| EASA | AIRWORTHINESS DIRECTIVE |
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| | **AD No.: 2007-0070R1**<br><br>**Date: 25 November 2010**<br><br>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 AD applies, except in accordance with the requirements of that AD, 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 :** | **Type/Model designation(s) :** |
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| AIRBUS | A330 aeroplanes |

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| TCDS Number : | EASA.A.004 |
| Foreign AD : | Not applicable |
| Revision : | This AD revises EASA AD 2007-0070 dated 16 March 2007 |

| **ATA 32** | **Landing gear - Nose Wheel Steering System – Rotating Sleeve - Inspection / Modification** |
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| Manufacturer(s): | Airbus (formerly Airbus Industrie) |
| Applicability: | Airbus A330 aeroplanes, models -201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342 and -343, all serial numbers except those having received both Airbus modifications 51381 and 53073 in production or Airbus Service Bulletins (SB) A330-32-3164 and SB A330-32-3192 in service. |
| Reason: | An operator of A340 aeroplane reported a failure of the nose wheel steering (NWS) system.<br><br>Investigations found abnormal wear of the gear teeth of the Rotary Variable Differential Transducer (RVDT) gearbox and the driving gear ring preventing correct operation of the NWS system.<br><br>In addition, chrome flaking and extensive corrosion of the nose landing gear (NLG) main fitting barrel was found under the NWS rotating sleeve.<br><br>The subsequent analyses conducted on grease samples showed the presence of water in significant quantities.<br><br>The wear of the gear teeth of the RVDT gearbox and the driving gear ring was caused by the abrasive effect of metallic particles in the grease. These metallic particles from corroded areas had been carried by the grease during the normal lubrication of the rotating sleeve.<br><br>This presence of water could freeze the grease and thus jam the gearboxes. |

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| | This situation, if not corrected, could cause the aeroplane to deviate from its steered direction and/or allow an uncontrolled corrosion propagation of the main fitting barrel.<br>DGAC France AD F-2001-504 dealing with the same subject was issued to render mandatory inspections for corrosion under nose wheel steering system-rotating sleeve<br>DGAC France AD F-2005-210 superseded AD F-2001-504 R5 and mandated Airbus SB:<br>• A330-32-3164 associated to Airbus modification 51381 (addition of seal within rotating steering collar)<br>• A330-32-3192 associated to Airbus modification 53073 (addition of new steering collar and bushes to improve greasing)<br>EASA AD 2007-0070 at original issue retained the requirements of DGAC France AD F-2005-210 and extended the threshold for embodiment of the final fix to second overhaul under certain conditions.<br>This AD is revised to recognise that accomplishment of the modification in accordance with Airbus SB A330-32-3235 is an acceptable alternative to the accomplishment of the modification in accordance with Airbus SB A330-32-3192.<br>For aeroplane already compliant with AD F-2005-210, no further action is required by this AD. |
| Effective Date: | Revision 1: 09 December 2010<br>Original issue: 30 March 2007 |
| Required action(s) and Compliance Time(s): | Required as indicated:<br>**(1) For aircraft on which Airbus modification 51381 has not been embodied in production or Airbus SB A330-32-3164 in-service**<br>Unless already accomplished,<br>- within 5 years following the NLG installation (new or overhauled, if major overhaul already accomplished), or<br>- within 700 flight hours from October 27, 2001 (effective date of AD 2001-504 at original issue),<br>whichever occurs later,<br>**(1.1)** Perform inspection of the grease and the gear teeth of the RVDT gearbox and the driving gear ring and depending on the results, carry out the corrective actions in accordance with the instructions of Airbus SB A330-32-3134 and repeat this inspection at intervals not exceeding 8 months, **or**<br>**(1.2)** Perform an inspection of the chrome on the bearing surface of the NLG main fitting barrel under the rotating sleeve, in accordance with the instructions of Airbus SB A330-32-3134 and repeat this inspection at intervals not exceeding 18 months.<br>**Note 1:** If the last inspection performed is the inspection defined in paragraph (1.1) of this AD then the following inspection is to be carried out within 8 months whatever its type is (inspection of the grease or inspection of the chrome on the bearing surface). If the last inspection performed is the inspection defined in paragraph (1.2) of this AD, then the following inspection is to be carried out within 18 months, whatever its type is (inspection of the grease or inspection of |

the chrome on the bearing surface).

**(2) For aircraft on which**

- **Airbus modification 51381 has been embodied in production or Airbus SB A330-32-3164 has been embodied in service, and**
- **Airbus modification 53073 has not been embodied in Production or Airbus SB A330-32-3192 has not been embodied in service**

Unless already accomplished, within 5 years following the NLG installation (new or overhauled, if major overhaul already accomplished), or within 5 years from accomplishment of Airbus SB A330-32-3164:

Carry out an inspection of the chrome on the bearing surface in the NLG main fitting barrel under the rotating sleeve in accordance with the instructions of Airbus SB A330-32-3134 and repeat this inspection at intervals not exceeding 18 months.

**(3) Modification**

Unless already accomplished, at the effective date of this AD at original issue:

- for NLG's never overhauled, no later than 10 years following NLG first flight, modify the NLG in accordance with instructions of SB A330-32-3164 (Airbus modification 51381 in production) and Airbus SB A330-32-3192 (Airbus modification 53073 in production).

  **Note 2:** When the NLG first flight is unknown, use the NLG date of manufacture.

- for NLG's overhauled once:

  • no later than 5 years from the first NLG overhaul, or

  • no later than 10 years since first NLG overhaul, provided that an inspection of the chrome on the bearing surface in the NLG main fitting barrel under the rotating sleeve is/has been performed no later than 5 years since NLG first overhaul, in accordance with instructions of Airbus SB A330-32-3134 and thereafter at intervals not exceeding 18 months,

  modify the NLG in accordance with the instructions of Airbus SB A330-32-3164 (Airbus modification 51381 in production) and Airbus SB A330-32-3192 (Airbus modification 53073 in production).

The embodiment of both Airbus SB A330-32-3164 and SB A330-32-3192 or application of Airbus SB A330-32-3192 when Airbus modification 51381 has been embodied in production, cancels the repetitive inspections required by this AD.

**(4) Alternative to Airbus SB A330-32-3192**

Modification of an aeroplane in accordance with the instructions of Airbus Service Bulletin A330-32-3235 is recognised as an acceptable alternative to the modification of an aeroplane in accordance with the instructions of Airbus Service Bulletin A330-32-3192 as required by paragraph (3) of this AD.

As a consequence, the embodiment of both Airbus SB A330-32-3164 and SB A330-32-3235 or embodiment of Airbus SB A330-32-3235 when Airbus modification 51381 has been embodied in production, cancel the repetitive inspections required by this AD.

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| Ref. Publications: | Airbus Service Bulletin A330-32-3164 at original issue,<br>Airbus Service Bulletin A330-32-3192 at original issue,<br>Airbus Service Bulletin A330-32-3134 at original issue,<br>Airbus Service Bulletin A330-32-3235 at original issue.<br>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD. |
| Remarks : | 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD.<br>2. This AD was posted on 22 February 2007 as PAD 07-026 for consultation until 08 March 2007. No comments were received during the consultation period.<br>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.<br>4. For any question concerning the technical content of the requirements in this AD, please contact:<br>AIRBUS – Airworthiness Office – EAL Fax: + 33 5 61 93 45 80 or + 33 5 61 93 44 51; E-mail: airworthiness.A330-A340@airbus.com. |