

## REPAIR INSTRUCTIONS

### DT [701] SERIES MOTORS

For Use With Seal Kits: 700666250

dimensions: mm [in]

**NOTE:** Housing and body seals on products manufactured after July 1, 2016 are o-ring seals. Prior to this date these seals were square cut seals. It is recommended that if the product being serviced has square seals to replace with the square seals in this kit, likewise if the product has o-ring seals, replace with the o-ring seals in this kit.

#### HOUSING/SHAFT DISASSEMBLY AND ASSEMBLY

- A)** Remove all shaft related components from shaft (29) (i.e. keys, wire rings, nuts, etc.). Secure motor in vise by clamping on to housing. Remove retaining ring (12) from groove in pilot of housing (17). Remove spacer (13) from housing (17). Remove shaft (29) from housing (17) then remove bearing (14), thrust bearing (16) and two thrust washers (15) from shaft (29).
- B)** Being careful not to drop any rolls from bearing (14), pry out shaft seal (5), backup seal (4) backup shim (3a), and dust seal (1) from bearing assembly (14). (NOTE: Metal backup ring (3) may or may not come out of bearing (14). It is not necessary to remove the metal backup ring (3) from the bearing (14) to service the motor.) Remove high pressure seal (2) from groove in pilot of housing (17) discard shaft seal (5), backup seal (4) backup shim (3a) and high pressure seal (2).

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 with clean oil prior to installation.

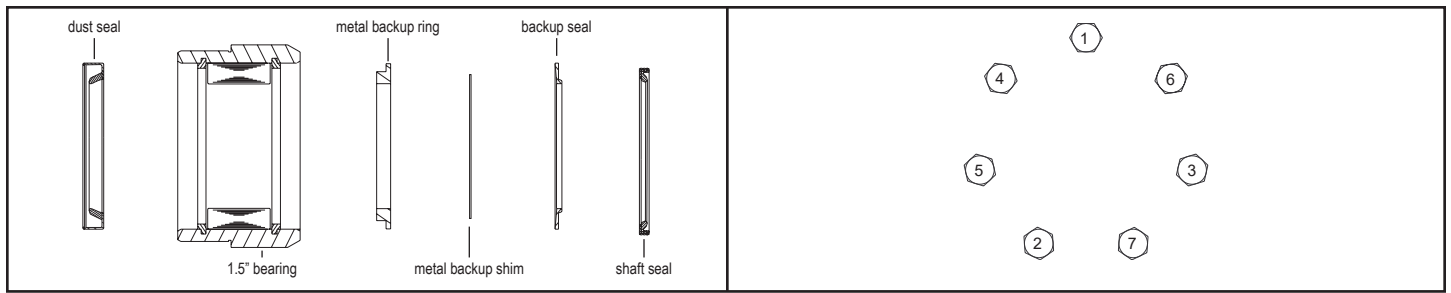
- C)** Install high pressure seal (2) in to groove in pilot of housing (17). Place shaft on a clean, flat surface with output end facing up. Place thrust washer (15), thrust bearing (16) and second thrust washer (15) over shaft (29). Carefully place shaft seal (5) over shaft (29) making sure that lip on seal faces down (See Figure 1). Repeat process for backup seal (4) making sure that lip faces down. Install backup shim (3a). If metal backup ring (3) came out of bearing (14), place over shaft (29) making sure that large O.D. side faces down. Lightly grease bearing (14) if needed. Place bearing (14) over shaft making sure that the large O.D. side faces down. Using an arbor press, carefully press bearing (14) down to press seal assembly (3-5) into bearing (14).
- D)** Place shaft (29) assembly into housing (17). Install dust seal (1) over shaft (29) with lip facing up (See Figure 1) and carefully press the seal down to seat it in the bearing (14). Place bearing spacer (13) over shaft (29). Install retaining ring (12) into groove in housing pilot (17). (NOTE: It may be necessary to lightly tap the snap ring (12) and bearing spacer (13) to allow the retaining ring (12) to seat properly.) Replace all shaft related components (i.e. keys, wire rings, nuts).

