

ALERT SERVICE BULLETIN

Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

NO. 427-03-09

DATE 01-22-03

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DATE
REV

MODEL AFFECTED: 427

SUBJECT: TAIL ROTOR GEARBOX CASE P/N 406-040-406-109 OIL FEED PASSAGE, PRESENCE OF AND ADDITION OF.

HELICOPTERS AFFECTED: Model 427 helicopters serial number 56001 through 56031 and 58001 through 58002.

[Model 427 helicopters serial numbers 56032 and subsequent and 58003 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

COMPLIANCE: At next gearbox disassembly or at the 1800 hour overhaul which ever comes first.

DESCRIPTION:

It has been determined that the oil feed passage for duplex bearing P/N406-040-432-103 might be missing from the tail rotor gearbox case P/N406-040-406-109. Through field evaluation it has been determined that the splash lubrication of the duplex bearing is sufficient to prevent abnormal bearing wear up to the 1800 hour overhaul period.

This bulletin is being issued to locate, identify and rework suspected cases

APPROVAL:

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

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MANPOWER:

Approximately 1.0 man-hours are required to complete this bulletin when accomplished in conjunction with overhaul. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

WARRANTY:

Owners/operators of 427 helicopters who comply with the instructions outlined in this bulletin will receive a special 100% warranty credit for the replacement part(s) contained in the "Required Material" section of this bulletin.

To receive this credit:

- Purchase the required part from an approved BHTI supply source.
- Comply with the instructions contained in this bulletin no later than January 22, 2008.
- Submit a completed malfunction report to BHTI Warranty no later that 30 days after completion of this bulletin.

****NOTE****

Customers who fail to comply with the instruction in this bulletin after 5 years from bulletin issue date are not eligible for the special warranty credit provisions listed above.

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>
406-040-432-103	DUPLEX BEARING	1

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>
	CHEMICAL FILM TREATMENT (DOW#19) (NOTE 1)	AS REQUIRED	C-103
TT-N-95TYII 1GAL	SOLVENT	AS REQUIRED	C-304

NOTE 1. Refer to Corrosion Control Guide table C-1, item B-2.

SPECIAL TOOLS:

Drill guide set 407-240-017-101. These special tools are available through your Bell Helicopter Supply Center.

6 inches long Short fluted twist drill bit 5/32 inch or equivalent drill 0.156 inch (3.962 mm) diameter.

"Drill Stop" 5/32 inch (3.962 mm) or equivalent.

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-427-CR&O Component Repair and Overhaul Manual.

NOTE

The M427 Component Repair and Overhaul Manual (BHT-427-CR&O) will not be available when this bulletin is released. For the technical information provided in this manual, contact Bell Helicopter, Product Support engineering until it is released.

PUBLICATIONS AFFECTED:

None affected

ACCOMPLISHMENT INSTRUCTIONS:

PART I – LOCATION OF PART NUMBER AND OIL FEED PASSAGE.

1. Refer to figure 1. Disassemble gearbox (BHT-427-CR&O) and identify the dash number for the gearbox case assembly.
 - a. If the case number is not a P/N 406-040-406-109 then the intent of this bulletin is already incorporated. Continue to step 3.
 - b. If the case number is P/N 406-040-406-109, continue with step 2.
2. Check for the presence of the oil feed passage. Refer to figure 1 for the location of the oil feed passage.
 - a. If the case has an oil feed passage then the intent of this bulletin has been incorporated. Using a vibrating stylus, re-identify the case as a **P/N 406-040-406-109FM**.
 - b. If the oil feed passage is missing, do part II of the ACCOMPLISHMENT INSTRUCTIONS.
3. Continue with Inspection and Reassembly as per BHT-427-CR&O.
4. Make an entry in component and helicopter technical records to show compliance with part I of this bulletin.

PART II - REWORK OF TAIL ROTOR GEARBOX CASE.

