A Textron Company

ALERT SERVICE BULLETIN

412-21-185
PSL # 704
15 July 2021

MODEL AFFECTED: **412/412EP**

SUBJECT: **TAIL ROTOR DRIVE SHAFT ASSEMBLY 412-040-620-103 INSPECTION AND REMOVAL FROM SERVICE**

HELICOPTERS AFFECTED: **Serial numbers 34025 through 34036, 36020 through 36687, 36689 through 36999, 37002 through 37018, 37021 through 37051 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 number 36688, 37019, 37020, 37052 through 37999, 38001 through 38999 and 39101 through 39999 will have the intent of this bulletin accomplished prior to delivery.]

PARTS AFFECTED: **Tail rotor drive shaft assembly 412-040-620-103 serial numbers A-811, A-812 and A-813**

COMPLIANCE: **PART 1:** For drive shaft assembly installed on a helicopter, no later than 25 flight hours or 30 days after the release date of this bulletin. For drive shaft assembly in Spares stock, no later than 30 days after the release date of this bulletin.

PART 2: No later than 100 flight hours or 30 days after accomplishment of PART 1 if no evidence of corrosion was found at accomplishment of PART 1.

DESCRIPTION:

Bell examined a tail rotor drive shaft assembly 412-040-620-103 Serial Number (S/N) A-814 found with severe corrosion on the inside diameter of the drive adapter. The investigation indicates that the root cause of the corrosion damage was a lack of primer applied to the faying surfaces of the shaft outside diameter and the drive adapter inside diameter. The tail rotor drive shaft assembly serial numbers listed in the “PARTS AFFECTED” section of this bulletin and the drive shaft assembly found with the corrosion were part of the same manufacturing lot. These tail rotor drive shaft assemblies were manufactured in the 1999 timeframe and may have been sold as spares or installed on a helicopter at delivery.

Although this manufacturing defect is considered an isolated case, as a precautionary measure, this bulletin mandates the removal from service of the affected tail rotor drive shaft assembly serial numbers.

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 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

MANPOWER:

Approximately 1 man-hour is required to complete each PART 1 and PART 2 of this bulletin. This estimate is based on hands-on time and may vary with personnel and facilities available.

WARRANTY:

Owners / Operators of Bell Helicopters who comply with the instructions in this bulletin will be eligible to receive non prorated replacement part as applicable, listed in the MATERIAL section of the bulletin. The mybell.com portal allocates specific warranty entitlement for an aircraft by serial number. The Product Service Letter (PSL) number which will be listed below the bulletin number on the introduction page will be a required field when submitting a claim on the Bulletins Tab for replacement parts, labor, and/or freight. If you receive an ASB or TB that does not have a PSL number, then there is no warranty entitlement for that bulletin.

Labor entitlement: None

To receive replacement part under warranty:

- Confirm Drive Shaft Assembly is one of the affected serial numbers listed in the affected section of this bulletin and contact PSE and Warranty with pictures (required) of the part number and serial number of the Drive Shaft. Disposition instructions will be provided at that time.
- Comply with the instructions contained in this Bulletin no later than the applicable date in the “compliance section”.
- If there is a PSL number identified in the bulletin you will be required to enter this PSL number which will validate warranty entitlement for the selected aircraft. Please ensure that you use the Bulletin tab when you file your claim.

NOTE: Customers who fail to comply with the instructions in this Bulletin before the (enter compliance date) will not be eligible for the special warranty listed above.

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)
412-040-620-103	Tail rotor drive shaft assembly	1 (1)

NOTE 1: Required only if an affected drive shaft assembly is installed.

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 *
2400-00259-00	AERIOL THIXO NO 2 AVIATION GREASE	14.4 oz (1)	C-561

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

NOTE 1: Will be required only if the drive shaft assembly require removal and replacement.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-412-MM Maintenance Manual, Chapter 65
BHT-412-IPB Illustrated Parts Breakdown, Chapter 65

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

PART 1. Tail rotor drive shaft assembly serial number verification and inspection.

1. Prepare the helicopter for maintenance.

2. Gain access to the tail rotor drive shaft assembly 412-040-620-103 by opening the vertical fin drive shaft cover and removing the intermediate gearbox cover.

3. Verify the serial number of the tail rotor drive shaft assembly installed on the helicopter. The drive shaft assembly part number and serial number are located on the flange of the drive adapter attached to the intermediate gearbox (refer to Figure 1) Do not confuse drive adapter 412-040-623-101 serial number with the drive shaft assembly 412-040-620-103 serial number.

4. If the drive shaft assembly serial number is not listed in the parts affected section of this bulletin, no further action is required. Make an entry in the helicopter logbook and historical service records indicating findings and compliance with this Alert Service Bulletin.

5. If the drive shaft assembly is one of the serial numbers listed in the parts affected section of this bulletin, carry out the following steps:

    a. Contact Product Support Engineering and provide a picture of the drive shaft assembly part number and serial number.

    b. Remove the drive shaft assembly (Maintenance Manual, Chapter 65) and inspect the inside diameter of the drive shaft assembly at both ends for any evidence of corrosion. Figure 2 shows the location where the corrosion was found on the drive shaft assembly serial number A-814.

    c. If corrosion is found, contact Product Support Engineering for disposition.

    d. If no corrosion is found, accomplish PART 2 immediately or re-install the drive shaft assembly (Maintenance Manual Chapter 65) and accomplish Part 2 within the timeframe stated in the “COMPLIANCE” section of this bulletin.

