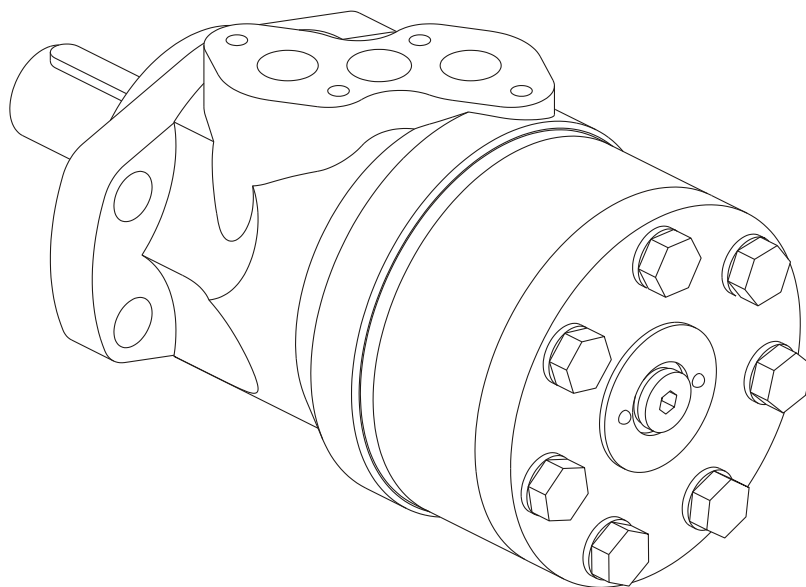
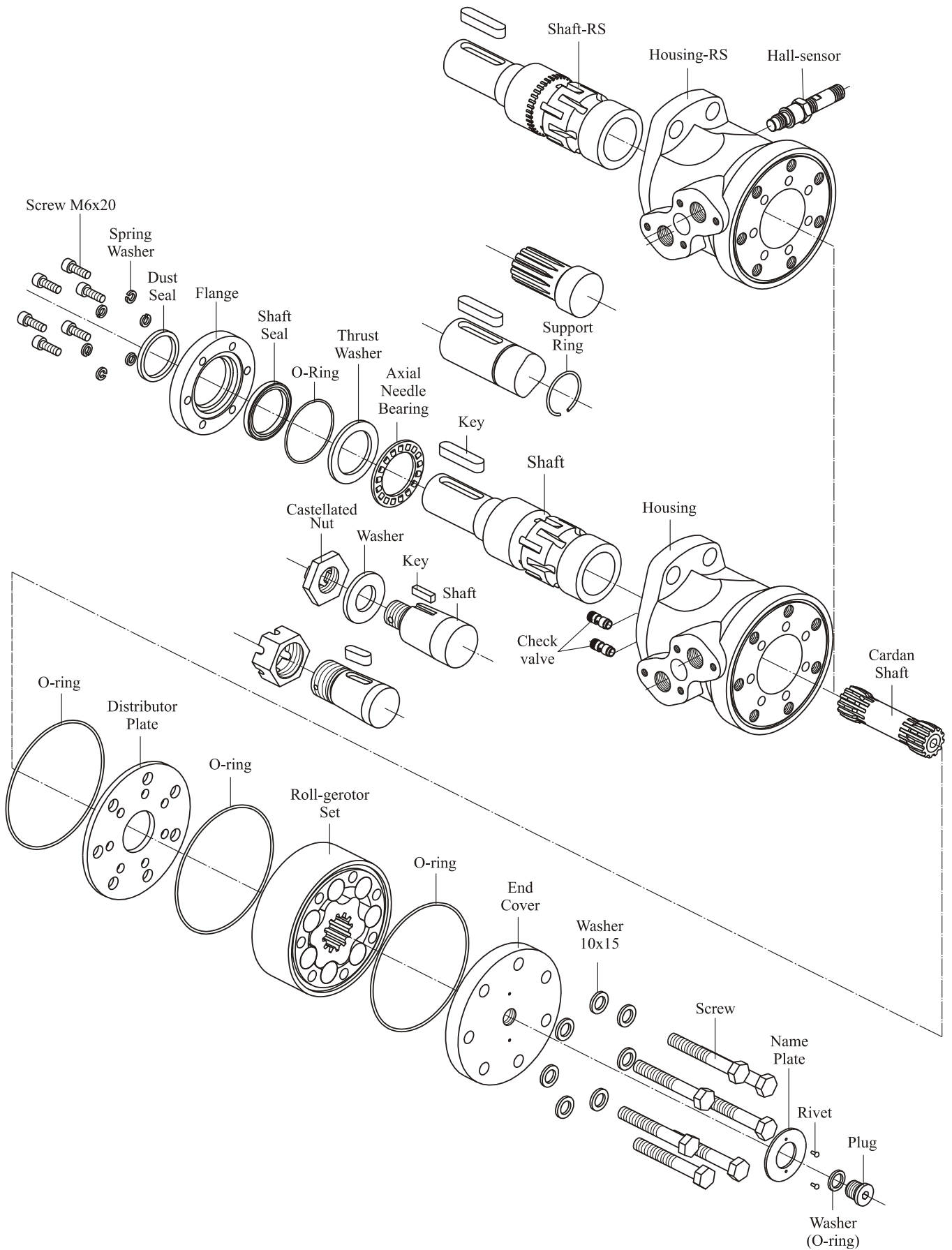


