

MODELS AFFECTED: 407

SUBJECT: MAIN ROTOR PITCH LINKS RETAINING
HARDWARE, REPLACEMENT OF.

HELICOPTERS AFFECTED: 407, Serial Numbers 53000 through 53138,
and 53140 through 53142.

[Serial Numbers 53139, 53143, and
subsequent will have the intent of this
bulletin completed before delivery.]

COMPLIANCE: 25 flight hours after you get the parts,
but not later than September 30, 1997.

DESCRIPTION: Bell Helicopter has found that, because
of manufacturing tolerances, it is
possible that one more washer is
required under the nut of the pitch link
bolts. The added washer is to make sure
that you get the correct torque on the
nut and it aligns for the cotter pin,
without the risk of the nut becoming
thread bound on the bolt shank.

This bulletin is issued to replace all
hardware that attaches (4 ea.) the pitch
link assemblies to the swashplate and to
the pitch horn on the main rotor hub.

This bulletin also adds a washer under
the nut. This permits the nut to align
for the installation of the cotter pin.
The added washer also prevents the nut
from becoming thread bound on the bolt
shank.

APPROVAL:

The engineering design aspects of this Service Bulletin are Transport Canada approved.

MANPOWER:

Approximately 1.5 man-hours are necessary to complete this Bulletin. The man-hours are based on hands-on time and can change due to the personnel and facilities available.

WARRANTY:

Owners/operators of 407 helicopters who comply with the instructions outlined in this bulletin are eligible for a special 100% warranty credit towards the kit specified in the "required material" section of this bulletin.

To receive this credit:

- 1.The owner/operator must get the replacement hardware kit from an approved BHTI spares supply source.
- 2.The work must be done in compliance with the instructions outlined in this bulletin no later than September 30, 1997.
- 3.The owner/operator must send a completed Malfunction Report (MR) to BHT Warranty Administration. A copy of the BHTI invoice referencing the hardware kit used to accomplish this bulletin must be attached to the Malfunction Report (MR).

- NOTE -

Customers who comply with the instructions in this bulletin after September 30, 1997 are not eligible for the special warranty credit provisions listed above.

MATERIAL:

Required Material:

The material that follows is necessary to complete this Bulletin and can be procured through your Bell Helicopter Textron Supply Center.

Order **hardware kit CA407-97-010-1** that consists of the parts that follow:

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QUANTITY</u>
NAS6605D38	BOLT	4
NAS6605D28	BOLT	4
NAS1149F0563P	WASHER (NOTE)	12
NAS1149F0532P	WASHER (NOTE)	4
MS20002-5	WASHER (NOTE)	12
MS14144L5	NUT	4
MS24665-155	COTTER PIN	8

- NOTE -

Added washers are included, to make sure that when you torque the nut, you can align it for the installation of the cotter pin. The added washers also prevent the nut from becoming thread bound on the bolt shank.

Consumable Material:

The material that follows is necessary to complete this Bulletin, however, this material is consumable (bench stock) material and does not require ordering depending on the operators consumable material stock levels. This material can be obtained through your Bell Helicopter Textron Supply Center.

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>REFERENCE NO.</u>
MIL-C-16173,GR1 2OZ	CPC, Grade 1	C-101
MIL-C-16173,GR2 6OZ	CPC, Grade 2	C-104

- NOTE -

The "C" REFERENCE NO. above is a cross reference to the consumable list found in the Standard Practices Manual.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-407-MM-6, rev.2- 1 June 1996:

Chapter 62, Main rotor hub assembly.

BHT-407-MM-8, rev.4- 16 December 1996:

Chapter 67, Main rotor pitch link.

BHT-407-IPB, rev.3- 16 December 1996:

Chapter 62, Frahm installation, Hub and blade installation, Main rotor.

Chapter 67, Controls installation, Main rotor.

BHT-ALL-SPM, reissue 11 October 1996:

Chapter 2, Torque values.

PUBLICATIONS AFFECTED:

BHT-407-MM-6, rev.2- 1 June 1996:

Chapter 62, Main rotor hub assembly, Figure 62-5.

