	AIRWORTHINESS DIRECTIVE No F-2005-182	Distribution: A	Issue date: November 09, 2005	Page : 1/4
Direction générale de l'aviation civile France GSAC publication	This Airworthiness Directive is published by the DGAC on behalf of EASA, Airworthiness Authority of the State of Design for the affected product, part or appliance.		<i>Translation of « Consigne de Navigabilité » of same number. In case of difficulty, reference should be made to the French issue.</i>	
	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 with the Authority of the State of Registry.			
Corresponding foreign Airworthiness Directive(s): Not applicable		Airworthiness Directive(s) replaced: F-2004-181, F-2004-194 cancelled by their Revision 1		
Person in charge of airworthiness: EUROCOPTER		Type(s): SA 365 N, SA 366, SA 365C and SA 360 helicopters		
Type certificate(s) No. 86, 80 TCDS No 159, 153				
ATA chapter: 05, 63	Subject: Main rotor drive - Check of the main gearbox (MGB) planet gear carrier			

1. EFFECTIVITY:

EUROCOPTER helicopters:

- SA 365 N, N1
- AS 365 N2, N3
- SA 366 G1
- SA 365 C, C1, C2 and C3
- SA 360 C

All serial numbers, fitted with MGBs, all part numbers.

Note: This Airworthiness Directive (AD) is intended for maintenance personnel and crews.

2. REASONS:

This AD is issued following two cases of cracks which were discovered in the web of an MGB planet gear carrier. The cracks were discovered upon removal of two MGBs subsequent to the detection of metal chips at the magnetic plug.

Then, a first case of a crack was discovered in the planet gear carrier of an EC 155 helicopter.

This latest crack was discovered during a borescope inspection of an MGB. However, no chips were found at the magnetic plug.

The failure of the planet gear carrier web can lead to MGB jamming.

This latest AD:

- incorporates the requirements of AD F-2004-181 and AD F-2004-194 which are cancelled by their Revision 1,
- introduces referenced EUROCOPTER AS 365 N Alert Service Bulletin (ASB) No. 05.00.48, SA 366 No. 05.33 and SA 360/365 C No. 05.26, which supersede AS 365 Alert Telexes (AT) No. 05.00.47 and No. 05.00.48, SA 366 No. 05.32 and No. 05.33, and SA 360/365 C No. 05.24 and No. 05.26, respectively, with no change to the compliance and accomplishment instructions.



3. MANDATORY ACTIONS AND COMPLIANCE TIMES:

The following measures are rendered mandatory as from the effective date of this AD:

3.1. Main gearboxes having logged less than 50 operating hours since new or major overhaul, and which are fitted with a planet gear carrier that has logged less than 250 operating hours:

3.1.1. Helicopters equipped with an MGB magnetic plug with electrical indicating:

- At the latest at the ALF-check (check after the last flight of the day) after the MGB has logged 50 operating hours, then:

- at each ALF-check without exceeding 10 flying hours, and,
- before resuming flights, in the event of chip warning light illumination,

inspect the magnetic plug, in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.1.2. Helicopters not equipped with an MGB magnetic plug with electrical indicating:

- At the latest at the ALF-check after the MGB has logged 50 operating hours, then,
- at each ALF-check without exceeding 10 flying hours,

inspect the magnetic plug in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.1.3. At the latest after the planet gear carrier has logged 265 operating hours, then at intervals not exceeding 50 flying hours, carry out a borescope inspection for absence of cracks in the planet gear carrier, in compliance with the instructions given in § 2.B.2. of the referenced ASB corresponding to the helicopter version.

