適航指令發布單
Airworthiness Directive Issuance Form

民航局AD編號 AD number	CAA-2026-11-007	發布日期 Date issued	2026/11/12
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	This AD applies to The Boeing Company Model 747-400 and -8 series airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025.		
主旨摘要 Subject	This AD requires repetitive inspections for damage of the transfer pump housing inlet check valves and transfer pump motor impeller inlet adapters for the horizontal stabilizer fuel tank and applicable on-condition actions. also limits the installation of affected parts under certain conditions.		

民航局
CAA

○ 本國產品
Native product

○ 其他個案
Other

設計國民航主管機構
Original Authority

◉ FAA	○ Germany LBA
○ EASA	○ CAA-NL
○ Brazil	○ UK CAA
○ Transport Canada Civil Aviation	○ Japan CAB
○ DGAC	○ CAA of Israel
	○ Other____

設計國AD編號 Original AD number	2026-22-04

1. 直接採用原AD之內容? (Is the original AD directly adopted?)

◉ 是(Yes)　○ 否(No)_

a. 生效日期另訂為(Re-specify the effective date as)：

b. 執行時限另訂為(Re-specify the compliance time or period as)：

2. 使用人是否需要將AD執行結果向民航局提出報告?
(Do users need to report the status of compliance to the CAA?)

○ 需要(Yes)　◉ 不需要(No)

備註 Note	This AD replaces AD 2023-07-09(CAA-2023-04-010).

註：
1. AD內容後附。
2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。
3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464, adcaa@mail.caa.gov.tw

Note：
1. The AD text is enclosed.
2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval.
3. For further information, please contact Civil Aviation Administration on Tel：(02)2349-6330 / 6332, Fax：(02)2545-8464, adcaa@mail.caa.gov.tw

[Federal Register, Volume 91 Number 210 (Monday, November 2, 2026)]
[Rules and Regulations]
[Pages 68879-68882]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2026-22317]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2026-7215; Project Identifier AD-2025-01558-T; Amendment 39-23506; AD 2026-22-04]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY:

Federal Aviation Administration (FAA), DOT.

ACTION:

Final rule.

SUMMARY:

The FAA is superseding Airworthiness Directive (AD) 2023-07-09, which applied to certain The Boeing Company Model 747-400 and -8 series airplanes. AD 2023-07-09 required inspecting for wear of the transfer pump housing inlet check valves and transfer pump motor impeller inlet adapters for the horizontal stabilizer fuel tank and doing corrective actions, if necessary, and limited the installation of affected parts. This AD was prompted by the manufacturer developing further action to address the unsafe condition. This AD requires repetitive inspections for damage of the transfer pump housing inlet check valves and transfer pump motor impeller inlet adapters for the horizontal stabilizer fuel tank and applicable on-condition actions. This AD also limits the installation of affected parts under certain conditions. The FAA is issuing this AD to address the unsafe condition on these products.

DATES:

This AD is effective December 7, 2026.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of December 7, 2026.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA-2026-7215; 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 address for Docket Operations 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.

Material Incorporated by Reference:

- For Boeing material identified in this AD, 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; website*myboeingfleet.com*.
- You may view this material 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*regulations.gov* under Docket No. FAA-2026-7215.

FOR FURTHER INFORMATION CONTACT:

Samuel Dorsey, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3415; email: *samuel.j.dorsey@faa.gov*.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2023-07-09, Amendment 39-22411 (88 FR 22895, April 14, 2023) (AD 2023-07-09). AD 2023-07-09 applied to certain Model 747-400 and -8 series airplanes. The NPRM was published in the **Federal Register** on July 9, 2026 (91 FR 42387). The NPRM was prompted by the manufacturer developing further action to address the unsafe condition. In the NPRM, the FAA proposed to require repetitive inspections for damage of the transfer pump housing inlet check valves and transfer pump motor impeller inlet adapters for the horizontal stabilizer fuel tank and applicable on-condition actions. The NPRM also proposed to limit the installation of affected parts under certain conditions. The FAA is issuing this AD to address the development of an ignition source within the horizontal stabilizer fuel tank resulting from wear to the transfer pump housing inlet check valves and transfer pump motor impeller inlet adapters of the horizontal stabilizer fuel tank. The unsafe condition, if not addressed, could, in combination with flammable fuel vapors, result in a fuel tank explosion and consequent loss of the airplane.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from Air Line Pilots Association, International (ALPA) and Boeing who supported the NPRM without change.

The FAA received an additional comment from Turkish Airlines. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Revise Applicability

Turkish Airlines requested that the FAA revise paragraph (c) of the proposed AD to be similar to the applicability of AD 2023-07-09 and to specify that airplanes equipped with an activated horizontal stabilizer fuel tank with Crane Aerospace Hydro-Aire horizontal stabilizer fuel transfer pump housings and transfer pump motor impellers are affected, instead of referencing Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025 (Boeing Alert Requirements Bulletin 747-28A2373 RB), for identification information. Turkish Airlines stated that Boeing Alert Requirements Bulletin 747-28A2373 RB's effectivity identifies two configurations: (1) Model 747-400 and 747-8 airplanes equipped with activated horizontal stabilizer fuel tank with Crane Aerospace Hydro-Aire horizontal stabilizer fuel transfer pump housings and transfer pump motor impellers; and (2) Model 747-400 and 747-8 airplanes not equipped with an activated horizontal stabilizer fuel tank with Crane Aerospace Hydro-Aire horizontal stabilizer fuel transfer pump housings and transfer pump motor impellers. Turkish Airlines added that no action is required for airplanes in the second configuration.

