REPAIR INSTRUCTIONS
HB [330] SERIES MOTORS

For Use With Seal Kit(s): 300333850

dimensions: mm [in]

A) Remove nut (31) from shaft (28). To aid in reassembly of the motor, make a “V” shaped set of lines from the endcover to the housing using either paint or a marker. With shaft facing up, secure motor in vise by clamping on to housing (15).

B) You will need an industrial strength bearing puller to remove the hub from the brake. Once the hub has been removed set it aside, and loosen and remove the four bolts and lock washers holding the brake to the motor, and set that aside.

C) At this point flip the housing over and secure in a vise with the four endcover bolts face up.
Loosen and remove four bolts (27) holding motor assembly together. Remove endcover (25) from motor making sure not to drop endcover piston (23). Using needle nose pliers or two small screwdrivers, lift endcover piston (23) out of endcover (25). Remove backup seal (8) and O-ring seal (7) from endcover piston (23) and discard. Remove the piston spring (24) from endcover (25) and lay aside.

D) Lift commutator container and commutator (22) from motor and lay aside. Place commutator on a flat, clean surface with the seal (6) facing up. Place the tip of a small screwdriver on the seal (6) and gently tap until opposite side of seal lifts from groove. Remove seal (6) and discard.

E) Remove manifold (21), rotor assembly (20) and mid-mount plate (18) from motor. Remove all seals (5) from components and discard. ***(Caution - Do not allow rolls to drop from rotor assembly when removing rotor assembly for motor.)*** Remove drive link (19) from motor and lay aside. Remove the thrust bearing (17) from the housing (15) and lay aside.

F) Remove housing (15) from vise and lay on flat surface with shaft (28) facing up. Remove the key (29) from the shaft and set aside. Remove the retaining ring (10) from the front of the housing. Pry the dust seal (1) from the bearing (12) and discard.

G) At this point the shaft can be pulled through the front of the housing (15). Carefully remove the bearing (12) from the shaft, making sure not to drop any rolls from the bearing. Once the bearing is removed, remove the remaining components from the shaft. The metal backup ring (2) may have remained in the bearing (it is not necessary to remove). Remove backup shim (2a), the backup seal (3), shaft seal (4), and washer (13), bearing (14) washer (13) from the shaft (28). Discard items 2a, 3, and 4.

H) Remove the housing seal (9) from the inner groove in the housing and discard.

I) At this point, all parts should be cleaned in an oil-based solvent and dried using compressed air (For safety, observe all OSHA safety guidelines). All new seals should be lightly coated in clean oil prior to installation.

J) With shaft upright, place a washer (13), then bearing (14) then washer (13) onto the shaft. Then using Figure 1 for correct orientation, install metal backup ring (2) if it fell out of the bearing, backup shim (2a)backup seal (3) and shaft seal (4) into the Bearing (12). Place side of bearing (12) with seal down on a flat surface and press down to seat seals in bearing (12). Place the bearing over the shaft (seal side down) Install the dust seal (1) in the opposite side of the bearing (12) using Figure 1 for correct seal lip orientation. Gently tap dust seal (1) down into top of bearing. Make certain that shaft seal and dust seal are coated with oil to provide start-up lubrication.

K) Place housing seal (9) into the groove in the housing before shaft is placed in the housing. Place bearing spacer (11) onto the shaft and drop shaft into the front of the housing. Insert retaining ring (10) into top groove in housing.

L) At this point, flip housing over, and secure in vise. Place thrust bearing (17) into rear housing bearing (16).

M) Place a body seal (5) into the groove in the rear face of the housing. Insert the drive link (19) into the shaft with the tapered end facing up. Place the mid-mount plate (18) over the drive link (19) and onto the housing making sure to use the alignment marks as a guide to assure correct orientation of the mid-mount plate (and the remaining components).

N) Place a body seal (5) into the groove in the face of the rotor assembly (20). With the seal side of the rotor assembly (20) facing the mid-mount plate, line up the splines of the drive link (19) and the rotor assembly (20) and lower the rotor assembly onto the housing (16).

