

**ALERT SERVICE BULLETIN  
REVISION NOTICE**



DATE 12/15/2010

**TO: All Owners/Operators of Bell 430 Helicopters**

**SUBJECT: REVISION A TO ALERT SERVICE BULLETIN 430-10-45:  
DIRECTIONAL FLIGHT CONTROL BEARING P/N MS27643-4;  
INSPECTION AND REPLACEMENT OF.**

Revision A to this bulletin is released to highlight that there are two P/N 222-001-736-005 bellcrank assemblies in the directional control system. Changes have been made to the text and to Figure 1 to reflect this change.

AN APPROPRIATE ENTRY SHOULD BE MADE IN THE AIRCRAFT LOGBOOK UPON ACCOMPLISHMENT  
IF OWNERSHIP OF AIRCRAFT HAS CHANGED PLEASE FORWARD TO NEW OWNER

**ALERT SERVICE BULLETIN**



A Textron Company

NO. 430-10-45

DATE Dec 10, 2010

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|      |          |
|------|----------|
| DATE | 12-15-10 |
| REV  | A        |

**MODEL AFFECTED:** 430

**SUBJECT:** DIRECTIONAL FLIGHT CONTROL BEARING P/N MS27643-4; INSPECTION AND REPLACEMENT OF.

**HELICOPTERS AFFECTED:** All 430 Helicopters

- COMPLIANCE:**
- Part I** As soon as possible following release of this bulletin but prior to installation of component and/or bearing on an aircraft.
  - Part II** Inspection for suspect bearings at the next 150 Hour inspection following release of this bulletin.  
Replacement of suspect bearings 150 hours after inspection but no later than one year after release of this bulletin, whichever occurs first.

**DESCRIPTION:**

Certain bearings manufactured by Schatz Bearing Corp. from October 2006 through January 2009 may contain balls that were manufactured improperly, which could lead to bearing degradation. Bearing degradation is detectable in non-boosted flight controls, but difficult to detect in the hydraulically boosted flight controls. Bell Helicopter has identified specific locations in the boosted controls of the model 430 which may contain bearings with improperly manufactured balls. They are limited to several SUBJECT bearings in the directional flight control system.

An inspection is required to determine if a SUBJECT bearing manufactured by Schatz Bearing Corp. is installed in one of the specific locations in the directional controls. If a suspect Schatz bearing is found and meets replacement criteria, it must be replaced in accordance with the Compliance and Accomplishment Instructions of this bulletin.

Bearings manufactured by Schatz in installations other than those specifically noted in this bulletin are acceptable for continued operation per normal serviceability requirements.

SUBJECT uninstalled bearings manufactured by BHT suppliers other than Schatz do not require inspection or replacement as part of this bulletin. All SUBJECT spare Schatz bearings delivered by Bell Helicopter either as detail parts or in assembled components after January 31, 2009 have been inspected and determined to be serviceable.

Customers who purchased bearings and/or assembled components after Sep 2006 from sources other than Bell Helicopter should contact those sources to determine if the bearings are part of the suspect lots.

**APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

**MANPOWER:**

Approximately 4.0 man-hours are required to complete the inspection per Part II of this bulletin.

Time to accomplish the inspection per Part I of this bulletin or replacement of suspect bearings will vary upon the quantity of bearings to be inspected/replaced, personnel, and facilities available.

**WARRANTY:**

Owners / Operators of Bell Helicopters who comply with the instructions in this Bulletin will be eligible to receive a credit for bearings that meet the replacement criteria in this bulletin.

To receive this credit:

- Comply with the instructions contained in this Bulletin no later than the applicable hours or calendar date in the “compliance section” of this ASB.
- Purchase replacement bearing and sleeve as required in the materials section of this bulletin from a Bell approved source.
- Submit an MMIR to the Bell Warranty Department.

Customers who fail to comply with the instructions in this Bulletin within the applicable hours or calendar date are not eligible for the special warranty credit listed above. There is no labor associated with this bulletin.

**MATERIAL:**

**Required Material:**

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Helicopter Textron Supply Center.

| <u>Part Number</u> | <u>Nomenclature</u> | <u>Quantity</u> |
|--------------------|---------------------|-----------------|
| MS27643-4          | Bearing             | As Required     |
| 120-013-4A         | Sleeve              | As Required     |

**Consumable Material:**

The following material is required to accomplish this bulletin, however this material is considered consumable (bench stock) material and may not require ordering depending on the operator's consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

| <u>Part Number</u>  | <u>Nomenclature</u> | <u>Quantity</u> | <u>Reference</u> |
|---------------------|---------------------|-----------------|------------------|
| MIL-PRF-23377TI,CLC | Primer Kit          | A/R             | C-204            |
| PD680               | Solvent             | A/R             | C-304            |

**SPECIAL TOOLS:**

T101873-13 Ring Staking Tool

**WEIGHT AND BALANCE:**

Not required

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-ALL-SPM, Chapters 9 and 13

BHT-430-MM, Chapter 67

BHT-430-CR&O, Chapter 67

**PUBLICATIONS AFFECTED:**

None affected

**ACCOMPLISHMENT INSTRUCTIONS:**

**Component and Bearing Identification:**

1. On the model 430, Bell Helicopter has identified 4 locations in the boosted directional flight controls where a degraded P/N MS27643-4 bearing can affect proper control operation.

