



Airworthiness Directive

AD No.: 2023-0109

Issued: 26 May 2023

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-1B engines

Effective Date: 09 June 2023

TCDS Number(s): EASA.E.115

Foreign AD: Not applicable

Supersedure: None

ATA 72 – Engine – High Pressure Compressor Stages 6-10 Spools and High Pressure Turbine Rotor Stage 1 Disks – Replacement

Manufacturer(s):

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

Applicability:

LEAP-1B21, LEAP-1B23, LEAP-1B25, LEAP-1B27, LEAP-1B28, LEAP-1B28B1, LEAP-1B28B2, LEAP-1B28B2C, LEAP-1B28B3, LEAP-1B28BBJ1 and LEAP-1B28BBJ2 engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Boeing 737-8, 737-8200 and 737-9 aeroplanes.

Definitions:

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

The SB: CFM International (CFM) Service Bulletin (SB) LEAP-1B-72-00-0392-01A-930A-D.

Affected part: High pressure compressor (HPC) Stage 6-10 spools and high pressure turbine (HPT) Stage 1 Disks, having a part number (P/N) and s/n as listed in Tables 1 to 3 (inclusive) of the SB.



Serviceable part: Any HPC stage 6-10 spool or HPT stage 1 disk, 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.

Reason:

Three HPT rotor disks from a different engine type were found to contain iron inclusions. This has been attributed to specific deficiencies in the manufacturing process. Iron inclusion may lead to reduced mechanical properties and failure of an affected part prior to achieving its approved life as published in the Airworthiness Limitations Section of the Engine Manual. It has been determined that the affected parts identified in the SB were manufactured using the same processes, and may also have reduced mechanical properties due to iron inclusion.

This condition, if not corrected, could lead to failure of affected parts, possibly resulting in high energy debris release, with consequent damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, CFM published the SB, as defined in this AD, to provide replacement instructions and listing the affected parts.

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, unless accomplished previously:

Replacement:

(1) For Group 1 engines: Within the compliance time as specified in Table A of this AD, replace each affected part with a serviceable part in accordance with the instructions of the SB.

Note 1: The cycles since new (CSN) specified in Tables 1 to 3 of the SB are those accumulated by the affected part since its first installation on an engine.

Note 2: The engine shop manual provides an acceptable method to determine the remaining cycles available for an affected part which has been operated on different engine models / thrust ratings.

Table A – Affected Part Replacement

Compliance Time (A or B, whichever occurs first)	
A	Within the compliance time as specified in Tables 1 to 3 of the SB, as applicable (see Notes 1 and 2 of this AD), or within 50 engine cycles after the effective date of this AD, whichever occurs later
B	During the next piece-part exposure after the effective date of this AD

Parts Installation:

(2) Do not install an affected part on any engine, as required by paragraph (2.1) or (2.2) of this AD, as applicable.



- (2.1) For Group 1 engines: After replacement of each affected part on an engine as required by paragraph (1) of this AD.
- (2.2) For Group 2 engines: From the effective date of this AD.

Ref. Publications:

CFM SB LEAP-1B-72-00-0392-01A-930A-D original issue (Issue 001) dated 07 March 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 29 March 2023 as PAD 23-039 for consultation until 26 April 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,

or

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