

**ALERT SERVICE BULLETIN**  
**Bell Helicopter** **TEXTRON**  
A Subsidiary of Textron Inc.

**NO.** 230-04-31  
**DATE** AUG-27-04  
**PAGE** 1 of 7

<b>DATE</b>
<b>REV</b>

**MODEL AFFECTED:** 230

**SUBJECT:** TAIL ROTOR BLADE P/N 222-016-001-123 AND  
-131, INSPECTION OF

**HELICOPTERS AFFECTED:** Model 230 helicopters serial number 23001 through 23038.

**COMPLIANCE:** **Part I:** As soon as possible following receipt of this bulletin but no later than the next scheduled inspection and every 3 flight hours maximum thereafter for all tail rotor blades.

**Part II:** As soon as practical within the next 50 hours of operation and every 50 hour inspection thereafter for all tail rotor blades.

**DESCRIPTION:**

Bell Helicopter has received three reports of cracked tail rotor blades. The cracks in two blades, started at the outboard feathering bearing bore and ran chordwise towards the leading edge on one blade and towards the trailing edge on the other blade. In the third blade, the crack started at the inboard feathering bearing bore and ran spanwise towards the inboard end of the blade. In all cases, the cracks were detected during scheduled inspections. Investigation revealed that the cracks originated from either a machining burr or a corrosion site in the bearing bore underneath the flanged sleeves.

**Part I** of this bulletin introduces, at intervals not exceeding 3 flight hours, a mandatory repetitive visual inspection of the blade root end around the feathering bearings, for all 222-016-001-123 and -131 tail rotor blades,

**Part II** of this bulletin introduces a mandatory 50 hour inspection of the blade root end around the feathering bearings, for all 222-016-001-123 and -131 tail rotor blades.

A subsequent revision of this bulletin will provide instructions to inspect/rework affected tail rotor blades in order to eliminate the recurring inspections introduced per this bulletin.

**APPROVAL:**

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

**MANPOWER:**

No additional manhours will be required to accomplish part I of this bulletin when done in conjunction with the aircraft preflight check and/or the scheduled inspection.

Approximately 2.0 man-hours are required to complete part II of this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

**WARRANTY:**

Not affected

**MATERIAL:**

**Consumable Material:**

The following material is required to accomplish this bulletin, but 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>
TT-N-95,TYII 1GAL	ALIPHATIC NAPHTHA	1 GAL.	C-305
SCOTCHBRITE TY-A	ABRASIVE PAD	1 roll	C-407
MIL-P-85582,TY1,CL2	EPOXY POLYAMIDE PRIMER KIT	(1GAL, 1QT)	C-246
MILC85285TYI-27925	POLYURETHANE COATING,WHITE	1 Gal.	C-245
MILC87936TYI 5GAL	DETERGENT	5 GAL	C-318 (note 1)

Note 1: Detergent MIL-C-87937 is an alternate to detergent MIL-C-87936.

**SPECIAL TOOLS:**

None required

**WEIGHT AND BALANCE:**

Not affected

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-230-MM-2, Chapter 5

BHT-230-MM-7, Chapter 64

BHT-230 CR&O-3, Chapter 64

BHT-230-FM-1, Section 2

BHT-ALL-SPM

OSN 230-03-07, Tail rotor blade 222-016-001-ALL, periodic inspection of

**PUBLICATIONS AFFECTED:**

BHT-230-MM-2, Chapter 5

BHT-230-FM-1, Section 2

**ACCOMPLISHMENT INSTRUCTIONS:**

**Part I:** Accomplish this repetitive inspection every 3 flight hours maximum for all tail rotor blades 222-016-001-123 and -131.

1. Pilot or maintenance personnel must check the tail rotor blade as follows.

**CAUTION**

Solvent must be used at ambient temperature. Do not use strong solvents such as MEK, Acetone, Lacquer thinner etc.

- a. Wipe down both surfaces of each blade around the blade feathering bearings using aliphatic naphtha (C-305) or detergent (C-318) or equivalents. Refer to Figure 1.
- b. Closely examine the cleaned surface, on both sides of the blade, paying particular attention to the area around both bearings. If no crack is found in the paint, the inspection is complete until next inspection.
- c. If a crack is found in the paint, maintenance personnel must proceed with step 2.

2. Remove the suspected blade from the helicopter (refer to BHT-230-MM-7, Chapter 64).

**-NOTE-**

Remove paint to the bare metal in the area of the suspected crack only.

