

# **Bell Helicopter** **TEXTRON**

A Subsidiary of Textron, Inc.

April 18, 2006

**TO: All Owners/Operators of Bell 222U Helicopters**

**SUBJECT: REVISION "C" TO TECHNICAL BULLETIN 222U-89-51:  
SWASHPLATE AND LEVERS ASSEMBLIES P/N 222-010-400,  
CONFIGURATION CHANGE AND UPGRADE.**

Revision C to this bulletin identifies a new swashplate configuration that incorporates support assembly P/N 222-010-418-107 with tungsten carbide coating.

# TECHNICAL BULLETIN

## Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

No. 222U-89-51

Date 06-22-89

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DATE April 18, 2006

REV C

**MODEL AFFECTED:** 222U

**SUBJECT:** SWASHPLATE AND LEVERS ASSEMBLIES P/N 222-010-400, CONFIGURATION CHANGE AND UPGRADE

**HELICOPTERS AFFECTED:** Model 222U Helicopters S/N 47501 through 47574

**COMPLIANCE:** At Customer's Option

### DESCRIPTION:

This bulletin provides operators with the information required to upgrade a swashplate and levers assembly to the latest configuration. Table 1 lists the components that comprise the differences between swashplate and levers assembly dash number configurations.

This bulletin identifies a new configuration which incorporates rotating ring assembly P/N 222-010-403-117 including replacement pin P/N 230-010-402-101. This bulletin also provides information to replace the hardware securing the slider assemblies P/N 222-310-469-103 to the swashplate inner ring. The new hardware will allow higher torque application to prevent joint looseness and subsequent damage. Revision C to this bulletin identifies a new swashplate configuration that incorporates support assembly P/N 222-010-418-107 with tungsten carbide coating.

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

Helicopter Serial Number	Swashplate and Levers Assembly Part Number
47501-47539	222-010-400-121
47540-47574	222-010-400-123

Swashplate and levers assembly P/N 222-010-400-135 is the current spare replacement.

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

Following upgrade, the dash number identification must be updated in the swashplate and levers assembly records.

**APPROVAL:**

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

**MANPOWER:**

No man-hour requirements are stated, as the length of time for 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 Supply Center.

**SPECIAL TOOLS:**

230-210-101-107 tool set including -101 pressing plug to install drive pin in rotating ring, -103 support to support ring assembly during installation of drive pin into rotating ring and -105 support to support ring assembly during removal of drive pin from the rotating ring.

Reference Model 222 Component Repair and Overhaul Manual, Volume 2, Chapter 62.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

BHT-222U-MM-2, Chapter 5.  
BHT-222U-MM-6, Chapter 62.  
BHT-222-CR&O-2, Chapter 62.  
TB222U-85-12, Swashplate Boot Replacement  
TB222U-85-15, Swashplate Ball Sleeve Improvement  
TB222U-92-60, Collective and Cyclic Lever Modification  
TB222U-93-63, Cyclic link upgrade  
Information Letter 222U-98-8, Swashplate inspection.

**PUBLICATIONS AFFECTED:**

BHT-222U-MM-6, Chapter 62  
BHT-222U-CR&O-2, Chapter 62

**ACCOMPLISHMENT INSTRUCTIONS:**

Upgrading of swashplate and levers will require incorporation of Technical Bulletins 222U-85-12, 222U-92-60 and 222U-93-63 if not previously accomplished.

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 swashplate and levers in accordance with Chapter 62, Volume II, of Model 222 Series Component Repair and Overhaul Manual.

The upgraded swashplate and levers assembly must have its data plate and Historical Records reidentified to the new part number that the swashplate and levers 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 swashplate and levers assembly P/N 222-010-400-121 to the -131 configuration. Reidentify swashplate and levers assembly data plate and Historical Service Record to new part Number: 222-010-400-~~121~~-131 FM.  
Retain existing serial number.

