

Circulation Pump Kit (For TX & SX Spas with FROG)

Components Included in Kit:

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



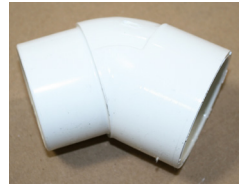
2" - 90°
Compression
Fitting



2" Bypass Line



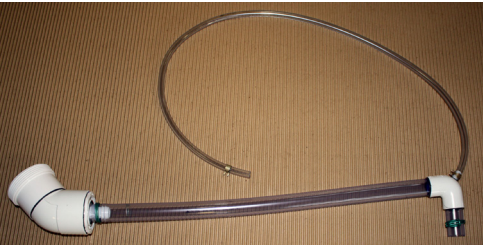
2" - 45°
Compression
Fitting



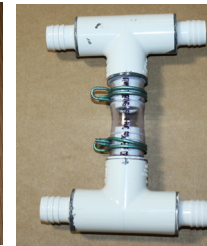
2" - 45° x 2
Street Elbow
(Used on SX only)



Heater Outlet
Assembly



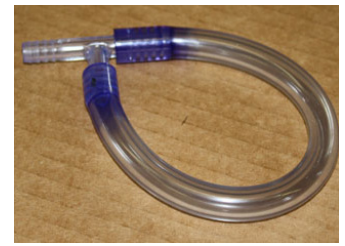
Circulation Pump to Heater
Inlet Assembly



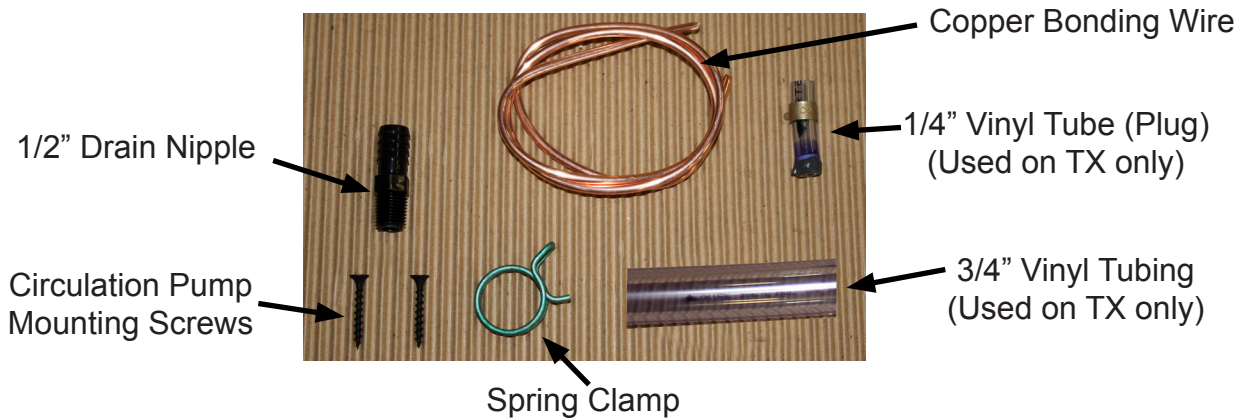
Frog Bypass
Assembly



Circulation Pump
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

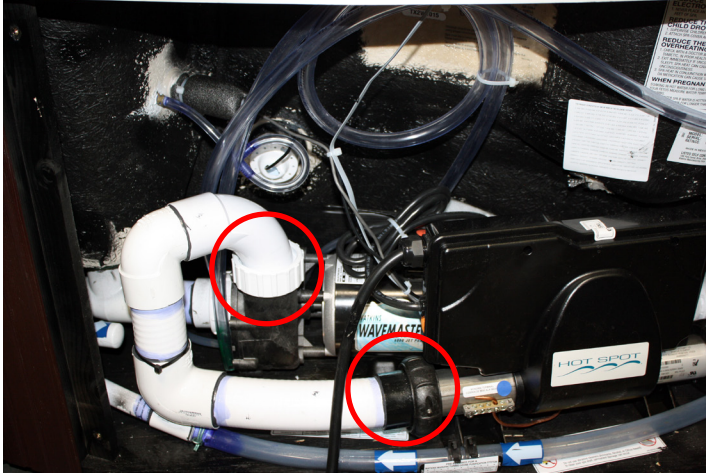
NOTE: Go to next page for TX instructions and Page 8 for SX instructions

INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY:

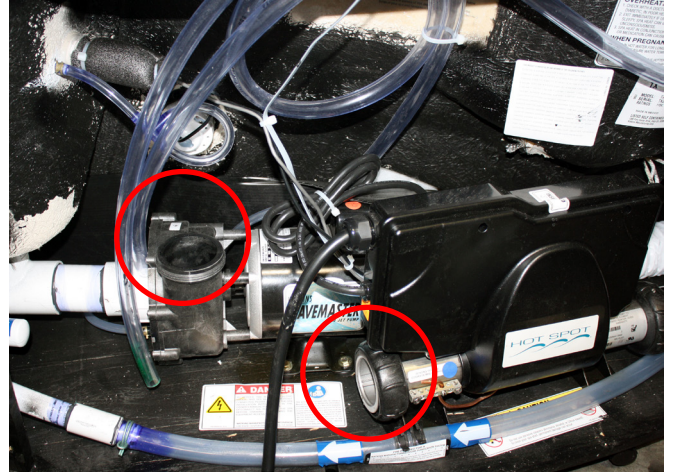
STEP 1: Disconnect power to spa.

- Remove Jet Pump Discharge Line

Before



After



STEP 2: Disconnect Heater Outlet Line

Before



After

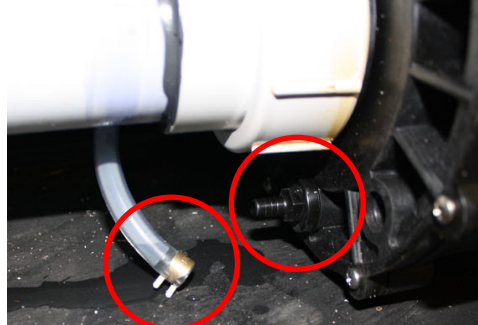


STEP 3: Remove 3/8" Line from Pump Drain Nipple then remove Pump Drain Nipple using 9/16" deep well socket,

Before



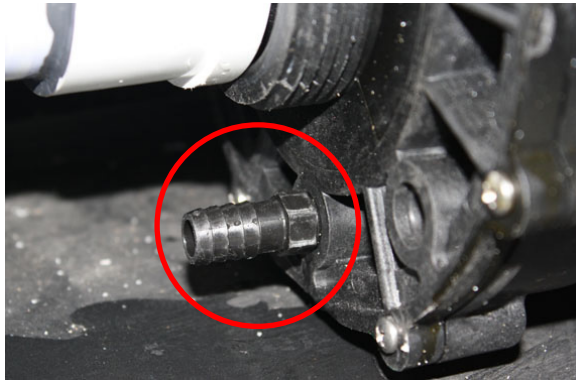
After



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:



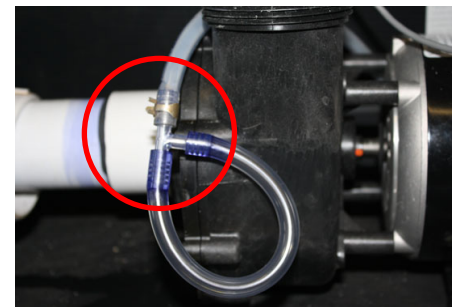
Remove Filter Bucket Bleed Line Assembly from Filter Bucket

STEP 6:



