



A Textron Company

TECHNICAL BULLETIN

407-24-142

19 December 2024

MODEL AFFECTED: 407

SUBJECT: MAIN ROTOR PITCH LINK UNIVERSAL BEARING, LUBRICANT CONVERSION PROCEDURE FROM THIXO SYN (C-172) TO MOBILGREASE 28 (C-001), INTRODUCTION OF.

HELICOPTERS AFFECTED: Serial numbers 53000 through 53900, 53911 through 54166, 54300 through 54752, 54805 through 54999, 56300 and subsequent.

COMPLIANCE: At customer's option.

DESCRIPTION:

This bulletin is issued to notify operators about the introduction of a lubricant conversion procedure for main rotor pitch link universal bearings (406-310-405-101, 406-310-405-103 or 406-310-405-105) serviced with ThixO SYN (C-172).

Bell has performed testing which demonstrates that Mobilgrease 28 (C-001) can be used to purge ThixO Syn (C-172) in the main rotor pitch link universal bearings when adhering to the instructions contained in this bulletin.

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 Product Support Engineering
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

MANPOWER:

Approximately 1.5 man-hour is required to complete this bulletin. 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:

Required Material:

None Required.

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 Supply Center.

| <u>Part Number</u> | <u>Nomenclature</u> | <u>Qty (Note)</u> | <u>Reference *</u> |
|--------------------|-------------------------------------|-------------------|--------------------|
| 2400-00030-00 | GREASE-13.7OZ CARTRIDGE-MOBIL 28 | A/R (1) | C-001 |
| MS24665-155 | COTTER PIN | 8 (2) | |

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

NOTES:

1. The estimated total quantity of grease required to purge universal bearings listed in this Technical Bulletin is the equivalent of one (1) 13.7 oz cartridge. This quantity is for the initial purge sequence only. Additional grease will be required for the following purge sequences.
2. Quantity indicated is the quantity required for one purge sequence.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-ALL-SPM, Standard Practice Manual, Chapter 13
BHT-407-MM, Maintenance Manual, Chapter 12
BHT-407-MM, Maintenance Manual, Chapter 67

PUBLICATIONS AFFECTED:

BHT-407-MM, Maintenance Manual, Chapter 12

ACCOMPLISHMENT INSTRUCTIONS:**CAUTION**

Mobilgrease 28 is the only brand of Grease (C-001) approved for the purging purposes of this Technical Bulletin.

1. Prepare the helicopter for maintenance.
2. Remove the main rotor pitch link assemblies (DMC-407-A-67-13-04-00A-520A-A).

CAUTION

To prevent seal damage, always use a hand grease gun and gently pump grease into bearings.

3. Purge lubricate each main rotor pitch link universal bearing (1, Figure 1) assembly with Mobilgrease 28 (C-001) using all four grease fittings. Proceed as follows:
 - a. Purge lubricate A1 port of each universal bearing with 10 strokes.
 - b. Purge lubricate A2 port of each universal bearing with 10 strokes.
 - c. To promote purging, rotate each universal bearing 180 degrees.

- d. Continue purge lubricating the bearings using steps a to c until grease ThixO SYN (C-172) is no longer noticeable.
 - e. Repeat steps a to d for B1 and B2 ports of each universal bearing.
4. Install main rotor pitch link assemblies (DMC-407-A-67-13-04-00A-720A-A).
 5. After 1 to 10 hours of flight following the initial purging sequence, repeat steps 2 to 4. If the purged grease shows any indication of ThixO SYN (C-172) grease, repeat steps 2 to 4 after another 1 to 10 hours of flight.

-NOTE-

The reduction in grease lubrication intervals is a temporary measure that will be adjusted once additional tests are completed and additional data is gathered. This Technical Bulletin (TB) will be revised with additional instructions on how to return to the currently published grease lubrication intervals and inspections.

