

**TECHNICAL BULLETIN**  
**Bell Helicopter** **TEXTRON**  
A Subsidiary of Textron Inc.

NO 206L-01-205

DATE 04-06-01

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DATE
REV.

**MODEL AFFECTED:** 206L, 206L-1 and 206L-3

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

**HELICOPTERS AFFECTED:** 206L, S/N 45004 through 45153, and 46601 through 46617.  
 206L-1, S/N 45154 through 45790.  
 206L-3, S/N 51001 through 51612.

<u>FREEWHEEL P/N</u>	<u>NOTE</u>	<u>PRODUCTION EFFECTIVITY</u>
206-040-270-003	(1)(2)	206L 45004 through 45153
206-040-270-003	(1)(2)	46601 through 46617
206-040-270-009	(1)(3)	206L-1 45154 through 45790
206-040-270-009	(1)(3)	206L-3 51001 through 51612

**NOTES:**

1. A freewheel assembly can be upgraded to the next dash number configuration as shown in Table 1.
2. The freewheel assembly -117 is the stocked spare freewheel assembly that you can use on Model 206L.
3. The freewheel assembly -123 is the stocked spare freewheel assembly that you can use on Model 206L-1 and 206L-3.

**COMPLIANCE:**

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

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

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

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**DESCRIPTION:**

This bulletin describes the changes needed to upgrade older model 206L, 206L-1, and 206L-3 series freewheel assemblies to newer freewheel assembly configurations.

Once upgraded, the freewheel assemblies can be used on model 206L, 206L-1, and 206L-3 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 the referenced applicable Component Repair and Overhaul manual.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

BHT-206L-CR&O-1, Reissued - June 1993

Chapter 63.

T.B. 206L-78-4

(FREEWHEEL OUTER RACE SHAFT P/N 206-040-221-003,  
INSPECTION OF).

- T.B. 206L-79-36 (FREEWHEEL ASSEMBLY OIL LINE FILTER, INSTALLATION OF).
- T.B. 206L-81-19 (HOSE ASSEMBLY, FREEWHEEL AFT OIL VENT, P/N 124F001ABB0311SS, REPLACEMENT OF).
- T.B. 206L-83-106 (FREEWHEEL INNER SHAFT, P/N 206-040-222-005, AND P/N 206-040-222-009, INTERNAL SURFACE PROTECTION).
- T.B. 206L-83-109 (ONE WAY CLUTCH, FREEWHEEL ASSEMBLY REPLACEMENT AT OVERHAUL).
- I.L. 206L-89-45 (DISCREPANT FREEWHEEL HOUSING GASKETS, P/N 206-040-229-001).
- I.L. 206L-84-31 (INTRODUCTION OF NEW FREEWHEEL CLUTCH ASSEMBLY P/N CL42250-1).

**PUBLICATIONS AFFECTED:**

BHT-206L-SERIES-IPB, Revision 1 – 2 February 1998

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~~-123/-117 as required

- 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	-009	-117	-123
			(6)	(7)		
<b>Shaft Assy</b>	206-040-270-005	(1)	X			
	206-040-270-011	(1)		X		
	206-040-270-119	(1)			X	
	206-040-270-125	(1)				X
<b>Support Assy</b>	206-040-230-017	(2)(3)	X		X	
	206-040-270-101	(3)		X		X
<b>Ring</b>	206-040-223-003	(4)	X			
	206-040-223-101			X	X	X
<b>Housing Assy</b>	206-040-236-013	(5)	X			
	206-040-236-017			X	X	X
<b>Nut</b>	AN310-7		X	X	X	X
<b>Union</b>	AN815-5D		X	X	X	X
<b>Cotter Pin</b>	MS24665-283	(8)	X	X	X	X
<b>Chip Detector</b>	B3225C		X	X	X	X

**NOTES:**

1. Refer to TABLE 2 for Shaft assembly configurations.
2. Support assembly 206-040-230-017 may be modified to support assembly 206-040-270-101 configuration and used with freewheel assembly 206-040-270-003 and -117, provided that freewheel oil pressure line 70-009F000Y260A is replaced with line AE 705974-1 or as an alternate A1920-1. Refer to TABLE 3 for support configurations.
3. Refer to TABLE 3 for support assembly configurations.
4. Replaced by ring 206-040-223-101.
5. Replaced by housing assembly 206-040-236-017.

