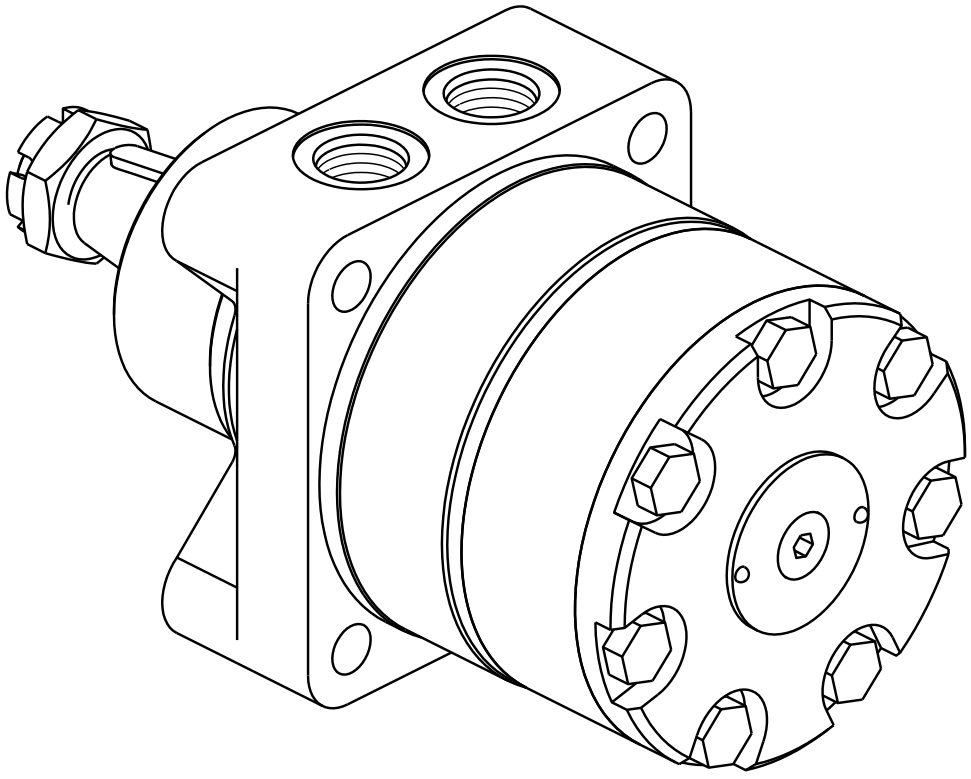
SERVICE MANUAL

Hydraulic Motors type HW



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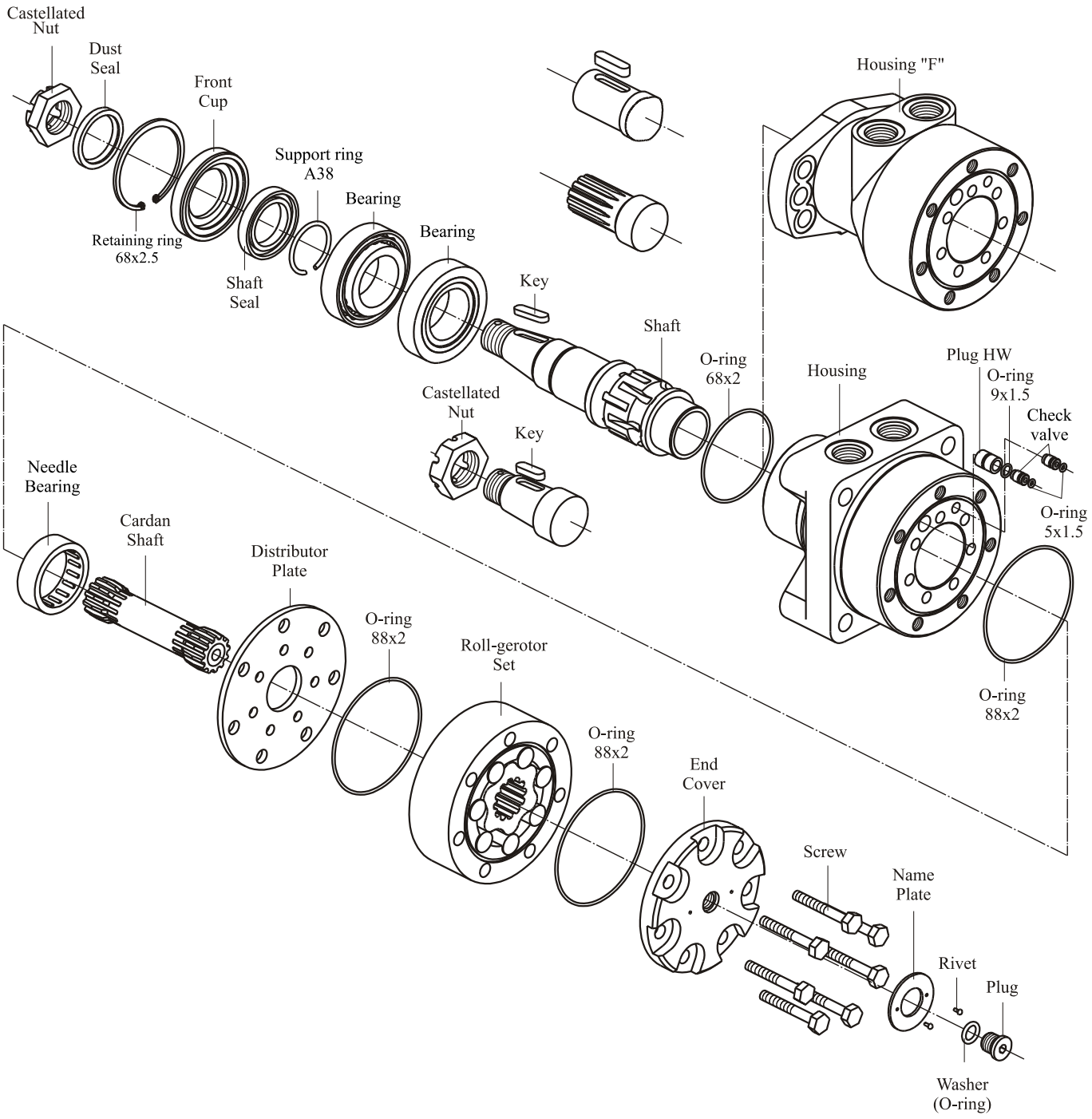
Castellated Nut
Dust Seal
Front Cup
Support ring A38
Bearing
Bearing
Retaining ring 68x2.5
Shaft Seal
Key
Shaft
O-ring 68x2
Housing "F"
Housing
Plug HW
O-ring 9x1.5
Check valve
O-ring 5x1.5
Castellated Nut
Key
Needle Bearing
Cardan Shaft
Distributor Plate
O-ring 88x2
Roll-gerotor Set
O-ring 88x2
End Cover
O-ring 88x2
Screw
Name Plate
Rivet
Plug
Washer (O-ring)

Instructions in this manual are for HW 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.