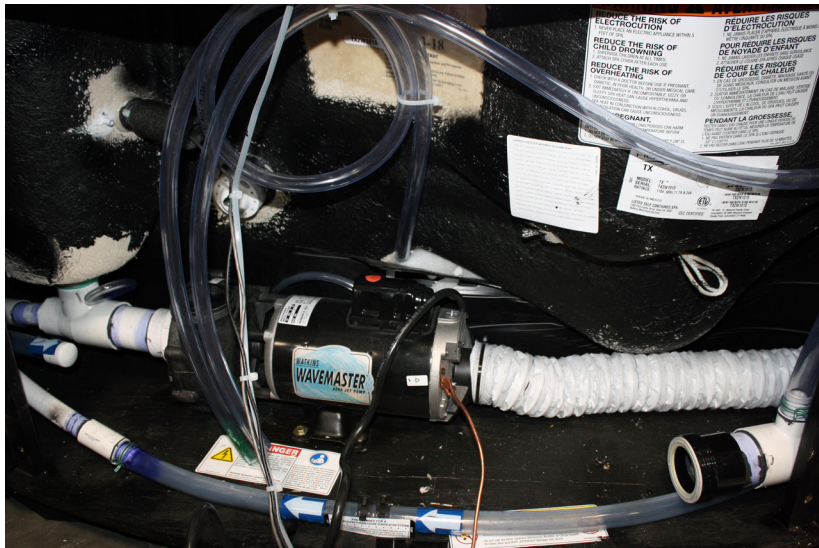
Locate Extension Tube (Plug) from Kit

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



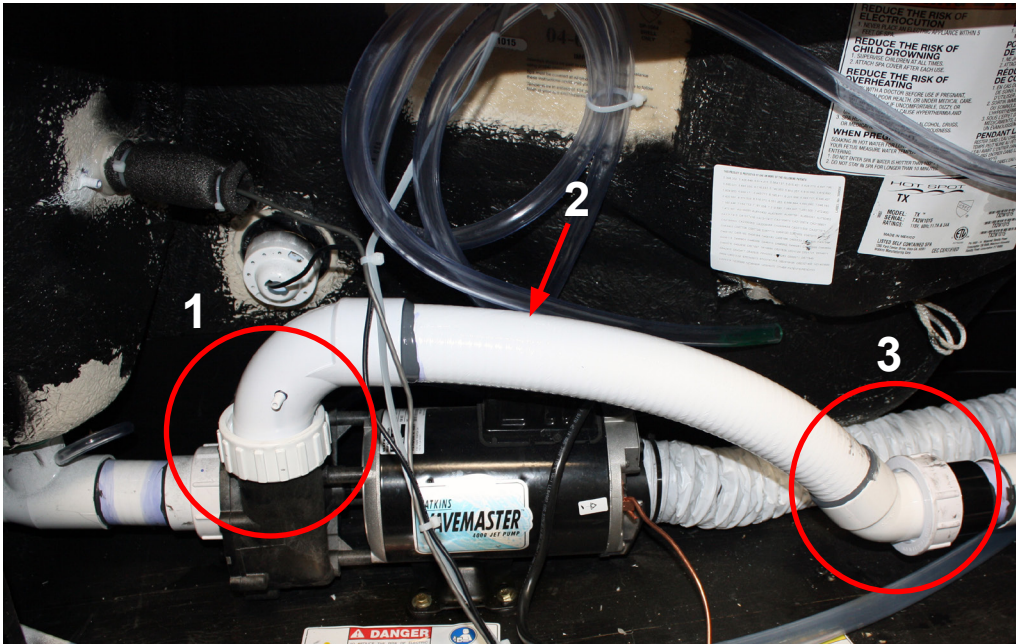
INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

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

Pump Discharge

Jet Outlet

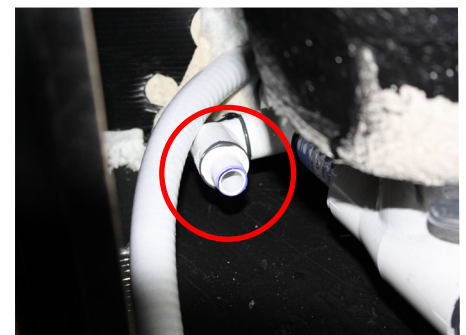
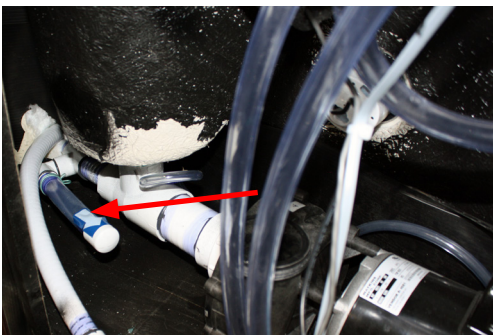