O) Place a body seal (5) into the groove in each face of the manifold (21). Lift the drive link (19) approximately .100 and place the tip of a small screwdriver under the disk-shaped portion of the drive link to hold it up. Making sure that the notch in the manifold is aligned with the notch in the rotor and that the side with the largest holes faces down. Lower the manifold (21) onto the motor and engage the disk shaped portion of the drive link (19) into the groove in the manifold (21) (See Figure 2). Remove the screwdriver and lower the manifold (21). If the disk is engaged in the groove, the end of the drive link will protrude above the surface of the

manifold. If it doesn't, remove manifold and repeat this step. Using bolts or line up pins align the components assembled thus far. Make sure that components are matching the "V" shape that you drew earlier and that the bolt holes are all aligned. Once everything is aligned make sure that the drive link is still engaged in the manifold. ***(The motor will not operate if the drive link is not engaged in the manifold).***

P) Install the commutator seal (6) into the commutator (22) with the metal side facing up (Refer to PI333004 when replacing commutator seal). Use finger pressure to press the seal down flush with the surface of the commutator. Place the commutator container (22) onto the manifold (21) and then place the commutator onto the protruding end of the drive link (19) making sure that the seal side faces up.

Q) Install the remaining body seal (5) in the groove in the face of the endcover (25). Install the piston spring (24) into the endcover (25), then the backup seal (8), followed by the O-ring seal (7). Lining up the alignment pin, press the piston (23) into the endcover (25). While holding the endcover piston (23) into the endcover (25), lower the endcover assembly onto the motor.

R) Install the four assembly bolts (27) and pre-torque to 10 ft. lbs. Final torque all bolts to 50 ft. lbs.

S) At this point flip the motor over with shaft side up. Place brake (30) on housing in the same direction as it was before it was removed. Bolt it down using the four remaining lock washers and bolts. Release tension on the brake and lower the hub onto the brake. Install lock nut (34) and torque to 250 - 350 ft.lb.

T) Adjust tension in the brake by pulling the lever several times until the brake starts to hold.

