

Circulation Pump Kit (For TX & SX Spas)

Components Included in Kit:

NOTE: It is recommended to install this kit at your facility.



2" - 90°
Compression
Fitting



2" Bypass Line



2" - 45°
Compression
Fitting



Circulation Pump Assembly



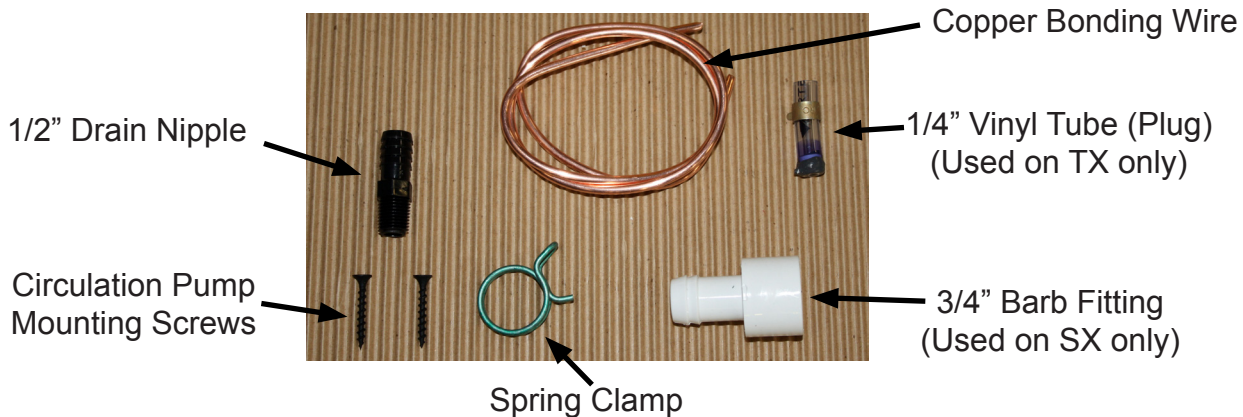
Circulation Pump to Heater
Inlet Assembly



Heater Outlet
Assembly



Extension Tube (Plug)



NOT SHOWN:

- 1 Zip Tie (Used on SX only)

Tools Needed:

- Large Channel Lock Pliers & Spring Clamp Pliers
- Vinyl Hose Cutting Tool
- Ratchet with 9/16" deep well socket.
- Cordless Screw Driver (with Phillips)
- Needle Nose Pliers
- PVC Primer & Glue
- Silicone

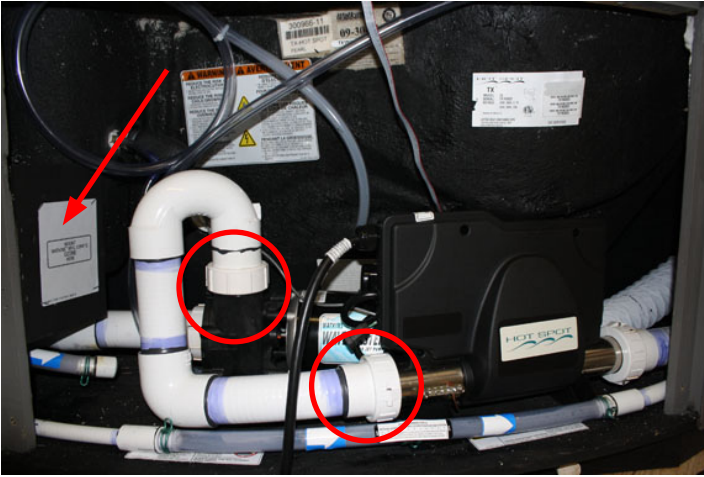
NOTE: Go to next page for TX instructions and Page 9 for SX instructions

INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY:

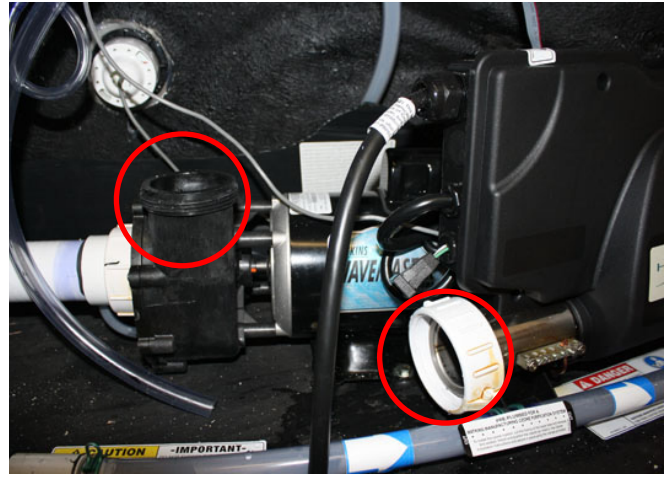
STEP 1: Disconnect power to spa.

- Remove Ozone Mounting Plate
- Remove Jet Pump Discharge Line

Before

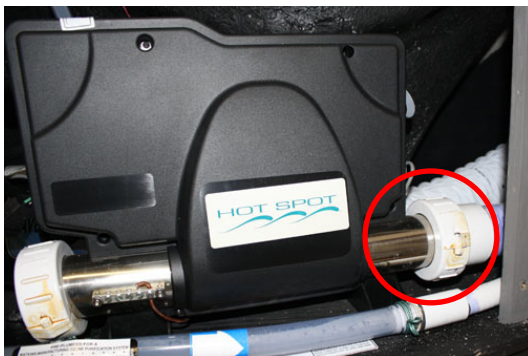


After



STEP 2: Disconnect Heater Outlet Line

Before



After



STEP 3: Remove 3/8" Line from Pump Drain Nipple then remove Pump Drain Nipple using 9/16" deep well socket,

Before



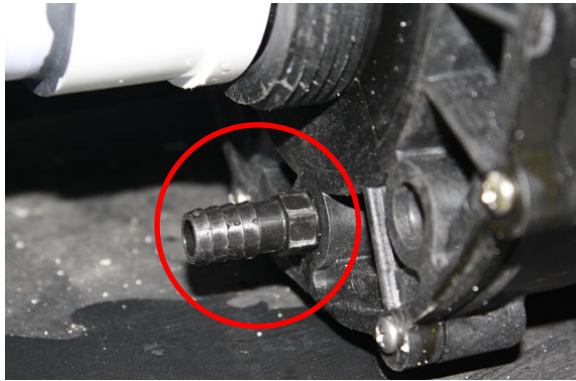
After



INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

STEP 4:

Install new 1/2" Drain Nipple onto pump where the 3/8" Drain Nipple use to be by using a 9/16" deep well socket. Apply some Silicone on threads to prevent leaking.



STEP 5:



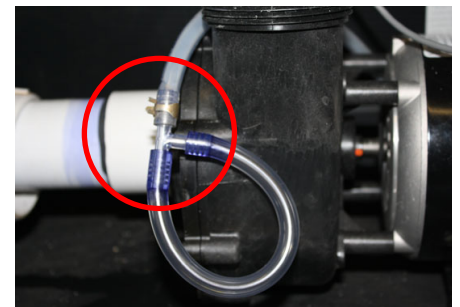
Remove Filter Bucket Bleed Line Assembly from Filter Bucket

STEP 6:



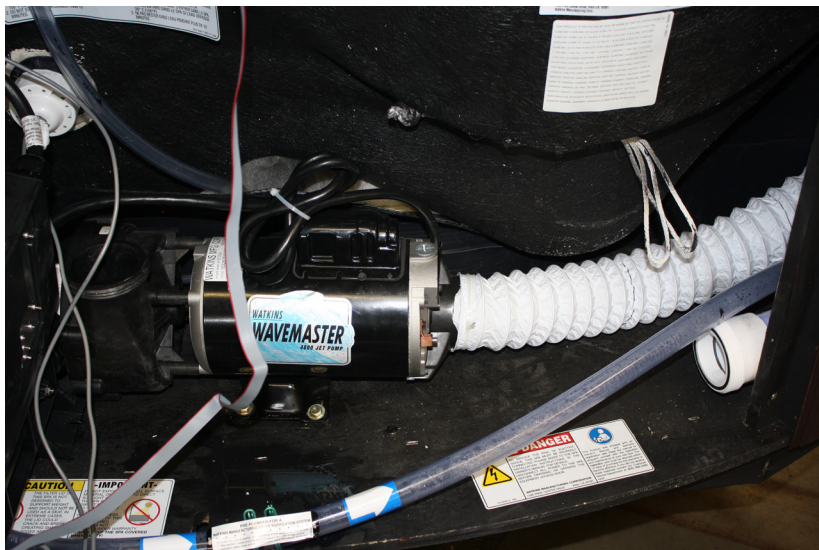
Locate Extension Tube (Plug) from Kit

STEP 7:



