

conditions are issued as part of the type certification basis for Boeing Model 777-200/-200LR/-300/-300ER series airplanes, as modified by Archeion Holdings, LLC, for airplane electronic-system security protection from unauthorized external access.

(a) The applicant must ensure airplane electronic-system security protection from access by unauthorized sources external to the airplane, including those possibly caused by maintenance activity.

(b) The applicant must ensure that electronic-system security threats are identified and assessed, and that effective electronic-system security protection strategies are implemented to protect the airplane from all adverse impacts on safety, functionality, and continued airworthiness.

(c) The applicant must establish appropriate procedures to allow the operator to ensure that continued airworthiness of the airplane is maintained, including all post-type-certification modifications that may have an impact on the approved electronic-system security safeguards.

Issued in Des Moines, Washington, on July 7, 2021.

Mary A. Schooley,

Acting Manager, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-FAA-2021-0583; Special Conditions No. FAA-2021-0583-F]

Special Conditions: Archeion Holdings, LLC, Boeing Model No. 777-200/-200LR/-300/-300ER Series Airplanes; Electronic-System Security Protection From Unauthorized Internal Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Boeing Model No. 777-200/-200LR/-300/-300ER series airplanes. These airplanes, as modified by Archeion Holdings, LLC (Archeion), will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. This design feature

is a digital systems architecture for the installation of a system with wireless network and hosted application functionality that allows access, from sources internal to the airplane, to the airplane's internal electronic components. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. 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.

DATES: This action is effective on Archeion on July 14, 2021. Send comments on or before August 30, 2021.

ADDRESSES: Send comments identified by Docket No. FAA-2021-0583 using any of the following methods:

- **Federal eRegulations Portal:** Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.

- **Mail:** Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.

- **Hand Delivery or Courier:** Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- **Fax:** Fax comments to Docket Operations at 202-493-2251.

Privacy: Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received without change to <http://www.regulations.gov/>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this proposal.

Confidential Business Information: 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 Notice 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 Notice, 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 the indicated comments will not be placed in the public docket of this Notice.

Submissions containing CBI should be sent to Varun Khanna, Airplane and Flight Crew Interface Section, AIR-622, Aircraft Information Systems, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206-231-3159; email Varun.Khanna@faa.gov. Comments the FAA receives, which are not specifically designated as CBI, will be placed in the public docket for this rulemaking.

Docket: Background documents or comments received may be read at <http://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Varun Khanna, Airplane and Flight Crew Interface Section, AIR-622, Aircraft Information Systems, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206-231-3159; email Varun.Khanna@faa.gov.

SUPPLEMENTARY INFORMATION: The substance of these special conditions has been published in the **Federal Register** for public comment in several prior instances with no substantive comments received. Therefore, the FAA finds, pursuant to 14 CFR 11.38(b), that new comments are unlikely and prior public notice and comment are unnecessary.

Comments Invited

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date for comments. The FAA may change these special conditions based on the comments received.

Background

On July 14, 2020, Archeion applied for a change to Type Certificate No.

T00001SE for the installation of an Avionics avWIFI system with wireless network and hosted application functionality in Boeing Model 777–200/–200LR/–300/–300ER series airplanes. These airplanes, currently approved under Type Certificate No. T00001SE, are twin-engine, transport category airplanes, with a maximum takeoff weight between 535,000 lbs and 775,000 lbs pounds, and a maximum passenger capacity of 550 persons.

Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.101, Archeion must show that the Boeing Model 777–200/–200LR/–300/–300ER series airplanes, as changed, continue to meet the applicable provisions of the regulations listed in Type Certificate No. T00001SE or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (e.g., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Boeing Model 777–200/–200LR/–300/–300ER series airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Boeing Model 777–200/–200LR/–300/–300ER series airplanes must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Feature

The Boeing Model 777–200/–200LR/–300/–300ER series airplanes will incorporate the following novel or unusual design feature:

A digital systems architecture for the installation of a system with wireless network and hosted application functionality that allows access, from sources internal to the airplane, to the

airplane's internal electronic components.

Discussion

The digital systems architecture for the installation of an Avionics avWIFI system with wireless network and hosted application functionality on these Boeing Model 777 airplanes is a novel or unusual design feature for transport category airplanes because it is composed of several connected networks. This proposed network architecture is used for a diverse set of airplane functions, including:

- Flight-safety related control and navigation systems,
- airline business and administrative support, and
- passenger entertainment.

The airplane control domain and airline information-services domain of these networks perform functions required for the safe operation and maintenance of the airplane. Previously, these domains had very limited connectivity with other network sources. This network architecture creates a potential for unauthorized persons to access the aircraft control domain and airline information-services domain from sources internal to the airplane, and presents security vulnerabilities related to the introduction of computer viruses and worms, user errors, and intentional sabotage of airplane electronic assets (networks, systems, and databases) critical to the safety and maintenance of the airplane.

