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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-29333; Directorate Identifier 2007-NM-141-AD; Amendment 39-15547; AD 2008-12-04]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-600, -700, -700C, -800, and -900 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes. This AD requires various repetitive inspections to detect cracks along the chemically milled steps of the fuselage skin or missing or loose fasteners in the area of the preventative modification or repairs, replacement of the time-limited repair with the permanent repair if applicable, and applicable corrective actions if necessary, which would end certain repetitive inspections. This AD results from a fatigue test that revealed numerous cracks in the upper skin panel at the chemically milled step above the lap joint. We are issuing this AD to detect and correct such fatigue-related cracks, which could result in the crack tips continuing to turn and grow to the point where the skin bay flaps open, causing decompression of the airplane.

DATES: This AD is effective July 16, 2008.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of July 16, 2008.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 (telephone 800-647-5527) is the Document 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: Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6447; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to certain Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes. That NPRM was published in the Federal Register on September 28, 2007 (72 FR 55118) (An extension of the comment period for that NPRM was published in the Federal Register on November 14, 2007 (72 FR 64009)). That NPRM proposed to require various repetitive inspections to detect cracks along the chemically milled steps of the fuselage skin or missing or loose fasteners in the area of the preventative modification or repairs, replacement of the time-limited repair with the permanent repair if applicable, and applicable corrective actions if necessary, which would end certain repetitive inspections.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Request To Provide Exception for Previously Installed Repairs

Southwest Airlines notes that the proposed AD does not state how to do the inspection in an area that has a previously installed repair. Southwest Airlines states that AD 2004-18-06, amendment 39-13784 (69 FR 54206, September 8, 2004), which addresses chemically milled steps of the fuselage skin for Boeing Model 737-200, -200C, -300, -400, and -500 series airplanes, contains an exception that addresses the issue of a previously installed repair. Southwest Airlines asks that we include a similar exception in this AD.

We agree that the NPRM needs to be clarified regarding procedures for previously installed repairs, and have added new paragraphs (j) and (k) to this AD to explain the exceptions. We note that the exception to the procedures required by paragraph (g) of this AD is similar to the exception in AD 2004-18-06, except that for this AD, post-preventive modifications and repair supplemental inspections are required for repairs installed in accordance with Boeing Special Attention Service Bulletin 737-53-1232, dated April 2, 2007 (cited as the appropriate source of service information for accomplishing the actions in the NPRM). We have also re-identified subsequent paragraphs accordingly.

Request To Allow Optional Eddy Current Inspection Method

Continental Airlines (Continental) requests that we allow the use of the eddy current inspection procedures given in the Boeing 737 Non-Destructive Test (NDT) Manual, Part 6, Subjects 53-30-25 (c-scan eddy current inspection), as an alternative to Subjects 53-30-19 and 53-30-23 listed in Boeing Special Attention Service Bulletin 737-53-1232, dated April 2, 2007. Continental notes that the eddy current procedure in Subject 53-30-25 was approved as an alternative method of compliance (AMOC) for AD 2005-13-27, amendment 39-14164 (70 FR 36821, June 27, 2005), which mandates a similar fuselage skin inspection for Boeing Model 737-300, -400, and -500 series airplanes.

We agree that the NDT method Continental specifies provides an acceptable means to find cracking in the internal surface of the fuselage skin at the edge of a sub-surface doubler. Therefore, we have revised this AD to include a new paragraph (l)(4) to the AMOC paragraph (paragraph (j) of

the NPRM). Paragraph (l)(4) states that Boeing Model 737 NDT Manual, Part 6, Subject 53-30-25, is an AMOC for Subjects 53-30-19 and 53-30-23.

Request To Clarify Paragraph (g) of the NPRM

Boeing requests that we clarify the wording in paragraph (g) of the NPRM to indicate which corrective actions are required and when. Boeing specifically states that the word "applicable" is missing from paragraph (g) of the NPRM, and requests that the paragraph state "accomplishing all of the applicable actions specified in the Accomplishment Instructions of the service bulletin." Boeing explains that, without the word "applicable," the AD would require accomplishment of all actions within the Accomplishment Instructions, even those that do not apply under certain conditions.

We agree to clarify paragraph (g) for the stated reasons. We have revised paragraph (g) of this AD to include the word "applicable" in the requested place.

Request To Improve Detail in Service Bulletin

The Air Transport Association (ATA) on behalf of its member Delta Airlines, requests that we encourage Boeing to improve the level of detail in Boeing Special Attention Service Bulletin 737-53-1232, dated April 2, 2007, specifically Part V of the Accomplishment Instructions, "Preventative Modification." The commenters explain that the current data and figures for the modification are vague and could lead to considerable variation among operators in interpretation and installation. The commenters also state that, as a minimum, Boeing should issue a set of engineering drawings for typical modification parts for each affected group of airplanes, and incorporate them into a revision of the service bulletin.

We disagree that the level of detail in Part V of the service bulletin is insufficient. As shown in Part V and its associated figures, modification doublers and fillers are to be centered in the skin pocket with their width determined by the existing fastener spacing common to the lap splice. Adding engineering drawings to the information already in the service bulletin could result in confusion due to variations in fastener spacing common to the lap joints. We have not changed the AD in this regard.

