



A Textron Company

ALERT SERVICE BULLETIN

206-24-143

10 June 2024

MODEL AFFECTED: 206A/B and TH-67

SUBJECT: TAIL ROTOR SEGMENTED DRIVESHAFT ASSEMBLY, ONE-TIME INSPECTION OF

HELICOPTERS AFFECTED: Serial numbers 004 through 1251 (equipped with the five (5) segmented driveshafts), 1252 through 4690 and 5101 through 5313.

COMPLIANCE: Within 100 flight hours or 90 days, whichever comes first, following the release date of this bulletin.

DESCRIPTION:

Bell has received reports of looseness of the splined adapter on the tail rotor driveshaft segment assembly. The investigation noted that the retaining nut holding the splined adapter to the driveshaft was found with less than the required torque.

This Alert Service Bulletin (ASB) is being released to require a one-time inspection and re-torque of the splined adapter retaining hardware.

Some helicopters in the HELICOPTERS AFFECTED serial number range 004 through 1251 may have been modified with segmented shafts through local aviation authority approvals; in this case, the bulletin shall be carried out on those helicopters as well.

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 Transport Canada Civil Aviation (TCCA) 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 3.0 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.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>
206-040-363-101	Adapter	A/R (1)(2)(3)
206-040-385-105	Shaft Assy	A/R (1)(2)(3)(5)
206-040-363-001	Adapter	A/R (1)(3)(4)
206-040-385-109	Shaft Assy	A/R (1)(3)(4)(5)
206-040-932-001	Plate	A/R (1)
NAS9926-4L	Nut	A/R (6)

NOTES:

1. Only required following inspection if the part is found beyond the acceptable repair limits of the BHT-206B3-CR&O.
2. Usable on 206-040-387-103
3. Post Technical Bulletin 206-06-186
4. Usable on 206-040-387-105
5. Check for correct configuration as some shafts could have been replaced as per Technical Bulletin 206-06-186 or 206-23-212.
6. Only required if the nut is unserviceable and/or does not meet the minimum tare torque of 3.5 inch-pounds (0.4Nm).

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.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2230-10536-00	Torque Seal, Lacquer	A/R (1)(2)	C-049

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

NOTES:

1. Quantity indicated is the format that the product is delivered in. Actual quantity required to accomplish the instructions in this bulletin may be less than what has been delivered.
2. 2230-10536-00 torque seal lacquer (C-049) is color yellow, however other colors are available, at customer's option, as shown in BHT-ALL-SPM Standard Practice Manual, in Chapter 13 under (C-049).

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-206A/B Series-IPB Illustrated Parts Breakdown.
BHT-206A/B-SERIES-MM Maintenance Manual
BHT-206B3-CR&O Component Repair and Overhaul Manual.
Technical Bulletin 206-06-186 Riveted Tail Rotor Driveshaft Segments 206-040-385-105/-109 and Riveted Aft Short Shaft 206-040-383-101, Introduction Of
Alert Service Bulletin 206-20-139 Segmented Tail Rotor Driveshafts with Bonded Adapters
Technical Bulletin 206-23-212 Segmented Tail Rotor Driveshafts, Retrofit Of

