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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0555; Product Identifier 2016-NM-183-AD; Amendment 39-19037; AD 2017-19-07]

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 superseding Airworthiness Directive (AD) 2013-02-12, which applied to all EADS CASA (now Airbus Defense and Space S.A.) Model CN-235, CN-235-100, CN-235-200, and CN-235-300 airplanes. AD 2013-02-12 required a one-time inspection to identify the correct polarity for each pair of electrical connectors on each engine fire extinguisher cartridge, and repair if necessary. This AD continues to require identifying the correct polarity of each pair of electrical connectors of the affected engine fire extinguisher cartridge, and doing a repair if necessary. This AD also requires modifying the installation of the fire extinguisher circuit harnesses. This AD was prompted by reports of incorrect electrical polarity connections on engine fire

extinguishing discharge cartridges. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of March 8, 2013 (78 FR 7262, February 1, 2013).

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 referenced service information at the FAA, Transport Standards Branch, 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-2017-0555.

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-2017-0555; 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 (telephone 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: Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1112; fax 425-227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2013-02-12, Amendment 39-17333 (78 FR 7262, February 1, 2013) ("AD 2013-02-12"). AD 2013-02-12 applied to all EADS CASA (now Airbus Defense and Space S.A.) Model CN-235, CN-235-100, CN-235-200, and CN-235-300 airplanes. The NPRM published in the Federal Register on June 16, 2017 (82 FR 27631). The NPRM was prompted by reports of incorrect electrical polarity connections on engine fire extinguishing discharge cartridges. The NPRM proposed to continue to require identifying the correct polarity of each pair of electrical connectors of the affected engine fire extinguisher cartridge, and doing a repair if necessary. The NPRM also proposed to require modifying the installation of the fire extinguisher circuit harnesses. We are issuing this AD to detect and correct incorrect polarity connections, which could prevent the actuation of the discharge cartridge in case of automatic fire detection or manual

initiation during a potential engine fire, and could result in damage to the airplane and injury to passengers.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2016-0201, dated October 11, 2016 (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, and CN-235-300 airplanes. The MCAI states:

> Reports have been received of finding wrong electrical polarity connections of engine fire extinguishing discharge cartridges on CASA CN-235 aeroplanes. The results of the subsequent investigation showed that the incorrect discharge cartridge assembly was caused by production line errors.
>
> This condition, if not detected and corrected, could prevent the actuation of the discharge cartridge in case of automatic fire detection or manual initiation in case of engine fire, possibly resulting in damage to the aeroplane and injury to occupants.
>
> To address this potentially unsafe condition, EADS CASA (Airbus Military) developed instructions to identify erroneous wiring polarity installation and EASA issued AD 2012-0045 [which correlates to FAA AD 2013-02-12, Amendment 39-17333 (78 FR 7262, February 1, 2013)] to require a one-time inspection to verify proper electrical polarity of wiring of each engine fire extinguisher discharge cartridge and, depending on findings, corrective action.
>
> Since [EASA] AD 2012-0045 was issued, Airbus Defence and Space (D&S) developed modification of the installation of the fire extinguisher circuit harnesses, available for in-service installation through Service Bulletin (SB) SB-235-26-0005, which represents technical solution

> for an unsafe condition addressed by [EASA] AD 2012-0045 for those aeroplanes. Embodiment of this modification introduces a design solution that avoids maintenance errors during (re)connecting of the affected fire extinguisher circuit harnesses after accomplishment of maintenance tasks or functional tests.
>
> For the reasons described above, this [EASA] AD retains the requirements of EASA AD 2012-0045, which is superseded and requires identification of the correct polarity after each maintenance action involving (re)connecting of the engine fire extinguisher cartridge electrical connector. This [EASA] AD also requires modification of the affected fire extinguisher circuit harnesses.

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-2017-0555.

Comments

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

Conclusion

We reviewed the available data and determined that air safety and the public interest require adopting this AD 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 correcting 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

We reviewed EADS CASA Service Bulletin SB-235-26-0005, dated July 9, 2014. This service information describes procedures for modifying the installation of the fire extinguisher circuit harnesses.

We have also reviewed Airbus Military All Operator Letter 235-020, Revision 01, dated November 12, 2013. This service information describes procedures for identifying the correct polarity of each pair of electrical connectors of the affected engine fire extinguisher cartridge, and repairing the erroneous wiring polarity if necessary.

