REPAIR INSTRUCTIONS

DR [612] MOTOR BRAKE DISK REPLACEMENT (GENIE PART # W80535)

For Use With Seal Kit(s): 60080535

dimensions: mm [in]

A) 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 down, secure motor in vise by clamping on to housing (15).

B) Loosen and remove seven bolts (34) holding motor assembly together. Remove endcover (32) carefully as piston (30) and spring (31) may fall out. If piston does not come out, carefully pry piston (30) out of endcover (32) and lay aside. Remove O-Ring seal (13) and backup seal (14) from endcover and discard seals. Remove spring (31) and lay aside.

C) Lift commutator container and commutator (29) from motor and lay aside. Place commutator on a flat, clean surface with the seal (12) facing up. Place the tip of a small screwdriver on the seal (12) and gently tap until opposite side of seal lifts from groove. Remove seal (12) and discard.

D) Remove manifold (28) and rotor set (27). Remove all seals (10 & 11) from components and discard. (Caution- Do not allow rolls to drop from rotor assembly (27) when removing rotor assembly from motor.) Remove drive link (26) from motor and lay aside.

E) Put the housing assembly into an arbor press with the shaft facing down. Lower the press to apply downward pressure on the rear housing (23) and lock the press in place. Loosen and remove the eight capscrews (24) holding the rear housing (23) to the front housing (15). Slowly release the press to allow spring pressure to push the rear housing (23) from the front housing (15). Remove the rear housing (23) and lay aside. (NOTE: Bearing (16) and spacer shim(s) (22) may fall out of rear housing (23).) If no arbor press is available, place front housing in a vise with pilot on housing facing down. Remove the eight capscrews, turning each screw 2 turns following the bolt pattern shown in figure 2 until the springs are fully released. Then remove all screws.

F) Remove springs (21) and shim (33) from front housing (15) and lay aside. Remove housing (15) from arbor press and place on a clean, flat surface with output end of shaft (35) facing up. To remove piston (20), friction disks (17) and disk stampings (18 & 19), firmly grasp output end of shaft with a rag. Raise housing assembly a few inches above work surface and firmly strike housing assembly on work surface until piston and disks drop from housing assembly. Lay piston (20) and disks (17, 18 &19) aside.

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.

G) Before installing the new disk assembly, sort the disk stampings (18 & 19) by measuring the thickness. The disk stampings come in thicknesses of 1,8 [.072] and 2,4 [.095]. Eleven 1,8 [.072] disk stampings and one 2,4 [.095] disk stamping will be required for the disk assembly. Begin the installation by placing one 2,4 [.095] disk stamping (19) into housing making sure that lugs or splines engage those in housing (15). Install one aluminum disk (17) engaging splines on disk with those on shaft. Alternate 1,8 [.072] disk stampings (18) and friction disks (17) until all disks and disk stamping (18) are installed.

H) Install small O-Ring seal (5) and large O-Ring seal (7) into corresponding grooves in piston (20). Install small seal (6) and large seal (8) in corresponding grooves over 0-Ring seals. Thoroughly coat seals and sealing surfaces of housing (15) with clean oil. With large O.D. side of piston (20) facing up, install piston (20) into housing (15) and evenly press piston down making sure not to pinch seals. Firmly press the piston down to seat all components. Install shim (33) on top of piston. Then, using Figure 1 as a reference, measure the stack up of the assembly. The measurement must be between 15,1 - 15,4 [.595 - .607]. If the measurement is not within these specifications, remove the piston (20) from the housing, remove the top 1,8 [.072] disk stamping and install a 2,4 [.095] disk stamping to bring the measurement within the specifications. Reinstall the piston, firmly press it down and remeasure the stack up of the assembly to see that measurement falls within the specifications.

I) Install springs (21) on top of shim. Install O-Ring Seal (9) in rear surface of housing (15). If rear shaft bearing (16) and spacer shim(s) (22) came out of rear housing (23), reinstall at this time by placing spacer shim(s) (22) into rear housing (23). Install rear shaft bearing (16) making sure that snap ring that retains bearing rolls faces out. While holding bearing into rear housing, place rear housing (23) onto front housing (15) lining up bolt holes. While holding motor assembly together, remove motor assembly from vise and place in arbor press. Press down on rear housing (23) until it contacts front housing (15) and lock press. Install eight capscrews (24) and torque to 61 Nm [45 ft. lbs.]. If no arbor press is available, place front housing in a vise with pilot on housing facing down. Screw in the (8) capscrews until they engage the threads in the housing (15). Then turn each screw 1/2 turn at a time following the bolt pattern shown in figure 2 to evenly tighted down the rear housing (23) until it contacts the housing (15). Then torque the screws to 61 Nm [45 ft. lbs.].

