

Cleveland

Wheels & Brakes

Parker Hannifin Corporation

Aircraft Wheel & Brake

1160 Center Road

Avon, Ohio 44011 USA

1-800-BRAKING (272-5464)

440-937-1315 • FAX 440-937-5409

PRODUCT REFERENCE MEMO

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

1. PLANNING INFORMATION

A. APPLICABILITY

The following wheel assemblies are applicable to either one or both of the molded seal configurations.

| | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|---------|
| 40-12 | 40-77 | 40-77B | 40-77F | 40-78 | 40-78B | 40-78J | 40-151A |
| 40-12A | 40-77A | 40-77C | 40-77G | 40-78A | 40-78E | 40-151 | 40-230 |

B. EFFECTIVITY

Available as a spares replacement. Production use will initiate **October**, 2013.

C. REASON

A product improvement in the bearing grease retention system as a replacement to the current felt seal configuration.

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

D. DESCRIPTION

This PRM provides the replacement instructions of the felt seal components in the subject wheel assemblies. The following procedures are provided to assure proper installation of the alternate molded seal.

One new molded bearing seal configuration is available that will significantly improve the prevention of water infiltration into the bearing hub area providing more protection against possible bearing corrosion.

- (1) 154-13000 Molded Seal

Refer to Figure 1. The new 154-13000 molded seal configuration and the corresponding current felt seal configuration are listed below.

| Molded Seal Configuration P/N | Qty | Felt Seal Configuration P/N | Qty |
|-------------------------------|-----|-----------------------------|-----|
| 154-13000 Bearing Seal | 1 | 153-00800 Ring, Grease Seal | 2 |
| | | 154-00600 Felt, Grease Seal | 1 |

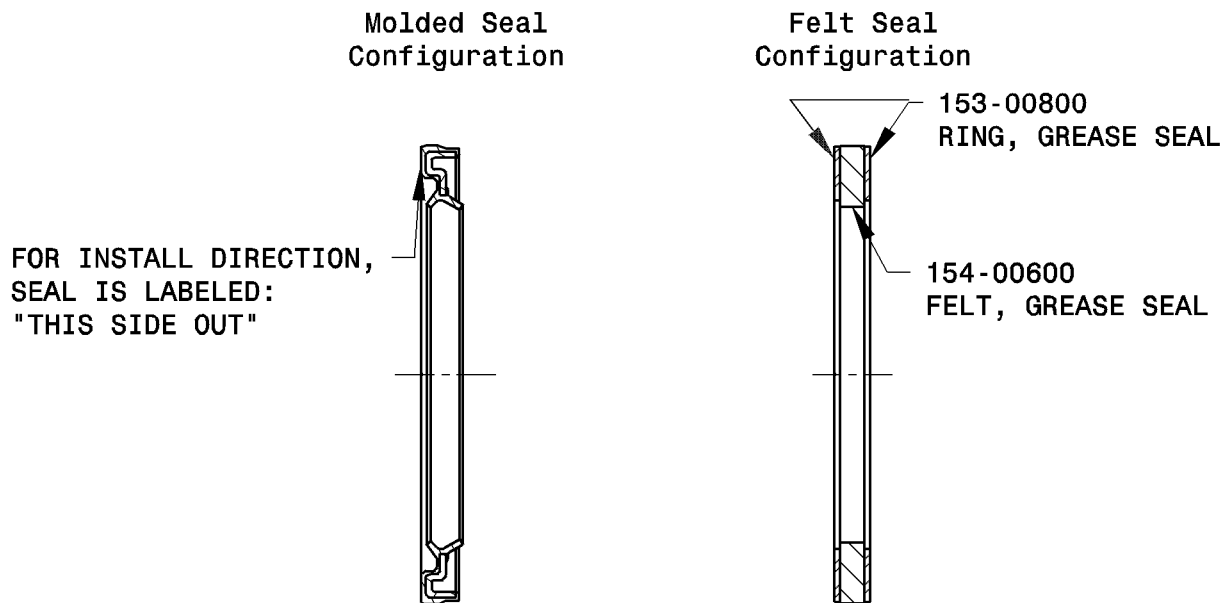


Figure 1 154-13000 Molded Seal to Felt Seal Comparison

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

E. COMPLIANCE

Recommended. At next annual inspection, scheduled overhaul or at owner's discretion.

