VOLVO

Construction Equipment

Service Information

Document Title: **<emph>Travel motor</emph>**	Function Group: **441**	Information Type: **Service Information**	Date: **2014/3/30**
Profile:			

The hydraulic motor in this machine is an axial piston motor.

The shock valves protect both motor and circuit against pressure peaks by maintaining the start-up pressure/relief pressure of the hydraulic motor at a constant level.

The swash plate can be adjusted to two fixed positions: high rotary speed/low torque (high travel speed) or low rotary speed/high torque (low travel speed), in compliance with the travel speed switch and the way valve.

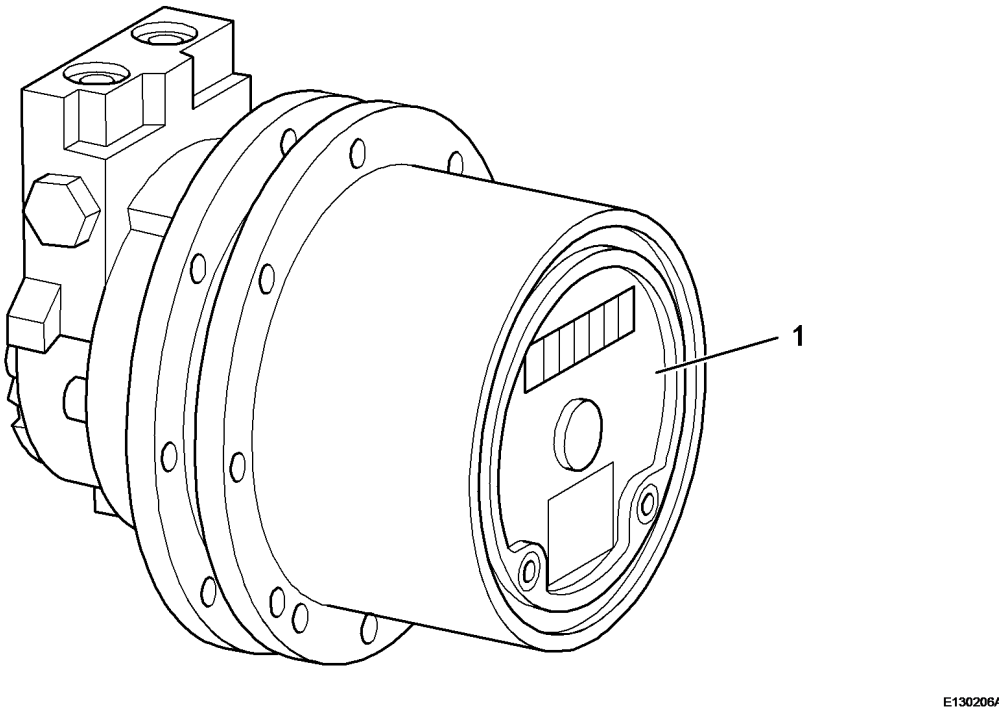

Figure 1

1. Travel motor

VOLVO

Construction Equipment

Service Information

Document Title: **Assembling the hydraulic motor**	Function Group: **441**	Information Type: **Service Information**	Date: **2014/3/30**
Profile:			

Assembling the hydraulic motor

Op nbr

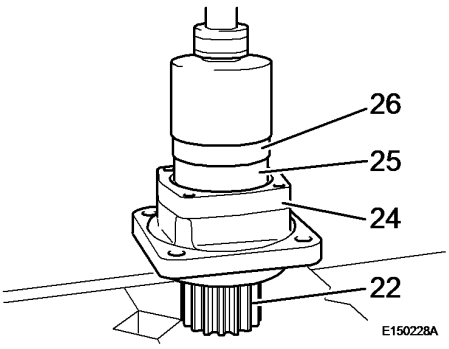

Figure 1

1. Wet the new radial seal ([Invalid linktarget] /23) with oil and insert it into the bearing housing ([Invalid linktarget] /24).
2. Press shaft with pinion (22) into the bearing housing.
3. Press both roller bearings (26) and spacer pieces (25) into the bearing housing (24) until they bottom.

