Airworthiness Directive

AD No.: 2025-0007

Issued: 09 January 2025

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I Part M.A.301, or Annex Vb Part ML.A.301, as applicable, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I Part M.A.303, or Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

CFM INTERNATIONAL S.A.

Type/Model designation(s):

LEAP-1A and LEAP-1C engines

Effective Date: 23 January 2025

TCDS Number(s): EASA.E.110

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – High-Pressure Turbine – Rotor Interstage Seal – Replacement

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Manufacturer(s):

SAFRAN Aircraft Engines, formerly SNECMA (France); General Electric (United States)

Applicability:

LEAP-1A23, LEAP-1A24, LEAP-1A24E1, LEAP-1A26, LEAP-1A26CJ, LEAP-1A26E1, LEAP-1A29, LEAP-1A29CJ, LEAP-1A30, LEAP-1A32, LEAP-1A33, LEAP-1A33B2, LEAP-1A35A engines, all serial numbers (s/n).

LEAP-1C28, LEAP-1C30, LEAP-1C30B1 engines, all s/n.

These engines are known to be installed on, but not limited to, certain Airbus A319, A320 and A321, and certain COMAC C919 aeroplanes.

Definitions:

For the purpose of this AD, the following definitions apply:

The SB 72-0525: CFM International (CFM) Service Bulletin (SB), LEAP-1A-72-00-0525-01A-930A-D Issue 002.

The SB 72-0124: CFM International (CFM) Service Bulletin (SB), LEAP-1C-72-00-0124-01A-930A-D Issue 001.

Affected part 1: High-Pressure Turbine (HPT) Rotor Interstage Seal, having Part Number (P/N) 2466M68P02 and a s/n as listed in Table 1 of the SB 72-0525.

Affected part 2: HPT Rotor Interstage Seal, having P/N 2466M68P02 and a s/n as listed in Table 2 of the SB 72-0525.

Affected part 3: HPT Rotor Interstage Seal, having P/N 2466M68P02 and a s/n as listed in Table 1 of the SB 72-0124.

Serviceable part: For LEAP-1A engines: Any HPT Rotor Interstage Seal, eligible for installation, that is not an affected part 1 and is not an affected part 2.
For LEAP-1C engines: Any HPT Rotor Interstage Seal, eligible for installation, that is not an affected part 3.

Groups: Group 1a engines are LEAP-1A engines that have an affected part 1 installed.
Group 1b engines are LEAP-1A engines that have an affected part 2 installed.

Engine shop visit: Induction of an engine into the shop for maintenance involving the separation of major mating engine flanges, except for the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance.

Piece-part exposure: HPT rotor interstage seal separation from the HPT rotor assembly.

Reason:

Following two in-flight shutdowns and a reported non-destructive test indication on a fillet of an HPT rotor interstage seal aft arm, it has been determined that certain HPT rotor interstage seals may have had insufficient shot peen coverage on the HPT rotor interstage seal aft catenary arm fillet, possibly affecting their capability to be operated until their published life limit.

This condition, if not corrected, could lead to failure of affected parts, possibly resulting in in-flight shutdown and reduced control of the aeroplane.

To address this potential unsafe condition, CFM published the SB 72-525 and 72-0124 to provide replacement instructions and list of the affected parts, and instructions not to (re)install affected parts.

While HPT Rotor Interstage Seals P/N 2466M68P02 are eligible for installation on LEAP-1C engines, on the effective date of this AD, no affected part was known to have been installed on any LEAP-1C engine.

For the reason described above, this AD requires replacement of the affected parts and prohibits (re)installation.

Required Action(s) and Compliance Time(s):

Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished:

Replacement:

(1) For Group 1a engines: During the next engine shop visit, starting after the effective date of this AD, or before exceeding the threshold as specified in Table 1 of this AD, as applicable, whichever occurs first, replace the affected part with a serviceable part in accordance with the instructions of the SB 72-0525.

Table 1 - Affected Part Removal Thresholds (see Note 1 of this AD)

Engine Model	Removal Threshold
LEAP-1A23, LEAP-1A24, LEAP-1A24E1, LEAP-1A26, LEAP-1A26E1, LEAP-1A29, LEAP-1A30, LEAP-1A32, LEAP-1A33, LEAP-1A33B2 and LEAP-1A35A	11 100 Cycles Since New (CSN)
LEAP-1A26CJ and LEAP-1A29CJ	9 700 CSN

Note 1: The CSN specified in Table 1 of this AD are those accumulated by the affected part since its first installation on any engine.

(2) For Group 1b engines: At the next piece-part exposure or before exceeding the threshold as specified in Table 1 of this AD, as applicable, whichever occurs first after the effective date of this AD, replace the affected part with a serviceable part in accordance with the instructions of the SB 72-0525.

Parts Installation:

(3) For LEAP-1A engines: From the effective date of this AD, do not install an affected part (1 or 2) on any engine.

(4) For LEAP-1C engines: From the effective date of this AD, do not install an affected part 3 on any engine.

Ref. Publications:

CFM SB LEAP-1A-72-00-0525-01A-930A-D Issue 002 dated 28 June 2024.

CFM SB LEAP-1C-72-00-0124-01A-930A-D Issue 001 dated 05 September 2024.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted on 17 October 2024 as PAD 24-121 for consultation until 14 November 2024. The Comment Response Document can be found in the EASA Safety Publications Tool, in the compressed (zipped) file attached to the record for this AD.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the EU aviation safety reporting system. This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.

5. For any question concerning the technical content of the requirements in this AD, please contact: CFM International S.A., Customer Support Centre, Telephone: +33 1 64 14 88 66, Fax: +33 1 64 14 87 65, E-mail: cfm.csc@safrangroup.com,

   or

   CFM Inc., GE Aviation Fleet Support, Telephone: +1 513-552-3272 or +1 877-432-3272, E-mail: aviation.fleetsupport@ge.com.