# SERVICE MANUAL

## *Hydraulic Motors type MH-series 2 and MLHH...B*





Instructions in this manual are for MH-series 2 and MLHH...B motors.

Cleanliness is extremely important when repairing these motors. Work in clean area!

Before disassembly, drain oil from motor.

Remove castellated nut, washer and key when used. For motors with drain unscrew drain plug and remove washer (O-ring).

Although not all drawings show the motor in disassembly devise (vice), we recommend that you keep motor clamped during disassembly.

1. Place the motor in disassembly devise with output shaft down.

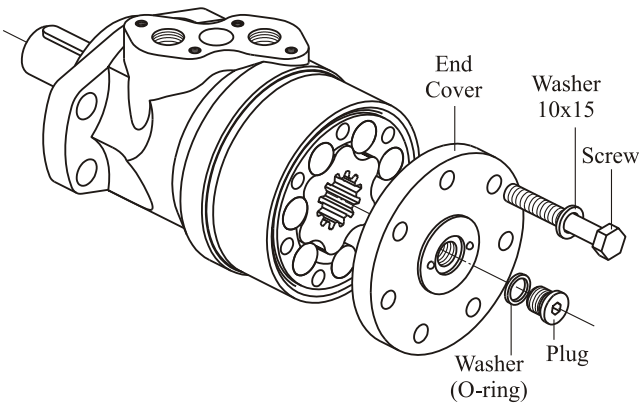


Fig.1

2. Unscrew screws using S17 socket spanner. Remove washers (see Figure 1).  
3. Remove end cover.

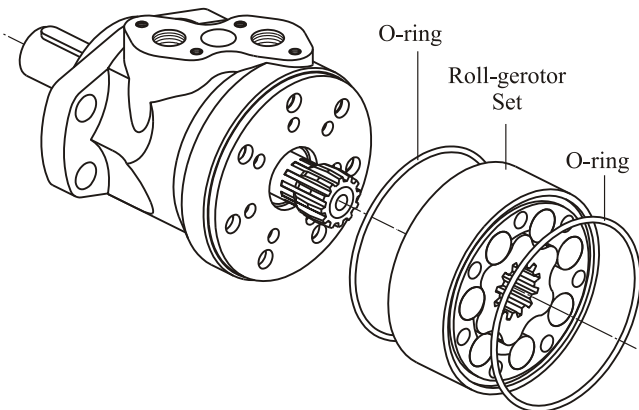


Fig.2

4. Remove the roll-gerotor set carefully to prevent dropping of rollers and rotor from stator. Do not dismount!

Remove O-rings from roll-gerotor set grooves (see Figure 2).

