



A Textron Company

TECHNICAL BULLETIN

505-18-14

7 December 2018

MODEL AFFECTED: 505

SUBJECT: FREEWHEEL ASSEMBLY HOUSING SEALANT,
APPLICATION OF

HELICOPTERS AFFECTED: Serial numbers 65011 through 65074, 65077
through 65081, 65083 through 65122, 65124
through 65128, 65130 through 65132, 65134, 65139
and 65141

[Serial number 65075, 65076, 65082, 65123, 65129,
65133, 65135 through 65138, 65140, 65142 and
subsequent will have the intent of this bulletin
accomplished prior to delivery.]

COMPLIANCE: At customer's option.

DESCRIPTION:

Bell has been made aware of cases where corrosion has been found on the freewheel assembly housing surface to the engine gearbox interface. Following investigation, it was discovered that the surface paint masking of the interface of freewheel housing 406-040-500-107 is best adapted to fit on the model 206L4 and 407. This freewheel housing when fitted to the Arrius2R engine, as installed on the model 505, is not of the same imprint which allows for unpainted surfaces to be exposed to the environment. This bulletin introduces an immediate fix to apply sealant to these exposed surfaces to mitigate any potential for corrosion propagation.

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 - Light Helicopters
Tel: 450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

MANPOWER:

Approximately 2.0 man-hours are 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:

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>
406-040-500-107	Housing assembly	1 (1)

NOTE 1: Required only if inspection reveals corrosion damage is beyond allowable repair.

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>
2010-07915-01	Sealant	6OZ (1)	C-308
2110-06257-00	Methyl Ethyl Ketone	1GAL (1)	C-309
CCCC440	Cheese Cloth	AR	C-486
Commercial	Brulin 815MX or equivalent	AR	C-318
Commercial	Abrasive Pad	AR	C-407

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

NOTE 1: The quantity indicated is the format the product is delivered in, actual quantity required to accomplish the instructions in this bulletin may be less.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-505-IPC Illustrated Parts Catalog
BHT-505-MM Maintenance Manual
BHT-ALL-SPM Standard Practice Manual

PUBLICATIONS AFFECTED:

BHT-505-MM Maintenance Manual, Chapter 63

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.
2. Remove the forward engine cowling ([DMC-505-A-71-10-01-00A-520](#)). Gain access to the freewheel assembly housing 406-040-500-107 ([DMC-505-A-63-10-02-00A-941](#)) Illustrated Parts Catalog item 28.
3. Gain access to the exposed bare metal surfaces of the freewheel housing (Figure 1).
4. Clean exposed surface and surroundings with Methyl Ethyl Ketone (C-309) and clean cloth (C-486).
5. With a bright light and mirror, inspect the housing bare metal surfaces for corrosion. Pay particular attention to top area for corrosion damage;
 - a. If corrosion appears to have migrated between the engine accessory gearbox flange and the freewheel assembly housing, then the housing requires removal ([DMC-505-A-63-10-02-00A-520](#)) to determine the extent of corrosion damage.
 - b. If corrosion damage is found not exceeding 0.010 inch (0.254 mm) in depth, clean up area with abrasive pad (C-407) and Brulin 815MX (C-318) diluted in water.

Rinse area clean with water. Repeat cleaning / rinsing as necessary to provide a clean surface. Apply chemical film to affected areas in accordance with brush-on method detailed in BHT-ALL-SPM Standard Practice Manual, Chapter 3, section 3-15, step 2. Two area repairs maximum permitted.

- c. If corrosion damage exceeds 0.010 inch (0.254 mm) in depth, contact Product Support Engineering to obtain a possible expanded repair. If an expanded repair is determined not possible due to excessive corrosion damage, the freewheel assembly housing 406-040-500-107 will require replacement.
 - d. If no corrosion damage exists, proceed to step 6.
6. If removed in step 5, install freewheel assembly ([DMC-505-A-63-10-02-00A-720](#)).
 7. Apply sealant (C-308) to the clean, oil free, bare metal surfaces of the freewheel assembly housing 406-040-500-107 (Figure 2). During application, it is acceptable for sealant (C-308) to smear onto the flange of the engine accessory gearbox.
 8. Fill the top cavity of the engine accessory gearbox flange with sealant (C-308) (Figure 2), this to prevent the puddling of moisture.
 9. Reassemble all components previously disassembled to gain access to the freewheel housing.
 10. Install the forward engine cowling ([DMC-505-A-71-10-01-00A-720](#))
 11. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.

