

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 6-INCH EXTERNAL WHEEL

1. PLANNING INFORMATION

A. APPLICABILITY

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

	40-75B	40-75T	40-76H	40-86A	40-90D	40-97E	40-113C	40-131
40-3	40-75D	40-75W	40-76P	40-86B	40-90E	40-98A	40-113G	40-140A
40-4	40-75E	40-76A	40-76Z	40-86E	40-90F	40-98F	40-116	40-142
40-34	40-75F	40-76C	40-79A	40-88C	40-96E	40-98H	40-117A	40-143
40-47	40-75G	40-76D	40-84	40-90	40-96Z	40-99	40-120	40-163
40-59	40-75J	40-76E	40-84A	40-90A	40-97A	40-113	40-120C	40-406
40-59A	40-75P	40-76G	40-86	40-90B	40-97D	40-113B	40-128E	40-414

B. EFFECTIVITY

Available as a spares replacement. Production use will initiate October, 2011.

C. REASON

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

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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.

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

- (1) 154-12000 Molded Seal

Refer to Figure 1. The new 154-12000 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
154-12000 Bearing Seal	1	153-00400 Ring, Grease Seal	2
		154-00300 Felt, Grease Seal	1

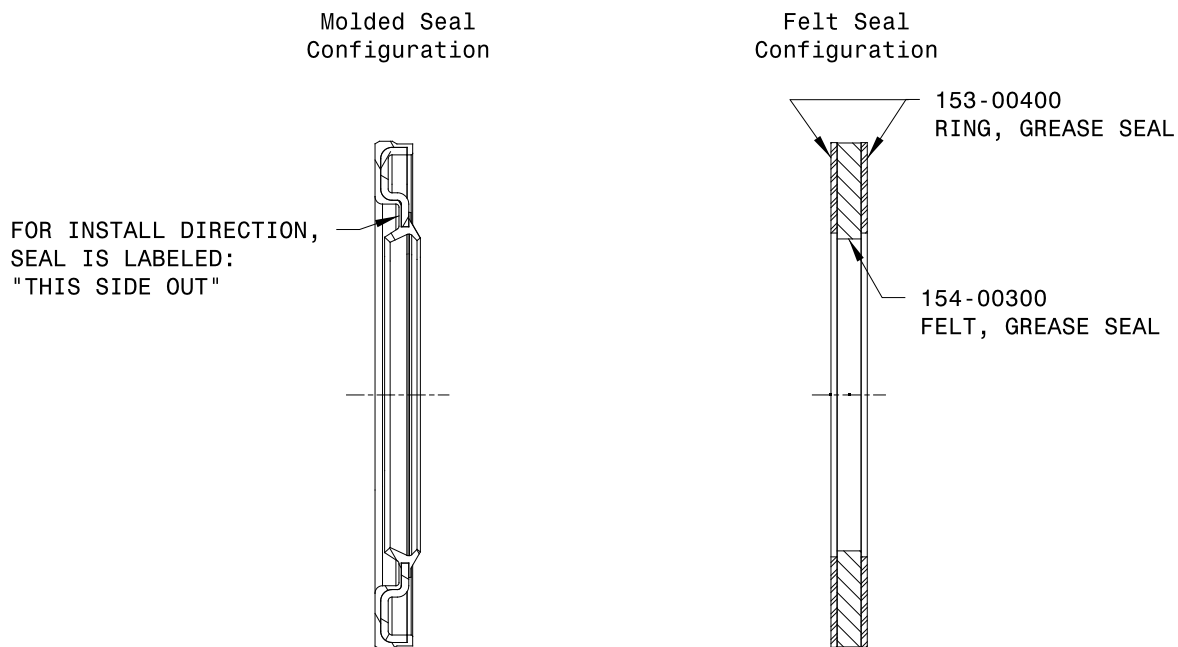


Figure 1 154-12000 Molded Seal to Felt Seal Comparison

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

(2) 154-12400 Molded Seal

Refer to Figure 2. The new 154-12400 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
154-12400 Bearing Seal	1	153-01500 Ring, Grease Seal	1
		154-01300 Felt, Grease Seal	1