Attach Extension Tube onto 3/8" Drain line removed from pump in Step 3

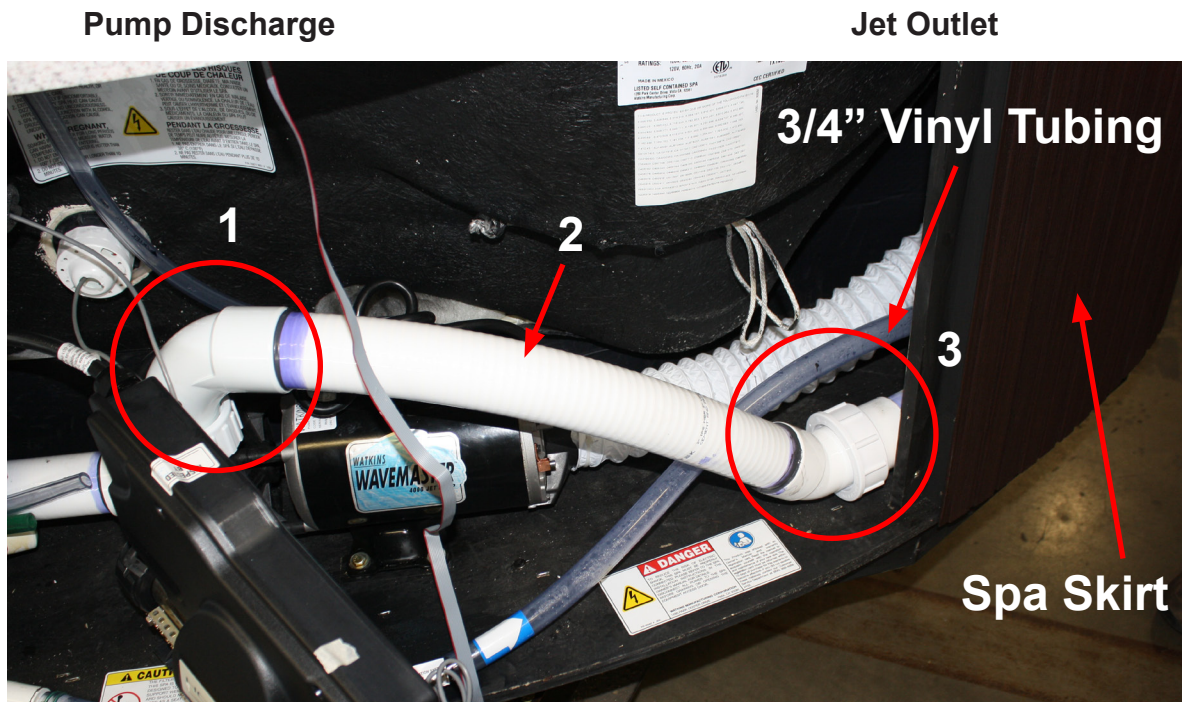
STEP 8: Unscrew Control box with Heater from Equipment compartment floor and move off to side



INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

STEP 9: Attach new Bypass Line Assembly

- Attach the new 2" - 90° Compression Fitting to Jet Outlet #1
- Attach new Bypass Line (#2) into 90° Compression Fitting attached to Jet Outlet
- Attach the new 2" - 45° Compression Fitting to Outlet #3
- Measure and cut the Bypass Line to fit into the new 2" - 45° Compression Fitting
- Using PVC Glue and Primer, glue Bypass Line to both Compression Fittings



STEP 10: Remove 3/4" Vinyl Tubing behind Spa Skirt (see illustration above for reference) from barb fitting Step #1 (below). If not using Ozone, continue to step 11. If using Ozone, cut a 2" piece off the end of the 3/4" Vinyl Tubing that was removed behind spa skirt and attach the 2" piece of 3/4" Vinyl Tubing to Ozone injector onto the barb fitting seen in Step # 2.

NOTE: Make sure Flow arrow on injector is pointing towards Vinyl Tubing and use spring clamps on both ends of Vinyl Tubing.

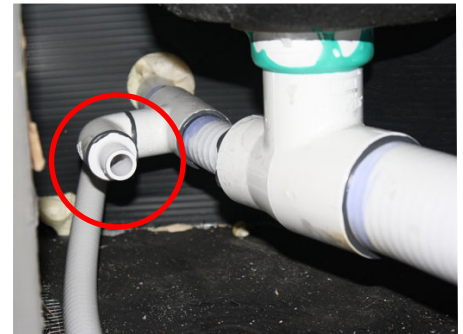
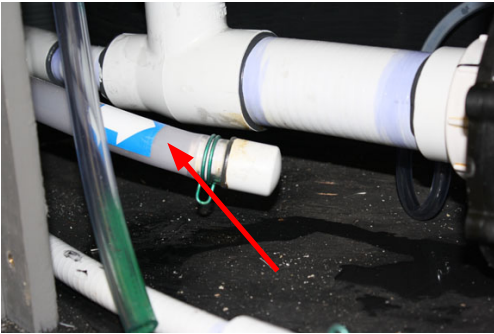


INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

STEP 11: Remove the 3/4" Filter line on left side of equipment compartment and set aside

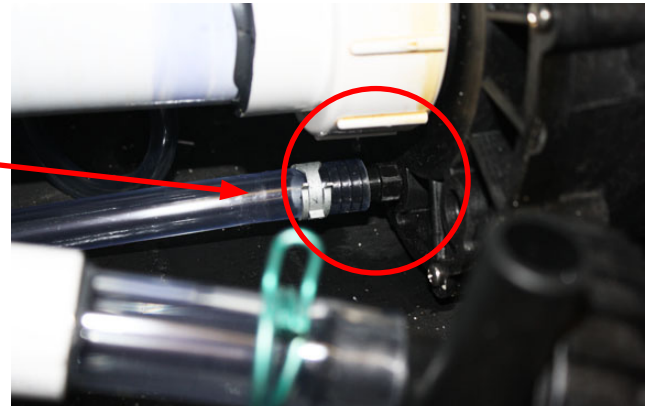
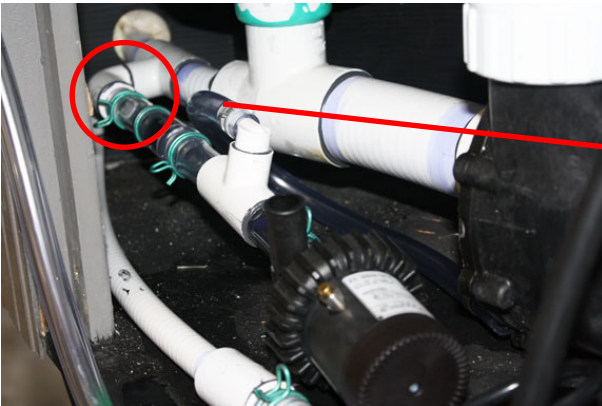
Before

After



STEP 12:

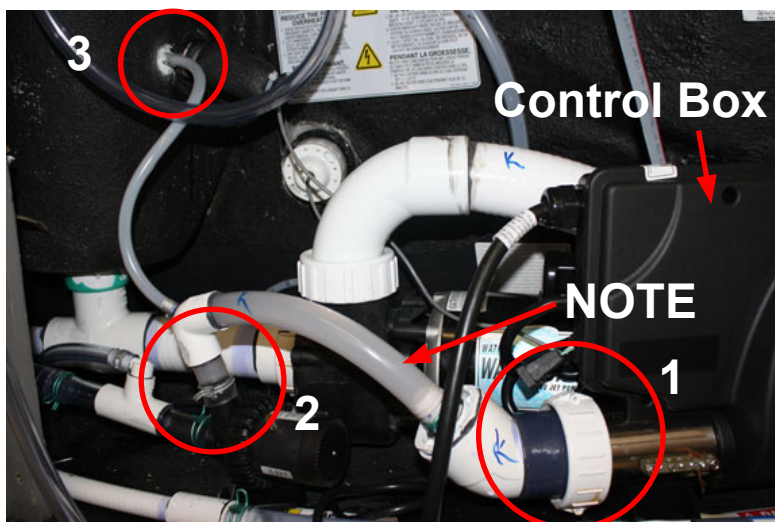
STEP 13:



Attach new **Circulation Pump Assembly** to 3/4" Barb fitting seen in Step 11 "After" picture

Attach 1/2" clear tubing from new **Circulation Pump Assembly** to 1/2" Drain Nipple on pump install in Step 4

STEP 14:



Remount Control Box to Floor (as close to the original location as possible)

Attach new **Circulation Pump to Heater Inlet Assembly** to the following:

1. Heater Inlet
2. Circulation Pump Outlet
3. Filter Bucket

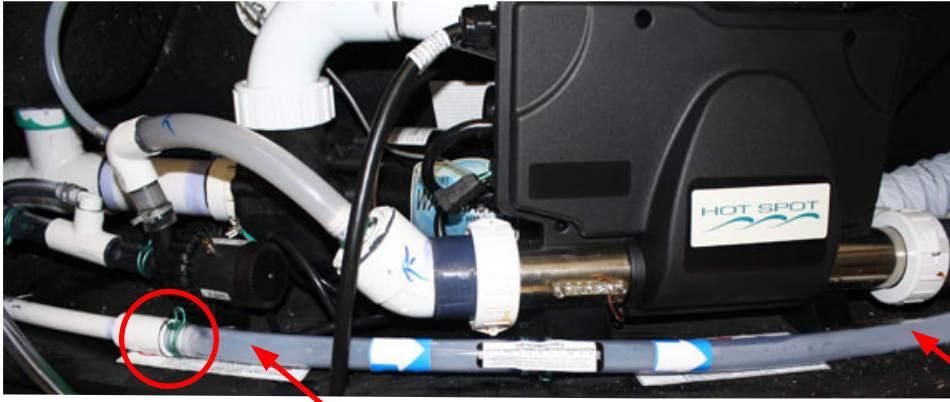
NOTE: 3/4" Tubing to heater inlet may be too long and require trimming to allow circulation pump to sit on equipment compartment floor properly.

Attach Circulation Pump to Equipment compartment floor with 2 screws.

INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

STEP 15:

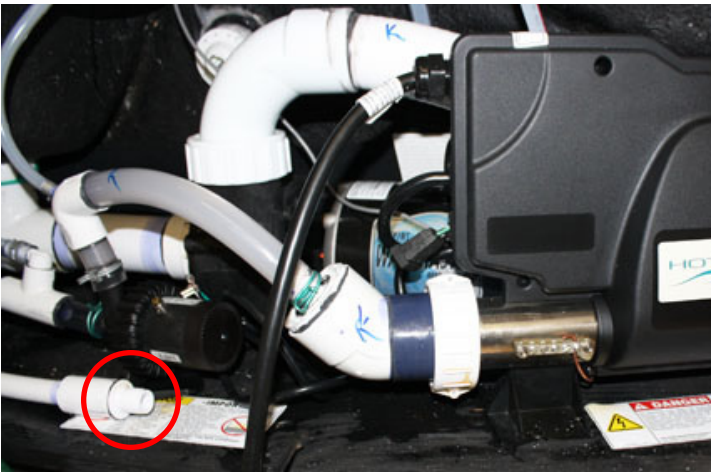
Before



Remove the Clear 3/4" Ozone tubing from spa

NOTE: Right side was already removed in step 10

After

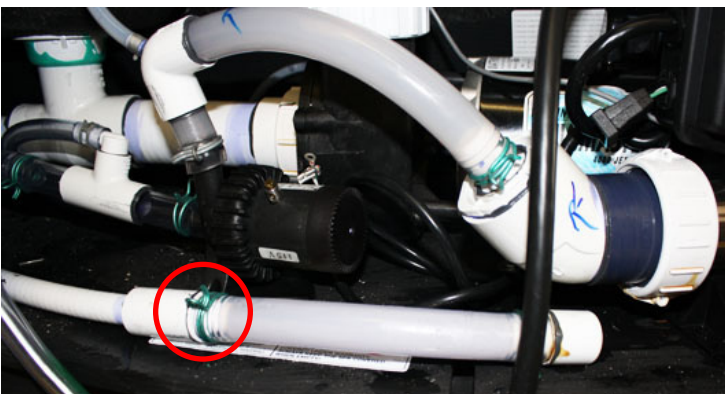


Left Side



Right Side

STEP 16: Attach old 3/4" Filter Line removed in step 11 to Left side of Ozone Line as seen in Step 15.



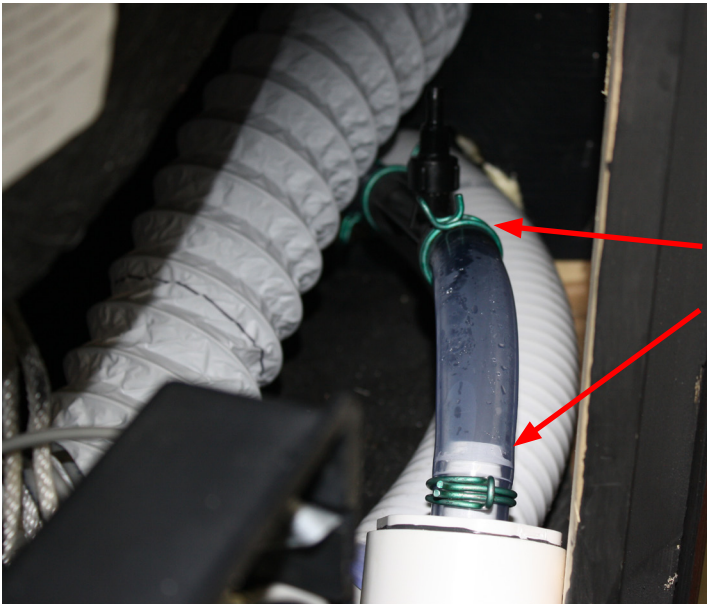
INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

STEP 17:

Attach new **Heater Outlet Assembly** to the outlet side of the heater (right side).



WITH OZONE

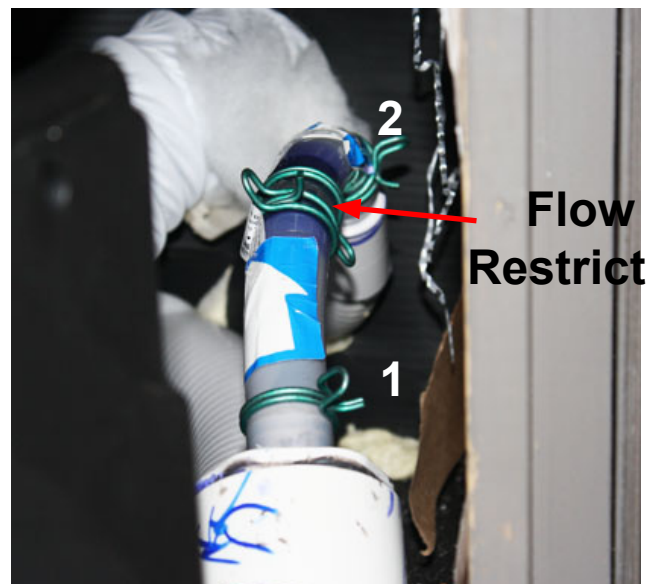


If Ozone Injector is attached, cut a piece of Ozone tubing (removed in step 15) to fit between Injector and Heater Outlet Assembly. Attach tubing using spring clamps.

WITHOUT OZONE

If Ozone is not attached, use the Clear 3/4' Ozone tubing removed in Step 15, Measure and cut a piece to fit from the Heater Outlet Assembly (1) to the Right Side Ozone connector (2) making sure the flow restrictor is in the middle of the part of the tubing being used.

