



Airworthiness Directive

AD No.: 2022-0009R1

Issued: 19 July 2022

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: Revision 1: 26 July 2022
Original issue: 02 February 2022

TCDS Number(s): EASA.E.110

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2022-0009 dated 19 January 2022.

ATA 72 – Engine – High Pressure Turbine Rotor Stage 1 Blade – Inspection

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.

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-72-00-0461-01A-930A-D Issue 003.

Affected part: High pressure turbine (HPT) rotor stage 1 blades, having Part Number (P/N) 2747M92P01, P/N 2553M91G03, P/N 2553M91G05, P/N 2553M91G06, P/N 2553M91G07 or P/N 2553M91G08.



Critical departure: Take-off accomplished in the Middle East and North Africa (MENA) regions, as defined in the SB.

Groups: Group 1 are LEAP-1A29, LEAP-1A29CJ, LEAP-1A30, LEAP-1A32, LEAP-1A33, LEAP-1A33B2, and LEAP-1A35A engines.

Group 2 are LEAP-1A23, LEAP-1A24, LEAP-1A24E1, LEAP-1A26, LEAP-1A26CJ, and LEAP-1A26E1 engines.

Reason:

Occurrences have been reported of finding cracked affected parts on engines operated extensively in the MENA regions.

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

To address this potential unsafe condition, CFM issued the SB, as defined in this AD, providing instructions to accomplish borescope inspections (BSI) of HPT stage 1 rotor blades and stator nozzles, in addition to those already included in the recommended maintenance schedule.

For the reasons described above, EASA issued AD 2022-0009 to require repetitive inspections of those parts and, depending on findings, accomplishment of applicable corrective action(s).

Since that AD was issued, it has been determined that HPT stator stage 1 nozzles do not require additional inspection, and CFM revised the SB accordingly.

For the reason described above, this AD is revised to reduce the number of affected parts (P/N).

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

Required as indicated, unless accomplished previously:

Inspection(s):

- (1) For engines having an affected part stage 1 blade installed, that, on 02 February 2022 [the effective date of the original issue of this AD], has accumulated more than 800 critical departures (see Note 1 of this AD): Accomplish the inspections as specified in paragraph (1.1) or (1.2), as applicable.
 - (1.1) For Group 1 engines: Within the threshold as identified in Table 1 of this AD, as applicable, and, thereafter, at intervals not exceeding 150 cycles, inspect each affected part [blades] in accordance with the instructions of the SB.
 - (1.2) For Group 2 engines: Within the threshold as identified in Table 2 of this AD, as applicable, and, thereafter, at intervals not exceeding 300 cycles, inspect each affected part [blades] in accordance with the instructions of the SB.



Table 1 – Group 1 Engines – Initial Inspection (see Note 2 of this AD)

| Cycles | Threshold |
|-----------------|--|
| 1 650 or less | Before exceeding 1 750 cycles |
| More than 1 650 | Within 100 cycles after 02 February 2022 [the effective date of the original issue of this AD] |

Table 2 – Group 2 Engines – Initial Inspection (see Note 2 of this AD)

| Cycles | Threshold |
|-----------------|--|
| 2 500 or less | Before exceeding 2 600 cycles |
| More than 2 500 | Within 100 cycles after 02 February 2022 [the effective date of the original issue of this AD] |

Note 1: If the number of critical departures accumulated by an affected part of an engine is unknown, the critical departures accumulated by that engine can be used instead.

Note 2: Unless otherwise stated, the cycles specified in Table 1, Table 2, Table 3 and Table 4 of this AD are those accumulated since new (first installation on an engine) by the HPT rotor stage 1 blade which has accumulated the highest number of cycles since new.

(2) For engines having affected part stage 1 blades installed, none of which, on 02 February 2022 [the effective date of the original issue of this AD], has accumulated more than 800 critical departures (see Note 1 of this AD): Upon exceeding 800 critical departures for an affected part stage 1 blade of an engine, accomplish the inspections as specified in paragraph (2.1) or (2.2), as applicable.

(2.1) For Group 1 engines: Within the threshold as identified in Table 3 of this AD, as applicable, and, thereafter, at intervals not exceeding 150 cycles, inspect each affected parts [blades] in accordance with the instructions of the SB.

(2.2) For Group 2 engines: Within the threshold as identified in Table 4 of this AD, as applicable, and, thereafter, at intervals not exceeding 300 cycles, inspect each affected parts [blades] in accordance with the instructions of the SB.

