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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2016-9393; Directorate Identifier 2014-NM-199-AD; Amendment 39-18935; AD 2017-13-05]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Airbus Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding Airworthiness Directive (AD) 2013-13-16 for all Airbus Model A330-200, A330-200 Freighter, A330-300 series airplanes; and all Airbus Model A340-200, -300, -500, and -600 series airplanes. AD 2013-13-16 required repetitive inspections for discrepancies of the ball-screw assembly of the trimmable horizontal stabilizer actuator (THSA), repetitive greasing of the THSA ball-nut, and replacement of the THSA if necessary; and modification or replacement (as applicable) of the ball-nut assembly, which ends certain repetitive inspections. This new AD requires an inspection, corrective actions if necessary, lubrication of the ball-nut, modification of the THSA, and removal of certain airplanes from the applicability. This AD was prompted by a determination that a modification that automatically detects failure of the ball-screw assembly is necessary. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 28, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 28, 2017.

**ADDRESSES:** For service information identified in this final rule, contact Airbus, Airworthiness Office–EIAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email account.airworth-eas@airbus.com; Internet <http://www.airbus.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-2016-9393.

## 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-2016-9393; 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 street 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:** Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425-227-1149.

## SUPPLEMENTARY INFORMATION:

### Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2013-13-16, Amendment 39-17504 (78 FR 47537, August 6, 2013) (“AD 2013-13-16”). AD 2013-13-16 applied to all Airbus Model A330-200, A330-200 Freighter, A330-300 series airplanes, and all Airbus Model A340-200, -300, -500, and -600 series airplanes. The NPRM published in the Federal Register on December 19, 2016 (81 FR 91882) (“the NPRM”).

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2014-0219, dated September 29, 2014 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition on all Airbus Model A330 and Model A340 series airplanes. The MCAI states:

Several cases of transfer tube disconnection from the ball-nut of the trimmable horizontal stabilizer actuator (THSA) part number (P/N) 47172 and 47147-400 were detected on the ground during greasing and maintenance. Investigation results showed that this was caused by water ingress into the ball-nut, resulting in the jamming of the ball transfer circuit when the water froze. If the three (independent) ball circuits fail, then the THSA operates on a fail-safe nut (which operates without balls), which jams after several movements on the ballscrew of the THSA.

This condition, if not detected and corrected, could damage the ball screw and the fail-safe nut, possibly resulting in jamming of the THSA and consequent reduced control of the aeroplane.

To detect at an early stage any distortion or initiation of disconnection, [Directorate General for Civil Aviation] DGAC France issued AD 2001-356 and AD 2001-357 to require repetitive inspections of the transfer tubes and their collars and, depending on findings, corrective action(s).

Prompted by another case of transfer tube disconnection, DGAC France issued AD 2001-356R2 and AD 2001-357R2 to require additional repetitive greasing and reinforcement of the ball-nut maintenance greasing instructions.

Subsequently, DGAC France issued AD 2002-037 and AD 2002-038 to require a modification that was also terminating action for the repetitive inspections and

greasing tasks required by DGAC France AD 2001-356R2 and AD 2001-357R2 for the THSA P/N 47172 by application of Service Bulletin (SB) A330-27-3085 or SB A340-27-4089 (equivalent to Airbus production modification 49590), as applicable, changing the THSA P/N from 47172 to 47172-300.

Later on, DGAC France issued AD 2002-414 (later revised to R3) and AD 2002-415 (later revised to R2), which superseded the DGAC France AD 2001-356R2, AD 2001-357R2, AD 2002-037, and AD 2002-038, requiring:

- Repetitive inspections of all THSA P/N in service,
- repetitive lubrication of some THSA P/N, and
- replacement of THSA P/N 47172, 47147-400 and 47147-2XX/-3XX.

In addition, the electrical flight control computers monitor the operation of the THSA and the jamming of this actuator could be detected and indicated by messages on the maintenance system and on the [electronic centralized aircraft monitor] ECAM. For that reason, DGAC France AD 2002-414 and AD 2002-415 also required inspection of the THSA after display of such message(s).

