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

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

All Special Springs step-by-step manuals are available for download from our website: www.specialsprings.com
I. DISCHARGING + VALVE REMOVAL for self-contained cylinders.

1. Remove the protective screw cap into the charging hole 1/8" by using the T - handle M8 hex key .
2. Insert the T handle M8 hex key into the charging hole 1/8" and proceed to fill the cartridge from the body (only model 58CE05).
3. Leave it a while, until you hear a "click".
4. Remove the protective screw cap and position the anti scratch nylon adapter from the charging hole. Then manually insert the piston-rod into the discharging hole.
5. Cut off of cylinder to see the right volume of 5 ml.
6. By using the C-ring removal tool (58RMT01) and remove the O-ring from the discharging hole.
7. By using the 58DDS01A blue side for M6 hole and re-use it.
8. Use the Special Springs gas detector (39RFG) to check hose cylinders for leaks, and bottle valves and disconnect the gas on the desired pressure (Max. 200 bar or 20 MPa). Usually the gauge on the right display "zero".
9. When the pressure is reached shut off the hose then use the Pressure adjusting pressure regulator (39PM02) to adjust the pressure.
10. With the manual press (9801C00702010) set the positioning tube (58DN04) into the rod head threaded hole, pull completley the unit piston-rod and bushing.
11. Lubricate inside the cylinder body with the specific Special Springs grease. You can use the small tube of Special Springs grease (39PM01).
12. By using the C-ring removal tool (58RMT01) and remove the O-ring from the discharging hole. Then manually insert the piston-rod into the discharging hole.
13. Cross the hex key 4 mm, until it is straight, and the rod is free for removal.
14. Fasten the hex key 4 mm, until it is straight, and the rod is free for removal.

II. ONE WAY VALVE REMOVAL.

1. Slide out of the bushing from the rod.
2. Lubricate the hole with the Special Springs grease.
3. With the manual press (9801C00702010) insert the assembled bushing into the charging hole and proceed to fill the cartridge with the Special Springs grease.
4. Cross the hex key 4 mm, until it is straight, and the rod is free for removal.
5. Lubricate inside the cylinder body with the specific Special Springs grease.
6. Lubricate inside the cylinder body with the specific Special Springs grease.

III. RETAINING C-RING REMOVAL.

1. By using the T handle M8 hex key .
2. Position the anti scratch nylon adapter from the charging hole. Then manually insert the piston-rod into the discharging hole.
3. By using the one way valve removal-setting dynamometric wrench (58CD01), it would be possible to remove some oil leak from the hole where uploads down the cylinder.
4. By using the special Springs gas detector (39RFG) to check hose cylinders for leaks, and bottle valves and disconnect the gas on the desired pressure (Max. 200 bar or 20 MPa).
5. By using the C-ring removal tool (58RMT01) and remove the O-ring from the discharging hole.
6. From the operator for maximum safety.
7. By using the Special Springs gas detector (39RFG) to check hose cylinders for leaks, and bottle valves and disconnect the gas on the desired pressure (Max. 200 bar or 20 MPa).
8. Lubricate all the installed components into the assembled bushing with the Special Springs grease.
9. Cross the hex key 4 mm, until it is straight, and the rod is free for removal.
10. When the gas is ready to be use, you will hear a "click".
11. Lubricate inside the cylinder body with the specific Special Springs grease.
12. Lubricate inside the cylinder body with the specific Special Springs grease.
13. Lubricate inside the cylinder body with the specific Special Springs grease. After you screw in the hex key 4 mm, until it is straight, and the rod is free for removal.

IV. PISTON ROD AND BUSHING REMOVAL.

1. Cross the hex key 4 mm, until it is straight, and the rod is free for removal.
2. Lubricate inside the cylinder body with the specific Special Springs grease.
3. Lubricate inside the cylinder body with the specific Special Springs grease.

V. CLEANING AND INSPECTION.

1. Lubricate inside the cylinder body with the specific Special Springs grease.
2. Lubricate inside the cylinder body with the specific Special Springs grease.
3. Lubricate inside the cylinder body with the specific Special Springs grease.
4. Lubricate inside the cylinder body with the specific Special Springs grease.
5. Lubricate inside the cylinder body with the specific Special Springs grease.

VII. REASSEMBLY OF PISTON-ROD AND CARTRIDGE.

1. Lubricate inside the cylinder body with the specific Special Springs grease.
2. Lubricate inside the cylinder body with the specific Special Springs grease.
3. Lubricate inside the cylinder body with the specific Special Springs grease.
4. Lubricate inside the cylinder body with the specific Special Springs grease.
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26. Lubricate inside the cylinder body with the specific Special Springs grease.
27. Lubricate inside the cylinder body with the specific Special Springs grease.
28. Lubricate inside the cylinder body with the specific Special Springs grease.
29. Lubricate inside the cylinder body with the specific Special Springs grease.
30. Lubricate inside the cylinder body with the specific Special Springs grease.

IX. CHARGING AND FORCE TEST.

1. Cross the hex key 4 mm, until it is straight, and the rod is free for removal.
2. Lubricate inside the cylinder body with the specific Special Springs grease.
3. Lubricate inside the cylinder body with the specific Special Springs grease.
4. Lubricate inside the cylinder body with the specific Special Springs grease.
5. Lubricate inside the cylinder body with the specific Special Springs grease.
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29. Lubricate inside the cylinder body with the specific Special Springs grease.
30. Lubricate inside the cylinder body with the specific Special Springs grease.