

TECHNICAL BULLETIN
Bell Helicopter
A Textron Company

No. 407-08-82

Date APR 08, 2008

Page 1 of 9

DATE
REV

MODEL AFFECTED: 407

SUBJECT: TRANSMISSION OIL PUMP P/N 406-340-100-101
BEARING REPLACEMENT PROCEDURE,
INTRODUCTION OF.

HELICOPTERS AFFECTED: 407 Helicopters serial number 53000 and subsequent.

COMPLIANCE: At Customer's Option

DESCRIPTION:

This bulletin is being issued to provide a replacement procedure for the bearings in the transmission oil pump. This procedure is being made available to reduce the high DOC cost of repair to the oil pump.

APPROVAL:

The engineering design aspects of this bulletin are TCCA approved.

MANPOWER:

No additional man-hours are required when the bearings are replaced at transmission overhaul.

WARRANTY:

There is no warranty credit applicable for parts or labor associated with this bulletin.

MATERIALS:

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>
36-04503-0404-1	Bearing	2

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>
P-P-101	Fine grit emery cloth	1	C-423

SPECIAL TOOLS:

WORKAIDS #1, #2, #3, #4 and #5, refer to figure 1 of this TB.
REAMER 0.5000 TO 0.5005 IN (12.7 to 12.713 mm)

WEIGHT AND BALANCE:

Not Affected

ELECTRICAL LOAD DATA:

Not Affected

REFERENCES:

BHT-407-IPB, Illustrated Parts Breakdown
BHT-407 -MM, Maintenance Manual
BHT-407-CR&O, Component Repair and Overhaul

PUBLICATIONS AFFECTED:

BHT-407-IPB, Illustrated Parts Breakdown
BHT-407-CR&O, Component Repair and Overhaul

ACCOMPLISHMENT INSTRUCTIONS:

PART 1: Replacement of bearings in pumps P/N 406-340-100-101

1. Remove transmission oil pump (BHT-407-MM).
2. Disassemble the transmission oil pump (BHT-407-CR&O).
3. Prepare workaids (#1, #2, #3, and #4, Figure 1).

-NOTE-

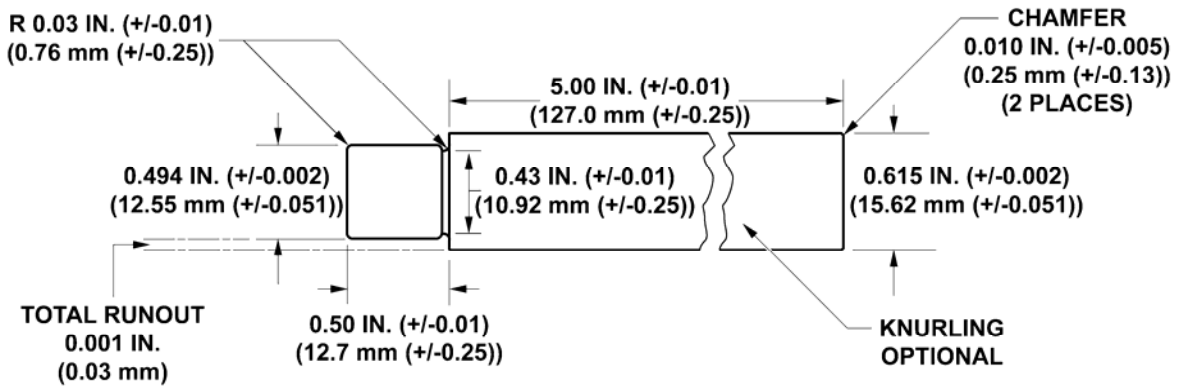
It is not necessary to replace both bearings at the same time.

4. Use workaids #1 and #2 to remove bearings (1, Figure 2) from head assembly (2) and housing body (3) of transmission oil pump.
5. Inspect bearing bores of head assembly (2) and housing body (3). Refer to Figure 4 of this TB.
6. Install bearings (1 Figure 3) into head assembly (2) and housing body (3) as follow:
 - a. Apply heat to head assembly (2) and housing body (3). Do not exceed 200° F (93.33° C).
 - b. Coat the OD of bearings (1) and to bearing bores of head assembly (2) and housing body (3) with transmission oil.
 - c. Use workaids #2 and #3 to press bearing (1) into head assembly (2). Use workaids #2 and #4 to press bearing (1) into housing body (3).
 - d. Inspect bearing (1) to ensure no damage has resulted form bearing installation.