After those [DGAC France] ADs were issued, Airbus introduced 4 new THSA, P/N 47172-500, P/N 47172-510, P/N 47172-520 and P/N 47172-530.

As these new THSA also needed to be inspected/lubricated, EASA issued AD 2010-0192 and [EASA] AD 2010-0193 [which correspond to FAA AD 2013-13-16], which retained the requirements of DGAC France AD F-2002-414R3 and AD F-2002-415R2 respectively, which were superseded, to add required repetitive inspections and lubrications of the new THSA P/N.

Since those [EASA] ADs were issued, all requirements of EASA AD 2010-0192 and [EASA] AD 2010-0193 were transferred into Airbus Airworthiness Limitations Section (ALS) Part 4, except the requirement of paragraph (2.3) of those [EASA] ADs. At this time, compliance with ALS Part 4 tasks is required by EASA AD 2013-0268 (A330 aeroplanes) and [EASA] AD 2013-0269 (A340 aeroplanes), respectively [which correspond to FAA AD 2015-16-02, Amendment 39-18227 (80 FR 48019, August 11, 2015) (A330 airplanes); and AD 2014-23-17, Amendment 39-18033 (79 FR 71304, December 2, 2014) (A340 airplanes); respectively.]

In addition, Airbus developed a Checkable Shear Pin (CSP) for the THSA and an associated additional electrical harness, which consists of installation of two Electrical Detection Devices (EDD) on the lower attachment secondary load path, which gives an indication to the Flight Control Primary Computers of secondary load path engagement.

After embodiment of these modifications on an aeroplane, the repetitive inspections of the ballscrew assembly for integrity of the primary and secondary load paths is no longer required, because the failure is detected automatically by this new device.

For the reasons described above, this [EASA] AD retains only the requirement of paragraph (2.3) of EASA AD 2010-0192 and 2010-0193 [actions following ECAM fault messages], which are superseded, and requires the installation of CSP and associated additional electrical harness on the THSA of the aeroplane. This [EASA] AD also requires, for A340-500/-600 aeroplanes that are post-SB A340-92-5008 (at

Revision 06 or earlier), accomplishment of A340 ALS Part 3 task 274000-B0002-1-C, providing a grace period of 3 months for aeroplanes that have exceeded the applicable threshold or interval.

The unsafe condition is the degraded operation of the THSA, which could result in reduced control of the airplane.

Model A330-223F and A330-243F airplanes have been removed from the applicability of this AD to correspond with the MCAI.

Required actions include a detailed inspection and corrective actions if an ECAM fault message is displayed, repetitive lubrication of the THSA ball-nut, and a modification of the THSA by installing a CSP and associated electrical harness.

Required actions also include certain “Additional Work” that is described in the following service information.

- “Additional Work” in Airbus Service Bulletin A330-27-3143, Revision 01, dated July 10, 2012, is described as removing the closing plug from the electrical harness 4515VB and connecting the electrical harness 4515VB to the THSA.
- “Additional Work” in Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017; and in Airbus Service Bulletin A340-92-4056, Revision 04, dated December 5, 2013; is described as replacement of a certain harness item, installation of placards and cable support, modification of a certain bracket, and installation of a certain spacer.
- “Additional Work” in Airbus Service Bulletin A340-92-5008, Revision 07, dated February 8, 2013, is described as replacing a certain wiring harness, replacing a certain THSA harness, installing additional placards, and modifying a certain wire harness installation order.

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-2016-9393.

## **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.

## **New Service Information**

Since we issued the NPRM, we have reviewed Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017 (we referred to Airbus Service Bulletin A330-92-3046, Revision 06, dated November 15, 2013, as one of the appropriate sources of service information for installing an electrical harness). Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017, includes minor updates to the procedures and illustrations. We have revised figure 2 to paragraphs (h) and (i) of this AD and figure 3 to paragraph (j) of this AD to refer to Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017. We have also added paragraph (r)(2) to this AD to give credit for actions done in accordance with Airbus Service Bulletin A330-92-3046, Revision 06, dated November 15, 2013.

## **Costs of Compliance Change**

The costs of compliance information in the NPRM included a parts cost of \$14,198. We have revised the costs of compliance information in this AD based on receiving updated cost information from the manufacturer to include a parts cost of \$17,481.

