

TECHNICAL BULLETIN

Bell Helicopter

A Textron Company

No. 206L-07-223

Date May 22, 2007

Page 1 of 9

DATE
REV

MODEL AFFECTED: 206L SERIES

SUBJECT: MAIN ROTOR MAST NUT INSTALLATION
PROCEDURE, IMPROVEMENT OF

HELICOPTERS AFFECTED: Bell 206L helicopter serial numbers 45001 through 45153 and 46601 through 46617.

Bell 206L-1 helicopter serial numbers 45154 through 45790.

Bell 206L-3 helicopter serial numbers 51001 through 51612.

Model 206L-4 helicopter serial numbers 52001 through 52363.

[Model 206L4 helicopters serial number 52364 and subsequent will have the intent of this bulletin accomplished prior to delivery]

COMPLIANCE: At Customer's Option

DESCRIPTION:

Bell Helicopter has received reports from operators indicating difficulties to stabilize the mast nut torque. It has been determined that the mast nut torque instability was due to the paint applied to the mating surfaces of the hub attaching components that peel or compress when the nut is tightened.

This bulletin introduces a change in the paint finish application for the mast nut, the flap restraint base and the trunnion. It also introduces an improved mast nut installation procedure and mast nut torque check. The torque check is now accomplished 1 to 5 hours after main rotor hub installation and is considered completed when the torque is stabilized

APPROVAL:

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

MANPOWER:

No additional manpower required when accomplished during main rotor installation.

Warranty:

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

MATERIALS:

Required Material:

None required

Consumable Material:

The following material is required to accomplish this bulletin; however this material is considered consumable (bench stock) material and 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>Quantity</u>	<u>Reference</u>
MIL-PRF-81733 (4 OZ)	Sealant, Corrosion Inhibitor	1	C-251
Acetone	Acetone Gallon	1(note1)	C-316
MIL-PRF-23377 TI, CLC	Epoxy Polyamide Primer	1	C-204

NOTE:

1. Aliphatic Naphtha (C-305), p/n TT-N-95, TYII 1GAL or Methyl Ethyl Ketone ASTM D740 (C-309), p/n Methyl Ethyl Ketone may be used as an alternate.

SPECIAL TOOLS:

None required

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-206L-SERIES-IPB Illustrated Parts Breakdown
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
BHT-ALL-SPM

PUBLICATIONS AFFECTED:

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

ACCOMPLISHMENT INSTRUCTIONS:

1. Ensure that the paint and primer are applied to the flap restraint support P/N 206-010-191, the trunnion P/N 206-011-120 and mast nut P/N 206-011-152 as per new paint scheme (Refer to Figure1, sheet 1, 2, 3). Failure to adhere to the paint scheme requirement may result in difficulties to stabilize the mast nut torque.
2. Install the flap restraint and mast nut as follows:
 - a. Apply a thin coat of unreduced polyamide epoxy primer (C-204) between the faying surfaces of the main rotor trunnion and the flap restraint support (Refer to Figure 2).

-CAUTION-

Ensure that wet primer is not applied to the mast nut threads.

- b. Install the flap restraint support assembly on the trunnion while the primer is still wet (Refer to the Maintenance Manual, Chapter 62).
- c. Apply a thin coat of unreduced polyamide epoxy primer C-204 between the faying surfaces of the flap restraint support and the mast nut footprint. Install the mast nut while the primer is still wet (Refer to Figure 2).
- d. Apply torque to the mast nut 250-275 FT-LBS within 30 minutes after installation.
- e. Install the mast nut lock (Refer to the Maintenance Manual, Chapter 62).

-NOTE-

Torque-check accomplished after ground run will help achieve successful subsequent torque-check faster.

3. Accomplish the mast nut torque-check as follows:

- a. Within 1 to 5 flight hours after initial installation of the main rotor hub, remove the mast lock (Refer to Maintenance Manual, Chapter 62).
- b. Use a permanent marker and mark the nut and the flap restraint support to verify if any movement occurs during torque check.

-NOTE-

It is not required to disassemble and inspect the mast nut to flap restraint joint if the mast nut moved.