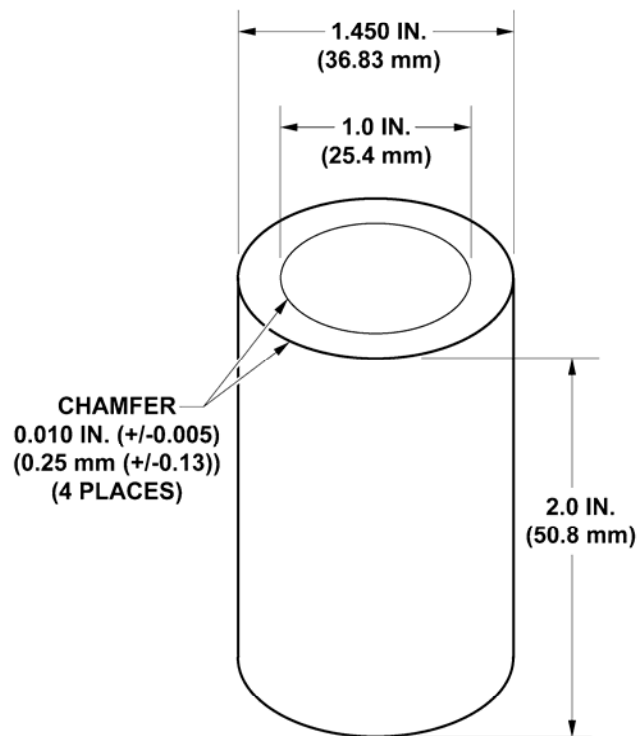
-NOTE-

After deburing and clean up the surface finish must be 32 RMS or smoother.

- e. Final machine or ream inside diameter of the bearings (1) to 0.5000 to 0.5005 inch (12.7 to 12.713 mm). Perform a Fluorescent Penetrant Inspection to the head assembly (2) and housing body (3) (BHT-ALL-SPM, Chapter 6). No cracks allowed.
7. Reassemble the transmission oil pump (BHT-407-CR&O).
8. Install transmission oil pump (BHT-407-MM).
9. Make an entry in the helicopter Historical Record to show that this Technical Bulletin is completed.



**BEARING REMOVAL
WORKAID NO. 1
MATERIAL: 4130 STEEL OR EQUIVALENT**



**BEARING REMOVAL/INSTALLATION
WORKAID NO. 2
MATERIAL: ALUMINUM**

06514002

Figure 1. Built up instructions of Work Aids (Sheet 1 of 2)

