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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0709; Product Identifier 2018-NM-100-AD; Amendment 39-19359; AD 2018-17-05]

RIN 2120-AA64

Airworthiness Directives; Airbus SAS Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for all Airbus SAS Model A350-941 and -1041 airplanes. This AD was prompted by reports that electro-hydrostatic actuators (EHAs), installed on the inboard ailerons, elevators, and rudder, had degraded insulation resistance in the direct drive solenoid valve (DDSOV), due to incorrect sealing application. This AD requires a check of the insulation resistance of the DDSOV of each affected EHA and applicable corrective actions. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD becomes effective August 30, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 30, 2018.

We must receive comments on this AD by October 1, 2018.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For Airbus SAS service information identified in this final rule, contact Airbus SAS, Airworthiness Office–EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France;

phone: +33 5 61 93 36 96; fax: +33 5 61 93 45 80; email: continued-airworthiness.a350@airbus.com; internet: <http://www.airbus.com>. For Moog Aircraft Group service information identified in this final rule, contact Moog Aircraft Group, Plant 4, 160 Jamison Road, East Aurora, NY 14052-0018; phone: 716-652-2000; email: CASC@moog.com; internet: <http://www.moog.com>. You may view this referenced 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-2018-0709.

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-2018-0709; or in person at the Docket Operations office 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 street address for the Docket Operations office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Kathleen Arrigotti, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3218.

SUPPLEMENTARY INFORMATION: Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2018-0141, dated July 3, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Airbus SAS Model A350-941 and -1041 airplanes. The MCAI states:

Occurrences were reported of EHA units that were returned to the manufacturer (MOOG Aircraft Group) with degraded insulation resistance in the direct drive solenoid valve (DDSOV). Investigation results revealed that moisture ingress, due to incorrect sealing application, had caused this degradation.

This condition, if not detected and corrected, could lead to the DDSOV being unable to command or maintain the EHA in active mode, possibly resulting in reduced control of the aeroplane.

Due to similarity of design, all five EHA positions could be affected, inboard aileron EHAs (Functional Item Number (FIN) 4CR1 and FIN 4CR2), elevator EHAs (FIN 2CT1 and FIN 2CT2) and the rudder EHA (FIN 3CY). Prompted by these findings, MOOG Aircraft Group improved the manufacturing process to ensure adequate sealing capability of the DDSOV and issued the applicable SB [MOOG Aircraft Group Service Bulletins CA67001-27-05; CA67006-27-04; and CA67008-27-04] providing a screening procedure. To address this potential unsafe condition, Airbus issued the AOT [Alert Operators Transmission A27P009-16] and the Airbus SB [Service Bulletin A350-27-P020], providing instructions to restore the EHA to nominal performance.

For the reasons described above, this [EASA] AD requires a one-time insulation check of each affected EHA, and, depending on findings, accomplishment of applicable corrective action(s).

Corrective actions include replacing or reidentifying affected EHAs. You may examine the MCAI on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0709.

Related Service Information Under 1 CFR Part 51

Airbus SAS has issued Service Bulletin A350-27-P020, dated February 22, 2018. This service information describes procedures for an insulation resistance check (detailed inspection) of the DDSOV of each affected EHA and applicable corrective actions.

Moog Aircraft Group has issued Service Bulletin CA67001-27-05, dated February 21, 2018. This service information identifies affected EHAs for certain inboard ailerons and describes, among other actions, procedures for applicable corrective actions.

Moog Aircraft Group has issued Service Bulletin CA67006-27-04, dated February 21, 2018. This service information identifies affected EHAs for certain elevators and describes, among other actions, procedures for applicable corrective actions.

Moog Aircraft Group has issued Service Bulletin CA67008-27-04, dated February 21, 2018. This service information identifies affected EHAs for certain rudders and describes, among other actions, procedures for applicable corrective actions.

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.