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 12 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 (retained action from AD 2013-02-12)	4 work-hours X $85 per hour = $340	$0	$340	$4,080
Repetitive Inspection (new action)	3 work-hours X $85 per hour = $255 per inspection cycle	$0	$255 per inspection cycle	$3,060 per inspection cycle
Modification (new action)	8 work-hour X $85 per hour = $680	$3,280	$3,960	$47,520

We estimate the following costs to do any necessary repair that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need this repair:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Wiring Correction	1 work-hour X $85 per hour = $85	$0	$85

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 to the Director of the System Oversight Division.

Regulatory Findings

We determined that 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 removing Airworthiness Directive (AD) 2013-02-12, Amendment 39-17333 (78 FR 7262, February 1, 2013), and adding the following new AD:

2017-19-07 Airbus Defense and Space S.A. (Formerly Known as Construcciones Aeronauticas, S.A.): Amendment 39-19037; Docket No. FAA-2017-0555; Product Identifier 2016-NM-183-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2013-02-12, Amendment 39-17333 (78 FR 7262, February 1, 2013) ("AD 2013-02-12").

(c) Applicability

This AD applies to all Airbus Defense and Space S.A. (formerly known as Construcciones Aeronauticas, S.A.) Model CN-235, CN-235-100, CN-235-200, and CN-235-300 airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 26, Fire protection.

(e) Reason

This AD was prompted by reports of incorrect electrical polarity connections on engine fire extinguishing discharge cartridges. We are issuing this AD to detect and correct incorrect polarity connections, which could prevent the actuation of the discharge cartridge in case of automatic fire detection or manual initiation during a potential engine fire, and could result in damage to the airplane and injury to passengers.

(f) Compliance

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

(g) Retained Inspection, With Revised Service Information

This paragraph restates the requirements of paragraph (g) of AD 2013-02-12, with revised service information. Within 30 days after March 8, 2013 (the effective date of AD 2013-02-12), do a one-time inspection to identify the correct polarity for each pair of electrical connectors on each engine fire extinguisher cartridge, in accordance with the

Instructions of Airbus Military All Operator Letter 235-020, dated March 9, 2012; or Airbus Military All Operator Letter 235-020, Revision 01, dated November 12, 2013.

(h) New Requirement of this AD: Repetitive Inspections

As of 30 days after the effective date of this AD: Before further flight after accomplishing each maintenance task involving disconnection or reconnection of an electrical connector of an engine fire extinguisher cartridge, determine the polarity of each pair of electrical connectors of the affected engine fire extinguisher cartridge, in accordance with the Instructions of Airbus Military All Operator Letter 235-020, Revision 01, dated November 12, 2013.

(i) New Requirement of this AD: Corrective Action

If, during any inspection required by paragraph (g) or (h) of this AD, erroneous wiring polarity installation is detected, before further flight, repair the erroneous polarity in accordance with a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or EADS CASA's EASA Design Organization Approval (DOA).

(j) New Requirement of this AD: Modification

Within 24 months after the effective date of this AD: Modify the installation of the fire extinguisher circuit harnesses, in accordance with the Accomplishment Instructions of EADS CASA Service Bulletin SB-235-26-0005, dated July 9, 2014.

(k) Terminating Action

The modification required in paragraph (j) of this AD terminates the actions required in paragraphs (g) and (h) of this AD.

(l) 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 (m)(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: As of the effective date of this AD, 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 EASA; or EADS CASA's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

(m) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2016-0201, dated October 11, 2016, 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-2017-0555.

(2) For more information about this AD, contact Shahram Daneshmandi, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1112; fax 425-227-1149.

(n) 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.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) Airbus Military All Operator Letter 235-020, Revision 01, dated November 12, 2013.

(ii) EADS CASA Service Bulletin SB-235-26-0005, dated July 9, 2014.

(4) The following service information was approved for IBR on March 8, 2013 (78 FR 7262, February 1, 2013).

(i) Airbus Military All Operator Letter 235-020, dated March 9, 2012.

(ii) Reserved.

(5) 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.

(6) You may view this service information at the FAA, Transport Standards Branch, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(7) 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 September 7, 2017.

Jeffrey E. Duven,
Director,
System Oversight Division,
Aircraft Certification Service.

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