

TECHNICAL BULLETIN

Bell Helicopter **TEXTRON**

A Division of Textron Canada Ltd.

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DATE

REV.

MODELS AFFECTED: 407

SUBJECT: **DIRECTIONAL SYSTEM BELLCRANK ASSEMBLY, 406-001-704-101, INSPECTION AND REWORK OF.**

HELICOPTERS AFFECTED: 407, Serial Numbers 53000 through 53013, 53015 through 53022, 53026, and 53029.

[Serial Numbers 53014, 53023 through 53025, 53027, 53028, 53030 and subsequent will have the intent of this Technical Bulletin completed before delivery.]

COMPLIANCE: At the operator's option but recommended at the next scheduled inspection.

DESCRIPTION: Bell Helicopter has determined that interference may occur between the bellcrank assembly, P/N 406-001-704-101, and the rod-end bearing of the tail rotor rod assembly, P/N 406-012-129-101, during the operation of the tail rotor pedals.

Part I of this Technical Bulletin describes the one-time visual inspection to determine if the part is manufactured from plate stock or forging.

Part II of this Technical Bulletin gives instructions to rework the bellcranks made from forging.

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APPROVAL:

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

MANPOWER:

Part I:

No additional manpower required when done as part of scheduled inspection.

Part II:

Approximately 3.5 man-hours are necessary to complete this Technical Bulletin. The man-hours are based on hands-on time and can change due to the personnel and facilities available.

MATERIAL:

Required Material:

None required.

Consumable Material:

The material that follows is necessary to complete Part II of this Technical Bulletin, however this material is consumable (bench stock) material and does not require ordering depending on the operators consumable material stock levels. This material can be obtained through your Bell Helicopter Textron Supply Center.

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>REFERENCE NO.</u>
MILC81706 CL1AFORM11	CHEMICAL FILM	C-100
MIL-P-85582, TY1, CL2	EPOXY PRIMER	C-204
P-P-101	400 GRIT SANDPAPER	C-423
232 1IN WIDE	MASKING TAPE (1" Wide)	C-426

- NOTE -

The "C" REFERENCE NO. above is a cross reference to the consumable list found in the Standard Practices Manual.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-407-MM-8, rev. 4, 16 December 1996.

Chapter 67, Pilot directional control system

BHT-407-IPB, rev. 3, 16 December 1996

Chapter 67, Flight controls.

BHT-ALL-SPM, re-issue 1, 03 February 1996

Chapter 6, Fluorescent Penetrant Inspection.

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

PART I Identification of forged bellcrank

1. Get access to the bellcrank assembly. Remove the tail rotor gearbox fairing assemblies and structural access panel (refer to BHT-407-MM-5, Chapter 53).

2. Do a visual inspection of the bellcrank assembly (1, Figure 1), to find out if it is made from plate stock or forging. A bellcrank made from forging has a raised ridge around the center of the part, and "flashing" or excess material that extends out from the edges.
3. If the bellcrank is made from plate stock, go to Steps 6 and 7 of Part II.
4. If the bellcrank is made from forging, do Part II of this Technical Bulletin.

PART II Rework instructions for forged bellcrank

1. Disconnect the control rod assembly (2, Figure 1), and the tube assembly (3), from the bellcrank assembly (1). Remove the hardware that attaches the bellcrank (1) and remove it from the tailboom.
2. Use masking tape (C-426) to prevent the entry of foreign material in to the pivot bearing of the bellcrank (1). With the use of a flat standard file, completely remove the forging flash in the area of the upper tang of the bellcrank as described in Figure 1. Do not remove any parent material. Blend smooth the reworked area with 400 grit sandpaper (C-423) to obtain a 0.015 inch (0.381 mm) edge radius.
3. Do a Fluorescent Penetrant Inspection on the area of the bellcrank where the material has been removed. Refer to the Standard Practices Manual (BHT-ALL-SPM, Chapter 6).
4. Apply brush alodine chemical film treatment (C-100) to the area of the bellcrank where the material has been removed. Rinse the bellcrank with water and dry with compressed air. Apply polyamide epoxy primer (C-204) to the bare metal surfaces that are not protected.
5. Install the bellcrank (1) and connect the control rod assembly (2) and the tube assembly (3) to the bellcrank (refer to BHT-407-MM-8, Chapter 67).

