



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0465; Product Identifier 2020-NM-074-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for The Boeing Company Model 787-8, 787-9, and 787-10 airplanes powered by Rolls Royce Trent 1000 engines. This proposed AD was prompted by reports of damage to the inner fixed structure (IFS) forward upper fire seal and damage to thermal insulation blankets in the forward upper area of the thrust reverser (TR). This proposed AD would require repetitive inspections of the IFS forward upper fire seal and thermal insulation blankets in the forward upper area of the TR for damage and applicable on-condition actions. 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 [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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 <https://www.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.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information 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 on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0465.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0465; 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. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Tak Kobayashi, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA; phone: 206-231-3553; email: Takahisa.Kobayashi@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-2020-0465; Product Identifier 2020-NM-074-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this proposed AD.

Discussion

The FAA has received reports of damage to the IFS forward upper fire seal and damage to thermal insulation blankets in the forward upper area of the TR. Investigation revealed that structural gapping could occur at the interface between the leading edge of the IFS and the engine splitter structure during flight. This gapping condition exposes the IFS forward upper fire seal to excessive airflow pressure and also allows airflow to pass between the engine splitter structure and the IFS forward upper fire seal, resulting in

damage to the IFS forward upper fire seal and thermal blanket. Failure of the IFS forward upper fire seal could cause the loss of seal pressurization and degrade the ability to detect and extinguish an engine fire, resulting in an uncontrolled fire. Damage to the TR insulation blanket could result in thermal damage to the TR inner wall, the subsequent release of engine exhaust components, and consequent damage to critical areas of the airplane.

Relationship Between this Proposed AD and AD 2018-15-03

This proposed AD does not supersede or terminate any requirement of AD 2018-15-03, Amendment 39-19335 (83 FR 34753, July 23, 2018) (“AD 2018-15-03”). AD 2018-15-03 requires an inspection to determine the part number of the IFS forward upper fire seals, and applicable on-condition actions. The on-condition actions include replacement of any IFS forward upper fire seal having part number (P/N) 725Z3171-127 or P/N 725Z3171-128 with a fire seal having P/N 725Z3171-151 or P/N 725Z3171-152, as applicable. After any IFS forward upper fire seal replacement, AD 2018-15-03 requires updating the part number of the thrust reverser half (two thrust reverser halves per engine). AD 2018-15-03 also prohibits the installation of IFS forward upper fire seals having P/N 725Z3171-127 or P/N 725Z3171-128, as of August 27, 2018 (the effective date of AD 2018-15-03).

This proposed AD would require repetitive inspections of the IFS forward upper fire seal and thermal insulation blankets in the forward upper area of the TR for damage, and applicable on-condition actions. During the inspections specified in this proposed AD, if damage is found on any IFS forward upper fire seal, and that fire seal has P/N 725Z3171-127 or P/N 725Z3171-128, that damaged fire seal must be replaced with a

fire seal having P/N 725Z3171-151 or P/N 725Z3171-152, as applicable. After the IFS forward upper fire seal replacement, operators may update the part number of the thrust reverser half to get credit for compliance with the requirements of AD 2018-15-03, provided that action is accomplished within the compliance time of AD 2018-15-03, which is 36 months after August 27, 2018 (the effective date of AD 2018-15-03).

Related Service Information under 1 CFR part 51

The FAA reviewed Boeing Alert Requirements Bulletin B787-81205-SB780041-00 RB, Issue 001, dated March 31, 2020. The service information describes procedures for repetitive inspections of the IFS forward upper fire seal and thermal insulation blankets of the TR for damage and applicable on-condition actions. Damage to a forward upper fire seal includes cuts, splits, nicks, punctures, and missing sections. Damage to an upper thermal blanket includes tears, cuts, missing metal skin, missing insulation, and over-temperature conditions shown by discoloration or scorching. The on-condition actions include replacing any damaged forward upper fire seal with a new fire seal having an appropriate part number, and replacing any damaged forward upper thermal blanket with a new thermal blanket.

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.

FAA's Determination

The FAA is proposing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishment of the actions identified in Boeing Alert Requirements Bulletin B787-81205-SB780041-00 RB, Issue 001, dated March 31, 2020, described previously, except as discussed under “Differences Between this Proposed AD and the Service Information,” and except for any differences identified as exceptions in the regulatory text of this proposed AD.

