DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration

14 CFR Part 39

RIN 2120–AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 737 airplanes. This AD was prompted by reports of latent failures of the cabin altitude pressure switches. This AD requires repetitive functional tests of the pressure switches, and on-condition actions, including replacement, if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective July 20, 2021.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of July 20, 2021.

The FAA must receive comments on this AD by September 3, 2021.

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 https://www.regulations.gov. Follow the instructions for submitting comments.
• Fax: 202–493–2251.
• 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 final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110–SK57, Seal Beach, CA 90740–5600; telephone 562–797–1717; internet https://www.myboeingfleet.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195. It is also available at https://www.regulations.gov by searching for and locating Docket No. FAA–2021–0561.

Examining the AD Docket
You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA–2021–0561; 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 final rule, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Nicole Tsang, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206–231–3959; email: Nicole.S.Tsang@faa.gov.

SUPPLEMENTARY INFORMATION:

Background
The FAA requires every proposed transport category airplane design with a pressurized cabin to include a system that warns the flightcrew of cabin depressurization, 14 CFR 25.841(b). On Boeing Model 737 airplanes, such warning systems include a cabin altitude pressure switch. The functions of this pressure switch are twofold: To detect if a certain cabin pressure altitude has been exceeded; and if so, to send a signal to the parts of the system that provide aural and visual warnings to the flightcrew. When this switch fails, it fails latently; that is, without making the failure known to the flightcrew or maintenance personnel. Due to the importance of the functions provided by this switch, in 2012 the FAA mandated that all Boeing Model 737 airplanes utilize two switches, to provide redundancy in case of one switch’s failure. AD 2012–19–11, Amendment 39–17206 (77 FR 60296, October 3, 2012).1

The FAA has received reports of latent failures of these cabin altitude pressure switches. In September 2020, an operator reported that on three of its airplanes, both pressure switches failed the on-wing functional test. The affected switches were on three different models of the Boeing 737.

The airplane manufacturer investigated, and initially found, for reasons that included the expected

1This airworthiness directive was eventually superseded by AD 2015–21–11, Amendment 39–18304 (80 FR 65927, October 28, 2015) (AD 2015–21–11).

AD Requirements

This AD requires accomplishing the actions specified in the service information already described, except as discussed under “Differences Between this AD and the Service Information.” This AD also requires reporting to Boeing the results of the first functional test if any pressure switch failed, and sending reports to Boeing of the airplanes in the operator’s fleet that have been tested.

FAA’s Determination

The FAA is issuing this AD because the agency has determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021. This service information specifies procedures for repetitive functional tests of the cabin altitude pressure switches, on-condition actions including follow-on functional testing and replacement of failed switches, sending a report to Boeing about any pressure switches that fail the initial functional test, and reporting to Boeing the airplanes in the operator’s fleet that have been tested. 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.
Effect of Certain Installation Procedures on Accomplishment of AD Requirements

As previously noted, the FAA issued AD 2015–21–11, applicable to certain Model 737–100, –200, –200C, –300, –400, –500, –600, –700, –700C, –800, –900, and –900ER series airplanes. AD 2015–21–11 requires, among other actions, the installation of a redundant cabin altitude pressure switch in accordance with specified Boeing service information. The FAA has since approved numerous supplemental type certificates (STCs) and other means for installing the redundant pressure switch. As a result of its oversight of these newly-installed switches, the FAA has determined that use of approved maintenance procedures for the cabin altitude pressure switch functional test other than specified in the task cards identified in Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, is acceptable for the functional test; therefore, those other procedures do not require approval of an alternative method of compliance (AMOC).

Differences Between This AD and the Service Information

Although Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, affects “all 737CL” airplanes (the 737 Classics include Model 737–100, –200, –200C, –300, –400, and –500), Boeing did not send the MOM to Model 737–100, –200 and –200C operators. Additionally, Boeing did not reference procedures for performing the cabin altitude pressure switch functional test for Model 737–100, –200, and –200C series airplanes. There are no Model 737–100 series airplanes operating worldwide; however, the applicability of this AD includes those airplanes in the event any of those airplanes are returned to service in the U.S. The FAA has also included Model 737–200 and –200C series airplanes in the applicability of this AD. Furthermore, the FAA requested that Boeing make the service information available to Model 737–200 and –200C operators. Boeing Model 737–200 and –200C operators may reference 737–200 Airplane Maintenance Manual (AMM) 21–33–11/501 for additional guidance on performing the cabin altitude pressure switch functional test.

Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, uses permissive language, such as “recommends” and “requesting,” in its “Functional Test Requirements” and “Reporting Requirements” sections. However, the regulatory text in paragraphs (g) and (h) of this AD makes the language in those sections mandatory unless an exception in paragraph (j) of this AD applies.

Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, recommends returning failed pressure switches to the switch manufacturer. Although the FAA also recommends that operators return failed pressure switches in order to provide the switch manufacturer with additional data related to the unsafe condition, this AD does not require that action.