F. APPROVAL

The engineering contents of this Product Reference Memo are FAA DER approved.

G. WEIGHT AND BALANCE

Not affected.

H. OTHER PUBLICATIONS AFFECTED

AWBPC0001Product Catalog

All individual wheel assembly component maintenance manuals and kit installation manuals that are affected by this PRM will be updated at the next scheduled revision.

2. ACCOMPLISHMENT INSTRUCTIONS

A. IDENTIFICATION

Refer to the wheel assembly list in paragraph **1.A. APPLICABILITY**. A wheel assembly will use either one or both of the molded seals as an alternate to the existing felt seal configuration.

In addition to or in absence of individual wheel assembly maintenance manuals, refer to the following publications, published by Parker Hannifin – Aircraft Wheel and Brake, for disassembly and assembly procedures; service limits, general maintenance guidelines, and applicable related data. Always obtain the latest issue in effect.

AWBCMM0001Component Maintenance Manual, External Design Wheels & Brakes
AWTSG0001Technician's Service Guide (formerly PRM64)


Contact technical support for additional assistance.

Parker Hannifin Corporation
Aircraft Wheel & Brake Division
1160 Center Road
Avon, Ohio 44011 U.S.A.
Attn: Technical Services/Hotline

Websites: www.parker.com
E-mail: clevelandwbhelp@parker.com
Fax: (440) 937-5409
Tel: 1-800-BRAKING (1-800-272-5464)

B. REPLACEMENT INSTRUCTIONS

Refer to the following paragraphs and figures for installation instructions and wheel assembly applicability.

SAFETY WARNING:  **DEFLATE THE TIRE. WORKING ON OR NEAR A FULLY INFLATED TIRE CAN BE DANGEROUS.**

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

- (1) 40-12, 40-12A

Note: All listed wheel assemblies are main wheels. Seal replacement is for the inboard wheel half only.

Refer to Figure 2 and replace the inboard felt seal configuration as follows.

- (a) Deflate the tire.
- (b) Loosen the brake back plate assembly tie bolts which fasten the back plate to the brake housing. Remove the back plate and the insulator shim, if so equipped.
- (c) 40-12 only: Remove the dust shield attachment hardware (washer and screw) and the dust shield.
- (d) Remove the outboard wheel half snap ring and hubcap.
- (e) Remove and retain the axle mounting hardware and slide the wheel/tire assembly off of the axle.
- (f) Remove the inboard wheel half snap ring.
- (g) Remove the felt seal components: 2X 153-00800 grease seal ring and 1X 154-00600 grease seal felt from the inboard wheel half.
- (h) Install the 154-13000 molded seal in the inboard wheel half. Make sure the molded seal is installed correctly by observing "THIS SIDE OUT" in molded characters on the seal.
- (i) Install the inboard wheel half snap ring.
- (j) Slide the wheel assembly onto the axle and install the axle mounting hardware accordance with the Airframe Owner's Handbook manual or wheel assembly component maintenance manual if so equipped. Make sure the inboard bearing is seated.
- (k) Install the outboard wheel half hubcap and snap ring.
- (l) Install the brake insulator shim and fasten the back plate to the brake housing by installing the tie bolts. Tighten the tie bolts to specifications in accordance with the brake assembly component maintenance manual or, if one does not exist, AWBCMM0001, Component Maintenance Manual, External Design Wheels & Brakes.
- (m) 40-12 only: Install the dust shield with the attachment hardware (washer and screw). Tighten the screw to 30 to 40 in-lb.
- (n) Inflate the tire to the service inflation pressure.

