



A Textron Company

**TECHNICAL BULLETIN**

**206L-13-247**

23 August 2013

Revision A, 23 September 2013

Revision B, 23 September 2017

**MODEL AFFECTED:** 206L, 206L1, 206L3 and 206L4

**SUBJECT:** ALTERNATE LUBRICANT AERIAL THIXO SYN AVIATION GREASE (C-172) AND BEARING 206-011-105-101, INTRODUCTION OF.

**HELICOPTERS AFFECTED:** Serial numbers 45004 through 45790, 46601 through 46617, 51001 through 51612, and 52001 and subsequent.

**COMPLIANCE:** At customer's option.

**DESCRIPTION:**

This bulletin is issued to notify operators about the introduction of an alternate lubricant applicable to specific locations of the main and tail rotor components, along with the swashplate assembly. AERIAL ThixO SYN aviation grease (C-172), which respects the 299-947-554 specification, is now permitted for use at the following locations:

- Main rotor hub assemblies
- Main rotor trunnion assemblies
- Main rotor pitch horn bearing assemblies
- Tail rotor trunnion housing assemblies
- Tail rotor pitch change mechanism
- Swashplate bearing

Grease (C-172) can be used anywhere as an alternate to corrosion preventive compound (C-104) (MIL-PRF-16173, Grade 2). The content of this bulletin describes the procedure required to replace the currently approved grease (C-001) (MIL-PRF-81322) with the newly accepted grease (C-172) for the above-mentioned components.

AERIAL ThixO SYN aviation grease is manufactured by Maryn International – Power Up Lubricants, Calgary, Canada. Revision A of this bulletin provides a temperature limitation, the new identification name of the grease (C-172), and introduces additional components to the original list. Revision B of this bulletin is to inform operators of the

introduction of new bearing 206-011-105-101 which is serviced with C-172 grease. The 206-011-105-101 bearing is a direct replacement for the existing 206-011-105-001 bearing. Neither bearing needs to be replaced at once. However it is recommended to carry out this TB on the remaining components to prevent accidental grease intermixing when a 206-011-105-101 bearing is installed. Applicability of this bulletin to any spare part shall be determined prior to its installation on an affected helicopter.

**APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

**CONTACT INFO:**

For any questions regarding this bulletin, please contact:

Bell Helicopter Product Support Engineering - Light Helicopters  
Tel: 450-437-2862 / 1-800-363-8023 / pselight@bh.com

**MANPOWER:**

Approximately 20 man-hours are required to complete this bulletin, unless accomplished during normal scheduled overhaul. This estimate is based on hands-on time, and may vary with personnel and facilities available.

**WARRANTY:**

There is no warranty credit applicable for parts or labor associated with this bulletin.

**MATERIAL:**

**Consumable Material:**

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>	<u>Reference *</u>
2400-00070-00	Grease, High Pressure	A/R	C-172
2230-05541-00	Coating, Polyurethane (orange)	A/R	C-245

\* C-XXX numbers refer to the consumables list in BHT-ALL-SPM Standard Practices Manual

**SPECIAL TOOLS:**

None required.

## **WEIGHT AND BALANCE:**

Not affected.

## **ELECTRICAL LOAD DATA:**

Not affected.

## **REFERENCES:**

### **BHT-CONSUMABLES LIST**

BHT-206L-MM, Maintenance Manual

BHT-206L1-MM, Maintenance Manual

BHT-206L3-MM, Maintenance Manual

BHT-206L4-MM, Maintenance Manual

BHT-206L-CR&O, Component Repair and Overhaul Manual

## **PUBLICATIONS AFFECTED:**

BHT-206L-MM, Maintenance Manual

BHT-206L1-MM, Maintenance Manual

BHT-206L3-MM, Maintenance Manual

BHT-206L4-MM, Maintenance Manual

BHT-206L-Series-IPB, Illustrated Parts Breakdown

BHT-206L-CR&O, Component Repair and Overhaul Manual

BHT-206L-FM, Flight Manual

BHT-206L1-FM, Flight Manual

BHT-206L3-FM, Flight Manual

BHT-206L4-FM, Flight Manual

## **ACCOMPLISHMENT INSTRUCTIONS:**

1. Prepare the helicopter for maintenance.

**CAUTION**

The operational temperature for grease (C-172) is limited to -40° Celsius (-40°F). Helicopters that use grease (C-172) shall not be operated if ambient temperature is below -40° Celsius (-40°F).

**CAUTION**

Grease (C-172) is compatible with grease (C-001) (Mobil 28). However, if the greases are intermixed in the main rotor grips, operators shall disassemble the hub assembly (grips), thoroughly clean the components and reassemble the assembly with grease (C-172). It is permitted to purge lubricate the remaining components without disassembly. Prevent intermixing of greases once the conversion is completed.

2. Remove the main rotor hub assembly from the helicopter (BHT-206L/L1/L3/L4-MM, Chapter 62).
3. Disassemble the main rotor hub assembly, as required (BHT-206L-CR&O, Chapter 62).
4. Parts shall be thoroughly cleaned to remove remaining grease (C-001).
5. Inspect parts for condition. Replace or repair as required (BHT-206L-CR&O, Chapter 62).
6. Reassemble the main rotor hub with grease (C-172) instead of grease (C-001) (BHT-206L-CR&O, Chapter 62).

**-NOTE-**

Grease (C-172) is thicker than grease (C-001). To prevent seal damage, the vent fitting on top of each main rotor pitch horn shall be removed while adding grease to the grips. Always use a hand grease gun and gently pump grease into main rotor grips.

