



A Textron Company

## **TECHNICAL BULLETIN**

**412-16-236**

9 February 2016  
Revision A, 10 February 2017  
Revision B, 4 March 2021

**MODEL AFFECTED:** 412/412EP

**SUBJECT:** INTERMEDIATE GEARBOX OUTPUT QUILL  
COUPLING AND TAIL ROTOR COUPLINGS  
GREASE LEAK, PREVENTION OF

**HELICOPTERS AFFECTED:** Part I: Serial numbers 36020 through 36693, 37002 through 37044 and helicopters with upgrade kit 412-704-052 installed per BHT-412-SI-74 or modified in accordance with drawing 412-570-001 or 412-706-100 (412SP to HP upgrade).

[Serial numbers 36694 through 36999, 37045 through 37999, 38001 through 38999 and 39101 through 39999 will have the intent of Part I accomplished prior to delivery.]

**Part II: Serial numbers 36020 through 36999, 37002 through 37032 and helicopters with upgrade kit 412-704-052 installed per BHT-412-SI-74 or modified in accordance with drawing 412-570-001 or 412-706-100 (412SP to HP upgrade).**

[Serial numbers 37033 through 37999, 38001 through 38999 and 39101 through 39999 will have the intent of Part II accomplished prior to delivery.]

**COMPLIANCE:** At customer's option.

### **DESCRIPTION:**

There have been some reported cases of grease leakage from the tail rotor couplings and the intermediate gearbox output quill coupling. In order to improve the reliability in

this area, Bell Helicopter is introducing a new seal 412-340-004-101 along with its associate parts, that when used as an assembly, have shown better performance in this application.

**Part I** of this bulletin provides the instructions for installing the new seal, housing, retainer and sleeve on the intermediate gearbox output quill assembly.

**Part II** of this bulletin provides the instructions for installing the new seal, housing, retainer, and sleeve to the tail rotor coupling assembly

Revision B of this bulletin corrects the helicopter serial numbers effectivity in the "HELICOPTERS AFFECTED" block. The Historical Service Records issued at delivery of some helicopters may incorrectly show that this TB has been accomplished prior to delivery.

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 Certificate Data Sheet. For non FAA certified helicopters, the engineering design aspects of this bulletin are Bell Helicopter Engineering 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](mailto:productsupport@bellflight.com)

**MANPOWER:**

No additional man hours are required when carried out at an overhaul.

**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 Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>
412-340-004-101	Seal	3
427-044-113-101	Housing	3
427-044-121-101	Retainer	3
412-040-640-101	Sleeve	1 (1)
412-040-639-101	Sleeve	2 (2)
AS3209-237	Packing	3
AS3209-235	Packing	3

**Notes:**

1. Used with quill 412-040-006-105.
2. Used with couplings 412-040-601-101/-107.

**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 Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>	<u>Reference *</u>
204-040-755-005	Grease	A/R	C-015

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

**SPECIAL TOOLS:**

None required.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

BHT-412-CR&O, Component Repair and Overhaul Manual

**PUBLICATIONS AFFECTED:**

BHT-412-IPB, Illustrated Parts Breakdown

**ACCOMPLISHMENT INSTRUCTIONS:**

-NOTE-

The individual couplings and the intermediate gearbox output quill may be modified at separate times.

**Part I. Intermediate gearbox output quill (412-040-006-105)**

1. Disassemble the intermediate gearbox output quill to the extent necessary to remove the seal 214-040-812-003, retainer 214-040-633-001, housing 214-040-634-001, and sleeve 412-040-636-101 in accordance with the BHT-412-CR&O, Chapter 65.
2. Using the new seal 412-340-004-101, retainer 427-044-121-101, housing 427-044-113-101, and sleeve 412-040-640-101, assemble the intermediate gearbox output quill in accordance with the BHT-412-CR&O, Chapter 65.
3. Using a vibrating stylus, reidentify the quill assembly data plate to read 412-040-006-115FM (Field Modified). The serial number remains the same.

**Part II. Tail rotor coupling assembly (412-040-601-101/-107)**

1. Disassemble the tail rotor coupling assembly to the extent necessary to remove the seal 214-040-812-003, retainer 214-040-633-001, housing 214-040-634-001, and sleeve 412-040-628-101 in accordance with the BHT-412-CR&O, Chapter 65.
2. Using the new seal 412-340-004-101, retainer 427-044-121-101, housing 427-044-113-101, and sleeve 412-040-639-101, assemble the tail rotor coupling assembly in accordance with the BHT-412-CR&O, Chapter 65.
3. Using a vibrating stylus, reidentify the hanger assembly 412-040-601-101 data plate to read 412-040-601-109FM and/or reidentify the hanger assembly 412-040-601-107 data plate to read 412-040-601-111FM. The serial numbers remain the same.
4. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.