



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-7270; Directorate Identifier 2015-NM-116-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 737-700 and -700C series airplanes. This proposed AD was prompted by a report that for airplanes with blended winglets, the nose-up pitch trim limit and associated warning for the horizontal stabilizer control system will allow take-off with incorrect trim settings. This proposed AD would require, depending on airplane configuration, replacing the pitch trim light plates on the flight deck control stand, relocating the position warning horn switches of the horizontal stabilizer, revising the software, removing the placard, and doing related investigative and corrective actions if necessary. We are proposing this AD to prevent take-off with incorrect settings of the horizontal stabilizer pitch trim system. Settings outside of the appropriate pitch trim limits could result in loss of controllability of the airplane during take-off.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For Aviation Partners Boeing service information identified in this NPRM, contact Aviation Partners Boeing, 2811 South 102nd Street, Suite 200, Seattle, WA 98168; phone: 206-830-7699; fax: 206-767-3355; email: leng@aviationpartners.com; Internet: <http://www.aviationpartnersboeing.com>.

For The Boeing Company service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. Boeing Alert Service Bulletin 737-27A1306, dated September 10, 2015, is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-7270.

### **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-2016-7270; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Fnu Winarto, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6659; fax: 425-917-6590; email: fnu.winarto@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-7270; Directorate Identifier 2015-NM-116-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

**Discussion**

We have received a report that for airplanes with blended winglets, the nose-up pitch trim limit and associated warning for the horizontal stabilizer control system will allow takeoff with incorrect trim settings. The trim control system was recently analyzed for potential nose-up mis-trim occurrences during take-off for airplanes with blended winglets. Results of the analysis indicated that Model 737-700 airplanes with blended winglets are not compliant with the certification rules for specific conditions. This condition, if not corrected, could result in the loss of controllability of the airplane during take-off.

## **Related Service Information under 1 CFR part 51**

We reviewed Aviation Partners Boeing Service Bulletin AP737-27-002, Revision 2, dated March 1, 2016, and Boeing Alert Service Bulletin 737-27A1306, dated September 10, 2015. The service information describes procedures for replacing the pitch trim light plates on the flight deck control stand, relocating the position warning horn switches of the horizontal stabilizer, revising the software, and doing related investigative and corrective actions.

The related investigative actions include verifying that the stabilizer “B” measurement is at a certain dimension, performing a light plate function test, performing a stabilizer functional test, loading and verifying model/engine database software, performing a flight management computer configuration check, and verifying all settings.

The corrective actions include adjusting the stabilizer, adjusting the light plate, replacing the light plate, rigging and adjusting the horizontal stabilizer trim system, and repairing the light plate switch.

We reviewed Aviation Partners Service Bulletin AP737-34-005, dated July 17, 2015. The service information describes procedures for revising the software and removing the placard.

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.

## **FAA’s Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between this Proposed AD and the Service Information.” For information on the procedures and compliance times, see Boeing Alert Service Bulletin 737-27A1306, dated September 10, 2015, at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-7270.

## Differences Between this Proposed AD and the Service Information

The service information specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

## Costs of Compliance

We estimate that this proposed AD affects 569 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Relocation	Up to 4 work-hours X \$85 per hour = \$340	\$0	Up to \$340	Up to \$193,460
Replacement	Up to 3 work-hours X \$85 per hour = \$255	\$1,973	Up to \$2,228	Up to \$1,267,732
Software	2 work-hours X	\$0	\$170	\$96,730

installation	\$85 per hour = \$170			
Placard Removal (2 airplanes)	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$170

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the 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.

**The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

**The Boeing Company:** Docket No. FAA-2016-7270; Directorate Identifier 2015-NM-116-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 737-700 and -700C series airplanes identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD, certificated in any category.

(1) Airplanes having supplemental type certificate ST00830SE installed (Aviation Partners Boeing blended winglets), as identified in Aviation Partners Boeing Service Bulletin AP737-27-002, Revision 2, dated March 1, 2016.

(2) Airplanes identified in Boeing Alert Service Bulletin 737-27A1306, dated September 10, 2015.

(3) Airplanes identified in Aviation Partners Service Bulletin AP737-34-005, dated July 17, 2015.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight controls.

**(e) Unsafe Condition**

This AD was prompted by a report that for airplanes with blended winglets, the nose-up pitch trim limit and associated warning for the horizontal stabilizer control system will allow take-off with incorrect trim settings. We are issuing this AD to prevent take-off with incorrect settings of the horizontal stabilizer pitch trim system. Settings outside of the appropriate pitch trim limits could result in loss of controllability of the airplane during take-off.

**(f) Compliance**

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

**(g) Replacement, Relocation, and Applicable Related Investigative and Corrective Actions**

(1) For airplanes identified in paragraph (c)(1) of this AD: Within 72 months after the effective date of this AD, relocate the position warning horn switches of the horizontal stabilizer, replace the pitch trim light plates on the flight deck control stand, revise the software, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Aviation Partners Boeing Service Bulletin AP737-27-002, Revision 2, dated March 1, 2016; except as specified in paragraph (j) of this AD. Do all applicable related investigative and corrective actions before further flight.

(2) For airplanes identified in paragraph (c)(2) of this AD: Within 72 months after the effective date of this AD, relocate the position warning horn switches of the horizontal stabilizer, replace the pitch trim light plates on the flight deck control stand, revise the software, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-27A1306, dated September 10, 2015, and Aviation Partners Boeing Service Bulletin AP737-27-002, Revision 2, dated March 1, 2016; except as specified in paragraph (j) of this AD. Do all applicable related investigative and corrective actions before further flight.

**(h) Software Revision and Placard Removal**

For airplanes identified in paragraph (c)(3) of this AD: Within 72 months after the effective date of this AD, revise the software and remove the placard, in accordance with the Accomplishment Instructions of Aviation Partners Service Bulletin AP737-34-005, dated July 17, 2015.

**(i) Credit for Actions Accomplished in Accordance with Previous Service Information**

This paragraph provides credit for the actions specified in paragraphs (g)(1) and (g)(2) of this AD, if those actions were performed before the effective date of this AD using Aviation Partners Boeing Service Bulletin AP737-27-002, dated March 31, 2015; or Aviation Partners Boeing Service Bulletin AP737-27-002, Revision 1, dated August 6, 2015.

**(j) Exception to the Service Information**

Where Aviation Partners Boeing Service Bulletin AP737-27-002, Revision 2, dated March 1, 2016, specifies to contact Boeing for appropriate action, and specifies that action as Required for Compliance (RC): Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

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

(1) The Manager, Seattle Aircraft Certification office (ACO), 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 ACO, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to:

9-ANM-Seattle-ACO-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, Seattle ACO, to make those findings. For a repair method to

be approved, the repair, 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 (j) 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. 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**

(1) For more information about this AD, contact Fnu Winarto, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6659; fax: 425-917-6590; email: fnu.winarto@faa.gov.

(2) For service information identified in this AD, contact Aviation Partners Boeing, 2811 South 102nd Street, Suite 200, Seattle, WA 98168; phone: 206-830-7699; fax: 206-767-3355; email: leng@aviationpartners.com; Internet: <http://www.aviationpartnersboeing.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on June 14, 2016.

Dionne Palermo,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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