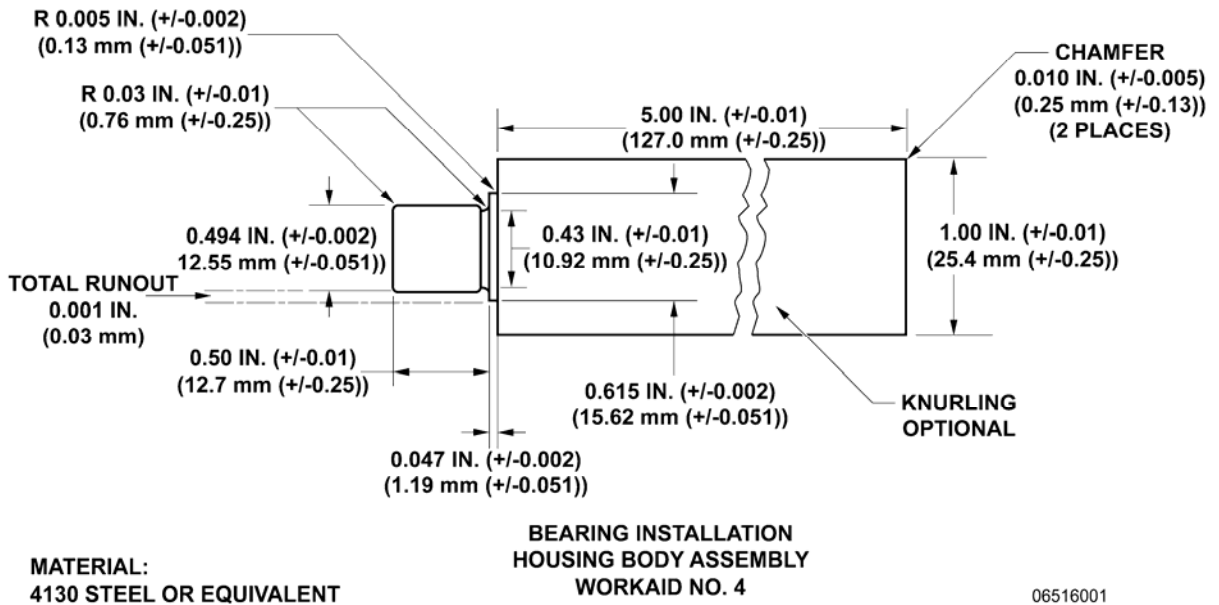
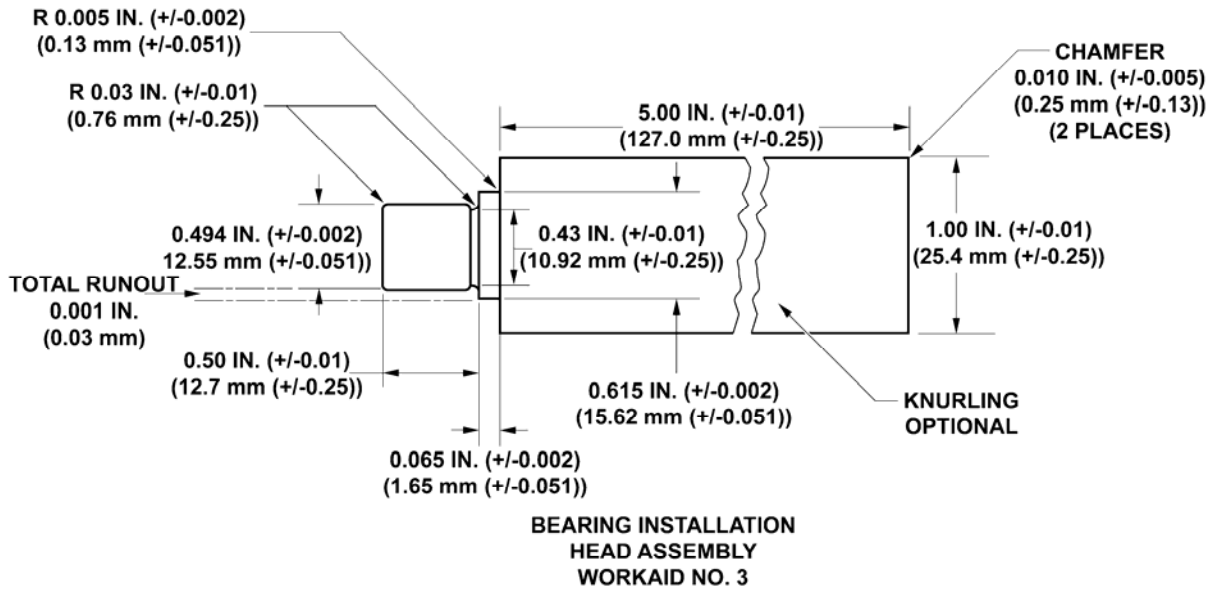
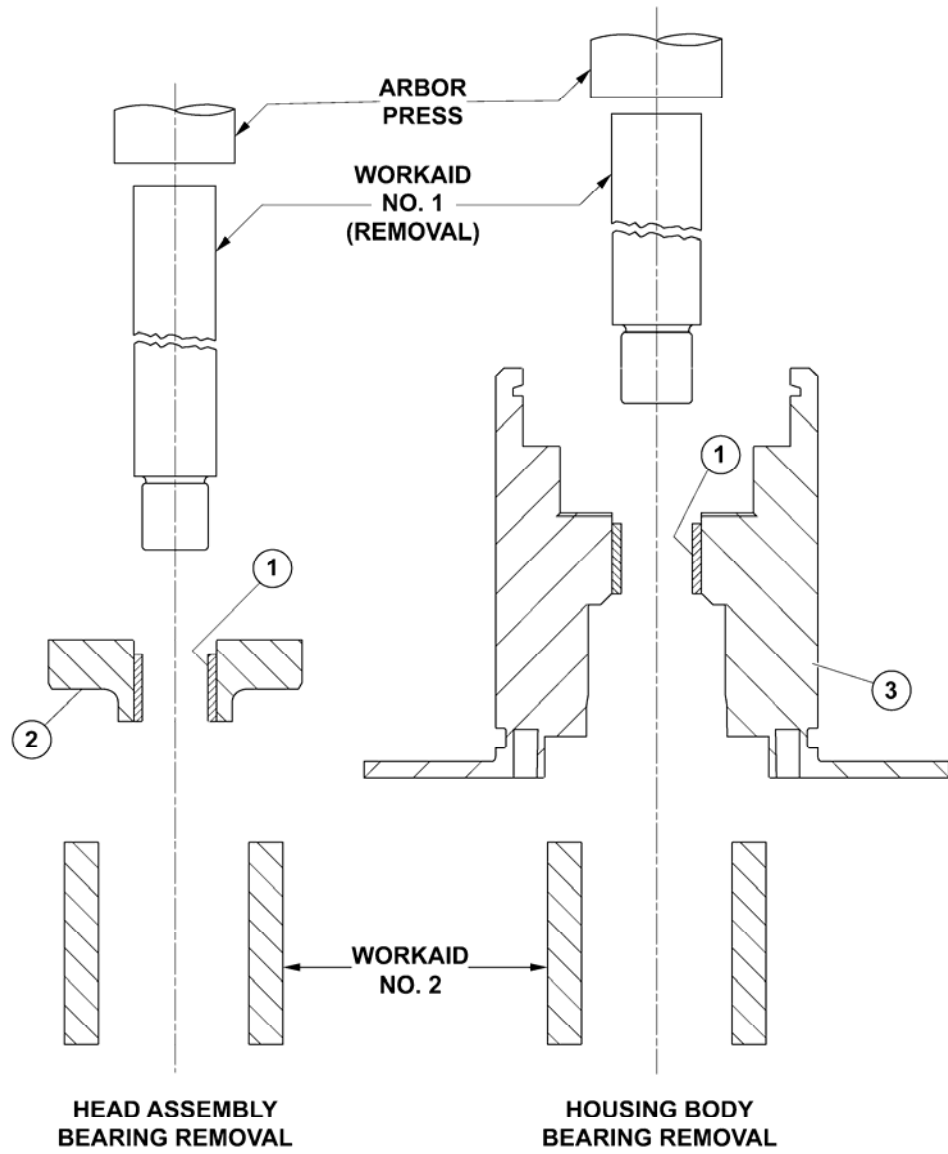


