A Textron Company

TECHNICAL BULLETIN 212-23-218

9 May 2023

MODEL AFFECTED: **212**

SUBJECT: **NEW TAIL ROTOR BLADE 412-016-100-111, INTRODUCTION OF.**

HELICOPTERS AFFECTED: **Serial numbers 30502 through 30603, 30611 through 30999, 31101 through 31311, 32101 through 32142 and 35001 through 35103.**

COMPLIANCE: At customer's option.

DESCRIPTION:

This bulletin provides instructions to install tail rotor blade 412-016-100-111 on the Model 212. This tail rotor blade assembly incorporates two fiberglass straps bonded to the interior upper and lower spar walls. The purpose of the fiberglass straps is to add structural redundancy in the event of a blade crack. This blade is differentiated by a new paint scheme and cannot be intermixed with the 212-010-750 tail rotor blade. With the new blade installation, a hardware change is also required.

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 FAA approved for FAA certified helicopters as listed in the applicable Type Certification Data Sheet. For non FAA certified helicopters, the engineering design aspects of this bulletin are Bell Engineering approved.

CONTACT INFO:

For any questions regarding this bulletin, please contact:

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MANPOWER:

Approximately 8.0 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.

Part Number	Nomenclature	Qty (Note)
412-016-100-111	Tail Rotor Blade	2
140-007-33R32E6	Washer Chamfered	8
MS21250-04034	Bolt	4
20-065-08036C	Bolt	4(1)
20-065-08038C	Bolt	4(1)
42FLW-48	Nut	4
MS14183P-4	Washer, Countersunk/Plain	4
140-060-4	Washer, Countersunk	4
NAS6604H1	Bolt	2(1)
NAS6604H3	Bolt	2(1)
NAS6604H5	Bolt	2(1)
NAS6604H7	Bolt	2(1)
NAS6604H9	Bolt	2(1)
NAS6604H10	Bolt	2(1)
212-011-708-105	Pitch Horn Assy	2(2)
212-011-717-105	Pitch Horn Assy (Alternate)	2(2)

NOTES:
1. Maximum quantity listed. Refer to the BHT-212-CR&O and BHT-212-MM for bolt and washer combinations and procedures.
2. Pitch horn 212-011-708-105 (or alternate 212-011-717-105) required, refer to TB 212-01-185.

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.

Part Number	Nomenclature	Qty (Note)	Reference *
2100-00044-00	CPC Grade 1	1	C-101
2100-09016-02	CPC Grade 2	1(1)	C-104
2110-07015-00	Dry Cleaning Solvent		C-304
1650-03296-00	Safety Wire (0.032")	1	C-405

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

NOTE 1: High pressure grease (C-172) or (C-561) can be used as an alternate to CPC Grade 2 (C-104).

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Compliance with this bulletin affects the weight and balance of the helicopter as shown in the following table. Adjust ballast as necessary to return the empty weight center of gravity (C of G) to within allowable limits (BHT-212-MM, Chapter 8).

	Longitudinal		Lateral*	
Weight	Arm	Moment	Arm	Moment
+3.7 pounds	480.2 inch	+1777 inch-pounds	15.0 inch	56 inch-pounds
+1.7 kgs	12197 mm	+204.9 kg x mm/100	381 mm	6.4 kg x mm/100

* In lateral calculations, - is left and + is right.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-212-IPB, Illustrated Parts Breakdown, Chapter 64
BHT-212-MM, Maintenance Manual, Chapter 64 and 18
BHT-212-CR&O, Component Repair and Overhaul Manual, Chapter 64
BHT-212-SI-68, Service Instruction, Tail Rotor Retrofit Kit
TB 212-01-185, Improved Tail Rotor Pitch Change Links

PUBLICATIONS AFFECTED:
BHT-212-MM, Maintenance Manual, Chapter 64
BHT-212-CR&O, Component Repair and Overhaul Manual, Chapter 64

ACCOMPLISHMENT INSTRUCTIONS:

-NOTE-

For the aircraft equipped with 212-010-701 hub and blade assembly, the tail rotor must be modified to 212-011-701 as per the Service Installation Instruction 212-SI-68.

1. Prepare the helicopter for maintenance.

2. Remove the tail rotor hub and blade assembly as per BHT-212-MM, Chapter 64.

3. Disassemble the tail rotor hub and blade assembly as per BHT-212-CR&O, Chapter 64. Discard the removed bolts, nuts, washers, only keep the balance washers for reinstallation.

CAUTION

Tail rotor blades 412-016-100-111 are heavier, and therefore cannot be mixed with the previous 212-010-750 series tail rotor blades.

4. Assemble the tail rotor hub and blade assembly with the new tail rotor blades (1, Figure 1) and hardware as below:

   a. Install the tail rotor pitch horn (2) on each tail rotor blade (1) as follows:

      (1) Apply a coating of corrosion preventive compound (C-104) to the shanks of the bolts (3 and 4) prior to installation. Do not apply the corrosion preventive compound to the bolt threads.

      (2) Position the tail rotor pitch horn (2) between the blade grips.

      (3) Install the two bolts (3), washers (5 and 6), and nuts (7), torque the nuts (7) 130 to 150 inch-pounds.

