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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2017-0332; Product Identifier 2016-NM-164-AD; Amendment 39-19084; AD 2017-22-04]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-200, -200C, -300, -400, and -500 series airplanes. This AD was prompted by reports of skin doublers that disbonded from their skin panels. This AD requires repetitive inspections of fuselage skin panels, and applicable on-condition actions. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective November 30, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 30, 2017.

**ADDRESSES:** For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110 SK57, Seal Beach, CA 90740 5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0332.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0332; 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 final rule, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of

Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Jennifer Tsakoumakis, Aerospace Engineer, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 737-200, -200C, -300, -400, and -500 series airplanes. The NPRM published in the Federal Register on May 2, 2017 (82 FR 20450). The NPRM was prompted by reports of skin doublers that disbonded from their skin panels. The NPRM proposed to require repetitive inspections of fuselage skin panels, and applicable on-condition actions. We are issuing this AD to detect and correct disbonded skin panels, which could result in fuselage skin cracking, rapid decompression, and loss of structural integrity of the airplane.

### **Comments**

We gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Effect of Winglets on Accomplishment of the Proposed Actions**

Aviation Partners Boeing stated that accomplishing Supplemental Type Certificate (STC) ST01219SE does not affect the ability to accomplish the actions specified in the NPRM.

We concur with the commenter. We have redesignated paragraph (c) of the proposed AD as paragraph (c)(1) and added paragraph (c)(2) to this AD to state that installation of STC ST01219SE does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a “change in product” alternative methods of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

### **Request To Revise “Explanation of Certain Compliance Times” Section**

Boeing requested that the “Explanation of Certain Compliance Times” section in the preamble of the NPRM be revised to clarify that only disbonded skin panels need to be replaced. Boeing noted that, if a panel is disbonded, it is considered a suspect panel that went through improper processing during the phosphoric acid anodization phase of manufacturing. Boeing stated that the suspect panel could develop an additional disbond, which could lead to further damage, and then the inspections described in the service information might not be adequate.

We acknowledge the commenter's request to clarify that only disbonded skin panels need to be replaced, for the reasons provided by the commenter. We agree with the rationale for the request. However, the “Explanation of Certain Compliance Times” section only appears in the preamble of the NPRM and is not carried over into this final rule; therefore, no change to this final rule is necessary regarding this issue.

### **Request To Include Previously Accomplished Actions as Terminating Actions**

Qantas requested that we include previously accomplished repairs as terminating actions in paragraph (i) of the proposed AD. Qantas requested that paragraph (i) of the proposed AD be revised

to include a provision for previously installed repairs (solid skin panel replacements) that were approved by an authorized representative of the Boeing Commercial Airplanes Organization Designation Authorization (ODA) via FAA Form 8110-3, "Statement of Compliance with the Federal Aviation Regulations." Qantas stated that Boeing ODA-approved repairs completed prior to issuance of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, were not addressed in the NPRM. Qantas also suggested that solid skin panel replacements approved via FAA Form 8100-9, "Statement of Compliance with Airworthiness Standards," be included as terminating action. Qantas stated that including skin panel replacements approved via FAA Form 8100-9 as terminating action could help avoid operators' requests for AMOCs. In addition, Qantas recommended that the language used for approved repairs by an authorized representative of the Boeing ODA be revised, as it is not specific to FAA Form 8110-3 or FAA Form 8100-9.

We agree with the commenter's request. Paragraph (i)(1) of this AD (paragraph (i) of the proposed AD) addresses previously installed repairs approved by an authorized representative of the Boeing ODA. Existing Boeing ODA-approved repairs or preventative modifications are included in notes in Part 1, Part 2, and Part 8 of the Accomplishment Instruction and in note (a) to tables 1 through 8 in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016. Note (a) states, "If any Boeing ODA approved preventative modification or repair was previously installed via FAA Form 8100-9 or [structural repair manual] SRM repair doubler (except disbond repair), initial and repeat inspections are not required at the repaired location only."

However, repairs that were not approved by the Boeing ODA and replacements not done using Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, were not addressed in the proposed AD. Therefore, we have redesignated paragraph (i) (in the proposed AD) as paragraph (i)(1) and added paragraph (i)(2) to this AD to state that any skin panel replacement done before the effective date of this AD terminates the inspections required by paragraph (g) of this AD for that skin panel only, provided the replacement was done using a skin panel manufactured on or after April 1, 1997, and the replacement was done using an FAA-approved method. A replacement accomplished using an FAA-approved method would still address the unsafe condition and the need for the inspections required by paragraph (g) of this AD would be terminated.

