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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2007-29043; Directorate Identifier 2007-NM-177-AD; Amendment 39-15494; AD 2008-09-13]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 737-300, -400, and -500 Series Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all Boeing Model 737-300, -400, and -500 series airplanes. This AD requires revising the FAA-approved maintenance inspection program to include inspections that will give no less than the required damage tolerance rating for each structural significant item (SSI), doing repetitive inspections to detect cracks of all SSIs, and repairing cracked structure. This AD results from a report of incidents involving fatigue cracking in transport category airplanes that are approaching or have exceeded their design service objective. We are issuing this AD to maintain the continued structural integrity of the entire fleet of Model 737-300, -400, and -500 series airplanes.

**DATES:** This AD is effective June 6, 2008.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of June 6, 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:** Nancy Marsh, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind, Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6440; 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 all Boeing Model 737-300, -400, and -500 series airplanes. That NPRM was published in the Federal Register on August 24, 2007 (72 FR 48597). That NPRM proposed to require revising the FAA-approved maintenance inspection program to include inspections that will give no less than the required damage tolerance rating for each structural significant item (SSI), doing repetitive inspections to detect cracks of all SSIs, and repairing cracked structure.

### **Comments**

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

### **Requests To Allow Alternative Inspections for Previously Repaired/Altered Structure**

Boeing, Southwest Airlines, and United Airlines request that the NPRM be revised to include a provision for alternative inspections when a repair area prohibits operators from doing the inspections specified in paragraph (h) of the NPRM. The commenters request that the initial alternative inspection be done within 12 months after the repair is discovered during the initial inspection required by paragraph (h). Two of the commenters point out that there is a similar provision in paragraph (e) of AD 98-11-04 R1, amendment 39-10984 (64 FR 987, January 7, 1999). The commenters state that including such a provision will assist operators.

We agree. We have added a new paragraph (i) to this AD (and reidentified subsequent paragraphs) that provides alternative inspections to those in paragraph (h) of this AD.

### **Request To Allow Compliance With the Repair Assessment Program (RAP)**

Southwest and United request that the RAP be considered an alternative method of compliance (AMOC) for the supplemental structural inspection document (SSID) inspections of any repaired or modified SSI specified in paragraph (h) of the NPRM. United States that the FAA approved the RAP as an AMOC for those areas of the fuselage covered by repairs for Models 737-100, -200, and -200C series airplanes. Southwest states that multiple requirements for an individual repaired or modified area will create confusion, and that eventually the alternate inspection procedures will either be duplicated or only approved for one program.

We partially agree. We agree with the commenters that some of the inspection areas subject to the requirements of this AD also may be included in the RAP. The owner/operator of an affected airplane or Boeing, on behalf of the owner/operator, will need to perform an evaluation of each of these areas of the airplane to determine if the actions performed in accordance with the RAP meet the requirements of the SSID inspection program. Our understanding is that Boeing is looking into this evaluation; however, we have not received any data supporting a request for an AMOC. Once the evaluation has been completed, the owner/operator or Boeing may submit the data to substantiate that those actions performed in accordance with the RAP would provide an acceptable level of safety, under the provisions of paragraph (l) of this AD. We have made no change to the AD in this regard.

## **Request To Delegate Approval of Structure Affected by Winglet Modifications**

Southwest requests that the NPRM be revised to allow an Authorized Representative (AR) for the Boeing Commercial Airplanes Delegation Option Authorization Organization to approve AMOCs for modified or altered structure such as winglets. Without such a provision, Southwest states that operators of airplanes on which winglets have been installed in accordance with a supplemental type certificate (STC) will need to seek AMOCs directly from the FAA. Southwest believes that such a provision would reduce the workload for operators and the FAA.

We do not agree. At this time, we cannot authorize Boeing ARs to approve repair data or AMOCs for non-Boeing type design products such as STCs for which Boeing does not have access to the design data. We have made no change to the AD in this regard.

## **Request To Approve NPRM as a Method of Compliance With Aging Airplane Safety Final Rule (AASFR)**

Southwest and United request that the NPRM be approved as a method of compliance for the AASFR for the relevant SSIs.

