

SCLW Gas Spring Repair Instructions

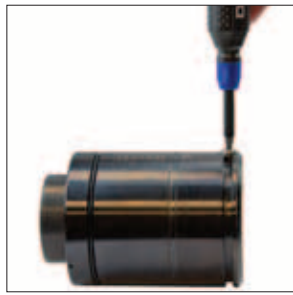
CAUTION: Always wear safety goggles when performing any maintenance work.

This service manual is a simple step-by-step maintenance guide for DADCO Nitrogen Gas Spring SC Series Weldment Models SCLW.07500, SCLW.11800 and SCLW.18300. Typically, these gas springs can be rebuilt by simply replacing the piston rider and piston seal. After reviewing this maintenance guide, if you require any additional training or have any questions please contact DADCO for assistance.

I. Exhausting Pressure



1. When exhausting pressure, position the gas spring port facing up.



2. Remove the port plug, and sealing washer, (90.505.110), located on the bottom of the spring with the Port Servicing Tool, (90.320.8). Retain parts for use during reassembly.

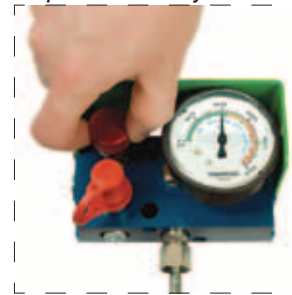


3. Keeping face and hands clear of the port, use the Valve Bleed Tool, (90.360.4), or the Port Servicing Tool, (90.320.8), to depress the Compact Valve (90.260). Cover the port with a cloth to absorb discharge.



4. After all the gas pressure is exhausted, be sure that the piston rod will freely retract into the tube manually. If not, try depressing the valve again. If still unsuccessful **STOP** and contact DADCO.

Open-flow only



1. Exhaust nitrogen gas by opening the bleed valve on the control panel and verify that all pressure is relieved by manually retracting the piston rod into the tube. If the rod will not fully retract, **STOP** and contact DADCO.



2. Remove the mount, securing the cylinder to the plate, if necessary. Unthread the service fitting from the port and wipe with a clean cloth. Retain parts for use during reassembly.

II. Port Maintenance



1S. Generally the valve does not need replacing. Only if the valve appears damaged, is leaking pressure or sticking proceed to step 2S, otherwise leave the valve undisturbed and proceed to "III. Rupture Disk."



2S. Remove the Compact Valve, (90.260), by unscrewing it with the Port Servicing Tool, (90.320.8). Thread a new Compact Valve, (90.260), into the port until it fits snugly on the seat. Avoid over torquing the valve.



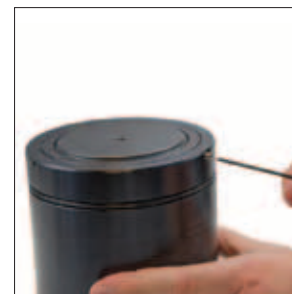
1L. Check the port for deposits or burrs and clean thoroughly. Inspect the service fitting and replace if it shows signs of damage. Lubricate threads and seals on the fitting and thread the service fitting into the gas spring port.

III. Rupture Disk



1. Visually inspect the rupture disk located at the bottom of the gas spring for damage. If damaged, remove with the Port Servicing Tool, (90.320.8), and replace with a new rupture disk (RD-400G).

IV. Wiper Retainer Removal



1. Using a 2 mm allen wrench, unthread the three set screws at the top of the gas spring, but keep them installed. The set screws are easily lost if removed completely.



2. Using the Port Servicing Tool, (90.320.8), pry the Wiper Retainer from the top of the gas spring and retain for reassembly.

V. Spirolox Retainer Ring and C-Ring Removal



1. Using the Port Servicing Tool, (90.320.8), start at the tab and begin to pry up the Spirolox Retainer Ring.



2. Continue moving around the Spirolox Retainer Ring until removed. Keep the ring for reassembly.



3. Tap the top of the rod until the rod and housing are below the retaining ring groove.



4. Remove the C-Style Retaining Ring, (90.285.80.x.), using the C-Ring Removal Tool, (90.356). Position the hooked end of the tool below the c-ring. For best results locate the tool near either end of the c-ring.



5. Once the hooked end of the tool is firmly seated below the c-ring, begin pushing it toward the outside of the gas spring can. The handles will close naturally, and the c-ring will be extracted as you complete this motion. For a detailed explanation of c-ring removal see bulletin B15127A.

VI. Rod & Cartridge Removal



1. To remove the Rod and Cartridge Assembly thread a T-Handle, (90.320.1 or 90.320.2), into the rod end. Pull the entire assembly out of the Tube Assembly. The spring body can be held in a vise (with soft jaws) while pulling out the assembly.



