[Federal Register Volume 80, Number 148 (Monday, August 3, 2015)]
[Rules and Regulations]
[Pages 45853-45856]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2015-18694]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0348; Directorate Identifier 2014-NM-033-AD; Amendment 39-18225; AD 2015-15-15]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 777-200, 777-200LR, 777-300ER, and 777F series airplanes. This AD was prompted by a report indicating that sealant might not have been applied in production to the wing skin panel gaps above certain underwing fittings. This AD would require an inspection for missing sealant, and applicable other specified, related investigative, and corrective actions. We are proposing this AD to detect and correct missing sealant from the wing skin panel gaps above the underwing fittings, which could result in corrosion and fatigue cracking in the wing skin panel, and consequent loss of limit load capability of the wing skin and potential subsequent structural failure of the wings.

DATES: This AD is effective September 8, 2015.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 8, 2015.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet https://www.myboeingfleet.com. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA 2014-0348.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2014-0348; or in person at the Docket Management Facility between 9

a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, 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: Haytham Alaidy, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-6573; phone: 425-917-6573; fax: 425-917-6590; email: haytham.alaidy@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 777-200, 777-200LR, 777-300ER, and 777F series airplanes. The NPRM published in the Federal Register on July 1, 2014 (79 FR 37243). The NPRM was prompted by a report indicating that sealant might not have been applied in production to the wing skin panel gaps above certain underwing fittings. The NPRM proposed to require an inspection for missing sealant, and applicable other specified, related investigative and corrective actions. We are issuing this AD to detect and correct missing sealant from the wing skin panel gaps above the underwing fittings, which could result in corrosion and fatigue cracking in the wing skin panel, and consequent loss of limit load capability of the wing skin and potential subsequent structural failure of the wings.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM (79 FR 37243, July 1, 2014) and the FAA's response to each comment. Boeing concurs with the contents of the NPRM.

Request To Accept Approved Repairs Without Need for Alternative Methods of Compliance (AMOC)

FedEx requested that any FAA-approved repair be accepted without the requirement of obtaining an AMOC.

We do not agree with the request. The FAA does not consider that any FAA-approved repair will be acceptable to repair this condition. As the sealant was missing from the airplane at the time of initial delivery, it may not have been restored in prior repairs. In addition, repairs may not have detected all corrosion because the repair might not have included the inspection information contained in Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015.

Repairs for this AD must be approved by the Manager, Seattle ACO, FAA; or by the Boeing Organization Designation Authorization (ODA) using FAA Form 8100-9 in accordance with the procedures specified in paragraph (j)(3) of this AD. We intend to delegate authority to approve AMOCs to the Boeing ODA for the repair approval process. In addition to knowledge of the unsafe condition, the Boeing ODA is knowledgeable about the original airplane design and compliance substantiation. We have not changed this AD regarding this issue.

Request To Withdraw NPRM (79 FR 37243, July 1, 2014)

American Airlines (AAL) stated that the Boeing 777 Maintenance Review Board Report (MRBR) has existing inspections intended to identify deterioration of sealant, as well as any corrosion or cracking. These inspections will detect deterioration or damage to the fillet seal that would lead to moisture ingression to the area of concern. AAL therefore considers the NPRM (79 FR 37243, July 1, 2014) to be unwarranted.

We disagree with the commenter's request to withdraw the NPRM (79 FR 37243, July 1, 2014). Evaluation of the quality escapement revealed that, under certain environmental conditions, moisture can get trapped within a cavity directly under the nacelle fittings that are normally filled with sealant. With the presence of moisture in this cavity, the existing corrosion protection would degrade within an estimated ten years of service, and corrosion pitting would form on the stringer surface. Under flight loading, cracks would initiate and propagate from the corrosion pits until the stringer would no longer be able to sustain limit load, and would eventually fail. This corrosion and cracking would not be detected by the existing maintenance program prior to stringer failure. We have not changed this AD regarding this issue.

Request for Validated Inspection Procedures

American Airlines (AAL) stated that accomplishing the actions specified in Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, could be detrimental to aircraft safety. According to AAL, any attempt at the sealant removal to do the inspection based upon the existing instructions in Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, could potentially damage or degrade the protective surface finish of the wing skin or underwing fitting and lead to future corrosion or fatigue cracking.

AAL stated that it attempted and failed to accomplish the inspection in accordance with Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, because access to some of the intended inspection areas was severely inhibited by hydraulic lines. AAL also stated that any sealant, if present, would have been applied to the entire gap, so inspection from only one side should be sufficient. In addition, AAL used the recommended tooling and alternate tooling as specified in Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, but experienced multiple problems with the use of this tooling. In addition, AAL requested that Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, be validated with workable tooling on an in-service airplane prior to any future action.

We infer that the commenter is requesting that we delay issuance of the final rule pending validation of the existing procedures. We do not agree. AAL reported "multiple problems with the use of this tooling," but did not describe any specific problems. However, we understand that the tools themselves require frequent but inexpensive replacement. We have determined that use of the appropriate tools and processes to remove the sealant from underneath the fitting should not damage the skin or adjacent structures.

