


| EASA | AIRWORTHINESS DIRECTIVE | |
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|  | AD No.: 2010-0192 Corrected: 11 October 2010 | |
| | Date: 29 September 2010 Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation. | |
| This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption]. | | |
| Type Approval Holder's Name : AIRBUS | Type/Model designation(s) : A330 aeroplanes | |
| TCDS Number : | EASA.A.004 | |
| Foreign AD : | Not applicable | |
| Supersedure : | This AD supersedes DGAC France AD F-2002-414R3 dated 07 July 2004. | |
| ATA 27 | Flight controls - Trimmable Horizontal Stabilizer Actuator Screw/Nut Assembly - Inspection / Lubrication | |
| Manufacturer(s): | Airbus (formerly Airbus Industrie) | |
| Applicability: | Airbus A330 aeroplanes, models -201, -202, -203, -223, -223F,-243,-243F, -301, -302, -303, -321, -322, -323, -341, -342 and -343, all manufacturer serial numbers. | |
| Reason: | <p>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.</p> <p>This condition is caused by water ingress into the ball-nut resulting in the jamming of the ball transfer circuit when the water freezes.</p> <p>If the three (independent) ball circuits fail, then the THSA will operate on a fail-safe nut. This nut (which operates without balls) would then jam after several movements on the screw of the THSA.</p> <p>This degraded operation is not detectable in the cockpit by the crew as long as the THSA does not jam and could damage the ball screw and the fail-safe nut.</p> <p>To detect this unsafe condition, DGAC France AD F-2001-356 was issued to require repetitive inspections of the transfer tubes and their collars in order to detect at an early stage any distortion or initiation of disconnection.</p> | |

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| | <p>Further to a new case of transfer tube disconnection, DGAC France AD F-2001-356R2 required an additional repetitive greasing task with reinforcement of the ball-nut maintenance greasing instructions.</p> <p>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 ECAM. In this case a mandatory inspection of the THSA is required before the next flight.</p> <p>DGAC France AD F-2002-038 required application of a final fix [related to inspection and greasing task required by DGAC France AD F-2001-356] for the THSA P/N 47172 by application of Airbus modification 49590/Service Bulletin (SB) A330-27-3085. It changes the THSA P/N from 47172 to 47172-300.</p> <p>Later on, DGAC France AD F-2002-414R3 replaced the DGAC AD France F-2001-356R2 and F-2002-038 requiring:</p> <ul style="list-style-type: none"> - the repetitive inspection of all THSA P/N in service, and - the lubrication of some THSA P/N, and - the replacement of THSA P/N 47172, 47147-400 and 47147-2XX/-3XX <p>Airbus has later introduced 4 new THSA P/N (47172-500, 47172-510, 47172-520 and 47172-530).</p> <p>This AD retains the requirements of DGAC France AD F-2002-414R3, which is superseded, and requires repetitive inspections and lubrications of the new THSA P/N.</p> <p>The repetitive inspection and lubrication requirements for THSA P/N 47172-520 and 47172-530 shall be included in the next Airworthiness Limitation Section (ALS) Part 4 revision.</p> <p>This AD correction is issued to clarify the requirements of paragraphs (4) and (6) in the Required actions and Compliance Times section.</p> |
| Effective Date: | 13 October 2010 |
| Required action(s) and Compliance Time(s): | <p>Required as indicated, after the effective date of this AD:</p> <p><u>(1) Restatement of DGAC AD F-2002-414R3:</u></p> <p><u>(1.1) Modification of THSA P/N 47172:</u></p> <p>Before 31 December 2003, [effective date of AD F-2002-414R3] modify the ball-nuts of THSA P/N 47172 in accordance with the instructions of Airbus Service Bulletin (SB) A330-27-3085. The THSA P/N 47172 becomes P/N 47172-300 after accomplishment of the modification.</p> <p><u>(1.2) Modification of THSA P/N 47147-400 and 47147-2XX/3XX:</u></p> <p>Before 31 July 2004 [effective date of AD F-2002-414R3]</p> <ul style="list-style-type: none"> - modify the ball-nuts of THSA P/N 47147-400 in accordance with the instructions of Airbus SB A330-27-3093. The THSA P/N 47147-400 becomes P/N 47147-500 after accomplishment of the modification. - modify THSA P/N 47147-200, -210, -213, -300, -303 and -350 in accordance with the instructions of Airbus SB A330-27-3052 and Airbus SB A330-27-3093. The THSA P/N 47147-2XX/3XX become P/N 47147-500 after accomplishment of the modification. |

