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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0442; Product Identifier 2018-NM-171-AD; Amendment 39-19826; AD 2020-02-12]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2017-15-04, which applied to certain The Boeing Company Model 787-8 and 787-9 airplanes. AD 2017-15-04 required replacement of affected electromechanical actuators (EMAs). This AD retains the requirements of AD 2017-15-04; expands the applicability to include all The Boeing Company Model 787 series airplanes; and adds a new requirement to identify, for certain airplanes, the part number of EMAs and to replace affected EMAs. This AD was prompted by wire harness chafing on the EMAs for certain spoilers due to insufficient separation with adjacent structure. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective March 12, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 12, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of August 25, 2017 (82 FR 33785, July 21, 2017).

ADDRESSES: For service information identified in this final rule, 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; internet https://www.myboeingfleet.com. You may view this service information at the FAA, Transport Standards 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 on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2019-0442.

Examining the AD Docket

You may examine the AD docket on the internet at https://www.regulations.govby searching for and locating Docket No. FAA-2019-0442; 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, the regulatory evaluation, 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: Douglas Tsuji, Senior Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3548; email: douglas.tsuji@faa.gov.

SUPPLEMENTARY INFORMATION:
Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2017-15-04, Amendment 39-18964 (82 FR 33785, July 21, 2017) ("AD 2017-15-04"). AD 2017-15-04 applied to certain The Boeing Company Model 787-8 and 787-9 airplanes. The NPRM published in the Federal Register on July 2, 2019 (84 FR 31526). The NPRM was prompted by a determination that discrepant EMAs could be installed on airplanes outside the original applicability of AD 2017-15-04. The NPRM proposed to continue to require replacement of affected EMAs. The NPRM also proposed to expand the applicability to include all The Boeing Company Model 787 series airplanes, and add a new requirement to identify, for certain airplanes, the part number of EMAs and to replace affected EMAs. The FAA is issuing this AD to address chafing and consequent wire damage that could result in a potential source of ignition in the flammable leakage zone and a consequent fire or explosion.

Comments

The FAA gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Support for the NPRM

United Airlines stated that it has no objection to the NPRM.

Request To Withdraw the NPRM

Boeing requested that the FAA withdraw the NPRM and retain AD 2017-15-04. Boeing stated that the proposal to expand the applicability to include all Boeing Model 787 series airplanes is not necessary. Boeing pointed out that discrepant spoiler EMAs are only applicable to Model 787-8 and 787-9 airplanes, which is the current applicability of AD 2017-15-04. Boeing further pointed out that the changes to the spoiler EMAs, as described in Boeing Service Bulletin B787-81205-SB270030-00, is the baseline for that model, and was incorporated in production on the first Model 787-10 airplane and on. Boeing also stated that the Illustrated Parts Data (IPD) defines the effectivity of the new spoiler EMA part numbers (P/Ns) by line number, and shows that only the C99144-006 P/N is allowed on Model 787-10 airplanes. Boeing asserted that all documentation available to operators specifically states that spoiler EMA P/N C99144-006 is the only approved P/N for Model 787-10 airplanes.

The FAA does not agree with the request to withdraw the NPRM. EMAs are rotable parts that could later be installed on Boeing Model 787 series airplanes that previously did not have affected

EMAs installed. Existing in-service maintenance practices allow for the possibility of discrepant parts being installed on Boeing Model 787 airplanes not affected by AD 2017-15-04. Therefore, the FAA included all Boeing Model 787 series airplanes in the applicability to ensure the unsafe condition is addressed if an affected EMA is installed on a Boeing Model 787-10 airplane. The FAA has not changed this AD in this regard.

Request To Change Applicability of the NPRM

Boeing acknowledges there is a difference between the Boeing service information and the NPRM in capturing airplane effectivity. Boeing noted that there may be instances where operators are rotating parts outside of type design, beyond effectivity limits, or installing EMAs onto airplane configurations in which service information and design changes have already been incorporated. Boeing stated it understands the FAA's concerns regarding the possibility of parts being rotated outside the effectivity contained in the Boeing service information. As a result, Boeing expressed its desire to seek an alternative solution to address the concerns of the FAA. Boeing recommended a collaboration between airline partners, other original equipment manufacturers, and civil aviation authorities to develop an action to implement safe, fair, and consistent policy to address concerns on rotable parts for the industry. Boeing stated it seeks to implement an industry-standard policy on rotable parts.

The FAA is aware that airlines want to maintain the flexibility that is reflected in FAA Advisory Circular (AC) 120-77, dated October 7, 2002 (see paragraph 11(a)(4) of AC 120-77). If this flexibility is no longer allowed with regard to rotable parts, then ADs with an effectivity of "all" would not be necessary to address this issue. At this time, however, AC 120-77 is approved FAA policy that provides certain flexibility for rotable parts. Therefore, the applicability of this AD remains all The Boeing Company Model 787 series airplanes. The FAA has not changed this AD in this regard.

Request To Revise Summary and "Actions Since AD 2017-15-04 Was Issued" Section

Boeing requested that the FAA revise the wording in the SUMMARY from ". . . discrepant EMAs may have been installed on airplanes outside the original applicability . . ." to ". . . discrepant EMAs could be installed on airplanes outside the original applicability . . . ." Boeing reasoned that the wording in the NPRM implies that the FAA has indication that discrepant EMAs have been installed in-service. Boeing infers that the intent of the phrase in the SUMMARY is a hypothetical statement that discrepant EMAs could be installed, and this intent was stated more clearly in the "Actions Since AD 2017-15-04 Was Issued" section of the NPRM.