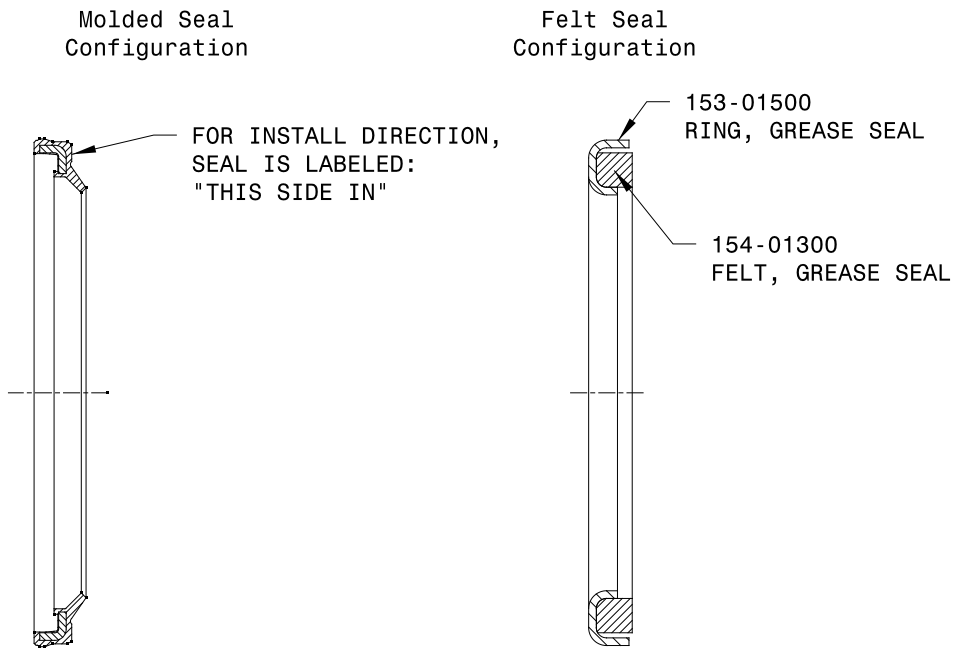


Figure 2 154-12400 Molded Seal to Felt Seal Comparison



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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

AWBCMM0001 Maintenance Manual, External Design Wheels & Brakes

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, both of the same, or a combination of 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.

AWBCMM0001 Component Maintenance Manual, External Design Wheels & Brakes
AWTSG0001 Technician'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.**

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- (1) 40-76A, 40-76C, 40-76D, 40-76E, 40-76H, 40-76P, 40-76Z, 40-113G, 40-140A

Note: All listed wheel assemblies are nose wheels except for 40-113G.

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

- (a) Deflate the tire.
- (b) 40-113G only: Loosen the back plate assembly tie bolts which fasten the back plate to the brake housing. Remove the back plate.
- (c) Remove any additionally equipped components necessary 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.

CAUTION: DO NOT DISCARD THE 153-00300 GREASE SEAL RINGS. THEY WILL EACH BE USED WITH THE 154-12400 MOLDED SEAL.

- (f) Remove the felt seal components: 1X 153-01500 grease seal ring and 1X 154-01300 grease seal felt from each wheel half. Retain the 153-00300 grease seal rings.
- (g) For each wheel half, install the 154-12400 molded seal against the 153-00300 grease seal ring. Make sure the molded seal is installed correctly by observing "THIS SIDE IN" 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) 40-113G only: Fasten the back plate to the brake housing by installing the tie bolts. Tighten 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 additionally equipped components such as a dust shield.
- (l) Inflate the tire to the service inflation pressure.