Request To Extend Repetitive Interval To Match C-Check Interval

The ATA, on behalf of its member Alaska Airlines, requests that we extend the repetitive inspection intervals proposed in the NPRM and express them in terms of C-check intervals. The commenters explain that the current repetitive inspection intervals are not sufficient to bridge successive C-checks, and will thus make it necessary to have a frequent and possibly repetitive inspection in the line environment. The commenters further state that the preventive modification proposed in the NPRM would lengthen the repetitive inspection interval from 1,500 flight cycles to either 4,000 or 6,000 flight cycles. In the commenters' opinion, this action does not justify the cost or manpower for doing the preventive modification.

We do not agree with the commenter's request to extend the repetitive intervals. We have determined that the proposed compliance time represents the maximum interval of time allowable for the affected airplanes to continue to safely operate before the modification is done. We determined the inspection intervals in this AD using damage tolerance methods to ensure that damage can be detected before it becomes critical on the structure. Also, compliance intervals cannot be based on nonspecific intervals such as a C-check. Since maintenance schedules vary among operators, there would be no assurance that corrective action would be done within the timeframe for safe operation of the airplane. Further, in developing appropriate compliance times for this AD, we considered the urgency associated with the subject unsafe condition, and the practical aspect of accomplishing the required actions within a period of time that corresponds to the normal scheduled maintenance for

most affected operators. The repetitive intervals following preventative modification were part of these considerations. We have not changed the 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 the AD with the changes described previously. We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

There are about 871 airplanes of the affected design in the worldwide fleet. This AD affects about 378 airplanes of U.S. registry. The inspections take between 11 and 25 work hours per airplane depending on the airplane configuration, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the AD for U.S. operators is between \$332,640 and \$756,000, or between \$880 and \$2,000 per airplane, per inspection cycle.

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), 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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

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 AD:



2008-12-04 Boeing: Amendment 39-15547. Docket No. FAA-2007-29333; Directorate Identifier 2007-NM-141-AD.

Effective Date

(a) This airworthiness directive (AD) is effective July 16, 2008.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 737-600, -700, -700C, -800, and -900 series airplanes, certificated in any category; as identified in Boeing Special Attention Service Bulletin 737-53-1232, dated April 2, 2007.

Unsafe Condition

(d) This AD results from a fatigue test that revealed numerous cracks in the upper skin panel at the chemically milled step above the lap joint. We are issuing this AD to detect and correct such fatigue-related cracks, which could result in the crack tips continuing to turn and grow to the point where the skin bay flaps open, causing 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.

Service Bulletin

(f) The term "service bulletin," as used in this AD, means Boeing Special Attention Service Bulletin 737-53-1232, dated April 2, 2007.

Inspections and Replacement, As Applicable

(g) At the applicable compliance times listed in Tables 1, 2, and 3 of paragraph 1.E., "Compliance," of the service bulletin, or within the time specified in paragraph (g)(1) or (g)(2) of this AD, as applicable, whichever occurs later, and thereafter at the applicable repeat intervals listed in Tables 1, 2, and 3: Do the applicable inspections and replacement by accomplishing all the applicable actions specified in the Accomplishment Instructions of the service bulletin.

(1) For airplanes specified in Tables 1 and 2 of paragraph 1.E., "Compliance," of the service bulletin: Do the applicable initial inspection required by paragraph (g) of this AD within 36 months after the effective date of this AD.

(2) For airplanes specified in Table 3 of paragraph 1.E., "Compliance," of the service bulletin: Do the applicable initial inspection and replacement required by paragraph (g) of this AD within 24 months after the effective date of this AD.

Corrective Actions

(h) If any crack or loose or missing fastener is found during any applicable inspection required by paragraph (g) of this AD, before further flight, do the applicable corrective action in accordance with the service bulletin; except, where the service bulletin specifies to contact Boeing for appropriate action, before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

Terminating Action for Certain Repetitive Inspections

(i) For airplanes on which the preventative modification specified in the service bulletin has not been installed: Accomplishing the preventative modification, time-limited repair, or permanent repair in accordance with the service bulletin ends the applicable repetitive external detailed inspections required by paragraph (g) of this AD.

Exceptions to the Service Bulletin Procedures for Previously Installed Repairs

(j) For any airplane subject to the requirements of paragraph (g) of this AD: Inspections done at the compliance times specified in Table 1 of paragraph 1.E., "Compliance," of the service bulletin are not required in areas that are spanned by an FAA-approved repair that has a minimum of 3 rows of fasteners above and below the chemically milled step. Post-repair supplemental inspections are to be done at the times specified in Table 2 of paragraph 1.E., "Compliance," of the service bulletin.

(k) For any airplane that has an external doubler covering the chemically milled step, but the doubler does not span the step by a minimum of 3 rows of fasteners above and below the chemically milled step: Instead of requesting approval for an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (l) of this AD, one method of compliance with the inspection requirement of paragraph (g) of this AD is to inspect all chemically milled steps covered by the repair using non-destructive test (NDT) methods in accordance with the Boeing 737 NDT Manual, Part 6, Subject 53-30-20. These repairs are to be considered time-limited and are subject to the post-repair supplemental inspections and replacement at the times specified in Table 3 of paragraph 1.E., "Compliance," of the service bulletin.

Alternative Methods of Compliance (AMOCs)

(1)(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, and the approval must specifically refer to this AD.

(4) Use of Boeing Model 737 NDT Manual, Part 6, Subject 53-30-25, is an AMOC for Boeing Model 737 NDT Manual, Part 6, Subjects 53-30-19 and 53-30-23, as specified in the service bulletin.

Material Incorporated by Reference

(m) You must use Boeing Special Attention Service Bulletin 737-53-1232, dated April 2, 2007, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

(3) You may review copies of the service information incorporated by reference 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on May 29, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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