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[Page 38905-38908]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-0184; Directorate Identifier 2007-NM-140-AD; Amendment 39-15575; AD 2008-13-12]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-100, -200, -200C, -300, -400, and -500 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD requires various repetitive inspections for cracking of the upper frame to side frame splice of the fuselage, and other specified and corrective actions if necessary. This AD also provides for an optional preventive modification, which terminates the repetitive inspections. This AD results from a report that the upper frame of the fuselage was severed between stringers S-13L and S-14L at station 747, and the adjacent frame at station 767 had a 1.3-inch-long crack at the same stringer location. We are issuing this AD to detect and correct fatigue cracking of the upper frame to side frame splice of the fuselage, which could result in reduced structural integrity of the frame and adjacent lap joint. This reduced structural integrity can increase loading in the fuselage skin, which will accelerate skin crack growth and result in decompression of the airplane.

DATES: This AD is effective August 12, 2008.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 12, 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 737-100, -200, -200C, -300, -400, and -500 series airplanes. That NPRM was published in the Federal Register on November 13, 2007 (72 FR 63831). That NPRM proposed to require various repetitive inspections for cracking of the upper frame to side frame splice of the fuselage, and other specified and corrective actions if necessary. That NPRM also provides for an optional preventive modification, which would terminate the repetitive inspections.

Comments

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

Requests To Clarify Certain Paragraphs

Boeing, Southwest Airlines (SWA), United Airlines (UA), and the Air Transport Association (ATA) on behalf of its member UA, ask that certain language in certain paragraphs of the NPRM be clarified, as follows:

Boeing states that the intent of paragraph (h) of the NPRM is unclear, and the conditional statement could be misinterpreted. Boeing notes that the statement "the structure that has been damaged is not covered in the structural repair manual" (SRM) will likely be interpreted differently by each airline. Boeing adds that this frame area is relatively complex with a frame splice, stringer clips, and, in some cases, a shear tie in the area of the repair. Boeing states that only specific SRM repairs can be used to fix the frame in this complex area; for that reason, the referenced service bulletin specifically lists the SRM sections that can be used, and recommends contacting Boeing if the existing repairs are not per these sections. Boeing notes that there are other frames and general formed section repairs in the SRM that operators could have used that may or may not work for this area; for those cases or others that may not have been repaired in accordance with the SRM, Boeing would like to evaluate them for structural adequacy. Boeing believes the intent of paragraph (h) is to cover this situation, except to refer to paragraph (j) of the NPRM instead of contacting Boeing. Boeing recommends that paragraph (h) be rewritten as follows: "If during the accomplishment of the corrective actions required by paragraph (f) of this AD, for airplanes for which a repair has previously been accomplished, if the repair is not per the 737-400 SRM 53-00-07, Figure 201, Repair 1, or 737-500 SRM 53-00-07, Figure 201, Repair 1, or 737-300 SRM 53-00-07, Figure 201, Repair 1, or 737-100/200 SRM 53-10-4, Figure 1, as applicable, before further flight, repair in accordance with the procedures specified in paragraph (j) of this AD."

ATA states that UA indicates that the term "structural repair manual," as specified in paragraph (h) of the NPRM, should be replaced with "Service Bulletin 737-53A1261 Part III."

We agree that paragraph (h) of this AD should be clarified; there are many repairs for this structure specified in the SRM that could be installed which may not adequately address the unsafe

condition. Therefore, we have changed paragraph (h) for clarification, as follows: "For airplanes on which a repair has been previously accomplished: If, during accomplishment of the corrective actions required by paragraph (f) of this AD, it is found that the repair was not done per the Boeing 737-100/200 SRM 53-10-4, Figure 1, or the Boeing 737-300/400/500 SRM 53-00-07, Figure 201, Repair 1, as applicable; before further flight, repair in accordance with the procedures specified in paragraph (k) of this AD."

SWA requests clarification of paragraphs (h) and (i) of the NPRM. SWA states that if an SRM repair is considered a repair option to inspection findings per Boeing Alert Service Bulletin 737-53A1261, dated January 19, 2006, as indicated in paragraph (h) of the NPRM, then paragraph (i) of the NPRM should specify that SRM repairs would be an alternative method of compliance (AMOC) and terminating action to the inspections specified in that service bulletin.

We do not agree that paragraph (i) of the NPRM should be changed to specify that SRM repairs are an AMOC and terminating action to the inspections specified in the service bulletin. The SRM is referenced in the service bulletin as an acceptable method for accomplishing certain repairs; therefore, it is not necessary to identify the SRM in paragraph (i) because the service bulletin (which includes the SRM contents) is already identified in that paragraph. We have made no change to the AD in this regard.

