



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2025-1725; Project Identifier AD-2025-00583-E; Amendment 39-23244; AD 2026-02-08]

RIN 2120-AA64

Airworthiness Directives; CFM International, S.A. Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2018-19-16 for all CFM International, S.A. (CFM) Model LEAP-1A23, -1A24, -1A24E1, -1A26, -1A26E1, -1A26CJ, -1A29, -1A29CJ, -1A30, -1A32, -1A33, -1A33B2, and -1A35A engines with certain full authority digital engine control (FADEC) and prognostic health monitoring (PHM) software installed. AD 2018-19-16 required removing certain FADEC and PHM software and installing versions eligible for installation. Since the FAA issued AD 2018-19-16, the manufacturer has developed a new pressure subsystem (PSS) with a heater element to evaporate potential moisture on the PSS manifold/transducer interface and prevent freezing at low temperature. This AD requires replacing certain FADEC and PHM software with new versions that are eligible for installation, replacing certain harnesses with newly designed harnesses, and replacing the PSS with a newly designed heated PSS. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-1725; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S.

Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Mehdi Lamnyi, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7743; email: mehdi.lamnyi@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2018-19-16, Amendment 39-19416 (83 FR 50818, October 10, 2018) (AD 2018-19-16). AD 2018-19-16 applied to all CFM Model LEAP-1A23, -1A24, -1A24E1, -1A26, -1A26E1, -1A26CJ, -1A29, -1A29CJ, -1A30, -1A32, -1A33, -1A33B2, and -1A35A engines with certain FADEC and PHM software installed. AD 2018-19-16 was prompted by aborted takeoffs after engines did not advance to the desired takeoff fan speed due to icing in the pressure sensor line which, if not addressed, could result in loss of engine thrust control and reduced control of the airplane. The NPRM was published in the *Federal Register* on August 6, 2025 (90 FR 37808). The NPRM was prompted when the manufacturer developed a new PSS with a heater element to evaporate potential moisture on the PSS manifold/transducer interface and prevent freezing at low temperature. In the NPRM, the FAA proposed to require replacing certain FADEC and PHM software with new versions that are eligible for installation, replacing certain harnesses with newly designed harnesses, and replacing the PSS with a newly designed heated PSS. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from three commenters. The commenters were Airline Pilots Association International (ALPA), American Airlines (AAL), and CFM. ALPA supported the NPRM without change. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request for Additional Material References

AAL and CFM requested that the FAA include additional material references in the required actions. CFM stated that the material referenced in paragraph (g)(1) of the NPRM includes concurrent actions and refers to specific material for each of those actions. CFM also indicated that the concurrent requirements are necessary to fully enable the newly installed PSS heater system. AAL pointed out that operators may not be aware that there is additional material which may be used to help complete the concurrent actions and that a useful method to alert the operators is by including the specific material for the concurrent actions in additional notes to the required actions in the NPRM.

The FAA agrees that the actions required by this AD are not independent actions, and must all be done concurrently to fully enable the newly installed PSS heater system, and that additional material is helpful to complete the actions required by this AD. Therefore, the FAA has revised this final rule by adding note 2 to paragraphs (g)(2) and (3) of this AD and note 3 to paragraph (g)(4) of this AD, with each note referring to specific material that may be used as guidance in completing the actions required by paragraphs (g)(2), (3), and (4) of this AD.

Request for Clarification of the Unsafe Condition

CFM requested that the FAA revise the unsafe condition statement throughout the NPRM to be consistent. CFM noted that in the NPRM, the unsafe condition statement is not consistent between the Background section and paragraph (e) of the NPRM.

The FAA agrees for the reasons provided and has revised the wording of the unsafe condition in the Background section to be consistent with the wording used in paragraph (e) of this AD.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Costs of Compliance

The FAA estimates that this AD affects 306 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Install electronic engine control software	1 work-hour × \$85 per hour = \$85	\$0	\$85	\$26,010
Replace PSS with heated PSS	1 work-hour × \$85 per hour = \$85	\$185,950	\$186,035	\$56,926,710
Replace HJ6A and HJ6B harnesses	1 work-hour × \$85 per hour = \$85	\$57,510	\$57,595	\$17,624,070

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,
(2) Will not affect intrastate aviation in Alaska, and
(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive AD 2018-19-16, Amendment 39-19416 (83 FR 50818, October 10, 2018); and

b. Adding the following new airworthiness directive:

2026-02-08 CFM International, S.A.: Amendment 39-23244; Docket No. FAA-2025-1725; Project Identifier AD-2025-00583-E.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2018-19-16, Amendment 39-19416 (83 FR 50818, October 10, 2018) (AD 2018-19-16).