- c. Perform the mast nut torque-check (Refer to the BHT-ALL-SPM).
- d. Examine the mark for alignment, to determine if the torque application results in a rotation of the mast nut.
- e. Install the mast nut lock (Refer to the Maintenance Manual, chapter 62).

-NOTE-

After the first 1 to 5 flight hours torque check a minimum of 15 minutes of flight is required between torque checks.

- f. After the first 1 to 5 hour torque check has been performed and after a minimum of 15 minutes of flight, repeat the above procedure.
 - g. The mast nut torque is considered stabilized when two subsequent torque-checks are successful (no rotation of the mast nut).
4. Once the mast nut torque is stabilized proceed as follows:
- a. Remove the mast nut lock (Refer to the Maintenance Manual, Chapter 62).
 - b. Clean the surface of the flap restraint adjacent to the mast nut, the mast nut serrations and the mast nut lock with naphtha, acetone or MEK.
 - c. Apply a bead of sealant MIL-PRF-81733, Type II (C-251) to the mating edge of the mast nut serrations and the flap restraint support (Refer to Figure 2). Ensure no sealant penetrates the mast nut lock retainer bolt hole. Make sure that the bead of sealant is smoothed out to avoid an area capable of retaining pooled moisture.
5. Install the mast nut lock (Refer to the Maintenance Manual, Chapter 62).
6. Make an entry in the helicopter records to indicate that Part II of this Technical Bulletin has been accomplished.

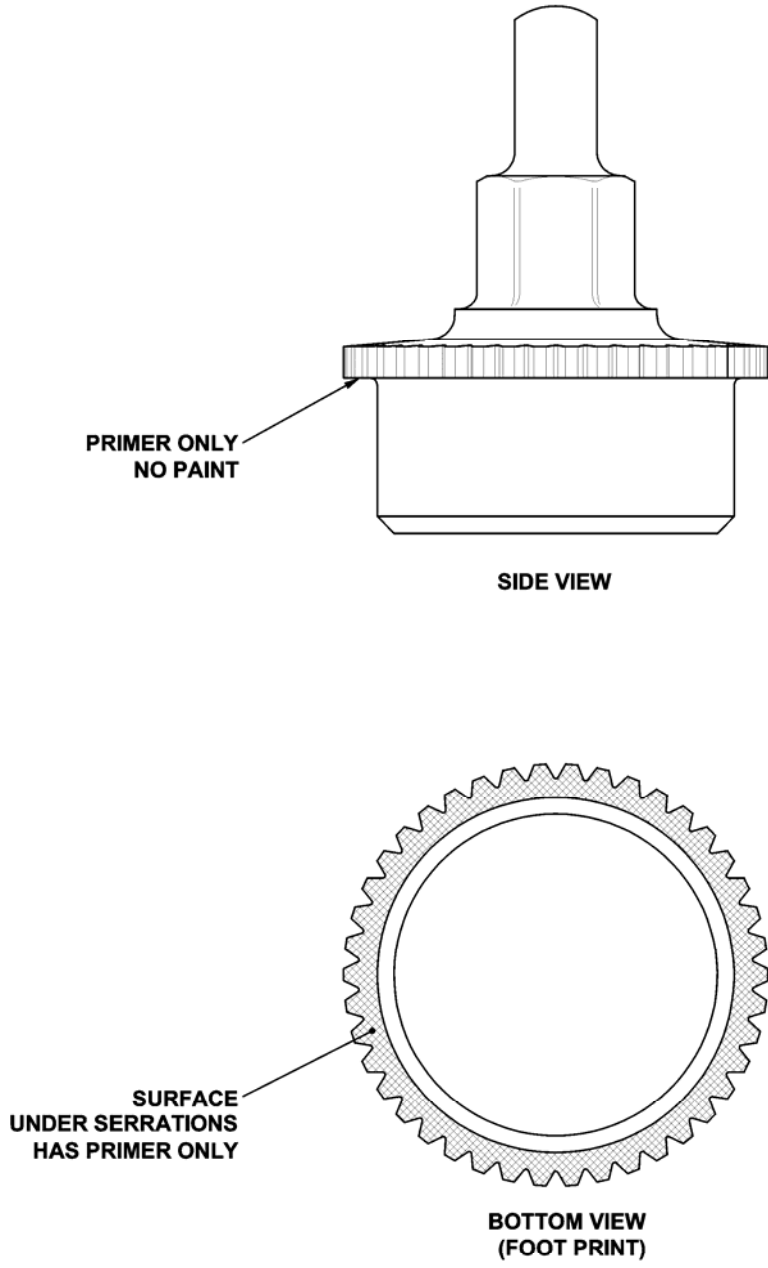
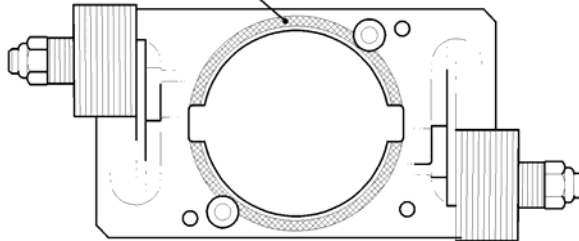
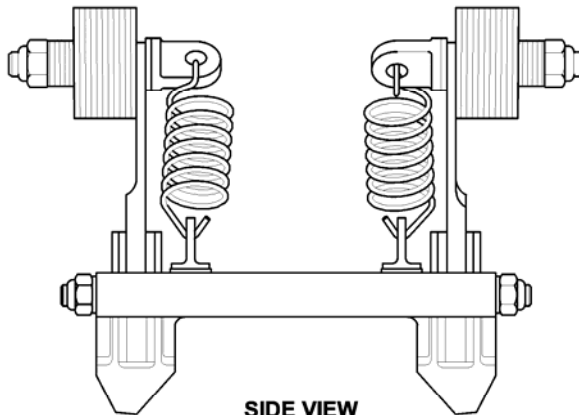