#### MOTOR SECTION DISASSEMBLY AND ASSEMBLY

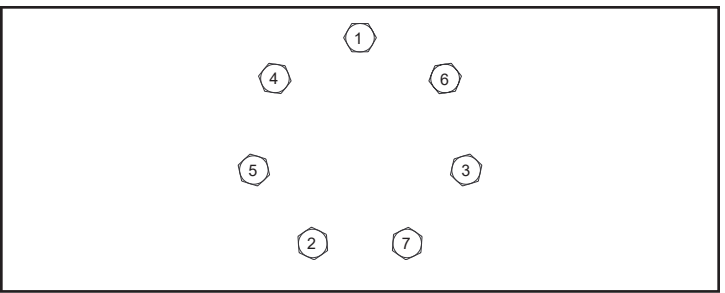
- E)** To aid in reassembly of the motor, make a "V" shaped set of lines from the endcover (26) to the housing (17) using either paint or a marker. With shaft facing down, secure motor in vise by clamping on to housing (17).
- F)** Loosen and remove seven bolts (28) holding motor assembly together. Remove endcover (26) carefully as piston (24) and spring (25) may fall out. If piston does not come out, carefully pry piston (24) out of endcover (26) and lay aside. Remove O-Ring seal (10) and white backup seal (11) from endcover and discard seals. Remove spring (25) and lay aside.
- G)** Lift commutator container and commutator (23) from motor and lay aside. Place commutator on a flat, clean surface with the seal (9) facing up. Place the tip of a small screwdriver on the seal (9) and gently tap until opposite side of seal lifts from groove. Remove seal (9) and discard.
- H)** Remove manifold (22), rotor set (21) and divider plate (20). Remove all seals (6-8) from components and discard. (**Caution - Do not allow rolls to drop from rotor assembly (21) when removing rotor assembly from motor.**) Remove drive link (19) from motor and lay 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.