2. Once the cartridge and rod are removed from the Tube Assembly slide the cartridge off the rod and set aside for reassembly.



3. Remove the Piston Rider from the Rod Retainer and discard.



4. Remove the Seal from the Rod Retainer using the Port Servicing Tool, (90.20.8), and discard. Be careful not to scratch the rod.



1. Lightly polish the rod surface with an emery cloth (600 grit). Inspect the seal groove for any scratches or gouges. If the groove is damaged then the rod must be replaced.



2. Inspect the Tube Assembly for any damage, especially around the mouth of the Tube Assembly. Lightly polish out any scratches at the mouth of the Tube Assembly to avoid damaging seals during the reassembly process. If damage to the Tube Assembly is severe it must be replaced. Wash, clean and dry the inside thoroughly.

VIII. Reassembly



1. Choose the appropriate seal kit. The seal kit number is laser marked on the back of the Tube Assembly. **NOTE:** Seal kits are not interchangeable among models.



2. Install the new Seal onto the Rod Retainer.



3. Snap the new Piston Rider onto the Rod Retainer.



4. Slide the Cartridge Assembly onto the rod, making sure that the wiper end marked "TOP" is facing up.



5. Lubricate the seal with a few drops of the DADCO Assembly Oil, included in the seal kit.



6. Lubricate the inside wall of the Tube Assembly with all remaining DADCO Assembly Oil.

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VIII. Reassembly (Continued)



7. Place the rod and cartridge into the Tube Assembly. Use the Valve Bleed Tool, (90.360.4), or Port Servicing Tool, (90.320.8), to depress the valve to release any back pressure. Position the top of the cartridge just below the retaining ring groove.



8. Insert the C-Style Retaining Ring in the retaining ring groove using a DADCO C-Ring Installation Tool, (90.352). Be sure the C-Style Retaining Ring is fully seated in the retaining ring groove. For a detailed explanation of c-ring installation, see bulletin B01101D.



9. Thread the T-Handle, (90.320.1 or 90.320.2), into the end of the piston rod. Pull up on the T-Handle until the top of the cartridge is completely past the c-ring.



10. Insert the Spirolox Retaining Ring in the retaining ring groove using the Port Servicing Tool, (90.320.8). Be sure the Spirolox Retaining Ring is fully seated in the groove.



11. Install the Wiper Retainer. Tap with a soft mallet until the top of the Wiper Retainer rests flush with the top of the can. The rod wiper should be visible.



12. Thread the T-Handle, (90.320.1 or 90.320.2), into the end of the piston rod. Pull up on the T-Handle to verify the cartridge is completely past the c-ring. The rod must seat the cartridge assembly fully before continuing. Make sure the rod is extended to its proper stroke length. (If needed, depress the valve to facilitate full rod extension.)

IX. Charging

Self-Contained Mode



11. Using a 2 mm allen wrench, tighten the three set screws at the top of the gas spring.



1S. Thread the Quick Disconnect Charging Nipple, (90.310.111), into the port of the gas spring. Connect the female end of the charging assembly to the charging nipple and pressurize the gas spring. Do not exceed the maximum charging pressure of 150 bar (2175 psi). The DADCO Pressure Analyzer, (90.315.5), can also be used for charging, discharging and gauging pressure in self-contained gas springs.



2S. Check for leaks at the top of the tube around the rod and at the base around the valve compartment by using mineral oil or water to test for leaks. Verify the pressure with a DADCO Load Cell using a DADCO Portable Test Stand, (90.305.3).



3S. Securely re-install the Port Plug, (90.505.110).

Linked Mode



1L. Install the fitting into the port and pipe all gas springs back to the control panel, making sure that all connections are tight and that gas spring rods are extended.

