

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. FAA-2024-2325; Project Identifier AD-2024-00412-E]

RIN 2120-AA64

**Airworthiness Directives; CFM International, S.A. Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain CFM International, S.A. (CFM) Model LEAP-1A and LEAP-1C engines. This proposed AD was prompted by an investigation of an in-flight shut down event that determined the aft arm of the high-pressure turbine (HPT) rotor interstage seal had failed. This proposed AD would require removal from service and replacement of the HPT rotor interstage seal for LEAP-1A engines. Since the HPT rotor interstage seal part number is interchangeable between LEAP-1A and LEAP-1C, this proposed AD will also prohibit installation of these affected parts onto any LEAP-1A or LEAP-1C engine. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by November 18, 2024.

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- *Federal eRulemaking Portal:* Go to *regulations.gov*. Follow the instructions for submitting comments.

- *Fax:* (202) 493-2251.

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

- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at *regulations.gov* under Docket No. FAA-2024-2325; 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 NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

*Material Incorporated by Reference:*

- For CFM material identified in this proposed AD, 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*.

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

**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:****Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2024-2325; Project Identifier AD-2024-00412-E” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may revise this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to *regulations.gov*, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

**Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be

placed in the public docket of this NPRM. Submissions containing CBI should be sent to Mehdi Lamnyi, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

**Background**

On May 19, 2022, an Airbus Model A320neo airplane powered by CFM Model LEAP-1A26 engines experienced an in-flight shutdown. Ground inspection following the event found that several low-pressure turbine blades had broken and metal had entered the exhaust. A manufacturer investigation later determined that the aft arm of the HPT rotor interstage seal had failed due to a non-conforming surface condition in the fillet area coupled with higher-than-expected operating stress due to friction. Three additional engines have been reported with shop finds or failure of the aft arm of the HPT rotor interstage seal. This condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

**FAA’s Determination**

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

**Material Incorporated by Reference Under 1 CFR Part 51**

The FAA reviewed the following CFM material:

- CFM Service Bulletin (SB) LEAP-1A-72-00-0525-01A-930A-D, Issue 002-00, dated June 28, 2024, which provides the serial numbers (S/Ns) of the affected HPT rotor interstage seals for LEAP-1A engines.

- CFM SB LEAP-1C-72-00-0124-01A-930A-D, Issue 001, dated September 5, 2024, which provides the S/Ns of the affected HPT rotor interstage seals that are excluded from installation onto LEAP-1C engines.

This material also includes instructions for removal and installation of the HPT rotor interstage seal. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the **ADDRESSES** section.

**Proposed AD Requirements in This NPRM**

This proposed AD would require removal from service and replacement of the HPT rotor interstage seal.

**Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 56

engines installed on airplanes of U.S. registry.

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

**ESTIMATED COSTS**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace HPT rotor interstage seal .....	12 work-hours × \$85 per hour = \$1,020 .....	\$195,000	\$196,020	\$10,977,120

**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**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would 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 Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 adding the following new airworthiness directive:

**CFM International, S.A.:** Docket No. FAA–2024–2325; Project Identifier AD–2024–00412–E.

**(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by November 18, 2024.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the following CFM International, S.A. (CFM) engines:

(1) Model 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.

(2) Model LEAP–1C28, LEAP–1C30, and LEAP–1C30B1 engines.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

**(e) Unsafe Condition**

This AD was prompted by an investigation of an in-flight shut down event that determined the aft arm of the high-pressure turbine (HPT) rotor interstage seal had failed. The FAA is issuing this AD to prevent failure of the HPT rotor interstage seal. The unsafe condition, if not addressed, could result in failure of one or more engines, loss of thrust control, and loss of the airplane.

**(f) Compliance**

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

**(g) Required Actions**

(1) For LEAP–1A engines having an HPT rotor interstage seal installed with a part number (P/N) and serial number (S/N) listed in Table 1 of CFM Service Bulletin (SB) LEAP–1A–72–00–0525–01A–930A–D, Issue 002–00, dated June 28, 2024 (CFM SB LEAP–1A–72–00–0525–01A–930A–D Issue 002–00), at the next engine shop visit or before exceeding the applicable cyclic threshold in Table 1 to paragraph (g)(1) of this AD, whichever occurs first after the effective date of this AD, remove the affected HPT rotor interstage seal from service and replace with a part eligible for installation.

**TABLE 1 TO PARAGRAPH (g)(1)—REMOVAL THRESHOLDS FOR EACH ENGINE MODEL**

Engine model	Removal cyclic threshold
LEAP–1A23, LEAP–1A24, LEAP–1A24E1, LEAP–1A26, LEAP–1A26E1, LEAP–1A29, LEAP–1A30, LEAP–1A32, LEAP–1A33, LEAP–1A33B2, and LEAP–1A35A.	11,100 cycles since new (CSN) accumulated on the affected part.
LEAP–1A26CJ and LEAP–1A29CJ .....	9,700 CSN accumulated on the affected part.