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

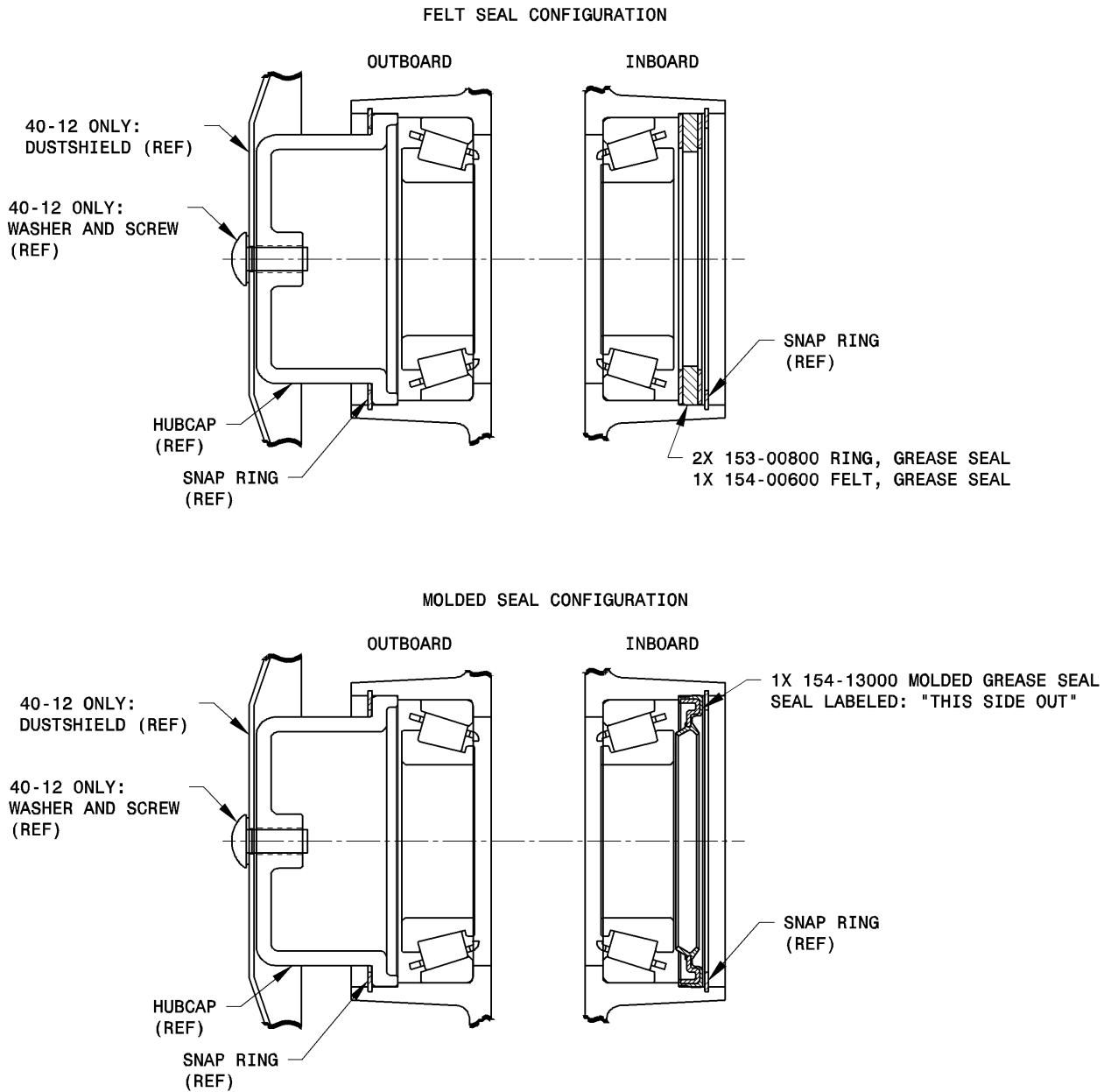


Figure 2 Felt Seal Configuration Replacement
40-12, 40-12A



PRODUCT REFERENCE MEMO

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

(2) 40-78, 40-78A, 40-78B, 40-78E, 40-78J, 40-151, 40-151A, 40-230

Note: All listed wheel assemblies are main wheels.