(2) Ball screw assembly inspection:

For all aeroplanes except those on which Airbus Modifications 52269 and 56056 and 55780 have been embodied in production, and except those on which Airbus SB A330-27-3137 at original issue up to revision 02 and Airbus SB A330-92-3046 Revision 04 have been embodied in service:

(2.1) For aeroplanes on which Airbus SB A330-27-3137 at original issue up to revision 02 has been embodied in service:

Unless already accomplished, before the accumulation of 700 flight hours (FH) after the effective date of this AD and, thereafter, at intervals not exceeding 700 FH from last inspection, perform a detailed inspection of the ball screw assembly for integrity of the primary and secondary load path and check the Checkable Shear Pins (CSP), and do the applicable corrective actions, in accordance with the accomplishment instructions of Airbus SB A330-27-3102 Revision 08.

(2.2) For aeroplanes on which Airbus SB A330-27-3137 has not been embodied in service:

Unless already accomplished, before the accumulation of 700 FH after the effective date of this AD and, thereafter, at intervals not exceeding 700 FH from last inspection, perform a detailed inspection of the ball screw assembly for integrity of the primary and secondary load path, and do the applicable corrective actions, in accordance with the accomplishment instructions of Airbus SB A330-27-3102 Revision 08.

(2.3) If 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, inspect the THSA before the next flight following the messages display in accordance with the instructions of paragraph (2.1) or (2.2) of this AD, as applicable to the aeroplane configuration, and do the applicable corrective actions.

(3) Ball screw nut lubrication of all THSA:

Unless already accomplished, for all aeroplanes, before the accumulation of 700 FH after the effective date of this AD and, thereafter, at intervals not exceeding 700 FH from the last lubrication of the THS actuator ball screw nut,

perform A330 MRBR Revision 12 task 27.40.00/02 (Lubrication of THS actuator ball screw nut).

(4) For aeroplanes fitted with THSA P/N 47147-500, 47147-700, 47172-300, 47172-500 or 47172-510, accomplishment of the repetitive requirements of A330 ALS Part 4 tasks 274400-00001-1-E, 274400-00001-2-E, 274400-00001-3-E or 274400-00001-4-E, as applicable to the aeroplane configuration, is acceptable to comply with the requirements of paragraphs (2.1) and (2.2) of this AD.

(5) For aeroplanes fitted with THSA P/N 47147-500, 47147-700, 47172-300, 47172-500 or 47172-510, accomplishment of the repetitive requirements of A330 ALS Part 4 tasks 274400-00002-1-E, is acceptable to comply with the requirements of paragraph (3) of this AD.

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| | <p>(6) Before the effective date of this AD, accomplishment of the instructions of Airbus SB A330-27-3102 Revision 02 up to Revision 07, is acceptable to comply with the requirements of paragraphs (2.1) and (2.2) of this AD. After the effective date of this AD, the repetitive inspection requirements of paragraph (2) of this AD must be complied with.</p> <p>(7) Before the effective date of this AD, accomplishment of the instructions of Airbus A330 MRBR Revision 12 task 27.40.00/02 up to Revision 11, is acceptable to comply with the requirements of paragraph (3) of this AD. After the effective date of this AD, the repetitive inspection requirements of paragraph (3) of this AD must be complied with.</p> |
| Ref. Publications: | <p>Airbus SB A330-27-3102 Revision 08; Airbus A330 ALS Part 4 Revision 02; Airbus A330 MRBR Revision 12; Airbus SB A330-27-3137 at original issue; Airbus SB A330-92-3046 Revision 04.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p> |
| Remarks: | <ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The required actions and the risk allowance have granted the issuance of a Final AD with Request for Comments, postponing the public consultation process after publication. 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: AIRBUS – Airworthiness Office – EAL; E-mail: airworthiness.A330-A340@airbus.com . |