(2) For LEAP–1A engines having an HPT rotor interstage seal installed with a P/N and S/N listed in Table 2 of CFM SB LEAP–1A–72–00–0525–01A–930A–D Issue 002–00, at the next piece part exposure or before exceeding the applicable cyclic threshold in

Table 1 to paragraph (g)(1) of this AD, whichever occurs first after the effective date of this AD, remove the affected HPT rotor interstage seal from service and replace with a part eligible for installation.

**(h) Installation Prohibition**

(1) After the effective date of this AD, do not install an HPT rotor interstage seal having a P/N and S/N listed in Table 1 or Table 2 of CFM SB LEAP–1A–72–00–0525–

01A–930A–D Issue 002–00, in any LEAP–1A engine.

(2) After the effective date of this AD, do not install an HPT rotor interstage seal having a P/N and S/N listed in Table 1 of CFM SB LEAP–1C–72–00–0124–01A–930A–D, Issue 001, dated September 5, 2024, in any LEAP–1C engine.

#### (i) Definitions

For the purpose of this AD:

(1) “LEAP–1A engines” are CFM Model LEAP–1A23, LEAP–1A24, LEAP–1A24E1, LEAP–1A26, LEAP–1A26CJ, LEAP–1A26E1, LEAP–1A29, LEAP–1A29CJ, LEAP–1A30, LEAP–1A32, LEAP–1A33, LEAP–1A33B2, LEAP–1A35A engines.

(2) “LEAP–1C engines” are CFM Model LEAP–1C28, LEAP–1C30, and LEAP–1C30B1 engines.

(3) A “part eligible for installation” is any HPT rotor interstage seal having a P/N and S/N that is not listed in Table 1 or Table 2 of CFM SB LEAP–1A–72–00–0525–01A–930A–D Issue 002–00.

(4) An “engine shop visit” is the induction of an 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.

(5) A “piece-part exposure” is when the HPT rotor interstage seal is separated from the HPT rotor assembly.

#### (j) 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 AIR–520 Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (k)(1) of this AD and email to: [AMOC@faa.gov](mailto: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.

#### (k) Additional Information

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](mailto:mehdi.lamnyi@faa.gov).

#### (l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the material listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this material as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) CFM International, S.A. (CFM) Service Bulletin LEAP–1A–72–00–0525–01A–930A–D, Issue 002–00, dated June 28, 2024.

(ii) CFM Service Bulletin LEAP–1C–72–00–0124–01A–930A–D, Issue 001, dated September 5, 2024.

(3) For CFM material identified in this AD, 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](mailto:aviation.fleetsupport@ge.com).

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222–5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on September 27, 2024.

**Peter A. White,**

*Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.*

[FR Doc. 2024–22600 Filed 10–1–24; 8:45 am]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 71

[Docket No. FAA–2024–2268; Airspace Docket No. 24–AAL–95]

RIN 2120–AA66

### Revocation of Alaskan Very High Frequency Omnidirectional Range Federal Airway V–447 and Jet Route J–155 and Amendment of Jet Route J–115 in Alaska

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This action proposes to revoke Alaskan Very High Frequency Omnidirectional Range (VOR) Federal Airway V–447 and Jet Route J–155 and amend Jet Route J–115 in Alaska. These proposed actions are due to the decommissioning of the Chandalar Lake Nondirectional Radio Beacon (NDB) in Alaska.

**DATES:** Comments must be received on or before November 18, 2024.

**ADDRESSES:** Send comments identified by FAA Docket No. FAA–2024–2268 and Airspace Docket No. 24–AAL–95 using any of the following methods:

\* *Federal eRulemaking Portal:* Go to [www.regulations.gov](http://www.regulations.gov) and follow the online instructions for sending your comments electronically.

\* *Mail:* Send comments to Docket Operations, M–30; U.S. Department of

Transportation, 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.

\* *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

\* *Fax:* Fax comments to Docket Operations at (202) 493–2251.

*Docket:* Background documents or comments received may be read at [www.regulations.gov](http://www.regulations.gov) at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FAA Order JO 7400.11J, Airspace Designations and Reporting Points, and subsequent amendments can be viewed online at [www.faa.gov/air\\_traffic/publications/](http://www.faa.gov/air_traffic/publications/). You may also contact the Rules and Regulations Group, Office of Policy, Federal Aviation Administration, 600 Independence Avenue SW, Washington, DC 20597; telephone: (202) 267–8783.

**FOR FURTHER INFORMATION CONTACT:** Steven Roff, Rules and Regulations Group, Office of Policy, Federal Aviation Administration, 600 Independence Avenue SW, Washington, DC 20597; telephone: (202) 267–8783.

#### SUPPLEMENTARY INFORMATION:

##### Authority for This Rulemaking

The FAA’s authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. 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. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority as it would modify the airway structure as necessary to preserve the safe and efficient flow of air traffic within the National Airspace System.

##### Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or