

Hex T-key	Discharging device. BLUE side for M6 hole GOLD side for 1/8"G hole	Special Springs along with its own global net- work are pleased to help you anytime for the best result of your work.	H2400E Cu 100 ÷ 300 Cod. 39BMH02400DH H4200E Cu 25 ÷ 80 Cod. 39BMH04200D H4200E Cu 100 ÷ 300 Cod. 39BMH04200DH H6600E Cod. 39BMH06600DH
Gas detector	Cod. 58PKNIPEX	Before starting any maintenance work, carefully check if the rod or the body of the gas springs are damage or wear. If yes, it is recommended to replace the gas spring immediatley and do not procede with the maintenance operation.	H9500D Cod. 39BMH09500C H18500D Cu ≥ 38 Cod. 39BMH18500C H20000A Cu ≥ 38 Cod. 39BMH20000A
Potential supplier www.tecnogas.net	Multipurpose pliers with spouts.	Before starting any maintenance work carefully check the maintenance kit to correspond to the model of gas spring for which is required.	
Cod. 58CD01	Cod. 58EM06A Cod. 58EM08A	Before starting any maintenance work carefully check this step-by-step manual to correspond to the model of gas spring for which is requied.	NITROGEN GAS SPRINGS MAINTENANCE INSTRUCTIONS
Torque wrench for one way valve.	T-handle to remove piston-rod + bushing.	Instructions and pictures of this step-by-step manual could slightly differ from practise.	SC 150 E SC 200 A SC/SCF 250 E
Cod. 39PM02A	Cod. 58UT002A (SC1500-H2400) Cod. 58UT003A (SC3000-H4200) Cod. 58UT004A (SC5000-H6600) Cod. 58UT005A (SC7500-H9500) Cod. 58UT006A (SC10000-H18500)	A ROTECTS	SC 500 E SC 750 E SC 1500 E SC 3000 E SC 5000 E
Table manual press for easy and safe positioning of components.	Screw extracting device for rod and bushing.		SC 7500 E SC 10000 E H 300 D
Cod. 49TP016 (SC150-SC200-H300) Cod. 49TP020 (SC/SCF250-H500) Cod. 49TP024 (SC500-H700) Cod. 49TP030 (SC750-H1000) Cod. 49TP036.5 (H1500) Cod. 49TP046 (SC1500-H2400) Cod. 49TP061.5 (SC3000-H4200) Cod. 49TP061.5 (SC5000 H6600)	Cod. 49TC016 (SC150-SC200-H300) Cod. 49TC020 (SC/SCF250-H500) Cod. 49TC024 (SC500-H700) Cod. 49TC030 (SC750-H1000) Cod. 49TC036.5 (H1500) Cod. 49TC046 (SC1500-H2400) Cod. 49TC061.5 (SC3000-H4200) Cod. 49TC0815 (SC5000 H6600)	All Special Springs step-by-step manuals are available for download from our web site: www.specialsprings.com	H/HF 500 D H 700 E H 1000 E H 1500 D H 2400 E H 4200 E
Cod. 49TP106.5 (SC7500-H9500) Cod. 49TP095 (SC10000-H18500-H20000)	Cod. 49TC106.5 (SC7500-H9500) Cod. 49TC095 (SC10000-H18500-H20000) Reassambly positioning tube for the retaining C-ring	SGS 2014/68/EU	H 6600 E H 9500 D H 18500 D
		9801C15302021 © All right reserved.	H 20000 A
Cod. 49TN023 (SC150) Cod Cod. 49TN027 (SC/SCF250-H500) Cod Cod. 49TN032 (SC500-H700) Cod Cod. 49TN036 (SC750-H1000) Cod Cod. 49TN045 (H1500) Cod	d. 49TN055 (SC1500-H2400) d. 49TN070 (SC3000-H4200) d. 49TN088 (SC5000-H6600) d. 49TN117 (SC7500-H9500) d. 49TN148 (SC10000-H18500-SC20000)	Special Springs S.r.I. via Nardi, 124/A 36060 Romano d'Ezzelino (VI) ITALY Tel +39 0424 539181 Fax +39 0424 898230	
Anti scratch nylon tube		info@cnooialcoringc.com	SPECIAL SPRINGS

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I. HOW TO REMOVE THE OVER STROKE MARKER.