The FAA partially agrees with the commenter's request. The FAA agrees that the proposed wording more closely matches the intent of the wording in the "Actions Since AD 2017-15-04 Was Issued" section of the NPRM. However, since neither that section of the SUMMARY nor the "Actions Since AD 2017-15-04 Was Issued" section of the Discussion appear in the final rule, the FAA has not changed this final rule as requested. The FAA has, however, revised the statement of what prompted the AD in the Discussion section of this final rule to address the commenter's request.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously, and minor editorial changes. The FAA has determined that these minor changes:

Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and

Do not add any additional burden upon the public than was already proposed in the NPRM.

The FAA also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Boeing Alert Service Bulletin B787-81205-SB270030-00, Issue 002, dated April 7, 2017. The service information describes procedures for replacing affected EMAs with new EMAs.

This AD also requires Boeing Service Bulletin B787-81205-SB270030-00, Issue 001, dated October 22, 2015, which the Director of the Federal Register approved for incorporation by reference as of August 25, 2017 (82 FR 33785, July 21, 2017).

These documents are distinct since they apply to different airplanes. This service information 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.

Costs of Compliance

The FAA estimates that this AD would affect 93 airplanes of U.S. registry. The agency estimates the following costs to comply with this AD:

Estimated Costs for Required Actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
EMA replacement (retained actions from AD 2017-15-04)	32 work-hours × $85 per hour = $2,720 per EMA replacement	(*)	$2,720 * per EMA replacement	$252,960 * per EMA replacement.
Inspection/records check	1 work-hour × $85 per hour = $85	$0	$85 per inspection cycle	$7,905.

* Parts cost is not included in the service information, but Boeing has indicated that existing parts can be modified to become the new parts.

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 has determined that 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.

Adoption of 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 removing Airworthiness Directive (AD) 2017-15-04, Amendment 39-18964 (82 FR 33785, July 21, 2017), and adding the following new AD:

2020-02-12 The Boeing Company: Amendment 39-19826; Docket No. FAA-2019-0442; Product Identifier 2018-NM-171-AD.

(a) Effective Date

This AD is effective March 12, 2020.

(b) Affected ADs

This AD replaces AD 2017-15-04, Amendment 39-18964 (82 FR 33785, July 21, 2017) ("AD 2017-15-04").

(c) Applicability

This AD applies to all The Boeing Company Model 787 series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight Controls.

(e) Unsafe Condition

This AD was prompted by wire harness chafing on the electro-mechanical actuators (EMAs) for certain spoilers due to insufficient separation with adjacent structure. The FAA is issuing this AD to address chafing and consequent wire damage that could result in a potential source of ignition in the flammable leakage zone and a consequent fire or explosion.

(f) Compliance

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

(g) Retained EMA Replacement, With Revised Compliance Language

This paragraph restates the requirements of paragraph (g) of AD 2017-15-04, with revised compliance language. For airplanes identified in Boeing Service Bulletin B787-81205-SB270030-00, Issue 001, dated October 22, 2015: Within 40 months after August 25, 2017 (the effective date of AD 2017-15-04), replace the EMAs with new EMAs, in accordance with the Accomplishment Instructions of Boeing Service Bulletin B787-81205-SB270030-00, Issue 001, dated October 22, 2015; or Boeing Alert Service Bulletin B787-81205-SB270030-00, Issue 002, dated April 7, 2017.

(h) New Definition

For the purpose of this AD, an "affected part" is an EMA for spoiler 4, 5, 10, or 11 having part number (P/N) C99144-004 or C99144-005.

(i) New EMA Identification and Replacement

For airplanes not identified in paragraph (g) of this AD with an original airworthiness certificate or an original export certificate of airworthiness dated before or on the effective date of this AD, do the actions specified in paragraphs (i)(1) and (2) of this AD.

(1) Within 40 months after the effective date of this AD, perform a general visual inspection of the EMAs for spoilers 4, 5, 10, and 11 to determine the part number. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the EMA can be conclusively determined from that review.

(2) If the EMA is an affected part: Within 40 months after the effective date of this AD, replace the EMA in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB270030-00, Issue 002, dated April 7, 2017.

(j) Parts Installation Prohibition

As of the effective date of this AD, do not install on any airplane an EMA having P/N C99144-004 or C99144-005.

(k) Credit for Previous Actions

This paragraph provides credit for the action specified in paragraph (i)(2) of this AD, if that action was performed before the effective date of this AD using Boeing Service Bulletin B787-81205-SB270030-00, Issue 001, dated October 22, 2015.

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO 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 certification office, send it to the attention of the person identified in paragraph (m)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@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.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously for AD 2017-15-04 are approved as AMOCs for the corresponding provisions of paragraph (g) of this AD.

(5) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (l)(5)(i) and (ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the

RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(m) Related Information

(1) For more information about this AD, contact Douglas Tsuji, Senior Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3548; email: douglas.tsuji@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(5) and (6) of this AD.

(n) Material Incorporated by Reference

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

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

(3) The following service information was approved for IBR on March 12, 2020.

(i) Boeing Alert Service Bulletin B787-81205-SB270030-00, Issue 002, dated April 7, 2017.

(ii) [Reserved]

(4) The following service information was approved for IBR on August 25, 2017 (82 FR 33785, July 21, 2017).

(i) Boeing Service Bulletin B787-81205-SB270030-00, Issue 001, dated October 22, 2015.

(ii) [Reserved]

(5) For service information 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; internet https://www.myboeingfleet.com.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on January 22, 2020.

Lance T. Gant,
Director, Compliance & Airworthiness Division,
Aircraft Certification Service.