The complete assembled kit along with this step-by-step service manual is result of Special Springs research for the most useful maintenance operation for Special Springs nitrogen gas cylinders. Few minutes and the Special Springs nitrogen gas cylinders are regenerated as new one.

Before starting any maintenance work carefully check the maintenance kit to correspond to the model of cylinder for which is required.

Before starting any maintenance work carefully check this step-by-step manual to correspond to the model of cylinder for which is required.

Instructions and pictures of this step-by-step manual could slightly differ from practise.

All Special Springs step-by-step manuals are available for download from our web site: www.specialsprings.com

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I. DISCHARGING + VALVE REMOVAL for self-contained cylinders.

1. Remove the protective screw cap from the charging hole by using the key (47G1/8G). Also by using the hex key (39PM02A) press all the surrounding nuts (58CE05) to avoid damage on the one way valve retaining screw.


2. Thread ODS bleed device on the charging port (for exhaust completion). The position is always recommended to be done by using the special Special Springs gas detector.

3. Be sure the pressure is completely evacuated by pressing down the one way valve retaining screw. Then unload the discharge device from the discharging hole.

4. Unthread the valve retaining screw by using the hex key (47G1/8G) and the ODS bleed device. Then replace the valve retaining screw for reassembly.

II. DISCHARGING non self-contained cylinders.

1. Hang and remove the one way valve retaining screw (39DMA) from the base of the body. The retaining ring is new for an easier removal.

4. By using the hex key (47CE05) unthread the one way valve retaining screw (39DMA) to avoid damage on the one way valve retaining screw.

2. Clamp the cylinder into a self-casting chuck or a vice.

5. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

7. Unthread the protective screw cap into the charging hole by using the digital force tester (Special Springs gas detector).

III. RETAINING C-RING REMOVAL.

1. Position the anti scratch nylon (97...VU) on the CV ring and press it using the proper tool (58EVU).

5. Cut off of cylinder to see the light volume of 5 ml.

2. Cut off of cylinder to see the light volume of 5 ml.

6. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw, thread the one way valve retaining screw correctly into the groove you will hear a click sound.

3. The cylinder body shows any damage, if the piston-rod and the bushing.

12. When density charging through the adapter and used density of 5 kg/cm2 or less. When the piston touches the conical centring guide tube. Check if the adapter is correctly inserted, and replace the retaining C-ring into the groove. When the cylinder is open, it is always recommended to be done by using the special Special Springs gas detector.

4. Carefully check and clean the valve retaining screw (39RFG) into the groove of thebody.

14.1 By using the hex key (47G1/8G) thread the one way valve retaining screw (39RFG) to avoid damage on the one way valve retaining screw.

8. By using the hex key (47G1/8G) thread the one way valve retaining screw (39RFG) to avoid damage on the one way valve retaining screw.

13.1 By using the hex key (47G1/8G) thread the one way valve retaining screw (39RFG) to avoid damage on the one way valve retaining screw.

20. Check the correct assembly of the cylinder body, then replace the body.

13.2 By using the hex key (47G1/8G) thread the one way valve retaining screw (39RFG) to avoid damage on the one way valve retaining screw.

21. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39RFG) to avoid damage on the one way valve retaining screw.

13.3 By using the hex key (47G1/8G) thread the one way valve retaining screw (39RFG) to avoid damage on the one way valve retaining screw.

22. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39RFG) to avoid damage on the one way valve retaining screw.

III. CHARGING AND FORCE TEST for self-contained cylinders.

1. Make sure the protective screw cap is correctly positioned.


2. Insert the positioning tube over the adapter and thread the positioning tube.

6. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

10. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

3. Insert the positioning tube over the adapter and thread the positioning tube.

7. Adjust the required pressure on the regulation valve. For an easy and safety work.

11. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

4. Adjust the required pressure on the regulation valve. For an easy and safety work.

8. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

9. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

12. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

14. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

16. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

18. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

19. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

15. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

23. Check the correct assembly of the cylinder body, then replace the one way valve retaining screw (39D42).

IV. PISTON ROD + CARTRIDGE REMOVAL.

1. Do it with one hand (59EVU) extrude the piston rod and the bushing from the charging hole (39EVU) by using the digital force tester (Special Springs gas detector). By using the proper force testing device (58CE05), press the piston rod and the bushing from the body (only model SC500B; SC7500B).

3. Then slide off the bushing from the body (only model SC500B; SC7500B).

5. Then slide off the bushing from the body (only model SC500B; SC7500B).

7. Carefully check and clean the bushing after operation.

8. Carefully check and clean the bushing after operation.

9. Carefully check and clean the bushing after operation.

11. Carefully check and clean the bushing after operation.

12. Carefully check and clean the bushing after operation.

24. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

25. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

15. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

4. By using the hex key (47G1/8G) thread the one way valve retaining screw (39D42), to avoid damage on the one way valve retaining screw.

26. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

27. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

16. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

17. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

28. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

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30. Pressurization with a minimal pressure of 0,5 MPa, for an easy and safety work.

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