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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0122; Directorate Identifier 2014-NM-002-AD; Amendment 39-17938; AD 2014-16-14]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes. This AD was prompted by reports in which a single, undetected, erroneous radio altimeter output caused the autothrottle to enter landing flare retard mode prematurely on approach. This AD requires removing certain autothrottle computers and installing a new or reworked autothrottle computer. We are issuing this AD to prevent a single, undetected, erroneous radio altimeter output from causing premature autothrottle landing flare retard and subsequent loss of automatic speed control, which could result in loss of control of the airplane.

DATES: This AD is effective September 23, 2014.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 23, 2014.

ADDRESSES: For service information identified in this AD, 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 98057. For information on the availability of this material at the FAA, call 425-227-2112.

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-2014-0122; 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 (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: Marie Hogestad, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6418; fax: 425-917-6590; email: marie.hogestad@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 737-600, -700, -700C, -800, and -900 series airplanes. The NPRM published in the Federal Register on March 3, 2014 (79 FR 11728). The NPRM was prompted by reports in which a single, undetected, erroneous radio altimeter output caused the autothrottle to enter landing flare retard mode prematurely on approach. The NPRM proposed to require removing certain autothrottle computers and installing a new or reworked autothrottle computer. We are issuing this AD to prevent a single, undetected, erroneous radio altimeter output from causing premature autothrottle landing flare retard and subsequent loss of automatic speed control, which could result in loss of control of the airplane.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM (79 FR 11728, March 3, 2014) and the FAA's response to each comment.

Support for the NPRM (79 FR 11728, March 3, 2014)

Boeing and the National Transportation Safety Board (NTSB) concurred with the NPRM (79 FR 11728, March 3, 2014).

Clarification of Effect of Winglet Installation

Aviation Partners Boeing stated that installation of winglets per Supplemental Type Certificate (STC) ST00830SE does not affect the accomplishment of the manufacturer's service instructions specified in the NPRM (79 FR 11728, March 3, 2014).

Request To Change Cost Estimate

Kevin Lee, a private citizen, requested that we increase the cost estimate of the NPRM (79 FR 11728, March 3, 2014). The commenter stated that the cost will be significantly higher due to General Electric not providing a free-of-charge upgrade to the autothrottle computer despite this being a safety and reliability issue.

We disagree with increasing the cost estimate. The cost estimate does not include parts cost for the autothrottle computer because it is considered "Parts and Materials Supplied by the Operator" in Boeing Alert Service Bulletin 737-22A1215, dated November 22, 2013. The autothrottle computer software can be updated using a data loader on a bench with specific equipment that is unique to the GE autothrottle computer. However, since this autothrottle computer has been out of production for

over ten years, it is unlikely that operators will have the capability to do the update themselves using a disc supplied by GE. Therefore, GE anticipates that the majority of operators will return their autothrottle computer to a GE service center for modification. As an alternative, operators may purchase the autothrottle computer from Boeing. Boeing Alert Service Bulletin 737-22A1215, dated November 22, 2013, does not give the cost and it is therefore not included in our estimate. Since there are multiple ways for operators to get an updated autothrottle computer, we have not included the cost of the autothrottle computer in our estimate. We also do not control warranty coverage. No change has been made to this final rule in this regard.

Request To Delay Issuance or Extend Compliance Time of Final Rule

Kevin Lee requested that we delay issuance of the final rule, or extend the proposed 36-month compliance time specified in the NPRM (79 FR 11728, March 3, 2014). The commenter stated that Boeing has not incorporated the new GE autothrottle computer having part number (P/N) 760SUE2-5 into their Boeing 737 Illustrated Parts Catalog (IPC) or the Instructions for Continued Airworthiness documents.

We disagree with delaying issuance of this final rule. Paragraph 1.K. of Boeing Alert Service Bulletin 737-22A1215, dated November 22, 2013, identifies the Boeing 737 IPC as the only document affected by replacement of the autothrottle computer. The new autothrottle computer has been added to the IPC, therefore there is no need to delay issuance of the final rule.

We also disagree with extending the 36-month compliance time. In developing an appropriate compliance time for this action, we considered the urgency associated with the subject unsafe condition, the availability of required parts, and the practical aspect of accomplishing the required modification within a period of time that corresponds to the normal scheduled maintenance for most affected operators. According to the manufacturer, an ample number of required parts will be available to modify the U.S. fleet within the proposed compliance time. However, under the provisions of paragraph (i) of this final rule, we will consider requests for approval of an extension of the compliance time if sufficient data are submitted to substantiate that the new compliance time would provide an acceptable level of safety.

We have not changed the AD in regard to either delaying the final rule or extending the 36-month compliance time.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 11728, March 3, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 11728, March 3, 2014).

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

Costs of Compliance

We estimate that this AD affects 497 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
Autothrottle computer replacement	1 work-hour × \$85 per hour = \$85	\$0	\$85	\$42,245

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),
- (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):



2014-16-14 The Boeing Company: Amendment 39-17938; Docket No. FAA-2014-0122; Directorate Identifier 2014-NM-002-AD.

(a) Effective Date

This AD is effective September 23, 2014.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 737-600, -700, -700C, -800, and -900 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-22A1215, dated November 22, 2013.

(d) Subject

Air Transport Association (ATA) of America Code 22, Auto Flight.

(e) Unsafe Condition

This AD was prompted by reports in which a single, undetected, erroneous radio altimeter output caused the autothrottle to enter landing flare retard mode prematurely on approach. We are issuing this AD to prevent a single, undetected, erroneous radio altimeter output from causing premature autothrottle landing flare retard and subsequent loss of automatic speed control, which could result in loss of control of the airplane.

(f) Compliance

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

(g) Replacement

Within 36 months after the effective date of this AD, do the actions specified in paragraphs (g)(1) and (g)(2) of this AD, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-22A1215, dated November 22, 2013.

(1) Remove any autothrottle computer, part number (P/N) 760SUE1-1 (Boeing P/N 10-62017-51), 760SUE2-2 (Boeing P/N 10-62017-52), 760SUE2-3 (Boeing P/N 10-62017-53), or 760SUE2-4 (Boeing P/N 10-62017-54), from the E1-1 electronics shelf.

(2) Install a new or reworked autothrottle computer, P/N 760SUE2-5 (Boeing P/N 10-62017-55) at the E1-1 electronics shelf.

(h) Parts Installation Prohibition

As of the effective date of this AD, no person may install an autothrottle computer, P/N 760SUE1-1 (Boeing P/N 10-62017-51), 760SUE2-2 (Boeing P/N 10-62017-52), 760SUE2-3 (Boeing P/N 10-62017-53), or 760SUE2-4 (Boeing P/N 10-62017-54), on any airplane.

(i) 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 (j) 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.

(j) Related Information

For more information about this AD, contact Marie Hogestad, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6418; fax: 425-917-6590; email: marie.hogestad@faa.gov.

(k) 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 737-22A1215, dated November 22, 2013.

(ii) Reserved.

(3) For service information identified in this AD, 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>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA 98057. 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 August 1, 2014.

Jeffrey E. Duven,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.