6. Install the structural access panel and tail rotor gearbox fairing assemblies (refer to BHT-407-MM-5, Chapter 53).
7. Make an entry in the helicopter historical records to show that this Technical Bulletin is completed.

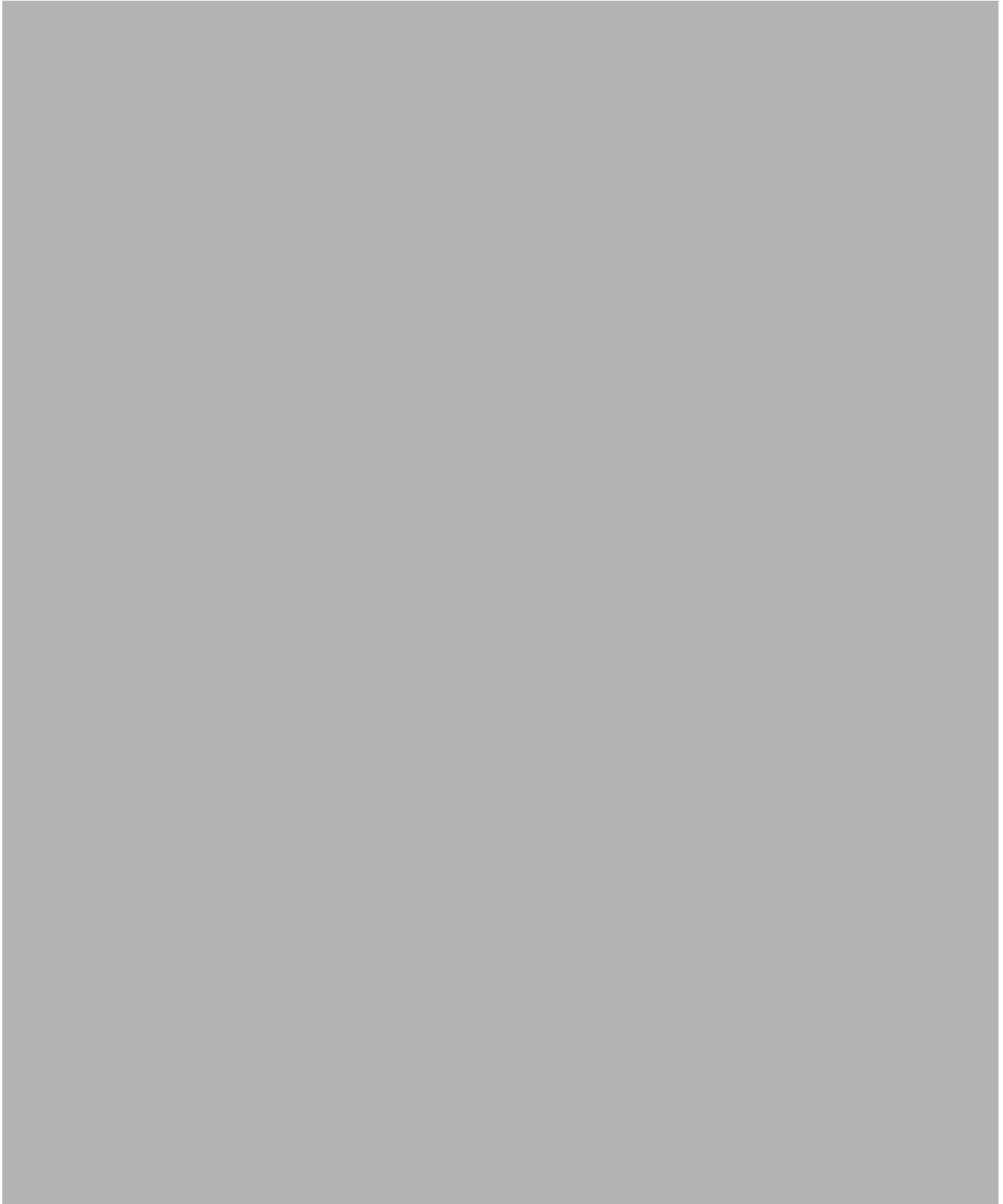


Figure 1. Rework of a forged bellcrank.