We partially agree. We agree with the commenters that compliance with this AD would be an acceptable means of compliance with the AASFR for the baseline structure of Model 737-300, -400, and -500 series airplanes. The Costs of Compliance section of the NPRM included such a statement, which is restated in this final rule. In addition, the Supplemental Inspections section of the AASFR states, "The FAA will accept a SSID program for the baseline structure of an airplane developed by the OEM and approved by the FAA. If a SSID does not consider repairs, alterations, and modifications (RAMs), as required by this rule, the FAA would not accept it as a means to comply with this portion of the rule." Therefore, we find that no change to the final rule is necessary.

## **Request To Allow Zonal and Surveillance Inspections**

British Airways requests that zonal and surveillance inspections be considered acceptable for the general visual inspection specified in Boeing Document D6-82669, "Supplemental Structural Inspection Document Models 737-300/400/500 Airplanes," Original Release, dated May 2007 (hereafter "the SSID") (referred to in the NPRM as the appropriate source of service information for the proposed actions).

We do not agree. Each operator's maintenance inspection program defines inspection terminology. That maintenance inspection program might be defined by different revisions of the Maintenance Steering Group (MSG) procedures or other procedures accepted by the operator's Certificate Management Office. Because inspection definitions have changed over time, each operator must confirm that the maintenance inspections procedures (e.g., surveillance or general visual inspections) it performs are equivalent to those specified in section 5.0 of the SSID to take damage tolerance rating (DTR) credit for the SSID program. In addition, while zonal inspection programs include general visual inspections of an area, including the structure in that area, the zonal program might not include the same general visual inspection required by the SSID such as the specific structural detail, the frequency to do the inspection, and the requirement to do the inspection in the direction specified. Therefore, we have made no change to the AD in this regard.

## **Request To Extend Compliance Time of Reporting Requirement**

Southwest and United also request that the compliance time for the reporting requirement in Section 6.0, "SSI Discrepancy Reporting," of the SSID be revised from 5 to 30 days. The commenters state that 5 days is insufficient time for reviewing documentation from various maintenance bases.

We do not agree. In developing an appropriate compliance time for this action, we considered the urgency associated with cracks involving an SSI or related structure in close vicinity to the SSI as well as the recommendations of the manufacturer. In consideration of these items, we have determined that a 5-day compliance time for reporting discrepant inspection findings will enable the manufacturer to obtain better insight into the nature, cause, and extent of the cracking, and eventually to develop a final action to address the unsafe condition. However, according to the provisions of paragraph (1) of this AD, we might approve requests to adjust the compliance time if the request includes data that prove that the new compliance time would provide an acceptable level of safety.

### **Request To Identify Differences Between the AD and the SSID**

British Airways requests that all differences between the AD and the SSID be identified. British Airways states that such differences were identified in other SSID ADs.

We partially agree. We agree with the commenter to identify differences between the AD and the SSID and did so in the Differences Between the Proposed AD and Service Information section of the NPRM. However, we find that no change to the final rule is necessary, since that section of the NPRM does not reappear in the final rule.

### **Request To Clarify a Certain Section of the Preamble of the NPRM**

Boeing requests that the Issuance of Advisory Circular (AC) section in the preamble of the NPRM be clarified. Boeing states that AC No. 91-56, "Supplemental Structural Inspection Program for Large Transport Category Airplanes," dated May 6, 2001, applies to airplanes certified under the fail-safe and fatigue requirements of Civil Air Regulations (CAR) 4b or part 25 of the Federal Aviation Regulations (14 CFR part 25), not damage tolerance structural requirements as stated in the Issuance of AC section of the NPRM.

We agree with Boeing that the identified section could be clarified. However, no change has been made to the final rule since the identified sections of the NPRM do not reappear in the final rule.

### **Explanation of Change to Reported Incidents**

We have revised the AD to specify that this AD results from a report of incidents involving fatigue cracking only.