6. Freewheel assembly 206-040-270-003 is no longer procurable and is replaced by freewheel assembly 206-040-270-117.
7. Freewheel assembly 206-040-270-009 is no longer procurable and is replaced by freewheel assembly 206-040-270-123.
8. Replaced by MS24665-285.

**TABLE 2 – Freewheel Shaft Assembly**

NOMENCLATURE/PART NUMBER		NOTES	FREEWHEEL SHAFT ASSY 206-040-270			
			-005	-011	-119	-125
			(9)	(10)		
<b>Plate</b>	206-040-204-001		X	X	X	X
<b>Bearing</b>	206-040-205-001	(1)(2)(12)	X			
	206-040-205-005	(2)(12)		X	X	X
	206-040-206-001		X	X	X	X
<b>Shaft (outer)</b>	206-040-221-003	(2)	X	X		
<b>Shaft (inner)</b>	206-040-222-005		X		X	
	206-040-222-009			X		X
<b>Cap</b>	206-040-267-001	(3)	X	X	X	X
<b>Shaft (outer)</b>	206-040-379-101	(2)			X	X
<b>Bearing</b>	206-340-203-101	(2)			X	X
<b>Clutch</b>	CL41742	(4)(11)	X			
	CL41742-1	(5)(11)		X		
	CL42250-1	(11)			X	X
<b>Retainer</b>	RR204	(13)	X	X	X	X
	RR268	(14)(15)	X	X	X	X
<b>Seal</b>	451883-H19	(6)(8)(16)	X	X		
	2890-52017	(7)(8)(16)				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 Technical Bulletin TB 206L-95-TBD.
3. Cap assembly 206-040-268-001 may be used as an alternate.

4. Replaced by clutch CL-41742-1 (5)(11).
5. Replaced by clutch CL-42250-1.
6. Seal 2810-52017 may be used as an alternate (16).
7. Seal 451883-H19 may be used as an alternate (16).
8. Lightly coat lips of seal with Mobil #28 grease.
9. Shaft assembly 206-040-270-005 is replaced by shaft assembly 206-040-270-119.
10. Shaft assembly 206-040-270-011 is replaced by shaft assembly 206-040-270-125.
11. Clutch CL-42250-1 replaces clutches CL-41742 and CL-41742-1.
12. Two bearings 206-040-205 are required in freewheel shaft assembly 206-040-270-005 and -011 (1)(2).
13. Replaced by M27426-3150D.
14. Two retainers are required.
15. Replaced by M27426-3165D.
16. Replaced by seal 206-340-204-101. (Seals 451883-H19 and 2810-52017 are no longer procurable).

**TABLE 3 – Freewheel Shaft Assembly**

NOMENCLATURE/PART NUMBER		NOTES	FREEWHEEL SUPPORT	
			206-040-230-017	206-040-270-101
<b>Adapter</b>	206-040-203-003		<b>X</b>	<b>X</b>
<b>Bearing</b>	206-040-207-001		<b>X</b>	<b>X</b>
<b>Housing Assy</b>	206-040-241-001		<b>X</b>	<b>X</b>
<b>Elbow</b>	AN833-3D			<b>X</b>
<b>Reducer</b>	AN919-2D		<b>X</b>	
<b>Nut</b>	AN924-3D			<b>X</b>
<b>Retainer</b>	RR185	(1)	<b>X</b>	<b>X</b>
<b>Seal</b>	450127-H19	(2)(3)(4)	<b>X</b>	<b>X</b>
	206-340-104-101			<b>X</b>

**NOTES:**

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