

PŘÍKAZ K ZACHOVÁNÍ LETOVÉ ZPŮSOBILOSTI

CAA-AD-049/2002

Nahrazuje CAA-AD-050/2000

Datum vydání: 26. dubna 2002

MOTOR - ZMĚNA PROGRAMU ÚDRŽBY

Týká se: motorů vyrobených firmou General Electric Company (GE) CF6-80A, CF6-80C2 a CF6-80E1, instalovaných na letadlech Airbus Industrie A300, A310 a A330, Boeing 747 a 767 a McDonnell Douglas MD-11, ale nejen na těchto.

Datum účinnosti: 15. května 2002

Provést v termínech:

Jak je popsáno v FAA AD 2002-07-12, od data účinnosti tohoto PZZ.

Postup provedení prací:

Dle FAA AD 2002-07-12 (příloha tohoto PZZ).

Poznámky: Provedení tohoto PZZ musí být zapsáno do motorové knihy. Případné dotazy týkající se tohoto PZZ adresujte na ÚCL sekce technická - 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 2002-07-12, který nahrazuje FAA AD 2000-08-12.

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Ředitel sekce technické
Úřad pro civilní letectví

2002-07-12 General Electric Company: Amendment 39-12707. Docket No. 98-ANE-49-AD. Supersedes AD 2000-08-12, Amendment 39-11698

Applicability

This airworthiness directive (AD) is applicable to General Electric Company (GE) CF6-80A, CF6-80C2, and CF6-80E1 series turbofan engines, installed on but not limited to Airbus Industrie A300, A310, and A330 series, Boeing 747 and 767 series, and McDonnell Douglas MD-11 series 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 critical life-limited rotating engine part failure, which could result in an uncontained engine failure and damage to the airplane, accomplish the following:

Inspections

(a) Within the next 30 days after the effective date of this AD, revise the manufacturer's Life Limits Section of the Instructions for Continued Airworthiness (ICA), and for air carrier operations revise the approved continuous airworthiness maintenance program, by adding the following:

"MANDATORY INSPECTIONS"

(1) Perform inspections of the following parts at each piece- part opportunity in accordance with the instructions provided in the applicable manual provisions:

Part nomenclature	Part No. (P/N)	Inspect per engine manual chapter
For CF6-80A Engines:		
Disk, Fan Rotor, Stage 1	All	72-21-03 Paragraph 3. Fluorescent-Penetrant Inspect, and 72-21-03 Paragraph 4. Eddy Current Inspect.
Fan Forward Shaft	All	72-21-05 Paragraph 2. Magnetic Shaft Particle Inspect.
Fan Mid Shaft	All	72-24-01 Paragraph 2. Magnetic Particle Inspect.
Disk, HPC Rotor, Stage One	All	72-31-04 Paragraph 3. Fluorescent-Penetrant Inspect.
Disk, HPC Rotor, Stage Two	All	72-31-05 Paragraph 3. Fluorescent-Penetrant Inspect.
Spool, HPC Rotor, Stage 3-9	All	72-31-06 Paragraph 3. Fluorescent-Penetrant Inspect.
Disk, HPC Rotor, Stage 10	All	72-31-07 Paragraph 3. Fluorescent-Penetrant Inspect.
Spool, HPC Rotor, Stage 11-14	All	72-31-08 Paragraph 3.A. Fluorescent-Penetrant Inspect.
Rotating CDP Seal	All	72-31-10 Paragraph 3. Fluorescent-Penetrant Inspect.
Disk Shaft, HPT Rotor, Stage One	All	72-53-02 Paragraph 3. Fluorescent-Penetrant-Inspect per 70-32-02, and 72-53-02 Paragraph 6.C. Eddy Current Inspection, and 72-53-02 Paragraph 6.D. Disk Bore Area Eddy Current Inspection.
Disk, HPT Rotor, Stage Two	All	72-53-06 Paragraph 3. Fluorescent-Penetrant Inspection, and 72-53-06 Paragraph 6. Eddy Current Inspection of Rim Boltholes for Cracks, and 72-53-06 Paragraph 7. Disk Bore Area Eddy Current Inspection.
Disk, LPT Rotor Stage, 1-4	All	72-57-02 Paragraph 3. Fluorescent-Penetrant Inspection.
Shaft, LPT Rotor	All	72-57-03 Paragraph 3. Fluorescent- Penetrant Inspection, and 72-57-03 Paragraph 6. Eddy Current Inspection.
For All CF6-80C2 Engines:		
Disk, Fan Rotor, Stage 1	All	Task 72-21-03-200-000-004 Fluorescent-Penetrant Inspection, and Task 72-21-03-200-000-008 Eddy Current Inspect Fan Rotor Disk Stage 1 Bore, Forward and Aft Hub Faces, and Bore Radii.
Shaft, Fan Forward	All	Task 72-21-05-200-000-001 Fluorescent-Penetrant Inspection, and Task 72-21-05-200-000-005 Vent Hole Eddy Current Inspection.
HPCR Stage 1 Disk	All	Task 72-31-04-200-000-002 Fluorescent-Penetrant Inspection.
HPCR Stage 2 Disk	All	Task 72-31-05-200-000-002 Fluorescent-Penetrant Inspection.
HPCR Stage 3-9 Spool	All	Task 72-31-06-200-000-001 Fluorescent-Penetrant Inspection.
HPCR Stage 10 Disk	All	Task 72-31-07-200-000-001 Fluorescent-Penetrant Inspection.
HPCR Stage 11-14 Spool/Shaft	All	Task 72-31-08-200-000-002 Fluorescent-Penetrant Inspection.