**CAUTION**

Plastic Media Blasting (PMB) may cause damage to helicopter parts if untrained personnel do it

3. Remove the paint preferably using Plastic Media Blasting (PMB) (refer to BHT-ALL-SPM, chapter 3 paragraph 3-24). As a substitute to PMB, a nylon web abrasive pad (Scotchbrite) (C-407) may be used. Abrade blade surface in spanwise direction only.
4. Examine the blade with a 10X power magnifying glass. If a crack is found, remove the blade from service and contact:

Bell Helicopter Textron  
Product Support Engineering  
Tel: 1-800-463-3036 (Continental USA)  
Tel: 1-800-463-1971 (Within Canada)  
Tel: 450-437-2077 (all other areas)  
Fax: 450-433-0272  
E-mail: [pseinter@bellhelicopter.textron.com](mailto:pseinter@bellhelicopter.textron.com)

5. If no crack is found in the blade surface, re-finish the blade by applying one coat of MIL-P-23377 or MIL-P-85582 Epoxy Polyamide Primer so that primer overlaps existing coats just beyond the sanded area. Let dry for 30 minutes to one hour. Then apply one sealer coat of Polyurethane MILC85285 TYI CL2, color number 27925 (semi-gloss white) per Fed. Std. 595. Refer to BHT-ALL-SPM, chapter 4.
6. Re-install the tail rotor blade (refer to BHT-230-MM-7, Chapter 64).
7. Annotate the helicopter records to reflect compliance with this bulletin.

**Part II:** Accomplish this inspection every 50 hour of operation for all tail rotor blades 222-016-001-123 and -131

1. Maintenance personnel must inspect the tail rotor blade as follows:

**CAUTION**

Solvent must be used at ambient temperature. Do not use strong solvents such as MEK, Acetone, Lacquer thinner etc.

- a. Wipe down both surfaces of each blade around the blade feathering bearings using aliphatic naphtha (C-305) or detergent (C-318) or equivalents. Refer to Figure 1.
  - b. Using a 10X power magnifying glass, closely examine the cleaned surface, on both sides of the blade, paying particular attention to the area around both bearings.
  - c. If no crack is found in the paint the inspection is complete until next inspection.
  - d. If a crack is found in the paint, proceed with step 2.
2. Remove the tail rotor blade from the helicopter (refer to BHT-230-MM-7, Chapter 64).

-NOTE-

Remove paint to the bare metal in the area of the suspected crack only.

**CAUTION**

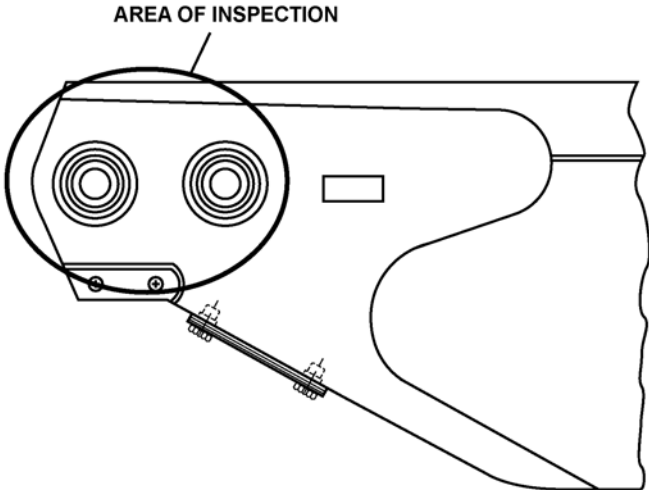
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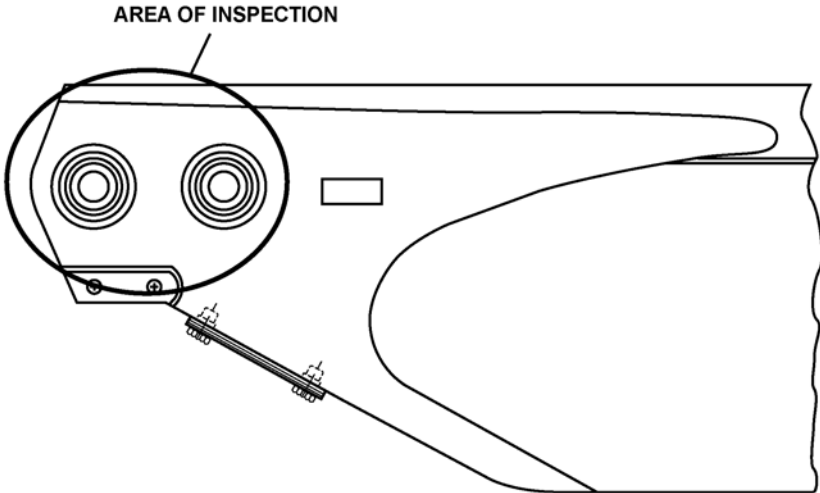
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6. Re-install the tail rotor blade (refer to BHT-230-MM-7, Chapter 64).
7. Annotate the helicopter records to reflect compliance with this bulletin.



222-016-001-123



222-016-001-131

**Figure 1. Blade inspection area**