

TECHNICAL BULLETIN

Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc

No. 214-99-90

Date 12-15-99

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DATE
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MODEL AFFECTED: 214B/214B-1

SUBJECT: INTRODUCTION OF P/N 212-340-113-101
TRANSMISSION INPUT QUILL ASSEMBLY OIL
SEAL AND P/N 214-704-218-101 RETROFIT KIT

HELICOPTERS AFFECTED: All 214B/B-1 helicopters

COMPLIANCE: At customer's option.

DESCRIPTION:

A new transmission input quill seal has been approved for use in the 214B Series helicopters. The existing P/N 214-040-818-001 carbon ring Seal Assembly may be replaced with the P/N 212-340-113-101 lip Seal.

Existing P/N 214-040-818-001 Seals in the P/N 214-040-026-101 Input Quill Assemblies may be replaced on a one-for-one basis without further modification or parts replacement. However, existing seals in the P/N 214-040-026-013, -011, and -005 Input Quill Assemblies will require installation of the P/N 214-704-218-101 Retrofit Kit which consists of the new P/N 212-340-113-101 Seal and a new wear Sleeve, P/N 214-040-867-101.

Installation instructions peculiar to each input quill configuration are contained in the ACCOMPLISHMENT INSTRUCTIONS of this bulletin, and, will be added to a future revision of the 214B Series Component Repair and Overhaul manual.

APPROVAL:

The engineering design aspects of this bulletin are FAA/DER approved.

MANPOWER:

Approximately 12.0 man-hours will be required to accomplish this bulletin per helicopter.

Man-hours are based on "hands-on-time." Elapsed time to accomplish the required maintenance task may vary due to manpower and facilities available to the operator.

MATERIAL:

- NOTE -

P/N 214-704-218-101 Retrofit Kit consists of the P/N 212-340-113-101 Seal, P/N 214-040-867-101 Sleeve, and P/N 299-947-100 TY II CL 2 Adhesive. **This kit is not stocked by BHT. All items must be ordered separately** as noted below.

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>
212-340-113-101	Seal	1
214-040-867-101	Sleeve	1

Consumable Material:

The following material is required to accomplish the bulletin, however, this material is considered consumable (bench stock) material and may not require ordering depending on the operators 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>
299-947-100TYIICL2	Adhesive	As Required
MIL-L-23699	Lubricating Oil, Turbine Engine	As Required
MIL-L-7808	Lubricating Oil, Turbine Engine	As Required

SPECIAL TOOLS:

Refer to BHT-214B-CR&O-1, Chapter 66.

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-214B-CR&O-1, Chapter 66.
BHT-214B-IPB, Chapter 63.
T.B. 214-92-73 dated 10/30/92, "Main Transmission Assembly P/N 214-040-002 Configuration Change and Upgrade".
BHT-ALL-SPM, Chapter 7.

PUBLICATIONS AFFECTED:

BHT-214B-MM-1, Chapter 66
BHT-214B-CR&O-1, Chapter 66.
BHT-214B-IPB, Chapter 63.

ACCOMPLISHMENT INSTRUCTIONS:

PART 1 - P/N 214-040-026-101 Input Quill Assembly

1. The main input quill repair and reassembly instructions contained in Chapter 66 of the BHT-214B-CR&O-1 may be used for the installation of the new P/N 212-340-113-101 seal in the P/N 214-040-026-101 Input Quill Assembly except as noted below (see Figure 1):
 - a. Remove existing seal and any sealant residue from the input quill cap assembly.
 - b. DO NOT remove shipping mandrel from new P/N 212-340-113-101 seal until immediately before installing clutch assembly with wear sleeve.
 - c. DO NOT apply sealant to outer diameter of seal. However, a light coating of transmission lubricant may be applied to the outer diameter of the seal to aid installation.
 - d. Install seal with felt wiper outboard.
 - e. Lightly lubricate the primary and secondary seal lips and the mating surface of the wear sleeve with MIL-L-7808 or MIL-L-23699 oil immediately prior to inserting the clutch outer race with wear sleeve into the seal.

CAUTION

ROTATE THE CLUTCH OUTER RACE WHILE INSERTING WEAR SLEEVE INTO SEAL. INSURE FELT WIPER DOES NOT ROLL-OVER UNDER EDGE OF METAL SEAL CASE.

2. Complete assembly of the input quill in accordance with Chapter 66 of BHT-214B-CR&O-1.

PART 2 - P/N 214-040-026-013, -011, AND -005 INPUT QUILL ASSEMBLIES

- NOTE -

Quill assembly components intended for reuse following installation of the P/N 214-704-218-101 Retrofit Kit must be inspected for serviceability before reinstallation. Refer to 214B/B-1 maintenance and overhaul manuals.

1. The main input quill repair and reassembly instructions contained in Chapter 66 of the BHT-214B-CR&O-1 may be used for the installation of the new P/N 212-340-113-101 seal and P/N 214-040-867-101 wear sleeve in the P/N 214-040-026-013, -011, and -005 Input Quill Assemblies except as noted below (see Figure 2):
 - a. Remove the existing wear sleeve from the clutch outer race and remove adhesive residue from the outer race surface in accordance with Chapter 66 of BHT-214B-CR&O-1.

