

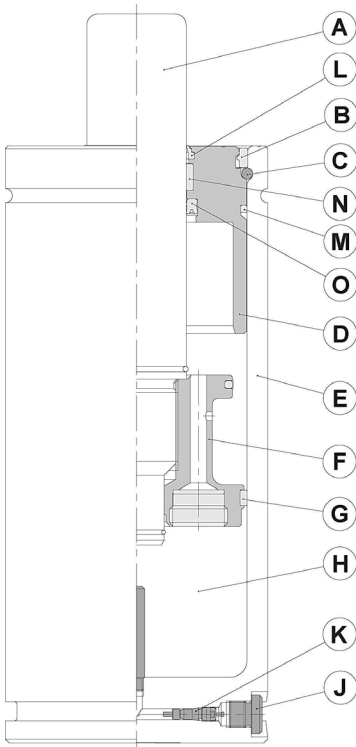
Gas Spring Models

SPC 750
SPC 800
SPC 1500
SPC 3000
SPC 5000



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SERVICE INSTRUCTION



Please Note!

Actual gas spring design may appear different from what shown here.

- A) Piston rod
- B)* Dirt protection ring
- C)* Lock ring
- D)** Guide
- E) Tube
- F) Piston
- G)* Guide ring
- H)* Oil
- J)* Cover screw
- K)* Valve
- L)* Scraper
- M)* O-ring
- N)* Guide ring
- O)* Rod seal

* = Parts included in the repair kit

**=Separate repair kit including the guide also is available


Warning!

- **Always read the permanently marked information on the side of the tube before service to make sure you use the correct repair kit.**
- Failure to exhaust all gas pressure prior to disassembling could result in serious injury.
- The maximum charging pressure is 150 bar (2175 psi)
- Use only pure nitrogen gas (N₂) for charging.
- Once the cover screw is removed, never lean directly over the valve. Always direct the valve port away from yourself and others.

- Never use extreme force on the gas spring. Charged gas springs are under high internal pressure and should be protected against damage.
- Always use protective jaws when clamping the spring in a vice.
- To achieve maximum service life, keep the gas spring protected from dirt, drawing fluids, and grinding dust.
- Always wear protective equipment incl. safety goggles and rubber gloves, whilst servicing the gas spring in a well ventilated area. Avoid direct contact with gas spring lubricants and inhalation of any exhausting gases.
- Only specially trained personnel with good knowledge of the products should carry out the maintenance.

Disassembly

- 1) To obtain an easy working position, clamp the spring in a vice (use protective jaws). Clamp the gas spring in a leaning position (about 30°) with the piston rod upwards. Point the valve port upwards to prevent oil from leaking out during the service.
- 2) Unscrew the cover screw (J) on the tube using 5 mm Allen key.
- 3) Empty all gas from the spring. Release it by screwing the threaded end of the valve tool into the gas port until the valve opens.


 **Warning! The valve (K) must not be unscrewed until the piston rod can be pushed down by hand or with a rubber mallet.**

Once the gas is released use the opposite end of the valve tool to unscrew the valve. Pull the valve from the port with a pair of needle nose pliers.

- 4) Tap the guide (D) into the tube, using a socket and rubber mallet, until the lock ring (C) is exposed. Remove the dirt protection ring (B) which becomes loose during the procedure.

Note! For model SPC 1500, the dirt protection ring must be removed first before the guide is tapped down into the tube.

- 5) Remove the lock ring (C) using the lock ring tool.

 **Warning! The lock ring could fly out, be sure to wear safety goggles.**

- 6) Pull out the piston rod (A) including the piston (F) and the guide (D), using the T-handle.
- 7) Remove the guide ring (G) and the guide (D) from the piston rod.
- 8) Remove the guide ring (N), rod seal (O), scraper (L) and O-ring (M) from the guide (D).
- 9) Save the piston rod (A), the tube (E), the piston (F) and the guide (D).

Inspection

- 10) Thoroughly clean the tube, the piston rod, the piston and the guide.
- 11) Closely inspect the piston rod, the piston, the guide and the tube. There should be no scratches or dents on the inside surface of the tube, the piston rod or the lock ring grooves. If these parts are scratched or damaged in any way, then the gas spring cannot be repaired and has to be replaced.

Assembly

⚠ Warning! As a precaution before you begin to assemble the gas spring, gently place the piston rod into the tube. Be careful not to damage the safety plug in the bottom of the gas spring. If the gas spring is equipped with a safety plug the piston rod top should be raised 1-2 mm from the tube top. If there is no safety plug the piston rod top should be flush with the top of the tube.

- 12) Unpack the repair kit. Make sure the correct repair kit is being used.
- 13) Fit the rod seal (O), guide ring (N), scraper (L) and O-ring (M) onto the guide.
- 14) Lightly oil the seals and the guide ring on the guide (D).
- 15) Fit the guide (D) on the piston rod (A).
- 16) Oil the inside of the upper tube end to prevent damage to the guide O-ring.
- 17) Fill the tube with the appropriate oil volume (see table below),

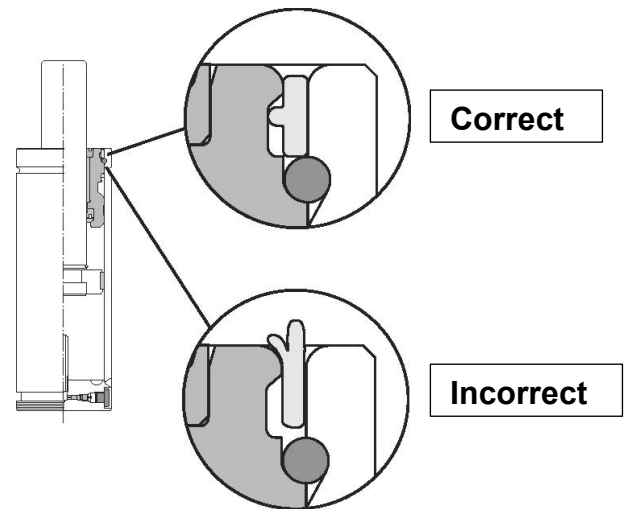
Model	Oil
SPC 750	30 ml
SPC 800	30 ml
SPC 1500	40 ml
SPC 3000	60 ml
SPC 5000	120 ml

- 18) Insert the piston rod with guide into the tube. Tap down the guide (D) using a socket and rubber mallet until the lock ring groove is exposed
- 19) Fit the lock ring (C) into the groove in the tube by pushing one of the lock ring ends into the groove, steadying it with your thumb and then hit the ring inwards until it snaps into the groove. You can hear a clicking sound when the ring snaps into position.
- 20) Pull out the piston rod (A) and the guide (D) using the T-handle. Pull until the guide stops against the lock ring (C) and is flush with the tube end.

⚠ Warning! If the top of the guide is not in line with the top of the cylinder tube, the assembly is incorrect. DO NOT charge the spring. Charging an incorrectly assembled spring could result in serious injury.

- 21) Using the valve tool fit the valve (K) into the charging port. Finger strength is enough to tighten the valve.

- 22) Oil and fit the dirt protection ring (B) so it snaps into to the groove in the guide (see picture below).



The function of the dirt protection ring is to prevent dirt from coming into the gas spring and also prevent the guide from falling into the tube when the spring is uncharged.

For gas charging see Gas Charging Instruction 8200-1873 available at kaller.com