Table 3 – Group 1 Engines – Initial Inspection (see Note 2 of this AD)

| Cycles | Threshold |
|-----------------|--|
| 1 650 or less | Before exceeding 1 750 cycles |
| More than 1 650 | Within 100 cycles after an affected part stage 1 blade exceeds 800 critical departures |



Table 4 – Group 2 Engines – Initial Inspection (see Note 2 of this AD)

| Cycles | Threshold |
|-----------------|--|
| 2 500 or less | Before exceeding 2 600 cycles |
| More than 2 500 | Within 100 cycles after an affected part stage 1 blade exceeds 800 critical departures |

Corrective Action(s):

- (3) For engines installed on twin-engine aeroplanes: If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, any discrepancy, as identified in section 5.E.1.(g)1 of the SB, is found on an engine (hereafter referred to as 'first engine'), within 5 engine cycles after that inspection, unless already accomplished during the last 50 cycles (for Group 1 engines) or 100 cycles (for Group 2 engines) accumulated by the second engine before that inspection, inspect each affected part of the second engine of that aeroplane in accordance with the instructions of the SB.
- (4) [DELETED]
- (5) If, during the inspection as required by paragraph (3) of this AD, any discrepancy, as identified in section 5.E.1.(g)3 of the SB, is found on the second engine of an aeroplane, accomplish the actions as specified in paragraphs (5.1) and (5.2).
- (5.1) Before next flight, remove from service one engine (first engine or second engine) of that aeroplane and, before release to service of that engine, contact CFM for approved repair instructions and accomplish those instructions accordingly.
- (5.2) Accomplish the applicable corrective action(s) on the remaining installed engine (second engine or first engine) within the compliance time as specified in, and in accordance with the instructions of the applicable Aircraft Maintenance Manual (AMM), or contact CFM for approved repair instructions and accomplish those instructions accordingly.
- (6) If, during the inspection as required by paragraph (3) of this AD, no discrepancy, as identified in section 5.E.1.(g)3 of the SB, is found on the second engine, accomplish the applicable corrective action(s) on the first engine within the compliance time as specified in, and in accordance with the instructions of the applicable AMM, or contact CFM for approved repair instructions and accomplish those instructions accordingly.
- (7) For engines in shop: If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, any discrepancy, as identified in section 5.E.1.(g)1 of the SB, is found on an engine, before release to service of that engine, contact CFM for approved repair instructions and accomplish those instructions accordingly.

Credit:

- (8) Inspections and corrective action(s) accomplished on an engine before the effective date of this AD in accordance with the instructions of CFM SB LEAP-1A-72-00-0461-01A-930A-D Issue 001 or Issue 002, are acceptable to comply with the requirements of paragraphs (1) to (7) of this AD, as applicable, for that engine.



Terminating Action:

(9) None.

Part(s) Installation:

- (10) From 02 February 2022 [the effective date of the original issue of this AD], it is allowed to install an affected part on any engine provided that, following that installation, the engine is inspected as required by this AD.
- (11) From 02 February 2022 [the effective date of the original issue of this AD], following removal from service of an engine as required by paragraph (5.1) of this AD, it is allowed to install on a twin-engine aeroplane an engine having affected parts installed which are not new, provided that, before that installation, that engine has passed an inspection (no discrepancies found) in accordance with the instructions of the SB.

Reporting:

- (12) If, during any inspection as required by paragraph (1), (2) or (3) of this AD, as applicable, any discrepancy as identified in section 5.E.1.(g)1 or 5.E.1.(g)3, as applicable, of the SB is found on an engine, within 30 days after that inspection, or 30 days after the effective date of this AD, whichever occurs later, report the inspection results to CFM. This can be accomplished in accordance with the instructions of the SB.

Ref. Publications:

CFM SB LEAP-1A-72-00-0461-01A-930A-D Issue 001 dated 10 December 2021, Issue 002 dated 21 December 2021 and Issue 003 dated 13 July 2022.

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. The original issue of this AD was posted on 22 December 2021 as PAD 21-186 for consultation until 07 January 2022. The Comment Response Documents 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 79 85 55, E-mail: cfm.csc@safrangroup.com, or CFM Inc. Aviation Operations Centre, Telephone: +1 513-552-3272 or +1 877-432-3272, Fax: +1 877-432-3329, E-mail: geae.aoc@ge.com or aviation.fleetsupport@ge.com.

