

EASA Safety Information Bulletin

 SIB No.:
 2011-30

 Issued:
 22 December 2011

Subject:	Risk of Flight Control Jamming due to lack of Cyclic Friction
Ref. Publications:	 Eurocopter Information Telex (TFS) No. 00000139, dated 26 August 2003 (attached as page 3 of this SIB), For EC 130 B4 helicopters, all serial numbers prior to 3841: SAGEM Avionics Inc. Rotorcraft Flight manual Supplement (RFMS) 130FMS-010 Revision D, dated 07 April 2006, For EC 130 B4 helicopters, serial number 3841 and subsequent: SAGEM Avionics Inc. RFMS 130FMS-011 original issue, dated 07 April 2006, and For EC 120 B helicopters, all serial numbers: SAGEM Avionics Inc. RFMS 120FMS-012 Revision B, dated 19 May 2006, and Revision D, dated 02 October 2009.
Applicability:	- Eurocopter EC 120 B helicopters, all serial numbers, if modified by installation of a SFIM VFR Autopilot System, in accordance with SAGEM Avionics Inc. STC EASA approval 10016732 (formerly identified as EASA.IM.R.S.01056), which is the European validation of FAA STC <u>SR09263RC-D</u> .
	- Eurocopter EC 130 B4 helicopters, all serial numbers, if modified by installation of a two-axis VFR Autopilot System in accordance with SAGEM Avionics Inc. STC EASA.IM.R.S.01061, which is the European validation of FAA STC <u>SR09291RC-D</u> .
Description:	A recent occurrence was reported with an EC 120 B helicopter, modified in accordance with the above-referenced STC, where the cyclic friction device caused a restriction in cyclic control travel and reduced the control of the helicopter. A post-flight inspection of the affected helicopter indicated that the lower cup jammed in the opening of the friction ball joint (bowl).
	According to the helicopter manufacturer, Eurocopter, such an occurrence should not be possible, provided the instructions of the 'basic' Rotorcraft Flight Manual (RFM, for EC 120 B or EC 130 B4, as applicable) are followed.
	Sections 4.1.2 and 4.2.1 of SAGEM's RFMS (referenced above) instruct the pilot that cyclic friction should be "fully released".

This is information only. Recommendations are not mandatory.

According to SAGEM Avionics Inc., the goal of this instruction is to release the friction enough to allow a proper operation of the Automatic Trim System. However, this instruction is inconsistent with that in the applicable Eurocopter RFM, which instructs the pilot to "adjust collective and cyclic friction locks so that the friction forces are felt by the pilot when moving the flight controls".

At this time, the airworthiness concern described in this SIB is not considered to be an unsafe condition that would warrant Airworthiness Directive (AD) action under EC 1702/2003, Part 21A.3B.

Nevertheless, this difference between RFM and RFMS, which apparently also exists for the EC 130 B4 helicopter RFMS, could lead to a potential problem as described above and for that reason, EASA issues this Safety Information Bulletin to alert all owners, operators and pilots of the affected helicopters to this safety concern.

Recommendations: EASA recommends that, for autopilot operations, the cyclic friction must be set in accordance with the instructions of the Eurocopter basic RFM for the EC 120 B or EC 130 B4, as applicable.

To achieve consistency, EASA specifically recommends making the following changes to the SAGEM Avionics, Inc. RFMS 130FMS-010, 130FMS-011, or 120FMS-012, as applicable:

4.1.2 TRIM MONITOR TEST

• Cyclic Friction <u>Adjust per the Rotorcraft Flight Manual</u>

NOTE: EXCESSIVE CYCLIC FRICTION MAY PREVENT PROPER OPERATION OF THE AUTOPILOT TRIM SYSTEM

4.2.1 GENERAL INFORMATION FOR IN FLIGHT AUTOPILOT USE

Adjust cyclic friction per the Rotorcraft Flight Manual



Contacts:

For further information contact the Safety Information Section, Executive Directorate, EASA. E-mail: <u>ADs@easa.europa.eu</u>.

For copies of related service information, or the affected RFMS, contact <u>SAGEM Avionics, Inc.</u>, 2802 Safran Drive, Grand Prairie, Texas 75052, United States of America Telephone: +1 (972) 314 3600, Fax: +1 (972) 314 3640.

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