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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0493; Product Identifier 2017-NM-141-AD; Amendment 39-19389; AD 2018-18-10]

RIN 2120-AA64

Airworthiness Directives; Airbus Defense and Space S.A. (Formerly Known as Construcciones Aeronauticas, S.A.) Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for all Airbus Defense and Space S.A. Model CN-235, CN-235-100, CN-235-200, CN-235-300, and C-295 airplanes. This AD was prompted by reports that cracks were found on the door mechanism actuator shaft assemblies of the nose landing gear (NLG). This AD requires repetitive inspections of the NLG door mechanism actuator shaft assemblies having certain part numbers, and corrective actions if necessary. This AD would also provide an optional terminating action for the repetitive inspections for Model CN-235, CN-235-100, CN-235-200, and CN-235-300 airplanes. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective October 18, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of October 18, 2018.

ADDRESSES: For service information identified in this final rule, contact Airbus Defense and Space Services/Engineering Support, Avenida de Aragón 404, 28022 Madrid, Spain; telephone +34 91 585 55 84; fax +34 91 585 31 27; email MTA.TechnicalService@airbus.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-2018-0493.

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-2018-0493; 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: Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3220.

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 all Airbus Defense and Space S.A. Model CN-235, CN-235-100, CN-235-200, CN-235-300, and C-295 airplanes. The NPRM published in the Federal Register on June 4, 2018 (83 FR 25587). The NPRM was prompted by reports that cracks were found on the door mechanism actuator shaft assemblies of the NLG. The NPRM proposed to require repetitive inspections of the NLG door mechanism actuator shaft assemblies having certain part numbers, and corrective actions if necessary. The NPRM also proposed to provide an optional terminating action for the repetitive inspections for Model CN-235, CN-235-100, CN-235-200, and CN-235-300 airplanes. We are issuing this AD to address such cracking, which could lead to an in-flight NLG door opening and possibly result in detachment of the affected door, and consequent damage to, or reduced control of the airplane.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2017-0181, dated September 18, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Airbus Defense and Space S.A. Model CN-235, CN-235-100, CN-235-200, CN-235-300, and C-295 airplanes. The MCAI states:

Cracks were reportedly found on nose landing gear (NLG) door actuator shaft assemblies on CN-235 aeroplanes. The subsequent design review determined that combined or multiple rupture of the affected shaft assembly could occur, without this being signalled to the flight crew.

This condition, if not detected and corrected, could lead to an in-flight NLG door opening, possibly resulting in detachment of the affected door, with consequent damage to, or reduced control of, the aeroplane and injury to persons on the ground.

To address this unsafe condition, Airbus Defence & Space (D&S) issued Alert Operators Transmissions AOT-CN235-32-0001 Revision (Rev.) 2 and AOT-C295-32-0001 Rev. 2 to provide inspection instructions.

For the reasons described above, this [EASA] AD requires repetitive detailed (DET) or special detailed [rototest] inspections of the NLG door actuator shaft assembly, as applicable, and, depending on findings, corrective actions [including replacement of any cracked component, or cracked NLG door mechanism actuator shaft assembly

with a serviceable part]. This [EASA] AD also introduces a modification for CN-235 aeroplanes as (optional) terminating action for the repetitive inspections as required by this [EASA] AD.

You may examine the MCAI in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0493.

Comments

We gave the public the opportunity to participate in developing this final rule. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for 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.

Related Service Information Under 1 CFR Part 51

Airbus Defence and Space has issued Alert Operators Transmission (AOT) AOT-CN235-32-0001, Revision 2, dated October 26, 2016; and AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016. This service information describes procedures for inspections for cracking of the door mechanism actuator shaft assemblies of the NLG, and corrective actions. These documents are distinct since they apply to different airplane models.

Airbus Defence and Space has also issued Service Bulletin SB-235-32-0031C, dated September 22, 2016. This service information describes procedures for modification of the NLG door latching mechanism.

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 14 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
Inspections	21 work-hours × \$85 per hour = \$1,785 per inspection cycle	\$0	\$1,785 per inspection cycle	\$24,990 per inspection cycle.

