

ALERT SERVICE BULLETIN**Bell Helicopter** **TEXTRON**

A Subsidiary of Textron Inc.

NO. 214ST-00-82

DATE 07-12-00

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DATE

REV

MODEL AFFECTED: 214ST**SUBJECT:** TAIL ROTOR CROSSHEAD P/N 214-010-806-105,
ONE TIME INSPECTION**HELICOPTERS AFFECTED:** Model 214ST helicopters serial number 28101
through 28200.**COMPLIANCE:** At or before the next "A" inspection (25 hours/7
days).**DESCRIPTION:**

A Model 214ST helicopter experienced fracture of one of the counterweight bellcrank journals on the tail rotor crosshead, P/N 214-010-806-105. The fracture occurred in the threaded portion of the journal and resulted in loss of the complete counterweight bellcrank. Investigation by the operator revealed a second crosshead with cracks in the threads of one of its journals as well.

BHT evaluation of the affected parts indicates these fractures were the result of fatigue which appeared to originate in the thread root area. The exact cause of the fatigue is undetermined.

This Alert Service Bulletin requires a one time inspection of the crosshead to 1) determine the breakaway torque of the counterweight bellcrank retaining nut and 2) to perform a fluorescent penetrant inspection of the crosshead counterweight bellcrank journals for cracks.

APPROVAL:

Not required.

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MANPOWER:

Approximately 5.0 man-hours are required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

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>
MS24665-285	Cotter Pin	1	N/A
MS24665-357	Cotter Pin	2	N/A
MS28775-028	Packing	2	N/A
MIL-G-81322	Grease	A/R	C-001

SPECIAL TOOLS:

None required

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-214ST-IPB Illustrated Parts Breakdown
BHT-214ST-MM Maintenance Manual
BHT-ALL-SPM

PUBLICATIONS AFFECTED:

None affected

ACCOMPLISHMENT INSTRUCTIONS:

1. Remove the crosshead and counterweight bellcranks as a unit. Refer to 214ST Maintenance Manual, Chapter 64, paragraph 64-3.
2. Inspect counterweight bellcrank bearings for smoothness by applying light pressure to the bellcrank while rotating about crosshead journal. Any noticeable roughness is cause for bearing replacement. Do not replace bearings at this time.
3. Remove counterweight bellcranks and bearings as a unit per 214ST Maintenance Manual Chapter 64, paragraph 64-16.1 and 16.2, except record breakaway torque of the P/N 214-310-800-101 nut prior to its removal.

CAUTION

In the following steps, protect crosshead bearing from solvent and penetrant inspection materials.

CAUTION

Failure to properly and/or completely clean the area to be inspected as noted below could cause a false crack indication.

4. Thoroughly solvent clean each counterweight bellcrank journal to remove all grease and residue from the journal and threads.
5. Fluorescent penetrant inspect the counterweight bellcrank journals for cracks paying particular attention to the threaded areas. Refer to BHT-ALL-SPM, Chapter 6.
6. For each crosshead inspected report the following information in writing to BHT Product Support Engineering at fax numbers 817-278-2481 or 817-280-2635:
 - a. Condition of bearings as noted in paragraph 2 above.
 - b. Breakaway torque of the P/N 214-310-800-101 nuts as noted in step 3 above.
 - c. Results of crack inspection as noted in paragraph 5 above. BHT will advise disposition of crossheads which exhibit crack indications.

CAUTION

In the following step, protect crosshead bearing from solvent contamination.

7. For crossheads which do not show crack indications, thoroughly solvent clean each counterweight bellcrank journal to remove all penetrant residue from the journal and threads. Air dry.

CAUTION

In the following step, ensure that the counterweight bellcrank journal threads and mating threads of the P/N 214-310-800-101 Nuts are dry and free of all grease or penetrant residue prior to installation. The presence of grease or lubricant of any kind on the journal/nut threads can result in an over torque of the nut.

8. Replace any rough counterweight bellcrank bearings found as a result of step 2 above. Reinstall counterweight bellcranks to the crosshead. Refer to 214ST Maintenance Manual Chapter 64, paragraph 64-18.
9. Reinstall crosshead and counterweight bellcranks as a unit as noted in 214ST Maintenance Manual Chapter 64, paragraph 64-6.
10. Annotate helicopter logbook noting compliance with this ASB.