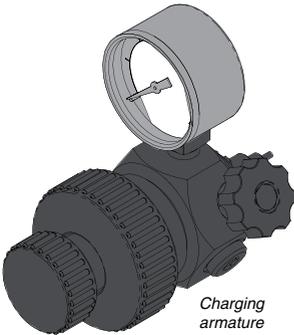

**SERVICE
INSTRUCTIONS**
8200-1477-01

 **KALLER**[®]
The Safer Choice

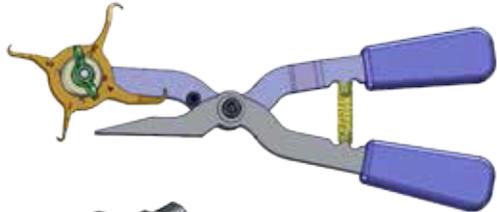
Compact Xtreme CX
500
1000
1900



*M8 T-handle with
M6 extension*



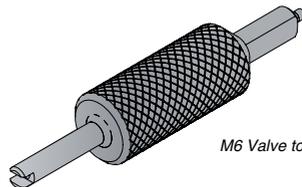
*Charging
armature*



Lock ring tool



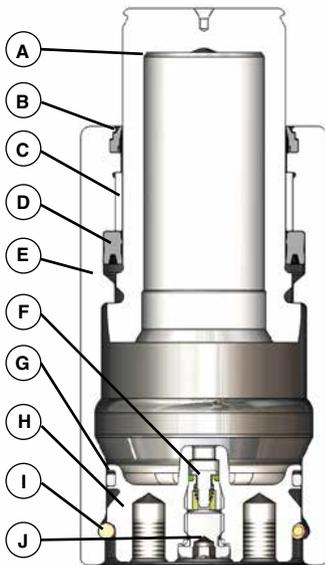
M6 charging adapter



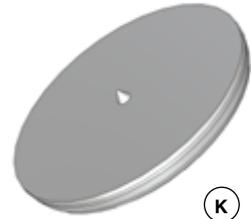
M6 Valve tool

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SERVICE INSTRUCTIONS



- A) Piston rod
- B)* Scraper
- C)* Flex ring
- D)* Rod seal
- E) Tube
- F)* Valve
- G)* O-ring
- H) Bottom
- I)* Lock ring
- J)* Cover screw



- K)* Piston rod assembly tool

* = Parts included in the repair kit.

Please note: the repair kit also contains a disposable Piston Rod Assembly Tool (K). Its use is described in Assembly below.

Warnings

- Only specially trained personnel with extensive gas spring servicing experience should carry out the servicing of CX gas springs.
- Always read the permanently marked information on the side of the tube before servicing 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 200 bar (2,900 psi).
- Use only pure nitrogen gas, N₂ for charging.
- Always wear safety glasses, when servicing the gas spring.
- Once the cover screw is removed, never lean directly over the valve. Always direct the valve port away from yourself and others.
- Never use excessive 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 gas spring in a vice.
- To achieve maximum service life, keep the gas spring protected from dirt, drawing fluids and grinding dust.

Disassembly

1. Clamp the gas spring in a vice (fitted with protective jaws). Unscrew the M6 cover screw (J) with a 3 mm Allen key. If there is no gas left in the spring, the bottom (H) can rotate. If so, use the threaded holes at the bottom (H) to prevent the rotation and unscrew the M6 cover screw (J) slightly.
2. If there is still gas pressure in the spring, release it by screwing the threaded end of the M6 valve tool into the charging port until the valve needle opens. The valve (F) must not be unscrewed until the piston rod can be pushed in by hand or be tapped in using a plastic mallet. Then unscrew the valve with the opposite end of the M6 valve tool and remove the valve itself using needle nose pliers.
3. Tap in the bottom (H) using a socket and mallet until the lock ring (I) is exposed. Remove the lock ring with the lock ring tool. Bend the lock ring inwards then upwards.
4. Pull out the bottom (H), using an M8 T-handle with M6 extension.
5. Clamp the gas spring lightly in the vice with the piston rod (A) facing upwards, then tap out the piston rod using a socket and mallet.
6. Remove the scraper (B), flex ring (C) and the rod seal (D) from the tube.

Note! Be careful not to damage the rod seal groove when removing the seal.

Note! The scraper (B) may get damaged when removing the piston rod and therefore should always be replaced with a new one.