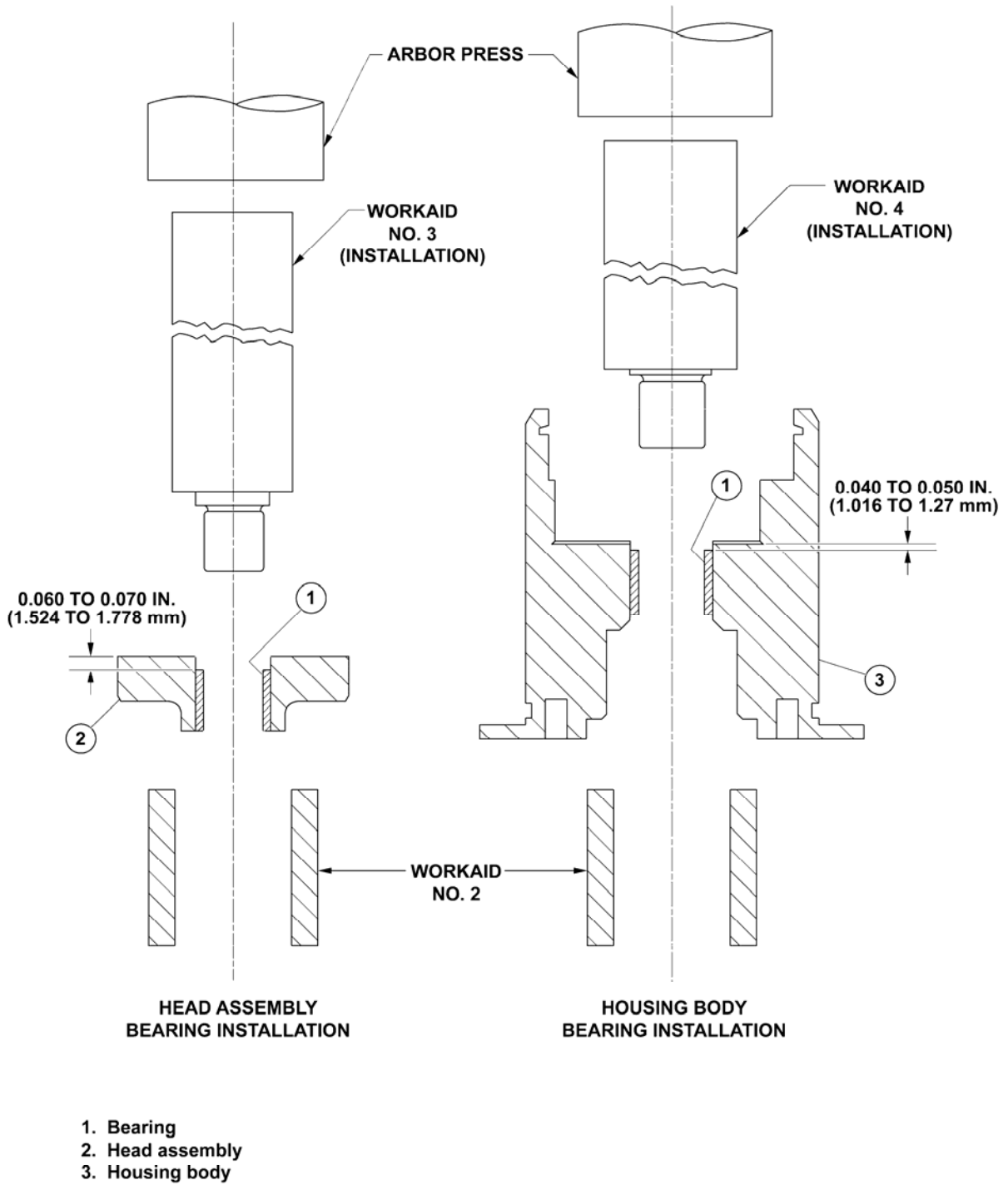
Figure 1. Built up instructions of Work Aids (Sheet 2)