## Conclusion

We reviewed the relevant data, 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

Airbus has issued the following service information. The service bulletins having the same document number are distinct because each revision contains unique editorial changes.

The following service information describes procedures for doing repetitive inspections for integrity of the primary and secondary load paths of the ball-screw assembly of the THSA. These service bulletins are distinct because they apply to different airplane models.

- Airbus Service Bulletin A330-27-3102, Revision 09, dated March 29, 2016.
- Airbus Service Bulletin A340-27-4107, Revision 09, dated March 29, 2016.

The following service information describes procedures for installing two electrical detection devices, also called CSPs, on the lower attachment secondary load path of the THSA, and modifying the THSA. These service bulletins are distinct because they apply to different airplane models equipped with THSAs having different part numbers.

- Airbus Service Bulletin A330-27-3137, including Appendix 01, dated March 20, 2007.
- Airbus Service Bulletin A330-27-3137, Revision 01, including Appendix 1, dated December 6, 2007.
- Airbus Service Bulletin A330-27-3137, Revision 02, dated January 18, 2010.
- Airbus Service Bulletin A330-27-3143, Revision 01, dated July 10, 2012.
- Airbus Service Bulletin A340-27-4136, including Appendix 01, dated March 20, 2007.
- Airbus Service Bulletin A340-27-4136, Revision 01, including Appendix 1, dated December 6, 2007.
- Airbus Service Bulletin A340-27-4136, Revision 02, including Appendix 1, dated February 24, 2010.
- Airbus Service Bulletin A340-27-4143, dated February 21, 2012.
- Airbus Service Bulletin A340-27-5030, Revision 01, including Appendix 1, dated November 20, 2009.

The following service information describes procedures for installing electrical wiring harnesses and brackets to connect the secondary nut detection device to the monitoring systems. These service bulletins are distinct because they apply to different airplane models.

- Airbus Service Bulletin A330-92-3046, Revision 04, dated July 16, 2010.
- Airbus Service Bulletin A330-92-3046, Revision 05, dated November 7, 2011.
- Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017.
- Airbus Service Bulletin A340-92-4056, Revision 03, dated July 16, 2010.
- Airbus Service Bulletin A340-92-4056, Revision 04, dated December 5, 2013.
- Airbus Service Bulletin A340-92-5008, Revision 07, dated February 8, 2013.

The following service information describes system equipment maintenance requirements (SEMRs) that refer to preventative maintenance requirements found necessary to comply with safety objectives. These documents are distinct because they apply to different airplane models.

- Airbus A330 Airworthiness Limitations Section (ALS) Part 4–System Equipment Maintenance Requirements (SEMR), Revision 05, dated October 19, 2015.
- Airbus A340 Airworthiness Limitations Section (ALS) Part 4–System Equipment Maintenance Requirements (SEMR), Revision 04, dated October 19, 2015.

Airbus A340 Airworthiness Limitations Section (ALS) Part 3–Certification Maintenance Requirements (CMR), Revision 03, dated October 19, 2015, describes CMRs that are system-related periodic tasks established during type certification.

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 33 airplanes of U.S. registry.

The actions required by AD 2013-13-16, and retained in this AD take about 1 work-hour per product, at an average labor rate of \$85 per work-hour. Based on these figures, the estimated cost of the actions that are required by AD 2013-13-16 is \$85 per product.

We also estimate that it takes about 67 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$17,481 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$764,808, or \$23,176 per product.

### **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**

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) 2013-13-16, Amendment 39-17504 (78 FR 47537, August 6, 2013), and adding the following new AD:



**2017-13-05 Airbus:** Amendment 39-18935; Docket No. FAA-2016-9393; Directorate Identifier 2014-NM-199-AD.

**(a) Effective Date**

This AD is effective August 28, 2017.

**(b) Affected ADs**

This AD replaces AD 2013-13-16, Amendment 39-17504 (78 FR 47537, August 6, 2013) (“AD 2013-13-16”).

**(c) Applicability**

This AD applies to the airplanes identified in paragraphs (c)(1) and (c)(2) of this AD, certificated in any category.

