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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-27560; Directorate Identifier 2006-NM-211-AD; Amendment 39-15198; AD 2007-19-07]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 757-200, -200PF, and -200CB Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Boeing Model 757-200, -200PF, and -200CB series airplanes. This AD requires inspections to detect scribe lines and cracks of the fuselage skin, lap joints, circumferential butt splice strap, and external and internal approved repairs; and related investigative/corrective actions if necessary. This AD results from reports of scribe lines adjacent to the skin lap joints. We are issuing this AD to detect and correct cracks, which could grow and cause rapid decompression of the airplane.

DATES: This AD becomes effective November 28, 2007.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of November 28, 2007.

ADDRESSES: You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Dennis Stremick, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 917-6450; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located on the ground floor of the West Building at the DOT street address stated in the ADDRESSES section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to certain Boeing Model 757-200, -200PF, and -200CB series airplanes. That NPRM was published in the Federal Register on March 15, 2007 (72 FR 12125). That NPRM proposed to require inspections to detect scribe lines and cracks of the fuselage skin, lap joints, circumferential butt splice strap, and external and internal approved repairs; and related investigative/corrective actions if necessary.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Support for the NPRM

Boeing, Continental Airlines (CAL), and the National Transportation Safety Board (NTSB) support the NPRM.

Request To Extend Rulemaking to Additional Airplanes

The NTSB asserts that scribe lines could be present on virtually every pressurized airplane in service. The NTSB requests that we examine and expedite similar rulemaking for other makes and models of airplanes in addition to the Model 757 airplanes subject to the NPRM.

We acknowledge the NTSB's concerns. The unsafe condition identified in this action is a long-term durability issue that might not be limited to any particular airplane model. The potential consequences for each airplane model will vary with each model's design characteristics and operating conditions. To this end, we have coordinated efforts with other governing regulatory agencies and other manufacturers to investigate the existence of scribe lines on other airplanes and any potential safety risks associated with such scribe lines. As a result of these efforts, we might consider similar rulemaking on other airplanes.

Pending the inspection results provided in the reports required by this AD, we might consider further rulemaking to require inspections on Model 757-300 airplanes. And we are considering similar rulemaking for Boeing Model 747 airplanes. We have already issued an AD for all Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes (AD 2006-07-12, amendment 39-14539, 71 FR 16211, March 31, 2006).

Request To Revise Compliance Time

Continental Airlines (CAL) believes that the accomplishment timetables in Boeing Service Bulletin 757-53A0092, Revision 1, dated January 10, 2007, for approved repairs are overly conservative. CAL notes that scribe lines on flush repairs are not considered critical on Model 737

airplanes, and AD 2006-07-12 does not require similar inspections for those airplanes. CAL compares compliance times for initial scribe line inspections with those for approved repair inspections, and asserts that the proposed repair inspection would occur in a line environment without benefit of the support offered during a heavy maintenance check. CAL notes that no crack attributable to scribe lines has ever been found on the Model 757 fleet and that the Model 757 scribe line program is extrapolated from the Model 737 program; in the Model 737 scribe line inspection program all approved repair inspections generally coincide in accomplishment timeframe with the main scribe line program. Therefore CAL requests that we revise the accomplishment timetables of the approved repair section of the 757 scribe line program to better coincide with the mainline program.

We disagree with the request. The timetables, developed by Boeing in cooperation with the 757 Scribe Line Working Group, are based on extensive technical evaluation and analysis to reflect the differences in construction between the two models. In determining the appropriateness of the proposed compliance times, we considered the average utilization rate of the affected fleet, the practical aspects of an orderly inspection of the fleet during regular maintenance periods. We have determined that the compliance times, as proposed, will ensure an acceptable level of safety. We have not changed the final rule regarding this issue.

Request for Limited Return to Service (LRTS) Program for Zone C

Continental Airlines (CAL) notes that Table 5 (paragraph 1.E.) of the service bulletin specifies inspections for scribe lines on approved repairs in Zone C but provides no limited return to service (LRTS) program if scribe lines are found. CAL notes that these inspections will be required much earlier than other inspections in the program. Due to their urgent nature, these inspections will be required to be done in a line maintenance environment, instead of a longer span heavy check. CAL concludes that the lack of a readily available approved LRTS for any scribe lines found during these inspections would have a significantly negative impact on its operation. CAL believes that typical scribe lines found on such repairs should have an approved LRTS for several reasons. No scribe lines on approved repairs have resulted in cracks on the Model 757 fleet. Approved repairs on Model 757 skins would by definition include enough static strength to contain the damage to the local area, as well as damage tolerance analysis as mandated by section 25.571 of the Federal Aviation Regulations (14 CFR 25.571). Even if analysis is not ready for such repairs, CAL suggests imposing the most conservative inspection interval of 250 flight cycles, as specified in the Model 737 LRTS program, so that an airline could continue its operation until a more permanent disposition can be approved by Boeing and the FAA.