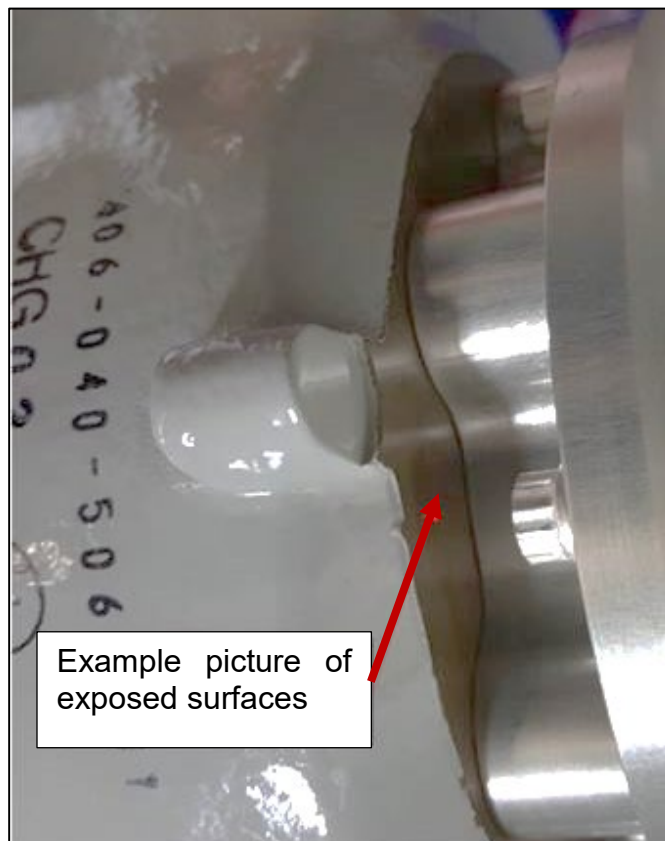
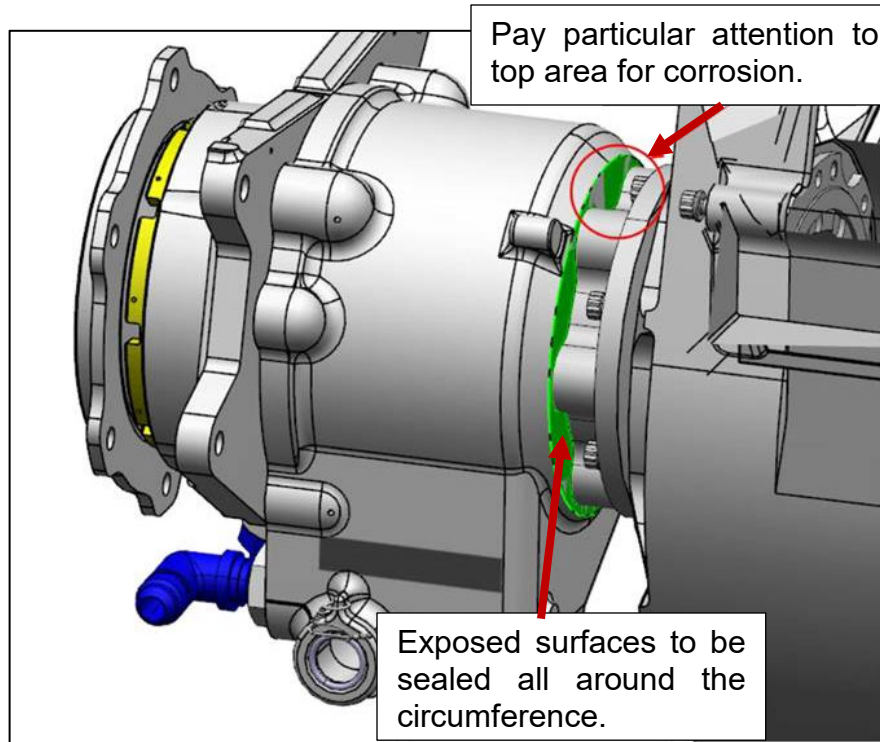


Figure 1 – Freewheel Housing Depicting Exposed Surfaces

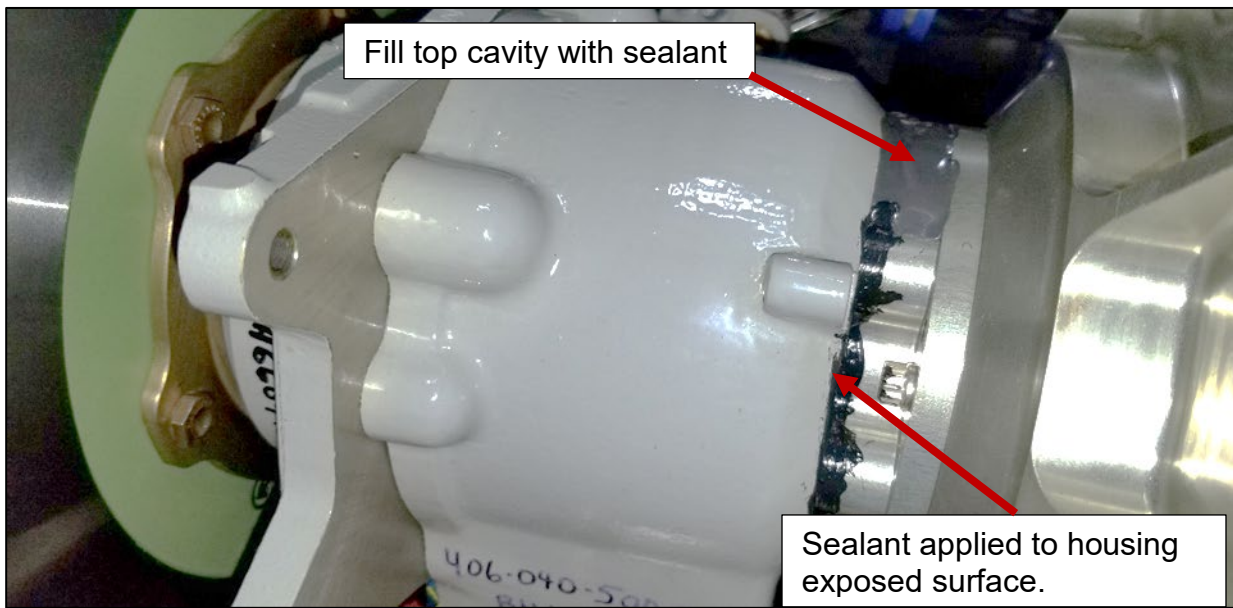


Figure 2 – Freewheel Housing with Sealed Housing Surfaces