- NOTE -

P/N 214-040-703-001 Pins are not used with the 214-040-867-101 wear sleeve installation.

- b. Prepare surfaces of clutch outer race and P/N 214-040-867-101 wear sleeve for bonding and apply adhesive, P/N 299-947-100 TYII, CL 2, in accordance with BHT-ALL-SPM.

- NOTE -

Do not drill holes in wear sleeve

- c. Press wear sleeve on outer race until shoulder on inside diameter of the wear sleeve is uniformly seated against the inboard end of the outer race.
 - d. See View A, Figure 2. Before the wear sleeve adhesive cures, remove any adhesive residue which may have entered the outer race inboard retaining ring groove and adjacent surfaces via pin holes in the race. Also remove adhesive residue from surfaces of the outer race and wear sleeve except for the adhesive fillets to be formed at the ends of the wear sleeve (Ref Figure 2). Cure per BHT-SPM-ALL.

- e. Remove existing seal and any sealant residue from the input quill sleeve assembly and install the P/N 212-340-113-101 seal as follows:
 - 1) DO NOT remove shipping mandrel from new P/N 212-340-113-101 seal until immediately before installing clutch assembly with wear sleeve.
 - 2) DO NOT apply sealant to outer diameter of seal. However, a light coating of transmission lubricant may be applied to the outer diameter of the seal to aid installation.
 - 3) Install seal with felt wiper outboard.
 - 4) Lightly lubricate the primary and secondary seal lips and the mating surface of the wear sleeve with MIL-L-7808 or MIL-L-23699 oil immediately prior to inserting the clutch outer race with wear sleeve into the seal.

CAUTION

ROTATE THE CLUTCH OUTER RACE WHILE INSERTING WEAR SLEEVE INTO SEAL. INSURE FELT WIPER DOES NOT ROLL-OVER UNDER EDGE OF METAL SEAL CASE.