J) Install drive link spacer (25) in shaft. Install drive link (26) into end of shaft with tapered end facing up. Place body seals (10) in grooves in both sides of rotor (27). Place rotor (27) onto rear housing (23) with side of rotor with chamfer in splines facing rear housing (23). Place manifold (28) over rotor (27) with seal groove side up. Install manifold seal (11).

K) Install the commutator seal (12) into the commutator (29) with the metal side facing out. Use finger pressure to press the seal down flush with the surface of the commutator. Place the commutator container onto the manifold (28) and then place the commutator onto the protruding end of the drive link (26) making sure that the seal side faces up.

REPAIR INSTRUCTIONS

DR [612] MOTOR BRAKE DISK REPLACEMENT (GENIE PART # W80535)

L) Install the remaining body seal (10) in the groove In the face of the endcover (32). Install piston spring (31) into endcover (32), then the white backup seal (14) followed by the O-Ring seal (13). Lining up the alignment pin with the hole in the endcover, press piston (30) into the endcover (32). While holding the piston (30) in the endcover, lower the endcover assembly onto the motor. Check to make sure that the endcover ports are in their original position.

M) Install the seven assembly bolts (34) and pre-torque to 13.6 [10 ft. lbs.]. Final torque all bolts to 67.8 [50 ft. lbs.] using the bolt torque sequence shown in Figure 3.