Boeing has performed and validated the procedures in Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, on certain airplanes that are representative of the fleet on the flight line before delivery with no damage to the skin or adjacent structures. However, Boeing has revised Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, to clarify the sealant removal process and tooling, to ensure that it will not damage the skin. We also discussed AAL's concerns with Boeing, and Boeing reported that they have provided AAL with assistance. Boeing is also willing to work with any other operator that is having difficulty implementing the SB.

Boeing considers that the revision of Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, should address AAL's concerns about the tooling and procedures for sealant removal. We have revised paragraphs (c), (g), (h)(1), and (h)(2) of this AD to refer to Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015. We have added new paragraph (i) to this AD to give credit for actions done before the effective date of this AD using Boeing Alert Service Bulletin 777-

57A0097, dated January 10, 2014. We have redesignated subsequent paragraphs accordingly. The FAA will consider approving alternative procedures if they are shown to be effective.

Request for Additional Time

AAL requested that, once Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, is validated, sufficient time should be provided to allow operators to procure such tooling.

We infer that the commenter is requesting an extension to the compliance time. We do not agree with the commenter's request to extend the compliance time. We coordinated with Boeing regarding tool availability and fabrication. The tools stated in Boeing Service Bulletin 777-57A0097, dated January 10, 2014; and Revision 1, dated May 4, 2015; are nonmetallic sealant scrapers, which are widely available, with no lead time to procure these tools. Existing tools may be modified to match the wing panel gaps by cutting them to the correct size. However, we do understand that cutting the tools to size may weaken the tools, which could cause them to fracture and result in more frequent replacement of the tools. Boeing has stated that there is no engineering or drawing work required for fabrication. Any certified aircraft mechanic can fabricate the necessary tools. Boeing stated that during validation of the Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014, the tools were fabricated in a working shift. We have not changed this AD in this regard.

Conclusion

We 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. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 37243, July 1, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 37243, July 1, 2014).

We 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

We reviewed Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015. The service information describes procedures for the inspection and repair of underwing fitting sealant at wing panel gaps. 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 of this AD.

Costs of Compliance

We estimate that this AD affects 6 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	Up to 104 work-hours × $85 per hour = $8,840	$0	Up to $8,840	Up to $53,040.

We estimate the following costs to do any necessary actions that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these actions:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Sealant restoration	1 work-hour × $85 per hour = $85	$0	$85.
Corrosion inspection	2 work-hours × $85 per hour = $170 per side	$0	$170 per side.

We have received no definitive data that would enable us to provide cost estimates for the on-condition corrosion repair specified in this AD.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all 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.

We are 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) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) 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 adding the following new airworthiness directive (AD):

2015-15-15 The Boeing Company: Amendment 39-18225; Docket No. FAA-2014-0348; Directorate Identifier 2014-NM-033-AD.

(a) Effective Date

This AD is effective September 8, 2015.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 777-200, 777-200LR, 777-300ER, and 777F series airplanes, certificated in any category, as identified in Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015.

(d) Subject

Air Transport Association (ATA) of America Code 57, Wings.

(e) Unsafe Condition

This AD was prompted by a report indicating that sealant might not have been applied in production to the wing skin panel gaps above certain underwing fittings. We are issuing this AD to detect and correct missing sealant from the wing skin panel gaps above the underwing fittings, which could result in corrosion and fatigue cracking in the wing skin panel, and consequent loss of limit load capability of the wing skin and potential subsequent structural failure of the wings.

(f) Compliance

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

(g) Inspection, Related Investigative and Corrective Actions

At the applicable time specified in paragraph 1.E., "Compliance," of Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015, except as required by paragraph (h)(1) of this AD: Do a detailed inspection for missing sealant in the wing skin panel gaps above the underwing fittings, and do all applicable other specified, related investigative, and corrective actions, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015, except as required by paragraph (h)(2) of this AD. Do all applicable other specified, related investigative, and corrective actions before further flight.

(h) Exceptions to Service Information Specifications

(1) Where Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015, specifies a compliance time "after the original issue date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015, specifies to contact Boeing for appropriate action: Repair before further flight using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(i) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin 777-57A0097, dated January 10, 2014.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), 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 ACO, send it to the attention of the person identified in paragraph (k)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOCRequests@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 required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle Aircraft Certification Office (ACO), to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Some steps in the Work Instructions are labeled as Required for Compliance (RC). If this service bulletin is mandated by an AD, then 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. An AMOC is required for any deviations to RC steps, including substeps and identified figures. 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.

(k) Related Information

(1) For more information about this AD, contact Haytham Alaidy, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6573; fax: 425-917-6590; email: haytham.alaidy@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.

(l) 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 the AD specifies otherwise.

(i) Boeing Service Bulletin 777-57A0097, Revision 1, dated May 4, 2015.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet https://www.myboeingfleet.com.

(4) You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) 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, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Renton, Washington, on July 23, 2015.

Victor Wicklund,

Acting Manager, Transport Airplane Directorate,

Aircraft Certification Service.