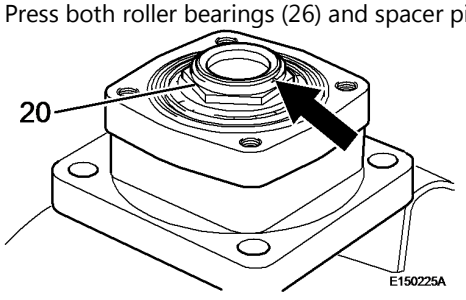

Figure 2

4. Screw on nut (20) and tighten with 100 Nm.
5. Nut on groove of shaft with pinion (arrow).

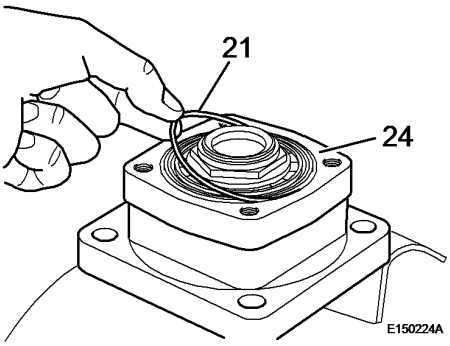

Figure 3

6. Wet O-ring (21) with oil and insert it into the bearing housing (24).

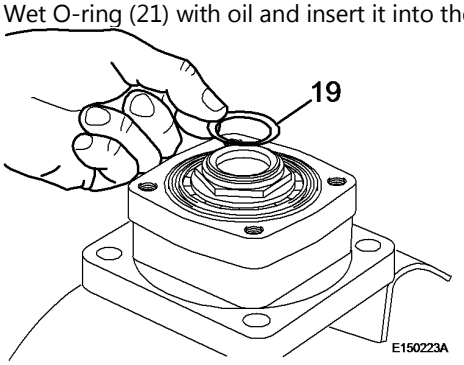

Figure 4

7. Apply the new seal ring (19) with the arched surface pointing up.

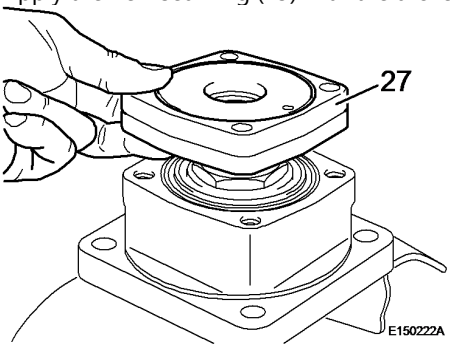

Figure 5

8. Assemble intermediate plate (27).

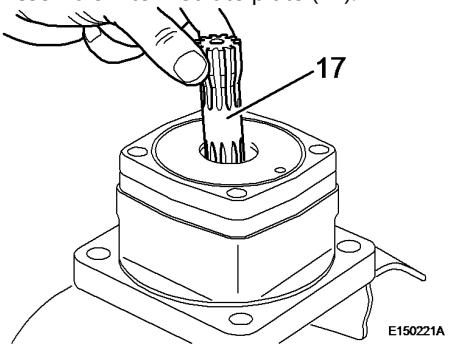

Figure 6

9. Insert universal shfat (17) into the bearing housing with intermediate plate.

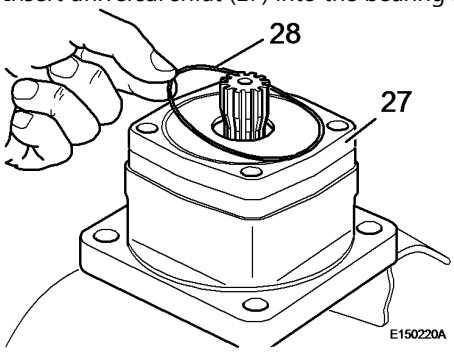

Figure 7

10. Wet O-ring (28) with oil and insert it into the intermediate plate (27).

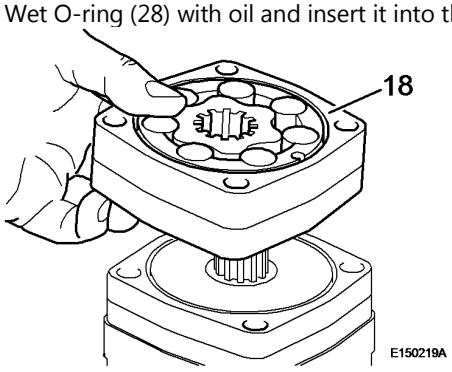

Figure 8

11. Plug gear wheel set (18) onto universal shaft ([Invalid linktarget] /17) in correct assembly position.

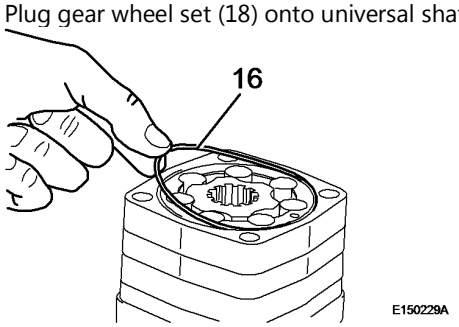

Figure 9

12. Wet O-ring (16) with oil and insert it into the gear wheel set.

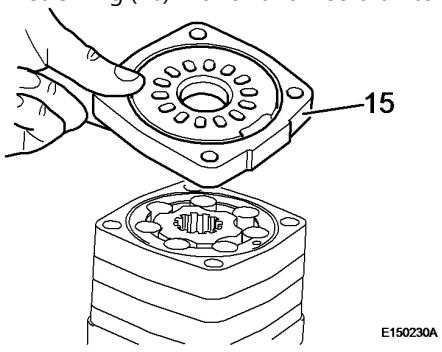

Figure 10

13. Assemble channel plate (15) in correct assembly position.

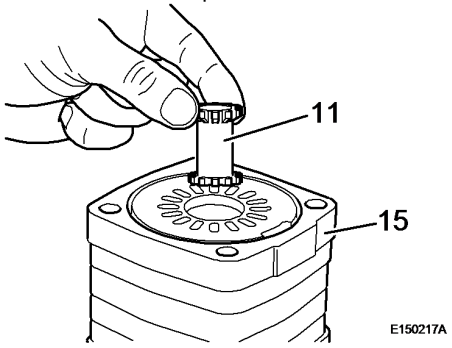

Figure 11

14. Insert valve drive (11) through channel plate (15) into the gear wheel set.

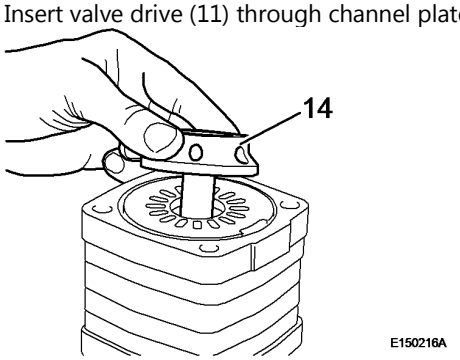

Figure 12

15. Plug slewing valve (14) to the valve drive.

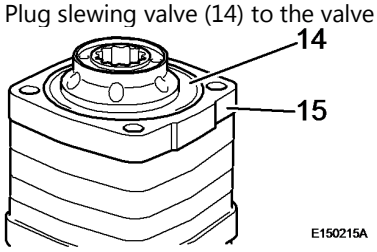

Figure 13