BHT-407-MM-8, rev.4- 16 December 1996:

Chapter 67, Main rotor pitch link, Figure 67-2.

BHT-407-IPB, rev.3- 16 December 1996:

Chapter 62, Frahm installation, Hub and blade installation,
Main rotor, Figure 62-1.

Chapter 67, Controls installation, Main rotor, Figure 67-13.

ACCOMPLISHMENT INSTRUCTIONS:

Main rotor pitch links - Removal

1. Get access to the main rotor pitch link assemblies (11, Figure 1).

- NOTE -

Make sure that the pitch link assemblies are color coded before removal.

- NOTE -

The removal procedure is the same for all the pitch links.

2. Remove the bolt (12), washers (13), nut (14) and disconnect the pitch link (11) from the swashplate (16) outer ring.
3. Remove the bolt (1), washers (2) and nut (3) and disconnect the pitch link (11) with the bearing (6) from the pitch horn

(5) on the main rotor hub assembly. Remove the pitch link (11) with the bearing (6).

Main rotor pitch links - Installation

- NOTE -

Make sure the color codes on the pitch link assemblies are the same as the color codes on the main rotor hub and swashplate.

- NOTE -

The installation procedure is the same for all the pitch links.

1. Install the pitch link (11, Figure 1) with bearing (6) into the pitch horn (5) on the main rotor hub assembly and attach with the bolt (1), washers (2) and nut (3). Torque and safety the nut (3) with a cotter pin (4).

- CAUTION -

THE MS20002-5 WASHER (13) IS THE ONLY WASHER APPROVED FOR USE AT THE PITCH LINK ROD END BEARING TO SWASHPLATE OUTER RING ATTACHMENT. THE HIGH STRENGTH MS20002 SERIES WASHER IS REQUIRED FOR THIS INSTALLATION. THE USE OF A DIFFERENT WASHER COULD CAUSE THE WASHER TO DEFORM AND THE BOLT TO BECOME LOOSE.

2. Connect the pitch link (11) rod end bearing to the swashplate (16) outer ring and attach with the bolt (12), washers (13) and nut (14). Torque and safety the nut (14) with a cotter pin (15).
3. Make an entry in the helicopter historical records to show that this Alert Service Bulletin is completed.
4. Make an entry in the Record of Alert Service Bulletins in the Maintenance Manual.