PART 2. Tail rotor drive shaft assembly replacement.

1. Prepare the helicopter for maintenance and gain access to the drive shaft assembly 412-040-620-103 by opening the vertical fin drive shaft cover and removing the intermediate gearbox cover.

2. Remove and replace the drive shaft assembly with a serviceable drive shaft assembly (Maintenance Manual, Chapter 65). Send the affected drive shaft to Bell as instructed in the “Warranty” section.

3. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.

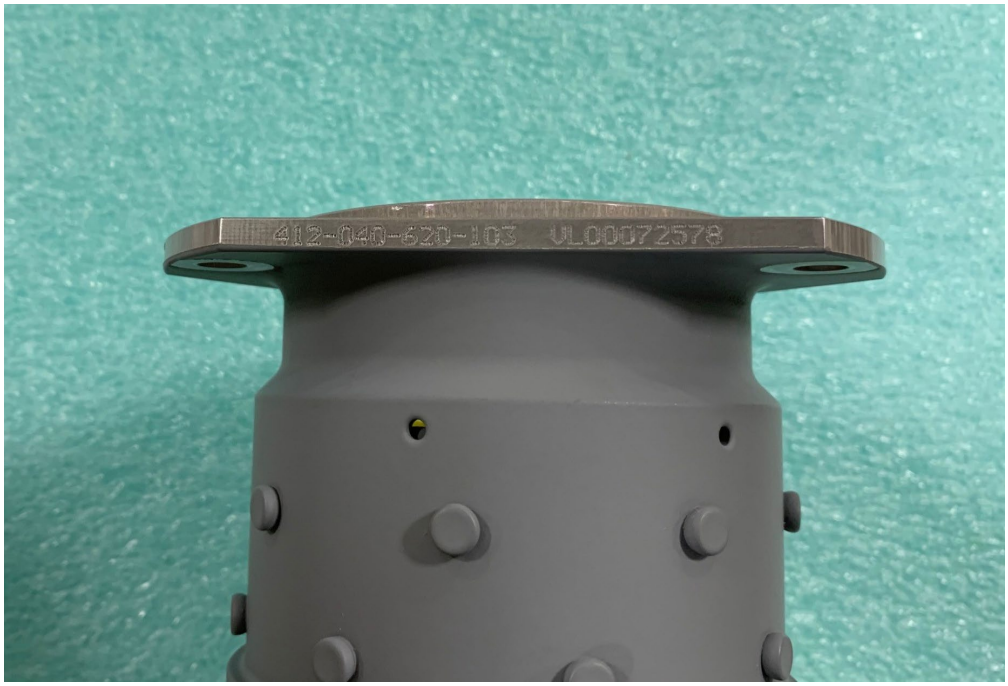

Figure 1. Location of part and serial numbers

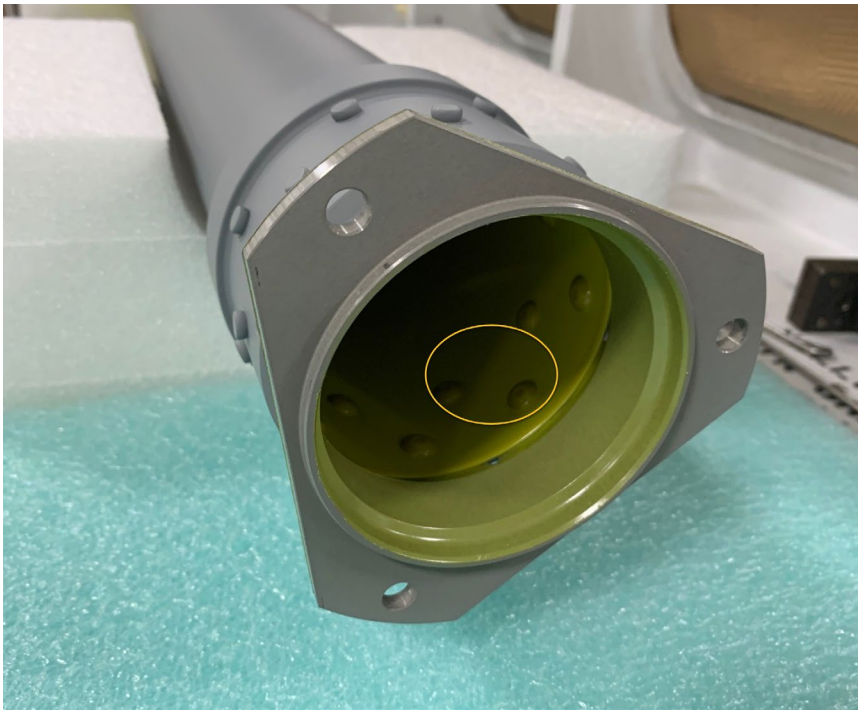

Figure 2. Location of corrosion on shaft assembly S/N A-814