16. Wet O-ring (14) with oil and insert it into the channel plate (15).

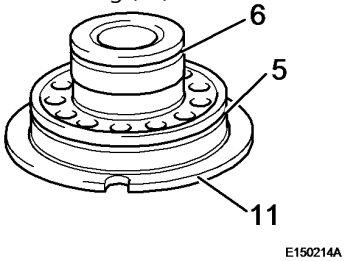

Figure 14

17. Apply some oil to the new O-rings (5 and 6) and assemble to compensation housing (11).

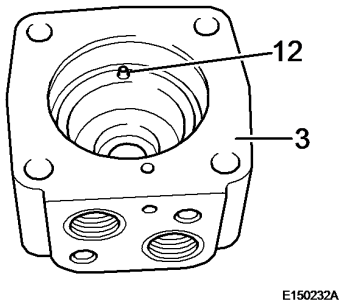

Figure 15

18. If necessary knock a new guide pin (12) into the distributor housing (3).

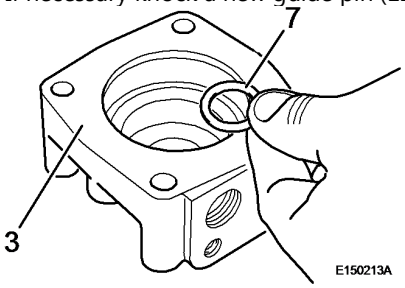

Figure 16

19. Insert spring washer (7) into valve housing (3).

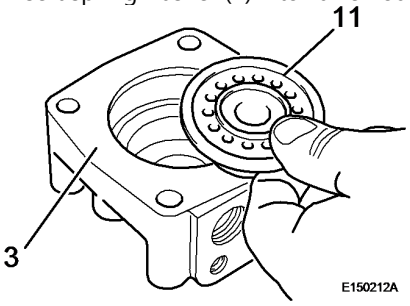

Figure 17

20. Insert compensation shim (11) with the recess towards guide pin (12).

21. Insert spacer piece ([Invalid linktarget] /8) into the compensation shim.

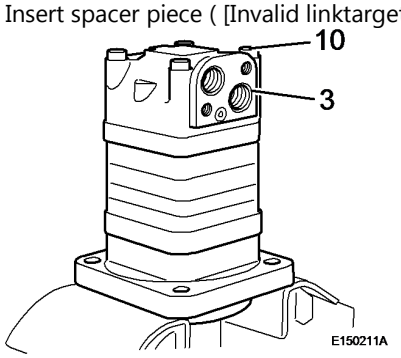

Figure 18

22. Attach valve housing (3), turn in the screws and tighten with 75 Nm.

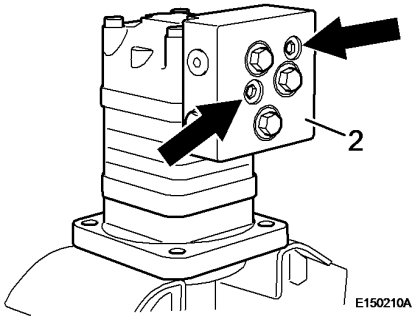

Figure 19

23. Attach balancing valve (2) with new O-rings, screw in socket head cap screws and tighten with 45 Nm.

Document Title:	Function Group:	Information Type:	Date:
Assembling the travel gear	**441**	**Service Information**	**2014/3/30**
Profile:			

Assembling the travel gear

Op nbr

NOTE!
If one of the planetary gears in the planetary gear is damaged we recommend to replace the complete planet stage, including the sun gear. The reason for this obvious, because any damage to the planetary gears can cause micro-cracks in the teeth of mating gears and thzerefore cause premature failure after maintenance.

