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.

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.

Special Springs along with its own global network are pleased to help you anytime for the best result of your work.

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

1. Remove the protective case cap from the charging hole. Take carefully the valve retaining screw. Place the case cap from nozzle.

2. Thread the discharging device (SC150B) on the charging hole. For safety reasons, fasten the nut completely.

3. Slowly pull the valve and the bushing. Then unthread the discharging device from the discharging hole.

4. Unthread the valve and the bushing. By using the crowbar (39PM02A) remove the valve retaining screw to allow easier disassembly.

5. Set the positioning tube on the end of the valve, then by hand insert the valve retaining screw into the valve positioning hole. 

6. Insert the positioning tube over the end of the cylinder body. Then insert the protective screw cap inside the bushing by using the previous valve retaining screw.

7. Position the valve retaining screw into the conical centring guide tube. Pull completely the valve unit piston-rod and bushing.

8. Cut-off of the piston-rod bushing and retaining C-ring correctly positioned.

9. Check the correct assembly of the valves and bushing, using the proper tool.

10. Adjust the required maximum pressure through the regulation valve. The gauge on the left will indicate the cylinders pressure. Ensure for an easy and safety work carefully follow the instructions supplied with the charging unit.

11. Check leaks on the charging port after the maintenance work and before re-using the cylinders by using the special gas detector.

II. RETAINING RING REMOVAL.

1. Cut-off of the cylinder to see the light for each cylinder model.

2. Clamp the cylinder into a self-centring chuck or a vise.

3. By using the T-handle M6 (39DMCPVA) remove the protective screw cap.

4. Carefully check and clean the O-ring on the assembled bushing, then by the manual press (39QDFV) remove the bushing from the rod head threaded hole, pull completley the unit piston-rod and bushing.

5. Thread the protective screw into the conical centring guide tube. When the C-ring correctly positioned, take the piston-rod you have just pulled from the charging unit.

6.8 Digital force tester, for an easy and safety work carefully follow the instructions supplied with the charging unit.

7. Digital force tester adapter for direct charging.

8. More precise force from aiming cart can be carried out by using the digital force testing rig.


10. It is strongly recommended to check leaks on the charging port after the maintenance work and before re-using the cylinders by using the special gas detector.

11. Take the new assembled bushing and centring guide tube, using the specific Special Springs grease compound supplied with the repair kit.

12. Thread the protective screw on the charging hole by using the appropriate tool.


14. Thread the protective screw into the conical centring guide tube. Pull completely the unit piston-rod and bushing.

15. Lubricate inside the cylinder body with the specific Special Springs grease compound supplied with the repair kit.

16. Slide down the assembled bushing into the patron shoulder.

17. Grease the O-ring of the assembly, using the new specific Special Springs grease compound supplied with the repair kit.

18. Centrally clean through the charging hole with an air gun, then dry the hole with compressed air and retain it to the conical centring guide tube.

19. Cut-off of piston-rod with the one way valve retaining screw correctly positioned. M6 one way valve retaining screw. 

20. By using the special gas detector, check leaks on the charging port after the maintenance work and before re-using the cylinders by using the special gas detector.

21. Check the pressure regulation valve. The gauge on the left will indicate the cylinders pressure. Ensure for an easy and safety work carefully follow the instructions supplied with the charging unit.

22. Check the correct assembly of the valves and bushing, using the proper tool.

23. Thread the protective screw into the conical centring guide tube. When the C-ring correctly positioned, take the piston-rod you have just pulled from the charging unit.

24. Check and clean through the charging hole with an air gun, then dry the hole with compressed air and retain it to the conical centring guide tube.

25. Cut-off of the piston-rod bushing and retaining C-ring correctly positioned.

26. Reassemble the retaining C-ring.

27. Digital force tester adapter for direct charging.

28. More precise force from aiming cart can be carried out by using the digital force testing rig.

29. Special Springs gas detector.

V. VALVE REASSEMBLY.

1. Thread the protective screw on the charging hole by using the appropriate tool.

2. Thread the protective screw into the conical centring guide tube. Pull completely the unit piston-rod and bushing.

3. Check the correct assembly of the valves and bushing, using the proper tool.

4. Adjust the required maximum pressure through the regulation valve. The gauge on the left will indicate the cylinders pressure. Ensure for an easy and safety work carefully follow the instructions supplied with the charging unit.

VII. REASSEMBLY OF THE RETAINING C-RING.

1. Cut-off of piston-rod bushing and retaining C-ring correctly positioned.

2. By using the crowbar (39PM02A) remove the valve retaining screw to allow easier disassembly.

3. Thread the valve retaining screw into the conical centring guide tube. Pull completely the valve unit piston-rod and bushing.

4. By using the T-handle M6 (39DMCPVA) remove the protective screw cap.

5. Carefully check and clean the O-ring on the assembled bushing, then by the manual press (39QDFV) remove the bushing from the rod head threaded hole, pull completley the unit piston-rod and bushing.

6. Cut-off of the cylinder to see the light for each cylinder model.

7. Clamp the cylinder into a self-centring chuck or a vise.

8. By using the T-handle M6 (39DMCPVA) remove the protective screw cap.

9. Carefully check and clean the O-ring on the assembled bushing, then by the manual press (39QDFV) remove the bushing from the rod head threaded hole, pull completley the unit piston-rod and bushing.

10. Cut-off of piston-rod with the one way valve retaining screw correctly positioned. M6 one way valve retaining screw. 

11. Check leaks on the charging port after the maintenance work and before re-using the cylinders by using the special gas detector.

12. Take the new assembled bushing and centring guide tube, using the specific Special Springs grease compound supplied with the repair kit.

13. Thread the protective screw on the charging hole by using the appropriate tool.

14. Thread the protective screw into the conical centring guide tube. Pull completely the unit piston-rod and bushing.

15. Check the pressure regulation valve. The gauge on the left will indicate the cylinders pressure. Ensure for an easy and safety work carefully follow the instructions supplied with the charging unit.

16. Check and clean through the charging hole with an air gun, then dry the hole with compressed air and retain it to the conical centring guide tube.

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