The existing FAA regulations did not anticipate these networked airplane system architectures. Furthermore, these regulations and the current guidance material do not address potential security vulnerabilities, which could be exploited by unauthorized access to airplane networks, data buses, and servers. Therefore, these special conditions ensure that the security (*i.e.*, confidentiality, integrity, and availability) of airplane systems will not be compromised by unauthorized wired or wireless electronic connections from within the airplane. These special conditions also require the applicant to provide appropriate instructions to the operator to maintain all electronic-system safeguards that have been implemented as part of the original network design so that this feature does not allow or reintroduce security threats.

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 777–200/–200LR/–300/–300ER series airplanes. Should Archeion apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. T00001SE to incorporate 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 Boeing Model 777–200/–200LR/–300/–300ER series airplanes. It is not a rule of general applicability and affects only the applicant.

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 777–200/–200LR/–300/–300ER series airplanes, as modified by Archeion Holdings, LLC, for airplane electronic-system security protection from unauthorized internal access.

(a) The applicant must ensure that the design provides isolation from, or airplane electronic-system security protection against, access by unauthorized sources internal to the airplane. The design must prevent inadvertent and malicious changes to, and all adverse impacts upon, airplane equipment, systems, networks, or other assets required for safe flight and operations.

(b) The applicant must establish appropriate procedures to allow the operator to ensure that continued airworthiness of the aircraft is maintained, including all post type certification modifications that may have an impact on the approved electronic-system security safeguards.

Issued in Des Moines, Washington, on July 7, 2021.

Mary A. Schooley,

Acting Manager, Technical Innovation Policy 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-2021-0335; Project Identifier MCAI-2020-01665-R; Amendment 39-21632; AD 2021-14-05]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters Deutschland GmbH Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Airbus Helicopters Deutschland GmbH Model MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2, and MBB-BK 117 C-1 helicopters. This AD was prompted by a report of sudden severe vibrations and a cracked open blade trailing edge caused by a loosened lead inner weight. This AD requires inspections to determine if any bolted main rotor blades are installed, and replacement of the affected main rotor blades. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 18, 2021.

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of August 18, 2021.

ADDRESSES: For service information identified in this final rule, contact Airbus Helicopters, 2701 N Forum Drive, Grand Prairie, TX 75052; phone: 972-641-0000 or 800-232-0323; fax: 972-641-3775; or at <https://www.airbus.com/helicopters/services/support.html>. You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. Service information that is incorporated by reference is also available at <https://www.regulations.gov>

by searching for and locating Docket No. FAA-2021-0335.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0335; 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 Luftfahrt-Bundesamt AD, any comments received, and other information. The street 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.

FOR FURTHER INFORMATION CONTACT:

Kathleen Arrigotti, Aerospace Engineer, Large Aircraft Section, International Validation Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3218; email: kathleen.arrigotti@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Airbus Helicopters Deutschland GmbH Model MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2, and MBB-BK 117 C-1 helicopters. The NPRM published in the **Federal Register** on April 26, 2021 (86 FR 21965). In the NPRM, the FAA proposed to require inspections to determine if any bolted main rotor blades are installed, and replacement of the affected main rotor blades. The NPRM was prompted by a report of sudden severe vibrations and a cracked open blade trailing edge caused by a loosened lead inner weight.

German AD D-2005-115, effective March 15, 2005 (German AD D-2005-115), issued by Luftfahrt-Bundesamt, which is the aviation authority for Germany, was issued to correct an unsafe condition for Eurocopter Deutschland (now Airbus Helicopters Deutschland GmbH) Model MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2, and MBB-BK 117 C-1 helicopters. Luftfahrt-Bundesamt advises that during the flight of a BK117 severe vibrations suddenly occurred, stemming from a cracked open blade trailing edge, which was traced to a loosened lead inner weight bolt. Additional inspection revealed extreme

cavities of the lead weight resulting from the bolting process, which was performed as a repair for main rotor blades with bulging in the area of the lead inner weights. This condition, if not addressed, could result in loss of control of the helicopter.

Accordingly, German AD D-2005-115 requires an inspection and log card review to determine if any bolted main rotor blades are installed, and replacement of the affected main rotor blades.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by the aviation authority of Germany and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with Germany (now a member of the European Union), Luftfahrt-Bundesamt, its technical representative, has notified the FAA of the unsafe condition described in its AD. The FAA reviewed the relevant data 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 helicopters. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

Related Service Information Under 14 CFR Part 51

The FAA reviewed Eurocopter Alert Service Bulletin No. ASB-MBB-BK117-10-125, dated February 14, 2005. This service information specifies procedures for an inspection (for cracking of the paint) and log card review (for a certain entry or equivalent) to determine if any bolted main rotor blades (*i.e.*, main rotor blades with bolted lead inner weights) are installed, and replacement of the affected main rotor blades.

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

The FAA estimates that this AD affects 44 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.