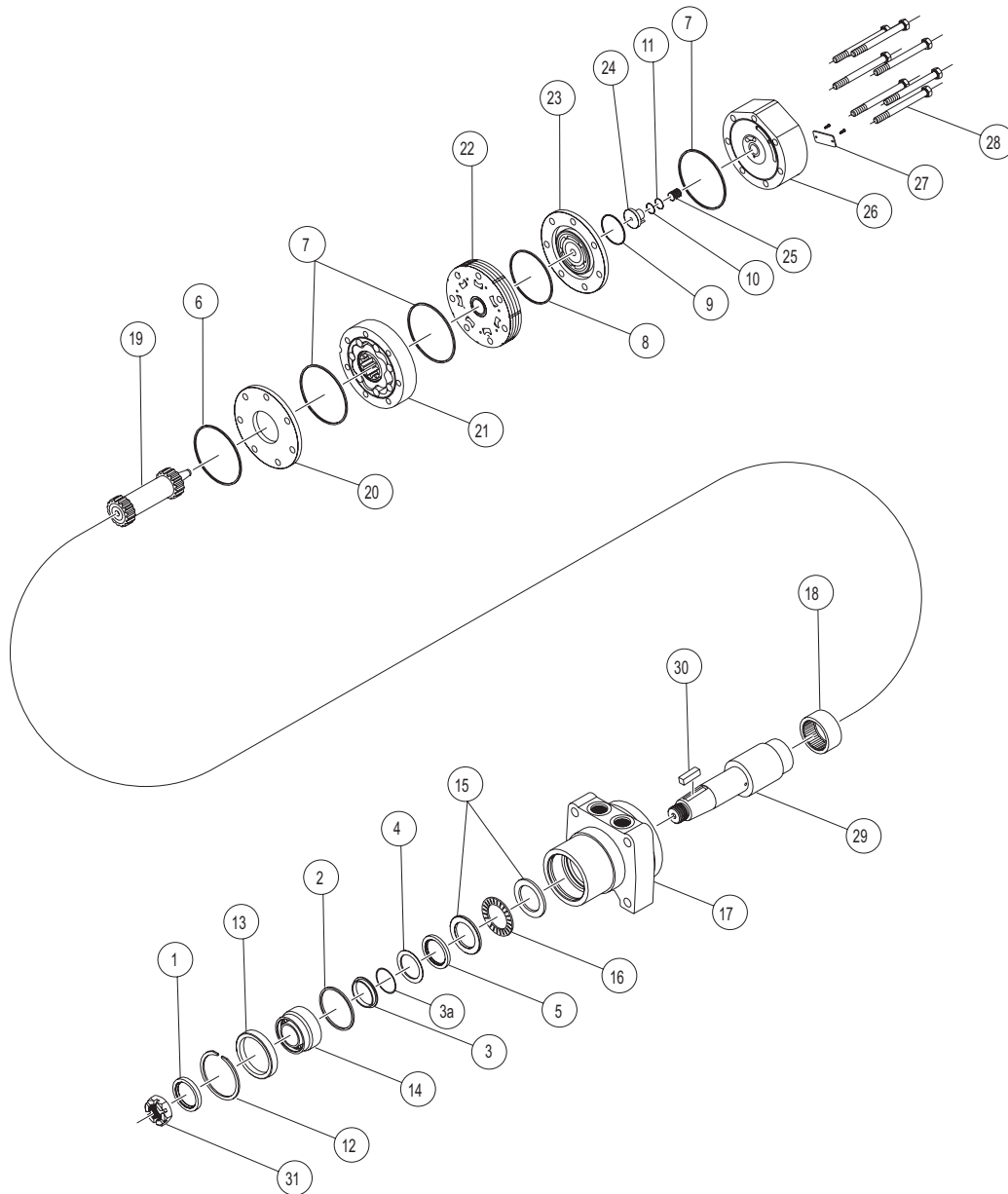
- I)** Install drive link (19) into end of shaft with tapered end facing up. Place rear housing seal (6) in groove in housing (17). Place body seals (7) in grooves in both sides of rotor (21). Place rotor (21) onto housing (17) with side of rotor with chamfer in splines facing housing (17). Place manifold (22) over rotor (21) with seal groove side up. Install manifold seal (8).
- J)** Install the commutator seal (9) into the commutator (23) with the metal side facing up. Use finger pressure to press the seal down flush with the surface of the commutator. Place the commutator container onto the manifold (22) and then place the commutator onto the protruding end of the drive link (19), making sure that the seal side faces up.
- K)** Install the remaining body seal (7) in the groove in the face of the endcover (26). Install piston spring (25) into endcover (26), then the white backup seal (11) followed by the O-Ring seal (10). Lining up the alignment pin with the hole in the endcover, press piston (24) into the endcover (26). While holding the piston (24) in the endcover, lower the endcover assembly onto the motor. Check to make sure that the endcover ports are in their original position.
- L)** Install the seven assembly bolts (28) and pre-torque to 13,6 Nm [10 ft. lbs.] Using the bolt torque sequence shown in Figure 2, final torque all bolts to 67,8 Nm [50 ft. lbs.].



**FIGURE 1**



**FIGURE 2**



- |                         |                          |                         |
|-------------------------|--------------------------|-------------------------|
| 1. * Dust Seal          | 11. * Backup Seal        | 22. Manifold            |
| 2. * High Pressure Seal | 12. Retaining Snap Ring  | 23. Commutator Assembly |
| 3. * Metal Backup Ring  | 13. Bearing Spacer       | 24. Endcover Piston     |
| 3a. * Metal Backup Shim | 14. 1.5" Bearing         | 25. Piston Spring       |
| 4. * Backup Seal        | 15. Thrust Washers (2)   | 26. Endcover            |
| 5. * Shaft Seal         | 16. Thrust Bearing       | 27. I.D. Tag Assembly   |
| 6. * Housing Seal       | 17. Housing              | 28. Assembly Bolts (7)  |
| 7. * Body Seals (3)     | 18. Rear Housing Bearing | 29. Shaft               |
| 8. * Manifold Seal      | 19. Drive Link           | 30. Shaft Key           |
| 9. * Commutator Seal    | 20. Divider Plate        | 31. Shaft Nut           |
| 10. * O-Ring Seal       | 21. Rotor Assembly       |                         |

\* Contained in Seal Kit 700666250