3.2. Main gearboxes having logged less than 50 operating hours since new or major overhaul, and which are fitted with a planet gear carrier that has logged more than 250 operating hours:

3.2.1. Helicopters equipped with an MGB magnetic plug with electrical indicating:

- At the latest at the ALF-check after the MGB has logged 50 operating hours, then:
- at each ALF-check without exceeding 10 flying hours, and,
- before resuming flights, the event of chip warning light illumination,

inspect the magnetic plug, in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.2.2. Helicopters not equipped with an MGB magnetic plug with electrical indicating:

- At the latest at the ALF-check after the MGB has logged 50 operating hours, then:
- at each ALF-check without exceeding 10 flying hours

inspect the magnetic plug, in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.2.3. No later than within the next 15 flying hours, as from December 17, 2004, then at intervals not exceeding 50 flying hours, carry out a borescope inspection for absence of cracks in the planet gear carrier, in compliance with the instructions given in § 2.B.2. of the referenced ASB corresponding to the helicopter version.



3.3. Main gearboxes having logged 50 operating hours or more since new or major overhaul, and which are fitted with a planet gear carrier that has logged less than 250 operating hours:

3.3.1. Helicopters equipped with an MGB magnetic plug with electrical indicating:

As from November 12, 2004:

At the latest at the ALF-check, then:

- at each ALF-check without exceeding 10 flying hours, and,
- before resuming flights, in the event of chip warning light illumination,

inspect the magnetic plug, in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.3.2. Helicopters not equipped with an MGB magnetic plug with electrical indicating:

As from November 12, 2004:

- At the latest at the ALF-check, then:

- at each ALF-check without exceeding 10 flying hours,

inspect the magnetic plug, in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.3.3. At the latest after the planet gear carrier has logged 265 flying hours, then at intervals not exceeding 50 flying hours, carry out a borescope inspection for absence of cracks in the planet gear carrier, in compliance with the instructions given in § 2.B.2. of the referenced ASB corresponding to the helicopter version.

3.4. Main gearboxes having logged 50 operating hours or more since new or major overhaul, and which are fitted with a planet gear carrier that has logged more than 250 operating hours:

3.4.1. Helicopters equipped with an MGB magnetic plug with electrical indicating:

As from November 12, 2004:

At the latest at the ALF-check, then:

- at each ALF-check without exceeding 10 flying hours, and,
- before resuming flights, in the event of chip warning light illumination,

inspect the magnetic plug, in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.4.2. Helicopters not equipped with an MGB magnetic plug with electrical indicating:


As from November 12, 2004:

At the latest at the ALF-check, then:

- at each ALF-check without exceeding 10 flying hours,

inspect the magnetic plug, in compliance with the instructions given in § 2.B.1. of the referenced ASB corresponding to the helicopter version.

3.4.3. No later than within the next 15 flying hours, as from December 17, 2004, then at intervals not exceeding 50 flying hours, carry out a borescope inspection for absence of cracks in the planet gear carrier, in compliance with the instructions given in § 2.B.2. of the referenced ASB corresponding to the helicopter version.

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3.5. Before installing a used MGB held as spares, equipped with a planet gear carrier having logged more than 215 operating hours, comply with the instructions given in § 2.B.3. of the referenced ASB corresponding to the helicopter version:

4. REFERENCE PUBLICATIONS:

EUROCOPTER AS 365 N Alert Service Bulletin No. 05.00.48
EUROCOPTER SA 366 Alert Service Bulletin No. 05.33
EUROCOPTER SA 360 and SA 365 C Alert Service Bulletin No. 05.26.
(Any subsequent approved revision of these Alert Service Bulletins is acceptable).

5. EFFECTIVE DATE:

November 19, 2005.

6. REMARK:

For any questions concerning the technical content of the requirements in this AD, please contact:

EUROCOPTER (STXI) – Aéroport Marseille Provence, 13725 Marignane Cedex – France
Phone: +33 (0)4 42 85 97 97 – Fax: +33 (0)4 42 85 99 66
E-mail: Directive.technical-support@eurocopter.com

7. APPROVAL:

This AD is approved under EASA reference No 2005-6391 dated November 02, 2005.

SUPERSEDED