SERVICE INSTRUCTIONS

7. Remove the O-ring (G) from the bottom.

Note! Be careful not to damage the over pressure protection groove while disassembling.

Inspection

8. Clean the tube, piston rod and bottom.

9. Closely inspect the sealing groove in the tube, the mechanical stop of the piston rod and the bottom. There should be no scratches or dents on the sealing surfaces of the piston rod and tube, or the lock ring grooves. If these parts are scratched or damaged in any way then they should be replaced. Also never use tubes with external pressure marks.

Assembly

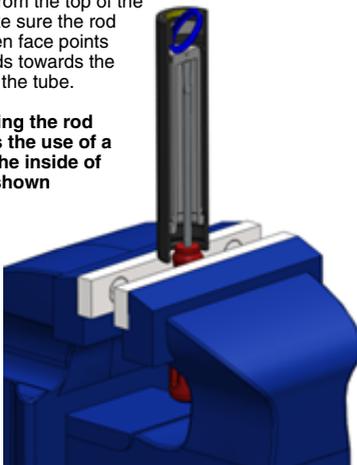
10. Unpack the repair kit. Check to make sure that all parts are contained in the kit by comparing the contents to the picture in this service instruction. Discard all parts that are to be replaced with new ones from the repair kit.

11. First fit the scraper (B) into the top of the tube. Make sure the scraper sits correctly in the groove with the lip pointing upwards.

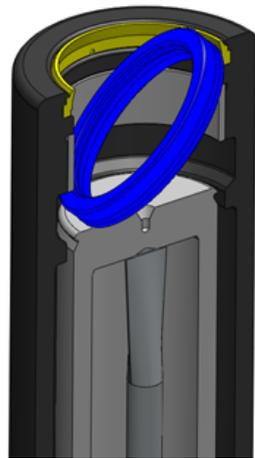
12. Mount the flex ring (C) into the tube from the bottom. You may need to hold it in place with a little gas spring grease in the flex ring groove.

13. Mount the rod seal (D) into the tube from the top of the tube. Make sure the rod seal's open face points downwards towards the bottom of the tube.

Note! Mounting the rod seal requires the use of a stop within the inside of the tube as shown here.

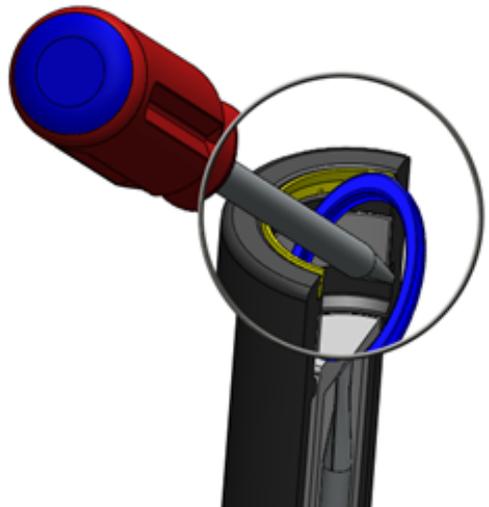


Here a screwdriver has been clamped in a vice and the piston rod mounted onto it. The height has been adjusted so that when the tube rests on the jaws of the vice, the top of the piston rod and the rod seal groove's lower lip are at the same height.



The rod seal is squashed together before inserting it into the top of the tube. Once contact is made with the stop, the rod seal gets pushed sideways and into the rod seal groove.

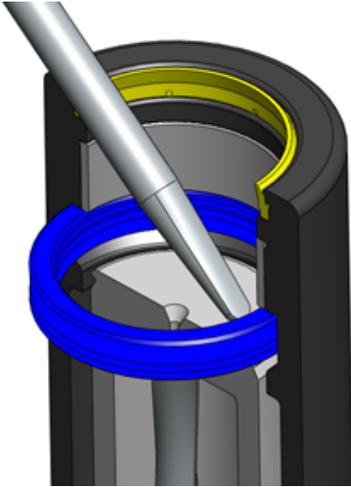
It may also be necessary to use a rounded and polished, flat headed screwdriver to hold up the flex ring whilst inserting the rod seal.



Care must be taken not to damage the rod seal groove in the tube with the screwdriver.