We have also added paragraph (i)(3) to this AD to state that any FAA-approved reinforced repair doubler (except disbond repair) installed before the effective date of this AD terminates the inspections required by paragraph (g) of this AD at the repaired location only.

### **Request To Allow Termination of All Inspections**

Southwest Airlines (SWA) requested that we allow the terminating action specified in paragraph (i) of the proposed AD to terminate the initial inspections in paragraph (g) of the proposed AD and not only the repetitive inspections in paragraph (g) of the proposed AD. Specifically, SWA requested that paragraph (i) of the proposed AD be revised to include the provision that replacement of any skin panel in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, except as specified in paragraph (h)(2) of the proposed AD, terminates the requirement for the initial inspection specified in paragraph (g) of the proposed AD, for the replaced skin panel only. SWA noted that an operator could replace a skin panel prior to doing the initial inspection specified in paragraph (g) of the proposed AD, therefore the operator would not be required to do the initial or repetitive inspections specified in paragraph (g) of the proposed AD.

We agree with the commenters' requests. We have clarified paragraph (i)(1) of this AD (paragraph (i) of the proposed AD) to state that accomplishment of any skin panel replacement using a skin panel manufactured on or after April 1, 1997, terminates the inspections required by paragraph (g) of this AD for that skin panel only, provided the replacement is done as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, except as required by paragraph (h)(2) of this AD.

## Request To Include an Additional Terminating Action for AD 2003-14-06

SWA requested that paragraph (j) of the proposed AD be revised to include a provision that replacement of skin panels, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, except as required by paragraph (h)(2) of the proposed AD, terminates all of the requirements of AD 2003-14-06, Amendment 39-13225 (68 FR 40759, July 9, 2003; corrected July 21, 2003 (68 FR 42596) (“AD 2003-14-06”). SWA noted that an operator could replace a skin panel prior to doing the initial inspection specified in paragraph (g) of the proposed AD; therefore, the operator would not be required to do the initial or repetitive inspections specified in paragraph (g) of the proposed AD, and all of the requirements of AD 2003-14-06 would be terminated.

We agree with the commenter's request. We redesignated paragraph (j) in the proposed AD as paragraph (j)(1) and added paragraph (j)(2) to this AD to include a statement that replacement of any skin panel with a skin panel manufactured on or after April 1, 1997, as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, except as required by paragraph (h)(2) of this AD, terminates all of the requirements of AD 2003-14-06 for that skin panel only.

### Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. We have determined that these minor changes:

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

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

### Related Service Information Under 1 CFR Part 51

We reviewed Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016. The service information describes procedures for repetitive inspections of fuselage skin panels for cracking, corrosion, and existing disbond repairs; and applicable on-condition actions. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### Costs of Compliance

We estimate that this AD affects 169 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

#### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
External general visual and detailed inspections	180 work-hours × \$85 per hour = \$15,300 per inspection cycle	\$0	\$15,300 per inspection cycle	\$2,585,700 per inspection cycle.

External high frequency bond test inspection	450 work hours × \$85 per hour = \$38,250 per inspection cycle	0	\$38,250 inspection cycle	\$6,464,250 per inspection cycle.
Ultrasonic disbond inspection and internal detailed skin inspection	630 work-hours × \$85 per hour = \$53,550 per inspection cycle	0	\$53,550 per inspection cycle	\$9,049,950 per inspection cycle.

We estimate the following costs to do any necessary on-condition actions that will be required based on the results of the inspections. We have no way of determining the number of aircraft that might need these on-condition actions:

Action	Labor cost	Parts cost	Cost per product
On-condition inspections	Up to 25 work-hours × \$85 per hour = \$2,125	\$0	Up to \$2,125.
Repairs	Up to 68 work-hours × \$85 per hour = \$5,780	Up to \$100	Up to \$5,880.
Skin panel replacement	304 work-hours × \$85 per hour = \$25,840	\$95,000	\$120,840.

