

TECHNICAL BULLETIN

Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

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MODEL AFFECTED: 222 AND 222B

SUBJECT: TRANSMISSION ASSEMBLY P/N 222-040-003,
-003, -103, -109, -111, -119 AND -123
CONFIGURATION CHANGE AND UPGRADE

HELICOPTERS AFFECTED: Model 222 Helicopters Serial Number 47006
through 47089
Model 222B Helicopters Serial Number 47131
through 47156

-NOTE-

Transmission assemblies modified per TB 222-84-66A and identified as such are acceptable for installation on 222, 222B and 222U Helicopters and are the equivalent of transmission P/N 222-040-003-111

COMPLIANCE: At Customer's Option

DESCRIPTION:

This bulletin provides operators with the information to upgrade a transmission assembly to the latest configuration. Modification to the -111, -119 or -123 configuration should be considered for inclusion at next overhaul and will improve serviceability of earlier delivered units.

Transmissions modified in accordance with TB's 222-84-65 and 222-84-66A and transmissions P/N 222-040-003-111, -119 or -123 will no longer be subject to the special 600 hour internal inspection and time between overhaul (TBO) will be 5000 hours provided an interim inspection is accomplished at 3000 hours since new or 3000 hours after overhaul. Transmissions must be serviced with Aeroshell 555 or Royco 555 lubricating oil (Ref. TB's 222-84-65, 222-84-66A and 222-87-99).

DESCRIPTION (cont'd)

Transmission assemblies P/N 222-040-003-003 not modified per T.B. 222-84-65 still require the 600 hour special internal inspection. Time between overhaul (TBO) for transmission assemblies not previously modified by TB 222-84-66A or upgraded to the -111, -119 or -123 configuration as described by this bulletin will remain at 2500 hours.

The top case idler link bushing I.D. dimensional 600 hour inspection as outlined in Chapter 5 of the Model 222/222B Maintenance Manual is still required on all transmission assemblies.

Certified design configuration of the helicopters at time of delivery were as follows:

<u>MODEL</u>	<u>HELICOPTER S/N</u>	<u>XMSN ASSY P/N</u>
222	47006 through 47089	222-040-003-003
222B	47131 through 47135	222-040-003-103
	47132 through 47156	222-040-003-109
	47136 through 47156	222-040-003-111

The use of a later dash numbered transmission assembly on an earlier serial number helicopter is approved. The use of an earlier dash numbered transmission assembly on a later serial number helicopter is not authorized and places the helicopter out of the certified design configuration.

Following upgrade, the dash number identification must be updated in the transmission assembly records.

APPROVAL:

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

MANPOWER:

No man power requirements are stated, as the length of time for the upgrade will vary with the upgrade required. Upgrades at time of overhaul should result in no addition to man-hour requirements normally incurred.

MATERIAL:

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

SPECIAL TOOLS:

Reference Model 222 Series Component Repair and Overhaul Manual Volume 2, Chapter 63.

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-222/222B-MM-I, Chapters 5, 12 and 66.
BHT-222-CR&O-2, Chapter 63.
T.B. 222-84-65 Deletion of Transmission 600 Hour Special Internal Inspection.
T.B. 222-84-66A Transmission Modification.
T.B. 222-87-99 Transmission and Tail Rotor Gearbox TBO Increase
T.B. 222-87-112 Transmission Stop Water Shield
T.B. 222-89-127 Transmission and Tail Rotor Gearbox TBO Increase
IL 222-90-7, Transmission top case bushing replacement.
IL GEN-94-53, Powertrain component corrosion prevention.
OSN GEN-96-28, Transmission spiral bevel gear cracks.

PUBLICATIONS AFFECTED:

BHT-222/222B-MM-1, Chapters 5 and 66
BHT-222-IPC, Chapter 66
BHT-222B-IPC, Chapter 66

ACCOMPLISHMENT INSTRUCTIONS:

-NOTE-

Prior to accomplishment of this bulletin and/or ordering parts, the transmission records should be reviewed to determine the actual configuration. Parts replacement during earlier repairs may have already substituted some of these parts.

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.

Overhaul Transmission assembly in accordance with Model 222 Series Component Repair and Overhaul Manual.

The upgraded transmission assembly must have its data plate and Historical Record reidentified to new part number that the transmission 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 shall never be altered or changed.

Example: Upgrade the transmission assembly P/N 222-040-003-103 to the -123 configuration. Reidentify transmission assembly data plate and Historical Service Record to new part number: 222-040-003-~~103~~ -123 FM. Retain existing serial number.