Optional Terminating Action

Action	Labor cost	Parts cost	Cost per product
Modification for Model CN-235 airplanes	10 work-hours × \$85 per hour = \$850	\$33,626	\$34,476

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspections. We have 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	14 work-hours × \$85 per hour = \$1,190	\$18,720	\$19,910

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 the 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):



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-18-10 Airbus Defense and Space S.A. (Formerly Known as Construcciones Aeronauticas, S.A.): Amendment 39-19389; Docket No. FAA-2018-0493; Product Identifier 2017-NM-141-AD.

(a) Effective Date

This AD is effective October 18, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Airbus Defense and Space S.A. airplanes identified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category, all manufacturer serial numbers.

- (1) Model CN-235, CN-235-100, CN-235-200, and CN-235-300 airplanes.
- (2) Model C-295 airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 52, Doors.

(e) Reason

This AD was prompted by reports that cracks were found on the door mechanism actuator shaft assemblies of the nose landing gear (NLG). We are issuing this AD to address such cracking, which could lead to an in-flight NLG door opening and possibly result in detachment of the affected door, and consequent damage to, or reduced control of the airplane.

(f) Compliance

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

(g) Definition of Affected NLG Door Mechanism Actuator Shaft Assembly

For the purpose of this AD, an affected NLG door mechanism actuator shaft assembly has part number (P/N) 35-42311-00 or P/N 95-42315-00, depending on airplane model.

(h) Detailed and Rototest Inspections

(1) For any affected NLG door mechanism actuator shaft assembly: Before exceeding 600 flight hours accumulated by any NLG door mechanism lever or cam since new, or within 60 flight hours after the effective date of this AD, whichever occurs later, on the NLG door mechanism actuator shaft assembly with the NLG actuator shaft installed, do a detailed inspection for cracking of all

installed NLG door mechanism levers and cams, in accordance with the instructions in Airbus Defence and Space Alert Operators Transmission (AOT) AOT-CN235-32-0001, Revision 2, dated October 26, 2016; or AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016; as applicable. Repeat the inspection thereafter at intervals not to exceed those specified in figure 1 to paragraph (h)(1) of this AD, depending on the findings or corrective actions completed, as specified in paragraphs (i)(1) and (i)(2) of this AD, after the previous inspection.

Figure 1 to Paragraph (h)(1) of This AD–Repetitive Inspection Intervals

Findings/Corrective action completed (after the previous inspection)	Interval (flight hours)
NLG door vibration observed (during previous flights)	150
No findings	300
Damaged components replaced	300
NLG door actuator shaft assembly replaced by new assembly	600

(2) For any affected NLG door mechanism actuator shaft assembly: Before exceeding 1,800 flight hours accumulated by the NLG door shaft of the NLG door mechanism actuator shaft assembly since new, or within 60 flight hours after the effective date of this AD, whichever occurs later, do a rototest or detailed inspection of the NLG door actuator shaft, in accordance with the instructions in Airbus Defence and Space AOT AOT-CN235-32-0001, Revision 2, dated October 26, 2016; or AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016; as applicable. Repeat the rototest or detailed inspection thereafter at intervals not to exceed those specified in figure 2 to paragraph (h)(2) of this AD, depending on the inspection method used during the most recent inspection.

Figure 2 to Paragraph (h)(2) of This AD–Repetitive Inspection Intervals

Inspection method	Interval (flight hours)
Rototest	900
Detailed	600

(i) Corrective Actions

(1) During any detailed inspection required by paragraph (h)(1) of this AD, if any crack with a length of 18 millimeters (mm) (0.709 inches) or more is found, or if there is more than one crack with a length of less than 18 mm (0.709 inch) found, before further flight, replace the cracked component, or replace the NLG door mechanism actuator shaft assembly with a serviceable part, in accordance with the instructions of Airbus Defence and Space AOT AOT-CN235-32-0001, Revision 2, dated October 26, 2016; or AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016; as applicable.