Refer to Figure 3 and replace the inboard and outboard felt seal configurations as follows.

- (a) Deflate the tire.
- (b) Loosen the brake back plate assembly tie bolts which fasten the back plate to the brake housing. Remove the back plate and the insulator shim, if so equipped.
- (c) Remove any optional equipment to expose the axle mounting hardware such as a dust shield.
- (d) Remove and retain the axle mounting hardware and slide the wheel/tire assembly off of the axle.
- (e) Remove the snap rings from both wheel halves.
- (f) Remove the felt seal components: 2X 153-00800 grease seal ring and 1X 154-00600 grease seal felt from each wheel half.
- (g) For each wheel half, install the 154-13000 molded seal. Make sure the molded seal is installed correctly by observing "THIS SIDE OUT" in molded characters on the seal.
- (h) Install the snap rings for each wheel half.
- (i) Slide the wheel assembly onto the axle and install the axle mounting hardware accordance with the Airframe Owner's Handbook manual or wheel assembly component maintenance manual if so equipped. Make sure the inboard bearing is seated.
- (j) Install the brake insulator shim, if so equipped, and fasten the back plate to the brake housing by installing the tie bolts. Tighten the tie bolts to specifications in accordance with the brake assembly component maintenance manual or, if one does not exist, AWBCMM0001, Component Maintenance Manual, External Design Wheels & Brakes.
- (k) Install any optional equipment such as a dust shield.
- (l) Inflate the tire to the service inflation pressure.