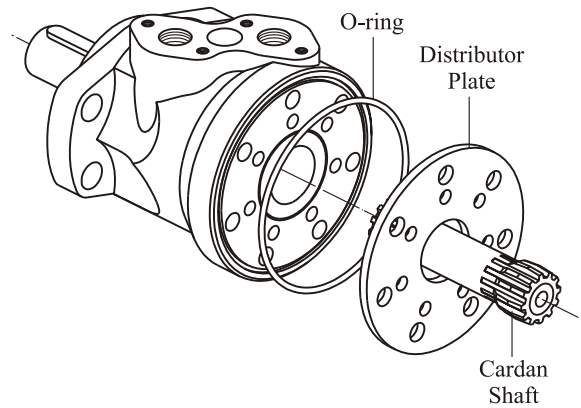


Fig.3

5. Remove cardan shaft (see Figure 3).  
6. Remove distributor plate.  
7. Remove O-ring from housing.

Reposition motor in disassembly devise with shaft upwards.

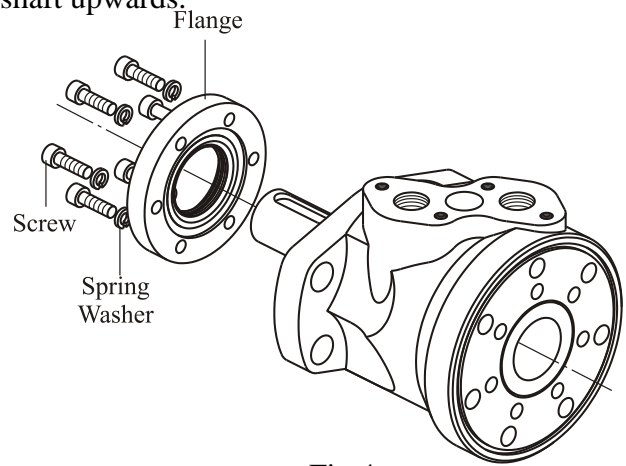


Fig.4

8. Unscrew screws M5 using S5 Allen head spanner (see Figure 4).

9. Remove flange from housing. Dust seal and Shaft seal will come out with flange.

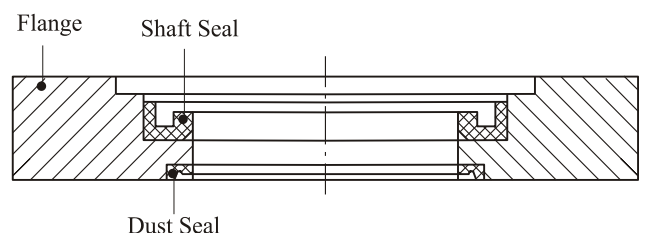


Fig.5

10. Remove with screwdriver Dust seal and Shaft seal from flange (see Figure 5). Work from outer side for both seals.

11. Remove shaft from housing.

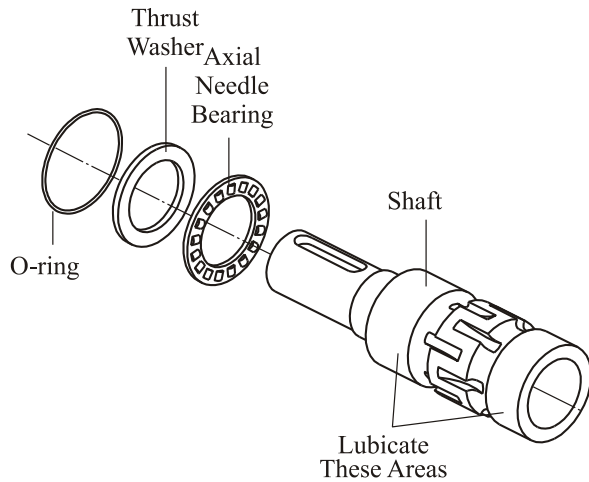


Fig.6

12. Remove thrust washer and needle bearing from shaft (see Fig.6).

13. Remove O-ring from outer diameter of thrust washer.

### **Seal Kits:**

SK41 5129 6180 for MH...series 2

SK41 5129 6190 for MH...U series 2

SK41 5128 9700 for MLHH...B

SK41 5128 9705 for MLHH...U B

### 1. CLEANING:

Wash all parts (except seals) in a weak solvent on carbon base and then degrease.

