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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0602; Product Identifier 2019-NM-016-AD; Amendment 39-19874; AD 2020-05-24]

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) 2010-26-01, which applied to certain The Boeing Company Model 777-200 series airplanes. AD 2010-26-01 required installing a new insulation blanket on the latch beam firewall of each thrust reverser (T/R) half. This AD requires retaining the requirements of 2010-26-01. This AD also adds airplanes to the applicability. For those airplanes, this AD requires an inspection to determine if the installed T/R has an affected part number and, if an affected part number is found, installation of a new insulation blanket. This AD was prompted by a report of an in-flight shutdown due to an engine fire indication and a determination that additional airplanes are affected. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective April 24, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 24, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of January 20, 2011 (75 FR 78594, December 16, 2010).

ADDRESSES: For service information identified in this final rule, 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 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-2019-0602.

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-2019-0602; 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: James Laubaugh, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3622; email: james.laubaugh@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2010-26-01, Amendment 39-16540 (75 FR 78594, December 16, 2010) (“AD 2010-26-01”). AD 2010-26-01 applied to certain Model 777-200 series airplanes. The NPRM published in the Federal Register on August 9, 2019 (84 FR 39241). The NPRM was prompted by a report of an in-flight shutdown due to an engine fire indication; an under-cowl engine fire was extinguished after landing. The NPRM was also prompted by a determination that additional airplanes are affected. The NPRM proposed to continue to require installing a new insulation blanket on the latch beam firewall of each T/R half. The NPRM also proposed to add airplanes to the applicability. For those airplanes, the NPRM proposed to require an inspection to determine if the installed T/R has an affected part number and, if an affected part number is found, installation of a new insulation blanket. The FAA is issuing this AD to address the potential for a fire from entering the cowl or strut area, which could weaken T/R parts and result in reduced structural integrity of the T/R, possible separation of T/R parts during flight, and consequent damage to the airplane, injury to people, and damage to property on the ground.

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

The Air Line Pilots Association, International (ALPA) and United Airlines stated their support for the NPRM.

Request To Revise the Cost of Compliance

Boeing requested that the FAA revise the Cost of Compliance paragraph in the NPRM. Boeing stated that the proposed AD would affect 4 additional airplanes for a total of 29 airplanes of U.S. registry. Boeing stated that the 4 additional airplanes are equipped with Model GE 90-90B engines with line numbers greater than 413 and are therefore not identified in Boeing Alert Service Bulletin 777-78A0066, Revision 2, dated April 8, 2010, and not affected by AD 2010-26-01.

The FAA concurs with the request and has revised the Cost of Compliance paragraph of this final rule to include 29 airplanes of U.S. registry. The four additional airplanes are Model 777-200 series with the specified engines already included in the applicability of the proposed AD. Although the effectivity of Boeing Alert Service Bulletin 777-78A0066, Revision 2, dated April 8, 2010, does

not include those four additional airplanes, the FAA determined that the actions in that service information are applicable to the additional airplanes.

Request To Revise the Applicability

Boeing requested that the applicability paragraph in the proposed AD also include Model 777-200 series airplanes equipped with General Electric Company (GE) GE90-92B engines. Boeing stated that there are two airplanes equipped with GE90-92B engines that are affected by AD 2010-26-01 and are not included in the applicability of the proposed AD.

The FAA disagrees with the commenter's request. The FAA has investigated the circumstances surrounding the comment and determined that the Model GE90-92B engine is not identified on the existing U.S. type certificate data sheet (TCDS). At the engine manufacturer's request, the Model GE90-92B engine was removed from the Engine TCDS No. E00049EN at Revision 8, dated October 12, 2000. The FAA has also confirmed with the engine manufacturer that there are no Model GE90-92B engines in service or certified for installation on Boeing Model 777 airplanes, as specified in Airplane TCDS No. T00001SE, Revision 43, dated August 28, 2019. The FAA has not changed this AD in this regard.

Request To Clarify T/R Interchangeability

Boeing requested that the FAA revise the section "Actions Since AD 2010-26-01 Was Issued" of the NPRM to state that the installation of a T/R specified in AD 2010-26-01 onto an airplane outside of the applicability of that AD is possible, but it is not allowed. Boeing commented that the interchangeability of the T/Rs delivered on Model 777-200 series airplanes equipped with GE90-76B, -85B, -90B, -92B, or -94B engines is controlled by the "released engineering" that defines the type design, which includes the 315W1295 Interchangeability Drawings (Sheets 1-9). Boeing also commented that there is a one-way interchangeability restriction that does not allow the earlier, affected T/Rs specified in AD 2010-26-01 to be installed on an airplane that is not subject to that AD.