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

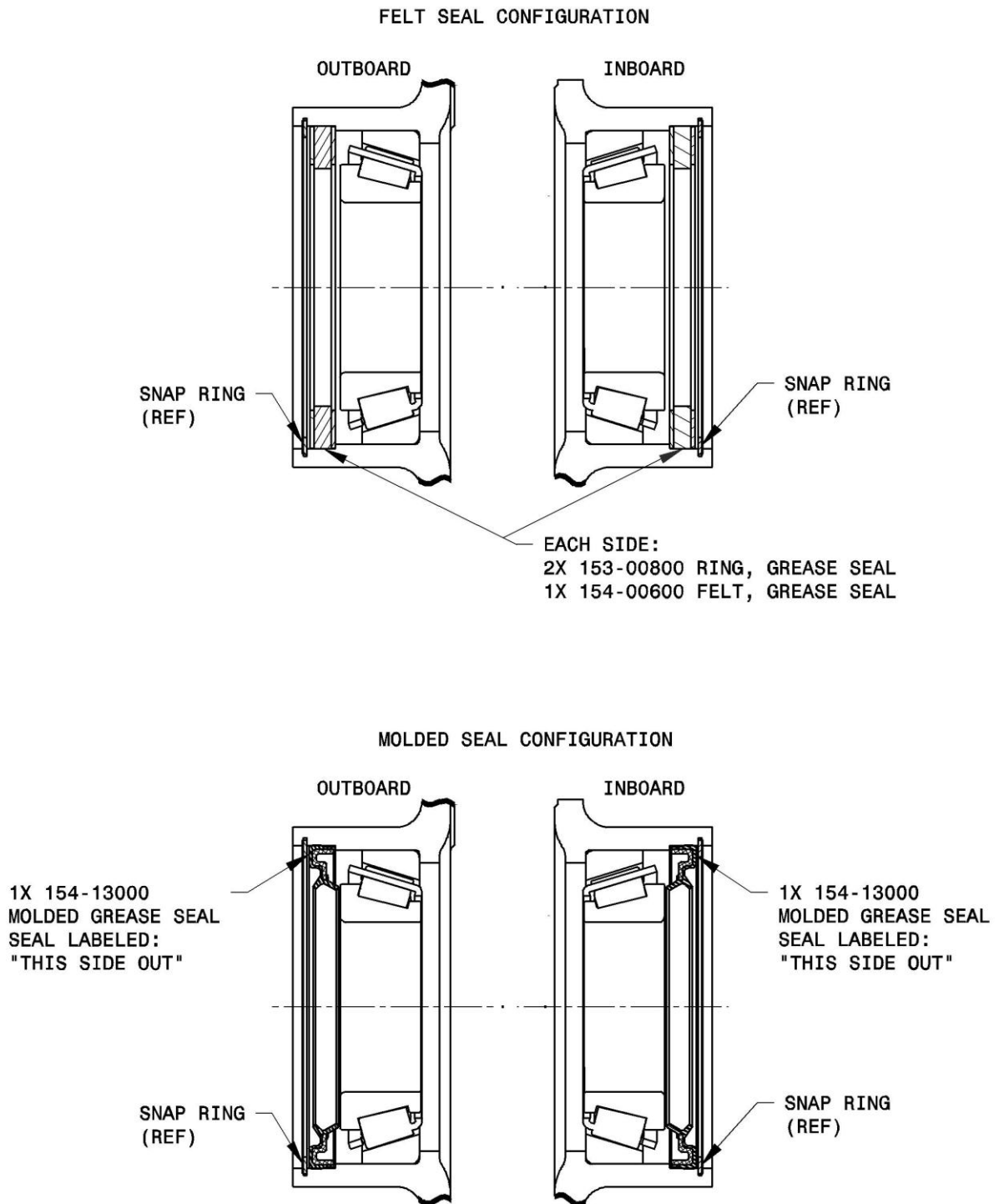


Figure 3 Felt Seal Configuration Replacement
40-78, 40-78A, 40-78B, 40-78E, 40-78J, 40-151, 40-151A, 40-230

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

(3) 40-77, 40-77A, 40-77B, 40-77C, 40-77F, 40-77G

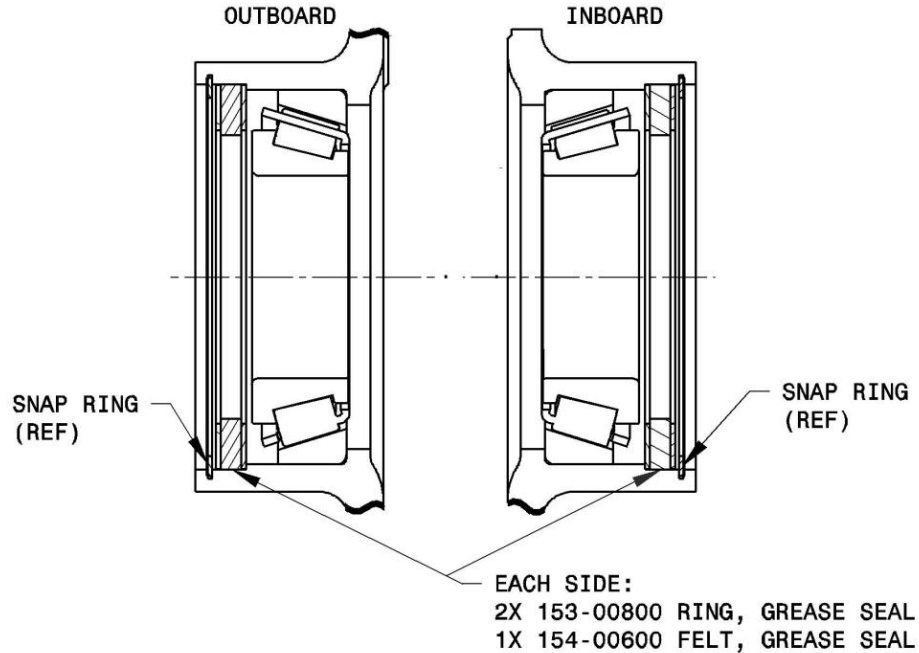
Note: All listed wheel assemblies are nose wheels.

