

**ALERT SERVICE BULLETIN**  
**Bell Helicopter** **TEXTRON**

A Subsidiary of Textron Inc.

**NO.** 407-05-69

**DATE** July 5, 2005

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<b>DATE</b>
<b>REV</b>

**MODEL AFFECTED:** 407

**SUBJECT:** ENGINE, FUEL AND CONTROL -  
HYDROMECHANICAL UNIT (HMU)  
PROCEDURES FOR CHECKING P1 NOZZLE  
SCREEN FOR CONTAMINATION

**HELICOPTERS AFFECTED:** Bell 407 helicopters serial number 53000 through 53655.

[407 helicopters serial numbers 53656 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

**COMPLIANCE:** In accordance with Rolls Royce Corporation ALERT Commercial Engine Bulletin CEB-A-73-6046 (Revision 1 dated July 1, 2005)

**DESCRIPTION:**

The Alert Commercial Engine Bulletin CEB-A-73-6046 (Revision 1 dated July 1, 2005) attached to this bulletin provides the procedures to be performed before each flight to detect a contaminated P1 nozzle screen.

A Flight Manual revision is required to accomplish this bulletin and is included with the distribution of this bulletin.

This bulletin is sent as a matter of record and will not be revised in the event of subsequent changes of the Rolls Royce Alert CEB-A-73-6046 (Revision 1 dated July 1, 2005).

**APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada approved.

**MANPOWER:**

Refer to Rolls Royce Corporation ALERT Commercial Engine Bulletin CEB-A-73-6046 (Revision 1 dated July 1, 2005).

**WARRANTY:**

Rolls Royce Corporation has committed to providing financial compensation for components removal and installation, shipping charges and parts necessary for compliance with CEB-A-73-6046 (Revision 1 dated July 1, 2005). Please contact your local Rolls Royce Approved Maintenance Center for details.

**MATERIAL:**

Refer to Rolls Royce Corporation ALERT Commercial Engine Bulletin CEB-A-73-6046 (Revision 1 dated July 1, 2005).

**SPECIAL TOOLS:**

Not applicable

**WEIGHT AND BALANCE:**

Not affected

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-407-FM-1 Flight Manual

Refer to Rolls Royce Corporation ALERT Commercial Engine Bulletin CEB-A-73-6046 (Revision 1 dated July 1, 2005).

**PUBLICATIONS AFFECTED:**

BHT-407-FM-1 Flight Manual

Refer to Rolls Royce Corporation ALERT Commercial Engine Bulletin CEB-A-73-6046 (Revision 1 dated July 1, 2005).

**ACCOMPLISHMENT INSTRUCTIONS:**

1. Comply with Rolls Royce CEB-A-73-6046 (Revision 1 dated July 1, 2005).
2. Insert the new Flight Manual revision 4 dated June 29, 2005 into BHT-407-FM-1.
3. Annotate the helicopter records indicating compliance with this bulletin.

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# Rolls-Royce

## P U B L I C A T I O N                    T R A N S M I T T A L

July 1, 2005

TO:                    Recipients of 250-C30, -C40 and -C47 Commercial Engine Bulletins

SUBJECT:    ENGINE, FUEL AND CONTROL - HYDROMECHANICAL UNIT (HMU)  
                  PROCEDURES FOR CHECKING P1 NOZZLE SCREEN FOR  
                  CONTAMINATION.

This letter transmits Revision 1 to the subject commercial engine bulletins:

<u>Model</u>	<u>Bulletin Number</u>
250-C30 Series	CEB A-73-3123
250-C40 Series	CEB A-73-5033
250-C47 Series	CEB A-73-6046

This is a complete revision. Replace the original issue with this Revision 1.

Revision 1 adds note to 2.F. and makes minor editorial change.

If you have complied with the previous issue of this bulletin, no additional work is required.

The following list includes the original issue date and all revisions to this bulletin:

Original issue	May 27, 2005
Revision 1	July 1, 2005

CUSTOMER SUPPORT  
ROLLS-ROYCE





## **ENGINE, FUEL AND CONTROL - HYDROMECHANICAL UNIT (HMU) PROCEDURES FOR CHECKING P1 NOZZLE SCREEN FOR CONTAMINATION**

### 1. PLANNING INFORMATION

#### A. Effectivity

##### (1) Engines

- (a) All Rolls-Royce Model 250-C47 Series and 250-C30R/3M engines that have HMU part number 23075203 or later numerically subsequent part number HMU installed.
- (b) All Rolls-Royce Model 250-C40B engines that have HMU part number 23075392 or later numerically subsequent part number HMU installed.
- (c) All Rolls-Royce Model 250-C30R/3 engines that have HMU part number 23075391 or later numerically subsequent part number HMU installed.