Input lever Assembly P/N 222-012-715-101 contains 1 P/N MS27643-4 Bearing (Figure 1).

Bellcrank Assembly P/N 222-001-736-005 (QTY2) contains 2 P/N MS27643-4 Bearings (Figure 1).

Bellcrank Assembly P/N 222-001-734-001 contains 2 P/N MS27643-4 Bearing (Figure 1).

Bellcrank Assembly P/N 222-001-727-005 contains 2 P/N MS27643-4 Bearing (Figure 1).

2. Installed MS27643-4 bearings manufactured by Schatz Bearing Corporation can be identified by the word **SCHATZ** and **DSP4** imprinted on the bearing seal retainer on at least one side of the bearing (Figure 2).
3. Uninstalled MS27643-4 bearings will expose a Schatz manufacturing lot number marked on the outer race, with MS27643-4 and DSP4-H or (L) identified on the packaging (Figure 2).

**PART I:****Inspection of Assemblies and Bearings in spares stock.**

1. Inspect all bearings installed in the Assemblies identified in the Component and Bearing Identification section of this bulletin.

A. Any suspect SCHATZ bearings meeting replacement criteria must be removed and replaced. Refer to the BHT-ALL-SPM for bearing replacement information.

**-NOTE-**

Installed bearings with manufacturer's identification other than Schatz Bearing Corporation are acceptable for continued operation subject to normal serviceability requirements.

**-NOTE-**

Schatz bearings installed on components prior to Oct 2006 are acceptable for continued operation subject to normal serviceability requirements.

- B. If the Assemblies do not have SCHATZ bearings installed, or Schatz bearings were installed prior to Oct 2006, attach a serviceable tag to the Assembly and indicate compliance with Part I of this bulletin.
3. Spare, uninstalled, Schatz P/N DSP4-H or L bearings with the lot number noted in Table 1 are suspect and should not be installed. Please note that not all lots listed were procurable from Bell Helicopter. For bearings that were procured from Bell Helicopter, refer to the WARRANTY section of this bulletin. For bearings procured from other sources, refer to the following paragraph.
4. Operators who purchased Schatz bearings and/or assembled components with Schatz bearings installed from sources other than Bell Helicopter after Sep 2006 should contact those sources to determine if the bearings are, or may be, part of the suspect lots.