The FAA partially agrees. The FAA agrees that the T/R configuration referenced in AD 2010-26-01 is not part of the manufacturer's type design, based on the drawings the manufacturer provided. However, the FAA disagrees with adding a clarification statement about the manufacturer's type design to this AD because it is not relevant to the purpose of this AD. The purpose of the AD is to address the safety concern in the design of those parts. The manufacturer's type design does not preclude an owner or operator from installing the affected parts. The FAA has not changed this AD in this regard.

Request for Clarification of the Inspection

Japan Airlines (JAL) requested clarification of the inspection in paragraph (h) of the proposed AD. JAL asked whether it is acceptable to determine the T/R part number with the airplane delivery document from Boeing if the following conditions are met: the T/R has never been replaced since the airplane delivery from Boeing; and no modification requiring change of the part number has been done on the T/R.

The FAA agrees to provide clarification. The FAA expects that the inspection will contain a thorough review of all relevant airplane configuration documentation and it is possible documentation alone may be used to show compliance with this requirement. The principal maintenance inspector responsible for accepting the documentation will determine the adequacy of the supplied documentation in showing if the affected parts are in service. The FAA has not revised this AD in this regard.

Request for Collaboration To Address Rotable Parts

Boeing requested that the FAA and Boeing collaborate with its airline partners, other original equipment manufacturers, and the national Civil Aviation Authorities (CAA) to develop an action to implement safe, fair, and consistent policy to address concerns on rotatable parts for the industry. Boeing stated that it acknowledges there is a difference between the Boeing service information and the FAA's rulemaking in capturing the airplane effectivity. Boeing commented that there may be some instances where operators are rotating parts outside of type design, beyond effectivity limits or having T/Rs installed onto airplane configurations in which service information and design changes have already been incorporated. Boeing stated it understands the FAA's concerns with the possibility of parts being rotated outside the effectivity contained in the Boeing service information and would like to seek an alternative solution to address these concerns.

The FAA supports the commenter's proposal to address rotatable parts under the collaborative efforts of the FAA, other civil aviation authorities, airplane manufacturers, and airplane operators. Any future collaborative efforts to address rotatable parts will be coordinated outside of this AD. The FAA has not changed this AD in this regard.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed, except for 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.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011. This service information describes procedures for installing a new insulation blanket on the latch beam firewall of each T/R half. The installation includes, for certain airplanes, inspecting to determine if fitting part number 315W1436-4 is installed on the aft latch beam of the right side T/R and, for affected fittings, cutting the clevis from the affected fitting.

This AD would also require Boeing Alert Service Bulletin 777-78A0066, Revision 2, dated April 8, 2010, which the Director of the Federal Register approved for incorporation by reference as of January 20, 2011 (75 FR 78594, December 16, 2010).

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 affects 29 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
Blanket installation (retained actions from AD 2010-26-01) (21 airplanes)	7 work-hours × \$85 per hour = \$595	Up to \$5,253	Up to \$5,848	Up to \$122,808.

Inspection and blanket installation (new proposed action) (8 airplanes)	Up to 13 work-hours × \$85 per hour = Up to \$1,105	Up to \$7,529	Up to \$8,634	Up to \$69,072.
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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) 2010-26-01, Amendment 39-16540 (75 FR 78594, December 16, 2010), and adding the following new AD:



2020-05-24 The Boeing Company: Amendment 39-19874; Docket No. FAA-2019-0602; Product Identifier 2019-NM-016-AD.

(a) Effective Date

This AD is effective April 24, 2020.

(b) Affected ADs

This AD replaces AD 2010-26-01, Amendment 39-16540 (75 FR 78594, December 16, 2010) (“AD 2010-26-01”).

(c) Applicability

This AD applies to The Boeing Company Model 777-200 series airplanes, certificated in any category, equipped with General Electric Company (GE) GE90-76B, -85B, -90B, or -94B engines.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a report of an in-flight shutdown due to an engine fire indication; an under-cowl engine fire was extinguished after landing. This AD was also prompted by a determination that additional airplanes are affected. The FAA is issuing this AD to address the potential for a fire from entering the cowl or strut area, which could weaken thrust reverser (T/R) parts and result in reduced structural integrity of the T/R, possible separation of T/R parts during flight, and consequent damage to the airplane, injury to people, and damage to property on the ground.