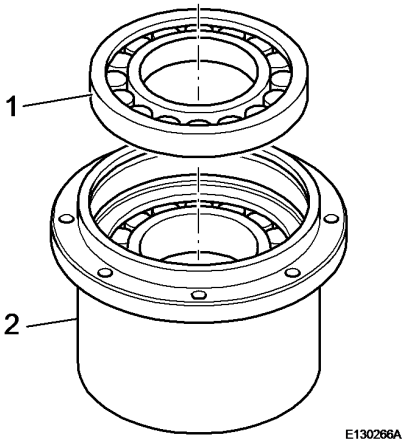

Figure 1

Ball bearing

1. Press ball bearing (1) into drive housing (2) until it bottoms.

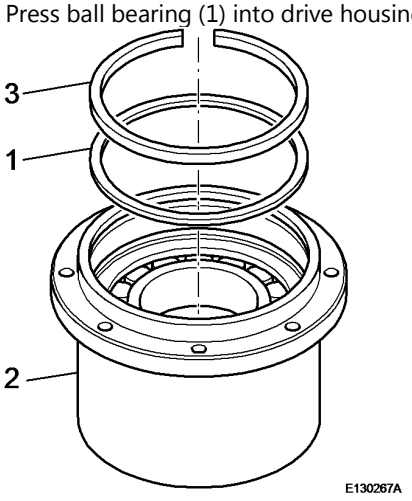

Figure 2

2. Insert spacer ring (1) into drive housing (2).

3. Install snap ring (3).

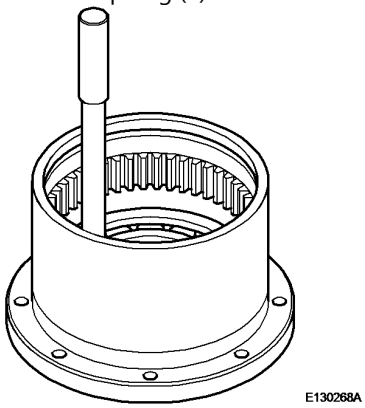

Figure 3

4. Turn the drive housing around and knock the ball bearing in until it abuts vagainst the spacer ring.

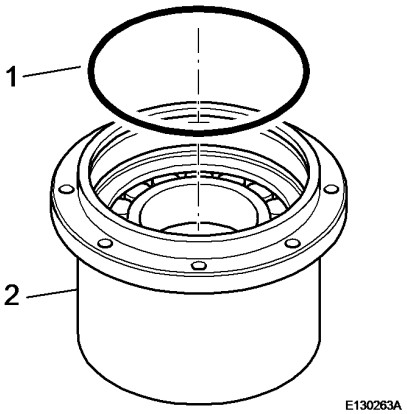

Figure 4

5. Grease the new O-ring (1) and place it on drive housing (2).

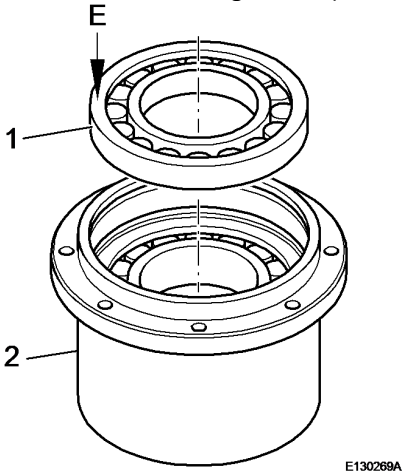

Figure 5

6. Knock the lapped ball bearing (1) in until it abuts against the snap ring.
   NOTE!
   The lapped surface must point up. Use a soft mandrel for pressing thuis to avoid damaging the lapped surface.

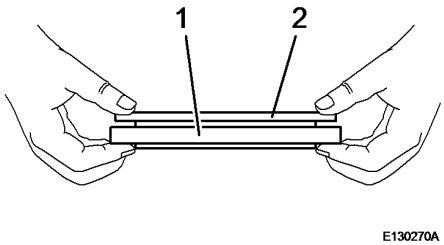

Figure 6

Front seal ring

7. Pull a new rubber ring (1) over the metal seal (2).
   NOTE!
   Check the entire circumference of the rubber ring for correct fit (twisting).