1. Position and clamp the gas spring into a selfcentring chuck or a vice.



2. On the upper side of the gas spring's body, find the indicating tooth the center of the discharging grooves on the OSM ring and the discharging and keep it in contact with the Over Stroke Marker (OSM) ring. grooves





5. By using a rubber mallet, hit the flathead screwdriver to break the OSM ring halfway.



24. Lubricate inside the gas spring body with the specific Special Springs oil supplied with the repair kit. Pay attention to the quantity as indicated for each gas spring model

IX. REASSEMBLY OF THE RETAINING C-RING.



Model

SC200

SC150

SC/SCF250

SC500

SC1500

SC3000

SC5000

SC7500

volume of 5 ml.



25. Set the positioning tube on the upper part of the gas spring body, then manually insert the piston-rod and the assembled bushing into the positioning tube. 49TC... . positioning tube.

26. Insert the positioning tube over the rod in contact with the upper side of the assembled bushing, then by the manual press, press down into the gas spring body, the piston rod and the assembled bushing. 49TP... positioning tube. 39PM02A manual press.



6. Remove the broken Over Stroke Marker (OSM) ring from its location with a pliers. Clean any residual material



7. Remove the charging plug from the charging hole by using the appropriate tool. Preserve the charging plug for further reassembly. 58CE05 for the 1/8 G port. 58CE03 M6/3 for the M6 port

ROTECA

II. DISCHARGING + VALVE REMOVAL for self-contained gas springs.

8. Thread DDS discharging device on the charging port then exhaust completely the pressure. Point away from the operator for maximum safety. 39DDS01A BLUE side for M6 hole GOLD side for 1/8"G hole

9. Make sure that no gas remains inside the gas spring by A PARTIALLYA compressing the rod into the body, then remove the discharging device from the charging hole.

Risk of OSAS

safety activation in case of excessive rod compression.

III. DISCHARGING non self-contained gas springs.



10. Hang and release the one way valve from the hole by using the appropriate tool. Some oil leaks may occur when gas spring is upside down. 58CD01 one way valve removingsetting dynamometric wrench.

A. To exhaust pressure of hosed cilynders open the discharging valve on the control panel.



B. Make sure that no gas remains inside the gas springs connected to the system by A PARTIALLY A compressing the rods into the bodies.

IV. RETAINING RING REMOVAL.



11. Position the anti scratch nylon **11.1.** Cross section view of gas spring removal tube (49TN ...) on the bush



12. Position and clamp the gas spring to see the right position of the bush into a self-centring chuck or a vice.



12.1. Position the extremity of the retaining ring at about 15 mm from the



the adapter, after the desired pressure is reached, shut off the hose and

bottle valves and disconnect the quick

fit coupling. For an easy and safe

operation carefully follow the instruc-

tions supplied with the charging unit.

39DMCPVA charging unit. **39QDFV...** adapter for direct charging.



from the charging hole.

sure indicated for any specific model 39DMA charging unit.



29.1. Cross section view with all

components correctly assembled.



34. When directly charging throught 35. Thread and relase the adapter 36. More precise force control can be 37. It is always recommended to check leaks on the charging port after



gas bottle, then open the main tap. The gauge on the left will indicate the 39RHP... pressure reducer. 39RHP... pressure reducer.

31. Adjust the required maximum pressure trought the regulation valve. The gauge on the right will indicate the maximum allowed pressure to

28. Insert the positioning tube in contact

with the retaining C-ring , then by the

manual press, press down the retain-

ing C-ring into the groove. When the

C-ring enters correctly into the groove you will hear a loud like "CLICK"

49TP.... conical centring guide tube.

39PM02A manual press.

