovetail wear measurement in accordance with section 2.B.(1) of SB CFMI CFM56-3/-3B/-3C, No. 72-854, Revision 1, dated August 7, 1998, or section 2.B.(1) of SB CFMI CFM56-3/-3B/-3C, No. 72-854, Revision 2, dated November 29, 1999, using the intervals defined in section 1.D.(1)(a)(1) and 1.D.(1)(a)(2) of the SB's, and the current fan disk time and cycles on the effective date of the AD.

## **Inspection**

- (1) Perform a local ultrasonic inspection for cracks in the fan disk in accordance with section 2.B.(2) of the SB, if required by the wear criteria described in section 1.D.(1)(b)2 of the SB.

## **Removal**

- (i) Remove from service prior to further flight fan disks that do not meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, and replace with a serviceable part.
  - (ii) Remove from service within 50 CIS, fan disks that meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, if the wear measurement is greater than or equal to 9 mils.
- (2) Install dampers, as required, in accordance with the compliance times and criteria described in section 1.D.(1)(b)2 of the SB.

## **Wear Measurement (Thrust Rating Category B, Regardless of Whether the Engine was Previously Operated at Thrust Rating Categories A or C)**

- (c) For CFM56-3B and -3C series engines operating at the category B thrust rating on the effective date of this AD, regardless of whether the engine was previously operated at thrust rating categories A or C, perform a one-time fan disk dovetail wear measurement in accordance with section 2.B.(1) of CFMI CFM56-3/-3B/-3C Service Bulletin (SB) No. 72-854, Revision 1, dated August 7, 1998, or section 2.B.(1) of CFMI CFM56-3/-3B/-3C SB No. 72-854, Revision 2, dated November 29, 1999, using the intervals defined in section 1.D.(1)(a)(1) and 1.D.(1)(a)(2) of the SB's, and the current fan disk time and cycles on the effective date of the AD.

## **Inspection**

- (1) Perform a local ultrasonic inspection for cracks in the fan disk in accordance with section 2.B.(2) of the SB, if required by the wear criteria described in section 1.D.(1)(c) of the SB.

## **Removal**

- (i) Remove from service prior to further flight fan disks that do not meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, and replace with a serviceable part.

- (ii) Remove from service within 50 CIS, fan disks that meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, if the wear measurement is greater than or equal to 9 mils.

(2) Remove and replace fan blades and install dampers, as required, in accordance with the compliance times and criteria described in section 1.D.(1)(c) of the SB.

### **Wear Measurement (Thrust Rating Category C, Regardless of Whether the Engine was Previously Operated at Thrust Rating Categories A or B)**

(d) For CFM56-3C series engines operating at the category C thrust rating on the effective date of this AD, regardless of whether the engine was previously operated at category A or B thrust ratings, perform a one-time fan disk dovetail wear measurement in accordance with section 2.B.(1) of SB CFMI CFM56-3/-3B/-3C, No. 72-854, Revision 1, dated August 7, 1998, or section 2.B.(1) of SB CFMI CFM56-3/-3B/-3C SB, No. 72-854, Revision 2, dated November 29, 1999, using the intervals defined in section 1.D.(1)(a)(1) and 1.D.(1)(a)(2) of the SB's and the current fan disk time and cycles on the effective date of the AD.

### **Inspection**

(1) Perform a local ultrasonic inspection for cracks in the fan disk in accordance with section 2.B.(2) of the SB, if required by the wear criteria described in section 1.D.(1)(d) of the SB.

### **Removal**

(i) Remove from service prior to further flight fan disks that do not meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, and replace with a serviceable part.

(ii) Remove from service within 50 CIS, fan disks that meet the ultrasonic inspection criteria defined in paragraph 2.B.(2) (d) 8b of the SB, if the wear measurement is greater than or equal to 5 mils.

(2) [Reserved]

### **Cleaning and Lubrication of Fan Disk/Blade**

(e) If the fan disk is determined to be serviceable, clean and lubricate the fan disk and fan blades using the instructions in paragraph 2.B.(2)(d) 8 d of the SB.

### **Definitions**

(f) The category A, B, and C thrust ratings listed in paragraphs (a) through (d) of this AD are defined in chapter 05 of the CFM56-3 model series Engine Shop Manual, CFMI-TP.SM.5.

### **Lubricants**

(g) After the effective date of this AD, the following lubricants are no longer approved for use on the CFMI CFM56-3, -3B, and -3C series engines: Sandstrom 27A, ZIP D5460, Surf-kote A 1625, Tiolube 70 and Tiolube 75/75.

### **When Inspection is NOT required**

(h) The actions required by paragraphs (a), (b), (c), and (d), (e) of this AD are not required if the fan disk has been equipped with configurations (1) or (2) below prior to reaching 3,000 cycles-since-new, or 5,250 hours-since-new, whichever occurs first, and has never been relubricated using one of the lubricants identified in paragraph (g) of this AD:

(1) For fan disks operating at a thrust rating of 20,000 pounds or less, the fan disk has either 25° fan blades with dampers or 37° fan blades with or without dampers.

(2) For fan disks operating at a thrust rating of more than 20,000 pounds, the fan disk has 37° fan blades with dampers.

(i) Inspection is not required for fan disks that used lubricants identified in paragraph (g) but were then rebroached prior to exceeding the .004 inch wear limit, then were not lubricated with the lubricants identified in paragraph (g) AND were equipped with fan blade configurations specified either in sub-paragraph (h) (1) or (h)(2).

(j) Inspection is also not required for fan disks that were inspected to and within Engine Shop Manual limits of .004 inch wear limit, then were not lubricated with the lubricants identified in paragraph (g) AND were equipped with fan blade configurations specified either in sub-paragraph (h)(1) or (h)(2).

**When Inspection can wait until 20,000 cycles-since-new (CSN)/ 35,000 time-since-new (TSN)**

(k) For disks that have never been relubricated since first manufacture using one of the lubricants identified in paragraph (g) of this AD, the inspections required by paragraphs (a), (b), (c), and (d) of this AD are required at 20,000 CSN or 35,000 hours TSN, whichever occurs first.

**Alternative Methods of Compliance**

(l) 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, Engine Certification Office (ECO). Operators shall submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

**Note 3:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

**Ferry Flights**

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

**Incorporation By Reference Material**

(n) The FAA has reviewed and approved the technical content of the listed CFMI SBs. The actions required by this AD shall be done in accordance with the following CFMI SBs:

Document No.	Pages	Revision	Date
CFM56-3/-3B/-3C SB No. 72-854	1-39	1	August 7, 1998
Total pages: 39			
CFM56-3/-3B/-3C SB No. 72-854	1-40	2	November 29, 1999
Total pages: 40			

The incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552 (a) and 1 CFR part 51. Copies may be obtained from CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone: (513) 552-2800, fax: (513) 552-2816. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA 01803-5299; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**Effective Date**

(o) This amendment becomes effective on April 4, 2001.

**FOR FURTHER INFORMATION CONTACT:** Glorianne Niebuhr, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7132, fax (781) 238-7199.

Issued in Burlington, Massachusetts, on February 12, 2001.

Jay J. Pardee, Manager, Engine and Propeller Directorate, Aircraft Certification Service.