FIGURE 1

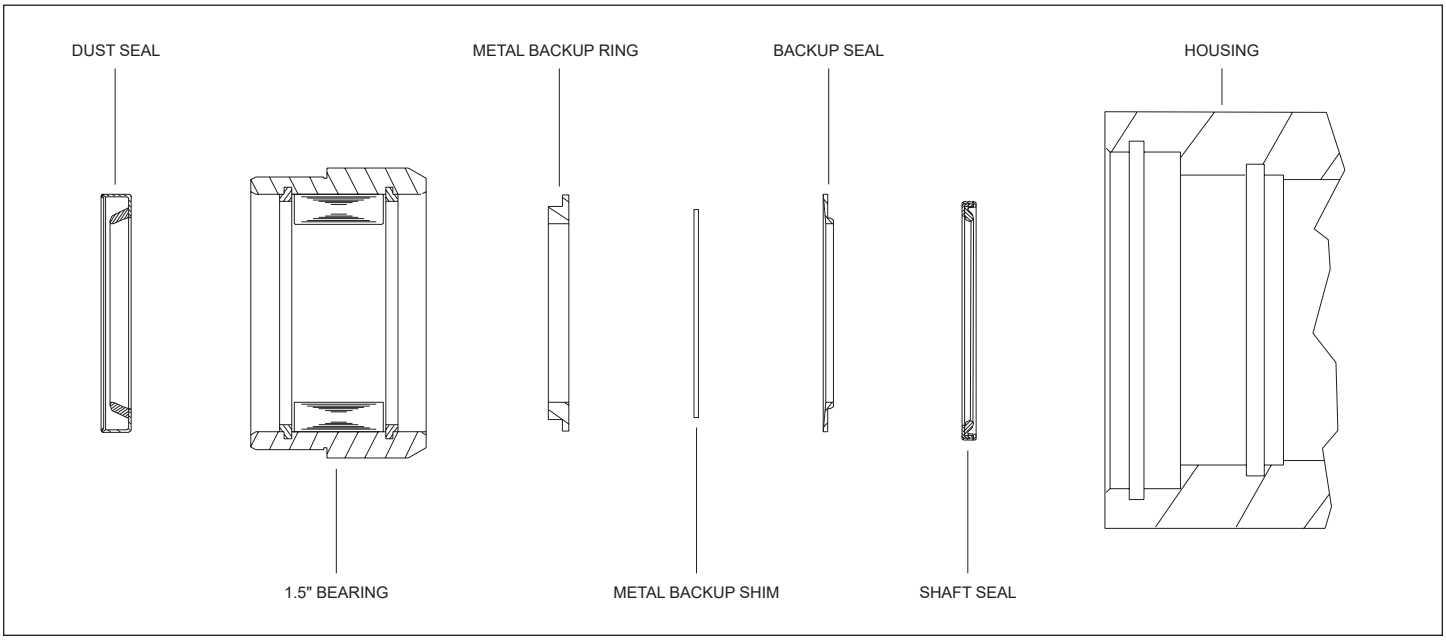
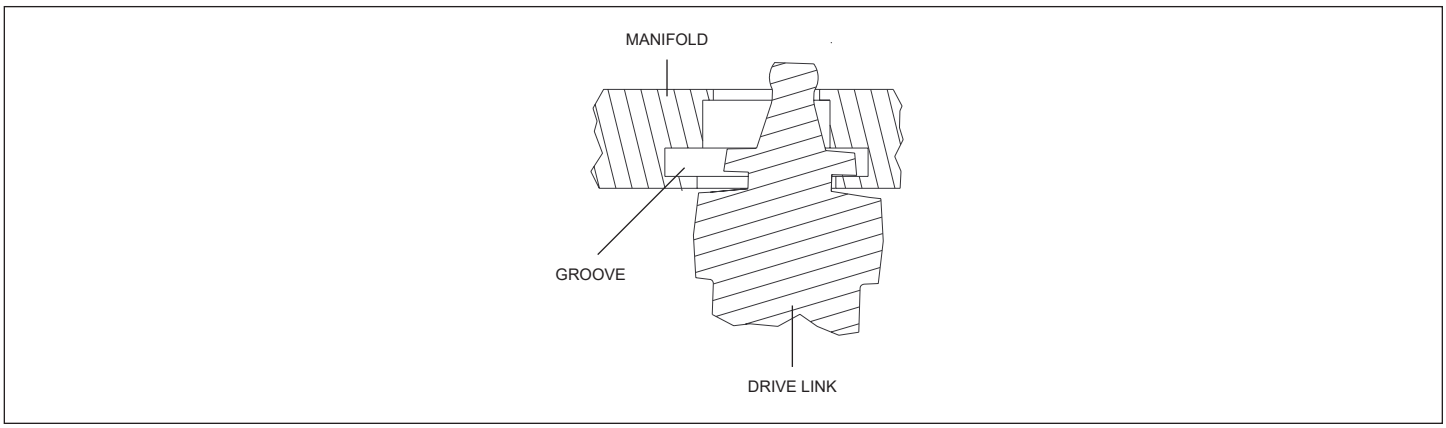