(1) Airbus Model A330-201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes, all manufacturer serial numbers.

(2) Airbus Model A340-211, -212, -213, -311, -312, -313, -541, and -642 airplanes, all manufacturer serial numbers.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by the determination that a modification that automatically detects failure of the ball-screw assembly is necessary. We are issuing this AD to detect and correct wear on the trimmable horizontal stabilizer actuator (THSA), possibly resulting in damage to the ball-screw and fail-safe nut, which could jam the THSA and result in reduced control of the airplane.

**(f) Compliance**

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

**(g) Actions for Electronic Centralized Aircraft Monitor (ECAM) Fault Messages**

For airplanes other than those identified in figure 1 to paragraphs (g), (h), and (q) of this AD: If, during any flight, one of the “PRIM X PITCH FAULT” or “STAB CTL FAULT” messages is displayed on the ECAM associated with the “PITCH TRIM ACTR (1CS)” maintenance message, before further flight after each time the message is displayed on the ECAM, do the actions specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Do the applicable detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path; check the checkable shear pins (CSP), if installed; and do all applicable corrective actions; as specified in paragraph (g)(1)(i), (g)(1)(ii), or (g)(1)(iii) of this AD. Do all applicable corrective actions before further flight.

(i) For Model A330 series airplanes: Do the actions in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-27-3102, Revision 09, dated March 29, 2016, except as required by paragraph (n)(1) of this AD.

(ii) For Model A340-200 and -300 series airplanes: Do the actions in accordance with the Accomplishment Instructions of Airbus Service Bulletin A340-27-4107, Revision 09, dated March 29, 2016, except as required by paragraph (n)(1) of this AD.

(iii) For Model A340-500 and -600 series airplanes: Do the actions using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Airbus's EASA Design Organization Approval (DOA).

Note 1 to paragraph (g)(1)(iii) of this AD: Guidance for the inspection of the ball-screw assembly can be found in Task 274000-B0002-1-C, Inspection of the ball-screw assembly for integrity of the primary and secondary load paths, of the Airbus A340 Airworthiness Limitations Section (ALS) Part 3—Certification Maintenance Requirements (CMR), Revision 03, dated October 19, 2015.

(2) Lubricate the THSA ball-nut in accordance with the applicable service information specified in paragraph (g)(2)(i), (g)(2)(ii), or (g)(2)(iii) of this AD.

(i) Task 274400-00002-1-E, Lubrication of the THSA ball-nut, of Airbus A330 ALS Part 4—System Equipment Maintenance Requirements (SEMR), Revision 05, dated October 19, 2015 (for Model A330 series airplanes).

(ii) Task 274400-00002-1-E, Lubrication of the THSA ball-nut, of Airbus A340 ALS Part 4—System Equipment Maintenance Requirements (SEMR), Revision 04, dated October 19, 2015 (for Model A340-200 and -300 series airplanes).

(iii) Task 274000-B0003-1-C, Lubrication of THS Actuator ball-screw nut, of Airbus A340 ALS Part 3—Certification Maintenance Requirements (CMR), Revision 03, dated October 19, 2015 (for Model A340-500 and -600 series airplanes).

**Figure 1 to Paragraphs (g), (h), and (q) of This AD—Definition of**

<b>Group</b>	<b>Airplane models</b>	<b>On which the following actions or modifications have been done</b>
Group 1 airplanes	Airbus Model A330-200 and -300 series airplanes	On which the actions specified in Airbus Service Bulletin A330-27-3137, dated March 20, 2007; or Revision 01, dated December 6, 2007; and Airbus Service Bulletin A330-92-3046, Revision 04, dated July 16, 2010; or Revision 05, dated November 7, 2011; or Revision 06, dated November 15, 2013; have been embodied in service.
	Airbus Model A340-200 and -300 series airplanes	On which the actions specified in Airbus Service Bulletin A340-27-4136, including Appendix 1, dated March 20, 2007; or Revision 01, including Appendix 1, dated December 6, 2007; and Airbus Service Bulletin A340-92-4056, Revision 03, dated July 16, 2010; have been embodied in service.
Group 2 airplanes	Airbus Model A330-200 and -300 series airplanes and Model A340-200 and -300 series airplanes	On which Airbus Modifications 55780, 52269, and 56056 have been embodied in production.

