
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/S-PUMA/41 Amdt 1. and issues the following AD under subregulation 39.1 (1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Eurocopter AS 332 (Super Puma) Series Helicopters

**AD/S-PUMA/41
Amdt 2**

Main Gearbox Bevel Gear

11/2003

Applicability: AS 332 helicopters, versions C, C1, L and L1 equipped with main gearbox (MGB) main reduction gear modules, part numbers 332A32-2027-00 and 332A32-2026-00, and equipped with bevel gears, part numbers 332A32-2181-00/-01/-02/-03/-04 or 331A32-3110-07/-09/-19 excluding:

Parts repaired in accordance with Repair Sheets (F.R.) 332A32-2181-ZA or 331A32-3110-ZA, and

Parts inspected in accordance with AS 332 Letter to Repair Stations no. 183, and

MGB's overhauled after 31 December 2002.

Requirement: Carry out a borescope inspection of the bevel gear in accordance with Paragraph 2B of the Accomplishment Instructions, Eurocopter Alert Telex (A/T) 05.00.58 Revision 2.

Note 1: DGAC AD 2002-424-081(A) Revision 2 refers.

Compliance: 1. **Installed MGB's incorporating bevel gears which have logged more than 6,600 flight hours:**

Within 50 flight hours from the effective date of this Directive, thereafter at intervals not to exceed 150 flight hours or 1000 torque application cycles for helicopters performing external load carrying missions, whichever occurs first, from the effective date of this Directive.

For MGB's where the torque application cycles exceed 1000 cycles since the last borescope inspection was carried out; within 300 torque application cycles.

2. **Installed MGB's incorporating bevel gears which have logged less than 6,600 flight hours:**

Prior to reaching 6,600 flight hours, thereafter at 150 flight hour intervals or 1000 torque application cycles on helicopters that perform external load carrying missions, whichever occurs first.

Eurocopter AS 332 (Super Puma) Series Helicopters

AD/S-PUMA/41 Amdt 2 (continued)

3. **Spare MGB's incorporating bevel gears that have logged more than 6,600 flying hours and held as spares and have been in service since last overhaul:**

Prior to fitment, thereafter at 150 flight hour intervals or 1000 torque application cycles on helicopters that perform external load carrying missions, whichever occurs first.

4. **Spare MGB's incorporating bevel gears that have logged more than 6,600 flying hours and have not been installed since last overhaul:**

Within 150 flight hours of installation, thereafter at 150 flight hour intervals or 1000 torque application cycles on helicopters that perform external load carrying missions, whichever occurs first.

Note 2: External Load Carrying missions are defined as those missions where a torque application frequency of more than 4 cycles per hour.

This Amendment becomes effective on 30 October 2003.

Background: This Amendment amends the inspection interval to take into consideration the stress imposed on the MGB bevel gear during external load missions. External load missions will increase the growth rate of any cracks that have formed. An increase in the number of inspections will be required for helicopters involved in such operations to prevent failure of the bevel gear.

Advice has been received from the manufacturer that a cracked bevel gear was discovered following detection of metal particles on the magnetic plug. Until the cause of the cracking can be determined a repetitive inspection has been put in place to prevent in flight failure of the bevel gear.

Amendment 1 of this Airworthiness Directive became effective on 23 January 2003.

The original issue of this Airworthiness Directive became effective on 3 October 2002.



Jim Coyne
Delegate of the Civil Aviation Safety Authority

19 September 2003