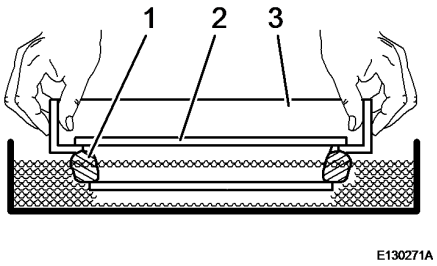

Figure 7

8. Attach assembly tool (3) to seal ring (2) with rubber ring (1).

9. Submerge the rings in a vesell containing trichloroethane, until the rubber ring is complete wetted.

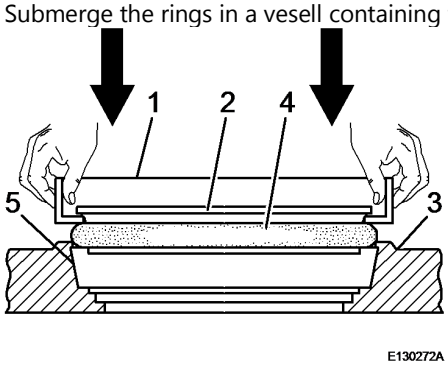

Figure 8

10. Place assembly tool (1) with seal ring (2) in a rectangular position on housing (3).

11. Push rubber ring (4) over retaining lip (5) on housing (3) with a sudden but even impact.

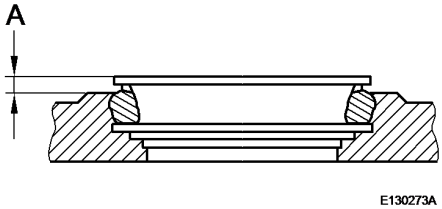

Figure 9

12. After assembly check the height A at least at four locations offset by 90 degree to each other.

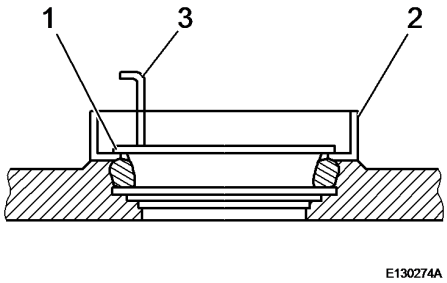

Figure 10

13. When correcting the rubber ring use assembly tool (2) for pressing or adjustmenmt tool (3) for pulling up.
NOTE!
If seal (1) has not been adjusted to the specified protrusion height the seal must be removed and the assembly process repeated.

