



適航指令發布單

Airworthiness Directive Issuance Form

民航局AD編號 AD Number	CAA-2016-11-006	發布日期 Date issued	2016/11/15
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	The Boeing Company Model 737-600, 737-700, 737-700C, 737-800, 737-900, and 737-900ER series airplanes, certificated in any category.		
主旨摘要	Hydraulic power - Wire Bundles and Hydraulic Tube Clamp - Installation		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主關機構 Original Authorities <input checked="" type="checkbox"/> FAA <input type="checkbox"/> Germany LBA <input type="checkbox"/> EASA <input type="checkbox"/> CAA-NL <input type="checkbox"/> Brazil <input type="checkbox"/> UK CAA <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> Japan CAB <input type="checkbox"/> DGAC <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____		
	設計國AD編號 Original AD number	2016-22-14	
	1. 直接採用原AD之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 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?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	Boeing Alert Service Bulletin 737-29A1119, Revision 1, dated June 23, 2016.		
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)2349-6331~3, Fax：(02)2545-8464, e-mail：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 Aeronautics Administration on Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail：adcaa@mail.caa.gov.tw			

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-0462; Directorate Identifier 2015-NM-144-AD; Amendment 39-18703; AD 2016-22-14]

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, -900, and -900ER series airplanes. This AD was prompted by a report of wire chafing damage, which caused an electrical arc to an adjacent hydraulic tube located on the forward bulkhead of the main landing gear (MLG) wheel well, resulting in a hole in a hydraulic tube and consequent total loss of system B hydraulic fluid. This AD requires an inspection for chafing damage of wire bundles and a hydraulic tube in the right side of the MLG wheel well, and corrective action if necessary; and installation of clamps between the wire bundles and hydraulic tube. We are issuing this AD to prevent chafing damage, which could result in electrical arcing that can cause a hole in the hydraulic tube and consequent loss of hydraulic fluid, possibly resulting in a fire in the MLG wheel well.

DATES: This AD is effective December 14, 2016.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of December 14, 2016.

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 referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-0462.

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-2016-0462; 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: Sean J. Schauer, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA. 98057-3356; phone: 425-917-6479; fax: 425-917-6590; email: sean.schauer@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, -900, and -900ER series airplanes. The NPRM published in the Federal Register on February 8, 2016 (81 FR 6475) ("the NPRM"). The NPRM was prompted by a report of wire chafing damage, which caused an electrical arc to an adjacent hydraulic tube located on the forward bulkhead of the MLG wheel well, resulting in a hole in a hydraulic tube and consequent total loss of system B hydraulic fluid. The NPRM proposed to require an inspection for chafing damage of wire bundles and a hydraulic tube in the right side of the MLG wheel well, and corrective action if necessary; and installation of clamps between the wire bundles and hydraulic tube. We are issuing this AD to prevent chafing damage, which could result in electrical arcing that can cause a hole in the hydraulic tube and consequent loss of hydraulic fluid, possibly resulting in a fire in the MLG wheel well.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Support for the NPRM

The Air Line Pilots Association, International and an anonymous commenter supported the NPRM.

Request for Clarification

The European Aviation Safety Agency (EASA) requested that we respond to the following questions.

- EASA stated that the NPRM looks very similar to AD 2013-19-03, Amendment 39-17585 (78 FR 59798, September 30, 2013) ("AD 2013-19-03"). EASA asked if there is a more fundamental problem with wiring harnesses in the landing gear bay in the Model 737 fleet.

We agree that the unsafe conditions identified in this AD and in AD 2013-19-03 are similar; however, the reasons for the unsafe conditions, and the associated corrective actions in these ADs, differ. This difference is due to the occurrence of wire chafing in different locations in the landing

gear bay. The underlying issue is limited space for the electrical system routing in the landing gear bay.

- EASA asked whether there is sufficient accessibility to inspect the affected area.
We have determined that there is sufficient space to inspect the landing gear bay.
- EASA asked why the spacer is only an optional action.

The source of service information that we reference in this AD, Boeing Alert Service Bulletin 737-29A1119, Revision 1, dated June 23, 2016 ("ASB 737-29A1119 R1"), specifies that the spacer addition is optional for cases where additional spacing is needed to allow adequate clearance.

- EASA asked what measures have been put in place to ensure the safety of the fleet, pending the proposed inspection.

We consider that the standard operational procedures that are in place regarding loss of system B hydraulic pressure or a wheel well fire to be adequate to ensure the safety of the fleet, pending the completion of the actions required in this AD.

- EASA asked if the wire chafing issue is one of design with regulations, or non-compliance of the product with the design data.

We have determined that the issue is due to nonconformance to the design data.

No changes to the final rule are necessary in regard to the questions asked by EASA.

Requests To Reference New Service Information

All Nippon Airways (ANA), Boeing, Japan Airlines, Qantas Airways, Southwest Airlines, and United Airlines (UA) requested that we reference Boeing Service Bulletin Information Notice 737-29A1119 IN 01, dated August 25, 2015; and Boeing Service Bulletin Information Notice 737-29A1119 IN 02, dated November 02, 2015; and new service information ASB 737-29A1119 R1. ANA commented that Boeing will not ship the top kits of needed parts until the release of ASB 737-29A1119 R1. UA requested that ASB 737-29A1119 R1 incorporate the Required for Compliance (RC) format.

