


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>
	<p><b>AD No.: 2007 - 0070</b></p> <p><b>Date: 16 March 2007</b></p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed by the Authority of the State of Registry.	
<b>Type Approval Holder's Name :</b> AIRBUS SAS	<b>Type/Model designation(s)</b> A330 aircraft
TCDS Number: EASA A.004	
Foreign AD: Not applicable	
Supersedure: DGAC AD-F-2005-210, EASA approval No 2005-436	
<b>ATA 32</b>	<b>Landing gear - Nose Wheel Steering System - Rotating Sleeve - Inspection / Modification</b>
<b>Manufacturer(s)</b>	AIRBUS (formerly AIRBUS INDUSTRIE)
<b>Applicability</b>	AIRBUS A330 aircraft, 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 A330-32-3192 in service.
<b>Reason:</b>	<p>An operator of A340 aircraft reported a failure of the nose wheel steering (NWS) system.</p> <p>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.</p> <p>In addition, chrome flaking and extensive corrosion of the nose landing gear (NLG) main fitting barrel was found under the NWS rotating sleeve.</p> <p>The subsequent analyses conducted on grease samples showed the presence of water in significant quantities.</p> <p>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</p>

	<p>grease during the normal lubrication of the rotating sleeve.</p> <p>This presence of water could freeze the grease and thus jam the gearboxes.</p> <p>This situation, if not corrected, could cause the aircraft to deviate from its steered direction and/or allow an uncontrolled corrosion propagation of the main fitting barrel.</p> <p>Airworthiness Directive (AD) F-2001-504 dealing with the same subject was issued to render mandatory inspections for corrosion under nose wheel steering system-rotating sleeve</p> <p>AD F-2005-210 superseded the AD F-2001-504 and mandated AIRBUS SB:</p> <ul style="list-style-type: none"> <li>• A330-32-3164 associated to AIRBUS modification 5138 (addition of seal within rotating steering collar)</li> <li>• A330-32-3192 associated to AIRBUS modification 5173 (addition of new steering collar and bushes to improve greasing)</li> </ul> <p>This new AD takes over the requirements of AD F-2005-210 and extends the threshold of embodiment of the final fix to second overhaul under certain conditions.</p> <p>For aircraft already compliant with AD F-2005-210, no further action is required by the present AD.</p>
Effective Date:	30 March 2007
Compliance	<p>1. For aircraft on which AIRBUS modification 51381 has not been embodied in production (AIRBUS SB A330-32-3164 in-service) unless already accomplished,</p> <p>within 5 years following the NLG installation (new or overhauled, if major overhaul already accomplished),</p> <p>or</p> <ul style="list-style-type: none"> <li>- within 700 flight hours from October 27, 2001 (effective date of AD 2001-504 at original issue),</li> </ul> <p>whichever occurs later,</p> <p>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.</p> <p>or,</p>

**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

**Note 1:** If the last inspection performed is the inspection defined in paragraph 1.1. 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., 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 (AIRBUS SB A330-32-3164 in service) and modification 53073 not embodied in production (AIRBUS SB A330-32-3192 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 SB A330-32-3134:

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:

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 1<sup>st</sup> NLG overhaul,

	<p>or</p> <ul style="list-style-type: none"> <li>no later than 10 years since 1<sup>st</sup> 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 SB A330-32-3164 and thereafter at intervals not exceeding 18 months.</li> </ul> <p>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 5307 in production).</p> <p>The embodiment of both AIRBUS SB A330-32-3164 and A330-32-3192 or application of AIRBUS SB A330-32-3192 when AIRBUS modification 51381 is embodied in production, cancels the repetitive inspections required by this AD.</p>
Ref. Publications:	<p>AIRBUS Service Bulletin A330-32-3164</p> <p>AIRBUS Service Bulletin A330-32-3192</p> <p>AIRBUS Service Bulletin A330-32-3164</p> <p>and later approved revisions of these documents.</p>
Remarks :	<ol style="list-style-type: none"> <li>If requested and appropriately substantiated the responsible EASA management of the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.</li> <li>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.</li> <li>Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</li> <li>For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS SAS - Office of Airworthiness - EAL - Fax: 33 5 61 93 45 80 or 33 5 61 93 44 51.</li> </ol>