EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2014-0196 **Date: 02 September 2014** 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 EU 748/2012, Part 21.A.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].

Design Approval Holder's Name:	**Type/Model designation(s):**
HELICOPTERES GUIMBAL	CABRI G2 helicopters

TCDS Number:	EASA.R.145
Foreign AD:	Not applicable
Supersedure:	This AD supersedes EASA AD 2014-0038 dated 14 February 2014.

ATA 71	**Powerplant – Engine Cooling Fan – Inspection / Replacement / Modification**
Manufacturer(s):	Hélicoptères Guimbal
Applicability:	Cabri G2 G00-00-000 helicopters, all manufacturer serial numbers.
Reason:	In July 2013, an in-flight engine shutdown was reported on a Cabri G2 helicopter, leading the pilot to a forced landing. Subsequent investigation revealed that the engine cooling fan had failed, which led to power shutdown as the fan damaged the scroll and pulled the mixture control cable. The cause of the cooling fan failure was a crack which had developed in the fan external ring, but the origin of the crack was not determined with certainty due to the bad state of the retrieved failed parts. This condition, if not detected and corrected, could lead to other events of cooling fan failure and subsequent in-flight engine shutdown or damage to the engine installation, possibly resulting in reduced control of the helicopter. To address this potential unsafe condition, Hélicoptères Guimbal (HG) issued Service Bulletin (SB) 13-021, providing instructions for inspection of the fan external ring to detect damage or cracking. HG also designed a new external ring with improved mechanical characteristics and a fail-safe feature (glass fiber winding). HG SB 13-022 was issued to provide instructions for installation of this new external ring on in-service helicopters. Helicopters S/N 1053 and from S/N 1055 onwards are equipped with the new external ring design in production (MOD 13-050).

<table>
<tr><td></td><td>Consequently, EASA issued AD 2014-0038 to require repetitive inspections of the engine cooling fan external ring part number (P/N) G52-01-200 or P/N G52-01-201 and replacement of the ring with the new design part P/N G52-00-101 as terminating modification.

In August 2014, a second occurrence of in-flight engine shutdown was reported on an engine cooling fan modified in accordance with AD 2014-0038. The glass fiber winding of the new external ring maintained the integrity of the failed fan and no damage occurred to the helicopter.

Analysis of the failed part identified that the crack had initiated on the cooling fan front flange, on areas of fretting near the screws fitting the flange on the engine starter ring gear.

Prompted by these findings, HG issued SB 14-018, providing instructions for inspection of the fan front flange to detect cracking. HG has also launched the development a new fan front flange with improved mechanical characteristics.

For the reasons described above, this AD retains the modification requirement of EASA AD 2014-0038, which is superseded, and requires repetitive inspections of the engine cooling fan front flange and, depending in findings, replacement of the cooling fan, pending the approval and availability of a new design for the part.</td></tr>
<tr><td>Effective Date:</td><td>04 September 2014</td></tr>
<tr><td>Required Action(s) and Compliance Time(s):</td><td>Required as indicated, unless accomplished previously:

(1) Within 3 months after 28 February 2014 [the effective date of EASA AD 2014-0038], modify the engine cooling fan P/N G52-00-000 by installing a new design external ring P/N G52-00-101 and by marking the cooling fan with new P/N G52-00-001 in accordance with the instructions of HG SB 13-022 issue B.

(2) Within the compliance time specified in Table 1 of this AD, inspect the front flange of the engine cooling fan P/N G52-00-001 in accordance with the instructions of HG SB 14-018 issue B.

Table 1 – Initial Front Flange Inspection

<table>
<tr><td>Flight hours (FH) accumulated by the helicopter, on the effective date of this AD</td><td>Compliance time</td></tr>
<tr><td>500 FH or more</td><td>Within 5 FH after the effective date of this AD</td></tr>
<tr><td>Less than 500</td><td>Before exceeding 500 FH</td></tr>
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(3) Within 50 FH after the initial inspection as required by paragraph (2) of this AD, and, thereafter, at intervals not to exceed 50 FH, inspect the front flange of engine cooling fan P/N G52-00-001 in accordance with the instructions of HG SB 14-018 issue B.

Note: A non-cumulative tolerance of 5 FH may be applied to the inspection interval specified in paragraph (3) of this AD.

(4) If, during any inspection as required by paragraph (2) or (3) of this AD, any crack is found on the engine cooling fan front flange, before next flight, replace the affected engine cooling fan P/N G52-00-001 with a serviceable part in accordance with the instructions of HG SB 14-018 issue B.

(5) Replacement of an engine cooling fan on a helicopter as required by paragraph (4) of this AD does not constitute terminating action for the repetitive inspections as required by paragraph (3) of this AD for that helicopter.</td></tr>
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	(6) From the effective date of this AD, do not install on any helicopter an engine cooling fan P/N G52-00-000 and do not install a plain external ring P/N G52-01-200 or P/N G52-01-201 on any engine cooling fan. Installation on a helicopter of an engine cooling fan P/N G52-00-001 is allowed, provided that, following installation, it is inspected and, depending on findings, replaced as required by this AD.
Ref. Publications:	HGSB 13-022 issue B, dated 10 September 2013. HG SB 14-018 issue B, dated 02 September 2014. 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 approve Alternative Methods of Compliance for this AD. 2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact: Helicoptères Guimbal – Support Aérodrome d'Aix-en-Provence, 1070 rue Lieutenant Parayre, 13290 LES MILLES, FRANCE Tel : +33 (0) 4 42 39 10 88, Fax : +33 (0) 4 42 39 10 82 E-mail: support@guimbal.com.