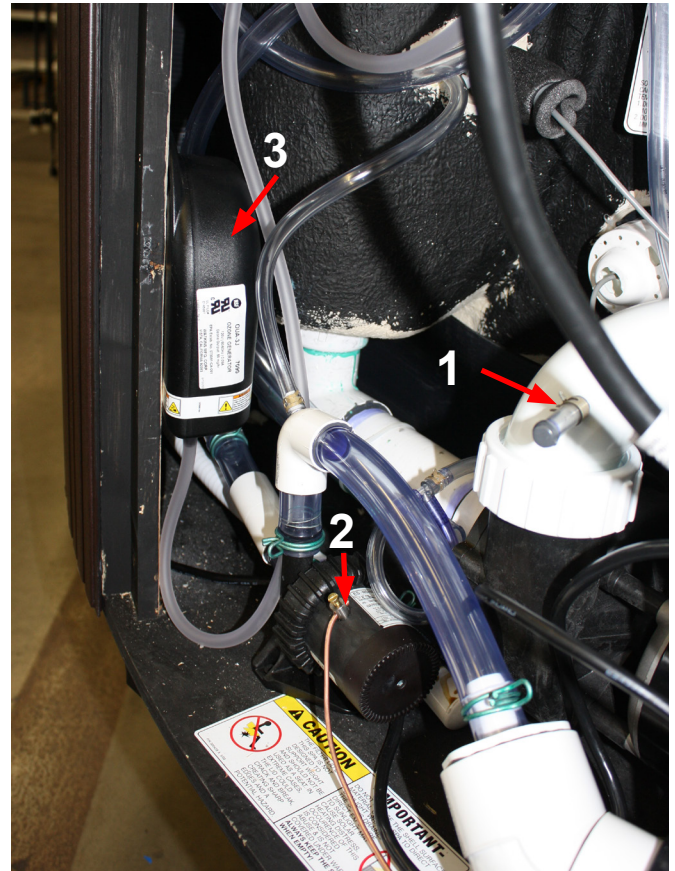
NOTE: Flow arrow must go from 1 to 2 as illustrated



INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

STEP 18:

- Attach 1/4" Vinyl Tube Plug (#1) to fitting on Bypass line
- Attach Bonding Wire to Circulation Pump (#2) and Bonding Jumper Terminal (attached to Heater)
- Attach Ozone unit to wall (if used) (#3) and attach Tube from Ozone unit to Ozone injector as described in the Ozone installation instructions.



IMPORTANT:

Verify All connection are tight and that clamps are properly placed over all barbed fittings.

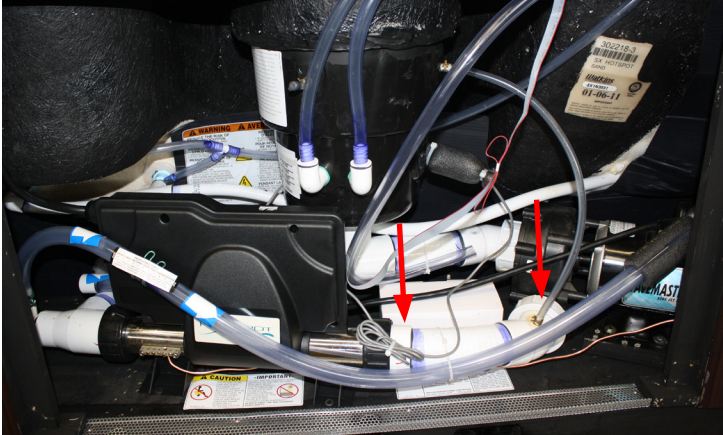
Go to Page 17 to complete Program Change & Electrical changes.

INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY:

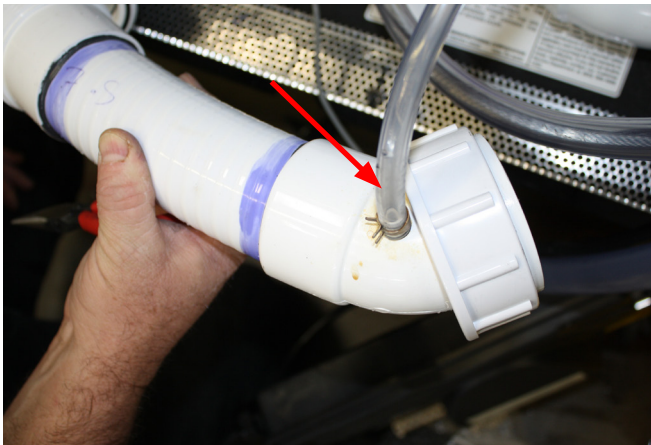
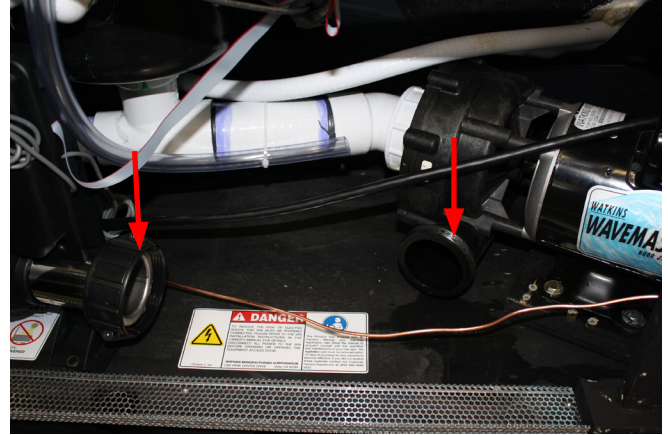
STEP 1: Disconnect power to spa, then remove Jet Pump Discharge Line

- Remove Discharge Line from Heater and Jet Pump
- Remove 1/4" Vinyl Tubing from Discharge Line only and remove Discharge Line from spa

Before



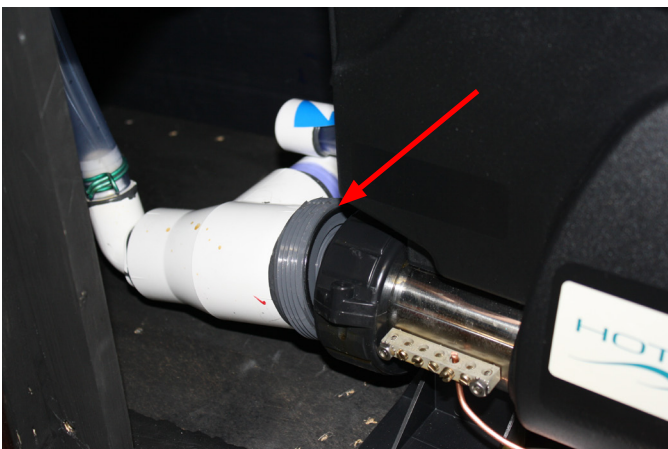
After



STEP 2: Disconnect Heater Outlet Line

After Disconnecting the Heater Outlet line, unbolt the Control box and move to the side.

Before



After

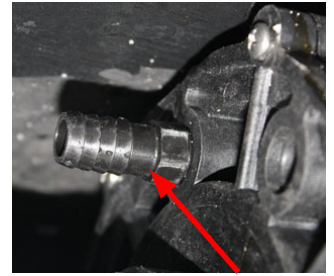
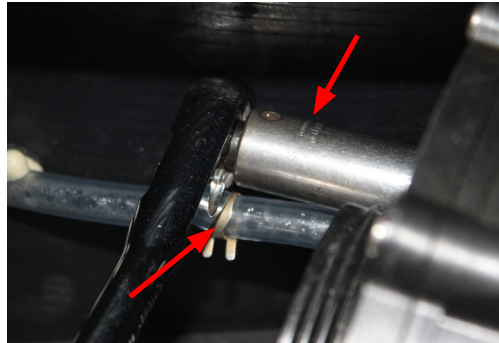
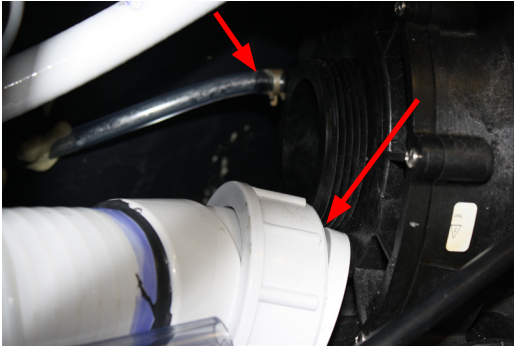


INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

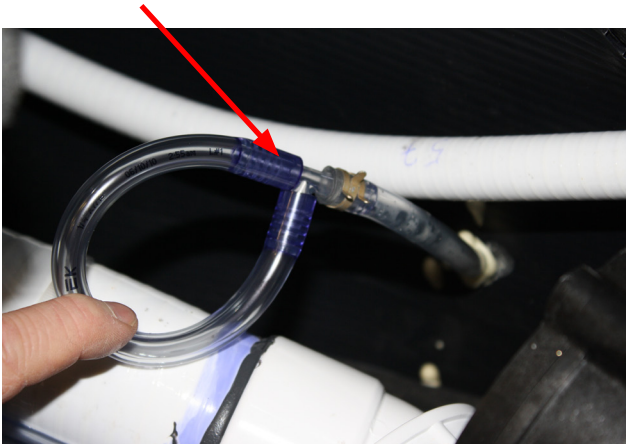
STEP 3: Removing 3/8" Line from Pump Drain Nipple and removing Pump Drain Nipple using 9/16" deep well socket

- Remove 2" Jet Pump Inlet to have access to the 3/8" drain Line
- Remove 3/8" Drain Line from Drain Nipple and remove 3/8" Drain Nipple using a 9/16" deep well socket
- Install new 1/2" Drain Nipple onto pump where the 3/8" Drain Nipple use to be using with a 9/16" deep well Socket.

