

PURPOSE OF THE KIT

The kit provides a complete replacement of the plunger rod together with seals for the Katadyn PowerSurvivor 40.

CONTENT OF THE KIT

- Assembled plunger rod with seals
- O-rings and seals
- Backup washer
- Plunger rod bushing
- Spacer
- Wiper block with seal
- Silicone lubricant

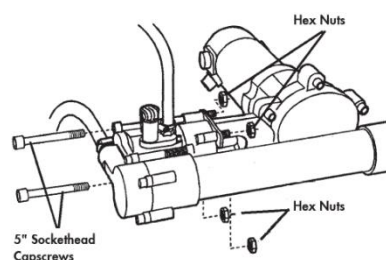
TOOLS REQUIRED

- Torque wrench
- 1/2" open-end wrench
- 1/4" Allen wrench

INSTALLATION PROCEDURE

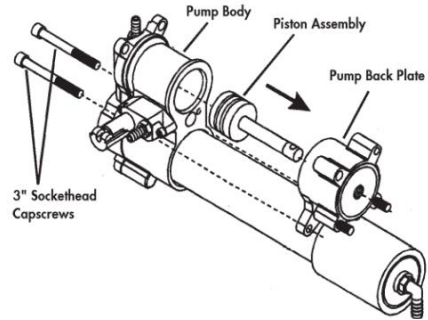
DISASSEMBLY

1. Before beginning disassembly, run the watermaker and stop it when the piston shaft is at its farthest point of travel away from the pump (i.e., toward the drive assembly). This provides enough room for sliding the rubber boot towards the pump in Step 3.
2. Disconnect the pump from the drive assembly by first removing the two hex nuts and 5" socket head cap screws from the check valve plate, using the 1/2" open-end wrench and 1/4" Allen wrench. Also remove the two hex nuts securing the pump back plate to the drive assembly. **See Figure below.**
3. Slide the black rubber boot on the piston shaft towards the pump to expose the drive shaft coupling pin. Use an Allen wrench or similar tool to push the coupling pin out of the drive shaft. Be aware that the coupling pin fits loosely in the drive shaft and may fall out when the rubber boot is removed. Be careful not to lose it. Separate the drive assembly from the pump and set the drive assembly aside.



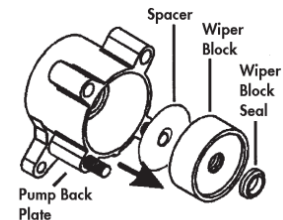
- Remove the two 3" socket head cap screws using a 1/4" Allen wrench. Separate the pump back plate and piston assembly from the pump body. **See Figure below.**

- If the piston assembly remained with the pump back plate when it was removed, pull the piston out of the back plate, and set it aside. If the piston stayed in the main pump body, pull it out of the cylinder. If the piston assembly is difficult to remove from the pump body, insert a small Allen wrench or Phillips screwdriver through the coupling pin hole. This will provide a "t-handle" with a better grip for extracting the piston assembly. **Be aware not to damage the surface of the piston shaft.**



- Remove the large O-ring (8012588) from the groove on the side of the pump back plate that faces the pump body. Remove the wiper block and spacer (if present) from the pump back plate.

- From the side of the pump back plate that contained the large O-ring, insert a round drift of slightly smaller diameter than the hole for the piston shaft. (Note: a small socket on an extension or a wooden dowel makes a suitable drift). Tap the drift with a mallet to drive the two backup washers, two piston shaft seals and the piston shaft bushing out of the pump back body.



- Remove the remaining two 3/4" socket head cap screws from the check valve plate using a 1/4" Allen wrench. Separate the check valve plate from the pump body. If it is difficult to remove, try rotating the check valve plate 90°. This provides a better grip for pulling the check valve plate from the pump body.

ASSEMBLY

1. Before you begin reassembly of the watermaker, clean all disassembled parts using clean, lint-free rags. At this time, they should be carefully inspected for wear or damage. Use a 10x magnifier or loupe to examine the seals, O-rings, and other small parts. Stubborn rust stains and other deposits on metal parts can be cleaned with a soft-metal wire brush (e.g., stainless steel or brass). Do not use polishes, cleaning compounds containing abrasive materials, or regular steel wire brushes. In the following procedure for reassembling the watermaker, it is assumed that all parts have been cleaned and that all O-rings, seals, and mating surfaces have been lightly lubricated with nonpetroleum silicone grease (supplied with this Kit).
2. Lightly lubricate the cylinder and the pump body with silicone grease. Slide the piston assembly, shaft first, into the pump body from the side of the pump body that faces the check valve plate. Install the large O-ring (8012588) into the groove of the pump back plate and lower the pump back plate over the piston shaft. The side of the back plate with the large O-ring should be facing the pump body. **See Figure below.**
3. Slide one of the white backup washers over the piston shaft and press it into the bore in the pump back plate. Next, slide one of the two black rubber piston shaft seals over the piston shaft and work it into the bore on top of the backup washer. Note that the shaft seals are flared out on one side. It is important that the flared (wider) side should be down. Install the second piston shaft seal in the same way. It too should be installed with its flared side facing down. Next, install the second white backup washer and, finally, the white bushing. Press the shaft washers, seals and bushing all the way into the bore. When finished, the outside end of the bushing should be flush with the bore opening.
4. Slide the spacer (if present) followed by the wiper block onto the piston shaft. The side of the wiper block where the seal was pre-installed should be facing outwards.
5. Press the check valve plate over the exposed end of the membrane tube plug. If necessary, rotate the check valve plate to align it accurately with the pump body and install the 3/4" and the 3" socket head cap screws. Check that the two large O-rings (8012588) in the check valve plate and the pump back plate are still seated in their grooves and then tighten the four cap screws evenly with a 1/4" Allen wrench.
6. Slide the two 5" socket head cap screws through the holes in the check valve plate and the back plate. Slide the rubber boot onto the piston shaft.
7. Insert a small screwdriver or an Allen wrench through the hole in the piston shaft and rotate the shaft to align its hole with the hole in the slider shaft of the drive assembly. When they are aligned, slide the holes in the drive assembly bracket over the studs projecting from the pump back plate. Insert the coupling pin through the aligned holes in the slider shaft and piston shaft. Push the rubber boot over the coupling pin to hold it in place.
8. Install the four hex nuts on the studs projecting from the pump back plate through the drive assembly bracket and tighten evenly with a 1/2" open-end wrench and 1/4" Allen wrench. Do not over tighten these fasteners!