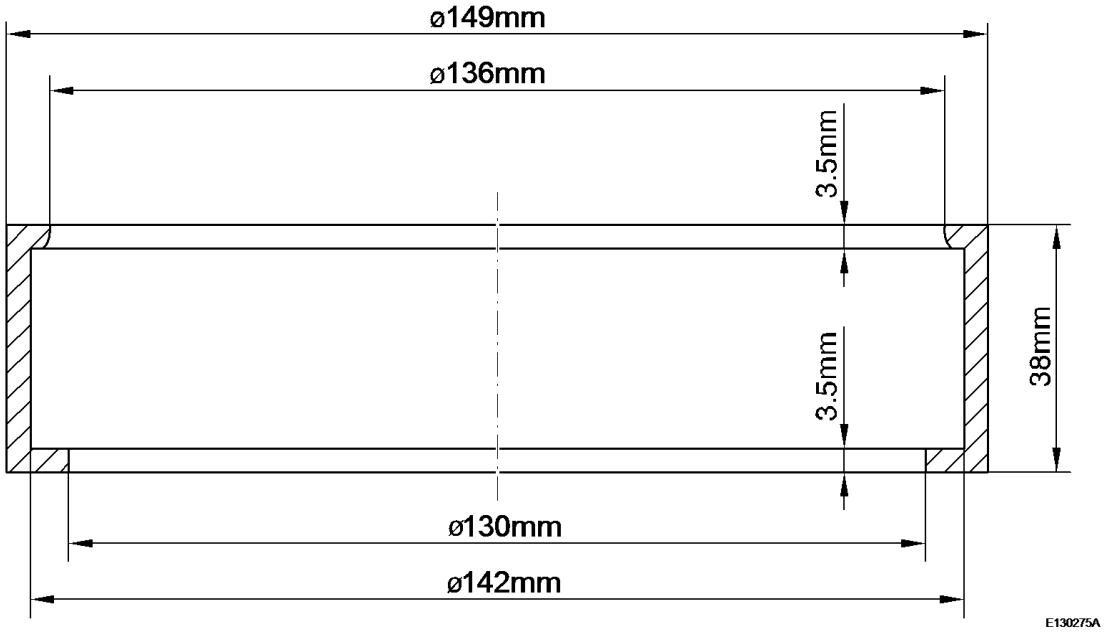

Figure 11
Assembly tool for rubber ring

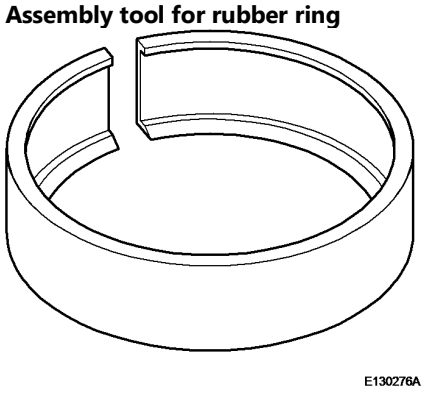

Figure 12
Assembly tool

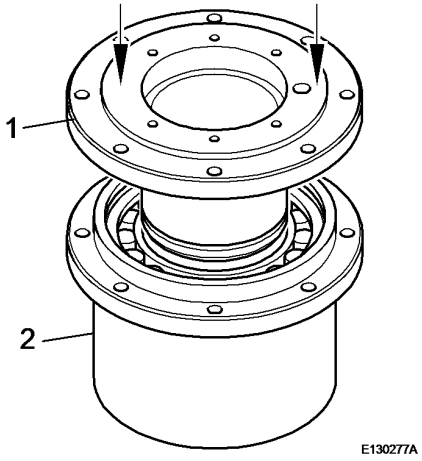

Figure 13

Hub

14. Insert and press hub (1) into drive housing (2).

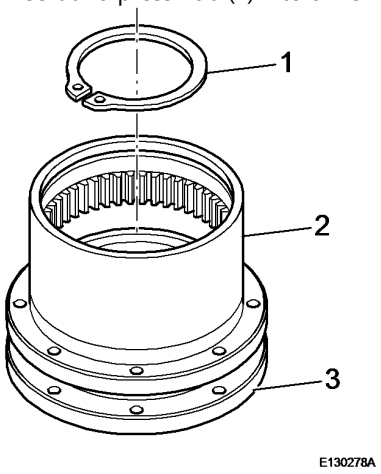

Figure 14

15. Secure hub (3) in drive housing (2) with snap ring (1).

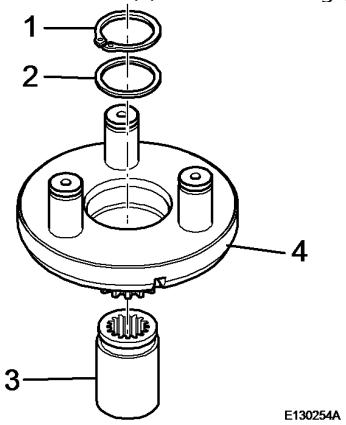

Figure 15

Planet carrier

16. Press coupling (3) into planet carrier (4).

17. Assemble spacer disc (2) and secure with circlip (1).

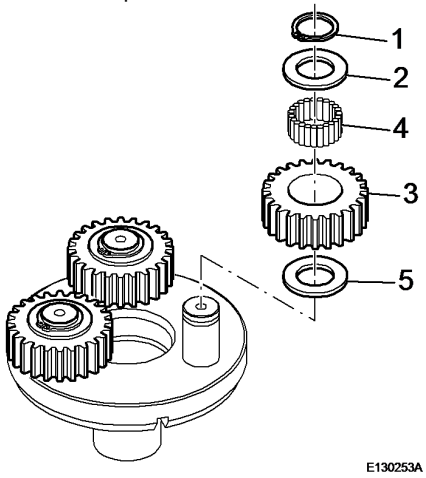

Figure 16

18. Assemble friction disc (5) to planet carrier.

19. Assemble pinion (3) with needles (4).

20. Attach friction discs (2) and fasten with circlips (1).

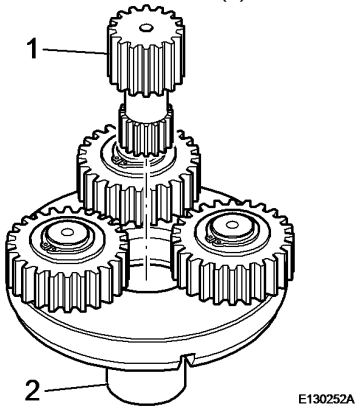

Figure 17

21. Insert sun gear (1) through the planet carrier into coupling (2).

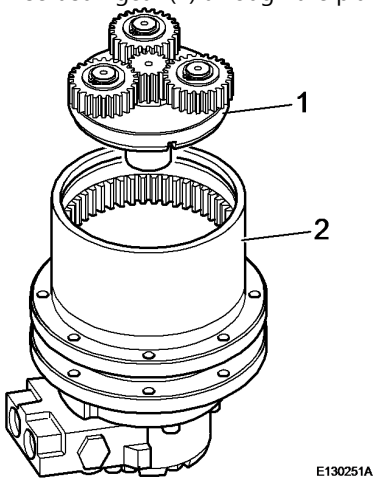

Figure 18

22. Insert planet carrier (1) into output housing (2).

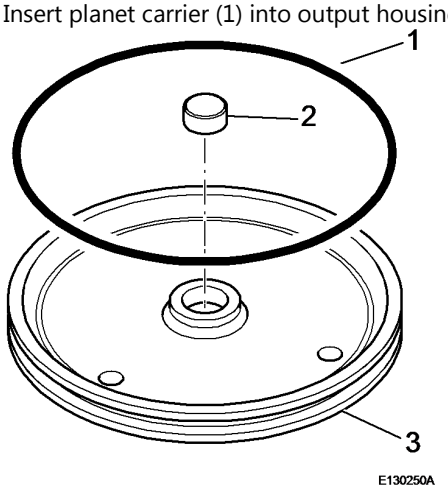

Figure 19

Cover