Table 1
TRANSMISSION ASSEMBLY P/N

PART NUMBER	NOMENCLATURE	-003	-103	-109	-111	-119	-123	NOTE
222-040-003	Transmission Assembly					(10)	(11)(12)	
222-031-616-101	Fitting Assembly	X	X	X	X			(1)
222-031-616-103	Fitting Assembly				X	X	X	
222-031-619-101	Mount Assembly	X	X	X	X			(3)
222-031-620-101	Mount Assembly	X	X	X	X			(4)
222-031-663-101	Shield, L / H					X		(2)(12)
222-031-663-103	Shield, R / H					X		(2)(12)
222-040-022-101	Quill Assembly	X						(13)
222-040-022-102	Quill Assembly	X						(14)
222-040-022-105	Quill Assembly		X	X				(15)
222-040-022-106	Quill Assembly		X	X				(16)
222-040-022-107	Quill Assembly				X	X	X	
222-040-022-108	Quill Assembly				X	X	X	
222-040-061-101	Case Assembly	X						(17)
222-040-061-105	Case Assembly		X	X	X	X	X	
222-040-069-001	Case assembly	X						(5)
222-040-069-101	Case assembly	X	X	X	X			(5)
222-040-069-105	Case assembly				X	X	X	
222-040-091-101	Manifold Assembly	X						(18)
222-040-091-105	Manifold Assembly		X	X	X	X	X	
222-040-109-003	Gear	X	X					(6)
222-040-109-103	Gear			X	X			(6)
222-040-109-105	Gear					X	X	

-NOTES-

1. For spare replacement, use Fitting Assembly P/N 222-031-616-103.
2. Shields may be installed on transmission per Technical Bulletin 222-87-112.
3. For spare replacement of P/N 222-031-619-101 Mount assembly, P/N 222-030-535-107 Clevis assembly, P/N 20-057-6-22D bolt and P/N MS 17825-6 nut as a unit, use P/N 230-031-619-101 Mount assembly, P/N 230-030-535-103 Rod end assembly, P/N 20-057-6-30D bolt, P/N MS14144L6 nut and P/N 22-008C24-30-20 bushing as a unit.
4. For spare replacement of P/N 222-031-620-101 Mount assembly, P/N 222-030-535-109 and/or -111 Clevis assembly, P/N 20-057-6-22D bolt and P/N MS 17825-6 nut as a unit, use P/N 230-031-620-101 Mount assembly, P/N 230-030-535-101 Rod end assembly, P/N 20-057-6-30D bolt, P/N MS14144L6 nut and P/N 22-008C24-30-20 bushing as a unit.
5. For spare replacement, use Case assembly P/N 222-040-069-105.
6. For spare replacement, use Gear P/N 222-040-109-105.
7. For spare replacement, use Gear P/N 222-040-115-101.
8. For spare replacement of Pump assembly P/N 222-340-052-103, use Pump assembly P/N 222-340-091-101 and two (2) P/N M83248/1-037 packing as a unit.
9. For spare replacement, use Transmitter P/N 222-375-077-105.
10. Transmission assembly P/N 222-040-003-119 is used in Model 230.
11. Transmission Assembly P/N 222-040-003-123 is the same as -119 except the L/H and R/H mounts and shields are not installed.
That configuration provides a single Transmission Assembly that may be installed on any model 222 and 230.
12. Installation of Transmission Assembly P/N 222-040-003-123 in Model 222 or 230 aircraft will require installation of the L/H and R/H mounts and shields. Refer to applicable maintenance and/or overhaul manuals for installation instructions.
13. For spare replacement, use Quill Assembly P/N 222-040-022-105.
See Note 15.

14. For spare replacement, use Quill Assembly P/N 222-040-022-106. See Note 16.
15. For spare replacement, use Quill Assembly P/N 222-040-022-107.
16. For spare replacement, use Quill Assembly P/N 222-040-022-108.
17. For spare replacement, use Case Assembly P/N 222-040-061-105.
18. For spare replacement, use Manifold Assembly P/N 222-040-091-105.
19. For spare replacement, use Gear P/N 222-040-112-103.
20. For spare replacement, use Spring P/N 222-040-139-101.
21. Pump P/N 222-340-052-101 is an alternate.
22. Union P/N AN815-12D is the interface with the transmission oil inlet and outlet hoses to the oil cooler.