REPAIR INSTRUCTIONS
HB [320] SERIES MOTORS

For Use With Seal Kit(s): 300333700, 300333700B & 300333700T

dimensions: mm [in]

A) Remove all shaft related components from shaft (20) (i.e. keys, wire rings, nuts). To aid in reassembly of motor, make a "V" shaped set of lines from the endcover to the housing using either paint or a marker. With shaft facing down, secure motor in vise by clamping on the housing (10). Loosen and remove four bolts (19) holding motor assembly together. Remove endcover (17) from motor making sure not to drop endcover piston (15). Using needle nose pliers or two small screwdrivers lift endcover piston (15) out of the endcover (17). Remove white Teflon seal (5) and O-ring seal (4) from endcover piston and discard seals. Remove piston spring (16) from endcover (17) and lay aside.

B) Lift commutator container and commutator (14) from motor and lay aside. Place commutator on clean, flat surface with seal side facing up. Place the tip of a small screwdriver on the commutator seal (3) and gently tap until opposite side of seal lifts from groove. Remove seal and discard.

C) Remove manifold (13) and rotor assembly (12). Remove all body seals (2) from components and discard seals. (Caution - Do not allow rolls to drop from rotor assembly (12) when removing rotor assembly from motor.) Remove drive link (11) from motor and lay aside.

D) Remove motor from vise and place on a clean flat surface with shaft facing up. With snap ring pliers, remove snap ring (6). Turn housing on its side and place drive link (11) back into shaft. Using a mallet, gently tap on drive link (11) until dust/shaft seal (1) is free from housing. Remove drive link (11) and lay aside. Remove shaft (20) from housing (10). Remove dust/shaft seal (1), two thrust washers (7) and thrust bearing (8) from shaft. Discard dust/shaft seal (1).

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

E) Place housing (10) on a clean flat surface with mounting flange facing up and place shaft (20) into housing (10). Place one thrust washer (7) onto shaft (20), then place thrust bearing (8) onto shaft (20) and second thrust washer (7) onto shaft. Liberally coat dust/shaft seal (1) with clean oil on inside and outside diameters of seal. With flat side of seal facing up, slide dust/shaft seal (1) down shaft, being careful not to cut seal on spines or keyway. Use a sleeve and arbor press to seat the dust/shaft seal down against thrust washer (7). Use snap ring pliers to install snap ring (6) into groove in housing. While holding shaft in housing, place housing (10) in vise with shaft (20) facing down.

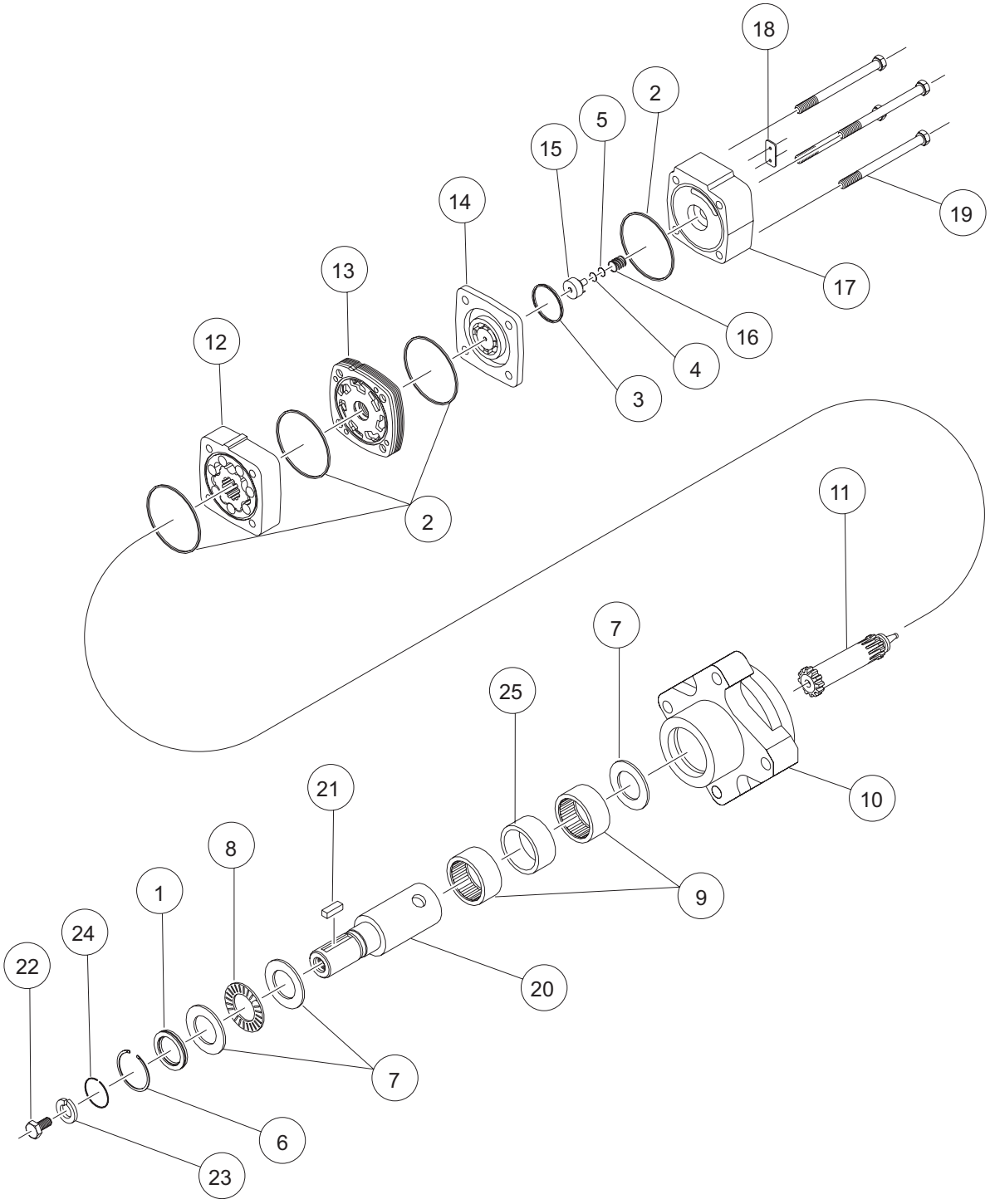
F) Place drive link (11) into shaft (20) with tapered end facing up. Place body seal (2) in groove in rotor assembly (12). Position rotor assembly (12) over drive link (11) with seal side contacting housing (10). Check alignment marks for correct orientation.