(c) Applicability

This AD applies to CFM International, S.A. (CFM) Model LEAP-1A23, LEAP-1A24, LEAP-1A24E1, LEAP-1A26, LEAP-1A26E1, LEAP-1A26CJ, LEAP-1A29, LEAP-1A29CJ, LEAP-1A30, LEAP-1A32, LEAP-1A33, LEAP-1A33B2, and LEAP-1A35A engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7600, Engine Controls.

(e) Unsafe Condition

This AD was prompted by aborted takeoffs after engines did not advance to the desired takeoff fan speed due to icing in the pressure sensor line. The FAA is issuing this AD to prevent icing in the pressure sensor lines and inaccurate pressure sensor readings. The unsafe condition, if not addressed, could result in loss of engine thrust control and reduced control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

At the next engine shop visit after the effective date of this AD, do the following actions:

(1) Install electronic engine control (EEC) full authority digital electronic control (FADEC) software having part number (P/N) 2590M00P13, version L1A0850, or later approved version; and prognostic health monitoring (PHM) software having P/N 2784M64P08, version PL1A0850, or later approved version.

Note 1 to paragraph (g)(1): The software release that includes EEC FADEC software P/N 2590M00P13, version L1A0850, and PHM software P/N 2784M64P08, version PL1A0850, is commonly referred to as “FCS8.5.” Guidance for replacing the EEC FADEC software and PHM software may be found in CFM Service Bulletin LEAP-1A-73-00-0050-01A-930A-D, Issue 001-00, dated January 03, 2024.

(2) For engines with an installed HJ6A harness having P/N 362-085-905-0 (significant item number (SIN) 65004), remove the HJ6A harness from service and replace with an HJ6A harness having P/N 362-085-906-0, or later approved P/N.

Note 2 to paragraph (g)(2): This note applies to paragraphs (g)(2) and (g)(3). Guidance for replacing the HJ6A harness P/N 362-085-905-0 and the HJ6B harness P/N 362-086-004-0 with an HJ6A harness P/N 362-085-906-0 or an HJ6B harness P/N 362-086-005-0, or later approved P/N, as applicable, may be found in CFM Service Bulletin LEAP-1A-73-00-0042-01A-930A-D, Issue 003-00, dated July 11, 2024.

(3) For engines with an installed HJ6B harness having P/N 362-086-004-0 (SIN 65005), remove the HJ6B harness from service and replace with an HJ6B harness having P/N 362-086-005-0, or later approved P/N.

(4) For engines with an installed pressure subsystem (PSS) having P/N 2474M65P05 (vendor identification number (VIN) 261811055-0303), remove the PSS from service and replace with a heated PSS having P/N 2474M65P08 (VIN 261811055-0410), or later approved P/N.

Note 3 to paragraph (g)(4): Guidance for replacing the PSS P/N 2474M65P05 with a heated PSS P/N 2474M65P08, or later approved P/N may be found in CFM Service Bulletin LEAP-1A-73-00-0051-01A-930A-D, Issue 002-00, dated January 03, 2024.

(h) Definitions

For the purpose of this AD, an “engine shop visit” is the induction of the 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.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520 Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the AIR-520 Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD and email to: AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Additional Information

(1) For more information about this AD, contact Mehdi Lamnyi, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7743; email: mehdi.lamnyi@faa.gov.

(2) For material identified in this AD that is not incorporated by reference, contact CFM, GE Aviation Fleet Support, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45215; phone: (877) 432-3272; email: aviation.fleetsupport@ge.com.

(k) Material Incorporated by Reference

None.

Issued on January 16, 2026.

Peter A. White,
Deputy Director, Integrated Certificate Management Division,
Aircraft Certification Service.

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