(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-locationsoremailfr.inspection@nara.gov.*

Issued on December 6, 2024.

Peter A. White,

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

[FR Doc. 2025–00208 Filed 1–7–25; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2024–1898; Project Identifier AD–2023–01013–E; Amendment 39–22904; AD 2024–25–02]

RIN 2120–AA64

Airworthiness Directives; CFM International, S.A. Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain CFM International, S.A. (CFM) Model LEAP–1B engines. This AD was prompted by a report of a quality escape involving certain high-pressure compressor (HPC) stage 2 seals manufactured without detailed finish machining, which could result in deeper rubs and mechanical damage to the seal teeth of the stage 3–4 compressor rotor blisk (stage 3–4 blisk) of the mating compressor rotor during initial operation. This AD requires a visual inspection of the HPC stage 2 seal, a visual inspection of the forward arm seal teeth of the stage 3–4 blisk, an eddy current inspection (ECI) of the forward arm seal teeth of the stage 3–4 blisk, and replacement of the HPC stage 2 seal and the stage 3–4 blisk, if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective February 12, 2025.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of February 12, 2025.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA–2024–1898; 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.

Material Incorporated by Reference:

- 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.*
- 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. It is also available at *regulations.gov* under Docket No. FAA–2024–1898.

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 by adding an AD that would apply to certain CFM Model LEAP–1B engines. The NPRM published in the **Federal Register** on July 29, 2024 (89 FR 60838). The NPRM was prompted by a report of a quality escape involving certain HPC stage 2 seals manufactured without detailed finish machining, which could result in deeper rubs and mechanical damage to the seal teeth of the stage 3–4 blisk of the mating compressor rotor during initial operation. In the NPRM, the FAA proposed to require a visual inspection of the HPC stage 2 seal, a visual inspection of the forward arm seal teeth of the stage 3–4 blisk, an ECI of the forward arm seal teeth of the stage 3–4 blisk, and replacement of the HPC stage 2 seal and the stage 3–4 blisk, if necessary. 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 six commenters. The commenters were The Boeing Company (Boeing), CFM, Ryanair, StandardAero, Southwest Airlines (SWA), and United Airlines (UAL). Boeing concurred with the contents of the NPRM and StandardAero expressed support for the NPRM. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Remove Certain Engine Serial Numbers (ESNs) From the Applicability

CFM and Ryanair requested that the FAA remove certain ESNs from the applicability of the proposed AD or include replacement of the HPC stage 2 seal and the stage 3–4 blisk with new parts as an option for complying with the proposed AD. Both commenters stated that certain ESNs had already replaced the HPC stage 2 seal and the stage 3–4 blisk with new parts. Both commenters also pointed out that by replacing the HPC stage 2 seal and the stage 3–4 blisk with new parts, the unsafe condition is mitigated for those engines, but not as specified in the required actions of the proposed AD.

Since this is a quality escape issue and limited to the parts originally installed on the engine, the FAA agrees for the reasons provided and has removed ESNs 60A676 and 60A669 from the applicability of this AD.

Request for Clarification of Difference With the Service Information

StandardAero and UAL requested that the FAA provide clarification regarding why the borescope inspection (BSI) specified in the required service information is not required by the NPRM. StandardAero pointed out that the NPRM does not address why the BSI is not required. StandardAero also mentioned that the European Union Aviation Safety Agency (EASA) has a corresponding proposed AD (EASA PAD 24–108), which discussed and inferred that the BSIs have already been completed on all affected engines. StandardAero specifically requested that the FAA confirm that the BSIs have been completed on all the ESNs that are specified in the service information, and that the ESNs specified in the NPRM are those that require additional action due to the BSI results. UAL pointed out that the service information contains Required for Compliance (RC) steps for a BSI. UAL requested clarification of whether those steps are required by the NPRM and whether the BSI is acceptable for verifying the condition of the HPC stage 2 seal and the stage 3–4 blisk.

The FAA acknowledges the difference between the actions required by this AD and those specified in the service information. The engine manufacturer has provided the FAA with evidence

that all affected engines have completed the on-wing BSI, as well as the results of the on-wing BSI. Therefore, the FAA has determined that there is no need for the BSI to be completed as part of the actions required by this AD and that only the follow-on in-shop actions are necessary. The FAA has not changed this AD in this regard.

Request for Clarification of RC Steps

StandardAero requested that the FAA provide clarification regarding the RC steps specified in the required service information but are not required by the NPRM. StandardAero pointed out that the service information states that certain paragraphs are labeled as ''RC,'' and that if the service information is mandated by an AD, then those steps must be done to comply with the AD. StandardAero requested that the FAA coordinate with the engine manufacturer to prevent differences between and confusion regarding the service information and the requirements of the AD. StandardAero also stated its preference that OEMs and type certificate holders do not attempt to highlight required actions in their service information for an AD, especially those that do not yet exist, and allow the FAA to specify the required actions in the AD.