32. Select and assemble the desired charging adapter and thread it on the charging port. For an easy and safe operation carefully follow the instructions supplied with the charging unit. do NOT exceed the maximum pres-

ing unit 39DMA charging unit.



carried out by using the digital force



bottle pressure.

27. Position the retaining C-ring into

the conical centring guide tube.

charge the gas spring.



29. Manually extract the assembly

piston-rod/bush untill it rests against

the C-rina

58FM06Å T-handle M6

58EM08A T-handle M8



then by the manual press (39PM02A) press all down into the body. The retaining ring is now free for an easy removal. A Risk of OSAS safety activation in case of excessive rod compression 🔺

and C-ring after operation.

groove centre.

V. PISTON ROD + BUSH REMOVAL.

14. By using the T-handle M6/M8

(58EM ...) extract the piston-rod and

the bush from the body (only model

SC150÷750; H700÷1500). By using

the proper Screw extracting device

(58UT...) extract the piston-rod and the bush for other models.

Discharging groove where to insert the screwdriver

13. By inserting the screwdriver on the appropriate discharging groove, between the retaining ring and the body border, remove the ring as indicated. Use the pliers (58KNIPEX) to avoid that the ring comes out sharply. Use the flat screwdriver 2,5 x 75.

VI. CLEANING AND INSPECTION



16. Carefully check and clean the gas spring body. If the body show any wear or damage do not use it again and replace it with a new one.



VIII. REASSEMBLY OF PISTON-ROD AND BUSH.



18. Carefully clean the lodging hole of the valve with compressed air and then position the new one way valve supplied along with the maintenance kit. Pay attention to its right position.



Discard the bush.

19. Position and thread the one way valve into the hole by using the appropriate special dynamometric tool already calibrated. Torque force required maximum 0,6 Nm. Do not exceed the maximum torque force indicated to not damage the one way valve 58CD01 dynamometric wrench.

15. Slide off the bush from the rod.

41. Place the positioning tube making sure that it is in perfect contact with the Over Stroke Marker. Then push with the press and place the Over Stroke Marker ring into its location. The correct positioning will produce a sound like a "CLICK" 49TB.... Positioning tube. 39PM02A Manual press.

41.1. Example of a cross section view. in which the Over Stroke Marker ring can be seen assembled correctly.

appropriate tool.

58CE05 for 1/8G charging port

58CE03 for M6 charging port.

testing rigs. FT... Digital force tester

the maintenance work and before re-using the gas springs by using the gas detector.

XI. HOW TO INSERT THE OVER STROKE MARKER.



40. Direct the V-shaped discharging section, as shown in the image. Place the 39. Thread the protective screw Over Stroke Marker by aligning the indicator tooth with the discharging grooves. into the charging hole by using the

XII. CHARGING AND FORCE TEST for non self-contained gas springs.





A. After positioning and hosing all the gas springs, proceed through the quick fit device trough the control panel for charging all the gas springs. Make sure that the discharging valve is closed properly (15 Nm). 39DMCPVA control panel charging

B. Adjust the required pressure on the regulation valve on the bottle. The gauge on the right will indicate the maximum allowed pressure to charge the gas springs.

39RHP... pressure reducer.



20. Lubricate all the installed components into the assembled bush with the Special Springs grease.



21. With the manual press (39PM02A) insert the assembled bush into the rod. Pay attention to position it on the right side, follow the laser print arrows on the bush. (**↑TOP**)



22. Slide down the assembled bush to the piston shoulder



23. Grease the external seal on the assembled bush with the specific Special Springs grease.



C. Connect the female quick fit on the male quick fit on the panel and open the gas tap. For an easy and safety work carefully follow the instructions supplied with the charging unit. **39DMCPVA** control panel charging unit.



D. It is always recommended to check leaks on all connection to and from the gas spring by using the gas detector.



unit.

E. It is always recommended to check leaks on the upper side of the gas springs after the maintenance work and before re-using the gas springs by using the gas detector.