23. Lay new O-ring (1) onto cover (3) and press in plug (2).

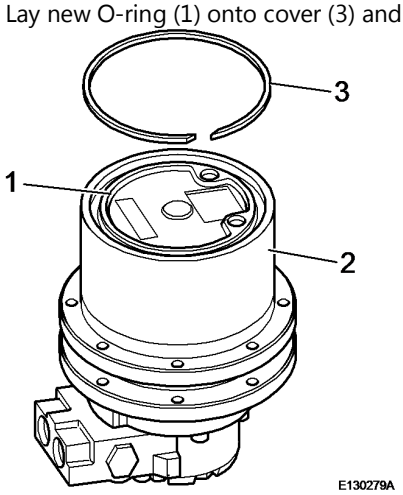

Figure 20

24. Press cover (1) into drive housing (2).

25. Place circlip (3) into the groove in the housing to locate the cover.

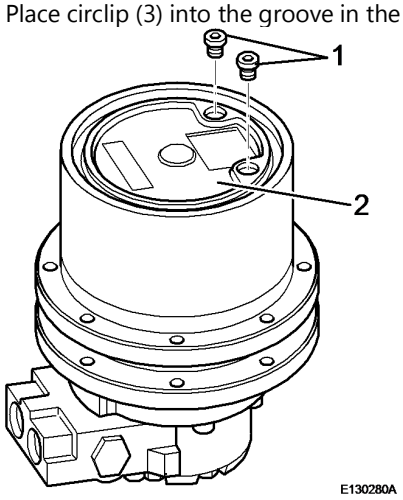

Figure 21

26. Turn both plugs (1) into cover (2).

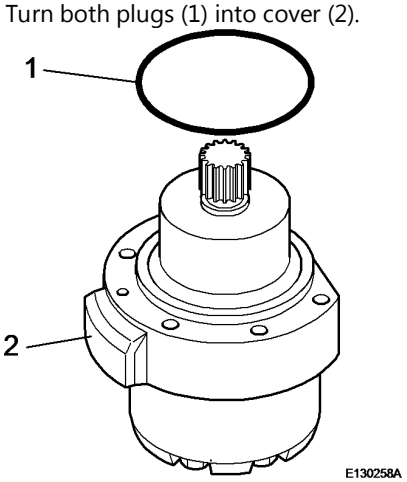

Figure 22

27. Grease the new O-ring (1) and place it on hydraulic motor (2).

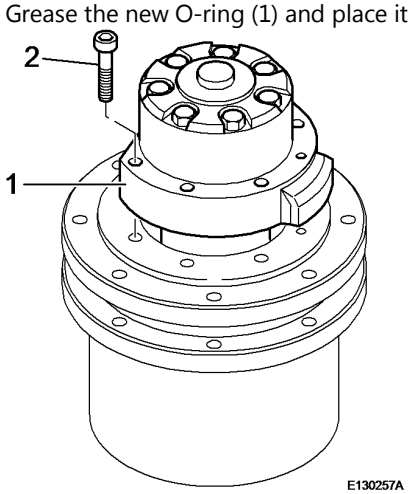

Figure 23

28. Assemble hydraulic motor (1), turn in screws (2) and tighten with 25 Nm.

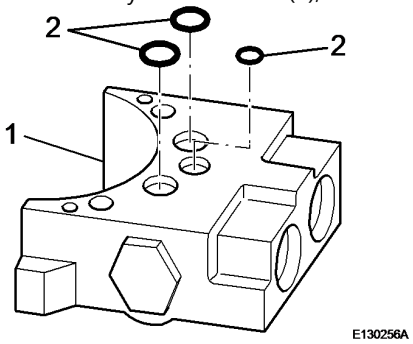

Figure 24

29. Grease three new O-ring (2) and place them on valve housing (1).

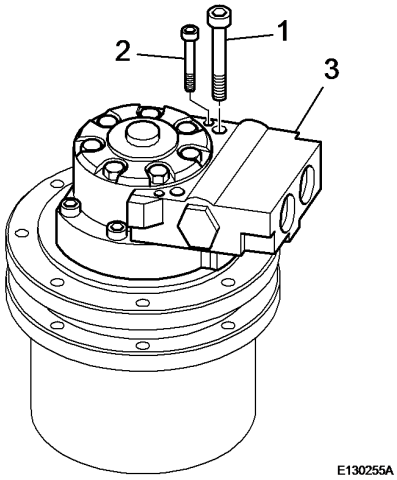

Figure 25

30. Attach the complete valve (3) to the hydraulic motor.

31. Turn in screws (2) and tighten with 6 Nm, then tight screws (1) with 25 Nm.

VOLVO

Construction Equipment

Service Information

Document Title:	Function Group:	Information Type:	Date:
Assembling the valve unit	**441**	**Service Information**	**2014/3/30**
Profile:			

