

TECHNICAL BULLETIN

Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

NO 206-01-175

DATE 04-06-01

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REV.

MODEL AFFECTED: 206A/B SERIES

SUBJECT: FREEWHEEL ASSEMBLY 206-040-270-ALL, UPGRADE AND CONFIGURATION OF.

HELICOPTERS AFFECTED: 206A, Serial Number 004 through 660, and 672 through 715.
206B, Serial Number 661 through 671, 716 through subsequent.

FREEWHEEL AFFECTED

<u>FREEWHEEL P/N</u>	<u>NOTE</u>	<u>PRODUCTION EFFECTIVITY</u>
206-040-270-003	(1)(2)	206B – 1414 through 4359
206-040-270-117	(3)	206B – 4360 through subsequent
206-040-270-003	(1)(2)	5101 through 5238
206-040-270-117	(3)	5239 through subsequent

NOTES:

1. Any noted freewheel assembly can be upgraded to a newer configuration of freewheel assembly. Refer to Table 1.
2. Freewheel 206-040-230-ALL and 206-961-032-ALL used on 206B Serial Number 004 through 1413 can be upgraded to freewheel 206-040-270-003. Refer to T.B. 206-82-69.
3. The freewheel assembly 206-040-270-117 is the stocked spare freewheel assembly that you can use on all model 206A/B Series helicopters.

COMPLIANCE:

At the option of the operator. However, it is recommended that this Bulletin be accomplished whenever the freewheel assembly is overhauled.

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COMPLIANCE: (cont'd)

All applicable Alert Service Bulletins and Technical Bulletins must be accomplished in order to upgrade to a newer freewheel assembly configuration. Refer to the REFERENCE section of this bulletin.

This bulletin does not apply to the freewheel assemblies that have been subjected to repair, rework, of modifications that were not approved by Bell Helicopter.

DESCRIPTION:

This bulletin describes the changes needed to upgrade older model 206B series freewheel assemblies to newer freewheel assembly configurations.

Once upgraded, the freewheel assemblies can be used on model 206B helicopters as listed in the FREEWHEEL AFFECTED block.

APPROVAL:

The engineering design aspects of this Technical Bulletin are Transport Canada approved.

MANPOWER:

If this bulletin is done during normal overhaul, no additional man-hours will be necessary.

MATERIALS:

Refer to Tables 1, 2 and 3 of ACCOMPLISHMENT INSTRUCTIONS. The standard replacement parts necessary at overhaul are not included. You can get parts for the upgrade through your Bell Helicopter Textron Supply Center.

SPECIAL TOOLS:

Refer to referenced applicable Component Repair and Overhaul manual.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-206A/B-Series-Maintenance Manual, Original Issue January 07, 1997.

BHT-206A/B-Maintenance and Overhaul Manual, Revision 41, 21 November 1995

Section VI.

BHT-206B3-CR&O, Revision 1, 22 August 1993

Chapter 63.

BHT-206A/B-IPB, Revision 1, 31 January 1997

Chapter 63.

A.S.B. 206-78-2 (FREEWHEEL OUTER RACE SHAFT P/N 206-040-221-003, INSPECTION OF).

T.B. 206-79-31 (FILTER, P/N 50-075-1, IN OIL LINE TO FREEWHEEL ASSEMBLY, INSTALLATION OF).

T.B. 206-82-69 (FREEWHEEL ASSEMBLY COMMONALITY MODIFICATION TO).

T.B. 206-83-90 (FREEWHEEL INNER SHAFT, P/N 206-040-222-005, INTERNAL SURFACE PROTECTION).

T.B. 206-95-155 (FREEWHEEL SLOTTED OUTER SHAFT 206-040-379-101 AND KEYED BEARING 206-340-203-101 /-103, INTRODUCTION OF).

T.B. 206-95-159 (IMPROVED FREEWHEEL FORWARD SEAL 206-340-204-101, INTRODUCTION OF).

I.L. 206-84-45 (INTRODUCTION OF NEW FREEWHEEL CLUTCH ASSEMBLY P/N CL42250-1).

I.L. 206-89-62 (DISCREPANT FREEWHEEL HOUSING GASKETS, P/N 206-040-229-001).

PUBLICATIONS AFFECTED:

BHT-206A/B-IPB Manual, Reissued – August 1993

Chapter 63.

BHT-206B3-IPB Manual, Reissued – May 1992

Chapter 63.

ACCOMPLISHMENT INSTRUCTIONS:

1. Refer to Component Repair and Overhaul Manual for freewheel assembly, disassembly and assembly instructions.

- NOTE -

Tables 1, 2 and 3 contain only the major components of the freewheel assembly. Refer to the applicable Illustrated Parts Breakdown Manual for the other parts you may need.