G) Place a body seal (2) into the groove in each face of the manifold (13). Lift the drive link (11) approximately 3 [.10] 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, (13) onto the motor and engage the disk shaped portion of the drive link (11) into the groove in the manifold (13) (See Figure 1). Remove the screwdriver and carefully lower the manifold (13) onto the rotor assembly (12). If the disk is properly engaged in the groove, the end of the drive link (11) will protrude above the surface of the manifold (13). If it does not, remove manifold (13) and repeat this step. (Using bolts or pins align the bolt holes in the motor and make sure the "V" you drew earlier also lines up. Make sure, after doing this that the drink link is still engaged in the manifold. Motor will not run if drive link is not engaged.)

H) Install the commutator seal (3) into the commutator (14) 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 (14). Place the square commutator container (14) onto the manifold (13) and then place the commutator (14) onto the protruding end of the drive link (11) making sure that the seal side faces up.

I) Install remaining body seal (2) in the groove in the face of the endcover (17). Install the piston spring (16) into the endcover (17), then the white Teflon backup seal (5), followed by the O-ring seal (4). Lining up the alignment pin, press the piston (15) into the endcover (17). Holding the piston (15) into the endcover (17), lower the endcover assembly onto the motor. Check alignment marks for correct endcover port position.

J) Install the four bolts (19) and pre-torque to 13.6 Nm [10 ft. lbs.] Final torque all bolts to 67.8 Nm [50 ft. lbs.]



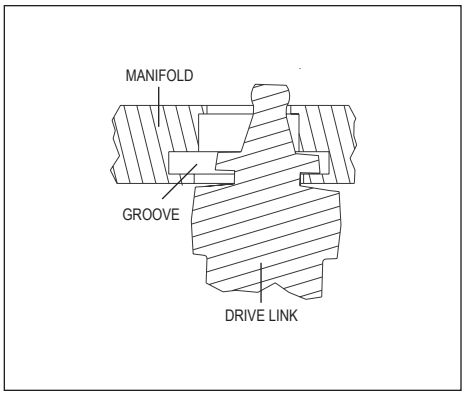


FIGURE 1

EXPLODED VIEW PARTS DESCRIPTION

1. * Dust/Shaft Seal
2. * Body Seals (4)
3. * Commutator Seal (2)
4. * O-Ring Seal
5. * Backup Seal
6. Snap Ring
7. Thrust Washers (3)
8. Thrust Bearing
9. Housing Bearings (2)
10. Housing
11. Drive Link
12. Rotor Assembly
13. Manifold
14. Commutator Assembly
15. Endcover Piston
16. Piston Spring
17. Endcover
18. I.D. Tag Assembly
19. Assembly Bolts (4)
20. Shaft
21. Shaft Key
22. Shaft Bolt
23. Lock Washer
24. Wire Ring
25. Bearing Spacer

* Items contained in Seal Kits 300333700, 300333700B & 300333700T