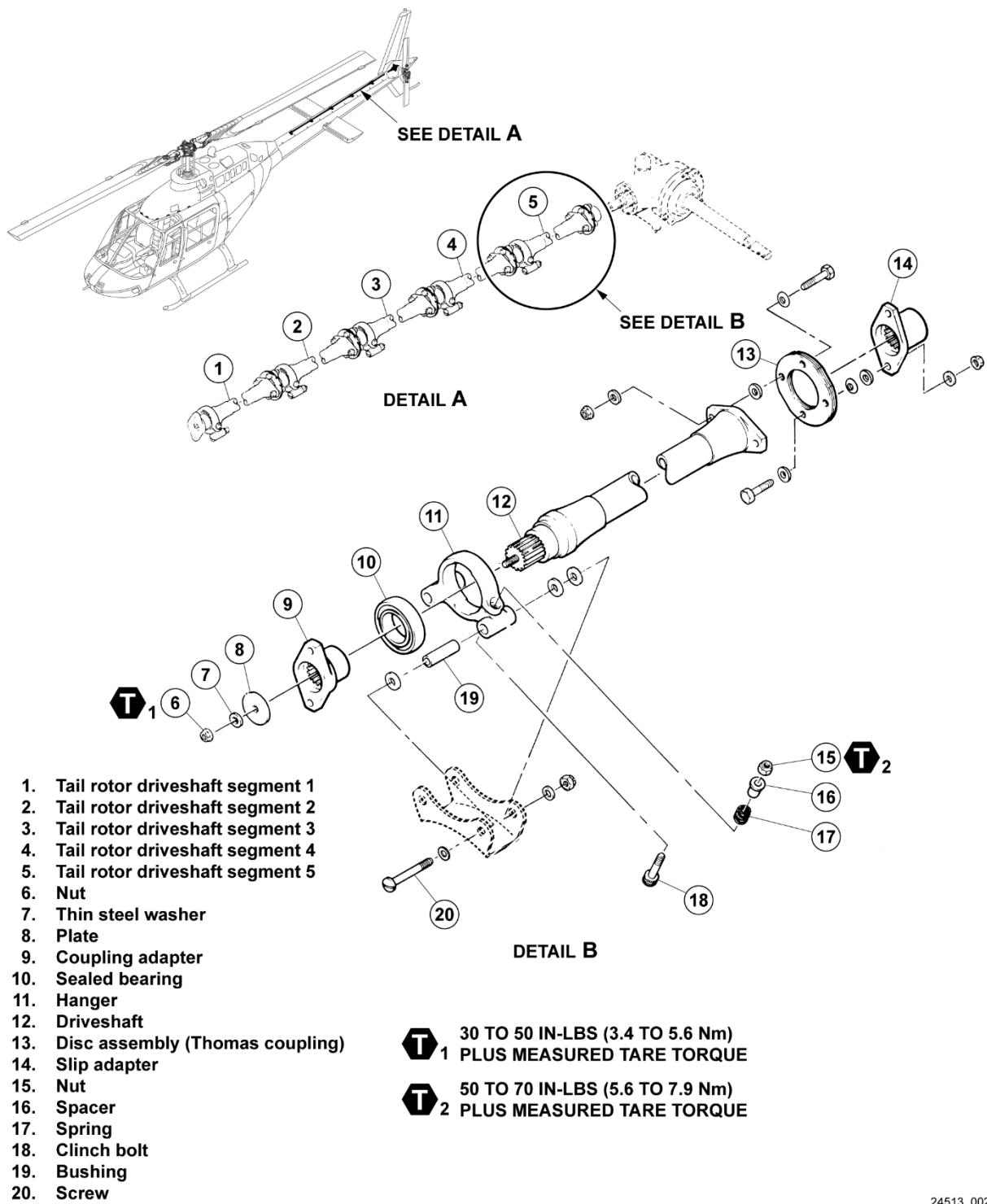
PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.
2. Gain access to the tail rotor shaft segments by removing the aft fairing and the tail rotor driveshaft cover (BHT-206A/B-SERIES-MM, Chapter 53).
3. Inspect the tail rotor segmented driveshaft assembly splined adapters (9, Figure 1) for any noticeable axial (fore and aft) and radial play between the splined adapter (9) and the driveshaft (12) at all five locations (Figure 1).
 - a. If there is no radial or axial play noted, do the following:
 - (1) Remove the aft short shaft directly aft of the fan shaft and the segmented shaft assemblies (2) and (4). Support the aft end of the segmented shaft (1) and (3) (BHT-206A/B-SERIES-MM, Chapter 65).
 - (2) Remove any torque seal lacquer (C-249) that may be applied to nut (6) on all five of the tail rotor segmented driveshaft assemblies.
 - (3) Unseat the nut (6) by loosening the nut by $\frac{1}{2}$ to 1 turn at each of the five tail rotor segmented driveshaft assemblies.
 - (4) Measure the tare torque of the nut (6) using a dial indicator torque wrench.
 - (a) If the tare torque of the nut meets the minimum 3.5 inch-pounds (0.4 Nm), go to step (3.a.(5)).
 - (b) If the tare torque of the nut is less than 3.5 (0.4 Nm), replace the nut with a serviceable nut and proceed to step (3.a.(4)(a)).
 - (5) Torque the nut (6) 30 to 50 inch-pounds (3.4 to 5.6 Nm) and add the measured tare torque in steps (3.a.(4)) to the specified torque.
 - (6) Apply torque seal lacquer (C-249) across the threads of the stud of the driveshaft (12), the nut (6) and the plate (8). Go to step (4).
 - b. If radial or axial play is noted, perform the following:
 - (1) Remove the aft short shaft directly aft of the fan shaft and the segmented shaft assemblies (2) and (4). Support the aft end of the segmented shaft (1) and (3) (BHT-206A/B-SERIES-MM, Chapter 65).
 - (2) Disassemble the applicable tail rotor driveshaft segment assembly (BHT-206B3-CR&O).

- (a) Inspect the splined adapter (9) and splines of the driveshaft (12). Replace or repair parts if required (BHT-206B3-CR&O).
- (3) Assemble the applicable tail rotor driveshaft assembly with serviceable parts (BHT-206B3-CR&O).
 - (a) Measure the tare torque of the nut (6) using a dial indicator torque wrench.
 - 1. If the tare torque of the nut meets the minimum value of 3.5 inch-pounds (0.4 Nm), go to step 3.b.(3)(b).
 - 2. If the tare torque of the nut is less than 3.5 inch-pounds (0.4Nm), replace the nut with a serviceable nut and repeat step (3.a(4)).
 - (b) Torque the nut (6) 30 to 50 inch-pounds (3.4 to 5.6 Nm) and add the tare torque measured in step 3.a(4) to the specified torque.
 - (c) Apply torque seal lacquer (C-049) across the threads of the driveshaft stud (12), the nut (6) and the plate (8).
- 4. Install the tail rotor segmented driveshaft assemblies 2 and 4 (BHT-206A/B-SERIES-MM, Chapter 65).
- 5. Install the aft short shaft (BHT-206A/B-SERIES-MM, Chapter 65).
- 6. Install the aft fairing, tail rotor driveshaft cover and tail rotor gearbox fairing (BHT-206A/B-SERIES-MM, Chapter 53) after ground run.
- 7. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.



24513_002

Figure 1 – Tail Rotor Drive System