      (4) Install the bolt (4) and the balance washers (8 and 9), as required. Torque the bolt 50 to 70 inch-pounds. Secure the bolt to the tail rotor pitch horn (2) with lockwire (C-405).

   b. Apply a coating of corrosion preventive compound (C-104) to the shanks of the bolts (10 and 11) prior to installation. Do not apply the corrosion preventive compound to the bolt threads.

c. Position the blade grips over the tail rotor hub (12) with the data plate on the blades outboard and on the yoke inboard.

-NOTE-

Blade bolts may be assembled with heads either inboard or outboard, but all four bolts need to face the same way.

d. Align the tail rotor bearing (13) with the blade bolt holes. Install the bolts (10 and 11) and chamfered washers (14) with the nuts (15).

-NOTE-

Install the balance washers (16,17,18,19) and torque the nuts (15) during the balancing of the hub and blade assembly.

5. Carry out static balance of the tail rotor hub and blade assembly as per BHT-212-CR&O, Chapter 64. Torque the nuts (15) 45 to 54 foot-pounds.

6. Reinstall the tail rotor hub and blade assembly as per BHT-212-MM, Chapter 64.

7. Dynamically balance T/R in accordance with the instructions outlined in the 212 Maintenance Manual, Chapter 18.

8. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.

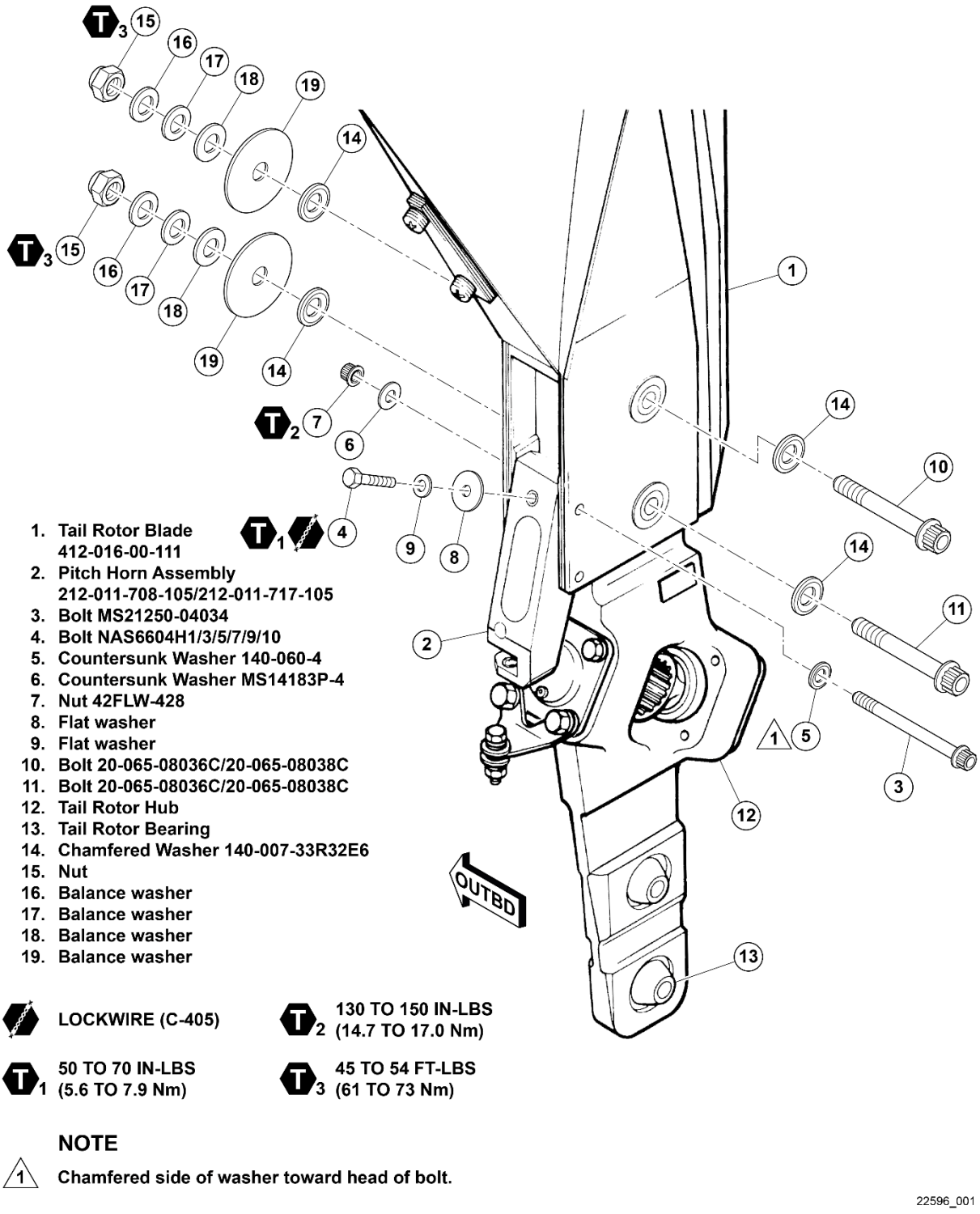

Figure 1 – Tail Rotor Blade 412-016-100-111 Installation