	Airbus Model A340-500 and -600 series airplanes	On which Airbus Modifications 54882, 52191, and 56058 have been embodied in production.
Group 3 airplanes	Airbus Model A330-200 and -300 series airplanes	On which Airbus Service Bulletin A330-27-3137, dated March 20, 2007; or Revision 01, dated December 6, 2007; has been embodied in service and Airbus Modifications 52269 and 56056 have been embodied in production.
	Airbus Model A330-200 and -300 series airplanes	On which Airbus Modification 55780 has been embodied in production and Airbus Service Bulletin A330-92-3046 Revision 04, dated July 16, 2010; or Revision 05, dated November 07, 2011; or Revision 06, dated November 15, 2013; has been embodied in service.
	Airbus Model A340-200 and -300 series airplanes	On which Airbus Service Bulletin A340-27-4136, including Appendix 1, dated March 20, 2007; or Revision 01, including Appendix 1, dated December 6, 2007; has been embodied in service and Airbus Modifications 52269 and 56056 have been embodied in production.
	Airbus Model A340-200 and -300 series airplanes	On which Airbus Modification 55780 has been embodied in production and Airbus Service Bulletin A340-92-4056, Revision 03, dated July 16, 2010, has been embodied in service.

**(h) Installation of CSP and Electrical Harness**

For all airplanes, except Group 2 airplanes specified in figure 1 to paragraphs (g), (h), and (q) of this AD, and except for airplanes identified in paragraphs (i), (j), and (n)(2) of this AD: Within 12 months after the effective date of this AD, modify the airplane by installing a CSP on the THSA and an additional electrical harness, in accordance with the Accomplishment Instructions of the Airbus service information specified in figure 2 to paragraphs (h) and (i) of this AD, as applicable to the part number of the THSA installed on the airplane, except as provided by paragraph (n)(2) of this AD.

**Figure 2 to Paragraphs (h) and (i) of this AD—Applicable Service Information for Modification**

THSA Part No. (P/N)	Service bulletin for CSP installation	Service bulletin for electrical harness installation
47172-300	Airbus Service Bulletin A330-27-3137, Revision 02, dated January 18, 2010, for Airbus Model A330-200 and -300 series airplanes; and	Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017, for Airbus Model A330-200 and -300 series airplanes; and
	Airbus Service Bulletin A340-27-4136, Revision 02, including Appendix 1, dated February 24, 2010, for Airbus Model A340-200 and -300 series airplanes.	
47147-500	Airbus Service Bulletin A330-27-3143, Revision 01, dated July 10, 2012, for Airbus Model A330-200 and -300 series airplanes; and	Airbus Service Bulletin A340-92-4056, Revision 04, dated December 5, 2013, for Airbus Model A340-200 and -300 series airplanes.

	Airbus Service Bulletin A340-27-4143, dated February 21, 2012, for Airbus Model A340-200 and -300 series airplanes.	
47175-200, 47175-300	Airbus Service Bulletin A340-27-5030, Revision 01, including Appendix 1, dated November 20, 2009, for Airbus Model A340-541 and -642 airplanes.	Airbus Service Bulletin A340-92-5008, Revision 07, dated February 8, 2013, for Airbus Model A340-541 and -642 airplanes.

**(i) “Additional Work” on Previously Modified Airplanes**

For airplanes that have already been modified (installation of CSP on the THSA and electrical harness) before the effective date of this AD in accordance with the Accomplishment Instructions of any previous revision of an Airbus service bulletin specified in figure 2 to paragraphs (h) and (i) of this AD, as applicable: Within 12 months after the effective date of this AD, do the “Additional Work” specified in, and in accordance with, the Accomplishment Instructions of the applicable Airbus service information specified in figure 2 to paragraphs (h) and (i) of this AD.