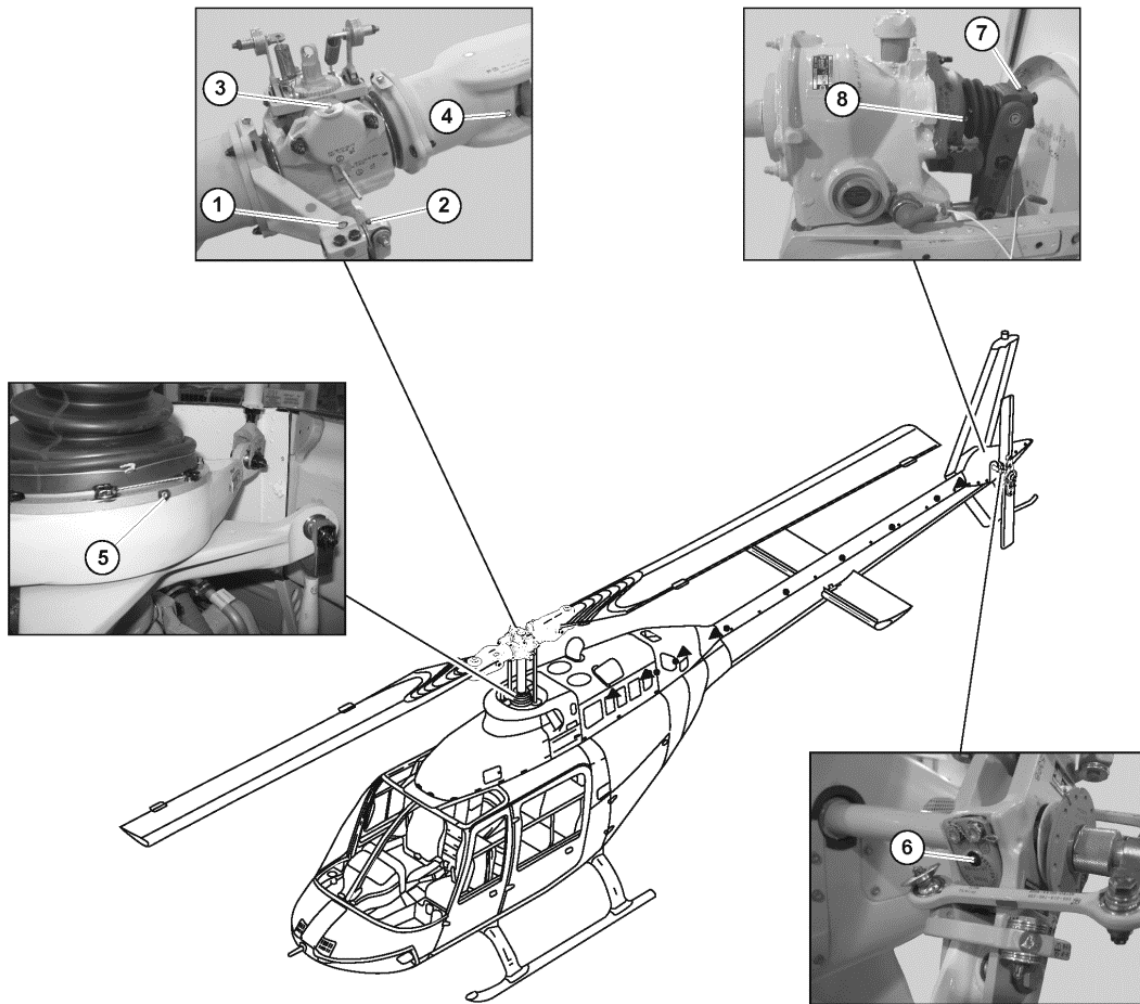
7. Remove the vent fittings on the pitch horns and purge lubricate the main rotor grips with grease (C-172) until grease expels from the pitch horn hole. Reinstall the vent fittings.
8. Purge lubricate the main rotor trunnion, pitch horn trunnion, and swashplate assemblies with grease (C-172) until grease (C-001) is no longer noticeable. Rotate the bearings during the purging process.
9. Reinstall the main rotor hub on the helicopter (BHT-206L/L1/L3/L4-MM, Chapter 62).

10. Purge lubricate the tail rotor trunnion housing and pitch change mechanism assemblies with grease (C-172) until grease (C-001) is no longer noticeable. The pitch change mechanism boot shall be moved aside to remove the excess purged grease. Rotate the bearings during the purging process. Reinstall the boot with lockwire (C-405) once the process is complete.
11. If desired, grease fittings that receive grease (C-172) could be identified with an orange paint scheme (or label) showing "THIXO" (approximately 1 inch (25.4 mm) in diameter or, as feasible, in a high visibility color) to prevent introduction of a different grease.

<b>CAUTION</b>
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Grease (C-172) shall not be used for the tail rotor drive shaft bearings or into the main drive shaft.

12. The BHT-206L-FM, BHT-206L1-FM, BHT-206L3-FM, and BHT-206L4-FM Flight Manuals (Section 1) have been revised to reflect this limitation.
13. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.



1. M/R grip pitch horn (2 places)
2. M/R grip pitch horn trunnion bearing (2 places)
3. M/R hub pillow block (2 places)
4. M/R grip (2 places)
5. Swashplate grease fitting
6. T/R trunnion bearing housing (2 places)
7. T/R pitch change trunnion bearing
8. T/R pitch change shaft bearing

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**Figure 1 – Grease (C-172) Authorized Locations of Main and Tail Rotor Components.**