We disagree. Providing repair instructions in the service bulletin for all possible repair conditions is not feasible. The LRTS program must be customized for individual repair configurations. For Zone C, the service bulletin specifies contacting Boeing for additional analysis and an LRTS program. We have not changed the final rule regarding this issue.

Request To Revise LRTS Inspection Interval

Because no cracking has been found on Model 757 airplanes, American Airlines requests that we relax the proposed interval for the LRTS inspections. First, the commenter requests that we revise the NPRM to allow operators to inspect at the next scheduled C-check (as an option to the proposed flight-cycle interval). Second, the commenter requests that subsequent inspections be done within an applicable flight-cycle interval, or at the next scheduled C-check after the last LRTS inspection. Third, the commenter requests that we extend the interval for an LRTS inspection, which includes the decal inspection area in Zone C, from 1,000 flight cycles, which the commenter finds overly frequent, to 1,500 flight cycles, which is in line with the other intervals for similar inspection areas.

We disagree with the requests. The intervals were developed by Boeing in conjunction with the Model 757 scribble working group based on analysis and technical evaluations to reflect the Model 757's unique construction details and stresses. We have determined that the proposed compliance times represent the maximum intervals allowable for affected airplanes to continue to safely operate before the inspections are done. Since maintenance schedules vary among operators, there would be no assurance that the airplane would be inspected during the maximum interval if we were to allow operators the option of inspecting at the next C-check. We have not changed the final rule regarding this issue.

Request for Repair Instructions

Air Transport Association (ATA), on behalf of its member American Airlines, requests that repair instructions be included in the service bulletin because requiring FAA approval of each specific repair adds undue complexity and delay to the process.

We disagree. Each repair will likely be unique and tailored for specific conditions. It would be impossible to identify repairs that would adequately address all possible findings in all possible locations. We have not changed the final rule regarding this issue.

Request To Clarify Compliance Times

ATA, on behalf of American Airlines, considers the compliance time information specified in the NPRM vague and requests that we revise the NPRM to simply state that the compliance times specified in the service bulletin will be mandated by the AD.

We disagree with the need to clarify the compliance times in the NPRM. Paragraph 1.E. is the standard location of compliance time information in a service bulletin. The NPRM specified doing the actions "within the applicable times specified in paragraph 1.E. of the service bulletin." The times specified in the service bulletin are clear and specific. We have not changed the final rule regarding this issue.

Request for Alternative Inspection Method: Zones A and B

Northwest Airlines (NWA) requests an alternative inspection method for the inspections specified in the NPRM for the lap joints and external repairs in Zones A and B. NWA's proposal would allow operators to do an ultrasonic phased-array inspection without stripping the paint from the affected locations, and eventually (before 50,000 total flight cycles or at the next scheduled fuselage paint removal, whichever occurs first) stripping the paint from affected locations and inspecting for scribe lines as specified in the service bulletin. (The ultrasonic phased-array inspection is described in the Boeing 757 NDT Manual, Part 4, Section 53-00-02.) NWA believes that its proposal would eliminate the need to strip the paint, and yet allow the detection of cracks before they reach an unacceptable length, thereby providing an acceptable level of safety. NWA adds that these procedures would delay the unsightly stripping of selected lap splice areas on an airplane until repainting the entire fuselage was necessary.

We disagree with the request. The fay surface sealant in the lap joints significantly attenuates the ultrasonic signal, and would affect the accuracy of the inspection results. This assessment has been coordinated with Boeing. Further, ultrasonic inspections can detect only cracks—not scribe lines. We have not changed the final rule regarding this issue. However, paragraph (j) of the final rule provides operators the opportunity to request an alternative method of compliance if the request includes data that prove that the new method would provide an acceptable level of safety.

Request for Alternative Inspection Method: Parts 9 and 10

Northwest Airlines (NWA) requests that we revise the proposed requirements for the scribe line inspection and LRTS program (Part 9 and Part 10, respectively, of the service bulletin). Part 9 and Part 10 specify surface high frequency eddy current (HFEC) inspections from the butt joint forward of the affected scribe line to the butt joint aft of the affected scribe line, using the Boeing 757 NDT, Part 6, 51-00-01 or 757 NDT, Part 6, 51-00-19 if the scribe line is greater than 0.063 inch from the lower edge of the upper skin. NWA reports that Boeing has indicated that the HFEC inspection procedure local to scribe lines greater than 0.063 inch from the lower edge of the upper skin would be structurally satisfactory if an ultrasonic inspection specified in the 757 NDT Manual, Part 4, 53-00-01 or 53-00-02 is accomplished from the butt joint forward of the affected scribe line to the butt joint aft of the affected scribe line. In addition, NWA understands that an AMOC to AD 2006-07-12 has been granted for Model 737 airplanes for a similar inspection technique. This process reduces the area required to be inspected using pencil probes and will reduce the time required for inspection. NWA requests that we revise the NPRM to include the alternative inspection instead of considering this option only through the AMOC process.

