

INSTALLATION INSTRUCTIONS

CHECK VALVE KIT

Power Survivor 40

PURPOSE OF THE KIT

To provide a replacement check valve plate for the PowerSurvivor-40E.

CONTENT OF THE KIT

- Check valve assembly
- O-rings
- Silicon lubricant

TOOLS REQUIRED

- Allen Wrench (1/4")
- 1/2" open end wrench

INSTALLATION PROCEDURE



DIASSEMBLY:

- 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 toward the pump in a later step.
- 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.



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3. Slide the black rubber boot on the piston shaft toward the pump to expose the drive shaft coupling pin. Use a small 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.



- 4. Remove the two 3" socket head caps crews using a 1/4" Allen wrench.
- 5. 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.
- 6. After the check valve plate has been separated from the pump body, the membrane tube plug will remain in either the check valve plate or the pump end of the membrane housing. Use one of the following procedures to remove it:
 - A. If the membrane tube plug remains in the membrane housing, no further actions are required.
 - B. If the membrane tube plug remains in the check valve plate, use a thin edge and/or flat blade screwdrivers, on opposite sides of the membrane tube plug, to carefully pry the plug out of the check valve plate. Avoid damaging the membrane tube plug.

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ASSEMBLY:

- If the membrane tube plug stayed with the membrane housing (according to procedure (A) above), please skip this paragraph. Otherwise, insert the small end of the membrane tube plug into the exposed hole in the membrane element (which should have been left installed in the membrane housing) and press the tube plug into the membrane housing as far as it will go. The ridge on the outside of the tube plug should be flush against the end of the membrane housing.
- 2. Press the piston as far as it will go toward the pump back plate.
- 3. Make sure that an O-Ring is installed into the groove or the check valve plate.
- 4. 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.
- 5. Check again that the two large O-rings 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.
- 7. Slide the rubber boot onto the piston shaft.
- 8. 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.
- 9. Push the rubber boot over the coupling pin to hold it in place.
- 10. 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!



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