To clarify, the FAA does not make changes to the service information; such changes are implemented by the engine manufacturer. The FAA agrees with the concept of minimizing AD requirements when appropriate. The FAA worked in conjunction with industry, under the Airworthiness Directive Implementation Aviation Rulemaking Committee (AD ARC), to enhance the AD system. One enhancement is a process for annotating which steps in the service information are ''required for compliance'' (RC) with an AD. Differentiating these steps from other tasks in the service information improves an owner's/operator's understanding of AD requirements and helps provide consistent judgment in AD compliance. However, even though the on-wing BSI is labeled RC in the service information, the FAA has been given evidence that all affected engines have completed this inspection. The FAA has chosen to limit the applicability of this AD based on the results of those inspections. Therefore, since the on-wing BSI would not be mandated by this AD and the applicability adjusted accordingly, the FAA has determined that it would be less confusing to call out the specific steps from the service bulletin to complete this action rather than utilize the RC concept. The FAA has determined to include a ''Differences Between this Final Rule and the Related Material'' section in the preamble of this final rule to discuss the difference; however, no changes were made to the regulatory text of the AD.

Request To Include Credit for Previous Actions

SWA and UAL requested that the FAA include credit for previous actions accomplished using Issue 001–00 of the service information. SWA stated that the primary differences between Issue 001–00 and Issue 002–00 are reidentifying steps as RC steps. SWA also pointed out that Issue 001–00 was accomplished on SWA affected engines prior to publication of the NPRM.

The FAA disagrees with the request. Issue 001–00 of the service information was revised to include a new ECI tool part number for the module level inspection required for the stage 3–4 blisk. Any ECI completed in accordance with Issue 001–00 of the service information, was done without this tool, rendering the results of the ECI unacceptable. Therefore, the FAA is unable to include credit for previous actions. However, if the affected parts were removed from service and replaced before the effective date of this AD without performing the inspections required by this AD, and substantiating information can be provided, the operator may request an alternative method of compliance (AMOC) under the provisions of paragraph (h) of this AD. Additionally, regarding the RC label, this AD does not require the on-wing BSI since the manufacturer has already provided the FAA with evidence that all the affected engines have complied with the on-wing BSI, and the FAA has chosen to limit the applicability of this AD based on the results of those inspections. Therefore, since the on-wing BSI would not be mandated by this AD and the applicability adjusted accordingly, the FAA has determined that it would be less confusing to call out the specific steps from the service bulletin to complete this action rather than utilize the RC concept. Therefore, this AD only requires the subsequent in-shop inspections for those engines that failed the on-wing BSI, all of which are included in the applicability of this AD. The FAA has determined to include a ''Differences Between this Final Rule and the Referenced Material'' section in the preamble of this final rule to discuss this; however, no changes were made to the regulatory text.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this 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.

Material Incorporated by Reference Under 1 CFR Part 51

The FAA reviewed CFM Service Bulletin LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00, dated January 23, 2024, which specifies procedures for an on-wing BSI of the honeycomb structure of the affected stage 2 seals and rotating seal teeth coating condition and provides instructions for determining the serviceability of affected components that fail the BSI. This material also specifies procedures for an in-shop visual inspection of the HPC stage 2 seal and the forward arm seal teeth of the stage 3–4 blisk, an ECI of the forward arm seal teeth of the stage 3–4 blisk, and replacement of the HPC stage 2 seal and the stage 3–4 blisk. 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.

Differences Between This Final Rule and the Referenced Material

Where CFM Service Bulletin LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00, dated January 23, 2024, includes RC steps that require a 360-degree BSI of the trail edge area of the stage 2 seals, this AD does not require those steps. Additionally, this AD does not require any RC steps. Instead, the FAA has chosen to limit the applicability of this AD based on the results of those inspections. Therefore, since the on-wing BSI would not be mandated by this AD and the applicability adjusted accordingly, the FAA has determined that it would be less confusing to call out the specific steps from the service bulletin to complete this action rather than utilize the RC concept.

Costs of Compliance

The FAA estimates that this AD affects 31 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
Visual inspection of HPC stage 2 seal	1 work-hour × $85 per hour = $85	$0	$85	$2,635
Visual inspection of stage 3–4 blisk	1 work-hour × $85 per hour = $85	0	85	2,635
ECI of stage 3–4 blisk	4 work-hours × $85 per hour = $340	0	340	10,540

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the inspection. The agency has no way of determining the number of engines that might need these replacements:

ON-CONDITION COSTS

Action	Labor cost	Parts cost	Cost per product
Replace HPC stage 2 seal	8 work-hours × $85 per hour = $680	$55,312	$55,992
Replace HPC stage 3–4 blisk	8 work-hours × $85 per hour = $680	518,500	519,180

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 adding the following new airworthiness directive:

2024–25–02 CFM International, S.A.: Amendment 39–22904; Docket No. FAA–2024–1898; Project Identifier AD–2023–01013–E.

