

provides a method to substantiate that the rule has been met for tire fragments. No specific requirements were established for the contiguous wing areas into which the fuel-tank access covers are installed, because of the inherent ability of conventional aluminum wing skins to resist tire-debris penetration. Advisory Circular 25.963-1 specifically notes, "The [fuel-tank] access covers, however, need not be more impact resistant than the contiguous tank structure," highlighting the assumption that the basic structures of these wings meet some higher standard. An additional amendment to 14 CFR part 121 required operators to modify their existing fleets of airplanes with impact-resistant fuel-tank access panels. This amendment only addressed fuel-tank access panels because service experience at the time indicated that the wing skin on the underside of a wing, on conventional, subsonic airplanes, provided adequate, inherent capability to resist tire debris and engine debris penetration.

However, after the adoption of the amendments to § 25.963 in 2000, an unanticipated failure mode occurred on a Concorde airplane when tire debris impacted the fuel tank. The initial impact of the tire debris did not penetrate the fuel tank, but a pressure wave from the debris impact caused the fuel tank to rupture. In September 2001, both the French civil-aviation authority (DGAC) and the United Kingdom Civil Aviation Authority (CAA) issued airworthiness directives requiring modifications to Concorde airplanes, to add a means to retain fuel if the primary fuel retention means was damaged.

To maintain the level of safety envisioned by § 25.963(e), these special conditions establish a standard for resistance to potential tire-debris impacts to the contiguous wing surfaces, and require consideration of possible secondary effects of a tire impact, such as the induced pressure wave that was a factor in the Concorde accident. This standard takes into account that new construction methods and materials may not necessarily provide the resistance to debris impact that historically has been shown as adequate with conventional aluminum wings. These special conditions are based on the defined tire-impact areas and tire-fragment characteristics described in AC 25.963-1.

In addition, despite practical design considerations, some uncommon debris larger than that defined in paragraph (b) of these special conditions may cause a fuel leak within the defined area, so paragraph (c) of these special conditions also takes into consideration possible

fuel-leak paths. Fuel-tank surfaces of typical transport airplanes have thick aluminum construction in the tire-debris impact areas that is tolerant to tire debris larger than that defined in paragraph (b) of these special conditions. Consideration of leaks caused by larger tire fragments is needed to ensure that an adequate level of safety is provided where composite material is used.

These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions are applicable to the Boeing Model 777-9 airplane. Should Boeing apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only a certain novel or unusual design feature on one model of airplane. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Boeing Model 777-9 airplanes.

(a) Tire-debris impact to any fuel tank or fuel-system component, located within 30 degrees to either side of wheel rotational planes, may not result in penetration or otherwise induce fuel-tank deformation, rupture (*e.g.*, through propagation of pressure waves), or cracking sufficient to allow a hazardous fuel leak. A hazardous fuel leak results if debris impact to a fuel-tank surface causes—

1. A running leak,
2. A dripping leak, or
3. A leak that, 15 minutes after wiping dry, results in a wetted airplane surface exceeding 6 inches in length or diameter.

The leak must be evaluated under maximum fuel head pressure.

(b) Compliance with paragraph (a), above, must be shown by analysis or tests assuming all of the following. The tire-debris fragment:

1. Size is 1 percent of the tire mass.
2. Is propelled at a tangential speed that could be attained by a tire tread at the airplane flight-manual airplane rotational speed (V_R at maximum gross weight).

3. Load is distributed over an area on the fuel-tank surface equal to 1.5 percent of the total tire tread area.

(c) Fuel leaks caused by impact from tire debris larger than that specified in paragraph (b), from any portion of a fuel tank located within the tire-debris impact area defined in paragraph (a), may not result in hazardous quantities of fuel entering any of the following areas of the airplane:

1. Engine inlet,
2. APU inlet, or
3. Cabin-air inlet.

This must be shown by test or analysis, or a combination of both, for each approved engine forward-thrust condition, and each approved reverse-thrust condition.

Issued in Des Moines, Washington, on May 13, 2019.