Boeing asks that we clarify paragraph (i)(1) of the NPRM to include a reference to Appendices A through X to the service bulletin citation, for not only the repair, but also the preventive modification. Boeing recommends that paragraph (i)(1) be rewritten as follows: "Accomplishment of the repair specified in Part 3, or the preventive modification specified in Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, including Appendices A through X inclusive, dated January 19, 2006." Boeing adds that paragraph (i)(1) as currently written does not associate the appendices to the preventive modification. Appendices A through V of the service bulletin are directly applicable to the preventive modification.

We agree that paragraph (i)(1) of the NPRM (paragraph (j)(1) of this AD) should be clarified to add a reference to Appendices A through X to the service bulletin citation. This change links the appendices to the preventive modification, as well as the repair. We have changed paragraph (j)(1) accordingly.

UA asks that we clarify paragraph (i)(3) of the NPRM. UA notes that previously installed SRM repairs do not terminate re-inspections; although paragraph (i)(3) may lead an operator to think a previously installed SRM repair does terminate those inspections, as they are approved by the Manager, Seattle Aircraft Certification Office.

We understand UA's comment. As we explained previously, for clarification we have added a new paragraph (i) to this AD to define the action for airplanes on which a repair has been previously accomplished. Paragraph (j) of this AD, if accomplished, terminates the repetitive inspections required by paragraph (f) of this AD for the repaired or modified frames only. We have made no change to the AD in this regard.

Request To Clarify Certain Sections of the Preamble of the NPRM

Boeing requests that certain sections in the preamble of the NPRM be clarified for the following reasons:

1. Boeing states that the first paragraph of the Discussion section incorrectly references a Model 737-300 airplane, but the airplane found cracked was a Model 737-200 airplane.

2. Boeing notes that the last sentence specified in the Other Related Service Information section specifies that the inspections are "recommended." Boeing states that the inspections are "required," and suggests incorporating this change to the language.

We acknowledge the commenter's concern. However, the procedures specified in the service information are not regulatory; the procedures specified in service information can only be required by issuing an AD. We agree that the model referenced in the Discussion section was incorrect;

however, the identified sections of the NPRM do not reappear in the final rule. Therefore, we find that no change to the AD is necessary in this regard.

Requests To Extend Compliance Times

SWA, KLM Royal Dutch Airlines (KLM), and UA ask that we extend the compliance times for the inspections as follows:

SWA asks that we consider a different compliance time for airplanes that have accomplished Boeing Service Bulletin 737-53A1177, since the likelihood of multi-element damage does not exist for airplanes on which that service bulletin has been accomplished at stringer 14 left or right. SWA recommends aligning the initial grace period and repeat intervals at the same frequency as defined in Boeing Service Bulletin 737-53-1216, section 1.E.; i.e., 9,000 flight cycles after issuance of the AD, and repeating the inspections thereafter every 9,000 flight cycles. SWA adds that this will align the interior access and inspection requirements with the frame inspection requirements in both service bulletins. SWA notes that the 9,000-flight-cycle interval would also allow each airplane to reach a heavy maintenance opportunity for the airplane to be in an appropriate setting for accomplishing the required inspections and repairs if required. SWA adds that it had several crack findings on airplanes with over 50,000 flight cycles, and therefore it cannot consider the Boeing findings an anomaly.

KLM states that it submitted a service request to Boeing asking them to consider a compliance time for Boeing Alert Service Bulletin 737-53A1261, which is equal to the compliance time given in AD 2006-26-09, amendment 39-14867 (72 FR 252, January 4, 2007), and Boeing Special Attention Service Bulletin 737-53-1216, Revision 1, dated June 8, 2006. KLM states that both inspections can then be done simultaneously during a C-check, without additional work. KLM adds that Boeing replied to the service request in October 2006 stating that no change in compliance time was anticipated. KLM notes that the impact of the inspection/preventive modification required by AD 2006-26-09 is similar to the inspection/preventive modification in the NPRM.

ATA on behalf of its member UA asks that we consider extending the repetitive inspection interval from 6,000 to 9,000 flight cycles in order to allow airplanes to reach a heavy maintenance opportunity. To date, UA states, it has inspected 960 frames per Boeing Alert Service Bulletin 737-53A1261 with no crack findings; the airplanes inspected ranged from 28,500 to 35,500 total flight cycles. UA suggests that the findings on the airplanes cited in the NPRM might be an anomaly rather than a trend if other industry findings are similar to UA's.

We do not agree to extend the compliance times. Although we recognize the convenience to the operator if the compliance time is aligned with its maintenance inspections, fatigue cracking of the upper frame to side frame splice of the fuselage is a significant safety issue, and we have determined that the proposed compliance times are warranted based on the effectiveness of the inspection procedure and the rate of crack growth. In developing appropriate compliance times for this AD, we considered those safety issues as well as the recommendations of the manufacturer, the availability of necessary repair parts, and the practical aspect of accomplishing the required inspections within an interval of time that corresponds to the normal maintenance schedules of most affected operators. We have made no change to the AD in this regard.