FIGURE 1: Mast Nut Paint Scheme (sheet 1)

PRIMER ONLY ON SURFACE IN CONTACT
WITH MAST NUT FOOT PRINT

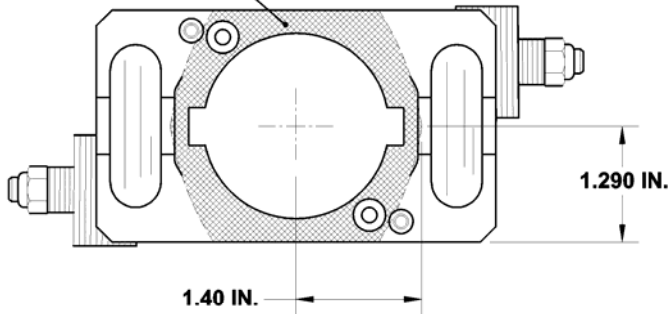


TOP VIEW



SIDE VIEW

PRIMER ONLY ON SURFACE
IN CONTACT WITH TRUNNION



BOTTOM VIEW

FIGURE 1: Flap Restraint Paint Scheme (sheet 2)

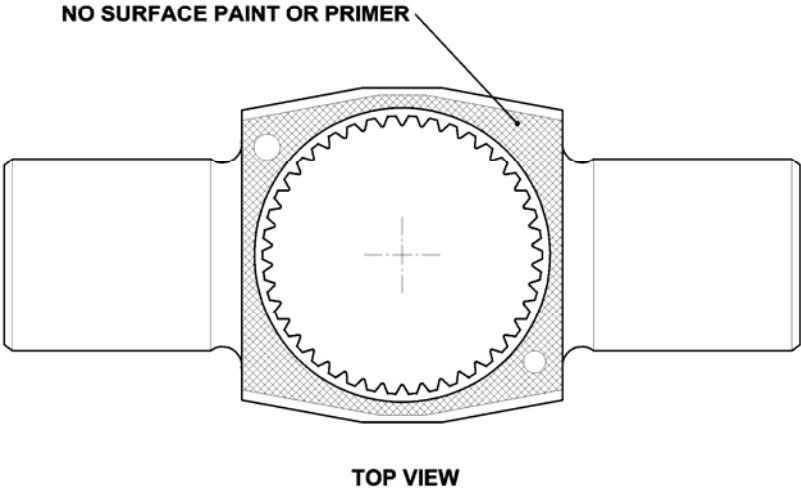
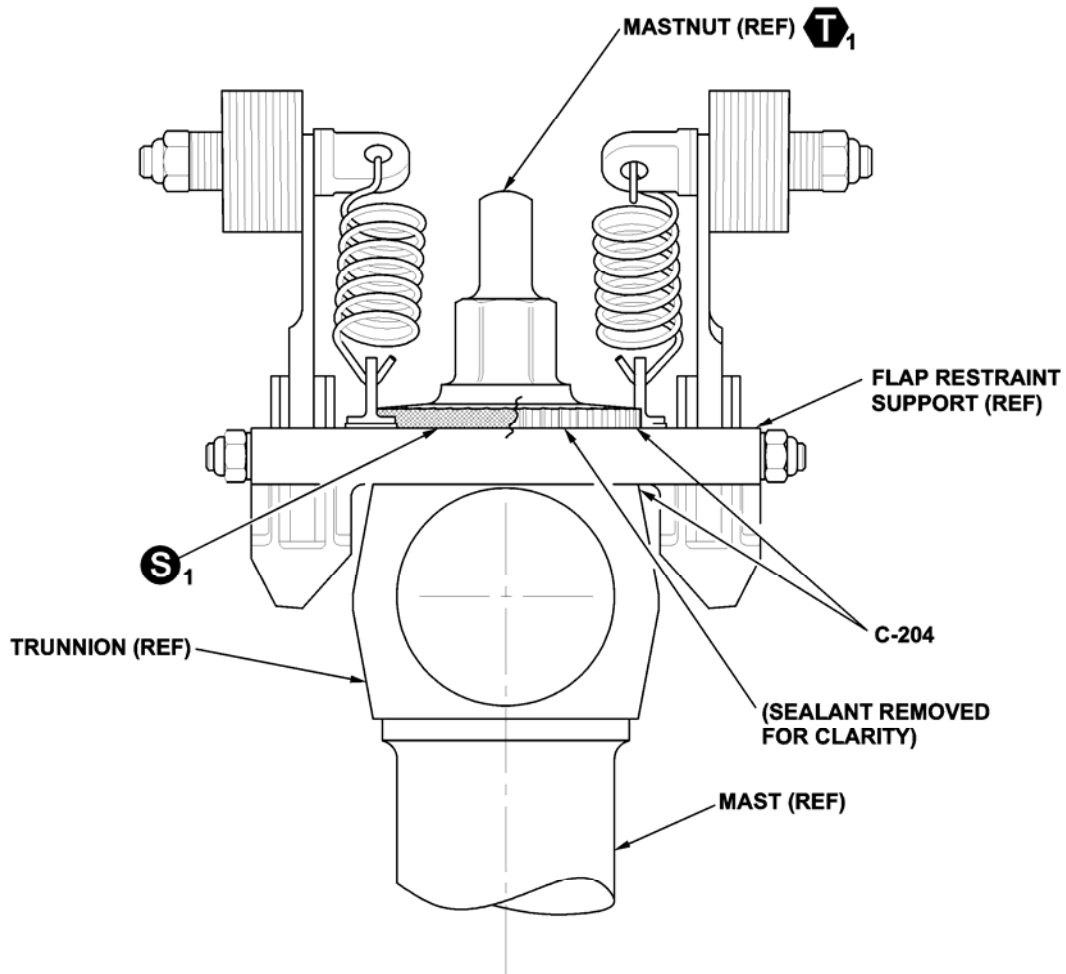


FIGURE 1: Trunnion Paint Scheme (sheet 3)



NOTE
The hub assembly is omitted for clarity.

S₁ MIL-PRF-81733 TYPE II (C-251)

T₁ 250 TO 275 FT-LBS
(339 TO 373 Nm)

FIGURE 2: Main Rotor Installed