STEP 10: Remove the 3/4" Tube on left side of equipment compartment and set aside

- Cut 3/4" Tube with cap near barb
- Remove cut piece using Needle Nose pliers

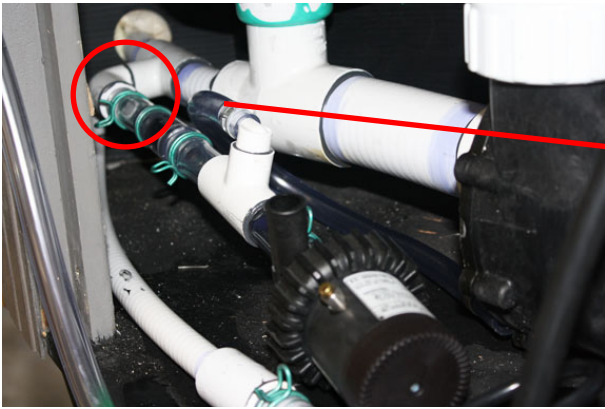
Before

After



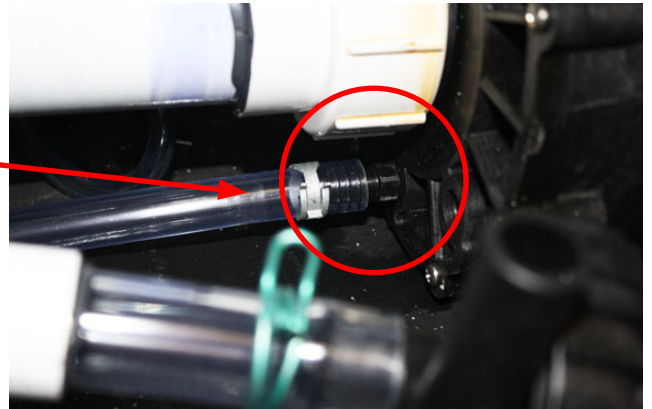
INSTALLATION OF NEW CIRCULATION PUMP KIT For TX ONLY (Continued)

STEP 11:



Attach new **Circulation Pump Assembly** to 3/4" Barb fitting seen in Step 10 "After" picture

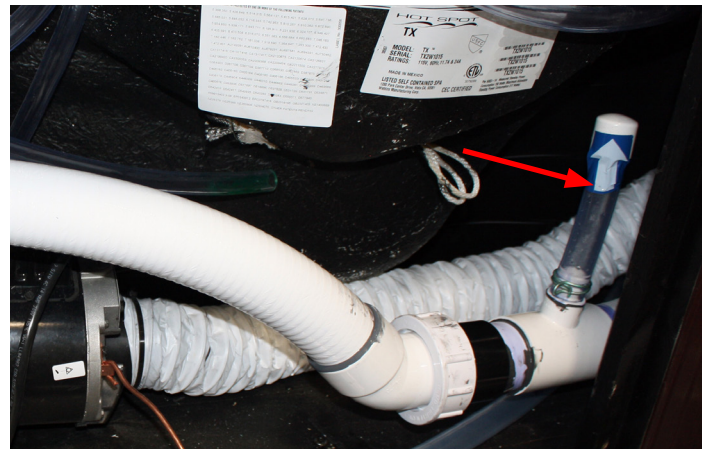
STEP 12:



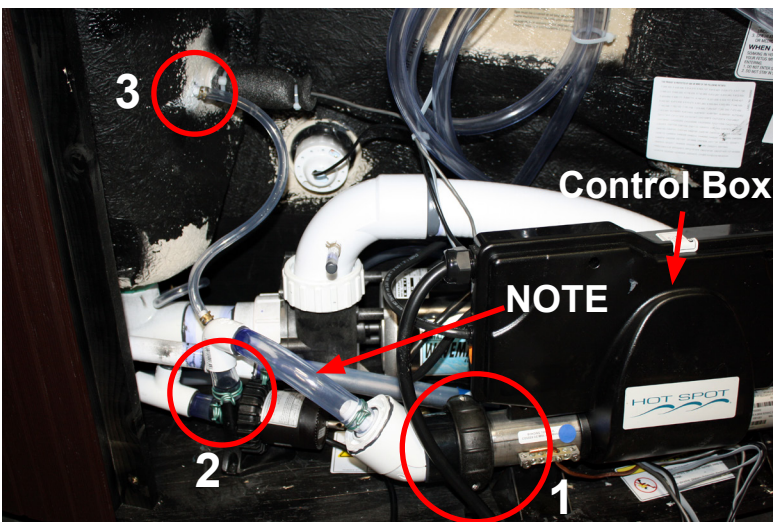
Attach 1/2" clear tubing from new **Circulation Pump Assembly** to 1/2" Drain Nipple on pump install in Step 4

STEP 13: Remove 3/4" Tubing going to Frog from top of fitting past the Bypass fitting.

Attach 3/4" Tubing with cap (removed in step 10) to outlet side fitting



STEP 14:



Place Control Box on Floor (as close to the original location as possible) making sure the 3/4" Tubing (with arrows pointing to the left) is behind Control Box.

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 will be too long and will 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:

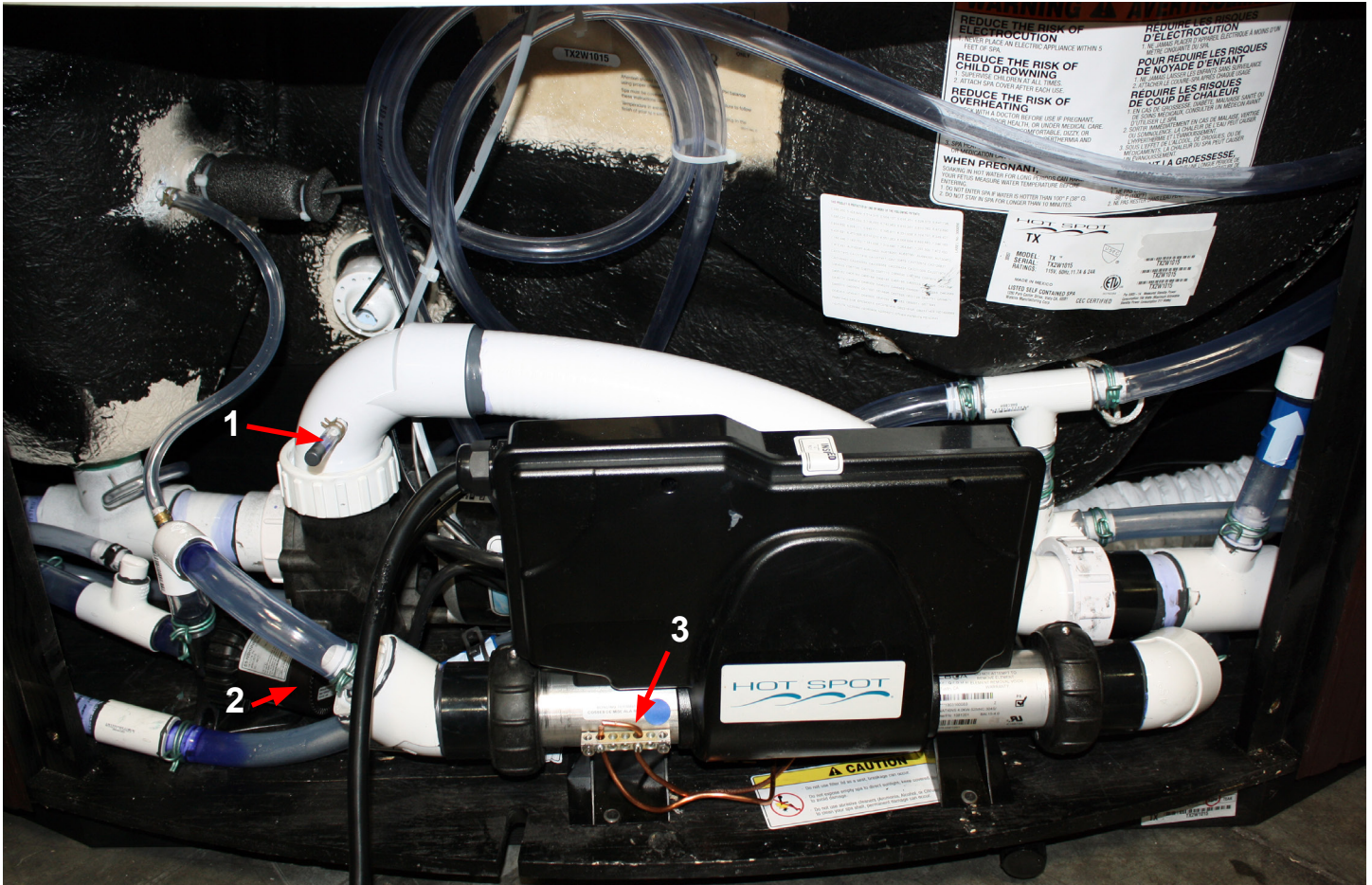
- Attach Heater Outlet Assembly (#1) to outlet side of heater facing down and towards the back
- Cut 3/4" Tubing (with arrows pointing to the left #2) behind Heater Outlet Assembly and attach #2 to the bottom section of Frog Bypass #3
NOTE: Bypass line has been removed to better see this step
- Attach a piece of 3/4" Tubing (#4a) from Heater Outlet Assembly (#1) to top of Frog Bypass (#3)
- Attach 3/4" Tubing (#4b, removed in Step 13) to top of Frog Bypass
- Attach the Control Box to Floor using screws