SERVICE INSTRUCTIONS

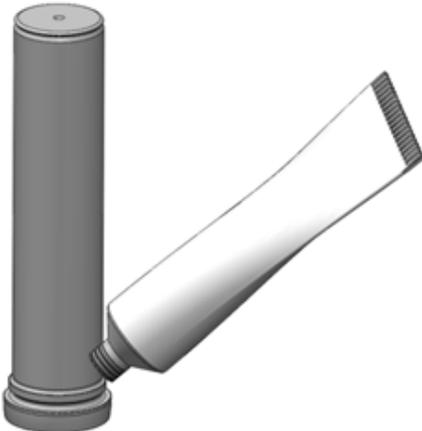
The same rounded and polished, flat headed screwdriver can then be used to seat the rod seal in its groove.



14. Mount the O-ring (G) to the bottom.

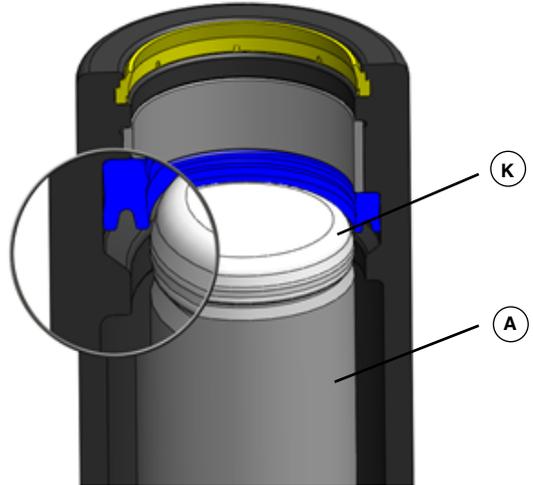
Note! Check that the O-ring is fitted correctly (nitrogen side).

15. Apply gas spring grease to the O-ring (G), scraper (B), flex ring (C) and rod seal (D). Apply gas spring grease also to the lower sealing surface of the piston rod.



16. Mount the piston rod assembly tool (K) to the piston rod. Assemble the piston rod by pressing it into the tube and then tapping it down carefully, using a socket and mallet. Making sure all of the stroke length becomes exposed.

Note! Remove the piston rod assembly tool (K) after assembly and dispose of it appropriately.



17. Next assemble the bottom (H). Tap down the bottom (H) carefully into the tube until the lock ring groove is exposed using a socket and mallet.

Note! Make sure not to pinch the O-ring while tapping down the bottom.

18. Fit the lock ring (I) into the lock ring groove by pushing one of the ends into the groove, then either press or hit the other until it snaps into the groove.

Note! Use the T-handle to pull up the bottom in case the bottom falls down into the tube.

19. Pull out the bottom (H) using the T-handle until the bottom and the tube are flush.

Warning! If the bottom and the tube are not flush, the assembly is incorrect. DO NOT charge the spring. Charging an incorrectly assembled spring could result in serious injury.

20. Mount the valve (F) into the charging port using the valve tool. Tighten only finger tight. The gas spring is now ready for charging.

SERVICE INSTRUCTIONS

Charging gas

We recommend that a replenishing armature with pressure regulator is used (Order No. 3021298-0120).

21. Check that the evacuating valve (P) and the shut-off valve (Q) are closed (turn in a clockwise direction). The release pin (S) should be inside the M6 thread on the armature (turn knob (O) in a counter-clockwise direction).
22. Check that the M6 thread at the end of the armature is equipped with the sealing washer (R). Fit the charging adapter 3014021.
23. Connect the replenishing armature to the gas spring, by means of knob (N), turned in a clockwise direction.
24. Open the nitrogen bottle using knob (Z). Regulate to the desired charging pressure with handle (U) on the regulator (V).

Note! Maximum charging pressure is 200 bar (2,900 psi).

The manometer (X) shows the charging pressure and manometer (Y) shows the bottle pressure.

25. Open the shut-off valve (Q) slowly on the armature and charge as slowly as possible. After charging, the manometer (T) shows the pressure supplied to the gas spring.
26. After charging, empty the gas inside the armature by first closing the shut-off valve (Q) and opening the bleed valve (P) until the gas is released.
27. Unscrew the armature fully using knob (N). Check to make sure that the valve does not leak. If the valve is leaking, it must be replaced. For safety, never lean over the valve!
28. Fit the cover screw (J) on the gas spring, tighten with 2 Nm for M6 cover screw. Note that it has a sealing function and must always be fitted and tightened.
29. When finished with the armature, empty the gas inside the armature and hose by closing the nitrogen bottle using knob (Z) and opening bleed valve (P) and shut-off valve (Q) until all gas is released.