2. Upgrade the freewheel assembly using the information in Tables 1, 2, and 3. The components listed below the assembly dash number are included in that specific configuration.
3. Identify the freewheel assembly with the correct configuration dash number that you defined in Step 2.
 - a) Identify the data plate of the freewheel assembly with the use of a vibrating tool. The depth of the vibroetch must not exceed 0.005 inch (0.127 mm).

Example: 206-040-271-~~003~~-117

- NOTE -

You must do all the changes defined in Table 1, 2, or 3 for that part number, to be able to change the part number on the data plate and the historical record sheet.

4. Make an entry in the freewheel assembly Historical Record (HR) to show:
 - The new part number;
 - The new Time Between Overhaul (TBO), if it applies;
 - The new retirement life of the freewheel component parts, if it applies; and
 - That this Technical Bulletin is completed.

TABLE 1 – Freewheel Assembly

NOMENCLATURE/PART NUMBER		NOTES	FREEWHEEL ASSEMBLY 206-040-270	
			-003 (5)	-117
Shaft Assy	206-040-270-005	(1)	X	
	206-040-270-119	(1)		X
Support Assy	206-040-230-017	(6)	X	X
Ring	206-040-223-003	(2)	X	
	206-040-223-101			X
Housing Assy	206-040-236-013	(3)	X	
	206-040-236-017			X
Nut	AN310-7		X	X
Union	AN815-5D		X	X
Cotter Pin	MS24665-283	(4)	X	X
Chip Detector	B3225C		X	X

NOTES:

1. Refer to TABLE 2 for shaft assembly configurations.
2. Replaced by ring 206-040-223-101.
3. Replaced by housing assembly 206-040-236-017.
4. Replaced by MS24665-285.
5. Freewheel assembly 206-040-270-003 is no longer procurable and is replaced by freewheel assembly 206-040-270-117.
6. Refer to TABLE 3 for support assembly configuration.

TABLE 2 – Freewheel Shaft Assembly

NOMENCLATURE/PART NUMBER		NOTES	FREEWHEEL ASSEMBLY	
			206-040-270	
			-005 (11)	-119
Plate	206-040-204-001		X	X
Bearing	206-040-205-001	(1)(2)(13)	X	
	206-040-205-005	(3)	X	X
	206-040-206-001	(4)	X	X
Shaft (outer)	206-040-221-003	(2)	X	
Shaft (inner)	206-040-222-005		X	X
Cap	206-040-267-001	(5)	X	X
Shaft (outer)	206-040-379-101	(2)		X
Bearing	206-340-203-101	(2)		X
Clutch	CL-41742	(6)(12)	X	
	CL-42250-1	(13)		X
Retainer	RR204	(15)	X	X
	RR268	(14)(16)	X	X
Seal	451883-H19	(8)(10)(17)	X	
	2890-52017	(9)(10)(17)	X	
	206-340-204-101			X

NOTES:

1. Replaced by bearing 206-040-205-005 (2).
2. Replace one bearing 206-040-205-001 or -005 and the outer shaft 206-040-221-003 as a unit with one keyed bearing 206-340-203-101 and slotted outer shaft 206-040-379-101. Refer to TB 206-95-155.
3. As an alternate, use 206-040-205-105.
4. As an alternate, use 206-040-206-101.
5. Cap assembly 206-040-268-001 may be used as an alternate.
6. Replaced by clutch CL-41742-1 (7)(12).

7. Replaced by clutch CL-42250-1 (12).
8. Seal 2810-52017 may be used as an alternate (17).
9. Seal 451883-H19 may be used as an alternate (17).
10. Lightly coat lips of seal with Mobil #28 grease.
11. Replaced by shaft assembly 206-040-270-119.
12. Clutch CL-42250-1 replaces clutches CL-41742 and CL-41742-1.
13. Two bearings 206-040-205-001 are required in freewheel shaft assembly 206-040-270-005 (1)(2).
14. Two retainers are required.
15. Replaced by M27426-3150D.
16. Replaced by M27426-3165D.
17. Replaced by seal 206-340-204-101. (Seals 451883-H19 and 2890-52017 are no longer procurable).

TABLE 3 – Freewheel Shaft Assembly

NOMENCLATURE/PART NUMBER		NOTES	FREEWHEEL SUPPORT	
			206-040-230-017	206-040-270-101
Adapter	206-040-203-003		X	X
Bearing	206-040-207-001		X	X
Housing Assy	206-040-241-001		X	X
Elbow	AN833-3D			X
Reducer	AN919-2D		X	
Nut	AN924-3D			X
Retainer	RR185	(1)	X	X
Seal	450127-H19	(2)(3)(4)		X

NOTES:

1. Replaced by M27426-3146D.
2. Seal 2890-51098 may be used as an alternate (4).
3. Lightly coat lips of seal with Mobil #28 grease.
4. Replaced by seal 206-340-104-101. (Seals 450127-H19 and 2890-51098 are no longer procurable).