(f) Compliance

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

(g) Retained Installation of Insulation Blanket, with Revised Service Information

This paragraph restates the requirements of paragraph (g) of AD 2010-26-01, with revised service information. For airplanes identified in Boeing Alert Service Bulletin 777-78A0066, Revision 2, dated April 8, 2010: Within 60 months or 4,500 flight cycles after January 20, 2011 (the effective date of AD 2010-26-01), whichever is first, install a new insulation blanket on the latch beam firewall of each T/R half by doing all the applicable actions specified in the Accomplishment Instructions of Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011.

(h) New Requirement: Installation of Insulation Blanket for Additional Airplanes

For airplanes not identified in paragraph (g) of this AD: Within 60 months or 4,500 flight cycles after the effective date of this AD, whichever is first, inspect to determine if the installed T/R has any affected part number as identified in paragraphs (h)(1) through (5) of this AD. If an affected T/R is found or if it cannot be determined which T/R is installed, within 60 months or 4,500 flight cycles after the effective date of this AD, whichever is first, install a new insulation blanket on the latch beam firewall of each T/R half by doing all the applicable actions specified in the Accomplishment Instructions of Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011, except as specified in paragraph (i) of this AD. A review of airplane maintenance records is acceptable in lieu of this inspection if it can be conclusively determined from that review that the installed T/R is not an affected T/R. A review of airplane maintenance records is also acceptable in lieu of this inspection if it can be conclusively determined from that review that an affected T/R is installed and the actions specified in Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011, have already been done on that T/R.

(1) 315W1001-XX (all—where “XX” is any combination of numbers and letters that follow the dash).

(2) 315W1295-1 through 315W1295-222 inclusive.

(3) 315W1295-5001 through 315W1295-5222 inclusive.

(4) 315W1295-5501 through 315W1295-5722 inclusive.

(5) 315W1295-6101 through 315W1295-6322 inclusive.

(i) Exceptions to Service Information Specification

(1) Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011, defines Group 1 as “all 777-200 airplanes with GE90 engines through line number 413 with a forward insulation blanket”; however, for paragraph (h) of this AD, Group 1 is defined as “all 777-200 airplanes with GE90 engines with a forward insulation blanket.”

(2) Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011, defines Group 2 as “all 777-200 airplanes with GE90 engines through line number 413 without a forward insulation blanket”; however, for paragraph (h) of this AD, Group 2 is defined as “all 777-200 airplanes with GE90 engines without a forward insulation blanket.”

(3) Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011, defines Group 2 Configuration 1 as “all 777-200 airplanes with GE90 engines through line number 413 without a forward insulation blanket and without the fitting assembly at the aft insulation blanket location”; however, for paragraph (h) of this AD, Group 2 Configuration 1 is defined as “all 777-200 airplanes with GE90 engines without a forward insulation blanket and without the fitting assembly at the aft insulation blanket location.”

(4) Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011, defines Group 2 Configuration 2 as “all 777-200 airplanes with GE90 engines through line number 413 without a forward insulation blanket and with the fitting assembly at the aft insulation blanket location”; however, for paragraph (h) of this AD, Group 2 Configuration 2 is defined as “all 777-200 airplanes with GE90 engines without a forward insulation blanket and with the fitting assembly at the aft insulation blanket location.”

(j) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using one of the service bulletins specified in paragraphs (j)(1) through (3) of this AD.

(1) Boeing Alert Service Bulletin 777-78A0066, dated June 5, 2008.

(2) Boeing Service Bulletin 777-78A0066, Revision 1, dated March 12, 2009.

(3) Boeing Alert Service Bulletin 777-78A0066, Revision 2, dated April 8, 2010.

(k) 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 (l)(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 2010-26-01 are approved as AMOCs for the corresponding provisions of paragraph (g) of this AD.

(l) Related Information

(1) For more information about this AD, contact James Laubaugh, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3622; email: james.laubaugh@faa.gov.

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

(m) 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 April 24, 2020.

(i) Boeing Service Bulletin 777-78A0066, Revision 3, dated April 28, 2011.

(ii) [Reserved]

(4) The following service information was approved for IBR on January 20, 2011 (75 FR 78594, December 16, 2010).

(i) Boeing Alert Service Bulletin 777-78A0066, Revision 2, dated April 8, 2010.

(ii) [Reserved]

(5) 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.

(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 March 9, 2020.

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