### **Explanation of Change to Costs of Compliance**

The requirements for the baseline structure of Model 737-300, -400, and -500 series airplanes are currently described in 14 CFR 121.1109(c)(1) and 129.109(b)(1), not in 14 CFR 121.370(a) and 129.16 as indicated in the third paragraph of the Cost of Compliance section of the NPRM. Therefore, we have revised the Costs of Compliance section of the AD accordingly.

### **Explanation of Editorial Changes**

We have revised references to the title of Boeing Document D6-82669 from "Supplemental Structural Inspection Document," to "Supplemental Structural Inspection Document Models 737-300/400/500 Airplanes" in this AD.

### **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 1,961 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD.

| <b>Estimated Costs</b>                     |  |                                    |  |  |                                   |
|--|--|------------------------------------|--|--|-----------------------------------|
| <b>Action</b>                              | <b>Work hours</b>                      | <b>Average labor rate per hour</b> | <b>Cost</b>                                  | <b>Number of U.S.-registered airplanes</b> | <b>Fleet cost</b>                 |
| Revision of maintenance inspection program | 1,200 per operator (26 U.S. operators) | \$80                               | \$96,000 per operator                        | 599  | \$2,496,000                       |
| Inspections                                | 600 per airplane                       | \$80                               | \$48,000, per airplane, per inspection cycle | 599  | \$28,752,000 per inspection cycle |

The number of inspection work hours, as indicated above, is presented as if the accomplishment of the actions in this AD are to be conducted as "stand alone" actions. However, in actual practice, these actions for the most part will be done coincidentally or in combination with normally scheduled airplane inspections and other maintenance program tasks. Therefore, the actual number of necessary additional inspection work hours will be minimal in many instances. Additionally, any costs associated with special airplane scheduling will be minimal.

Further, compliance with this AD will be a means of compliance with the AASFR for the baseline structure of Model 737-300, -400, and -500 series airplanes. The AASFR requires certain operators to incorporate damage tolerance inspections into their maintenance inspection programs. These requirements are described in 14 CFR 121.1109(c)(1) and 129.109(b)(1). Accomplishment of the actions required by this AD will meet the requirements of these CFR sections for the baseline structure. The costs for accomplishing the inspection portion of this AD were accounted for in the regulatory evaluation of the AASFR final rule.

### 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:



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**2008-09-13 Boeing:** Amendment 39-15494. Docket No. FAA-2007-29043; Directorate Identifier 2007-NM-177-AD.

### **Effective Date**

(a) This airworthiness directive (AD) is effective June 6, 2008.

### **Affected ADs**

(b) None.

### **Applicability**

(c) This AD applies to all Boeing Model 737-300, -400, and -500 series airplanes, certificated in any category.

### **Unsafe Condition**

(d) This AD results from a report of incidents involving fatigue cracking in transport category airplanes that are approaching or have exceeded their design service objective. We are issuing this AD to maintain the continued structural integrity of the entire fleet of Model 737-300, -400, and -500 series airplanes.

### **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 Information**

(f) The term "the SSID," as used in this AD, means Boeing Document D6-82669, "Supplemental Structural Inspection Document Models 737-300/400/500 Airplanes," Original Release, dated May 2007.

### **Revision of the FAA-Approved Maintenance Inspection Program**

(g) Before the accumulation of 66,000 total flight cycles, or within 12 months after the effective date of this AD, whichever occurs later, incorporate a revision into the FAA-approved maintenance inspection program that provides no less than the required damage tolerance rating (DTR) for each structural significant item (SSI) listed in the SSID. (The required DTR value for each SSI is listed in the SSID.) The revision to the maintenance inspection program must include and must be implemented in accordance with the procedures in Section 5.0, "Damage Tolerance Rating (DTR) System Application," and Section 6.0, "SSI Discrepancy Reporting" of the SSID. Under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.), the Office of

Management and Budget (OMB) has approved the information collection requirements contained in this AD and has assigned OMB Control Number 2120-0056.