NOTE: Apply some Silicone on Drain Nipple threads to prevent leaking.



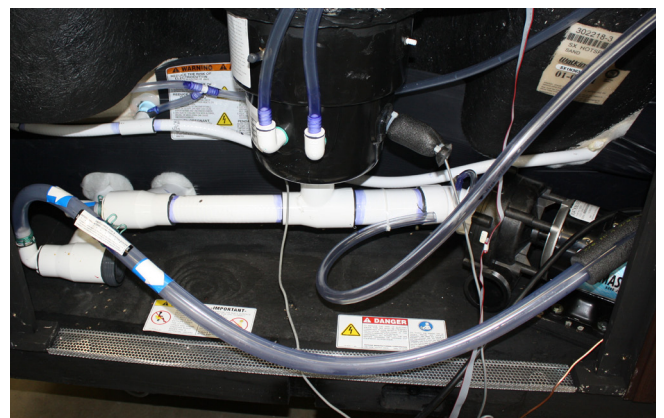
STEP 4: Attach Extension Tube (from Kit) into 3/8" Line removed from Pump Drain in step 3



STEP 5: Locate Bypass Line, 2" - 45° & 2" - 90° Compression Fittings and PVC Primer & Glue



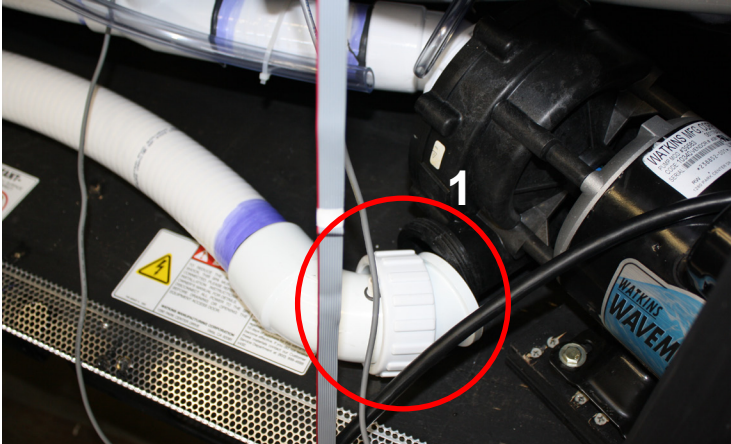
Before



INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

STEP 5 Continued:

- Attach **2" - 90° Compression Fitting** onto jet pump discharge.
- Apply PVC Primer inside **2" - 90° Compression Fittings** and end of **Bypass Line Assembly (1)**. Apply PVC Glue then attach bypass line to fitting allowing 2" line to bend away from door opening.
- Attach other end of **Bypass Line Assembly to 2" - 45° Compression Fitting** using PVC Primer and PVC Glue (2)
- Attach and tighten both ends of the Bypass Line Assembly as illustrated in After illustration below.

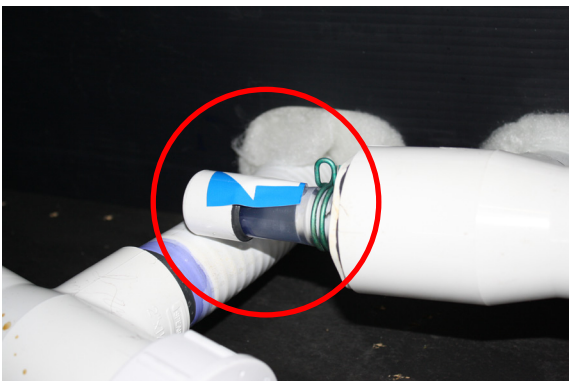


After

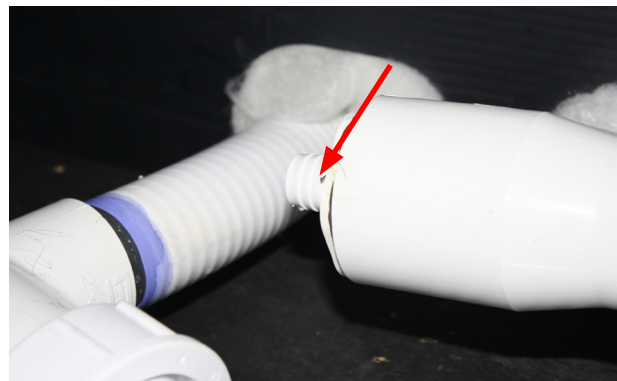


STEP 6: Remove the 3/4" Filter line with plug on left side of equipment compartment and set aside

Before



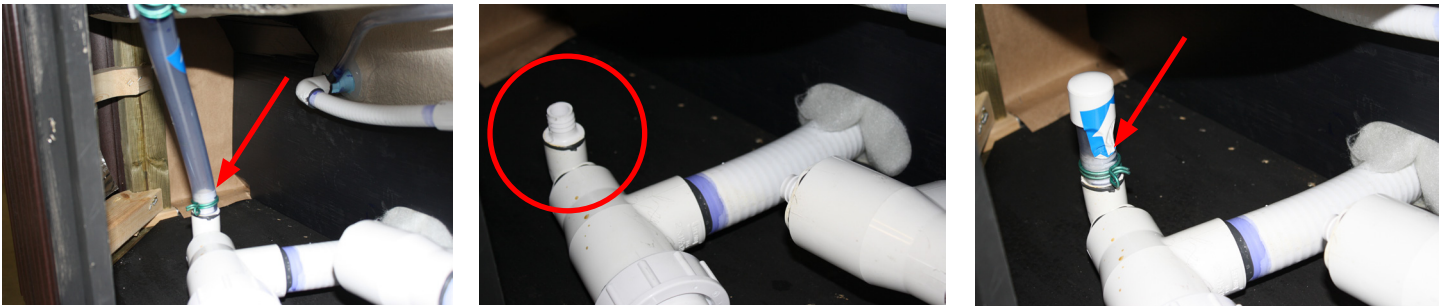
After



INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

STEP 7

- Remove the 3/4" Ozone line (attached to barb on left side of equipment compartment).
- Attach 3/4" Filter line with plug (removed in step 6) to 3/4" Ozone line barb.



