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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-6428; Directorate Identifier 2015-NM-119-AD; Amendment 39-18764; AD 2016-26-06]

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 787-8 airplanes. This AD was prompted by reports indicating that certain wing side-of-body upper stringer fittings have been installed with faying surface mismatch beyond the allowed machining tolerance. This AD requires inspections of certain stringer fittings, replacement if necessary, and replacement of certain fasteners. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective February 15, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of February 15, 2017.

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; telephone 562-797-1717; 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-2016-6428.

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-2016-6428; 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: Allen Rauschendorfer, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6487; fax: 425-917-6590; email: allen.rauschendorfer@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 787-8 airplanes. The NPRM published in the Federal Register on May 11, 2016 (81 FR 29206) ("the NPRM"). The NPRM was prompted by reports indicating that certain wing side-of-body upper stringer fittings have been installed with faying surface mismatch beyond the allowed machining tolerance. The NPRM proposed to require inspection of certain stringer fittings for faying surface mismatch common to the side-of-body rib chord, replacement if necessary, and replacement of the clearance fit fasteners common to the side-of-body fittings and upper side-of-body rib chord with tapered sleeve bolts. We are issuing this AD to prevent an unacceptable reduction of the fatigue life in the upper side-of-body rib chord. Associated fatigue cracks can reduce the structural capability of the upper side-of-body t-chord to a point where it cannot sustain limit load, which could adversely affect the structural integrity of the airplane.

Comments

We 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.

Request To Reference Revised Service Information

United Airlines (UA) and All Nippon Airways (ANA) asked that we revise the NPRM to reference Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 002, because Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015, is currently being revised by Boeing. UA and ANA added that by including the revised service information for accomplishing the specified actions, requests for alternative methods of compliance (AMOCs) will be reduced.

We do not agree because the revised service information is not yet released. In an AD, we cannot refer to service information that does not exist because doing so violates Office of the Federal Register (OFR) regulations for approval of materials incorporated by reference in rules. To allow operators to use service information issued after publication of an AD, either we must supersede the AD to reference specific service information, or operators must request approval to use the new service information as an AMOC for the AD under the provisions of paragraph (j) of this AD. We consider addressing the unsafe condition as soon as possible a necessity. We might consider issuing a global AMOC if revised service information is approved. We have not changed this AD in this regard.

Request for Clarification of the Reason for the AD

Boeing asked that we clarify that the proposed AD was prompted by reports indicating that the wing side-of-body stringer fittings that were installed with a faying surface mismatch beyond allowed tolerances were the upper stringer fittings.

We agree that clarification of the language describing what prompted the AD is necessary. We have changed the SUMMARY section of this final rule, as well as paragraph (e) of this AD, to include "upper" before "stringer fittings."

Request for Clarification of Certain Language in the Discussion Section

Boeing asked that we clarify the Discussion section of the NPRM, which stated that the faying surface mismatch produces a gouge. Boeing requested that we revise this wording to indicate that a gouge produced from a faying surface mismatch is a possibility, not a certainty.

We do not agree that the description in the Discussion section of the NPRM is inaccurate, because excessive cutter mismatch will produce a gouge in the mating surface eventually. In addition, the Discussion section of NPRMs is not fully repeated in final rules. Therefore, we have not changed this AD in this regard.

Request for Clarification of Corrective Actions

Boeing asked that we clarify the description of the corrective actions in the "Related Service Information under 1 CFR part 51" section of the NPRM by distinguishing certain conditions associated with the various corrective actions.

We agree that clarification of the language is necessary. The "Related Service Information under 1 CFR part 51" section in an AD simply describes the various actions in the service information; it does not describe the detailed requirements with specific corrective actions for specific inspection findings. Therefore, we have changed that section in this final rule to simply list the different actions provided in Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015.

Request for Clarification of Certain Language in FAA's Determination Section

Boeing asked that the word "other" be removed from the "FAA's Determination" section of the NPRM, which specifies that the unsafe condition "is likely to exist or develop in other products of the same type design." Boeing stated that the unsafe condition resulted from a quality escapement applicable to specific line numbers, and therefore is not likely to develop in other products of the same type design (i.e., the entire 787-8 fleet).

We do not agree to remove the word "other" from the specified sentence. In 14 CFR 39.5, which defines the reason for issuing ADs, it states that an AD addresses "a product" when the unsafe condition is likely to exist or develop in "other products" of the same type design. The product addressed by an AD refers to the airplane(s) associated with the incident or specific findings that prompted the AD. In this case, the "other products" extends to Model 787-8 airplanes that are identified in paragraph (c) of this AD—that is, airplanes identified in Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015—not the entire fleet. We have not changed this AD in this regard.

Request for Clarification of Compliance Time

Boeing asked that we change the compliance time wording in paragraph (g) of the proposed AD for clarification by referring to Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015, instead of specifying the actual compliance time.

We do not agree with the request. Paragraph (g) of the proposed AD (which is retained in this final rule) provides the compliance time (before the accumulation of 18,000 total flight cycles, or within 13 years after the effective date of this AD, whichever occurs first) because the Accomplishment Instructions of the service information do not provide a compliance time for the inspection. We have not changed this AD regarding this issue.

