



SAIB: SW-12-17

Date: February 3, 2012

SUBJ: Autopilot System

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) is issued to inform owners and operators of **Eurocopter France (Eurocopter) Model EC120B and EC130B4 helicopters** of the potential risk of flight control jamming due to lack of friction adjustment in the pilot cyclic stick. This SAIB pertains to Eurocopter Model EC120B and EC130B4 helicopters that are equipped with a SAGEM Avionics, Inc. (Sagem) two-axis autopilot system and that have been modified per the following Supplemental Type Certificates (STCs):

- EC120B helicopters with FAA STC SR09263RC-D and
- EC130B4 helicopters with FAA STC SR09291RC-D.

At this time, this airworthiness concern has not been determined to be an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

A recent incident occurred involving the emergency landing of a Model EC120B helicopter equipped with a Sagem two-axis autopilot system. The pilot cyclic control friction device caused a restriction in the cyclic control travel leading to reduced control of the helicopter. A post-flight inspection revealed that the lower cup of the cyclic friction device jammed in the opening of the friction ball joint (bowl). This type of incident, as previously reported by the helicopter manufacturer, should only be possible if the cyclic stick friction mechanism is loosened by several turns to give the cups several millimeters of vertical play.

Previous revisions of Sagem's Rotorcraft Flight Manual Supplements (RFMSs) for their autopilot STCs had originally included instructions for the "cyclic friction to be fully released." The purpose was to release enough friction to allow proper operation of the Automatic Trim System (ATS). This is inconsistent with the Eurocopter Rotorcraft Flight Manuals (RFMs) instructing the pilot in the preflight check procedures to "adjust the friction on the cyclic stick and collective lever so that the pilot can feel the friction when he moves the flight controls."

Subsequently, Sagem has issued the following:

- Service Bulletin No. 2210-10-SB002, dated December 22, 2011 (SB), alerting operators that the cyclic friction device can cause a restriction in the cyclic control travel if the friction nut is loosened excessively. The SB also informs operators to use revised RFMSs for their autopilot STCs.
- RFMS revisions, dated December 21, 2011, (listed below) with instructions for in-flight autopilot use to adjust the cyclic friction per the applicable Eurocopter RFM:

- EC120B: 120FMS-012, Revision E,
- EC130B4 Serial No. (S/N) prior to 3841: 130FMS-10, Revision F, or
- EC130B4 S/N 3841 and higher: 130FMS-011 Revision B.

Recommendations

Operators are strongly encouraged to adhere to Sagem's revised RFMSs with instructions to adjust the friction on the pilot cyclic stick according to the applicable Eurocopter RFM for in-flight autopilot use.

For Further Information Contact

Michael Kohner, Aviation Safety Engineer, FAA, Rotorcraft Certification Office, 2601 Meacham Boulevard, Fort Worth, TX 76137; phone: (817) 222-5447; fax: (817) 222-5783; e-mail: mike.kohner@faa.gov or 7-AVS-ASW-170@faa.gov.

Anne Godfrey, Flight Test Pilot, FAA, Rotorcraft Certification Office, 2601 Meacham Boulevard, Fort Worth, TX 76137; phone: (817) 222-5173; fax: (817) 222-5783; e-mail: anne.m.godfrey@faa.gov or 7-AVS-ASW-170@faa.gov.

For Related Service Information Contact

Sagem Avionics, Inc., 2802 Safran Drive, Grand Prairie, TX 75052, United States of America; phone: (972) 314-3600; fax: (972) 314-3640.