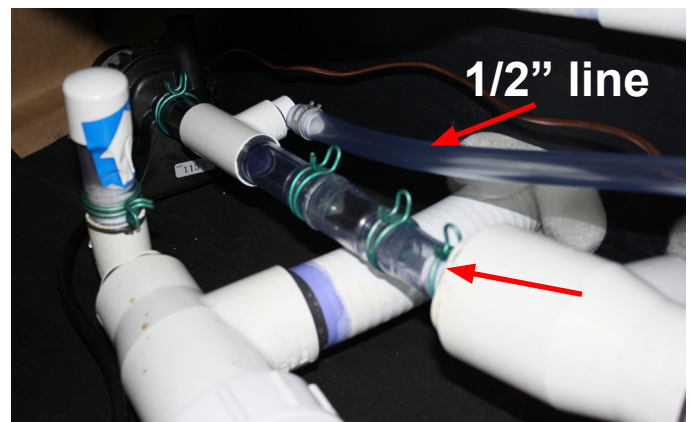
STEP 8:

- Attach 3/4" line from **Circulation Pump Assembly** to barb as illustrated
NOTE: Attach Bonding Wire to Circulation Pump before installing assembly

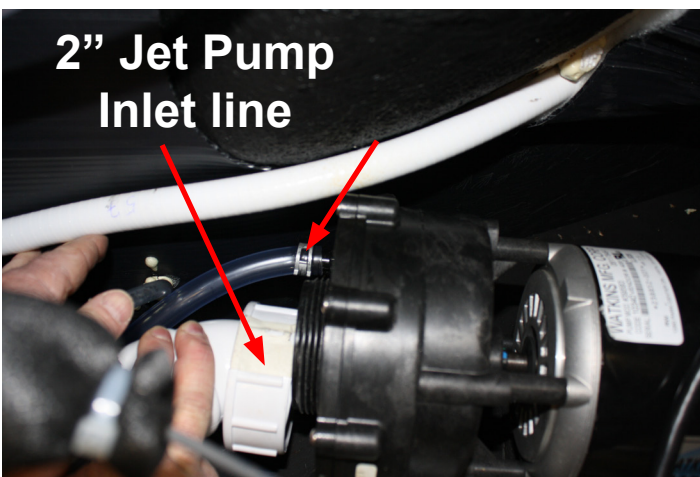
Before



After



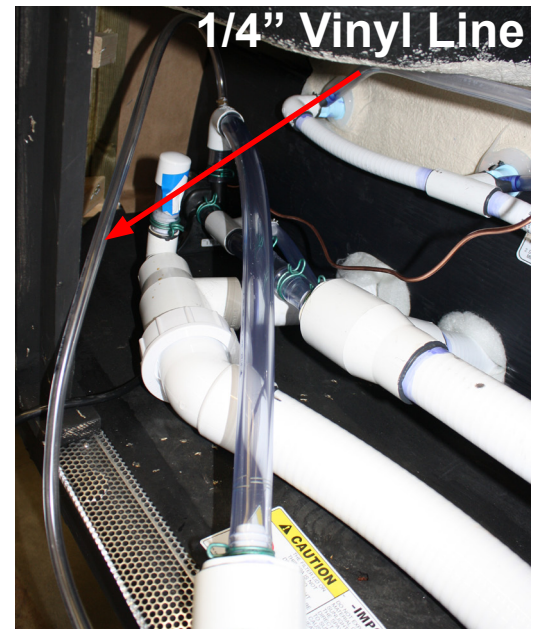
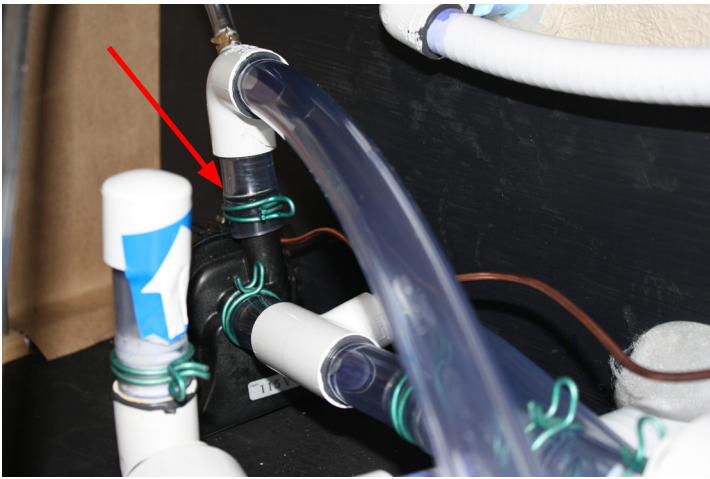
- STEP 9:** Attach 1/2" line from **Circulation Pump Assembly** (in step 8) to 1/2" Drain Nipple on pump (in step 3). Reattach the 2" Jet Pump Inlet line to pump.



INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

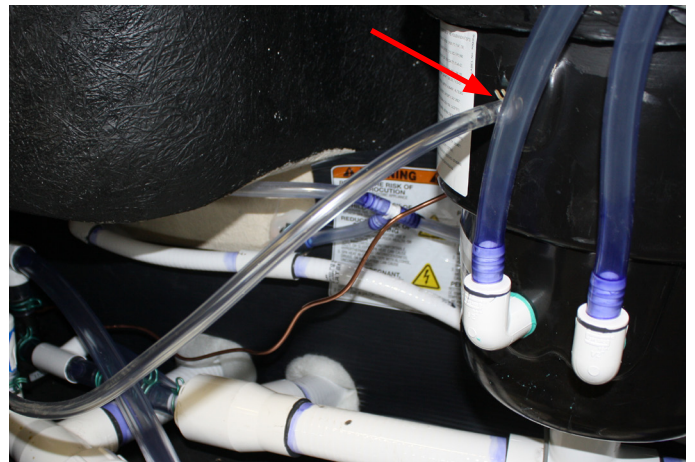
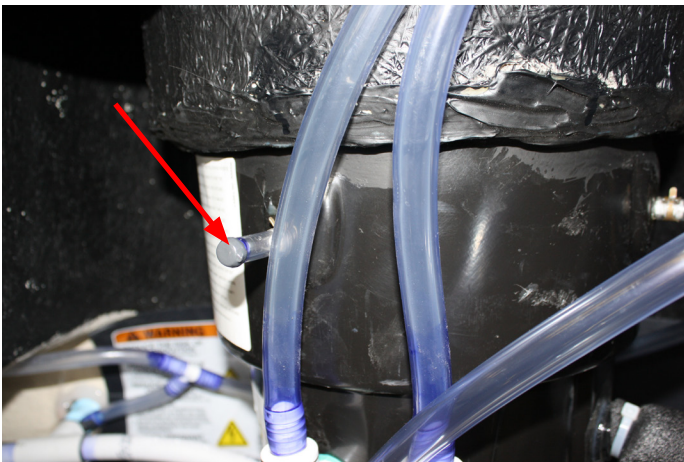
STEP 10

- Attach 3/4" line on Circulation Pump to Heater Inlet Assembly to top of Circulation Pump



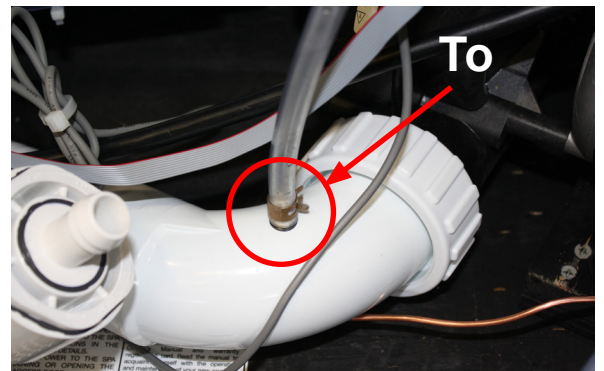
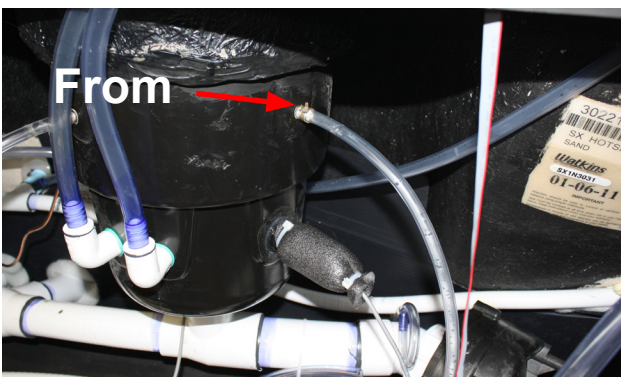
STEP 11:

- Remove the 1/4" Vinyl Tube (Plug) attached to filter bucket
- Attach the 1/4" Vinyl Line from step 10 to Filter Bucket barb



STEP 12:

- Attach 1/4" Vinyl Tube line (right side of filter bucket) to 90° Bypass Line fitting (attached to outlet side of pump)