Request for Clarification of Compliance Time

KLM states that it assumes the new start date of the inspections will be the issue date of the AD, instead of the service bulletin issue date.

From this statement we infer that KLM is requesting that we clarify the compliance time specified in paragraph (f) of the NPRM. We agree that clarification is necessary. We have added a new paragraph (g) to the AD to clarify the compliance time. We have re-identified subsequent paragraphs accordingly.

Request To Change Cost Estimate

SWA states that the costs of compliance identified in the NPRM are underestimated. SWA states that the inspection, repair of crack findings, and terminating action on uncracked frames is close to 1,200 labor hours at an average labor rate of $80 per work hour. The cost per airplane is closer to $96,000 than $3,040. This estimate does not include access to the interior of the airplanes, as the airplanes were in a heavy maintenance environment.

We infer that the commenter is asking that we revise the cost estimate provided in the NPRM. We do not agree. The cost information provided in AD actions describes only the direct costs of the specific requirements. Based on the best data available, the manufacturer provided the number of work hours to do the required actions for this AD. We recognize that, in doing the actions required by an AD, operators might incur incidental costs, in addition to the direct costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs such as the time required to gain access and close up, time necessary for planning, or time necessitated by other administrative actions. Those incidental costs, which might vary significantly among operators, are almost impossible to calculate. We have made no change to 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 1,509 airplanes of the affected design in the worldwide fleet. This AD affects about 524 airplanes of U.S. registry. The inspections take between 18 and 38 work hours per airplane, depending on airplane configuration, at an average labor rate of $80 per work hour. Based on these figures, the estimated cost of the inspections required by this AD for U.S. operators is between $754,560 and $1,592,960, or $1,440 and $3,040 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:

2008-13-12 Boeing: Amendment 39-15575. Docket No. FAA-2007-0184; Directorate Identifier 2007-NM-140-AD.

Effective Date

(a) This airworthiness directive (AD) is effective August 12, 2008.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 737-53A1261, dated January 19, 2006.

Unsafe Condition

(d) This AD results from a report that the upper frame of the fuselage was severed between stringers S-13L and S-14L at station 747, and the adjacent frame at station 767 had a 1.3-inch-long crack at the same stringer location. We are issuing this AD to detect and correct fatigue cracking of the upper frame to side frame splice of the fuselage, which could result in reduced structural integrity of the frame and adjacent lap joint. This reduced structural integrity can increase loading in the fuselage skin, which will accelerate skin crack growth and result in 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.

Repetitive Inspections/Corrective Actions

(f) At the applicable compliance time listed in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1261, including Appendices A through X inclusive, dated January 19, 2006; except as provided by paragraph (g) of this AD: Do the applicable inspections for cracking of the upper frame to side frame splice of the fuselage by doing all of the actions, as specified in the Accomplishment Instructions of the service bulletin; except as provided by paragraphs (h) and (i) of this AD. Do all applicable specified and corrective actions before further flight in accordance with the service bulletin. Repeat the applicable inspections thereafter at intervals not to exceed 6,000 flight cycles until the terminating action in paragraph (j) of this AD has been accomplished.

(g) Where Boeing Alert Service Bulletin 737-53A1261, including Appendices A through X inclusive, dated January 19, 2006, specifies a compliance time relative to the date on the service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

(h) If any crack is found during any inspection required by this AD, and Boeing Alert Service Bulletin 737-53A1261, including Appendices A through X inclusive, dated January 19, 2006, specifies to contact Boeing for appropriate action: Before further flight, repair the crack in accordance with the procedures specified in paragraph (k) of this AD.

(i) For airplanes on which a repair has been previously accomplished: If, during accomplishment of the corrective actions required by paragraph (f) of this AD, it is found that the repair was not done per the Boeing 737-100/200 Structural Repair Manual (SRM) 53-10-4, Figure 1, or the Boeing 737-300/400/500 SRM 53-00-07, Figure 201, Repair 1, as applicable; before further flight, repair in accordance with the procedures specified in paragraph (k) of this AD.

Optional Terminating Action

(j) Accomplishing the actions specified in paragraph (j)(1), (j)(2), or (j)(3) of this AD, as applicable, terminates the repetitive inspections required by paragraph (f) of this AD for the repaired or modified frames only.

(1) Accomplishment of the repair specified in Part 3, or the preventive modification specified in Part 4, of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1261, including Appendices A through X inclusive, dated January 19, 2006.

(2) Accomplishment of the repair or the preventive modification specified in Boeing Message M-7200-02-01294, dated August 20, 2002.

Alternative Methods of Compliance (AMOCs)

(k)(1) The Manager, Seattle ACO, 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.

Material Incorporated by Reference

(l) You must use Boeing Alert Service Bulletin 737-53A1261, dated January 19, 2006, 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 June 12, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E8-14471 Filed 7-7-08; 8:45 am]