No. 4 Bearing Rotating (CDP) Air Seal	All	Task 72-31-10-200-000-001 Fluorescent-Penetrant Inspection or Task 72-31-10-200-000-A01 Fluorescent-Penetrant Inspection.
HPCR Stage 10-14 Spool/Shaft	All	Task 72-31-22-200-000-002 Fluorescent-Penetrant Inspection.
Fan Mid Shaft	All	Task 72-24-01-200-000-003 Magnetic Particle Inspection.
Disk Shaft, HPT Rotor, Stage One	All	Task 72-53-02-200-000-001 Fluorescent-Penetrant Inspect, and Task 72-53-02-200-000-005 Disk Rim Bolt Hole Eddy Current Inspection, and Task 72-53-02-200-000-006 Disk Bore Area Eddy Current Inspection, and Task 72-53-02-200-000-007 Disk Dovetail Slot Bottom Eddy Current Inspection.
Disk, HPT Rotor, Stage Two	All	Task 72-53-06-200-000-002 Fluorescent-Penetrant Inspect, and Task 72-53-06-200-000-006 Disk Rim Bolt Hole Eddy Current Inspection Rim Boltholes, and Task 72-53-06-200-000-007 Disk Bore Area Eddy Current Inspection.
LPTR Stage 1-5 Disks	All	Task 72-57-02-200-000-001 Fluorescent-Penetrant Inspection.
LPTR Shaft	All	Task 72-57-03-200-000-002 Fluorescent-Penetrant Inspect, and Task 72-57-03-200-000-006 Eddy Current Inspection.
For CF6-80C2 Engines configured with the R88DT Turbine (Models CF6-80C2B2F, 80C2B4F, 80C2B6F, 80C2B7F, 80C2B8F):		
Disk Shaft, HPT Rotor, Stage One (R88DT, No Rim Bolt Holes).	All	Task 72-53-16-200-000-001 Fluorescent-Penetrant Inspect, and Task 72-53-16-200-000-005 Disk Bore Area Eddy Current Inspection.
Disk, HPT Rotor, Stage Two (R88DT, No Rim Bolt Holes).	All	Task 72-53-18-200-000-002 Fluorescent-Penetrant Inspect, and Task 72-53-18-200-000-005 Disk Bore Area Eddy Current Inspection.
Rotating Interstage Seal (R88DT)	All	Task 72-53-17-200-000-001 Fluorescent-Penetrant Inspect, and Task 72-53-17-200-000-005 Seal Bore Area Eddy Current.
Forward Outer Seal (R88DT)	All	Task 72-53-21-200-000-001 Fluorescent-Penetrant Inspect, and Task 72-53-21-200-000-004 Seal Bore Area Eddy Current.
For CF6-80E1 Engines:		
Disk, Fan Rotor, Stage One	All	Sub Task 72-21-03-230-051 Fluorescent-Penetrant Inspection, and Sub Task 72-21-03-250-051 or 72-21-03-250-052 Disk Bore Eddy Current Inspection.
Shaft, Fan Forward	All	Sub Task 72-21-05-230-051 Fluorescent-Penetrant Inspection, and Sub Task 72-21-05-250-051 Vent Hole Eddy Current Inspection.
Compressor Rotor, Stage 1 Disk	All	Sub Task 72-31-04-230-051 Fluorescent-Penetrant Inspection.
Compressor Rotor, Stage 2 Disk	All	Sub Task 72-31-05-230-051 Fluorescent-Penetrant Inspection.
Compressor Rotor, Stage 3-9 Spool	All	Sub Task 72-31-06-230-051 Fluorescent-Penetrant Inspection.
Compressor Rotor, Stage 10 Disk (Pre SB 72-0150).	All	Sub Task 72-31-07-230-051 Fluorescent-Penetrant Inspection.
Compressor Rotor, Spool/Shaft, Stage 11-14 (Pre SB 72-0150).	All	Sub Task 72-31-08-230-051 Fluorescent-Penetrant Inspection
Compressor Rotor, Spool/Shaft, Stage 10-14 (SB 72-0150).	All	Sub Task 72-31-23-230-052 Fluorescent-Penetrant Inspection.
Compressor Rotor, No. 4 Bearing Rotating Air Seal (CDP Rotating Seal).	All	Sub Task 72-31-10-230-051 Fluorescent-Penetrant Inspection.
HPT Disk/Shaft, Stage 1	All	Sub Task 72-53-02-230-051 Fluorescent-Penetrant Inspection, and Sub Task 72-53-02-250-051 Eddy Current Inspection, Rim Bolt Holes, and Sub Task 72-53-02-250-054 Eddy Current Inspection, Disk Bore Area.