FAA's Determination

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

Requirements of This AD

This AD requires accomplishing the actions specified in the service information described previously. This AD also requires sending the results of the check to AirbusWorld.

FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because the insulation resistance in the DDSOV can degrade to unsafe levels within three months, which could lead to the DDSOV being unable to command or maintain the EHA in active mode, possibly resulting in reduced control of the airplane. Therefore, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that, for the same reason, good cause exists for making this amendment effective in fewer than 30 days.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2018-0709; Product Identifier 2018-NM-100-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

Costs of Compliance

We estimate that this AD affects 11 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs for Required Actions

| Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---|------------|------------------|------------------------|
| Up to 24 work-hours × \$85 per hour = Up to \$2,040 | \$0 | Up to \$2,040 | Up to \$22,440. |

We estimate the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. We have no way of determining the number of aircraft that might need these on-condition actions:

Estimated Costs of On-Condition Actions

| Labor cost | Parts cost | Cost per product |
|---|-----------------|------------------|
| Up to 30 work-hours × \$85 per hour = Up to \$2,550 | Up to \$518,314 | Up to \$520,864. |

We estimate that it would take about 1 work-hour per product to comply with the reporting requirement in this AD. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of reporting the check results on U.S. operators to be \$85 per product.

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all known costs in our cost estimate.

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the

burden should be directed to the FAA at 800 Independence Ave. SW, Washington, DC 20591, ATTN: Information Collection Clearance Officer, AES-200.

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 adding the following new airworthiness directive (AD):



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

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

2018-17-05 Airbus SAS: Amendment 39-19359; Docket No. FAA-2018-0709; Product Identifier 2018-NM-100-AD.

(a) Effective Date

This AD becomes effective August 30, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Airbus SAS Model A350-941 and -1041 airplanes, certificated in any category, all manufacturer serial numbers.

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight controls.

(e) Reason

This AD was prompted by reports that electro-hydrostatic actuators (EHAs), installed on the inboard ailerons, elevators, and rudder, had degraded insulation resistance in the direct drive solenoid valve (DDSOV), due to incorrect sealing application. We are issuing this AD to address this condition, which could lead to the DDSOV being unable to command or maintain the EHA in active mode, possibly resulting in reduced control of the airplane.

(f) Compliance

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

(g) Definitions

For the purposes of this AD, the definitions specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD apply.

(1) An affected EHA is an EHA installed on inboard ailerons, elevators, and rudder, as listed by part number and serial number in the applicable service information specified in paragraphs (g)(1)(i), (g)(1)(ii), and (g)(1)(iii) of this AD, except those that are paint marked, as specified in the applicable service information specified in paragraphs (g)(1)(i), (g)(1)(ii), and (g)(1)(iii) of this AD.

(i) Moog Aircraft Group Service Bulletin CA67001-27-05, dated February 21, 2018 (aileron).

(ii) Moog Aircraft Group Service Bulletin CA67006-27-04, dated February 21, 2018 (elevator).

(iii) Moog Aircraft Group Service Bulletin CA67008-27-04, dated February 21, 2018 (rudder).

(2) A serviceable EHA is an EHA having a part number and serial number not listed in the applicable service information specified in paragraphs (g)(1)(i), (g)(1)(ii), and (g)(1)(iii) of this AD; or an affected EHA having a paint mark as specified in the applicable service information specified in paragraphs (g)(1)(i), (g)(1)(ii), and (g)(1)(iii) of this AD.

(3) Group 1 airplanes are those that have an affected EHA installed. Group 2 airplanes are those that do not have an affected EHA installed.

(h) Initial Insulation Resistance Check

(1) For Group 1 airplanes, which have not been inspected in accordance with the instructions of Airbus Alert Operators Transmission (AOT) A27P009-16: Within 3 months after the airplane has reached 700 flight hours since airplane first flight, or within 30 days after the effective date of this AD, whichever occurs later, accomplish an insulation resistance check (detailed inspection) of the DDSOV of each affected EHA, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A350-27-P020, dated February 22, 2018.