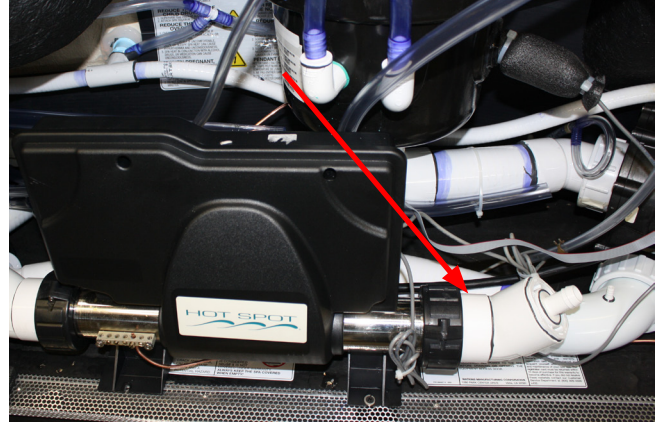


INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

STEP 13

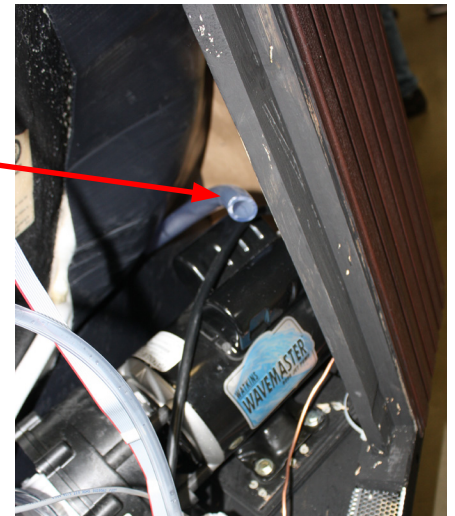
- Attach **Circulation Pump to Heater Inlet Assembly** (step 10) to left side of Heater
- Attach Heater Outlet Assembly to right side of Heater
- Fasten Heater back to equipment compartment floor (4 screws)

NOTE: Heater will not fit in same location as factory installation. Make sure Heater will fit behind equipment compartment door!



STEP 14:

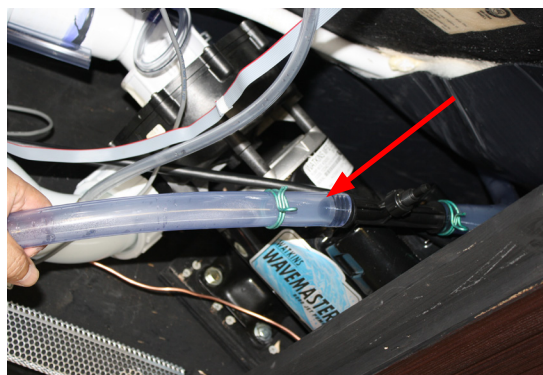
- Remove Foam Heat shield from around 3/4" Ozone tubing above Jet Pump.
- Cut the 3/4" Ozone Tubing 12" from the back wall.
- Remove loose Ozone Tubing from spa



STEP 15: Attach Ozone Injector

(If not using Ozone go to step 16)

- Attach Ozone Injector to tubing cut in step 14 making sure the flow arrow is pointing towards the tubing.

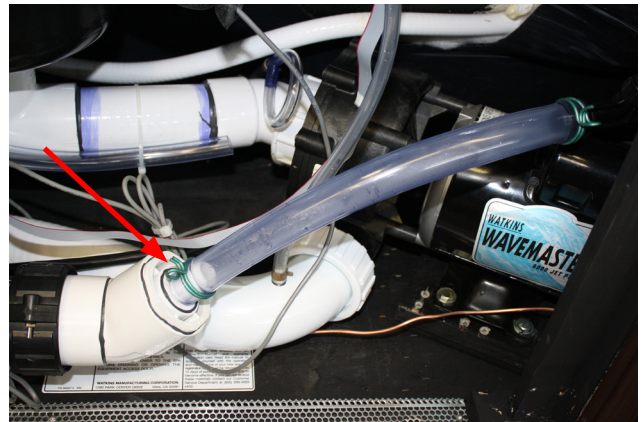
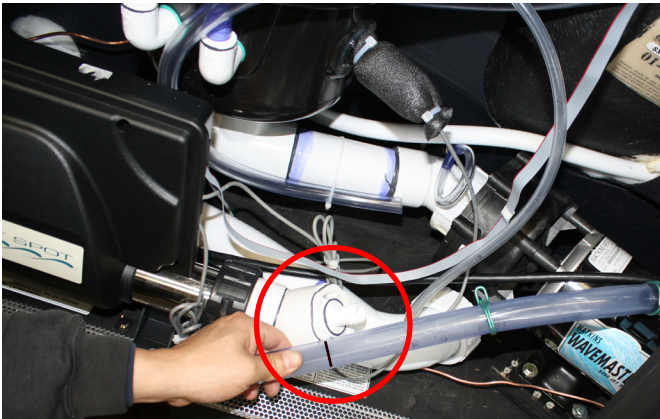


- Using the extra piece of 3/4" Ozone tubing cut in step 14, attach to other end of Ozone Injector

INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

STEP 15 (continue)

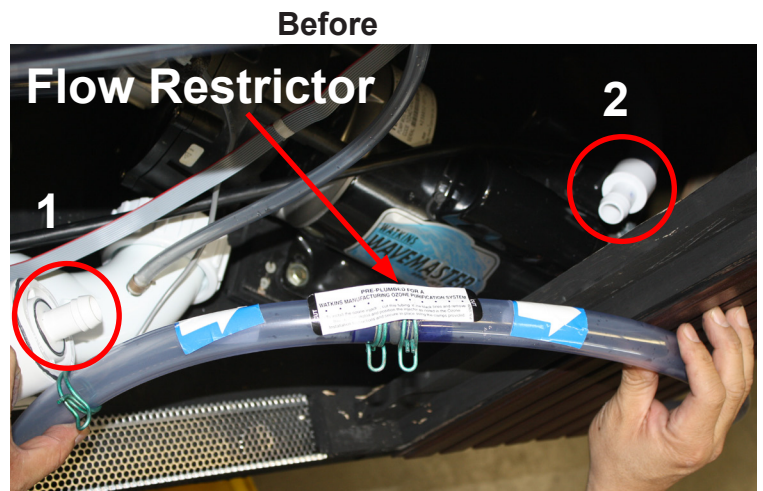
- Measure 3/4" Ozone Tube to fit onto barb fitting of Heater Outlet, then cut Ozone Tube
- Attach Ozone Tube to Heater Outlet barb fitting



- Replace Foam Heat shield onto Ozone Tubing located above Jet Pump and use Zip Tie to fasten

STEP 16: Attach 3/4" Vinyl Tubing to Heater Outlet (Skip this step if using Ozone)

- Prime & Glue 3/4" **Barb Fitting** from kit onto Ozone tube cut in step 14
- Find loose Ozone tubing removed from step 14. Cut Tubing to fit between #1 and 2 making sure the Flow Restrictor is in the middle. The Arrows (Flow) must point from #1 to #2 as well.

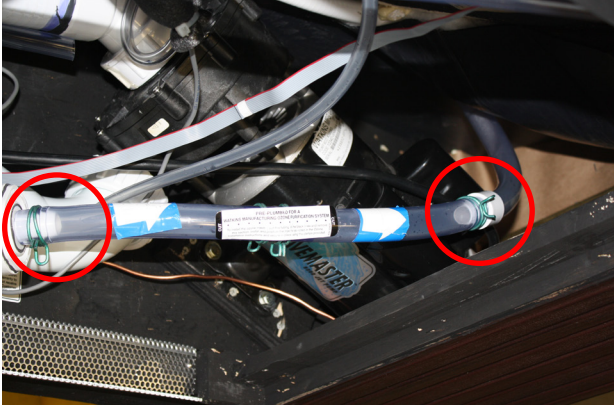


INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

STEP 16 (continue)