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

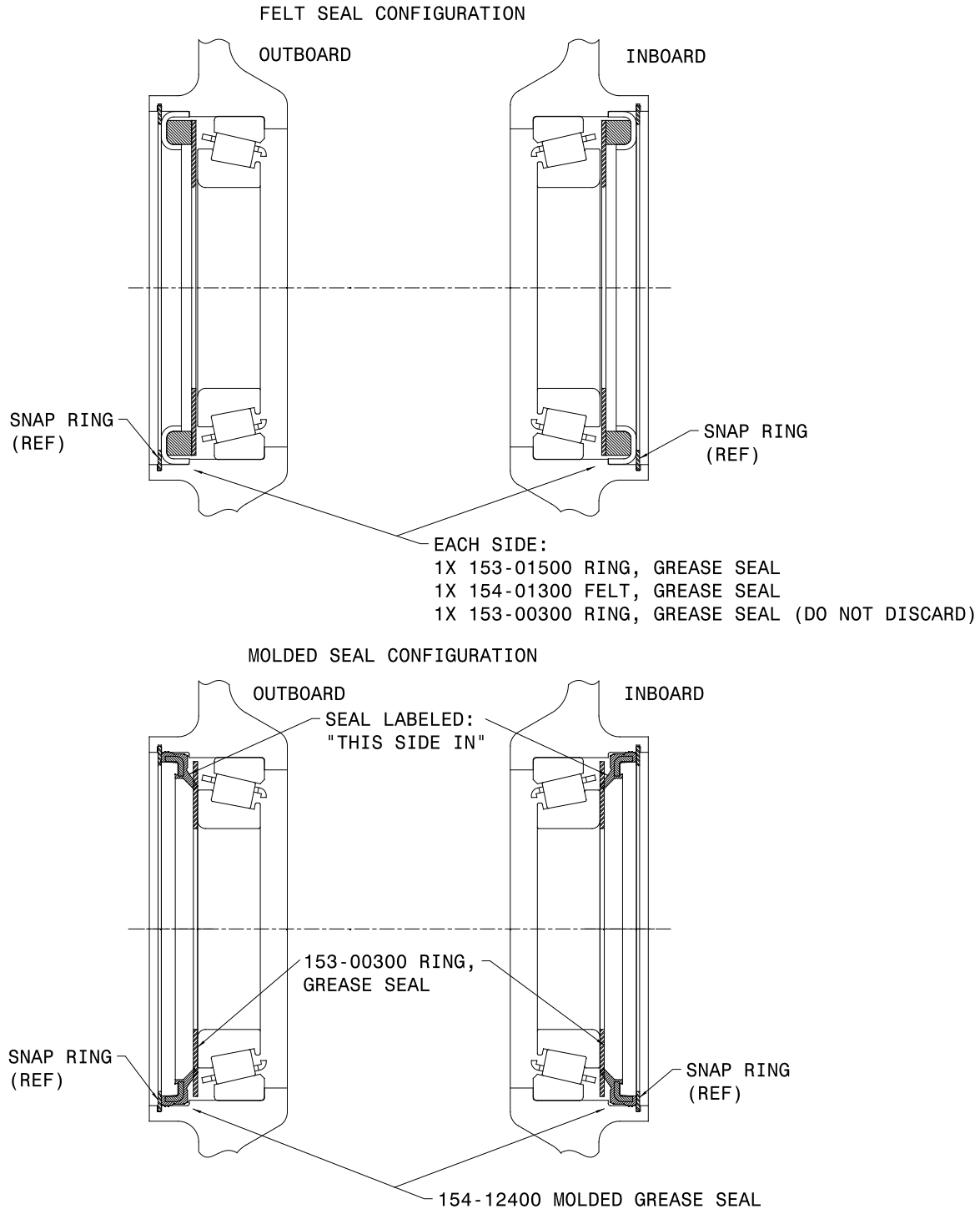


Figure 3 Felt Seal Configuration Replacement
40-76A, 40-76C, 40-76D, 40-76E, 40-76H, 40-76P, 40-76Z, 40-113G, 40-140A

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

(2) 40-34, 40-75P, 40-84A, 40-86, 40-86B, 40-86E, 40-90D, 40-414

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

- (a) Deflate the tire.
- (b) Loosen the back plate assembly tie bolts which fasten the back plate(s) to the brake housing. Remove the back plate(s).
- (c) Remove any additionally equipped components necessary 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 153-00400 grease seal ring and 1X 154-00300 grease seal felt from each wheel half.
- (g) For each wheel half, install the 154-12000 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) Fasten the back plate(s) to the brake housing by installing the tie bolts. Tighten 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 additionally equipped components such as a dust shield.
- (l) Inflate the tire to the service inflation pressure.