##### (2) Spares

All spare Rolls-Royce Model 250 HMU's of part numbers as noted above.

#### B. Reason

The P1 nozzle screen can become contaminated, which causes an increase in differential pressure across the P1 Altitude Compensation Valve within the HMU.

**NOTE:** The P1 nozzle is incorporated to protect the P1 Altitude Compensation Valve from contamination. If contamination enters the P1 Altitude Compensation Valve, available fuel flow may be limited during operation.

#### C. Description

This commercial engine bulletin provides the procedures to be performed before each flight to detect a contaminated P1 nozzle screen. Each applicable Operations and Maintenance Manual will be revised to include this check.

#### D. Approval

Technical aspects are FAA approved.

#### E. Compliance

##### (1) Compliance Code 1: To be complied with before further flight.

- (a) The procedure specified in Paragraph 2., ACCOMPLISHMENT INSTRUCTIONS, is to be performed before each flight.

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EXPORT CONTROLLED

### COMMERCIAL ENGINE BULLETIN

- F. Interchangeability - Not affected
- G. Material Availability - Not Applicable
- H. Tooling - Not Affected
- I. Weight and Balance - Not affected
- J. Electrical Load Data - Not affected
- K. References
  - (1) CSP 21003 Operation and Maintenance Manual, Turboshaft Model 250-C30R/3 (OMM).
  - (2) CSP 21000 Operation and Maintenance Manual, Turboshaft Model 250-C40B (OMM).
  - (3) CSP 21001 Operation and Maintenance Manual, Turboshaft Model 250-C47B (OMM).
  - (4) CSP 21004 Operation and Maintenance Manual, Turboshaft Model 250-C47M (OMM).
  - (5) CSP 21006 Operation and Maintenance Manual, Turboshaft Model 250-C30R/3M (OMM).
- L. Other Publications Affected - None
- M. Prerequisites - None

#### 2. ACCOMPLISHMENT INSTRUCTIONS

- A. This check must be performed prior to each flight.
- B. Start engine and stabilize at ground idle setting, note ground idle Ng%.
- C. With the throttle set at ground idle, switch control from Auto to Manual Mode while monitoring Ng (N1) RPM and allow the engine to stabilize.
  - (1) If, after switching to Manual Mode, Ng RPM increases more than 12% from the initial ground idle setting in Auto Mode, shut the engine down and perform the following:
    - CAUTION:** DO NOT ALLOW ENGINE TO EXCEED OVERSPEED LIMITS. SWITCHING BACK TO AUTO MODE WILL ARREST AN UNCOMMANDED ACCELERATION.
    - (a) Perform rigging check (REF. OMM).
    - (b) Verify indicated PLA position with actual PLA position through use of the Maintenance Terminal.
    - (c) Perform check a second time by following Accomplishment Instructions 2.B. and 2.C.
    - (d) If, after switching to Manual Mode, Ng RPM increases more than 12% from the initial ground idle setting in Auto Mode the HMU must be removed and sent to a GPEC's authorized facility. (REF. Pars 2.B. in CEB A-73-3122, CEB A-73-5032 or CEB A-73-6045).
  - NOTE:** Authorization for a one time ferry flight may be allowed on a case by case basis. Contact Rolls-Royce Model 250 Customer Support via the following:  
Phone: 317-230-2720  
email: [model250custsupp@rolls-royce.com](mailto:model250custsupp@rolls-royce.com)
  - (2) If, after switching to Manual Mode, the Ng RPM does not increase more than 12%, proceed to the next step.

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### COMMERCIAL ENGINE BULLETIN

- D. Increase throttle slowly to make sure the engine responds, then return to idle.
- E. Switch FADEC back to Auto Mode and proceed with normal flight procedures.
- F. Record compliance with this commercial engine bulletin in the applicable section of the engine logbook, engine assembly (white pages), Part III, Modification Record as applicable with the following:

250-C30 Series	CEB-A-73-3123
250-C40 Series	CEB-A-73-5033
250-C47 Series	CEB-A-73-6046



**NOTE:** Record compliance with this commercial engine bulletin only once in the engine log book. The date and hours at compliance should be recorded as the initial compliance date and time. Method of Compliance as well as Next Compliance Date and/or Next Compliance at Hours should cite that this CEB is to be performed before each flight.

- G. Basis for quantities is per engine assembly.

### 3. MATERIAL INFORMATION

- A. Configuration Chart - Not applicable

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