Assembling the valve unit

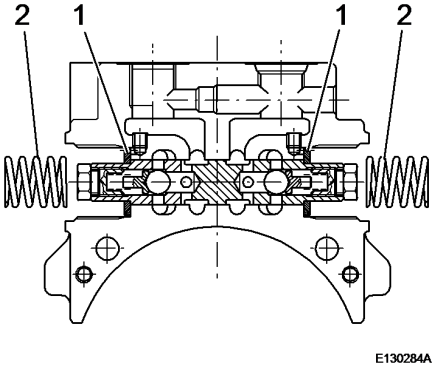

Figure 1

Op nbr

1. Insert washers (1) and springs (2) into the valve unit.

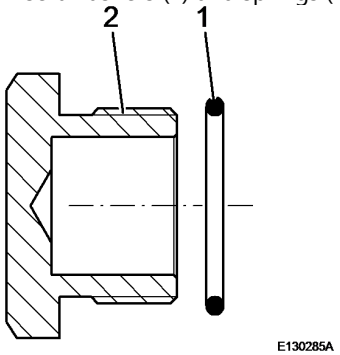

Figure 2

2. Fit new O-rings (1) to both plugs (2).

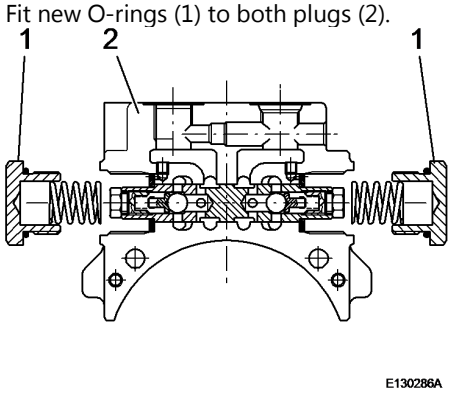

Figure 3

3. Turn both plugs (1) into valve housing (2).

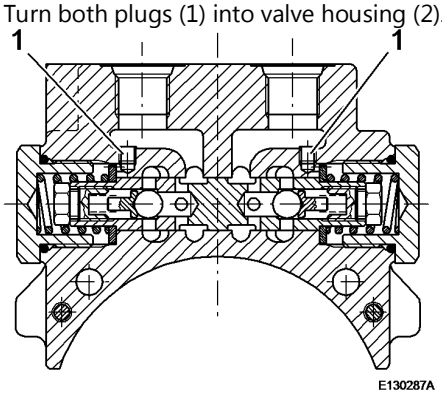

Figure 4

WARNING

Before assembling the nozzles make sure that the bores are free of dirt particles.

4. Screw both restrictors (1) into the bores and tighten.

Document Title: **Disassembling the hydraulic motor**	Function Group: **441**	Information Type: **Service Information**	Date: **2014/3/30**
Profile:			

Disassembling the hydraulic motor

Disassembling

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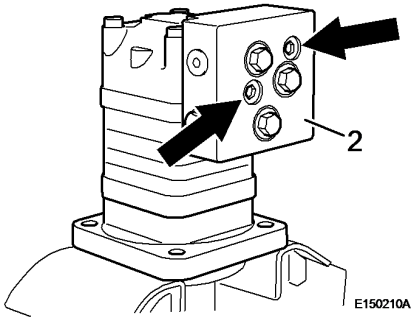

Figure 1

1. Remove the hydraulic motor.
2. Unscrew both socket head cap screws (arrows).
3. Take off balancing valve (2) with O-rings.

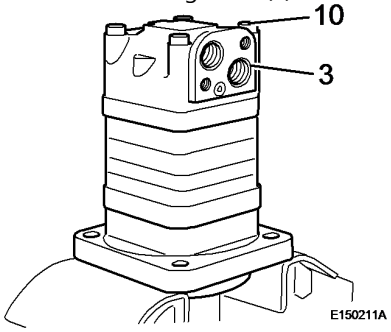

Figure 2

4. Unscrew all screws (10) and take off valve housing (3).

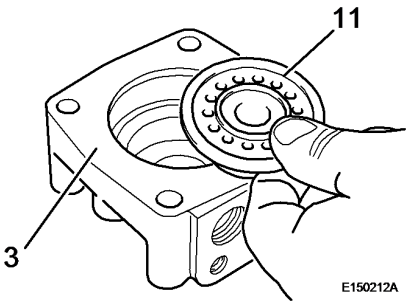

Figure 3

5. Knock compensation shim (11) out of valve housing (3).

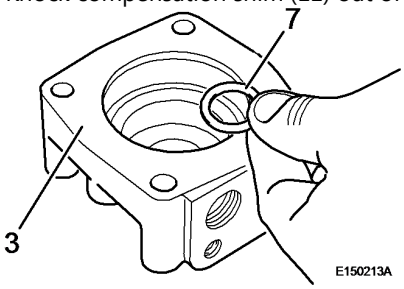

Figure 4

6. Take spring washer (7) out of valve housing (3).

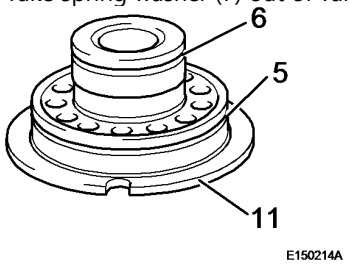

Figure 5

7. Remove O-rings (5 and 6) from compensation shim (11).

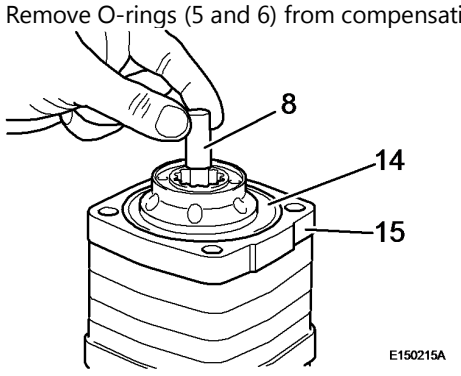

Figure 6

8. Remove spacer block (8).

9. Take O-ring (14) out of channel plate (15).

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