The FAA disagrees. Determining whether an airplane was included in AD 2023-07-09's applicability required an examination of each airplane's configuration to determine whether the AD applied to that airplane, regardless of whether the airplane was determined to be affected by the AD's requirements. Boeing Alert Requirements Bulletin 747-28A2373 RB contains a definitive list of all airplanes that could be affected by the unsafe condition and requires an examination of their configuration. While either approach would produce an acceptable outcome, in this situation, referring to the service information to determine applicability is clearer and consistent with the principle that only airplanes to which the AD applies are subject to the requirements of this AD. No change to this AD has been made in this regard.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Material Incorporated by Reference Under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025. This material specifies procedures for repetitive detailed inspections of the transfer pump housing inlet check valves and transfer pump motor impeller inlet adapters for any damage and applicable on-condition actions. On-condition actions include replacing the damaged transfer pump housing inlet check valve with a new or serviceable transfer pump housing inlet check valve (Option 1), or replacing the affected transfer pump housing with a transfer pump housing containing a new or serviceable transfer pump housing inlet check valve (Option 2); and replacing an affected transfer pump motor impeller with a new or serviceable transfer pump motor impeller.

This material 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.

Interim Action

The FAA considers this AD to be an interim action. The main and center wing tanks utilize the same pump design but are currently not subject to the same unsafe condition due to the shutoff logic of the pumps. However, if further analysis or reports related to the main or center tank pumps change this assessment, the FAA might consider further rulemaking for those tanks.

Costs of Compliance

The FAA estimates that this AD affects 31 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection of transfer pump housing inlet check valve (2 per airplane)	18 work-hours × $85 per hour = $1,530 per inspection cycle	$0	$1,530 per inspection cycle	$47,430 per inspection cycle.
Inspection of transfer pump motor impeller inlet adapter (2 per airplane)	18 work-hours × $85 per hour = $1,530 per inspection cycle	0	$1,530 per inspection cycle	$47,430 per inspection cycle.

The FAA estimates the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. The agency has no way of determining the number of aircraft that might need these replacements:

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement of transfer pump motor impeller	2 work-hours × $85 per hour = $170	Up to $2,400	Up to $2,570.
Replacement of transfer pump housing inlet check valve (Option 1)	2 work-hours × $85 per hour = $170	$1,800	$1,970.
Replacement of transfer pump housing (Option 2)	2 work-hours × $85 per hour = $170	Up to $20,000	Up to $20,170.

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 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) Will not affect intrastate aviation in Alaska, and

(3) 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 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:

a. Removing Airworthiness Directive (AD) 2023-07-09, Amendment 39-22411 (88 FR 22895, April 14, 2023); and

b. Adding the following new AD:

2026-22-04 The Boeing Company: Amendment 39-23506; Docket No. FAA-2026-7215; Project Identifier AD-2025-01558-T.

(a) Effective Date

This airworthiness directive (AD) is effective December 7, 2026.

(b) Affected ADs

This AD replaces AD 2023-07-09, Amendment 39-22411 (88 FR 22895, April 14, 2023) (AD 2023-07-09).

(c) Applicability

This AD applies to The Boeing Company Model 747-400 and -8 series airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by reports of wear-through of the transfer pump motor impeller inlet adapter of the horizontal stabilizer fuel tank transfer pump caused by contact between the transfer pump housing inlet check valve and the inlet adapter. The FAA is issuing this AD to address the development of an ignition source within the horizontal stabilizer fuel tank resulting from wear to the transfer pump housing inlet check valves and transfer pump motor impeller inlet adapters of the horizontal stabilizer fuel tank. The unsafe condition, if not addressed, could, in combination with flammable fuel vapors, result in a fuel tank explosion and consequent loss of the airplane.

(f) Compliance

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

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025, do all applicable

actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025.

Note 1 to paragraph (g):

Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 747-28A2373, dated November 6, 2025, which is referred to in Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025.

(h) Exceptions to Requirements Bulletin Specifications

Where the Compliance Time column of the tables in the "Compliance" paragraph of Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025, refers to the original issue date of Requirements Bulletin 747-28A2373 RB, this AD requires using the effective date of this AD.

(i) Parts Installation Limitation

As of the effective date of this AD, no person may install, on any airplane, a Crane Aerospace Hydro-Aire horizontal stabilizer fuel transfer pump housing, transfer pump housing inlet check valve, or transfer pump motor impeller into the horizontal stabilizer fuel tank unless the transfer pump housing inlet check valve and transfer pump motor impeller inlet adapter have been inspected as specified in paragraph (g) of this AD, as applicable, and been determined to be a serviceable part as defined in Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025.

(j) Special Flight Permit

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the airplane to a location where the actions required by this AD can be performed, provided the horizontal stabilizer fuel tank is defueled and both transfer pump circuit breakers are locked in the "open" position.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, AIR-520, Continued Operational Safety 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 paragraph (l)(1) of this AD. Information may be emailed to: *AMOC@faa.gov*. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) 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 Company Organization Designation Authorization (ODA) that has been authorized by the Manager, AIR-520, Continued Operational Safety 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.

(l) Additional Information

(1) For more information about this AD, contact Samuel Dorsey, Aviation Safety Engineer, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 206-231-3415; email: *samuel.j.dorsey@faa.gov*.

(2) Material identified in this AD that is not incorporated by reference is available at the address specified in paragraph (m)(3) of this AD.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the material listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this material as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Requirements Bulletin 747-28A2373 RB, dated November 6, 2025.

(ii) [Reserved]

(3) For Boeing material identified in this AD, 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; website *myboeingfleet.com*.

(4) You may view this material 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.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations* or email *fr.inspection@nara.gov*.

Issued on October 26, 2026.

Brian Knaup,

Acting Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.

[FR Doc. 2026-22317 Filed 10-30-26; 8:45 am]

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