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

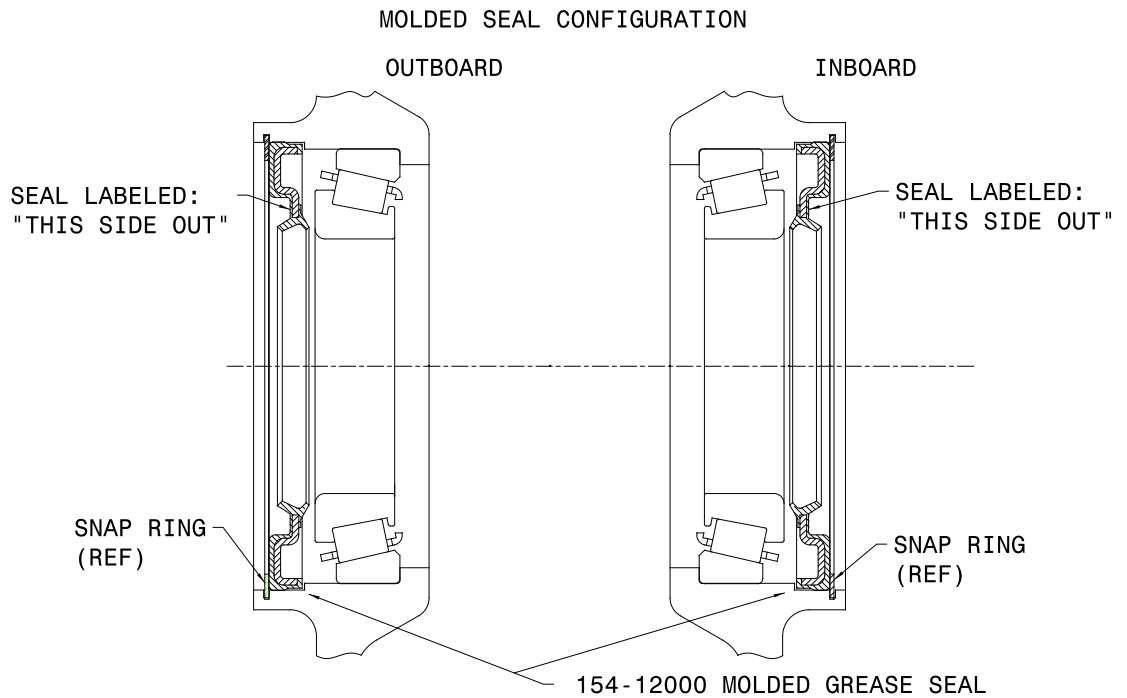
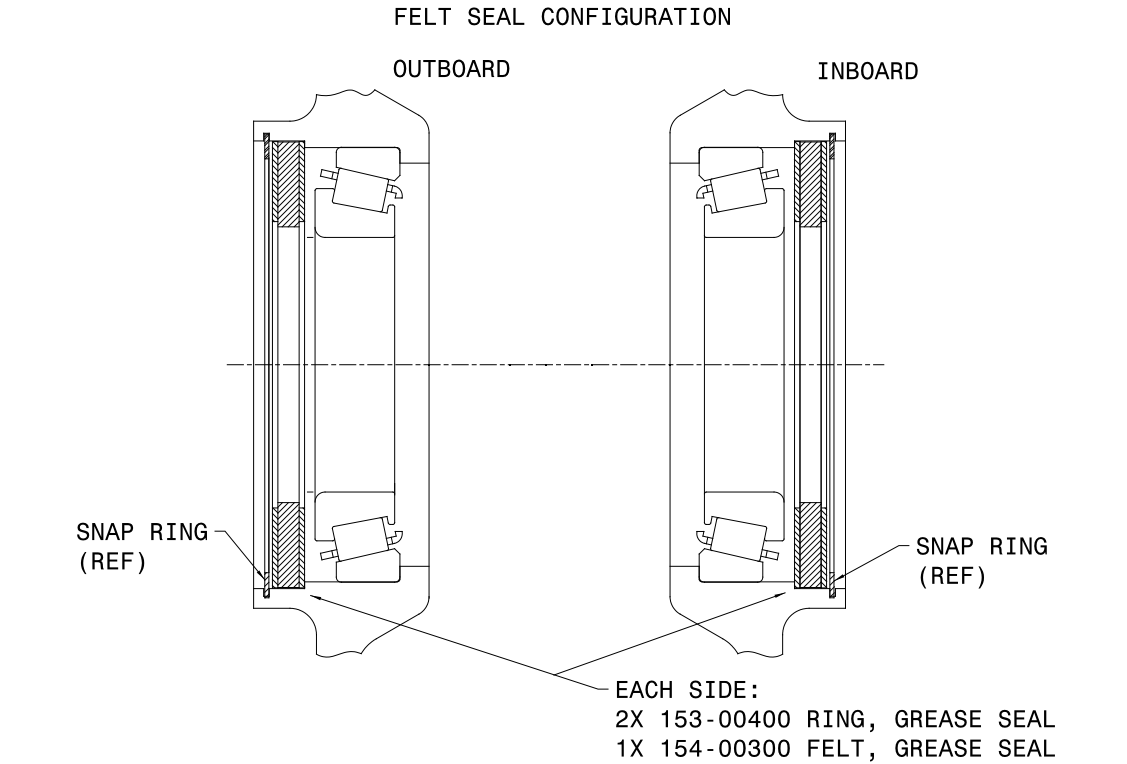