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

1. Unscrew drain plug using S6 Allen head spanner and remove the washer (O-ring for HW…4).

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

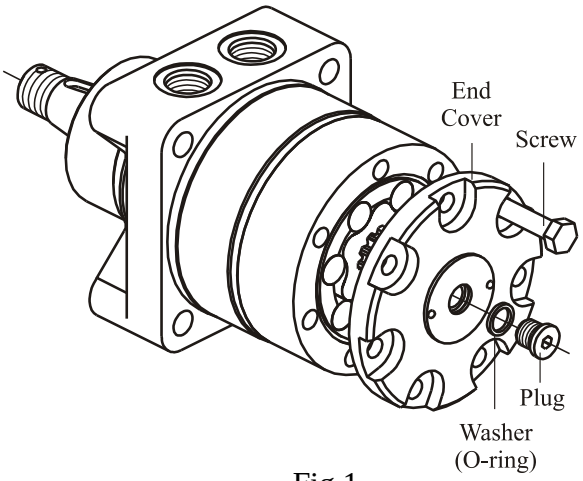

Fig.1

2. Unscrew screws using S17 torque wrench. Remove washers (see Figure 1).

3. Remove end cover.

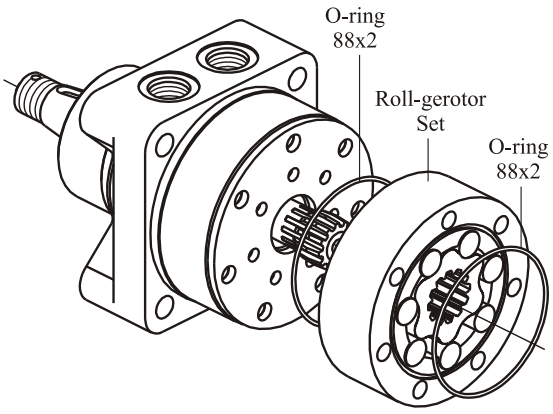

Fig.2

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

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

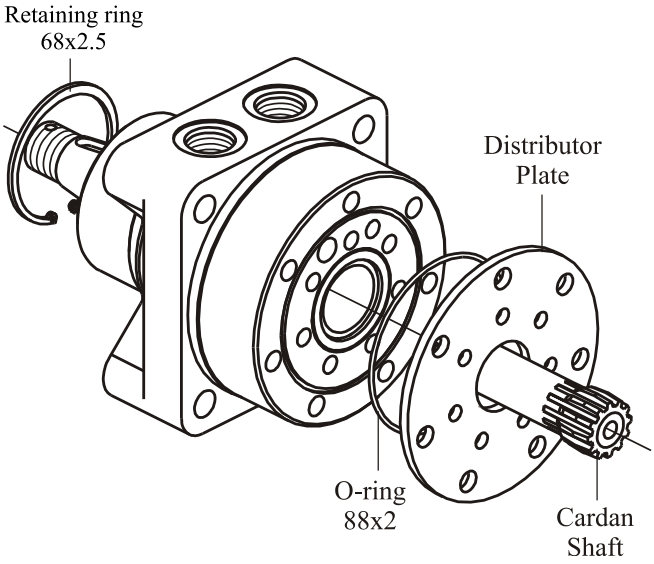

Fig.3

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.

9. Remove retaining ring from front rart of the housing (see Figure 3).

10. Fix Housing in a hydraulic press and push output shaft out of housing (see Fig.4). The shaft will come out with front cup, support ring A38, front bearing of the bearing upit and inner rim of the back bearing. The outer rim of the back bearing remains in the housing.

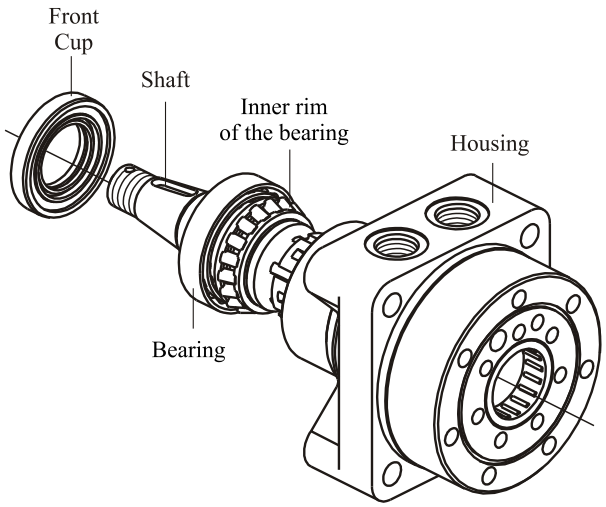

Fig.4

11. Remove Front cup. Dust seal and Shaft seal will come off with front cup.

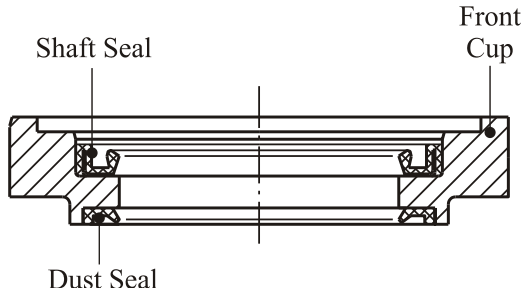

Fig.5

12. Remove with screwdriver Dust seal and Shaft seal from front cup (see Figure 5).

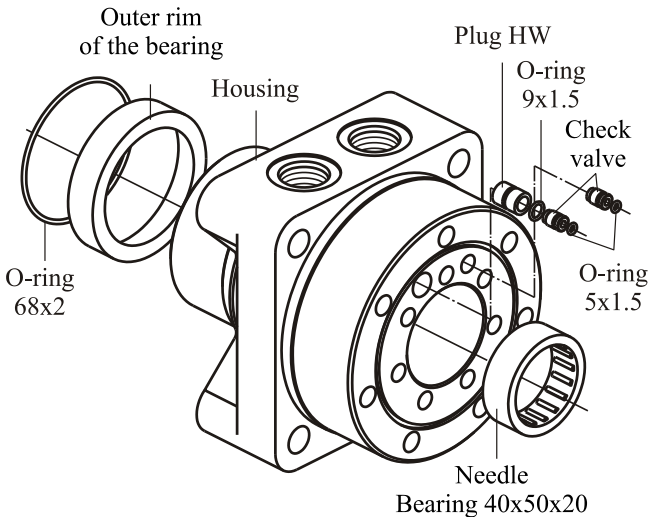

Fig.6

13. Take out the outer rim of bearing 40x68x19 and needle bearing 40x50x20.

Remove Check Valves (2 psc.) and plug HW. O-ring 9x1,5 will come off with the plug (see Figure 6).