Although Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, identifies specific AMM task cards for use in accomplishing the functional test, paragraph (j)(1) of this AD clarifies that any approved maintenance procedures may be used for the functional test. This provides the operator an option to use the AMM task card or any approved maintenance procedure for the functional test without needing to request an AMOC.

Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, specifies certain on-condition actions, including an additional step while performing the functional test on the switch by increasing the altitude setting on the switch to an altitude of up to 20,000 feet if the cabin altitude warning does not activate by 11,000 feet during the initial functional test. The service information specifies repeating the functional test at intervals, but does not explicitly state that the on-condition additional functional testing is limited to the initial functional test only. Paragraph (j)(3) of this AD requires the on-condition additional functional test step of increasing the altitude setting to 20,000 feet only during the initial functional test (if applicable).

Although Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, specifies that failed switches be replaced with “new or serviceable” switches, this AD requires replacement with “serviceable” switches, which include any switches that are eligible for installation. This is to ensure that any installed switch is serviceable.

Interim Action

The FAA considers this AD to be an interim action. The reporting that is required by this AD will enable the airplane manufacturer to obtain better insight into the nature, cause, and extent of the switch failures, and eventually to develop final action to address the unsafe condition. Once final action has been identified, the FAA might consider further rulemaking.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 et seq.) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies forgiving notice and comment prior to adoption of this rule because, as previously noted, the unexpectedly high rate of latent failure, of both pressure switches on the same airplane, could result in the cabin altitude warning system not activating if the cabin altitude exceeds 10,000 feet, resulting in hypoxia of the flightcrew, and loss of control of the airplane. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forgo notice and comment.

Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include Docket No. FAA–2021–0561 and Project Identifier AD–2021–00623–T at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in the CFR 11.35, the FAA will post all comments received, without change, to https://
www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Nicole Tsang, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206–231–3959; email: Nicole.S.Tsang@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

<table>
<thead>
<tr>
<th>Action</th>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Cost per product</th>
<th>Cost on U.S. operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional test ...</td>
<td>1 work-hour × $85 per hour = $85 per test</td>
<td>$0</td>
<td>$85 per test</td>
<td>$212,670 per test</td>
</tr>
</tbody>
</table>

In addition, the FAA has determined that preparing and sending a monthly report of tested airplanes takes about 1 work-hour per operator. Since operators are required to submit this report for their affected fleet(s), the FAA has determined that a per-operator estimate is more appropriate than a per-airplane estimate. Therefore, the FAA estimates the average total cost of the monthly report to be $85 (1 work-hour × $85) per operator.

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of the functional test. The FAA has no way of determining the number of aircraft that might need these actions:

<table>
<thead>
<tr>
<th>Action</th>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Cost per product</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-condition functional test and switch replacement Reporting</td>
<td>1 work-hour × $85 per hour = $85</td>
<td>$1,278</td>
<td>$1,363</td>
</tr>
</tbody>
</table>

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120–0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177–1524.

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.

The FAA is 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 Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

Costs of Compliance

The FAA estimates that this AD affects 2,502 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:
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

§39.13 [Amended]

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


(a) Effective Date
This airworthiness directive (AD) is effective July 20, 2021.

(b) Affected ADs
None.

(c) Applicability
This AD applies to all The Boeing Company Model 737 airplanes, certificated in any category.

(d) Subject
Air Transport Association (ATA) of America Code 21, Air conditioning.

(e) Unsafe Condition
This AD was prompted by reports of latent failures of the cabin altitude pressure switches. The FAA is issuing this AD to address the unexpectedly high rate of latent failure of both pressure switches on the same airplane which could result in the cabin altitude warning system not activating if the cabin altitude exceeds 10,000 feet, resulting in hypoxia of the flightcrew, and loss of control of the airplane.

(f) Compliance
Comply with this AD within the compliance times specified, unless already done.

(g) Repetitive Functional Tests
Except as specified in paragraph (j) of this AD: At the latest of the times specified in paragraphs (g)(1) through (3) of this AD, perform the initial functional test of the cabin altitude pressure switches, and before further flight, do all applicable on-condition actions, in accordance with the “Functional Test Requirements” section of Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021. Repeat the functional test thereafter at intervals not to exceed 2,000 flight hours and do all applicable on condition actions before further flight.

(1) Within 2,000 flight hours since the last functional test of the cabin altitude pressure switches.
(2) Prior to the accumulation of 2,000 total flight hours on the airplane.
(3) Within 90 days after the effective date of this AD.

Note 1 to paragraph (g): Additional guidance for performing the functional test required by paragraph (g) of this AD can be found in 737–200 Airplane Maintenance Manual (AMM) 21–33–11/501, 737CL AMM TASK CARD 31–026–01–01, 737CL AMM TASK CARD 31–010–01–01, 737NG AMM TASK CARD 31–020–00–01, and 737MAX AMM TASK CARD 31–020–00–01, and other approved maintenance procedures.

(h) Reporting for Switch Failure
If any switch fails the initial functional test required by paragraph (g) of this AD: At the applicable time specified in paragraph (h)(1) or (2) of this AD and if the results of that functional test, in accordance with Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021.
(1) If the functional test was done on or after the effective date of this AD: Submit the report within 10 days after the functional test.
(2) If the functional test was done before the effective date of this AD: Submit the report within 10 days after the effective date of this AD.