**PART II:**

**Inspection of Directional Control System Assemblies installed on Helicopter**

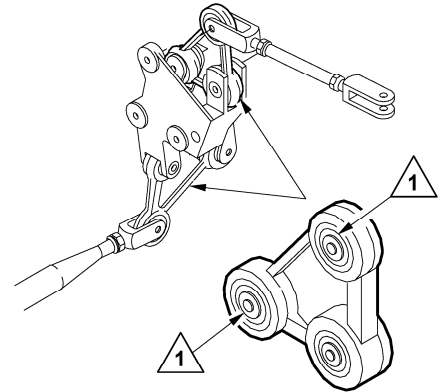
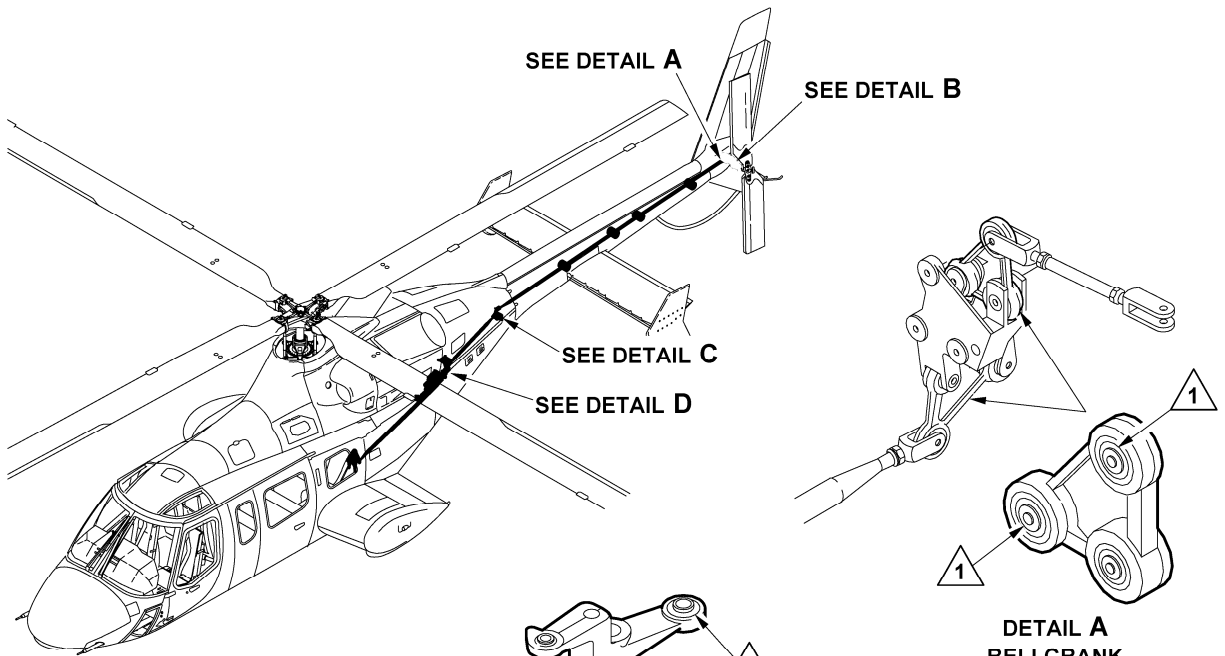
1. Prepare helicopter for maintenance.
2. Gain access to the directional control system Input lever and bellcrank assemblies identified in the Component and Bearing Identification section of this bulletin and Figure 1.
  - a. Disconnect directional control tubes at each location to be inspected. Specific bearings to be inspected are identified on Figure 1. Refer to BHT-430-MM as necessary.
  - b. Inspect each specific bearing to determine if it is a Schatz manufactured bearing per Figure 2.
  - c. Inspect each specific bearing, regardless of manufacturer, for serviceability paying particular attention to smooth rotation.
    - 1) Bearings found to be rough, binding, or otherwise not meeting serviceability criteria must be replaced immediately. Refer to BHT-430-MM and BHT-ALL-SPM, as applicable, for replacement procedures.
    - 2) Schatz manufactured bearings installed after Sep 2006 and found serviceable remain susceptible to degradation and therefore must be replaced at the next 150 hour inspection but no later than one year after release date of this bulletin, which ever occurs first.
3. Annotate helicopter records to reflect compliance with either inspection or replacement of affected/subject bearings per Part II of this bulletin.

**Suspect Schatz Bearing Corporation P/N  
DSP4-H or L (MS27643-4) Bearing Lots**

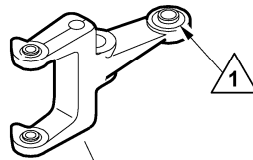
| SCHATZ PART NUMBER | LOT NUMBER |
|--------------------|------------|
| DSP4-H             | 07J30      |
|                    | 08A03      |
|                    | 08A04      |
|                    | 08A11      |
|                    | 08A16      |
|                    | 08A21      |
|                    | 08D09      |
|                    | 08D10      |
|                    | 08D14      |
|                    | 08D21      |
|                    | 08E06      |
|                    | 08E29      |
|                    | 08F05      |
|                    | 08F06      |
|                    | 08F12      |
|                    | 08F17      |
|                    | 08F23      |
|                    | 08F24      |
|                    | 08F25      |
| ↓                  | 08I24      |
|                    | 08J15      |
|                    | 08J17      |
| DSP4-L             | 08A02      |
|                    | 08A07      |
|                    | 08B05      |
|                    | 08D04      |
|                    | 08F13      |
| ↓                  | 08I03      |

**Table 1**

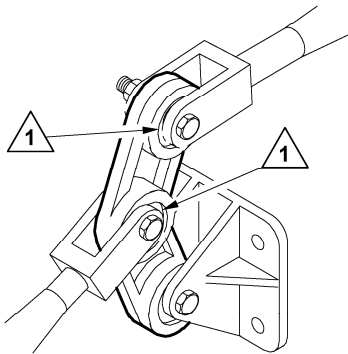




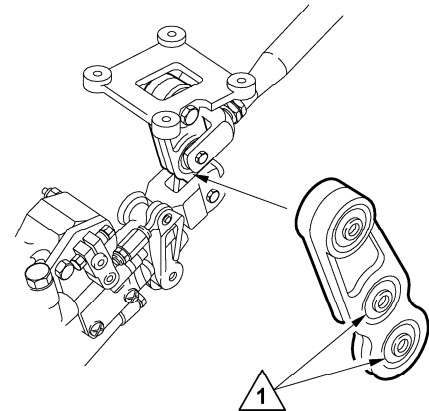
**DETAIL A  
BELLCRANK  
ASSEMBLY**  
222-001-736-005



**DETAIL B  
INPUT LEVER  
ASSEMBLY**  
222-012-715-101



**DETAIL C  
BELLCRANK  
ASSEMBLY**  
222-001-734-001



**DETAIL D  
BELLCRANK  
ASSEMBLY**  
222-001-727-005

**NOTE**

 Specific bearing to be inspected.

Figure 1

LOT NUMBER MARKED ON OUTER RACE



Figure 2