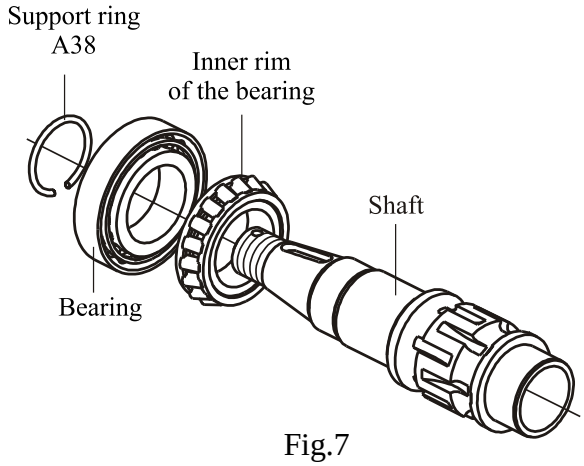

Fig.7

14. Remove from shaft support ring A38, front bearing and drive out inner rim of back bearing (виж Fig.7).

Seal Kit:

SK41 5128 9900 for HW…

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 their 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 and washers when reassembling the motor.

3. LUBRICATION:

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

1. Lubricate output shaft with hydraulic oil.
2. Mount shaft in housing. (see Fig.8).
3. Place the motor in reassembly device with output shaft up.

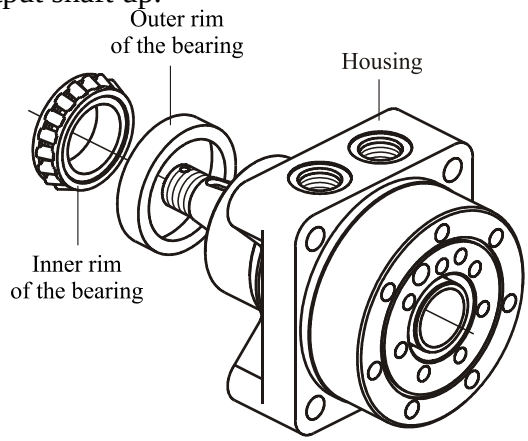

Fig.8

4. Install on the shaft the outer rim of bearing then inner rim of the back bearing as shown on Fig.8.

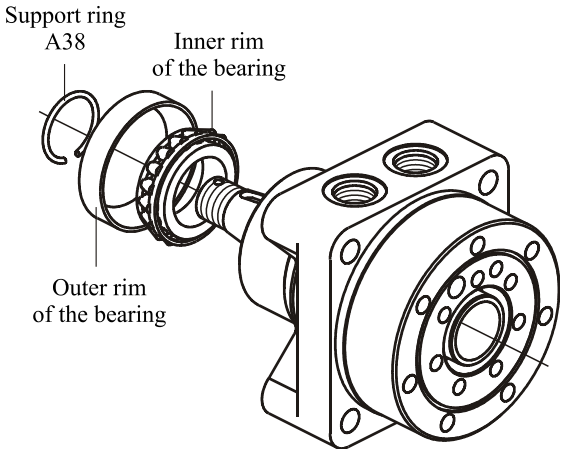

Fig.9

5. Install on the shaft the inner rim, then outer rim of the front bearing as shown on Fig.9. Fix bearing unit to the shaft with support ring A38.

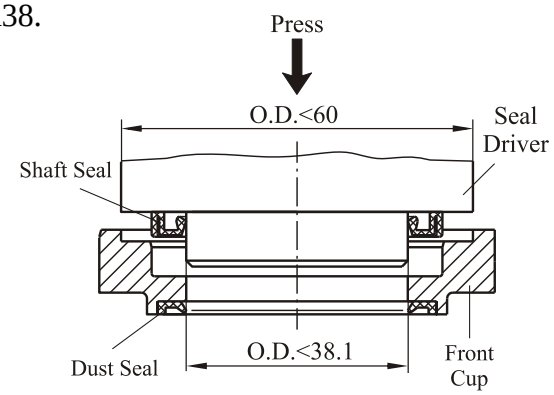

Fig.10

Place front cup on clean soft surface. Lubricate shaft seal and dust seal with light film of clean petroleum jelly

6. Place shaft seal in front cup and firmly push with Seal driver (see Fig.10).
7. Install dust seal in front cup. 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.