(a) Effective Date

This airworthiness directive (AD) is effective February 12, 2025.

(b) Affected ADs

None.

(c) Applicability

This AD applies to CFM International, S.A. (CFM) Model LEAP–1B21, LEAP–1B23, LEAP–1B25, LEAP–1B27, LEAP–1B28, LEAP–1B28B1, LEAP–1B28B2, LEAP–1B28B2C, LEAP–1B28B3, LEAP–1B28BBJ1, and LEAP–1B28BBJ2 engines having an engine serial number (ESN) identified in Table 1 to paragraph (c) of this AD.

TABLE 1 TO PARAGRAPH (c)—APPLICABLE ESNS

ESN	ESN	ESN	ESN	ESN
60A635	60A647	60A662	60A682	60A702
60A639	60A650	60A663	60A686	
60A642	60A653	60A670	60A687	
60A643	60A655	60A671	60A689	
60A644	60A656	60A673	60A690	
60A645	60A660	60A678	60A691	
60A646	60A661	60A679	60A696	

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by a report of a quality escape involving certain high-pressure compressor (HPC) stage 2 seals manufactured without detailed finish machining, which could result in deeper rubs and mechanical damage to the seal teeth of the stage 3–4 compressor rotor blisk (stage 3–4 blisk) of the mating compressor rotor during initial operation. The FAA is issuing this AD to prevent uncontained failure of the stage 3–4 blisk. The unsafe condition, if not addressed, could result in uncontained part release, damage to the engine, and damage to the aircraft.

(f) Compliance

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

(g) Required Actions

(1) Before accumulating 2,900 cycles since new (CSN) or within 10 flight cycles after the effective date of this AD, whichever occurs later, perform the following:

(i) A visual inspection of the HPC stage 2 seal in accordance with the Accomplishment Instructions, paragraph 5.B.(3) of CFM Service Bulletin LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00, dated January 23, 2024 (CFM SB LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00).

(ii) A visual inspection of the forward arm seal teeth of the stage 3–4 blisk in accordance with the Accomplishment Instructions, paragraph 5.B.(4) of CFM SB LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00.

(iii) An eddy current inspection of the forward arm seal teeth of the stage 3–4 blisk in accordance with the Accomplishment Instructions, paragraph 5.B.(5) of CFM SB LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00.

(2) If, during the inspection required by paragraph (g)(1)(i) of this AD, any of the HPC stage 2 seal segments fail to meet the serviceability criteria specified in the Accomplishment Instructions, paragraph 5.B.(3) of CFM SB LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00, before further flight, remove the unserviceable HPC stage 2 seal segments from service.

(3) If, during the inspections required by paragraphs (g)(1)(ii) and (iii) of this AD, the stage 3–4 blisk fails to meet the serviceability criteria specified in the Accomplishment Instructions, paragraph 5.B.(6) of CFM SB LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00, before further flight:

(i) Remove the stage 3–4 blisk from service;

(ii) Remove all four HPC stage 2 seal segments from service; and

(iii) Replace the stage 3–4 blisk in accordance with the Accomplishment Instructions, paragraph 5.B.(7)(a) of CFM SB LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00.

(4) If, during the actions required by paragraphs (g)(2) and (3) of this AD, the HPC stage 2 seal is removed, before further flight, replace the HPC stage 2 seal in accordance with the Accomplishment Instructions, paragraph 5.B.(7)(b) of CFM SB LEAP–1B–72–00–0394–01A–930A–D, Issue 002–00.

(h) 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 (i) 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.

(i) 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.*

(j) 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–1B–72–00–0394–01A–930A–D, Issue 002–00, dated January 23, 2024.

(ii) [Reserved]

(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.*

(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* or email *fr.inspection@nara.gov.*

Issued on December 3, 2024.

Peter A. White,

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

[FR Doc. 2025–00207 Filed 1–7–25; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2024–1689; Project Identifier AD–2024–00109–T; Amendment 39–22910; AD 2024–25–08]

RIN 2120–AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 767–200, –300, and –300F airplanes. This AD was prompted by a report of a main landing gear (MLG) collapse event following maintenance where a grinder was operating outside of its input parameters, resulting in possible heat damage to the outer cylinder of the MLG. This AD requires replacing affected outer cylinders. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective February 12, 2025.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of February 12, 2025.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA–2024–1689; 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.

Material Incorporated by Reference:

- For Boeing material identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110–SK57, Seal Beach, CA 90740–5600; telephone 562–797–1717; website *myboeingfleet.com.*
- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195. It is also available at *regulations.gov* under Docket No. FAA–2024–1689.