Victor Wicklund,

Manager, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0961; Product Identifier 2018-NM-121-AD; Amendment 39-19635; AD 2019-09-01]

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 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD was prompted by reports indicating that the pitot heat switch is not always set to ON, which could result in misleading air data. This AD requires replacement of pitot anti-icing system components, installation of

a junction box and wiring provisions, repetitive testing of the anti-icing system, and applicable on-condition actions. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective June 26, 2019.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 26, 2019.

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 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. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0961.

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-2018-0961; 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, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is 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: Frank Carreras, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3539; email: frank.carreras@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 737-100, -200, -200C, -300, -400, and -500 series airplanes. The NPRM published in the **Federal Register** on November 19, 2018 (83 FR 58196). The NPRM was prompted by reports indicating that the pitot heat

switch is not always set to ON, which could result in misleading air data. The NPRM proposed to require replacement of pitot anti-icing system components, installation of a junction box and wiring provisions, repetitive testing of the anti-icing system, and applicable on-condition actions.

We are issuing this AD to address misleading air data, which can lead to loss of crew situational awareness and could ultimately result in the inability to maintain continued safe flight and landing.

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.

Support for the NPRM

The Boeing Company stated support for the NPRM.

Effect of Winglets on Accomplishment of the Proposed Actions

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

We concur with the commenter. We have redesignated paragraph (c) of the proposed AD as paragraph (c)(1) of this AD 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 method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

Request To Extend the Compliance Time

SF Airlines requested that the compliance time be extended. The commenter noted that the two parts kits and window/pitot heat module needed to accomplish the modification on each airplane are too hard to obtain within the proposed 24 months. The commenter further pointed out that the modification requires around 300 work hours, which will require creation of a detailed plan for modifying its 17-airplane fleet. The commenter asserted that the modification would likely be performed in the next C-check, but that such a large modification could not be accomplished during a C-check.

We do not agree to extend the compliance time. In developing an appropriate compliance time for this action, we considered not only the

safety implications of the identified unsafe condition, but the average utilization rate of the affected fleet, 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. The commenter provided no further evidence to substantiate a parts availability problem. Furthermore, this AD specifies the same 24-month compliance time as is required for the Model 737NGs in AD 2012-24-08, Amendment 39-17278 (77 FR 73282, December 10, 2012), which addresses the same unsafe condition identified in this AD.

If we receive additional data that justify different compliance times, we may consider further rulemaking on this issue. However, under the provisions of paragraph (m) of this AD, we will consider requests for approval of alternative compliance times if sufficient data are submitted to substantiate that the change would provide an acceptable level of safety. We have not changed this AD in this regard.

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 change 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 addressing 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 737-30A1064, Revision 1, dated October 18, 2017. The service information describes procedures for replacement and repetitive testing of the P5-9 window and pitot heat module, and changing the anti-icing system to automatically supply power to heat the air data sensors.

We also reviewed the following concurrent service information.

- Boeing Service Bulletin 737-30-1067, Revision 1, dated May 4, 2017. This service information describes procedures for installing a new J18

junction box to change the anti-icing system.

- Boeing Service Bulletin 737-30-1068, Revision 1, dated May 4, 2017. This service information describes procedures for installing wiring provisions to the anti-icing system.

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

ESTIMATED COSTS FOR REQUIRED ACTIONS

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replacement (Boeing Alert Service Bulletin 737-30A1064).	6 work-hours × \$85 per hour = \$510	\$0	\$510	\$150,960.
Repetitive tests (Boeing Alert Service Bulletin 737-30A1064).	5 work-hours × \$85 per hour = \$425 per inspection cycle.	0	\$425 per inspection cycle.	\$125,800 per inspection cycle.
J18 Junction box installation (Boeing Service Bulletin 737-30-1067).	Up to 75 work-hours × \$85 per hour = \$6,375.	23,614	Up to \$29,989	Up to \$8,876,744.
Installation of wire provisions (Boeing Service Bulletin 737-30-1068).	Up to 193 work-hours × \$85 per hour = \$16,405.	4,800	Up to \$21,205	Up to \$6,276,680.