1. Refer to figure 2. Clean affected tail rotor gearbox case P/N 406-040-406-109.. Make sure that paint or sealant is fully removed from the gearbox surface that mates with the drill guide.

2. Install the drill guide tool P/N 407-240-017-101 on gearbox case and attach with the existing hardware.

-NOTE-

With a light and a mirror make sure the drill bit tip is protruding into the scupper.

3. Position and set a drill stop 4.50 +/- 0.030 inches from the point of a short fluted twist drill bit. Lubricate with cutting oil and drill the oil feed passage in the gearbox case.

-NOTE-

The duplex bearing liner may be nicked during the drilling process. This is not detrimental to the liner. Use a Swiss file to blend out sharp edges.

4. Remove the drill guide P/N 407-240-017-101.
5. De-burr the sharp edges of the hole.
6. Clean the gearbox case. Make sure that no unwanted material stays in the cavities.
7. Apply corrosion preventative (DOW #19) (C-103) to reworked area. Refer to BHT-ALL-SPM chapter 3.
8. Using a vibrating stylus, re-identify the case as **P/N 406-040-406-109FM**.
9. Continue with inspection/overhaul and re-assemble gearbox using new P/N 406-040-432-103 bearing. Refer to BHT-427-CR&O chapter 65.
10. Make an entry in the component and helicopter technical records to show compliance with part II of this bulletin.