**(j) Installation of Electrical Harness on Airplanes Equipped With a CSP**

For airplanes having one of the THSAs installed with a part number listed in figure 3 to paragraph (j) of this AD, and which have been modified by installing a CSP on the THSA as required by paragraph (h) of this AD: Within 12 months after the effective date of this AD, inspect to determine if the electrical harness identified in the applicable Airbus service information specified in figure 3 to paragraph (j) of this AD is installed on the airplane, and if found not to be installed, modify the airplane by installing an electrical harness, in accordance with the Accomplishment Instructions of the Airbus service information specified in figure 3 to paragraph (j) of this AD, as applicable to the part number of the THSA installed on the airplane. Airplanes having one of the THSAs installed with a part number listed in figure 3 to paragraph (j) of this AD already have the CSP installed on the THSA, and only the electrical harness must be installed on the airplane.

**Figure 3 to Paragraph (j) of This AD—Electrical Harness Installation**

THSA P/N	Service information for electrical harness installation
47172-500, 47172-510, 47172-520, 47172-530, 47147-700, 47147-710	Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017, for Airbus Model A330-200 and -300 series airplanes. Airbus Service Bulletin A340-92-4056, Revision 04, dated December 5, 2013, for Airbus Model A340-200 and -300 series airplanes.
47175-500, 47175-520, 47175-530	Airbus Service Bulletin A340-92-5008, Revision 07, dated February 8, 2013, for Airbus Model A340-541 and -642 airplanes.

**(k) Terminating Action for Repetitive Inspections of Airbus Model A330-200 and -300 Series Airplanes**

Accomplishment of a modification before the effective date of this AD, using the Accomplishment Instructions of Airbus Service Bulletin A330-27-3137, dated March 20, 2007; or Revision 01, dated December 6, 2007; and Airbus Service Bulletin A330-92-3046, Revision 04, dated July 15, 2010; or Revision 05, dated November 7, 2011; or Revision 06, dated November 15, 2013; terminates the repetitive inspections specified in paragraphs (k)(1) through (k)(4) of this AD. Modification of an airplane as required by this paragraph does not constitute terminating action for

the actions specified in paragraph (g)(2) of this AD or the additional work specified in paragraph (i) of this AD.

(1) Task 274400-00001-1-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and check the gap at the secondary nut trunnion, of Airbus A330 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 05, dated October 19, 2015.

(2) Task 274400-00001-2-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and check the CSPs, of Airbus A330 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 05, dated October 19, 2015.

(3) Task 274400-00001-3-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and check the CSPs, of Airbus A330 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 05, dated October 19, 2015.

(4) Task 274400-00001-4-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and check the CSPs, of Airbus A330 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 05, dated October 19, 2015.

### **(l) Terminating Action for Repetitive Inspections of Airbus Model A340-200 and -300 Series Airplanes**

Accomplishment of a modification in accordance with the Accomplishment Instructions of Airbus Service Bulletin A340-27-4143, dated February 21, 2012; and Airbus Service Bulletin A340-92-4056, Revision 03, dated July 16, 2010; terminates the actions required by paragraph (g)(1) of this AD for modified Airbus Model A340-200 and -300 series airplanes only. Modification of an airplane as specified in this paragraph does not constitute terminating action for the actions specified in paragraph (g)(2) of this AD, or the additional work specified in paragraph (i) of this AD.

### **(m) Terminating Action for Repetitive Inspections of Airbus Model A340-200 and -300 Series Airplanes**

Accomplishment of a modification before the effective date of this AD using the Accomplishment Instructions of Airbus Service Bulletin A340-27-4136, including Appendix 1, dated March 20, 2007; or Revision 01, including Appendix 1, dated December 6, 2007; and Airbus Service Bulletin A340-92-4056, Revision 03, dated July 16, 2010; terminates the repetitive inspections specified in paragraphs (m)(1) through (m)(4) of this AD. Modification of an airplane as specified in this paragraph does not constitute terminating action for the actions specified in paragraph (g)(2) of this AD, or the additional work specified in paragraph (i) of this AD.

(1) Task 274400-00001-1-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and gap check at the secondary nut trunnion, of Airbus A340 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 04, dated October 19, 2015.

(2) Task 274400-00001-2-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and CSP check, of Airbus A340 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 04, dated October 19, 2015.

(3) Task 274400-00001-3-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and CSP check, of Airbus A340 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 04, dated October 19, 2015.