Figure 4 Felt Seal Configuration Replacement
40-34, 40-75P, 40-84A, 40-86, 40-86B, 40-86E, 40-90D, 40-414

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

- (3) 40-59, 40-59A, 40-75B, 40-75D, 40-75E, 40-75F, 40-75G, 40-75J, 40-75T, 40-75W, 40-76G, 40-79A, 40-84, 40-86A, 40-88C, 40-90, 40-90A, 40-90B, 40-90E, 40-90F, 40-96E, 40-96Z, 40-97A, 40-97D, 40-97E, 40-98A, 40-98F, 40-98H, 40-113, 40-113B, 40-113C, 40-117A, 40-120, 40-120C, 40-128E, 40-142, 40-143, 40-163, 40-406

Note: All listed wheel assemblies are main wheels except for 40-76G, 40-113B, 40-117A.

Refer to Figure 5 and replace the inboard and outboard felt seal configurations as follows.

- (a) Deflate the tire.
- (b) All except 40-76G, 40-113B, 40-117A: Loosen the back plate assembly tie bolts which fasten the back plate(s) to the brake housing. Remove the back plate(s) and the insulator shim, if so equipped.
- (c) Remove any additionally equipped components necessary 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) Inboard wheel half seal replacement:
 - 1 Remove the inboard wheel half felt seal components: 2X 153-00400 grease seal ring and 1X 154-00300 grease seal felt.
 - 2 Install the 154-12000 molded seal. Make sure the molded seal is installed correctly by observing "THIS SIDE OUT" in molded characters on the seal.
 - 3 Install the snap ring.
- (g) Outboard wheel half seal replacement:

CAUTION: DO NOT DISCARD THE 153-00300 GREASE SEAL RING. IT WILL BE USED WITH THE 154-12400 MOLDED SEAL.