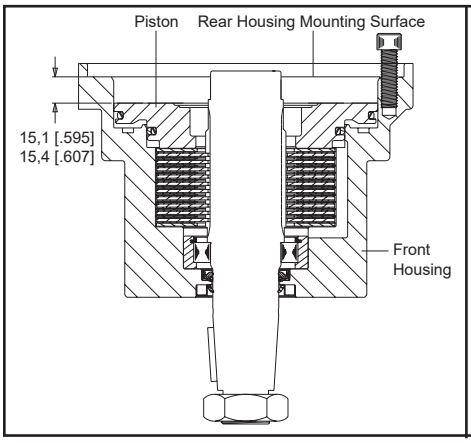


FIGURE 1

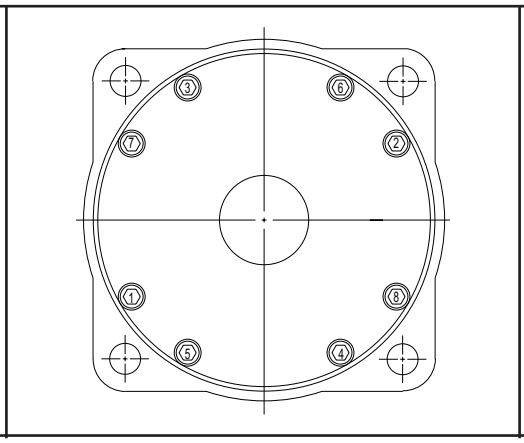


FIGURE 2

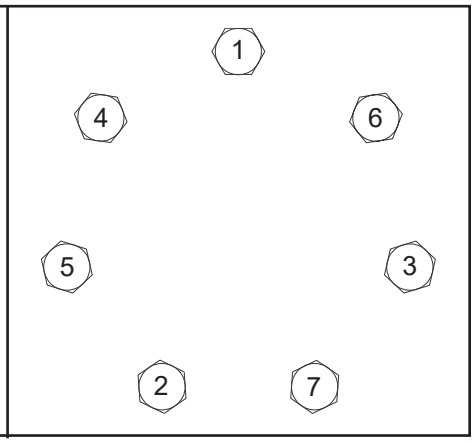
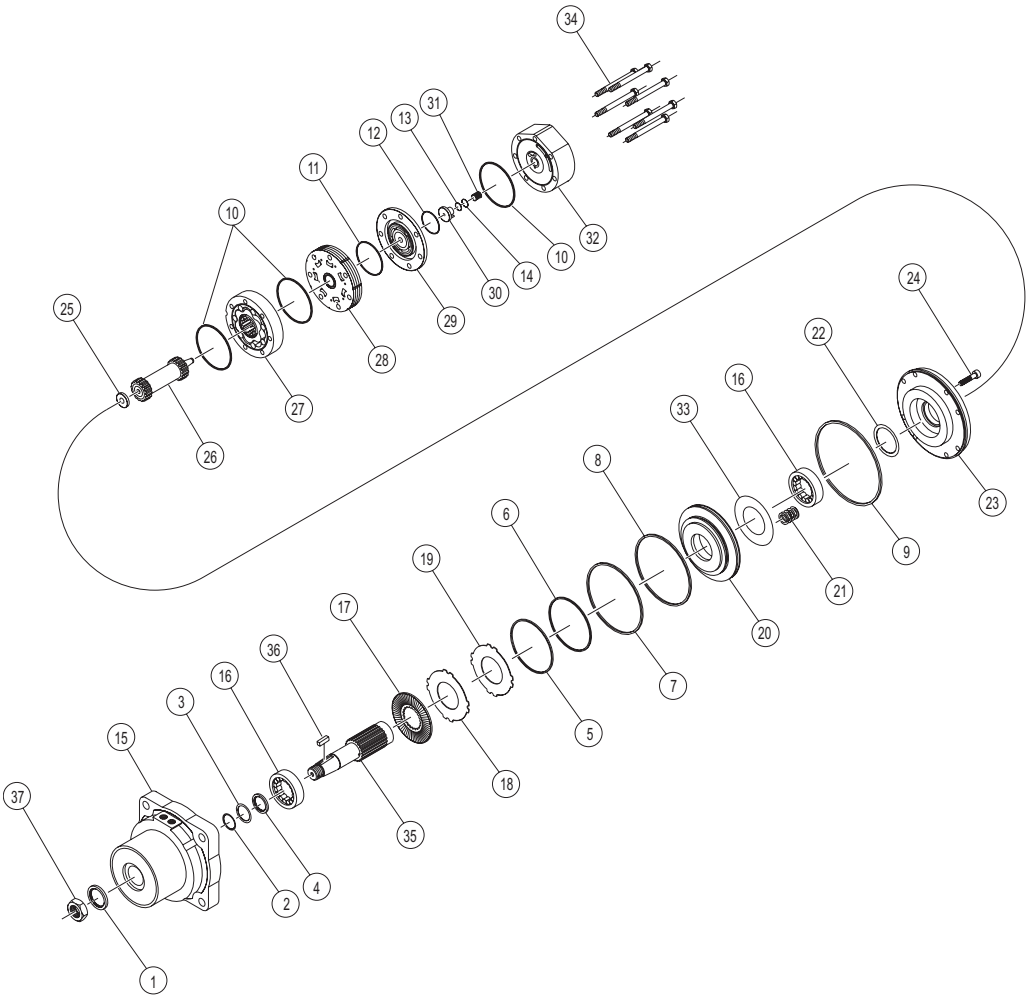


FIGURE 3



1. Dust Seal
2. Metal Backup Shim
3. Backup Seal
4. Shaft Seal
5. * Small Piston O-Ring Seal
6. * Small Piston Seal
7. * Large Piston O-Ring Seal
8. * Large Piston Seal
9. * O-Ring Seal
10. * Body Seals (3)
11. * Manifold Seal
12. * Commutator Seal
13. * O-Ring Seal
14. * Backup Seal
15. Housing
16. Shaft Bearing
17. * Friction Disks (11)
18. * Disk Stampings (11) (.072)
19. * Thick Disk Stampings (2) (.095)
20. Piston
21. Springs (25)
22. Spacer Shims (1-3)
23. Rear Housing
24. Capscrews (8)
25. Drive Link Spacer
26. Drive Link
27. Rotor Assembly
28. Manifold
29. Commutator Assembly
30. Endcover Piston
31. Piston Spring
32. Endcover
33. Shim
34. Assembly Bolts (7)
35. Shaft
36. Shaft Key
37. Shaft Nut

* Contained in seal kit 60080535