


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006-0349R1</p> <p>Date: 23 September 2008</p> <p>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</p>
<p>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 10(4) exemption].</p>	
Type Approval Holder's Name :	Type/Model designation(s) :
EUROCOPTER	AS 332 C, C1, and L1 helicopters
TCDS Number : EASA.R.002	
Foreign AD : Not applicable	
Revision : This AD revises and replaces EASA Emergency AD 2006-0349-E dated 21 November 2006.	
ATA 62	Main Rotor – Main Rotor Head Spindles – Check / Replacement
Manufacturer(s):	Eurocopter (formerly Eurocopter-France, Aérospatiale)
Applicability:	<p>Eurocopter AS 332 C, AS 332 C1, AS 332 L and AS 332 L1 helicopters, if a main rotor head (MRH) Spindle is installed with Part Number (P/N):</p> <ul style="list-style-type: none"> - 332A31-1490-(all dash numbers) - 332A31-1388-(all dash numbers) - 332A31-1410-(all dash numbers) - 332A31-1485-(all dash numbers) <p>whether fitted or not with the optional main rotor blade folding system, incorporating lock supports, identified with the following P/N:</p> <ul style="list-style-type: none"> - 332A31.1388.20, .21, .22, .23, .24 and .25 - 332A32.1389.20, .21, .22, .23, .24 and .25
Reason:	<p>In 2006, an AS 332 L helicopter experienced a failure of the lower material section on the leading edge of a MRH spindle yoke. Investigation showed that the crack growth which may lead to failure remains visible from the outside without disassembly. This condition, if not detected and corrected, could cause failure of one of the MRH spindle yokes, resulting in loss of the relevant main rotor blade.</p> <p>EASA initially issued Emergency AD 2006-0327-E to address this issue, which required a repetitive check of the material section of MRH spindle yokes. That AD was subsequently superseded by Emergency AD 2006-0349-E, retaining the requirements of AD 2006-0327-E and in addition clarifying how to perform the repetitive checks on MRH units equipped with the optional main rotor blade folding system (hereafter referred to as folding option) and requiring a modification to certain lock supports of this optional equipment, that would ease the subsequent checks.</p> <p>Further analyses and tests have revealed that the spindle yoke failure on the AS 332 L helicopter was due to the presence of grease on threads of the centre</p>

	<p>tie-rod of the components assembly, despite the fact that the maintenance documentation specifies not to apply grease when tightening torque. It has been shown that the application of grease induces a higher tightening load that results in additional static loads which, combined with the flight loads, explains the reported failure.</p> <p>However, the installation procedure for the similar design damper spindle on SA 330 helicopters actually requires that grease is applied on the pin threads and defines a tightening torque value compatible with this lubrication. Therefore, this type of assembly cannot introduce the additional static loads which caused the failure of the spindle yoke on the AS 332. For that reason, the SA 330 helicopters are no longer deemed to be affected by this unsafe condition.</p> <p>Consequently, this AD has been revised to delete the SA 330 helicopters and associated parts from the applicability. Although some editorial changes have been introduced and paragraphs 3 and 4 have been rewritten to meet current AD standards, there are no changes to the technical requirements of this AD, applicable to AS 332 helicopters.</p> <p>Note: This AD revision does not affect any modification approval status. Consequently, SA 330 helicopters (fitted with the optional main rotor blade folding system) that have already been modified per modification 332A080950 (as required by EASA AD 2006-0349-E) do not have to be re-modified and can remain in service with that modification.</p>
Effective Date:	23 November 2006
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> 1. DELETED 2. AS 332 C, AS 332 C1, AS 332 L and AS 332 L1 helicopters: <ol style="list-style-type: none"> 2.1 Fitted with a MRH equipped with spindles P/N 332A31-1390-(all dash numbers) or P/N 332A31-1390-(all dash numbers): <ol style="list-style-type: none"> 2.1.1 On spindles <u>not fitted</u> with the folding option: <p>Within 5 flight hours (FH) after October 24, 2006 [the effective date of AD 2006-0327-E] and thereafter at intervals not exceeding 5 FH, inspect the material section (front face and edge) of the yokes, on the leading edge of the spindles for cracks, in accordance with the instructions given in paragraph 2.B.2 of Revision 1 of Eurocopter AS 332 ASB No. 05.00.67 (the referenced AS 332 ASB).</p> 2.1.2 On spindles <u>fitted</u> with the folding option <u>before</u> embodiment of modification 332A080950: <ol style="list-style-type: none"> 2.1.2.1 Within 5 FH following last compliance with AD 2006-0327-E or AD 2006-0349-E or if compliance has never been ensured, before next flight after the effective date of this AD, inspect the visible area of the edge of the material section of the yokes, on the leading edge of the spindles, for cracks, in accordance with the instructions given in paragraphs 2.B.3.a.1 and 2.B.3.a.2 of the referenced AS 332 ASB, and thereafter at intervals not exceeding 5 FH, inspect in accordance with the instructions given in paragraph 2.B.3.a.2 of the referenced AS 332 ASB until accomplishment of modification 332A080950 as required by paragraph 2.1.2.2 of this AD. 2.1.2.2 Within 110 FH after the effective date of this directive, modify the lock supports of the folding option in accordance with the instructions given in paragraph 2.B.6 (modification 332A080950) of the referenced AS 332 ASB. 2.1.3 On spindles <u>fitted</u> with the folding option <u>after</u> embodiment of modification 332A080950:

	<p>Within 5 FH after embodiment of modification 332A080950 and thereafter at intervals not exceeding 5 FH, inspect the edge of the material section of the yokes, on the leading edge of the spindles, for cracks, in accordance with the instructions given in paragraph 2.B.3.b of the referenced AS 332 ASB.</p> <p>2.2 Fitted with a MRH equipped with spindles P/N 332A31-1410-(all dash numbers) or 332A31-1485-(all dash numbers):</p> <p>2.2.1 On spindles <u>not fitted</u> with the folding option:</p> <p>Within 10 FH after October 24, 2006 [the effective date of AD 2006-0327-E] and thereafter at intervals not exceeding 10 FH, inspect the material section (front face and edge) of the yokes on the leading edge of the spindles for cracks, in accordance with the instructions given in paragraph 2.B.2 of the referenced AS 332 ASB.</p> <p>2.2.2 On spindles <u>fitted</u> with the folding option:</p> <p>Within 10 FH following last compliance with AD 2006-0327-E or AD 2006-0349-E or if compliance has never been ensured, before next flight after the effective date of this AD and thereafter at intervals not exceeding 10 FH, inspect the edge of the material section of the yokes on the leading edge of the spindles for cracks, in accordance with the instructions given in paragraph 2.B.4 of the referenced AS 332 ASB.</p> <p>3. Analysis of the results:</p> <p>If, during any check as required by this AD, a crack is detected in the material section (front face and/or edge) of a spindle yoke, before next flight, remove and replace the sleeve/spindle assembly with a serviceable unit. Replacement of the sleeve/spindle assembly does not constitute terminating action for the repetitive check requirements of this AD.</p> <p>4. Spares: Spindles, MRH units and Folding Option Lock Supports:</p> <p>4.1 After the effective date of this AD, no person shall install a spindle, as identified by P/N in the Applicability of this AD and having logged flight hours since new or last overhaul, on any helicopter, unless it has been inspected in accordance with the instructions of paragraph 2.B.2 of the referenced AS 332 ASB.</p> <p>4.2 After the effective date of this AD, no person shall install a MRH equipped with spindles having P/N 332A31-1390-(all dash numbers) or P/N 332A31-1398-(all dash numbers) and fitted with folding option lock supports, unless the folding option lock supports have been modified in accordance with the instructions given in paragraph 2.B.6 (modification 332A080950) of the referenced AS 332 ASB.</p> <p>4.3 After the effective date of this AD, no person shall install folding option lock supports unless they have been modified in accordance with the instructions given in paragraph 2.B.6 (modification 332A080950) of the referenced AS 332 ASB.</p>
Ref. Publications:	<p>Eurocopter AS 332 ASB N° 05.00.67 Revision 1 dated 17 November 2006.</p> <p>The use of later approved revisions of this document 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 safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate,

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4. For any question concerning the technical content of the requirements in this AD, please contact:
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