

TECHNICAL BULLETIN
Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

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MODEL AFFECTED: Model 222 and 222B

SUBJECT: MAIN DRIVESHAFT ASSEMBLY P/N 222-044-006-111, INTRODUCTION OF

HELICOPTERS AFFECTED: Model 222 S/N 47006 through 47089
Model 222B S/N 47131 through 47156

COMPLIANCE: At Customer's Option

DESCRIPTION:

Bell Helicopter Textron has received reports of internal corrosion of P/N 222-044-006-103, -107 and -109 engine to transmission driveshaft assemblies.

A new drive shaft assembly, P/N 222-044-006-111, has been created to address the reported problems. This new assembly will have inner and outer couplings that use an Ion Vapor Deposited Aluminum (IVDA) coating on all areas currently cadmium plated and/or primed. In addition, to eliminate galling of shaft assembly and inner coupling during assembly and disassembly, the 222-044-685-105 shaft pilot diameter has been carburized and the 222-044-607-103 inner coupling pilot diameter has been nitrided to increase resistance to damage. The inner coupling retention nut has also been silver plated to assist in preventing corrosion.

The new P/N 222-044-607-103 and P/N 222-044-672-105 inner and outer couplings are Ion Vapor Deposited Aluminum (IVDA) coated and do not require primer application per Technical bulletin 222-95-153.

The new 222-044-006-111 driveshaft still requires the installation of the overtemperature indicators (TEMP-PLATES) on the outer couplings per Alert Service Bulletin 222-93-67.

- NOTE -

The IVDA coating is chromate treated, giving the coupling a tan to iridescent gold appearance. Unlike cadmium plated couplings, this coating may lighten in color while in service. DO NOT use the color of the coupling to determine an overheat condition, check the Templates in accordance with the maintenance manual.

Driveshaft assembly P/N 222-044-006-111 will be supplied as a spare replacement for all earlier driveshaft assemblies. In addition, the detail parts of driveshaft assembly P/N 222-044-006-111 will be supplied as spare replacement for all earlier detail parts.

This bulletin provides information to operators that have a requirement to upgrade main driveshaft assemblies to the latest configuration.

APPROVAL:

The design engineering aspects of this bulletin are Transport Canada approved.

MANPOWER:

No additional man-hours will be required to accomplish this bulletin when done in conjunction with driveshaft disassembly.

MATERIALS:

Reference ACCOMPLISHMENT INSTRUCTION. Material will be available through your Bell Helicopter Supply Center.

SPECIAL TOOLS:

Not required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

- BHT-222-IPB, Chapter 63
- BHT-222B-IPB, Chapter 63
- BHT-222/222B-MM-1, Chapter 66
- BHT-222-CR&O-2, Chapter 63
- ASB 222-93-67, Main Rotor and Tail Rotor Driveshaft Grease Lubricated Coupling Over-Temperature Indicators Installation of.
- ASB 222-94-69, Driveshaft P/N 222-044-645-101 and P/N 222-044-685-101 Inspection of.
- ASB 222-95-74, Shaft Assembly P/N 222-044-685-101 Recall and Replacement of.

- TB 222-83-54, Driveshaft Assembly P/N 222-044-006-103 Upgrade to Springless Configuration.
- TB 222-84-64, 222 Main Input Shaft Balance of.
- TB 222-87-98, Main Driveshaft Assemblies Calendar Inspection Addition of.
- TB 222-89-123, Main Driveshaft Assembly P/N 222-044-006 Configuration Change and Upgrade.
- TB 222-95-153 Driveshaft Outer Coupling P/N 222-044-672-101 and Inner Coupling P/N 222-044-607-003 Corrosion Protection of.

PUBLICATIONS AFFECTED:

- BHT-222-IPB, Chapter 63
- BHT-222B-IPB, Chapter 63
- BHT-222/222B-MM-1, Chapter 66
- BHT-222-CR&O-2, Chapter 63

ACCOMPLISHMENT INSTRUCTIONS:

Table 1 lists the major components of dash numbered configurations, but does not contain parts and hardware common to all configurations. These items are contained in the Illustrated Parts Catalog.

The helicopter certified design configurations at time of delivery were as follows:

Helicopter Serial No.	Driveshaft Assembly Part Number
Model 222 47006-47089	222-044-006-103 (See Note)
Model 222B 47131-47156	222-044-006-109

- NOTE -

Driveshaft assembly P/N 222-044-006-103 may be upgraded to the springless configuration P/N 222-044-006-107 per TB 222-83-54. However it is useable only on the model 222 helicopter.

The use of a later dash numbered main driveshaft assembly on an earlier helicopter serial number is approved. The use of an earlier dash number main driveshaft assembly on a later helicopter serial number is not authorized. To do so places the helicopter out of the certified design configuration.

Overhaul main driveshaft assembly in accordance with Chapter 63, Volume II, of Model 222 Series Component Repair and Overhaul Manual.

The upgraded main driveshaft assembly must have its data plate and Historical Record reidentified to the new part number that the driveshaft assembly was upgraded to. The suffix "FM" will be added after the part dash number to indicate "field modified". The serial number of field modified part will not be altered or changed.

Example: Upgrade main driveshaft assembly P/N 222-044-006-103 to the -111 configuration. Reidentify driveshaft assembly data plate and Historical Service Record to new part.
 Number: 222-044-006-~~103~~-111FM.
 Retain existing serial number.

**TABLE 1. MAIN DRIVESHAFT P/N 222-044-006
CONFIGURATION**

PART NUMBER	NOMENCLATURE	DASH NUMBERS				NOTES
		(1) (6)	(1)	-	-	
222-044-006	Driveshaft Assembly	-103	-107	-109	-111	
222-044-607-003	COUPLING	X	X	X		(2) (7)
222-044-607-103	COUPLING				X	(8)
222-044-613-101	SPRING	X				(6)
222-044-635-001	RETAINER	X				(6)
222-044-654-103	NUT	X	X	X		(3)
222-044-654-105	NUT				X	
222-044-672-101	COUPLING	X	X	X		(4) (7)
222-044-672-105	COUPLING				X	(8)
222-044-674-103	RETAINER	X				(6)
222-044-682-103	RETAINER		X	X	X	
222-044-645-103	SHAFT	X	X			(5) (9)
222-044-685-101	SHAFT	X	X	X		(5) (9)
222-044-685-103	SHAFT	X	X	X		(5) (10)
222-044-685-105	SHAFT				X	(10)
MS 9105-43	PIN	X				(6)

- NOTES -

1. Driveshaft assemblies P/N 222-044-006-103 and -107 are useable on Model 222 only
2. Superseded in Spares by P/N 222-044-607-103.
3. Superseded in Spares by P/N 222-044-654-105.
4. Superseded in Spares by P/N 222-044-672-105.
5. Superseded in Spares by P/N 222-044-685-101, -103 or -105.
6. Compliance with TB 222-83-54, Revision A upgrades driveshaft assembly P/N 222-044-006-103 to a -107 shaft.
7. Couplings already modified/primed per Technical Bulletin 222-95-153 may be kept in service and primer may be reapplied as required. However, Technical Bulletin 222-95-153 should no longer be applied on original couplings.
8. Application of primer per Technical Bulletin 222-95-153 is not permitted on couplings coated with Ion Vapor Deposited Aluminum (IVDA).
9. Shaft Inside diameter is protected with Epoxy Zinc coating.
10. Shaft Inside diameter is protected with Cadmium plating.