**TABLE I  
SWASHPLATE AND LEVERS ASSEMBLY**

PART NUMBER	NOMENCLATURE	-121	-123	-127	-129	-131	-135	NOTES
222-010-400	Swashplate & Levers						(3)	
20-057-6-16D	Bolt (2)	X	X	X	X			(13)(14)
MS17826-6	Nut (2)	X	X	X	X			(13)(14)
140-009C25S53	Washer (2)	X	X	X	X			(13)
MS24665-283	Cotter Pin (2)	X	X	X	X			(13)
20-057-10-45D	Bolt	X	X	X	X	X	X	
222-010-403-005	Ring Assembly	X	X					(4)
222-010-403-113	Ring Assembly			X	X			(8)(12)(16)
222-010-403-117	Ring Assembly					X	X	(16)
222-010-404-111	Ring Assembly	X	X					(5)(9)
222-010-404-115	Ring Assembly			X	X	X	X	
222-010-405-115	Ball Sleeve	X	X	X	X	X	X	
222-010-409-105	Idler Link	X	X	X	X	X	X	
222-010-499-101	Washer	X	X	X	X	X	X	
222-010-412-101	Cap	X						(1)
222-010-412-103	Cap		X	X	X	X	X	
222-010-418-103	Support assembly	X	X	X	X	X		(17)
222-010-418-107	Support assembly						X	
222-010-419-101	Link Assembly	X	X					(6)(10)
222-010-419-106	Link Assembly	X	X					(7)(10)
222-010-419-109	Link Assembly			X	X	X	X	
222-010-419-110	Link Assembly			X	X	X	X	
222-010-487-101	Shield		X	X	X	X	X	(1)
222-010-490-105	Cap Assembly	X						(1)
222-010-490-109	Cap Assembly		X	X	X	X	X	
222-010-497-105	Collective Lever	X	X		X			(2)
222-010-497-109	Collective Lever			X		X	X	
222-011-402-101	Beam	X	X	X	X	X	X	
222-310-469-103	Slider Assembly	X	X	X	X	X	X	
222-310-476-101	Bearing Set	X	X	X	X	X	X	
222-010-408-109	Cyclic Lever	X	X		X			(2)
222-010-408-113	Cyclic Lever			X		X	X	
222-011-420-101	Safety Washer	X	X	X	X	X	X	
222-011-421-101	Thrust Washer	X	X	X	X	X	X	
222-310-465-001	Bearing	X	X	X				(11)
222-011-425-101	Bearing				X	X	X	
NAS1160-5-17D	Bolt (2)					X	X	(13)(15)
MS14144L5	Nut (2)					X	X	(13)(15)
140-009C21S53	Washer (2)					X	X	(13)
MS24665-136	Cotter Pin (2)					X	X	(13)

**-Notes-**

1. When replacing P/N 222-010-494-101 boot, use P/N 222-010-487-101 shield, P/N 222-010-412-103 cap, and P/N 222-010-490-109 cap assembly as a unit. Refer to T.B. 222U-85-12.
2. May be upgraded per T.B. 222U-92-60.
3. The -135 contains the latest component configuration.
4. Superseded in spares by P/N 222-010-403-113
5. Superseded in Spares by P/N 222-010-404-115
6. Superseded in Spares by P/N 222-010-419-109
7. Superseded in Spares by P/N 222-010-419-110
8. Ring P/N 222-010-403-113 may be upgraded to -117 configuration by replacing pin P/N 222-010-455-003 with pin P/N 230-010-402-101.
9. Do not apply primer to the triplex bearing mating surface.
10. May be upgraded per T.B. 222U-93-63.
11. Superseded in Spares by P/N 222-011-425-101.
12. Superseded in Spares by P/N 222-010-403-117
13. For spare replacement of (2) 20-057-6-16D bolt, (2) MS17826-6 nut, (2) MS 24665-283 Cotter pin and (2) 140-009C25S53 washer as a unit, Use 2) NAS1160-5-17D bolt, (2) MS14144L5 nut, (2) MS 24665-136 Cotter pin and (2) 140-009C21S53 washer as a unit.
14. Torque bolt/nut to 70 -110 inch-lb. One washer P/N AN960-616L is optional (under the nut) to install the cotter pin within the torque range specified.
15. Torque bolt/nut to 140 -160 inch-lb. One washer P/N NAS1149F0532P is optional (under the nut) to install the cotter pin within the torque range specified.
16. Rotating ring with oversize or elongated drive pin hole(s) may be reworked to an oversize stepped pin. However, the rework procedure can only be accomplished by Bell Helicopter. **Operators should not attempt this repair.**
17. Superseded in spares by support assembly 222-010-418-107 with tungsten carbide coating.

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