FIGURE 2



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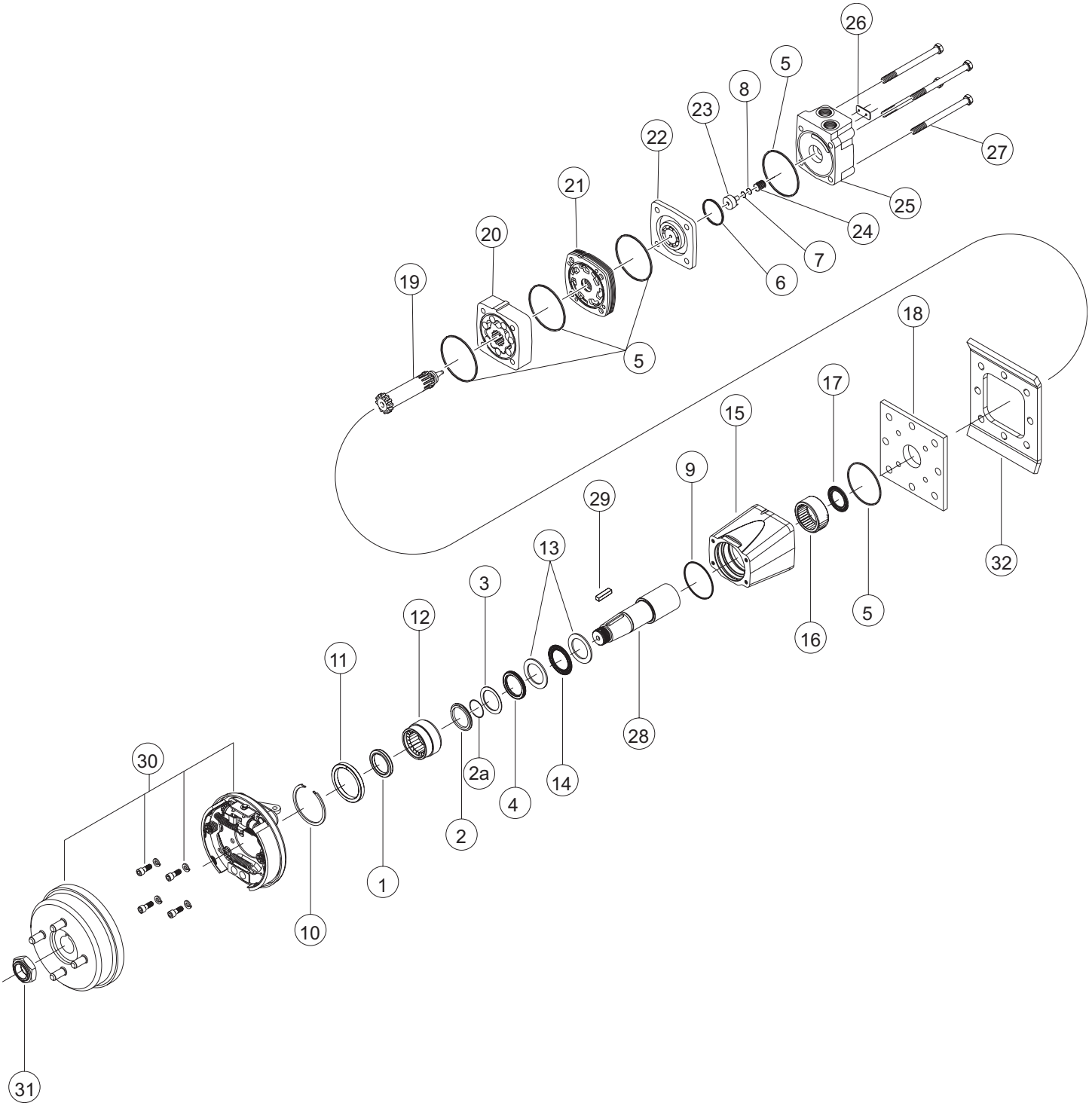

EXPLODED VIEW PARTS DESCRIPTION

1. * Dust Seal
2. * Metal Backup Ring
2a. * Metal Backup Shim
3. * Backup Seal
4. * Shaft Seal
5. * Body Seal (5)
6. * Commutator Seal (2)
7. * O-Ring Seal
8. * Small Backup Seal
9. * Housing Seal
10. Retaining Ring
11. Bearing Spacer
12. Front Housing Bearing
13. Thrust Washer (2)
14. Front Thrust Bearing
15. Housing
16. Rear Housing Bearing
17. Rear Thrust Bearing
18. Mid-mount Plate
19. Drive Link
20. Rotor Set
21. Manifold
22. Commutator Assembly
23. Piston
24. Piston Spring
25. Endcover
26. I.D. Tag Assembly
27. Assembly Bolts (4)
28. Shaft
29. Shaft Key
30. Brake Kit
31. Lock Nut
32. Wheel Mount Bracket

* Contained in seal kit 300333850