(2) During any detailed inspection required by paragraph (h)(1) of this AD, if a single crack with a length of less than 18 mm (0.709 inch) is found, within 5 flight cycles after the detailed inspection when the crack was found, replace any cracked component, or replace the NLG door mechanism actuator shaft assembly with a serviceable part, in accordance with the instructions of Airbus Defence and Space AOT AOT-CN235-32-0001, Revision 2, dated October 26, 2016; or AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016; as applicable.

(3) During any detailed or rototest inspection required by paragraph (h)(2) of this AD, if any crack is found, before further flight, replace the NLG door mechanism actuator shaft with a serviceable part, in accordance with the instructions of Airbus Defence and Space AOT AOT-CN235-32-0001, Revision 2, dated October 26, 2016; or AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016; as applicable.

(j) Replacement Not Terminating Action

Accomplishment of any corrective action on an airplane, as required by paragraph (i)(1), (i)(2), or (i)(3) of this AD, as applicable, is not terminating action for the repetitive detailed or rototest inspections required by paragraphs (h)(1) and (h)(2) of this AD, for that airplane.

(k) Optional Terminating Action

For Model CN-235, CN-235-100, CN-235-200, and CN-235-300 airplanes: Modification of the NLG door latching mechanism, in accordance with the Accomplishment Instructions of Airbus Defence and Space Service Bulletin SB-235-32-0031C, dated September 22, 2016, is terminating action for the repetitive inspections required by paragraphs (h)(1) and (h)(2) of this AD, for that airplane.

(l) Parts Installation Limitation

As of the effective date of this AD, installation of an NLG door mechanism actuator shaft assembly having P/N 35-42311-00 or P/N 95-42315-00, or any of its components, is allowed, provided that the part is new; or provided that the assembly or the components, as applicable, has passed an inspection; in accordance with the instructions of Airbus Space and Defence AOT AOT-CN235-32-0001, Revision 2, dated October 26, 2016; or AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016; as applicable.

(m) Reporting Not Required

Although Airbus Space and Defence AOT AOT-CN235-32-0001, Revision 2, dated October 26, 2016; and AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016; both specify to submit certain information to the manufacturer, this AD does not include that requirement.

(n) Credit for Previous Actions

This paragraph provides credit for the initial inspection required by paragraph (h)(1) and (h)(2) of this AD, and the corrective actions required by paragraphs (i)(1), (i)(2), and (i)(3) of this AD, if those actions were performed before the effective date of this AD using the applicable service information identified in paragraphs (n)(1) through (n)(4) of this AD.

- (1) Airbus Space and Defence AOT AOT-CN235-32-0001, dated September 29, 2015.
- (2) Airbus Space and Defence AOT AOT-CN235-32-0001, Revision 1, dated February 19, 2016.
- (3) Airbus Space and Defence AOT AOT-C295-32-0001, dated September 29, 2015.
- (4) Airbus Space and Defence AOT AOT-C295-32-0001, Revision 1, dated February 19, 2016.

(o) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards 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 International Section, send it to the attention of the person identified in paragraph (p)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. 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.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus Defense and Space S.A.'s EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(p) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0181, dated September 18, 2017, for related information. This MCAI may be found in the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0493.

(2) For more information about this AD, contact Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3220.

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

(q) 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 this AD specifies otherwise.

(i) Airbus Defence and Space AOT AOT-CN235-32-0001, Revision 2, dated October 26, 2016.

(ii) Airbus Defence and Space AOT AOT-C295-32-0001, Revision 2, dated October 26, 2016.

(iii) Airbus Defence and Space Service Bulletin SB-235-32-0031C, dated September 22, 2016.

(3) For service information identified in this AD, contact Airbus Defense and Space Services/Engineering Support, Avenida de Aragón 404, 28022 Madrid, Spain; telephone +34 91 585 55 84; fax +34 91 585 31 27; email MTA.TechnicalService@airbus.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 August 23, 2018.

James Cashdollar,
Acting Director, System Oversight Division,
Aircraft Certification Service.