Refer to Figure 4 and replace the inboard and outboard felt seal configurations as follows.

- (a) Deflate the tire.
- (b) Remove any optional equipment to expose the axle mounting hardware such as a dust shield.
- (c) Remove and retain the axle mounting hardware and slide the wheel/tire assembly off of the axle.
- (d) Remove the snap rings from both wheel halves.
- (e) Remove the felt seal components: 2X 153-00800 grease seal ring and 1X 154-00600 grease seal felt from each wheel half.
- (f) For each wheel half, install the 154-13000 molded seal. Make sure the molded seal is installed correctly by observing "THIS SIDE OUT" in molded characters on the seal.
- (g) Install the snap rings for each wheel half.
- (h) Slide the wheel assembly onto the axle and install the axle mounting hardware accordance with the Airframe Owner's Handbook manual or wheel assembly component maintenance manual if so equipped. Make sure the inboard bearing is seated.
- (i) Install any optional equipment such as a dust shield.
- (j) Inflate the tire to the service inflation pressure.

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

FELT SEAL CONFIGURATION



MOLDED SEAL CONFIGURATION

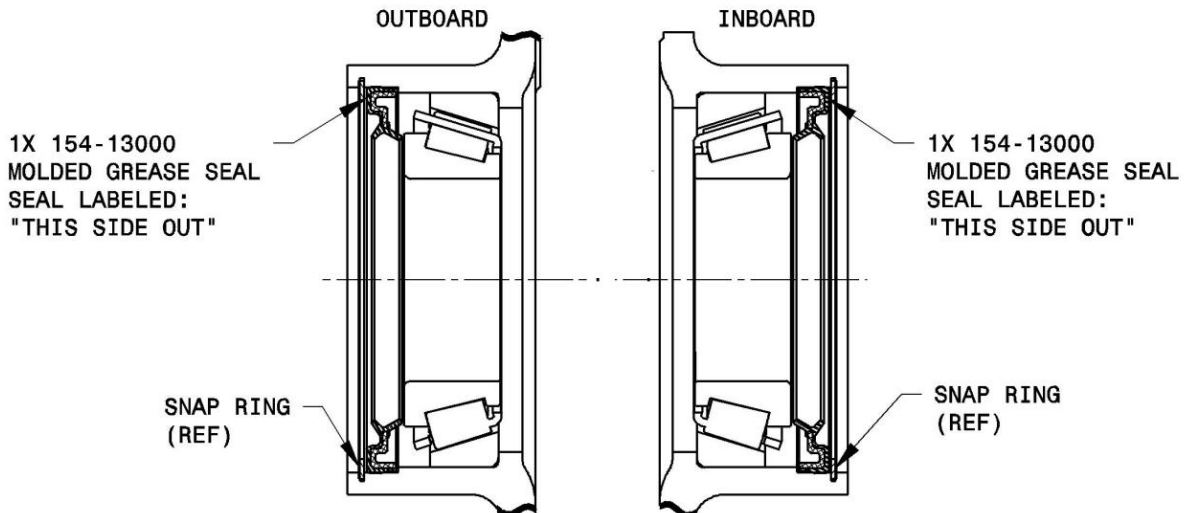


Figure 4 Felt Seal Configuration Replacement:
40-77, 40-77A, 40-77B, 40-77C, 40-77F, 40-77G



PRODUCT REFERENCE MEMO

MOLDED BEARING SEAL AVAILABILITY FOR 5-INCH EXTERNAL WHEEL

C. RETURN TO SERVICE

Make a logbook entry referencing the change of hardware.