



Airworthiness Directive

AD No.: 2024-0093

Issued: 22 April 2024

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 engines

Effective Date: 06 May 2024

TCDS Number(s): EASA.E.110

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – Non-Synchronous Vibration During Engine Operation – Monitoring

Manufacturer(s):

SAFRAN Aircraft Engines, formerly SNECMA (France); General Electric Aviation (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 and LEAP-1A35A engines, all serial numbers (s/n).

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

Definitions:

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

The SB: CFM International (CFM) Service Bulletin (SB) LEAP-1A-72-00-0504-01A-930A-D Issue 002.

Affected part: Any bearing No. 3 spring finger housing, having Part Number 2629M62G01 and a s/n as listed in Table 1 or Table 2 of the SB.

Serviceable part: Any bearing No. 3 spring finger housing, eligible for installation, that is not an affected part.



Groups: Group 1 engines are those that have an affected part installed.

Group 2 engines are those that do not have an affected part installed.

The SB provides, for information only, a list of engines (s/n) known to have been delivered with an affected part installed.

Reason:

Occurrences have been reported of experiencing non-synchronous vibrations (NSV) on LEAP-1A engines.

It has been determined that affected parts (as defined in this AD), when installed on LEAP-1A engines, may be subject to accelerated wear, which could lead to elevated NSV during engine operation.

This condition, if not detected and corrected, may induce engine stalls, or result in secondary air system seal rubs, cooling airflow reduction, or elevated temperatures in turbine internal cavities, all which could lead to high-pressure turbine (HPT) disc failures, possibly resulting in release of high-energy debris with consequent damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, CFM published SB LEAP-1A-72-00-0504-01A-930A-D, later revised to correct an error in section 5.B of the accomplishment instructions, to provide applicable monitoring instructions and a list of the affected parts.

For the reason described above, this AD requires NSV monitoring (evaluation) and, depending on findings, accomplishment of applicable corrective action(s). This AD also prohibits (re)installation of affected parts.

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:

NSV Evaluation:

- (1) For Group 1 engines: Within 125 flight cycles (FC) after the effective date of this AD and, thereafter, at intervals not to exceed 125 FC, evaluate the NSV in accordance with the instructions of the SB (see Notes 1 and 2 of this AD).

Note 1: The SB provides two different alternative methods to evaluate the NSV ('NSV Monitoring with Fleeting Reports' and 'NSV Monitoring with ACMS Takeoff Reports') in sections 5.A and 5.B, either of which is acceptable to comply with the requirements of paragraph (1) of this AD.

Note 2: Provided that certain conditions are met, a Customer Notification Report (CNR) is expected to be issued to the operator. Relying only on the CNR is not acceptable to comply with the requirements of paragraph (1) of this AD.

Corrective Action(s):

- (2) If, following any NSV evaluation of an engine as required by paragraph (1) of this AD, any discrepancy, as identified in the SB, is detected, within the compliance time as identified in the SB, remove the engine from the aeroplane and, before release to service of that engine,



accomplish the actions in accordance with the instructions of the SB as required by paragraphs (2.1) and (2.2) of this AD.

(2.1) Replace the affected part with a serviceable part.

(2.2) Inspect the stage 2 HPT nozzle assembly honeycomb and HPT stator stationary seal honeycomb and, depending on findings, accomplish applicable corrective action(s).

(3) Unless already accomplished as required by paragraph (2.1) of this AD, at the next piece-part exposure, or before the affected part exceeds 9 900 FC since new, whichever occurs first after the effective date of this AD, replace any affected part having a s/n identified in Table 1 of the SB with a serviceable part. This can be accomplished in accordance with the instructions of the applicable Engine Maintenance Manual.

Terminating Action(s):

(4) For Group 1 engines: Replacing the affected part with a serviceable part on an engine constitutes terminating action for the repetitive NSV evaluations as required by paragraph (1) of this AD for that engine.

Parts Installation:

(5) For Group 1 and Group 2 engines: From the effective date of this AD, do not install an affected part on any engine (see Note 3 of this AD).

(6) For Group 1 and Group 2 engines: From the effective date of this AD, it is allowed to install on any engine an engine module, having an affected part installed, or a higher level assembly, having an affected part installed, provided that, after that installation, the NSV evaluation and the corrective action(s), as applicable, are accomplished on that engine as required by paragraphs (1) and (2) of this AD.

Note 3: Installation of an engine module, having an affected part installed, or of a higher level assembly, having an affected part installed, is not considered 'install' as specified in paragraph (5) of this AD. For the purpose of this AD, installation of an affected part requires exposure of that affected part at piece-part level.

Ref. Publications:

CFM SB LEAP-1A-72-00-0504-01A-930A-D issue 002 dated 17 October 2023.

The use of later approved revisions of the above-mentioned document 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 25 October 2023 as PAD 23-120 for consultation until 22 November 2023. 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,
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