



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0323; Product Identifier 2019-NM-026-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 737-800 series airplanes. This proposed AD was prompted by reports of inadequate clearance between a certain fuel quantity indicating system (FQIS) tank unit and a certain reinforcement angle upon accomplishment of a certain modification. This proposed AD would require a detailed inspection to measure the clearance between the FQIS tank unit and a certain reinforcement angle, and repair if necessary. We are proposing this AD to address the unsafe condition on these products.

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 service information identified in this NPRM, contact Aviation Partners Boeing, 2811 S. 102nd Street, Suite 200, Seattle, WA 98168; telephone 206-830-7699; Internet <https://www.aviationpartnersboeing.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

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-2019-0323; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations (phone: 800-647-5527) is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3552; email: christopher.r.baker@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-2019-0323; Product Identifier 2019-NM-026-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM 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 NPRM.

Discussion

We have received reports of inadequate clearance between an FQIS tank unit at rib 21 and the stringer U-14 reinforcement angle upon accomplishment of the split scimitar winglet modification of supplemental type certificate (STC) ST00830SE. Following alterations or maintenance in this area, the FQIS tank unit and the stringer U-14 reinforcement angle must maintain a minimum 0.10-inch clearance, as specified in Aviation Partners Boeing (APB) Service Bulletin AP737-57-020, dated April 5, 2018. A Boeing design change led to interference between the FQIS tank unit and the winglet structure upon installation of STC ST00830SE. STC ST00830SE, combined with the Boeing FQIS bracket configuration on certain airplanes, leads to inadequate clearance or interference between the structure and the FQIS tank unit in the outboard area of the wing tanks. APB notified Boeing of the nonconformance when APB was unable to meet the clearance requirements upon installation of the STC ST00830SE on two separate modifications. Such inadequate clearance, if not addressed, could result in a potential source of ignition in a fuel tank, consequent fire, overpressure, and structural failure of the wing.

An ignition in the fuel tank could result from either of two scenarios. In one scenario, if the lightning protection shield over the out-of-tank FQIS wiring has a degraded or missing connection to the structure, excessive current can be induced in the FQIS wiring during a lightning strike, resulting in high voltage between the fuel probe and the structure. This high voltage from lightning-induced current, combined with inadequate clearance of the probe from the structure, could result in arcs and sparks in the

fuel tank. A degraded or missing lightning protection shield connection to the structure is identified as a latent failure.

In the second scenario, electrical sparks could occur if there is a hot short between power wiring and out-of-tank FQIS wiring, when combined with surface coatings that are worn as a result of a probe that has been in contact with the structure. A probe in contact with the structure would likely remain latent for a significant period of time with worn coatings before actual metal-to-metal contact was made, at which time the FQIS indication for that tank would blank, eventually resulting in the need for troubleshooting.

Related Service Information under 1 CFR part 51

We reviewed Aviation Partners Boeing Service Bulletin AP737-57-020, dated April 5, 2018. This service information describes procedures for a detailed inspection to measure the clearance between the FQIS tank unit and stringer U-14 reinforcement angle at rib 21 (WSTA 617) on the left-hand wing, and repair including trimming the stringer U-14 reinforcement angle to obtain minimum clearance. 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.

Costs of Compliance

We estimate that this proposed AD affects 16 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
Detailed Inspection	7 work-hours X \$85 per hour = \$595	\$0	\$595	\$9,520

We estimate the following costs to do any necessary repair that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need this repair:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Repair	4 work-hours X \$85 per hour = \$340	\$0	\$340

According to the manufacturer, some or all 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 known 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.

This proposed 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 and associated appliances to the Director of the System Oversight Division.

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-2019-0323; Product Identifier 2019-NM-026-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 737-800 series airplanes, certificated in any category, line numbers 4919 through 5063 inclusive, modified by supplemental type certificate (STC) ST00830SE.

(d) Subject

Air Transport Association (ATA) of America Code 28, Fuel.

(e) Unsafe Condition

This AD was prompted by reports of inadequate clearance between a certain fuel quantity indicating system (FQIS) tank unit and a certain reinforcement angle upon accomplishment of a certain modification. We are issuing this AD to address this condition, which could result in a potential source of ignition in a fuel tank and consequent fire, overpressure, and structural failure of the wing and possible loss of the airplane.

(f) Compliance

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

(g) Inspection and Repair

Within 18 months after the effective date of this AD: Perform a detailed inspection to determine the clearance between the FQIS tank unit at rib 21 (WSTA 617) and stringer U-14 reinforcement angle in accordance with the Accomplishment Instructions of Aviation Partners Boeing Service Bulletin AP737-57-020, dated April 5, 2018. If the measured clearance is less than 0.10-inch: Before further flight, perform the repair action in accordance with the Accomplishment Instructions of Aviation Partners Boeing Service Bulletin AP737-57-020, dated April 5, 2018.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle 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 (i)(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 Branch, FAA, 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.

(i) Related Information

(1) For more information about this AD, contact Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3552; email: christopher.r.baker@faa.gov.

(2) For service information identified in this AD, contact Aviation Partners Boeing, 2811 S. 102nd Street, Suite 200, Seattle, WA 98168; telephone 206-830-7699; Internet <https://www.aviationpartnersboeing.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Des Moines, Washington, on May 3, 2019.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.
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