We partially agree with this request. While Model 737 airplanes use the ultrasonic inspection from the butt joint forward to the butt joint aft of the affected scribe line, and a HFEC inspection local to scribe lines greater than 0.063 inch from the lower edge of the upper skin, this technique has not yet been confirmed to be acceptable for use on Model 757 airplanes. We are working with Boeing to determine if this inspection technique can be used on the Model 757 airplanes. If this technique is acceptable, a fleetwide AMOC might be issued to allow this technique. We have not changed the final rule regarding this issue.

Request for Provisions for Converted Airplanes

FedEx reports that it will convert about 90 passenger airplanes into special freighters. FedEx considers these airplanes, after conversion, to most closely resemble Group 6 airplanes, as that Group is defined in the service bulletin. FedEx requests that we revise the NPRM to do the following: Consider possible prorated compliance times; identify the appropriate Group for converted airplanes; omit the inspection area for decals forward of BS 661, where a new panel was installed during conversion; omit the inspection of the butt joint at BS 660; and define the areas, compliance times, and damage limits for the inspection of the upper skins for decals aft of BS 660. According to FedEx, providing these conditions in the AD instead of an AMOC would be more expeditious.

We disagree with the request. FedEx provided no details of the conversion modification, so we cannot evaluate the merits of the claim that these airplanes are similar to Group 6 airplanes. However, under the provisions of paragraph (j) of the final rule, we may approve requests for airplane group reassignments, if details of the modification are provided that would substantiate that reassigning these airplanes to Group 6 would be appropriate and provide an acceptable level of safety. We have not changed the final rule regarding this issue.

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD as proposed.

Costs of Compliance

There are about 945 airplanes of the affected design in the worldwide fleet; of these, about 634 are U.S.-registered airplanes. The following table provides the estimated costs for U.S. operators to comply with this AD. There are no U.S.-registered airplanes in Group 5 or Group 6.

Estimated Costs

Inspections	Work hours	Average labor rate per hour	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Group 1	127	\$80	\$10,160	144	\$ 1,463,040
Group 2	122	\$80	\$ 9,760	6	\$ 58,560
Group 3	154	\$80	\$12,320	75	\$ 924,000
Group 4	128	\$80	\$10,240	409	\$ 4,188,160

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

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

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

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 Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):



2007-19-07 Boeing: Amendment 39-15198. Docket No. FAA-2007-27560; Directorate Identifier 2006-NM-211-AD.

Effective Date

(a) This AD becomes effective November 28, 2007.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 757-200, -200PF, and -200CB series airplanes, certificated in any category; as identified in Boeing Service Bulletin 757-53A0092, Revision 1, dated January 10, 2007.

Unsafe Condition

(d) This AD results from reports of scribe lines adjacent to the fuselage skin lap joints. We are issuing this AD to detect and correct cracks, which could grow and cause rapid decompression of the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Inspections

(f) Perform detailed inspections to detect scribe lines and cracks of the fuselage skin, lap joints, circumferential butt splice strap, and external and internal approved repairs; and perform related investigative and corrective actions. Do the actions in accordance with the Accomplishment Instructions of Boeing Service Bulletin 757-53A0092, Revision 1, dated January 10, 2007, except as required by paragraph (g) of this AD. Do the actions within the applicable compliance times specified in paragraph 1.E. of the service bulletin, except as required by paragraph (h) of this AD.

Exceptions to Service Bulletin Specifications

(g) Where Boeing Service Bulletin 757-53A0092, Revision 1, dated January 10, 2007, specifies to contact Boeing for appropriate repair instructions, repair using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

(h) Boeing Service Bulletin 757-53A0092, Revision 1, dated January 10, 2007, specifies compliance times relative to the date of issuance of the service bulletin; however, this AD requires compliance before the specified compliance time relative to the effective date of the AD.

Credit for Prior Accomplishment

(i) Inspections done before the effective date of this AD in accordance with Boeing Alert Service Bulletin 757-53A0092, dated September 18, 2006, are acceptable for compliance with the corresponding requirements of paragraph (f) of this AD.

Alternative Methods of Compliance (AMOCs)

(j)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(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 an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane.

Material Incorporated by Reference

(k) You must use Boeing Service Bulletin 757-53A0092, Revision 1, dated January 10, 2007, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or 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 October 15, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-20816 Filed 10-23-07; 8:45 am]