### 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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.

### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):



**FAA**  
**Aviation Safety**

# **AIRWORTHINESS DIRECTIVE**

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

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**2017-22-04 The Boeing Company:** Amendment 39-19084; Docket No. FAA-2017-0332; Product Identifier 2016-NM-164-AD.

## **(a) Effective Date**

This AD is effective November 30, 2017.

## **(b) Affected ADs**

This AD affects AD 2003-14-06, Amendment 39-13225 (68 FR 40759, July 9, 2003; corrected July 21, 2003 (68 FR 42956)) (“AD 2003-14-06”).

## **(c) Applicability**

(1) This AD applies to The Boeing Company Model 737-200, -200C, -300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016.

(2) Installation of Supplemental Type Certificate (STC) ST01219SE ([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgstc.nsf/0/EBD1CEC7B301293E86257CB30045557A?OpenDocument&Highlight=st01219se](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/EBD1CEC7B301293E86257CB30045557A?OpenDocument&Highlight=st01219se)) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a “change in product” alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

## **(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

## **(e) Unsafe Condition**

This AD was prompted by reports of skin doublers that disbonded from their skin panels. We are issuing this AD to detect and correct disbonded skin panels, which could result in fuselage skin cracking, rapid decompression, and loss of structural integrity of the airplane.

## **(f) Compliance**

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

## **(g) Actions Required for Compliance**

Except as required by paragraph (h) of this AD: Do all applicable actions identified as required for compliance (“RC”) in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016. Do the actions at the applicable times

specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016.

#### **(h) Exceptions to Service Information Specifications**

(1) Where Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, uses the phrase “after the original issue of this service bulletin,” for purposes of determining compliance with the requirements of this AD, the phrase “after the effective date of this AD” must be used.

(2) Where Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, specifies contacting Boeing for instructions, and specifies that action as “RC” (Required for Compliance): This AD requires using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

(3) For replaced skin panels identified in table 9 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, on which the one-time internal inspection specified in Boeing Service Bulletin 737-53-1179, Revision 2, dated October 25, 2001, has not been done: The compliance time for accomplishment of the actions specified in Part 8 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, is at the latest of the times specified in paragraphs (h)(3)(i), (h)(3)(ii), and (h)(3)(iii) of this AD.

(i) Within 50,000 flight cycles after the skin panel replacement.

(ii) Within 20,000 flight cycles after July 14, 2003 (the effective date of AD 2003-14-16).

(iii) Within 4,500 flight cycles after the effective date of this AD.

#### **(i) Terminating Action for Required Inspections**

(1) Accomplishment of any skin panel replacement using a skin panel manufactured on or after April 1, 1997, terminates the inspections required by paragraph (g) of this AD for that skin panel only, provided the replacement is done as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, except as required by paragraph (h)(2) of this AD.

(2) Accomplishment of any skin panel replacement done before the effective date of this AD terminates the inspections required by paragraph (g) of this AD for that skin panel only, provided the conditions specified in paragraphs (i)(2)(i) and (i)(2)(ii) of this AD are met.

(i) The replacement was done using a skin panel manufactured on or after April 1, 1997.

(ii) The replacement was done using an FAA-approved method.

(3) Installation of an FAA-approved reinforced repair doubler (except disbond repair) before the effective date of this AD terminates the inspections required by paragraph (g) of this AD at the repaired location only.

#### **(j) Terminating Action for AD 2003-14-06**

(1) Accomplishment of the initial inspections required by paragraph (g) of this AD terminates all requirements of AD 2003-14-06.

(2) Accomplishment of any skin panel replacement with a skin panel manufactured on or after April 1, 1997, as specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016, except as required by paragraph (h)(2) of this AD, terminates all requirements of AD 2003-14-06 for that skin panel only.

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

(1) The Manager, Los Angeles ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate.



If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-ANM-LAACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO Branch, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as required by paragraph (h)(2) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(4)(i) and (k)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

#### **(l) Related Information**

For more information about this AD, contact Jennifer Tsakoumakis, Airframe Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@faa.gov.

#### **(m) Material Incorporated by Reference**

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Service Bulletin 737-53A1349, dated August 23, 2016.

(ii) Reserved.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>.

(4) You may view this service information at the FAA, Transport Standards Branch, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on October 11, 2017.

Dionne Palermo,  
Acting Director, System Oversight Division,  
Aircraft Certification Service.