



## Airworthiness Directive

**AD No.:** 2018-0251

**Issued:** 20 November 2018

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, 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 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:** 27 November 2018

**TCDS Number(s):** EASA.E.115

**Foreign AD:** Not applicable

**Supersedure:** None

## ATA 73 – Engine – Electronic Engine Control Software – 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 and 737-9 aeroplanes.

### Definitions:

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

**The SB:** CFM International S. A. (CFM) Service Bulletin (SB) LEAP-1B-73-00-0016-01A-930A-D.

**Affected SW:** Electronic engine control (EEC) system operation (OPS) software (SW), Part Number (P/N) 2628M86P10 or earlier; and engine health monitoring (EHM) software, P/N 2628M87P10, or earlier.

**Non-Affected SW:** OPS SW P/N 2628M86P11 or later; and EHM SW, P/N 2628M87P11, or later.



**Groups:** Group 1 engines are those that have an EEC with affected SW installed. Group 2 engines are those that have both EECs with a not affected SW installed. An engine having s/n 602-770 or higher is a Group 2 engine, provided it is determined that the EEC SW currently installed on that engine is still a not affected SW OPS.

**Reason:**

Several occurrences were reported of CFM LEAP-1A engines that were unable to accelerate to the target thrust during take-off on certain Airbus A320 NEO aeroplanes. Subsequent investigation determined that water can accumulate inside the full authority digital electronic control (FADEC) pressure sub system (PSS), or discharge pressure (PS3) and compressor bleed pressure (P3B) sense lines.

This condition, if not corrected, could lead to a FADEC PS3 and/or P3B disagree fault, possibly resulting in loss of thrust and consequent reduced control of the aeroplane.

Due to similarity of design, LEAP-1B engines could also be affected. To address this potential unsafe condition, CFM defined a new EEC software, with improved capability to identify and report the presence of PS3 and/or P3B disagree fault, and issued the SB providing modification instructions.

For the reason described above, this AD requires updating the EEC software.

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

Required as indicated, unless accomplished previously:

**SW update:**

- (1) For Group 1 engines: Within 60 days after the effective date of this AD, update the EEC SW in accordance with the instruction of the SB.
- (2) Uploading a not affected SW on the engine EECs, or installing EECs having not affected SW on an engine in accordance with CFM instructions is an acceptable method to comply with the requirement of paragraph (1) of this AD for that engine.

**Parts Installation:**

- (3) Do not install on any engine an EEC with an affected SW installed, and do not upload an affected SW on any EEC, as required by paragraph (3.1) or (3.2) of this AD, as applicable.
  - (3.1) For Group 1 engines: After modification of that engine as required by paragraph (1) of this AD.
  - (3.2) For Group 2 engines: From the effective date of this AD.

**Ref. Publications:**

CFM International S.A. SB LEAP-1B-73-00-0016-01A-930A-D original issue dated 24 October 2018, or issue 002 dated 30 October 2018.

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 02 November 2018 as PAD 18-146 for consultation until 16 November 2018. No comments were received during the consultation period.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto: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](#).
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](mailto:cfm.csc@safrangroup.com)

or

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