(4) Task 274400-00001-4-E, Detailed inspection of the ball-screw assembly for integrity of the primary and secondary load path and CSP check, of A340 ALS Part 4–System Equipment Maintenance Requirements (SEMR), Revision 04, dated October 19, 2015.

**(n) Exceptions to the Actions in Certain Service Information and Paragraph (h) of This AD**

(1) Where Airbus Service Bulletin A330-27-3102, Revision 09, dated March 29, 2016 (for Model A330 series airplanes); or Airbus Service Bulletin A340-27-4107, Revision 09, dated March 29, 2016 (for Model A340 series airplanes); specifies to contact Airbus for a damage assessment: Before further flight, accomplish the required actions in accordance with the procedures specified in paragraph (s)(2) of this AD.

(2) For airplanes that already had the electrical harness installed during production using Airbus Modifications 52269 and 56056 for Airbus Model A330-200 and -300 series airplanes and Airbus Model A340-200 and -300 series airplanes, and using Airbus Modifications 52191 and 56058 for Model A340-500 and -600 series airplanes: Only the CSP must be installed on the THSA in accordance with applicable Airbus service bulletins and within the compliance time specified in paragraph (h) of this AD.

**(o) Terminating Action for Repetitive Inspections for Airplanes on Which Actions Required by Paragraph (h), (i), or (j) of This AD Are Done**

Modification of an airplane as required by paragraph (h), (i), or (j) of this AD, as applicable, constitutes terminating action for that airplane for the applicable actions identified in paragraphs (o)(1) through (o)(4) of this AD.

(1) For all airplanes: The actions required by paragraph (g) of this AD.

(2) For Model A340-500 and -600 series airplanes: Task 274000-B0002-1-C, Inspection of the ball-screw assembly for integrity of the primary and secondary load paths, of Airbus A340 ALS Part 3–Certification Maintenance Requirements (CMR), Revision 03, dated October 19, 2015.

(3) For Model A330-200 and -300 series airplanes: The ALS tasks identified in paragraphs (k)(1) through (k)(4) of this AD.

(4) For Model A340-200 and -300 series airplanes: The ALS tasks identified in paragraphs (m)(1) through (m)(4) of this AD.

**(p) Ball-Screw Assembly Inspection for Certain Airplanes**

For Model A340-500 and -600 airplanes that are in post-Airbus Service Bulletin A340-92-5008, at Revision 06 or earlier, configuration: Before exceeding the threshold or interval, as applicable, of Task 274000-B0002-1-C, Inspection of the ball-screw assembly for integrity of the primary and secondary load paths, of Airbus A340 ALS Part 3–Certification Maintenance Requirements (CMR), Revision 03, dated October 19, 2015, or within 3 months after the effective date of this AD, whichever occurs later, accomplish Task 274000-B0002-1-C, Inspection of the ball-screw assembly for integrity of the primary and secondary load paths, of Airbus A340 ALS Part 3–Certification Maintenance Requirements (CMR), Revision 03, dated October 19, 2015; and do all applicable corrective actions. Do all applicable corrective actions before further flight using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or EASA; or Airbus's EASA DOA. Repeat Task 274000-B0002-1-C, Inspection of the ball-screw assembly for integrity of the primary and secondary load paths, thereafter at the applicable intervals specified in Airbus A340 ALS Part 3–CMRs, Revision 03, dated October 19, 2015.

**(q) Parts Installation Prohibitions**

(1) For all airplanes except Group 2 airplanes as identified in figure 1 to paragraphs (g), (h), and (q) of this AD: After modification of the airplane as required by paragraph (h), (i), or (j) of this AD, as applicable, no person may install any THSA having part number (P/N) 47172-300, P/N 47147-500, P/N 47175-200, or P/N 47175-300.

(2) For Group 2 airplanes, as identified in figure 1 to paragraphs (g), (h), and (q) of this AD: As of the effective date of this AD, no person may install on any Group 2 airplane any THSA having P/N 47172-300, P/N 47147-500, P/N 47175-200, or P/N 47175-300.

**(r) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraph (g)(2) of this AD, if those actions were performed before the effective date of this AD using the applicable service information specified in paragraphs (r)(1)(i) through (r)(1)(iv) of this AD.