- 1 Remove the outboard wheel half felt seal components: 1X 153-01500 grease seal ring and 1X 154-01300 grease seal felt. Retain the 153-00300 grease seal ring.
 - 2 Install the 154-12400 molded seal against the 153-00300 grease seal ring. Make sure the molded seal is installed correctly by observing "THIS SIDE IN" in molded characters on the seal.
 - 3 Install the snap ring.
- (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) All except 40-76G, 40-113B, 40-117A: Install the insulator shim, if so equipped, and fasten the back plate(s) to the brake housing by installing the tie bolts. Tighten to specifications in accordance with the brake assembly component maintenance manual or, if one does not exist, AWBCM0001, Component Maintenance Manual, External Design Wheels & Brakes.
 - (j) Install any additionally equipped components such as a dust shield.
 - (k) Inflate the tire to the service inflation pressure.

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

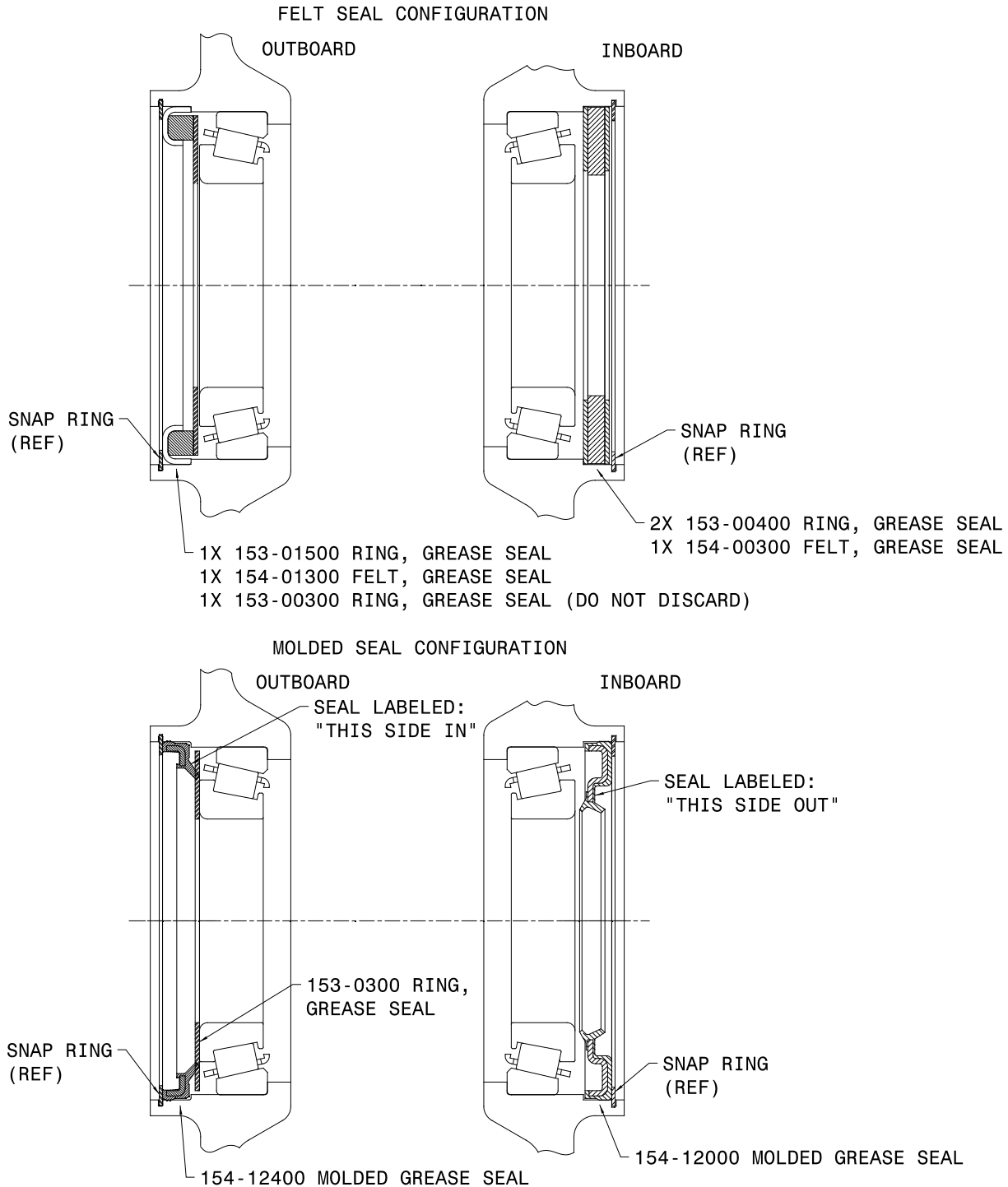


Figure 5 Felt Seal Configuration Replacement:

40-59, 40-59A, 40-75B, 40-75D, 40-75E, 40-75F, 40-75G, 40-75J, 40-75T, 40-75W, 40-76G,
 40-79A, 40-84, 40-86A, 40-88C, 40-90, 40-90A, 40-90B, 40-90E, 40-90F, 40-96E, 40-96Z, 40-97A, 40-97D,
 40-97E, 40-98A, 40-98F, 40-98H, 40-113, 40-113B, 40-113C, 40-117A, 40-120, 40-120C, 40-128E,
 40-142, 40-143, 40-163, 40-406

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

(4) 40-3, 40-4, 40-47, 40-99, 40-116, 40-131

Note: Seal replacement is for the inboard wheel half only.

Refer to Figure 6 and replace the inboard felt seal configuration as follows.

- (a) Deflate the tire.
- (b) Loosen the back plate assembly tie bolts which fasten the back plate(s) to the brake housing. Remove the back plate(s) and the insulator shim, if so equipped.
- (c) If so equipped, remove the dust shield snap ring and dust shield.
- (d) Remove the outboard wheel half hubcap 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 153-00400 grease seal ring and 1X 154-00300 grease seal felt from the inboard wheel half.
- (h) Install the 154-12000 molded seal. 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 hubcap snap ring.
- (l) Install the insulator shim, if so equipped, and fasten the back plate(s) to the brake housing by installing the tie bolts. Tighten 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) if so equipped, install the dust shield and dust shield snap ring.
- (n) Inflate the tire to the service inflation pressure.