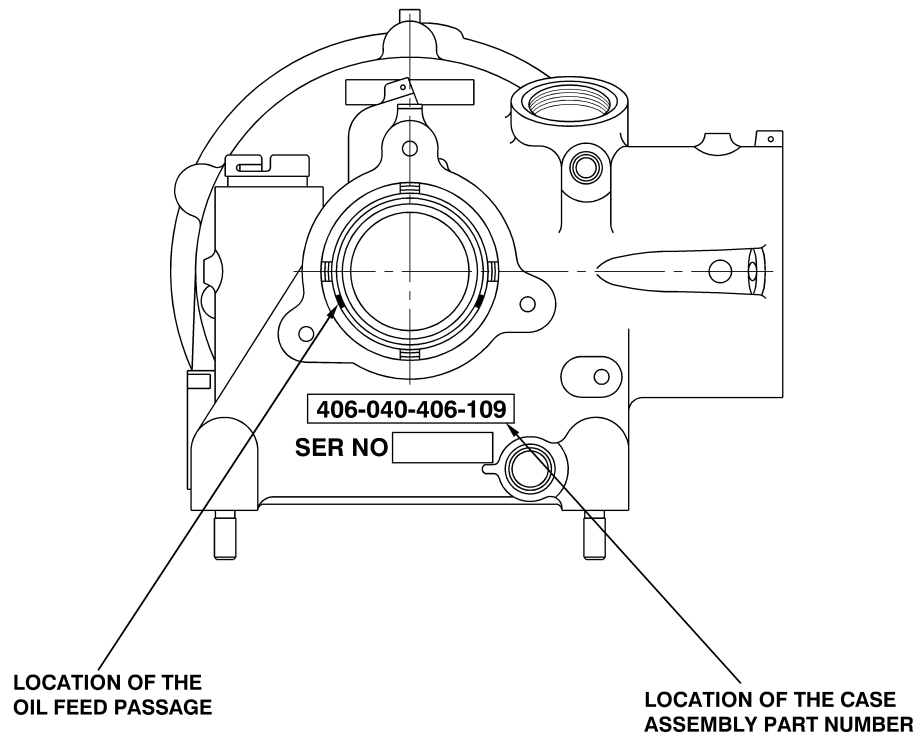
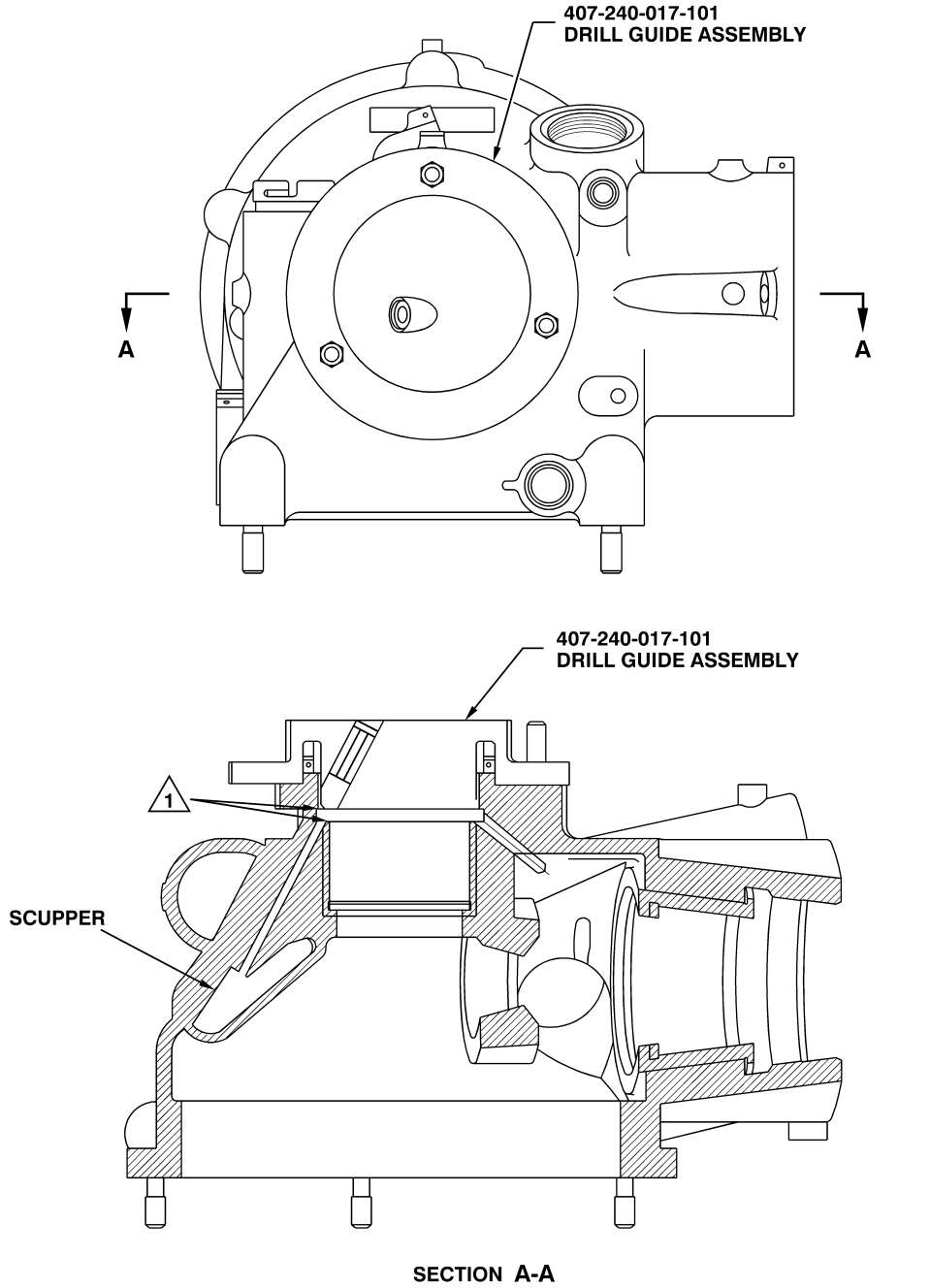


Figure 1. Location of part number and oil feed passage.



NOTE

- 1 Duplex bearing liner can be nicked as the gallery is drilled. This is not detrimental to the liner. Use a Swiss file and remove sharp edges.

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Figure 2. Rework of tail rotor gearbox case.