### 2. MEASURING AND REPLACEMENT:

Measure all parts and compare actual dimensions with the nominal ones given in the technical documentation. Replace any parts with scratches or burrs that could cause leakage or damage with new ones. Use new seals when reassembling motor.

### 3. LUBRICATION:

Lubricate all parts which should be reassembled with light film of petroleum jelly.

1. Lubricate output shaft with hydraulic oil (see Fig.6).

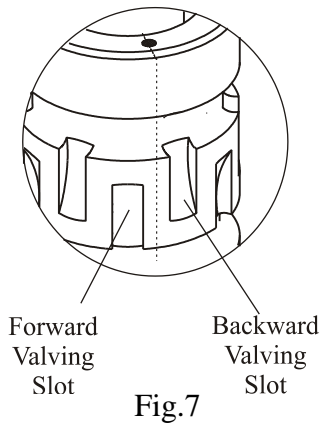


Fig.7

2. On the bottom of the shaft mark a Timing dot placed between forward and backward valving slots as shown on Figure 7.

3. Lubricate lightly all internal housing surfaces with hydraulic oil. Mount shaft in housing.

4. Place the motor in reassembly device with output shaft up.

5. Install needle bearing, then thrust washer on the shaft.

6. Place O-ring 53,00x2,00 round thrust washer.

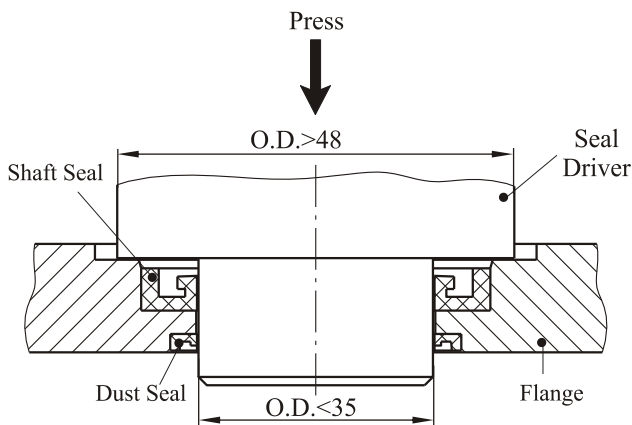


Fig.8

7. Place flange on clean soft surface. Lubricate shaft seal and dust seal with light film of clean petroleum jelly (Shell Retinax Grease HDX2).

8. Place shaft seal in Flange and firmly push with Seal driver (see Fig.8).

9. Install dust seal in flange. Carefully press dust seal into place.

Lips of shaft seal and dust seal must face outward.

**Important:** Check seal condition after installing in housing. If damaged, cut or improperly installed, replace with new ones.

10. Install the spigot flange incl. assembled seals on shaft. Prevent the seals against damages.

11. Install 6 screws and alternately torque them to 10÷12 Nm.

12. Reposition motor in reassembly device with shaft down.

13. Lubricate and install O-ring in housing seal groove (see Fig.3).

14. Install cardan shaft into splines of output shaft. Mark one cardan shaft tooth and align this tooth with timing dot on shaft.

**Timing Procedure**

Standard rotation:

15. Align shaft timing dot with any housing bolt hole.

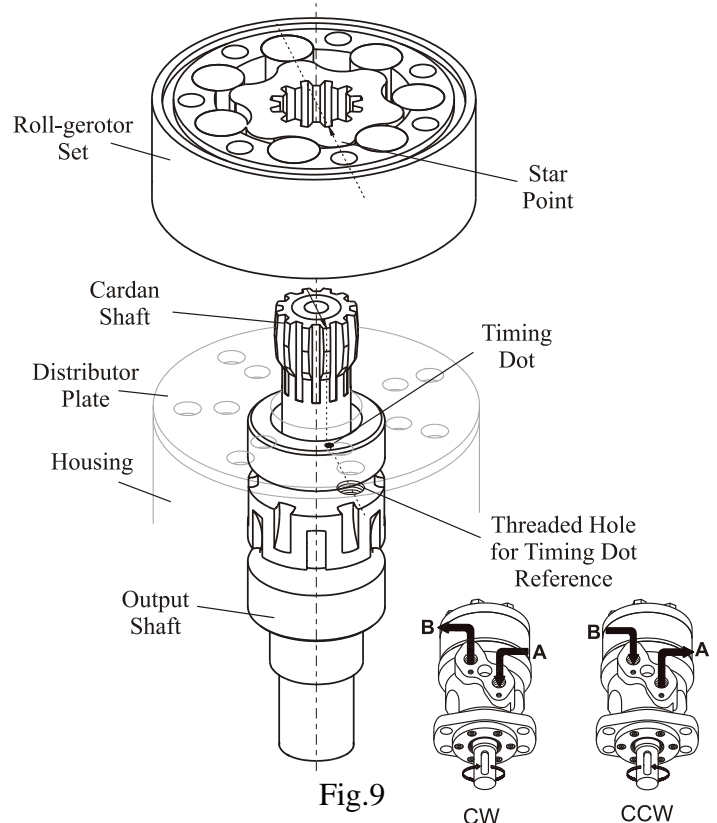


Fig.9

16. Install distributor plate on housing. Remember which bolt hole was aligned with the shaft timing dot.

17. Lubricate O-rings (2 pcs.) and place them in seal grooves of both stator sides. (see Fig.2).

18. Place roll-gerotor set on spacer plate positioning any star point over the bolt hole aligned with the timing dot. Stepped bolt holes are facing with smallest diameter to the distributor plate (see Fig 9).

19. Rotate roll-gerotor set to line up with bolt holes.

#### Reverse Rotation:

Reverse rotation is obtained by positioning any star valley over the aligned bolt hole (see Fig 9A).

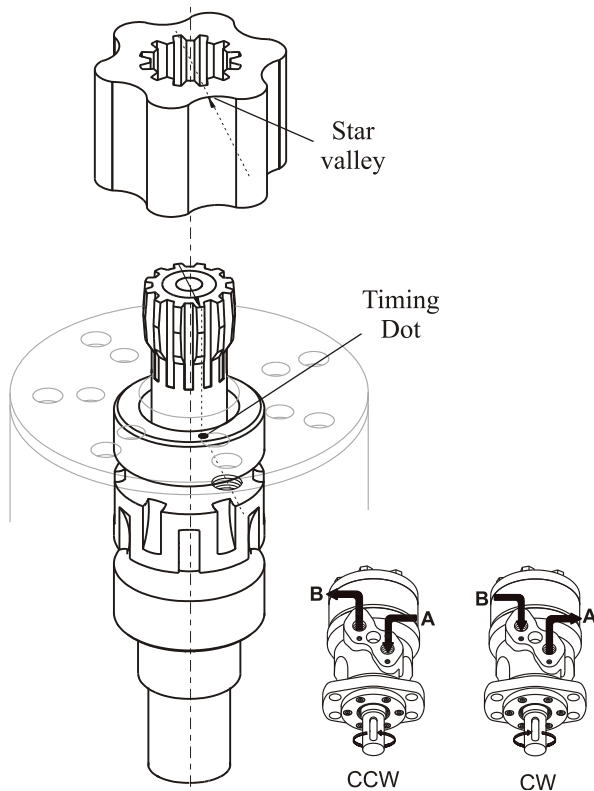


Fig.9A

20. Carefully place end cover on roll-gerotor set (see Fig.1).

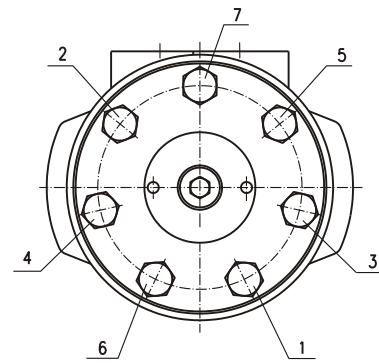


Fig.10

21. Install screws and washers in end cover. Tighten screws with  $6 \div 6,5$  daNm torque using an S=17 mm spanner socket in sequence as shown in Fig.10.

22. Install washer (O-ring for MLHH...4,5) on drain plug. Tighten plug with hex key S6 with torque  $2,0 \div 2,5$  daNm.

23. Install key in shaft key groove. For cone shafts install washer and screw castellated nut.