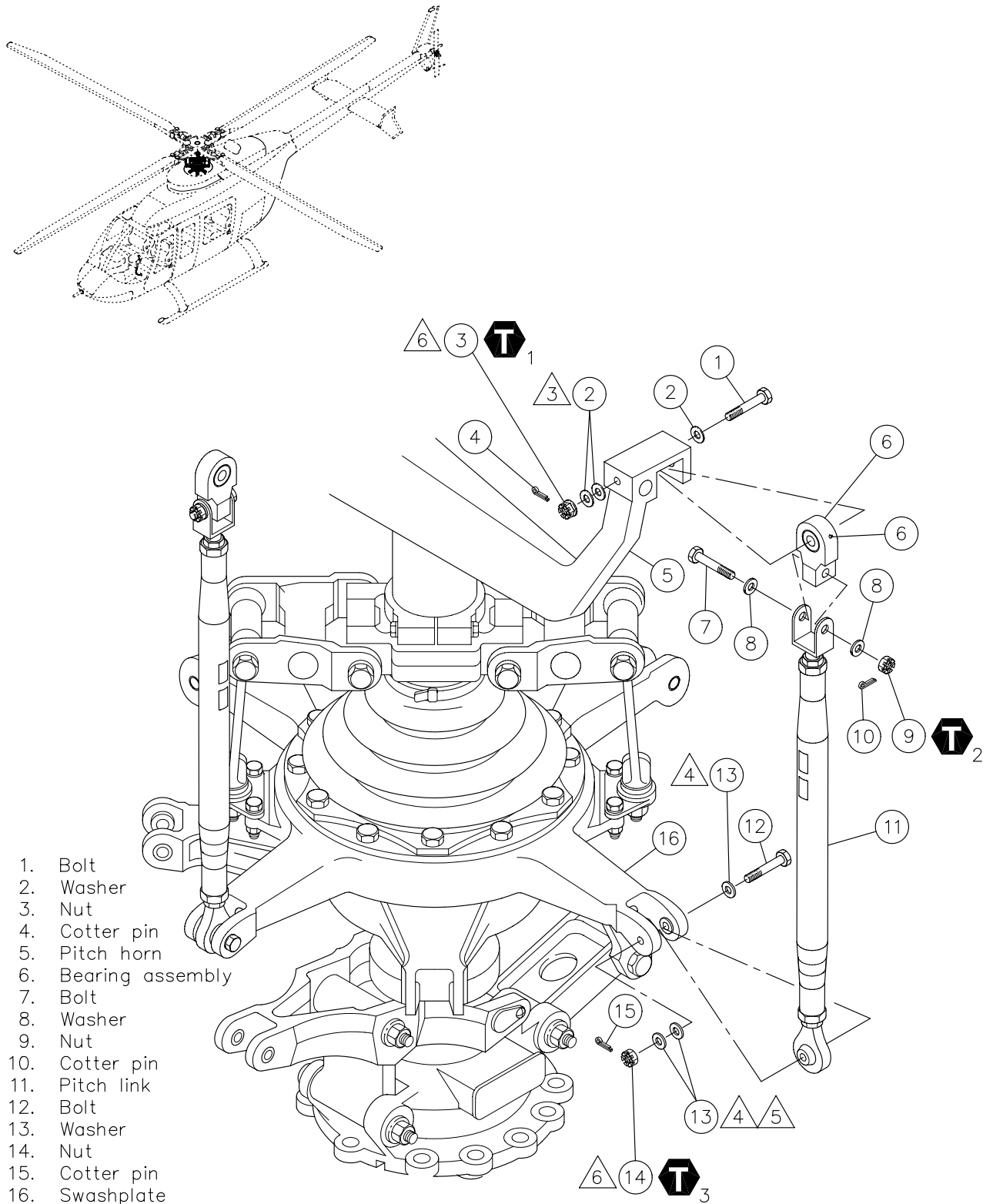





Figure 1. Main rotor pitch links - Removal/installation (Sheet 1 of 2)

-  1 90 TO 110 IN-LBS
(10.2 TO 12.4 Nm)
-  2 50 TO 70 IN-LBS
(5.65 TO 7.91 Nm)
-  3 120 TO 160 IN-LBS
(13.6 TO 18.1 Nm)

NOTES:





1. The recommended installation torque range and maximum permitted torque is given. Add the tare torque to the given torque value.
2. Before you install the bolt, apply corrosion preventive compound (C-104, BHT-ALL-SPM) to the bolt shank only. Remove all unwanted compound. After you install the bolt and tighten and safety the nut, apply corrosion preventive compound (C-101, BHT-ALL-SPM) to the bolt head and nut. Refer to BHT-407-MM-8, Paragraph 67-9.
-  3 Make sure that when you torque the nut, you can align it for the installation of the cotter pin. To prevent the nut from becoming thread bound on the bolt shank, you can use a quantity of two (2) washers under the nut. The washer under the nut can be a thick (NAS1149F0563P) or a thin (NAS1149F0532P). You must always put the thin washer under the nut.
-  4 Make sure that when you torque the nut, you can align it for the installation of the cotter pin. To prevent the nut from becoming thread bound on the bolt shank, you can use a quantity of two (2) washers under the nut. The washer under the nut must be a MS20002-5 washer.
-  5 The MS20002 series washer does not come in a thin configuration. If you cannot align the nut for cotter pin installation while you torque the nut, it is recommended that you use a different nut until you can install the cotter pin.
-  6 Do not torque the nut more than the given values while you align it for the cotter pin, you can damage the nut. Replace the nut if you think it is damaged.
7. For the function of identification, the MS20002 and NAS1149 series washers look the same, however, the MS20002 series washers have a larger outside (0.593 ± 0.010 inch (15.062 ± 0.254 mm)) diameter.

Figure 1. Main rotor pitch links – Removal/installation (Sheet 2)