Request for Clarification of Type of Inspections and Applicable Corrective Actions

Boeing asked that we clarify the description of the inspections specified in paragraphs (g)(1), (g)(2), and (g)(3) of the proposed AD as follows: (1) Do a detailed inspection for a machine mismatch condition of the stringer 1 fitting faying surface; (2) Do a detailed inspection of the faying surface of the aluminum T-chord common to stringer 1 fitting for fretting damage; and (3) Do an eddy current inspection for cracking of the fastener holes common to stringer fittings 1 and 5 through 11. Boeing stated that this will more closely match the information and sequence of the inspections specified in the referenced service information.

We agree with the commenter's request to clarify the inspection language specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD, for the reasons provided. We have clarified those paragraphs accordingly.

Boeing asked that we revise paragraph (h) of the proposed AD to clarify the corrective actions. The commenter defined four corrective actions (which are also defined in the service information).

We agree with the commenter's request in part. We do not agree to clarify the corrective actions because the actions described by the commenter are for the inspections required by paragraph (g) of this AD, and are clearly specified in Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015. Those corrective actions are identified in paragraph (g) of this AD as, simply, "corrective actions," and are further defined by reference to Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015. However, we do agree to change the title of paragraph (h) of this AD to specify "Modification, Inspection, and Repair" to encompass the requirements specified in paragraph (h) of this AD.

Request for Clarification of RC Steps

To ensure that all provisions within the RC steps for contacting Boeing are captured, Boeing requested that we revise paragraph (i) of the proposed AD to refer to repair of the "applicable condition" instead of just "cracking."

We do not agree with the commenter's request. Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015, specifies contacting Boeing if there is a crack; corrective actions for other discrepancies are provided within the service information.

Boeing also asked that we add the following exception in paragraph (i) of the proposed AD:

Additionally, where Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 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.

We do not agree to include the compliance time exception. As explained previously, the compliance times in this AD are defined using specific times instead of referring to the service information. Therefore, there are no exceptions to the service information regarding the compliance times in this AD. We have not changed this AD regarding this issue.

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 for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

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 Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015. The service information describes procedures for inspection of the left and right hand side stringer 1 fittings for faying surface mismatch common to the side-of-body rib chord, replacement of the stringer 1 fitting, and removal and replacement of the clearance fit fasteners common to the side-of-body fittings and upper side-of-body rib chord with tapered sleeve bolts from stringer 5 to stringer 11. 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

We estimate that this AD affects 5 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
Inspections and modification	144 work-hours × \$85 per hour = \$12,240	\$100,079	\$112,319	\$561,595

We estimate the following costs to do any necessary corrective action for fretting damage or cutter mismatch based on the results of the inspection. We have no way of determining the number of aircraft that might need these corrective actions:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Repair for fretting damage or cutter mismatch	9 work-hours × \$85 per hour = \$765	\$0	\$765

We have received no definitive data that enables us to provide cost estimates for the crack repair specified in this AD.

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):



2016-26-06 The Boeing Company: Amendment 39-18764; Docket No. FAA-2016-6428; Directorate Identifier 2015-NM-119-AD.

(a) Effective Date

This AD is effective February 15, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 787-8 airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by reports indicating that certain wing side-of-body upper stringer fittings have been installed with faying surface mismatch beyond the allowed machining tolerance. We are issuing this AD to prevent an unacceptable reduction of the fatigue life in the upper side-of-body rib chord. Associated fatigue cracks can reduce the structural capability of the upper side-of-body t-chord to a point where it cannot sustain limit load, which could adversely affect the structural integrity of the airplane.

(f) Compliance

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

(g) Inspection and Corrective Actions

Before the accumulation of 18,000 total flight cycles, or within 13 years after the effective date of this AD, whichever occurs first, do the inspections specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD, and all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015, except as required by paragraph (i) of this AD. Do all applicable corrective actions before further flight.

(1) Do a detailed inspection for a machine mismatch condition of the stringer 1 fitting faying surface.

(2) Do a detailed inspection of the faying surface of the aluminum T-chord common to the stringer 1 fitting for fretting damage.

(3) Do an eddy current inspection for cracking of the fastener holes common to stringer fitting 1 and stringer fittings 5 through 11.

(h) Modification, Inspection, and Repair

Concurrently with accomplishment of the requirements of paragraph (g) of this AD: Modify the stringer fitting fasteners, and do an eddy current inspection for cracking of the fastener holes, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015. If any crack is found, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(i) Exception to Service Information Specifications

Where Boeing Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015, specifies to contact Boeing for repair of cracking: Before further flight, repair the cracking using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(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-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 Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, 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) Except as required by paragraph (i) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (j)(4)(i) and (j)(4)(ii) 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. 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.

(k) Related Information

For more information about this AD, contact Allen Rauschendorfer, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6487; fax: 425-917-6590; email: allen.rauschendorfer@faa.gov.

(I) 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 Alert Service Bulletin B787-81205-SB570018-00, Issue 001, dated July 1, 2015.

(ii) Reserved.

(3) 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; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this 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 December 15, 2016.

Victor Wicklund,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.