

Bell Helicopter **TEXTRON**

A Subsidiary of Textron, Inc.

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Revision B November 11, 2003

INFORMATION LETTER 407-03-71

TO: All Owners/Operators of Bell 407 Helicopters

SUBJECT: 407 FADEC Reliability

B Revision B of this Information Letter is issued to further clarify the issue discussed on page 2, under the heading CEB-73-6039 and as identified by the change bars. Specifically, the clarification emphasizes the value in performing the FADEC MANUAL CHECK procedure as described in the Bell 407 Flight Manual, and adds that a change in engine idle speed is to be anticipated and is not cause for concern

B This Information Letter is issued to present the Bell Helicopter position following an Aviation Safety Alert No. 2003-08 issued by the United States Department of Agriculture Forest Service (USFS) on 22 May 2003. Bell Helicopter places the importance of flight safety and reliability above all other aspects of operating your Bell Helicopter product. Since Bell was not consulted in the preparation or release of this USFS Safety Alert, the following is offered for additional clarification of the issues and to assist with the logistics planning of the remedial action. There are NO other regulatory directives supporting this action.

Rolls-Royce issues an Alert CEB in a concern for safety situation similar to that for which Bell Helicopter issues Alert Service Bulletins (ASB). Bell and Rolls-Royce consider compliance to Alert Bulletins as essential to ensure desired product safety. The non-Alert CEB is used by Rolls Royce to introduce non-safety related technical changes to their product, for which compliance is often recommended at the next shop visit.

A copy of the Aviation Safety Alert obtained by Bell requires compliance with four Rolls-Royce CEB actions, two of which were released as an Alert CEB, and two of which that were released as a non-Alert CEB.

The four bulletins are:

1. CEB-A-73- 6030, HMU Drive Spline Inspection.
2. CEB-73-6036,ECU Improved Power Supply, Introduction of.
3. CEB-73-6039, HMU P1 Nozzle Screen, Addition of.
4. CEB-A-73-6040, HMU PLA Electronic Noise, One-Time Check.

Bell Helicopter offers the following points of clarification:

CEB-A-73-6030:

B This Alert CEB was issued on 6 November 1998, and requires a recurring physical inspection (300 hours) to monitor the wear of the inboard spline of the main drive shaft of the HMU. This is now considered a routine maintenance inspection and has provided the desired results since its introduction. A revision of this CEB added the recurring (300 hours) PLA electronic noise check as described in CEB-A-73-6040.

CEB-73-6036:

This (non-Alert) CEB was issued on 23 June 2000, and introduces an improved power supply circuitry for the ECU. This improvement was introduced during the Direct Reversion to Manual (DRTM) campaign, and most of the worldwide fleet has been equipped with this change. All recent production Bell 407 helicopters have been delivered with this change incorporated. If your Bell 407 is equipped with ECU part number 23072790, no further action is required. If your Bell 407 is located in an isolated location, or if you wish to confirm the ECU part number and serial number supplied for the DRTM campaign, please feel free to contact Product Support Engineering for Light Helicopters.

Rolls-Royce is expediting spares support action to address the Bell 407 fleet that has not yet received the improved ECU.

CEB-73-6039:

This (non-Alert) CEB was issued on 31 July 2002, and introduces a redundant fuel filtration screen in the HMU, upstream of the P1 orifice. The purpose of the screen is to further protect the HMU from the remote possibility of internal contamination that may result from manufacturing, overhaul or repair activity. The screen adds a redundant filtration feature after the fuel has passed through the airframe fuel filter and the engine CEFA. This change is considered to be a product enhancement and is scheduled by the CEB for compliance at the next shop visit of the HMU.

B Compliance with the published Flight Manual post engine start SYSTEMS CHECK procedure FADEC MANUAL CHECK, 407 FM para. 2-6-B, will verify that MANUAL MODE is working properly.

Please note that when performing the FADEC MANUAL CHECK, a change in engine idle speed should be expected and is not cause for concern, and should not be considered a cause of rejection. Please refer to the Rolls-Royce Model 250C47B Operation & Maintenance Manual for HMU rejection criteria.

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Rolls-Royce is expediting spares support action to address the Bell 407 fleet that has not yet received the improved HMU. Production repair capacity is being reviewed at each of the five approved AMC facilities authorized to perform this modification.

CEB-A-73-6040:

This CEB was originally issued on 8 May 2003, with a subsequent revision issued on 23 May 2003, and requires a one-time check for electronic noise within the PLA potentiometer of the HMU. This task has been accomplished on approximately 90% of the fleet with encouraging results. For maintenance convenience, the intent of this CEB will be incorporated into the recurring HMU spline inspection discussed above.

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This inspection is intended to be temporary in nature, providing an added measure of reliability and will be discontinued by a further system improvement currently in development at GPECS and Rolls-Royce.

Bell Helicopter, Rolls-Royce and Goodrich Pump and Engine Controls Systems (GPECS) are cooperating fully and expediting the activities necessary to minimize the operational disruption caused by this USFS Aviation Safety Alert.

Bell Helicopter is well aware of the important role being filled by the model 407 today. Bell will continue to aggressively address any issues that arise. We will continue to directly respond to any and all items to promote the safety and reliability of the model. As always, feel free to contact the Bell Helicopter Product Support Engineering when further clarification on any technical aspects of operating your Bell 407 is desired.