### **Initial and Repetitive Inspections**

(h) Except as provided by paragraph (i) of this AD: Before the accumulation of 66,000 total flight cycles, or within 4,000 flight cycles measured from 12 months after the effective date of this AD, whichever occurs later, do the applicable initial inspections to detect cracks of all SSIs, in accordance with the SSID. Repeat the applicable inspections thereafter at the intervals specified in Section 3.0, "Implementation" of the SSID.

(i) For any SSI that has been repaired or altered before the effective date of this AD such that the repair or design change affects your ability to accomplish the actions required by paragraph (h) of this AD: You must request FAA approval of an alternative method of compliance (AMOC) in accordance with section 39.17 of the Federal Aviation Regulations (14 CFR 39.17), at the initial compliance time specified in paragraph (h) of the AD; or do the actions specified in paragraphs (i)(1) and (i)(2) of this AD, at the times specified in those paragraphs, as an approved means of compliance with the requirements of paragraph (h) of this AD.

(1) At the initial compliance time specified in paragraph (h) of the AD, identify each repair or design change to that SSI.

(2) Within 12 months after the identification of a repair or design change required by paragraph (i)(1) of this AD, assess the damage tolerance characteristics of each SSI affected by each repair or design change to determine the effectiveness of the applicable SSID inspection for that SSI and if not effective, incorporate a revision into the FAA-approved maintenance inspection program to include a damage-tolerance based alternative inspection program for each affected SSI. Thereafter, inspect the affected structure in accordance with the alternative inspection program. The inspection method and compliance times (i.e., threshold and repeat intervals) of the alternative inspection program must be approved in accordance with the procedures specified in paragraph (l) of this AD.

### **Repair**

(j) If any cracked structure is found during any inspection required by paragraph (h) or (i) of this AD, before further flight, repair the cracked structure using a method approved in accordance with the procedures specified in paragraph (l) of this AD.

### **Inspection Program for Transferred Airplanes**

(k) Before any airplane that is subject to this AD and that has exceeded the applicable compliance times specified in paragraph (h) of this AD can be added to an air carrier's operations specifications, a program for the accomplishment of the inspections required by this AD must be established in accordance with paragraph (k)(1) or (k)(2) of this AD, as applicable.

(1) For airplanes that have been inspected in accordance with this AD: The inspection of each SSI must be done by the new operator in accordance with the previous operator's schedule and inspection method, or the new operator's schedule and inspection method, at whichever time would result in the earlier accomplishment for that SSI inspection. The compliance time for accomplishment of this inspection must be measured from the last inspection accomplished by the previous operator. After each inspection has been done once, each subsequent inspection must be performed in accordance with the new operator's schedule and inspection method.

(2) For airplanes that have not been inspected in accordance with this AD: The inspection of each SSI required by this AD must be done either before adding the airplane to the air carrier's operations specification, or in accordance with a schedule and an inspection method approved by the

Manager, Seattle Aircraft Certification Office (ACO), FAA. After each inspection has been done once, each subsequent inspection must be done in accordance with the new operator's schedule.

### **Alternative Methods of Compliance (AMOCs)**

(1)(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 approval must specifically refer to this AD.

### **Material Incorporated by Reference**

(m) You must use Boeing Document D6-82669, "Supplemental Structural Inspection Document Models 737-300/400/500 Airplanes," Original Release, dated May 2007, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The document contains the following errors:

(i) Pages 8.0.3 and 8.0.4 of Section 8.0, as specified in the List of Effective Pages, do not exist.

(ii) There are two sets of pages (four pages total) with the same page numbers in Section 11.3 (i.e., pages E.30.1 and E.30.2). The first set of page numbers (i.e., DTR Check Form for Item E-30 and the following blank page) is correct. The second set of page numbers (i.e., DTR Check Form for Item E-31 and the following blank page) is incorrect. Those pages should be identified as page numbers 31.1 and 31.2, as specified in the List of Effective Pages.

(iii) None of the pages are dated. The issue date for those pages is May 2007, as specified in the Revision Highlights section.

(2) 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.

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

(4) 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on April 8, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E8-9316 Filed 5-1-08; 8:45 am]