(i) Repetitive Reporting of Tested Flight
Within 40 days, but no earlier than 30 days, after the effective date of this AD: Send a report to Boeing listing the total number of airplanes, including tail numbers, in the operator’s fleet that have been tested since the effective date of this AD, in accordance with Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021.

(1) The functional test was done on or after the effective date of this AD.
(2) The airplane is eligible for installation.
(3) Within 90 days after the effective date of this AD.

(j) Exceptions to Service Information
Specified Replacement
Where Boeing Multi Operator Message MOM–MOM–21–0292–01B, dated June 23, 2021, specifies replacing failed switches with “new or serviceable” switches, this AD requires replacement with “serviceable” switches, which include any switches that are eligible for installation.

Note 1 to paragraph (j):
This AD requires replacement of failed switches with “serviceable” switches unless otherwise specifically referred to this AD.

(k) 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 responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information. Information may be emailed to 9-AMN-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 responsible Flight Standards Office.

(l) Related Information
For more information about this AD, contact Nicole Tsang, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206–231–3959; email: Nicole.S.Tsang@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.
(ii) [Reserved]
(iii) [Reserved]
(v) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195.
(vi) 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, email fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.
DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration

14 CFR Part 39

RIN 2120–AA64

Airworthiness Directives; Leonardo S.p.a. (Type Certificate Previously Held by Agusta S.p.A.) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2011–18–52 for certain Agusta S.p.A. (now Leonardo S.p.a.) Model AB139 and AW139 helicopters. AD 2011–18–52 required revising the life limit for certain part-numbered tail rotor (T/R) blades, updating the helicopter’s historical records, repetitively inspecting each T/R blade for a crack or damage, and depending on the results, replacing the T/R blade. This AD was prompted by the manufacturer developing improved T/R blades using different materials and establishing life limits for each improved blade. This AD retains certain requirements from AD 2011–18–52, revises certain requirements from AD 2011–18–52, and expands the applicability to include the newly-designed T/R blades. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 24, 2021.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 24, 2021.


Exempting the AD Docket

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA–2021–0348; or in person at Docket Operations, U.S. Department of Transportation, Docket Operations Division, 20th Street, E. C St., SW., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Matt Fuller, AD Program Manager, General Aviation & Rotorcraft Unit, Airworthiness Products Sector, Operational Safety Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222–5110; email matthew.fuller@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2011–18–52, Amendment 39–17020 (77 FR 23109, April 18, 2012) (AD 2011–18–52). AD 2011–18–52 applied to Agusta S.p.A. (now Leonardo S.p.a.) Model AB139 and AW139 helicopters. AD 2011–18–52 required revising the life limit for certain part-numbered tail rotor (T/R) blades, updating the helicopter’s historical records, repetitively inspecting each T/R blade for a crack or damage, and depending on the results, replacing the T/R blade. This AD was prompted by the manufacturer developing improved T/R blades using different materials and establishing life limits for each improved blade. This AD retains certain requirements from AD 2011–18–52, and expands the applicability to include the newly-designed T/R blades. The FAA is issuing this AD to address the unsafe condition on these products.

AD 2011–18–52 was prompted by a fatal accident involving an Agusta Model AW139 helicopter, which may have been caused by cracks in a T/R blade. EASA, which is the Technical Agent for the Member States of the European Union, issued EASA Emergency AD 2011–0156–E, dated August 25, 2011 (EASA AD 2011–0156–E) to require repetitive inspections and reducing the life limit of the T/R blades. According to EASA, this condition, if not detected and corrected, could result in failure of a T/R blade and subsequent loss of control of the helicopter. After the FAA issued AD 2011–18–52, EASA issued a series of ADs as follows:

- EASA AD 2012–0030, dated February 17, 2012 (EASA AD 2012–0030), which superseded Emergency AD 2011–0156–E, advised that the manufacturer developed improved, newly-designed T/R blades P/N 3G6410A00132 and P/N 4G6410A00132, established life limits for each improved T/R blade, added repetitive inspections for the improved T/R blades, and advised that each T/R blade P/N had its own individual life limit.
- EASA AD 2012–0076, dated May 2, 2012 (EASA AD 2012–0076), which superseded EASA AD 2012–0030 and was issued after the manufacturer developed another version of improved T/R blades P/N 3G6410A00132 and P/N 4G6410A00132 with different materials. AD 2012–0076 required interim life limits for the new improved version of the T/R blades while also retaining the inspection requirements of EASA AD 2012–0030.
- EASA AD 2012–0076R1, dated July 13, 2012 (EASA AD 2012–0076R1), which revised EASA AD 2012–0076 after a modification was developed to allow installation of certain part-numbered T/R blades under certain conditions.
- EASA AD 2012–0076R2, dated February 20, 2014 (EASA AD 2012–0076R2), which revised EASA AD 2012–0076R1, was issued after another modification was developed. EASA AD 2012–0076R2 requires removing the 25 hours TIS inspection of certain part-numbered T/R blades, extending the life