(2) For Group 1 airplanes, which have been inspected in accordance with the instructions of Airbus AOT A27P009-16: Within 3 months after the airplane has reached 36 months since airplane first flight, or within 3 months after the effective date of this AD, whichever occurs later, accomplish an insulation resistance check of the DDSOV of each affected EHA, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A350-27-P020, dated February 22, 2018.

(i) Additional Check and Corrective Action

(1) If during the check required by paragraph (h)(1) of this AD, the measured insulation resistance is 15 Megohms (MOhms) or less, before next flight, replace the affected EHA with a serviceable EHA, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A350-27-P020, dated February 22, 2018.

(2) If during the check required by paragraph (h)(1) of this AD, the measured insulation resistance is more than 15 MOhms, within 3 months after the airplane has reached 36 months since airplane first flight, or within 3 months after the effective date of this AD, whichever occurs later, accomplish an insulation resistance check of the DDSOV of each affected EHA, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A350-27-P020, dated February 22, 2018.

(3) Depending on measured resistance result of the check required by paragraph (h)(2) or (i)(2) of this AD, within the applicable compliance time defined in figure 1 to paragraph (i)(3) of this AD, accomplish the applicable corrective action(s) defined in figure 1 to paragraph (i)(3) of this AD, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A350-27-P020, dated February 22, 2018; or the applicable service information specified in paragraphs (g)(1)(i), (g)(1)(ii), and (g)(1)(iii) of this AD.

Figure 1 to paragraph (i)(3) of this AD – Insulation Resistance Results and Corrective Actions

| Measured Resistance (in MOhms) | Compliance Time (since last check of the insulation resistance) | Actions |
|---------------------------------------|--|---|
| 15 or less | Before next flight | Replace the affected EHA with a serviceable EHA |
| More than 15, but not more than 50 | Within 3 months | |
| More than 50, but not more than 100 | Within 6 months | |
| More than 100 MOhms | Before next flight | Re-identify the affected EHA (apply paint marking) as serviceable EHA |

(j) Reporting

For each check required by paragraph (h)(2) or (i)(2) of this AD: Within 30 days after each check required by paragraph (h)(2) or (i)(2) of this AD or within 30 days after the effective date of this AD, whichever occurs later, report the results, including no findings, using the online reporting application in AirbusWorld, as specified in Appendix A. “Inspection Report” of Airbus Service Bulletin A350-27-P020, dated February 22, 2018.

(k) Parts Installation Prohibition

For Group 1 and Group 2 airplanes: From the effective date of this AD, no person may install an affected EHA on any airplane.

(l) Paperwork Reduction Act Burden Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

(m) 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 (n)(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 SAS's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(3) Required for Compliance (RC): If any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified 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 procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

(n) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2018-0141, dated July 3, 2018, 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-2018-0709.

(2) For more information about this AD, contact Kathleen Arrigotti, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3218.

(o) 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 SAS Service Bulletin A350-27-P020, dated February 22, 2018.

(ii) Moog Aircraft Group Service Bulletin CA67001-27-05, dated February 21, 2018.

(iii) Moog Aircraft Group Service Bulletin CA67006-27-04, dated February 21, 2018.

(iv) Moog Aircraft Group Service Bulletin CA67008-27-04, dated February 21, 2018.

(3) For Airbus SAS service information identified in this AD, contact Airbus SAS, Airworthiness Office—EAL, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; phone: +33 5 61 93 36 96; fax: +33 5 61 93 45 80; email: continued-airworthiness.a350@airbus.com; internet: <http://www.airbus.com>.

(4) For Moog Aircraft Group service information identified in this AD, contact Moog Aircraft Group, Plant 4, 160 Jamison Road, East Aurora, NY 14052-0018; phone: 716-652-2000; email: CASC@moog.com; internet: <http://www.moog.com>.

(5) 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.

(6) 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 5, 2018.
Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.