MOLDED BEARING SEAL AVAILABILITY FOR 6-INCH EXTERNAL WHEEL

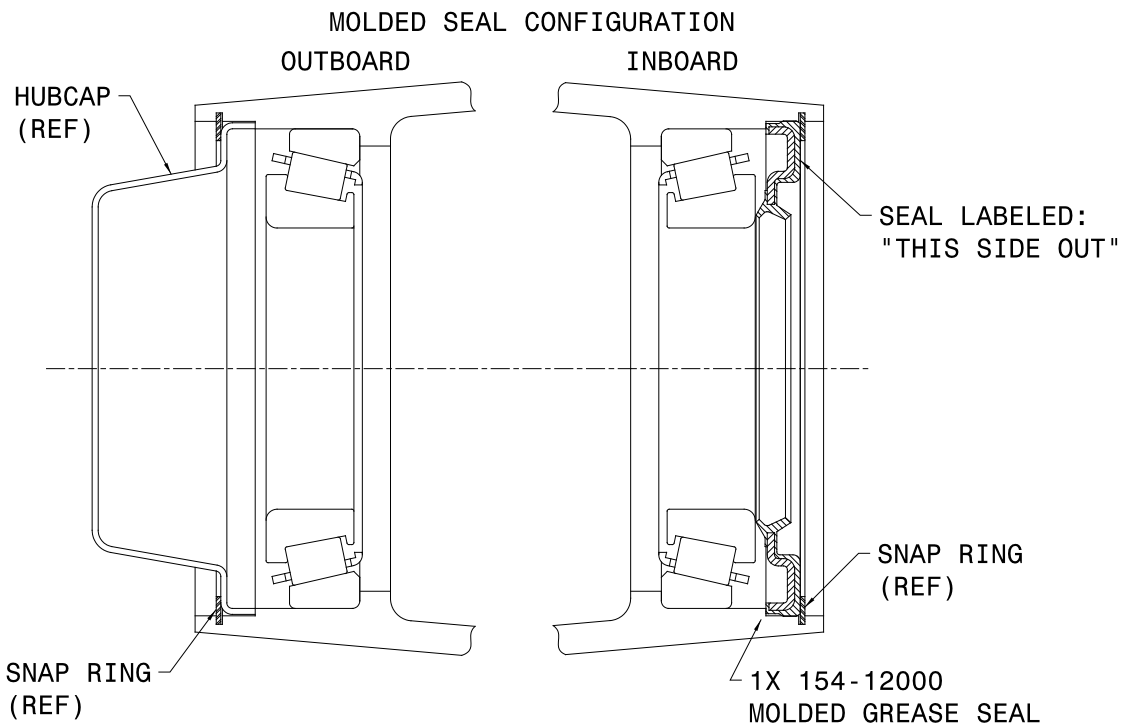
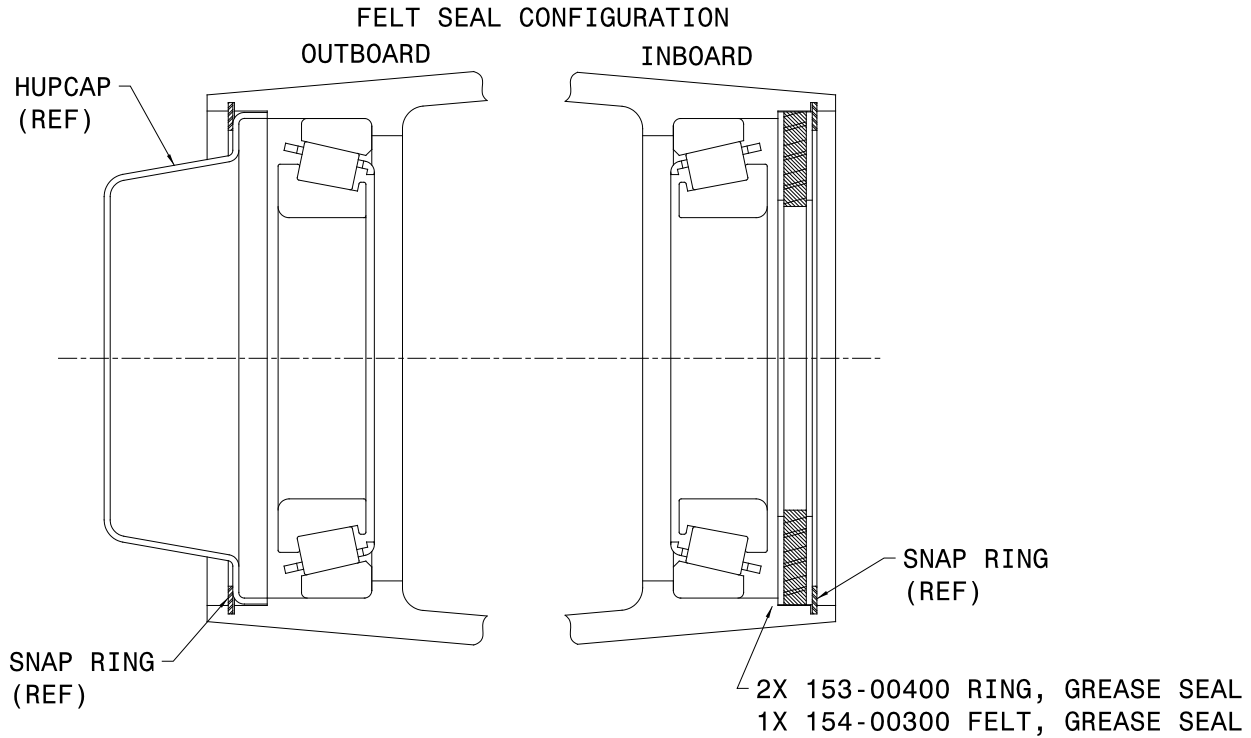


Figure 6 Felt Seal Configuration Replacement:
40-3, 40-4, 40-47, 40-99, 40-116, 40-131



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C. RETURN TO SERVICE

Make a logbook entry referencing the change of hardware.