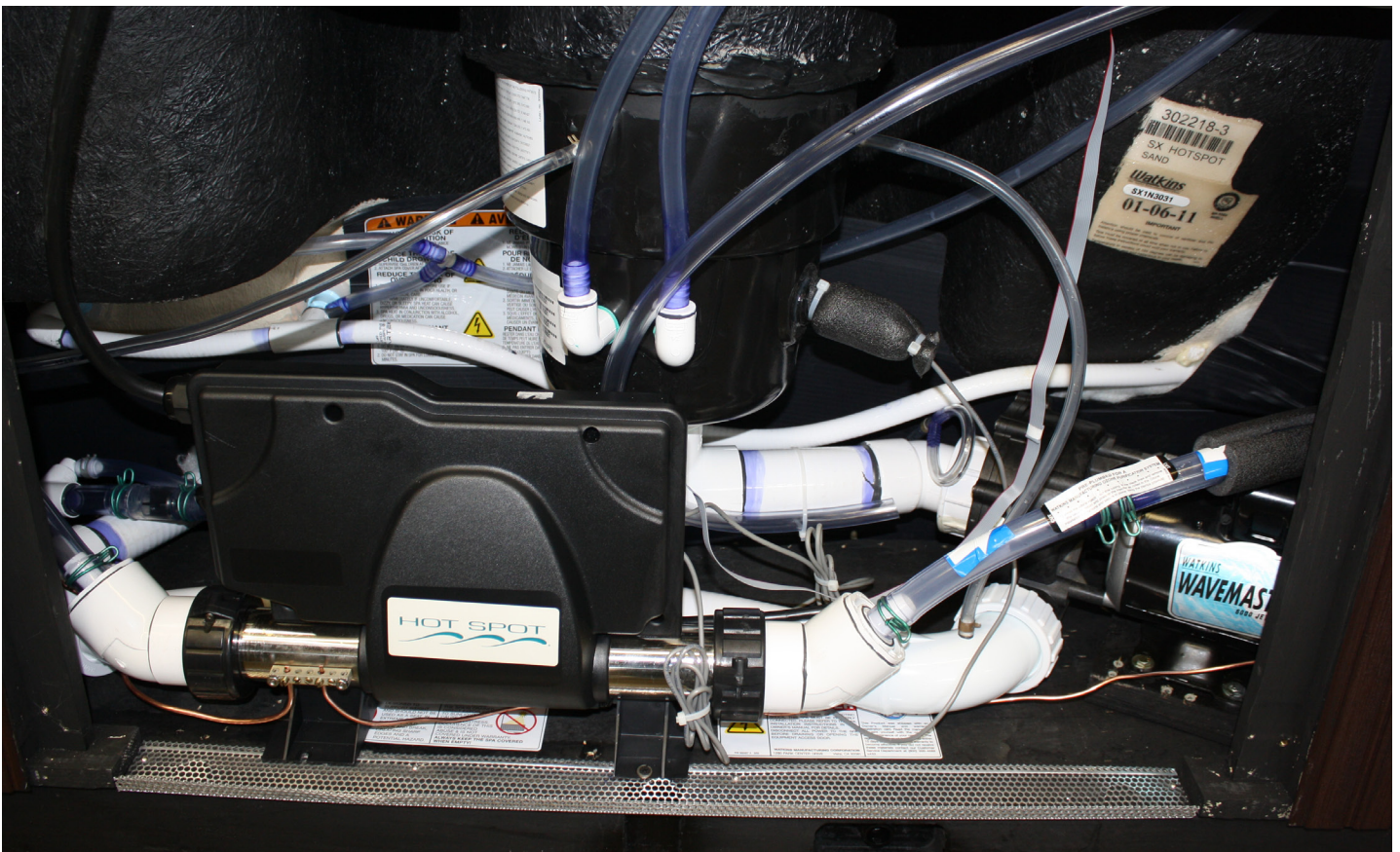
- Replace the Foam Heat shield onto 3/4" Vinyl Tubing directly above the pump, use Zip Tie to fasten.

After



COMPLETE INSTALLATION FOR SX:

- Attach Bonding wire from circulation pump to Bonding Jumper Terminal on heater
- Attach Ozone Unit (if used, see page 8 #3) to inside wall of equipment compartment and attach tub from Ozone to Injector (installed in step 15) as described in Ozone Instructions.

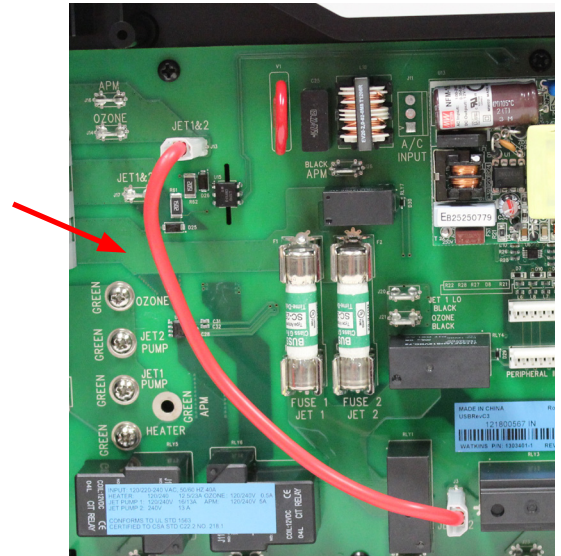


Electrical Changes:

1. Remove low speed Jet Pump motor wire from “Jet 1 Lo Black” (J20) inside the control box. Cut Flag terminal off of wire, attach #14 Wire nut (not included in kit) to end of wire then wrap wire nut and wire with electrical tape and stow away from any terminals on the board.
2. Attach the Circulation Pump to the Control box as follows:
 - Connect Black wire to “Jet 1 Lo Black” (J20)
 - Connect White wire to “APM White” (J16)
 - Connect Ground to “Ozone Ground” (Screw)
3. When using Ozone, the wires must be attached to the control box terminals that call out for Ozone.

Program Change (REQUIRED):

1. Connect Power to Spa.
2. Press and hold SETUP button on main control board.
3. Press the Set button on the control panel multiple times until “J11 +” is shown
4. Press TEMP ▼ button. The display will show “J11-”.
5. Press the Set button on the control panel multiple times until “J22 -” is shown
6. Press TEMP ▲ button. The display will show “J22+”.
7. Cycle spa power (turn spa off and back on) to complete the program change.



Changes in Spa Function, once the circulation pump is installed:

- The circulation pump operates 24 hours a day, continuously filtering spa water (even in hi-limit error).
- Low speed function of the jet pump is eliminated.
- Heating and filter cycles powered by the jet pumps are eliminated.
- Heater operates automatically to thermostat demand.
- “Tranquil” and “Sleep” Modes are eliminated as circulation pump operation is nearly silent.
- Summer Mode timer feature is available.
- Jets Control

One Pump System:

- 1st press High Speed
- 2nd press Off

Activating the Summer Mode Timer

The addition of the optional SilentFlo 5000 (E5) circulation pump enables your Hot Spot SX or TX to provide a Summer Mode timer function. The Summer Mode timer can be activated during extremely hot summer months if it becomes difficult to maintain water temperatures low enough for comfort. Upon switching to the ON mode, the circulation pump (which can add heat to the water through normal operation) and heater will immediately shut down for the next eight hours. Additionally, the summer mode display on the control panel will activate and remain active for as long as the summer mode is on. Following this eight hour period, the circulation pump and heater will automatically re-start and will operate normally for the next sixteen hours. The circulation pump and heater will continue to turn off for an eight hour period every day that the timer remains in the ON position. In this way, the amount of heat transferred to the spa water will be minimized. When the outside temperatures begin to cool, the Summer Mode timer should be turned to the OFF position (the summer mode icon on the main display will shut off). This is the efficient 24 hour circulation mode that keeps the heater operation and operating costs to a minimum during colder/heavier usage months.

NOTE: Whenever power is disconnected and then reconnected to the spa, the Summer Mode timer will reset starting with the 8-hour shutdown mode. If a different 8-hour shut down time is desired, deactivate the Summer Mode, then reactivate at the beginning of the desired eight-hour shut down time.

IMPORTANT: The Summer Mode will not lower the spa's water temperature below the ambient air temperature.

IMPORTANT: The Summer Mode timer will not lower the spa's water temperature below the ambient air temperature.

To activate the Summer Mode, simply follow these steps:

1. Set the temperature control to 80°F (26°C) if desired to prevent the heater from turning on during cooler times.
2. On the control panel press the SET button until the TOOLS menu is illustrated. Then press the TEMP ▲ button to enter the TOOLS submenus. Press the SET button until SUMMR is illuminated on the display. Press the TEMP ▲ button to activate the Summer Timer mode. The Moon & Stars icon is on when in Summer Timer Mode.

The Summer Mode must be deactivated when cooler temperatures return. To do this, simply follow step 3.

3. To shut the Summer Mode off, press the SET button until the TOOLS menu is illustrated. Then press the TEMP ▲ button to enter the TOOLS submenus. Press the SET button until SUMMR is illuminated on the display. Press the TEMP ▼ button to deactivate.