- 1. Bearing
- 2. Head assembly
- 3. Housing body

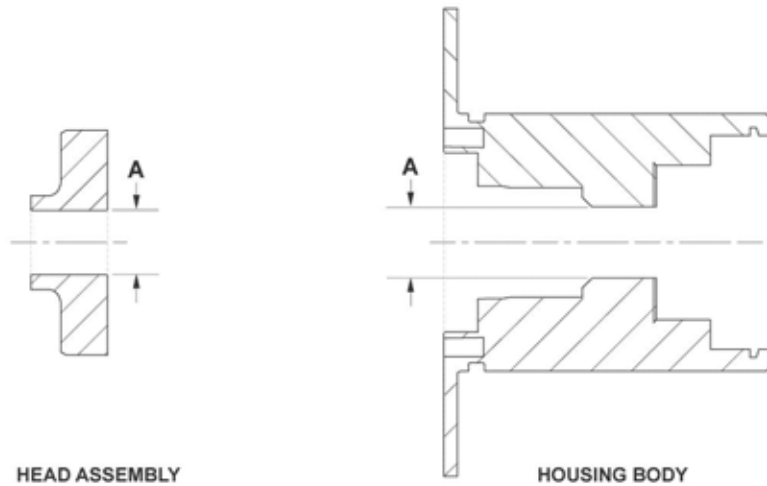
06516003

Figure 2. Bearing removal from Head Assembly and housing body



06516002

Figure 3. Bearing installation on Head Assembly and housing body



NO.	REF LTR	CHARACTERISTIC	INSPECTION METHOD	LIMIT
1	A	Inside diameter	Measure	0.6250 inch (15.875 mm) maximum diameter.
2	A	Mechanical damage	Visual/measure	Permitted if damage cannot be felt with a 0.020 inch (0.508 mm) spherical radius probe. 1
3	A	Mechanical damage	Visual/measure	10% of total surface is permitted for repair.

NOTE

1 Polish mechanical damage smooth with a fine Emery cloth (C-423). Treat repaired area with chemical film treatment (C-100).

06515001

Figure 4. Inspection and repair of head assembly and housing body bores.