6. Revise the aircraft maintenance schedule to reduce grease lubrication intervals as shown in Table 1 below.

Table 1 – Reduced Grease Lubrication Intervals

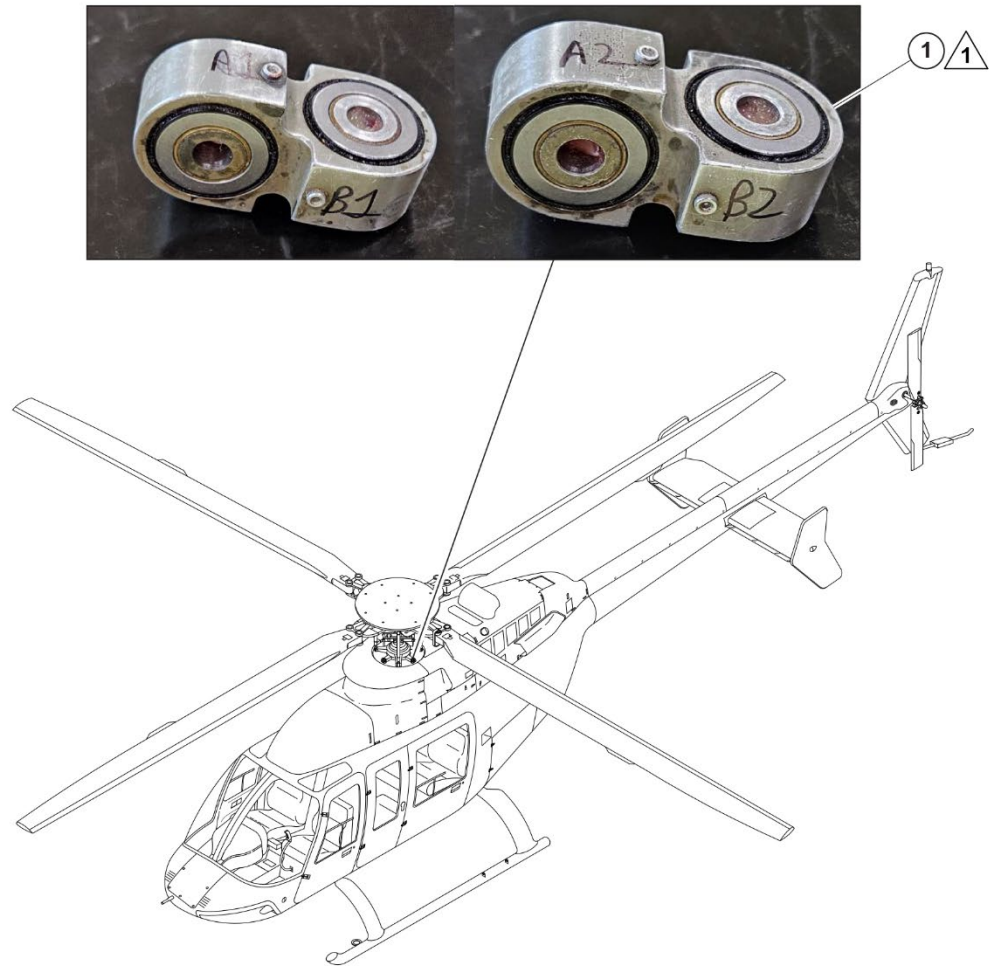
| Task | Task description | Reference (DMC) | Currently published interval | New interval |
|--|---|-------------------------------|-------------------------------------|----------------------------|
| Table 1 Grease Lubrication Interval | Lubricate the main rotor pitch link universal bearings (4 locations each bearing) | DMC-407-A-12-00-00-07A-200B-A | 50 flight hours / 3 months | 25 flight hours / 3 months |

-NOTE-

Having a ratchety feel of the bearing inner race is acceptable. The bearing condition should be examined before lubrication.

7. At each grease lubrication event, visually inspect the purged grease for signs of component deterioration such as discoloration (darkening) or presence of metal particles. Inspect main rotor pitch link universal bearings for mechanical damage, excessive looseness/play and corrosion.

- a. No excessive force should be required to turn the inner race by hand. If the inner race jams when turned, replace the affected bearing.
 - b. If there is damage to the pitch link universal bearings and/or play in the bearings, refer to DMC-407-A-67-13-05-00A-042A-A, Figure 2 for permitted damage.
8. Report any unusual findings (signs of worn components, bearings premature wear) to Product Support Engineering at productsupport@bellflight.com with the following information:
- Aircraft Serial Number
 - Component Description
 - Component Part Number
 - Component Serial Number (if applicable)
 - Component Time Since New
 - Time Since Mobilgrease 28 was introduced
9. If the grease fittings on components were identified with an orange paint scheme (or label) showing “ThixO SYN grease” to prevent introduction of a different grease, remove the orange paint scheme from all affected components.
10. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.



1. Pitch change link universal bearing (16 places)

NOTE

 A1, A2, B1, and B2 port identifications are for references only.

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Figure 1 – Authorized Mobilgrease 28 (C-001) purge locations for universal bearings.