

Replacement Pump Case Parts Kit for Universal XR Series Pumps Cat. No. P21411 Installation Instructions

The replacement cases are RFI/EMI shielded and have been shown to provide protection from radio frequency interference (RFI) between 27 and 1000 MHz. For the pump to be fully RFI/EMI shielded, it is also necessary to replace the battery pack with an RFI-shielded battery pack (Part No. P21661MH or P22434).

To replace the molded pump case, follow these steps:

- 1. Remove the anti-tamper cover from the front face of the pump. Remove the two screw caps (three in older models) on the top of the pump. On the back of the pump, remove all six screws around the edges.
- 2. Slide out the battery pack. Vertically lift off the case back. Tilt the top of the pump stack to remove the square regulator cover.
- Remove the three screws holding the PC board in place. (Half-size boards on some models only have two screws.) One of these screws is on the battery plug. Be careful not to lose the washer below this plug; it will be needed during reassembly. For models 44XR and 44XRM, proceed directly to Step 5.
- 4. Carefully tilt up the PC board at about a 60-degree angle, lifting the top but not the base. Examine the newly exposed side of the PC board. Near the bottom, locate the striped wiring strip connecting the keypad to the PC board. Unlock the wiring strip from the black sliding plate on the PC board by gently squeezing the two tabs and sliding the plate toward the wiring strip. The wiring strip will slide out of the lock, allowing the PC board to be separated from the keypad.
- 5. Remove the pump stack and PC board from the old pump case front piece. Place them in the new pump case front piece, but do not screw the PC board in place. For models 44XR and 44XRM, proceed directly to Step 9.
- 6. Examine the base of the pump stack; the lowest plate is the pressure switch. For models having the older style pressure switch with uninsulated connecting wires, it will be necessary to insulate the wires or to replace the pressure switch with a newer insulated model (Part No. P22417E).

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Unless the wires at the base of the pump stack are insulated,
incidental contact with the conductive case will cause the pump to
short circuit.
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To insulate, cover or coat the soldered electrical contacts at the base of the pump stack with an insulating material. Similarly cover or coat a portion of the pump case nearest to these contacts. To replace the pressure switch, disconnect the red and brown wires and remove the five screws at the base of the pump stack. Lift out the old pressure switch. Screw the new pressure switch in place. Slide one piece of the shrink tubing over each of the red and brown wires of the circuit board. Connect and solder the brown wire to the yellow wire of the pressure switch. Solder the red wire to the upper exposed contacts and use a hot air gun to shrink the insulating tubing over the bare wires. Refer to the "Pressure Switch Replacement Procedure" included with the new pressure switch.

- 7. Lift the PC board out of the pump case and connect the wiring strip of a new keypad to the sliding plate of the PC board. Slide the plate back to lock the wiring strip in place. Temporarily connect the PC board to the battery, turn on the pump, and test the keypad. The pump should respond accordingly. Otherwise, disconnect and reconnect the wiring strip. Continue until a good contact is achieved, and then turn the pump off and disconnect the battery.
- 8. Once the wiring strip is connected, slide the top of the keypad through the slit on the inside of the front pump case so that the keypad faces outward. Gently work the bottom of the keypad through the slit as well. Be careful not to pull the wiring strip loose from the PC board. Check keypad function as in Step 7.
- 9. Screw the PC board onto the new case front, making sure to restore the washer to its position behind the battery plug. For models 44XR and 44XRM, proceed directly to Step 11.
- 10. Peel the paper backing from the keypad to expose the adhesive surface. Apply the new keypad to the exterior of the new case front.
- 11. Insert the new regulator cover in the top of the pump case, and attach the new case back with the case screws.
- 12. Slide the battery pack into place and attach the battery pack screws. Replace the two screw caps on the top of the pump. For older models, the hex cap can now be discarded.

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