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

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 and associated appliances 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):

2019-09-01 The Boeing Company:
Amendment 39-19635; Docket No. FAA-2018-0961; Product Identifier 2018-NM-121-AD.

(a) Effective Date

This AD is effective June 26, 2019.

(b) Affected ADs

None.

(c) Applicability

(1) This AD applies to The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017.

(2) Installation of Supplemental Type Certificate (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 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 30, Ice and rain protection.

(e) Unsafe Condition

This AD was prompted by reports indicating that the pitot heat switch is not always set to ON, which could result in misleading air data. We are issuing this AD to address misleading air data, which can lead to loss of crew situational awareness and could ultimately result in the inability to maintain continued safe flight and landing.

(f) Compliance

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

(g) Actions for Group 5 Airplanes

For airplanes identified as Group 5 in Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017: Within 120 days after the effective date of this AD, inspect the airplane and do all applicable on-condition actions using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(h) Required Actions for Groups 1 Through 4 Airplanes

Except as specified by paragraph (j) of this AD, for airplanes identified as Groups 1 through 4 in Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017: At the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017, do all applicable actions identified as "RC" (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017.

(i) Concurrent Requirements

For airplanes identified as Groups 1 through 4 in Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017: Prior to or concurrently with the action required by paragraph (h) of this AD, install a new J18 junction box to change the anti-icing system, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-30-1067, Revision 1, dated May 4, 2017, and install wiring provisions to the anti-icing system, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 737-30-1068, Revision 1, dated May 4, 2017.

(j) Exceptions to Service Information Specifications

For purposes of determining compliance with the requirements of this AD: Where Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017, uses the phrase "the original issue date of this service bulletin," this AD requires using "the effective date of this AD."

(k) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin 737-30A1064, dated May 4, 2017, provided that step 15 for Groups 1 through 4 airplanes, as applicable, of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017, is done at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-30A1064, Revision 1, dated October 18, 2017, or within 180 days after the effective date of this AD, whichever occurs later.

(l) Minimum Equipment List (MEL)

In the event that the air data probe heat (ADPH) system as modified by this AD is inoperable, an airplane may be operated as specified in the operator's MEL, provided the MEL includes provisions that address the modified ADPH system.

(m) 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 (m)(2) 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, 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.

(4) For service information that contains steps that are labeled as RC, the provisions of paragraphs (m)(4)(i) and (m)(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.

(n) Related Information

(1) For more information about this AD, contact Frank Carreras, Aerospace Engineer, Systems and Equipment Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3539; email: frank.carreras@faa.gov.

(2) For information about AMOCs, contact Jeffrey W. Palmer, Aerospace Engineer, Systems and Equipment Section, FAA, Los Angeles ACO Branch, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5851; fax: 562-627-5210; email: jeffrey.w.palmer@faa.gov.

(o) 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 737-30A1064, Revision 1, dated October 18, 2017.

(ii) Boeing Service Bulletin 737-30-1067, Revision 1, dated May 4, 2017.

(iii) Boeing Service Bulletin 737-30-1068, Revision 1, dated May 4, 2017.

(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, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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 Des Moines, Washington, on May 9, 2019.

Dionne Palermo,

Acting Director, System Oversight Division, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 39**

[Docket No. FAA-2018-0795; Product Identifier 2018-NM-076-AD; Amendment 39-19628; AD 2019-08-07]

RIN 2120-AA64

Airworthiness Directives; Airbus SAS Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2014-20-04, which applied to all Airbus SAS Model A318 and A319 series airplanes; Airbus SAS Model A320-111, -211, -212, -214, -231, -232, and -233 airplanes; and Airbus SAS Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes. AD 2014-20-04 required repetitive inspections of the titanium angles between the belly fairing and the keel beam side panel, an inspection of the open holes of cracked titanium angles, and corrective action if necessary. This AD continues to require those actions, adds Model A320-216 airplanes, and requires a detailed inspection for, and replacement of, certain rivets, and corrective actions if necessary. This AD was prompted by reports of cracks at the lower riveting of the four titanium angles that connect the belly fairing to the keel beam side