(i) Task 274400-00002-1-E, Lubrication of the THSA ball-nut, of Airbus A330 ALS Part 4–Ageing Systems Maintenance, Revision 03, dated September 9, 2011 (for Model A330 series airplanes).

(ii) Task 274400-00002-1-E, Lubrication of the THSA ball-nut, of Airbus A330 ALS Part 4–Ageing Systems Maintenance, Revision 04, dated August 27, 2013 (for Model A330 series airplanes).

(iii) Task 274400-00002-1-E, Lubrication of the THSA ball-nut, of Airbus A340 ALS Part 4–Ageing Systems Maintenance, Revision 02, dated October 12, 2011 (for Model A340-200 and -300 series airplanes).

(iv) Task 274400-00002-1-E, Lubrication of the THSA ball-nut, of Airbus A340 ALS Part 4–Ageing Systems Maintenance, Revision 03, dated November 15, 2012 (for Model A340-200 and -300 series airplanes).

(2) This paragraph provides credit for the electrical harness installation required by paragraph (h) of this AD and the inspection and electrical harness installation required by paragraph (j) of this AD, if those actions were performed before the effective date of this AD using Airbus Service Bulletin A330-92-3046, Revision 06, dated November 15, 2013.

**(s) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, 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 Branch, send it to the attention of the person identified in paragraph (t)(2) of this AD. Information may be emailed to: 9-ANM-116-ACO-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 Branch, ANM-116, Transport Airplane Directorate, FAA; or EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(t) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2014-0219, dated September 29, 2014, 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-2016-9393.

(2) For more information about this AD, contact Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425-227-1149.

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

#### **(u) 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 A330 Airworthiness Limitations Section (ALS) Part 4– System Equipment Maintenance Requirements (SEMR), Revision 05, dated October 19, 2015.

(ii) Airbus A340 Airworthiness Limitations Section (ALS) Part 3–Certification Maintenance Requirements (CMR), Revision 03, dated October 19, 2015.

(iii) Airbus A340 Airworthiness Limitations Section (ALS) Part 4–System Equipment Maintenance Requirements (SEMR), Revision 04, dated October 19, 2015.

(iv) Airbus Service Bulletin A330-27-3102, Revision 09, dated March 29, 2016.

(v) Airbus Service Bulletin A330-27-3137, including Appendix 01, dated March 20, 2007.

(vi) Airbus Service Bulletin A330-27-3137, Revision 01, including Appendix 1, dated December 6, 2007.

(vii) Airbus Service Bulletin A330-27-3137, Revision 02, dated January 18, 2010.

(viii) Airbus Service Bulletin A330-27-3143, Revision 01, dated July 10, 2012.

(ix) Airbus Service Bulletin A330-92-3046, Revision 04, dated July 16, 2010.

(x) Airbus Service Bulletin A330-92-3046, Revision 05, dated November 7, 2011.

(xi) Airbus Service Bulletin A330-92-3046, Revision 07, dated January 13, 2017.

(xii) Airbus Service Bulletin A340-27-4107, Revision 09, dated March 29, 2016.

(xiii) Airbus Service Bulletin A340-27-4136, including Appendix 01, dated March 20, 2007.

(xiv) Airbus Service Bulletin A340-27-4136, Revision 01, including Appendix 1, dated December 6, 2007.

(xv) Airbus Service Bulletin A340-27-4136, Revision 02, including Appendix 1, dated February 24, 2010.

(xvi) Airbus Service Bulletin A340-27-4143, dated February 21, 2012.

(xvii) Airbus Service Bulletin A340-27-5030, Revision 01, including Appendix 1, dated November 20, 2009.

(xviii) Airbus Service Bulletin A340-92-4056, Revision 03, dated July 16, 2010.

(xix) Airbus Service Bulletin A340-92-4056, Revision 04, dated December 5, 2013.

(xx) Airbus Service Bulletin A340-92-5008, Revision 07, dated February 8, 2013.

(3) For service information identified in this AD, contact Airbus, Airworthiness Office–EIAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>.

(4) You may view this 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.

(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 June 15, 2017.  
Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.