8. Lubricate and install O-ring 68x2 in housing seal groove.
9. Install the front cup incl. assembled seals on shaft. Prevent the seals against damages (see Fig.11).
10. Fix the front cup to the housing with retaining ring 68x2,5.

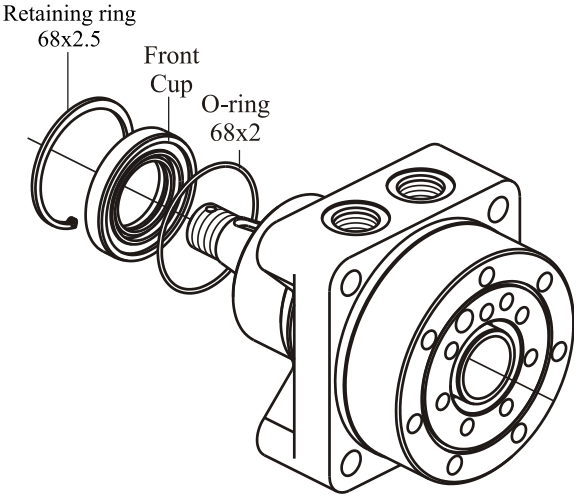

Fig.11

11. Reposition motor in reassembly devise with shaft down.

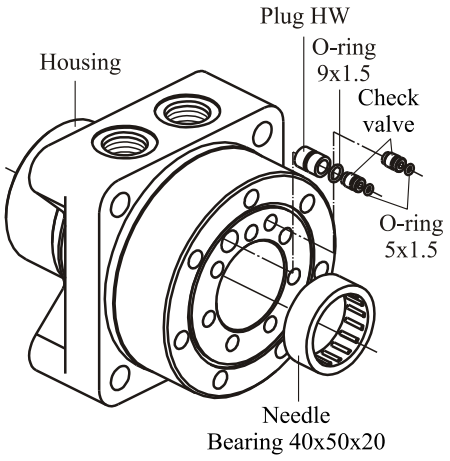

Fig.12

12. Press needle bearing 40x50x20 in the housing (see Fig.12).

13. Lubricate and install O-ring 9x1,5 on plug HW. Mount the plug in the housing. Mount check valves (2 psc.) in the housing as shown on fig.12.

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

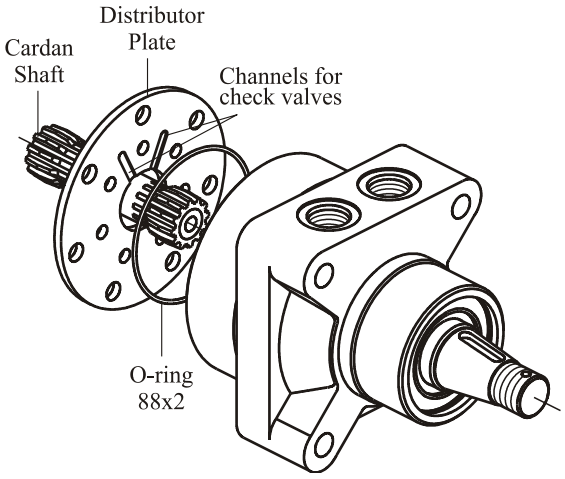

Fig.13

15. Install distributor plate on housing.

Important: Orient the check valve channels on distributor plate to the check valves in the housing (see Fig.13).

16. Install cardan shaft into splines of output shaft.

Timing Procedure

13. Orient the roll-gerotor set acc.to Fig.14. Mark a timing dot on a star point of rotor placed between two rolls.

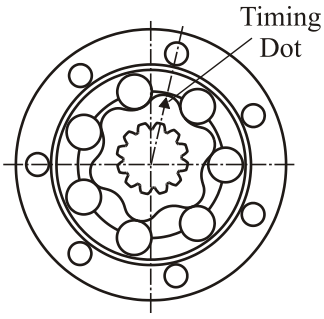

Fig.14

14. Orient the output shaft to the housing tread ports as shown on Fig.15.

15. Lubricate O-rings 88x2 (2 psc.) and place them in seal grooves of both stator sides. (see Fig.2).

16. Place roll-gerotor set on distributor plate as shown on Fig.15 and align pointed bolt holes of roll-gerotor set and housing