We agree with the commenters' requests to incorporate ASB 737-29A1119 R1 as an appropriate source of service information. This service information incorporates the revisions in the Boeing information notices referenced by the commenters. In ASB 737-29A1119 R1, the part number of the subject wiring harness clamp has been corrected, the work instructions have been rewritten to improve operator usability, and the RC steps have been added. We have revised paragraphs (c), (g)(1), and (g)(2) of this AD to specify ASB 737-29A1119 R1. We have added a new paragraph (h) to this AD to give credit for actions done prior to the effective date of this AD using Boeing Alert Service Bulletin 737-29A1119, dated August 4, 2015, and redesignated subsequent paragraphs accordingly. We have also added new paragraph (i)(4) to this AD to address the RC language specified in ASB 737-29A1119 R1.

Request To Revise Paragraph (g) of the Proposed AD

One commenter, Evki Meto, requested that we revise paragraph (g)(1) of the proposed AD, which proposed inspecting for chafing damage. The commenter requested that we expand the inspection to look for any damage. No reason was provided by the commenter.

We disagree with the commenter's request. We have determined that the inspection in paragraph (g) of this AD should emphasize chafing damage, as that damage relates to the unsafe condition being addressed by this AD. We have not changed this AD in this regard.

Request To Revise Compliance Time

KLM Royal Dutch Airlines (KLM) requested that we revise the 24-month compliance time to 30 months. KLM stated that it intends to do the modification during C-check maintenance, but will not

be able to comply without impact to its maintenance program with the 24-month compliance time due to its C-check maintenance interval, which is 30 months.

We do not agree with the commenter's request. In developing an appropriate compliance time, we considered the safety implications, parts availability, and normal maintenance schedules for timely accomplishment of the required actions. Further, we arrived at the compliance time with manufacturer concurrence. In consideration of all of these factors, we determined that the compliance time of 24 months represents an appropriate interval in which the inspections can be done in a timely manner within the fleet, while still maintaining an adequate level of safety. Under the provisions of paragraph (i) of this AD, however, we will consider requests for approval of an alternative compliance time if sufficient data are submitted to substantiate that an alternate compliance time would provide an acceptable level of safety. We have not changed this AD in this regard.

Effect of Winglets on Accomplishment of the Proposed Actions

Aviation Partners Boeing stated that the installation of winglets per Supplemental Type Certificate (STC) ST00830SE does not affect the accomplishment of the manufacturer's service instructions.

We agree with the commenter that STC ST00830SE does not affect the accomplishment of the manufacturer's service instructions. Therefore, the installation of STC ST00830SE does not affect the ability to accomplish the actions required by this AD. 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 AD with the changes 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 correcting 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 AD.

Related Service Information Under 1 CFR Part 51

We reviewed ASB 737-29A1119 R1. The service information describes procedures for doing an inspection for chafing damage of the wire bundles and hydraulic tube in the right side of the MLG wheel well, corrective actions, and installation of clamps and an optional spacer between the wire bundles and hydraulic tube. 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 1,270 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
Inspection and Installation	2 work-hours × \$85 per hour = \$170	\$9	\$179	\$227,330

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.

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):



2016-22-14 The Boeing Company: Amendment 39-18703; Docket No. FAA-2016-0462; Directorate Identifier 2015-NM-144-AD.

(a) Effective Date

This AD is effective December 14, 2016.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 737-600, 737-700, 737-700C, 737-800, 737-900, and 737-900ER series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-29A1119, Revision 1, dated June 23, 2016 ("ASB 737-29A1119 R1").

(d) Subject

Air Transport Association (ATA) of America Code 29, Hydraulic power.

(e) Unsafe Condition

This AD was prompted by a report of wire chafing damage, which caused an electrical arc to an adjacent hydraulic tube located on the forward bulkhead of the main landing gear (MLG) wheel well, resulting in a hole in a hydraulic tube and consequent total loss of system B hydraulic fluid. We are issuing this AD to prevent chafing damage, which could result in electrical arcing that can cause a hole in the hydraulic tube and consequent loss of hydraulic fluid, possibly resulting in a fire in the MLG wheel well.

(f) Compliance

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

(g) Inspection and Corrective Action and Clamp Installation

Within 24 months after the effective date of this AD: Do the actions specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Do a detailed inspection for chafing damage of the wire bundles and hydraulic tube in the right side of the MLG wheel well, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of ASB 737-29A1119 R1. Do all applicable corrective actions before further flight.

(2) Install new clamps and an optional spacer between the wire bundles and hydraulic tube in the right side of the MLG wheel well, in accordance with the Accomplishment Instructions of ASB 737-29A1119 R1.

(h) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Boeing Alert Service Bulletin 737-29A1119, dated August 4, 2015. This service information is not incorporated by reference in this AD.

(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)(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, 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 Required for Compliance (RC), the provisions of paragraphs (i)(4)(i) and (i)(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.

(j) Related Information

(1) For more information about this AD, contact Sean J. Schauer, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6479; fax: 425-917-6590; email: sean.schauer@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (k)(4) of this AD.

(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 737-29A1119, Revision 1, dated June 23, 2016.

(ii) Reserved.

(3) For Boeing 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 FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. 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 October 25, 2016.

Dionne Palermo,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.