For information on the procedures and compliance times, see this service information at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0465.

Explanation of Requirements Bulletin

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. Boeing has implemented this RC concept into Boeing service bulletins.

In an effort to further improve the quality of ADs and AD-related Boeing service information, a joint process improvement initiative was worked between the FAA and Boeing. The initiative resulted in the development of a new process in which the service information more clearly identifies the actions needed to address the unsafe condition in the “Accomplishment Instructions.” The new process results in a Boeing Requirements Bulletin, which contains only the actions needed to address the unsafe condition (i.e., only the RC actions).

Differences Between this Proposed AD and the Service Information

Boeing Alert Service Bulletin B787-81205-SB780041-00, Issue 001, dated March 31, 2020, which is referred to in Boeing Alert Requirements Bulletin B787-81205-SB780041-00 RB, Issue 001, dated March 31, 2020, specifies 0.5 task hours for replacing the fire seal and 0.5 task hours for replacing the thermal blanket. Boeing notified the FAA that these estimates are not accurate and the correct estimated task hours are 2 work-hours per TR half for replacing the fire seal and 1 work-hour per TR half for replacing the thermal blanket. The Costs of Compliance section in this proposed AD reflects the corrected estimated costs.

Interim Action

The FAA considers this proposed AD interim action. If final action is later identified, the FAA might consider further rulemaking at that time.

Costs of Compliance

The FAA estimates that this proposed AD affects 14 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	4 work-hours X \$85 per hour = \$340 per inspection cycle	\$0	\$340 per inspection cycle	\$4,760 per inspection cycle

The FAA estimates the following costs to do any necessary on-condition actions that would be required. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

Estimated costs of on-condition actions

Action	Labor cost	Parts cost	Cost per product
Fire seal replacement	2 work-hours X \$85 per hour = \$170 per TR half	\$1,365 per TR half	\$1,535 per TR half (4 TR halves per airplane)
Thermal blanket replacement	1 work-hour X \$85 per hour = \$85 per TR half	\$17,855 per TR half	\$17,940 per TR half (4 TR halves per airplane)

According to the manufacturer, some or all of the costs of this proposed AD may be covered under warranty by Goodrich, thereby reducing the cost impact on affected operators. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all known costs in our cost estimate.

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) 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 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 (AD):

The Boeing Company: Docket No. FAA-2020-0465; Product Identifier
2020-NM-074-AD.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE
OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 787-8, 787-9, and 787-10
airplanes, certificated in any category, powered by Rolls Royce Trent 1000 engines.

(d) Subject

Air Transport Association (ATA) of America Code 78, Engine Exhaust System.

(e) Unsafe Condition

This AD was prompted by reports of damage to the inner fixed structure (IFS)
forward upper fire seal and damage to thermal insulation blankets in the forward upper
area of the thrust reverser (TR). The FAA is issuing this AD to address the damage to the
IFS forward upper fire seal and the thermal insulation blankets of the TR due to airflow
through structural gapping that could occur at the interface between the leading edge of
the IFS and the engine splitter structure during flight. Failure of the IFS forward upper
fire seal could cause the loss of seal pressurization and degrade the ability to detect and
extinguish an engine fire, resulting in an uncontrolled fire. Damage to the TR insulation
blanket could result in thermal damage to the TR inner wall, the subsequent release of
engine exhaust components, and consequent damage to critical areas of the airplane.

(f) Compliance

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

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin B787-81205-SB780041-00 RB, Issue 001, dated March 31, 2020, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin B787-81205-SB780041-00 RB, Issue 001, dated March 31, 2020.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin B787-81205-SB780041-00, Issue 001, dated March 31, 2020, which is referred to in Boeing Alert Requirements Bulletin B787-81205-SB780041-00 RB, Issue 001, dated March 31, 2020.

(h) Exceptions to Service Information Specifications

Where Boeing Alert Requirements Bulletin B787-81205-SB780041-00 RB, Issue 001, dated March 31, 2020, uses the phrase “the Issue 001 date of Requirements Bulletin B787-81205-SB780041-00 RB” this AD requires using “the effective date of this AD.”

(i) 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 (j)(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.

(j) Related Information

(1) For more information about this AD, contact Tak Kobayashi, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA; phone: 206-231-3553; email: Takahisa.Kobayashi@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information 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.

Issued on June 3, 2020.

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

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