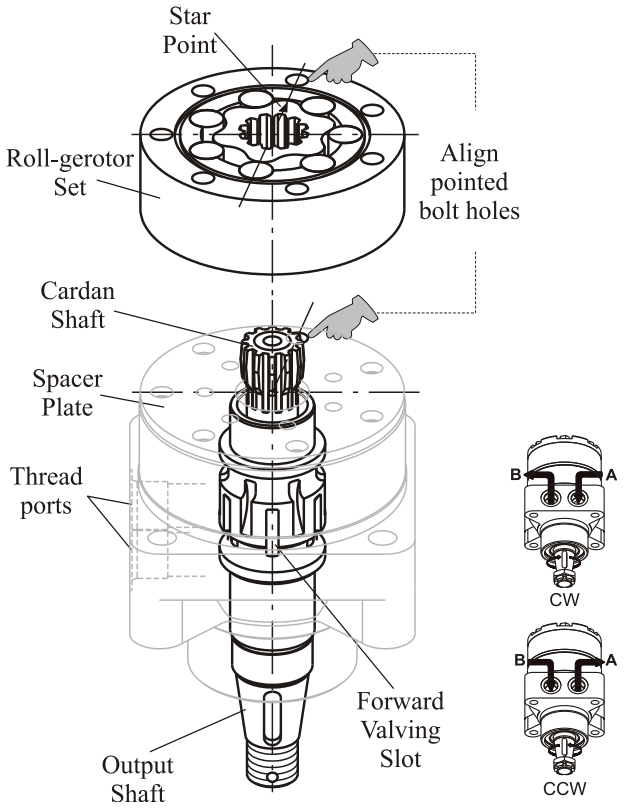

Fig.15

Reverse Rotation:

Reverse rotation is obtained by positioning of the marked rotor star point over the pointed housing bolt hole as shown on Fig.15A.

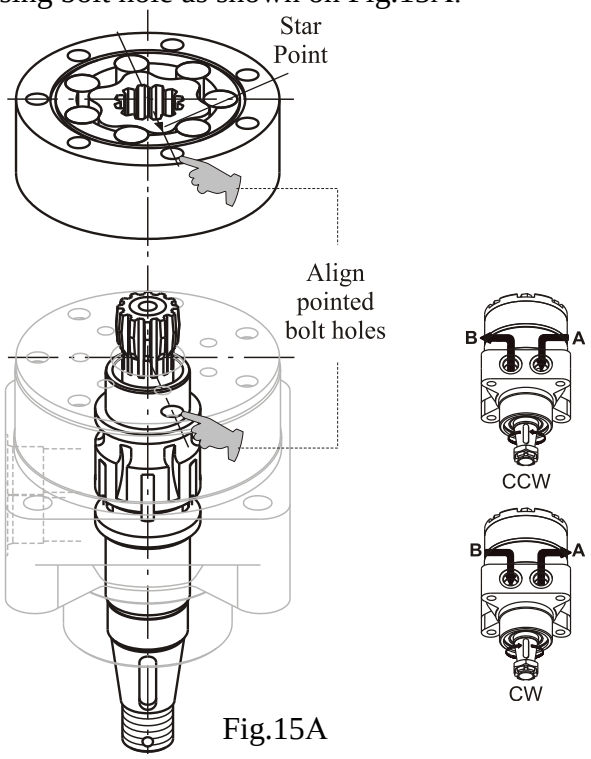

Fig.15A

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

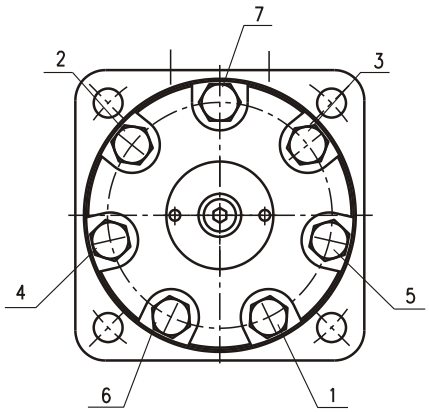

Fig.16

18. Install screws and washers in end cover. Tighten screws with 6,5÷7 daNm torque using a S=17 mm spanner socket in sequence as shown in Fig.16.

19. Install washer (O-ring for HW…2) on drain plug. Tighten plug with hex key S6 with torque 2,0 ÷ 2,5 daNm.

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