HPT Disk, Stage 2	All	Sub Task 72-53-06-230-051 Fluorescent-Penetrant Inspection, and Sub Task 72-53-06-250-051 Eddy Current Inspection, Rim Bolt Holes, and Sub Task 72-53-06-250-054 Eddy Current Inspection, Disk Bore Area.
LPT Rotor Shaft	All	Sub Task 72-55-01-240-051 Magnetic Particle Inspect.
LPT Disks, Stages 1-5	All	Sub Task 72-57-02-230-051 Fluorescent-Penetrant Inspect.
For CF6-80E1 Engines configured with the R88DT Turbine:		
LPT Rotor Torque Cone	All	Sub Task 72-57-03-220-051 Fluorescent-Penetrant Inspect
Disk Shaft, HPT Rotor	All	Sub Task 72-53-16-230-052 Fluorescent-Penetrant Inspect, and Sub Task 72-53-16-250-051 Disk Bore Area Eddy Current Inspection.
Disk, HPT Rotor, Stage 2 (R88DT, No Rim Bolt Holes).	All	Sub Task 72-53-18-230-051 Fluorescent-Penetrant Inspect, and Sub Task 72-53-18-250-051 Disk Bore Area Eddy Current Inspection.
HPT Rotor Rotating Interstage Seal (R88DT).	All	Sub Task 72-53-17-230-051 Fluorescent-Penetrant Inspect, and Sub Task 72-53-17-250-051 Seal Bore Area Eddy Current.
HPT Rotor Forward Outer Seal (R88DT)	All	Sub Task 72-53-21-230-051 Fluorescent-Penetrant Inspect, and Sub Task 72-53-21-250-051 Seal Bore Area Eddy Current.

(2) For the purposes of these mandatory inspections, piece-part opportunity means:

(i) The part is considered completely disassembled when accomplished in accordance with the disassembly instructions in the manufacturer's engine manual; and

(ii) The part has accumulated more than 100 cycles-in-service since the last piece-part opportunity inspection, provided that the part was not damaged or related to the cause for its removal from the engine."

(b) Except as provided in paragraph (c) of this AD, and notwithstanding contrary provisions in section 43.16 of the Federal Aviation Regulations (14 CFR 43.16), these mandatory inspections shall be performed only in accordance with the Life Limits Section of the manufacturer's ICA.

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

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

Continuous Airworthiness Maintenance Program

(d) FAA-certificated air carriers that have an approved continuous airworthiness maintenance program in accordance with the record keeping requirement of Sec. 121.369 (c) of the Federal Aviation Regulations (14 CFR 121.369 (c)) of this chapter must maintain records of the mandatory inspections that result from revising the Life Limits Section of the Instructions for Continuous Airworthiness (ICA) and the air carrier's continuous airworthiness program. Alternately, certificated air carriers may establish an approved system of record retention that provides a method for preservation and retrieval of the maintenance records that include the inspections resulting from this AD, and include the policy and procedures for implementing this alternate method in the air carrier's maintenance manual required by Sec. 121.369 (c) of the Federal Aviation Regulations (14 CFR 121.369 (c)); however, the alternate system must be accepted by the appropriate PMI and require the maintenance records be maintained either indefinitely or until the work is repeated. Records of the piece-part inspections are not required under Sec. 121.380 (a) (2) (vi) of the Federal Aviation Regulations (14 CFR 121.380 (a) (2) (vi)). All other Operators must maintain the records of mandatory inspections required by the applicable regulations governing their operations.

Note 3: The requirements of this AD have been met when the engine manual changes are made and air carriers have modified their continuous airworthiness maintenance plans to reflect the requirements in the engine manuals.

Effective Date

(e) This amendment becomes effective on May 15, 2002.