2. Complete assembly of the input quill assembly in accordance with Chapter 66 of BHT-214B-CR&O-1.

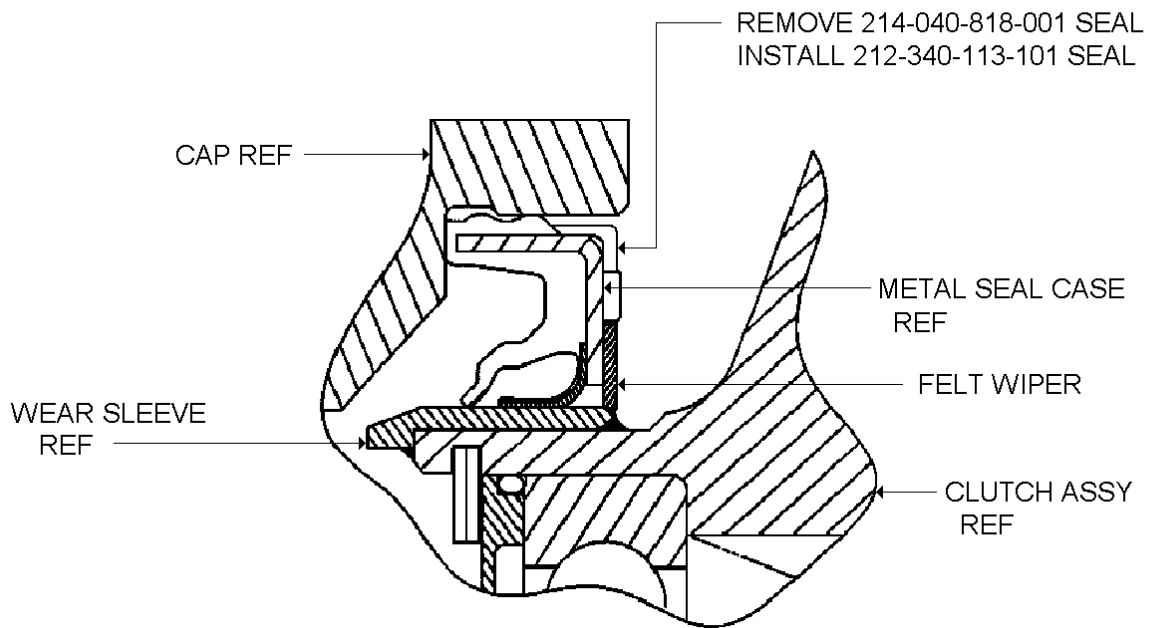


FIGURE 1
214-040-026-101 INPUT QUILL
SEAL INSTALLATION

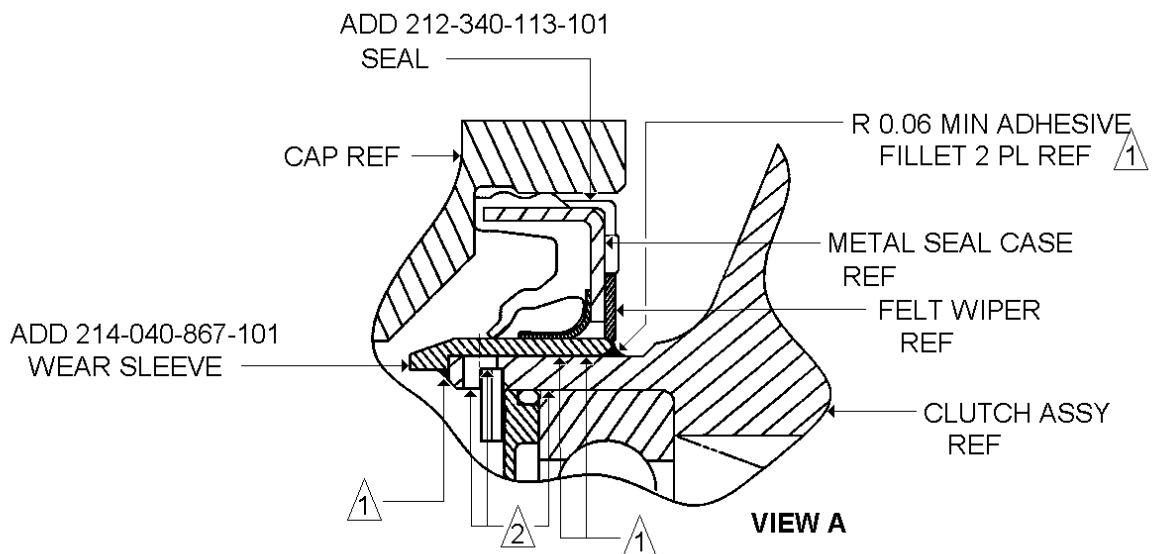
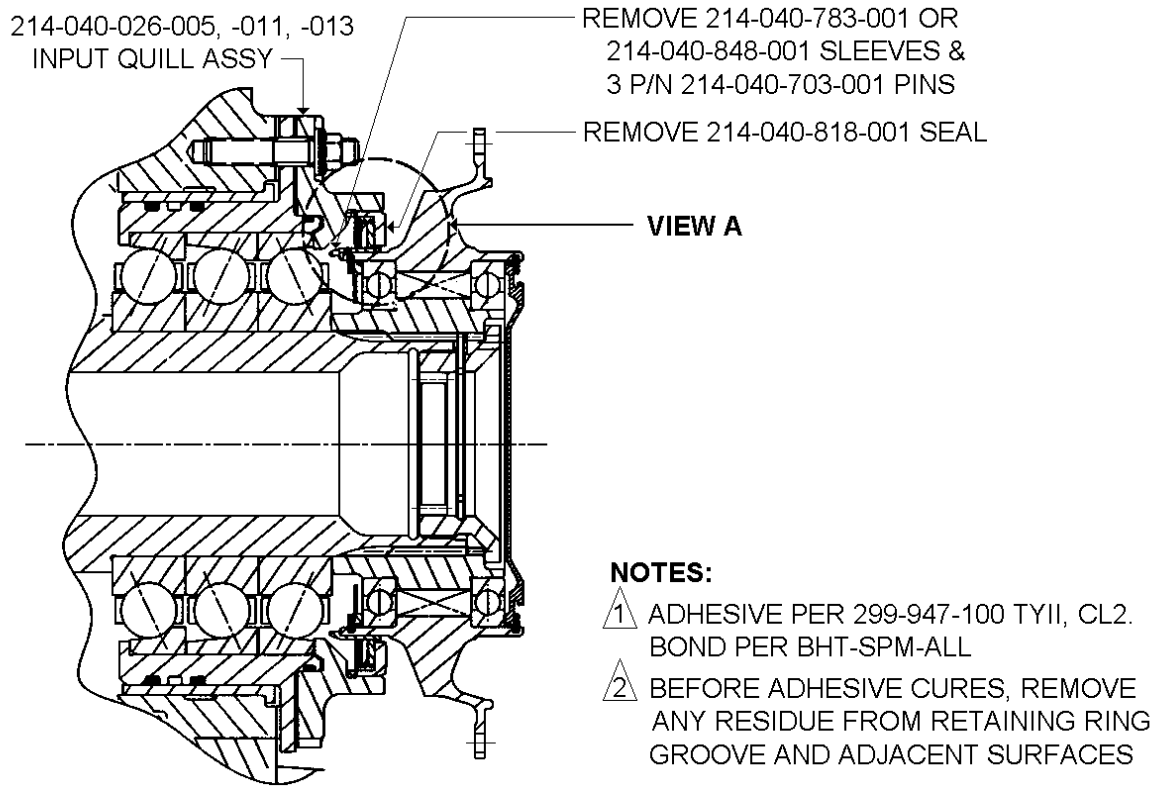


FIGURE 2
214-704-218-101 KIT INSTALLATION