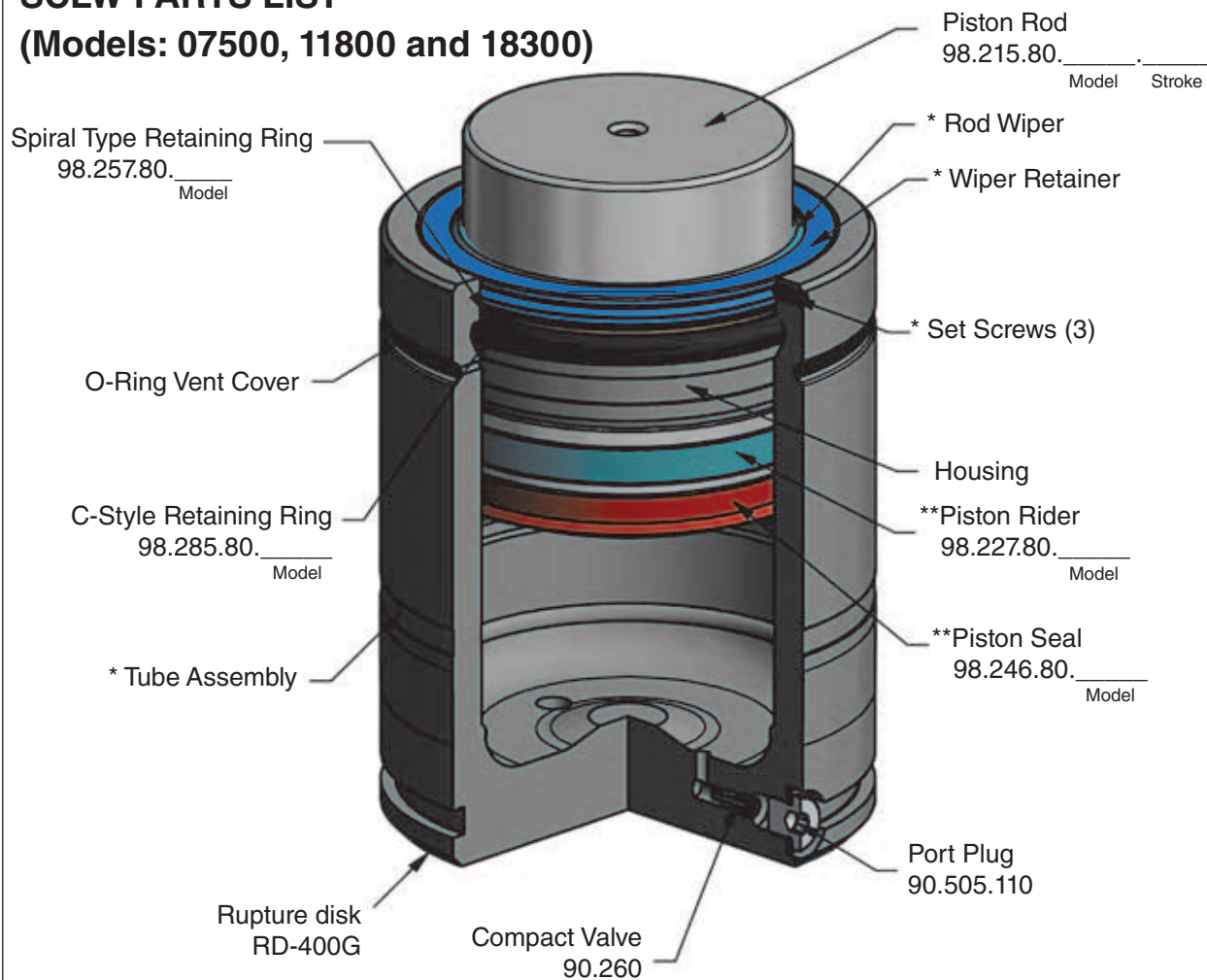


2L. Attach Charging Assembly (90.310.040) to the quick disconnect filler valve on the control panel and pressurize the system. Do not exceed the maximum charging pressure of 150 bar (2175 psi).

REPAIR TOOLS

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| <p>Port Servicing Tool 90.320.8</p>  | <p>C-Ring Installation Tool 90.352</p>  |
| <p>Valve Bleed Tool 90.360.4</p>  | <p>Quick Disconnect Charging Nipple: Self Contained 90.310.111 (G 1/8 Port)</p>  |
| <p>T-Handle 90.320.1 (M6) 90.320.2 (M8)</p>  | <p>C-Ring Removal Tool 90.356</p>  |

**SCLW PARTS LIST
(Models: 07500, 11800 and 18300)**



* These parts are not to be removed or replaced. ** These parts are included in the Seal Kit. Contact DADCO for assistance.

DADCO®
**Nitrogen Gas Spring
 Maintenance Instructions**
**Super Compact SCLW Models:
 SCLW.07500, SCLW.11800
 and SCLW.18300**
 Bulletin No. B18106

Comprehensive Guide

This service manual is a step-by-step maintenance guide for DADCO's Super Compact (SC Series) Nitrogen Gas Springs Weldment Option Models: SCLW.07500, SCLW.11800 and SCLW.18300.

Proper repair requires careful examination of all component parts and replacement of any that are worn or damaged. All DADCO replacement parts are available from factory stock.

After reviewing this maintenance guide, if you require any additional training or have any questions please contact DADCO for assistance.

Note: DADCO Nitrogen Gas Springs are permanently marked with model number, serial number and repair kit number. Please refer to these when ordering replacement parts.