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

STEP 16:

- Attach 1/4" Vinyl Tube Plug (#1) to fitting on Bypass line
- Attach Bonding Wire to Circulation Pump (#2) and Bonding Jumper Terminal (#3 attached to Heater)



IMPORTANT:

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

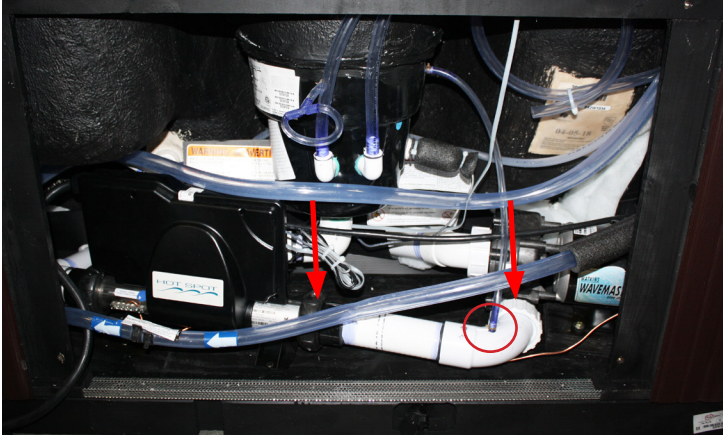
Go to Page 15 to complete Program Change & Electrical changes.

INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY:

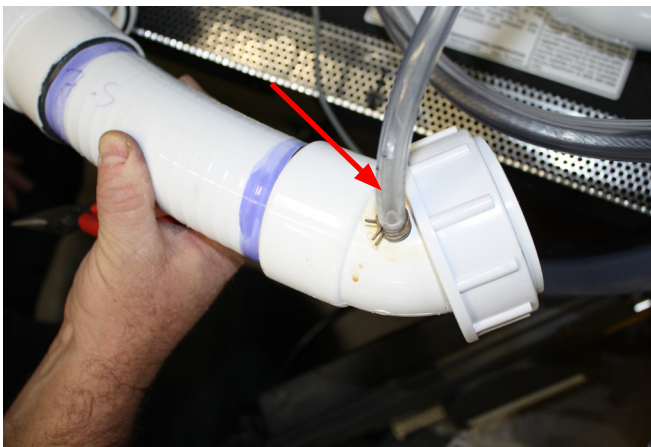
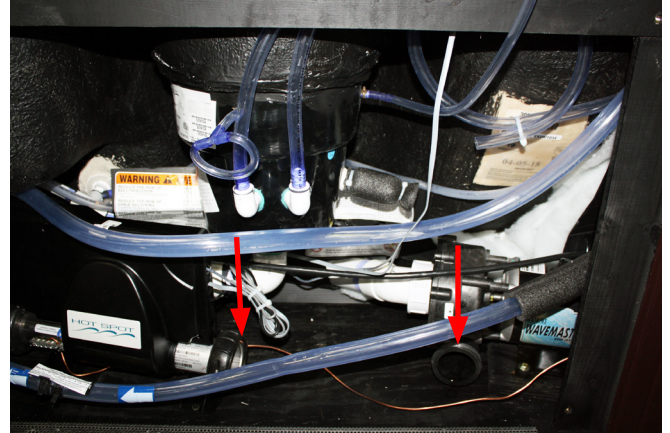
STEP 1: Disconnect power to spa, then remove Jet Pump Discharge Line

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

Before



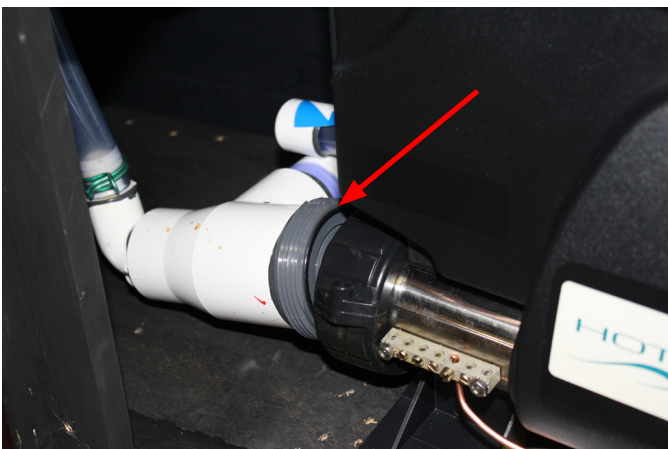
After



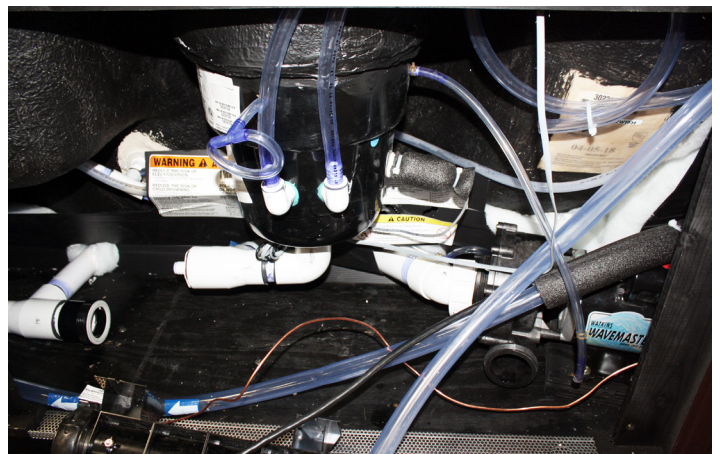
STEP 2: Disconnect Heater Outlet Line

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

Before



After

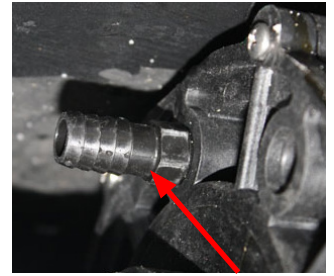
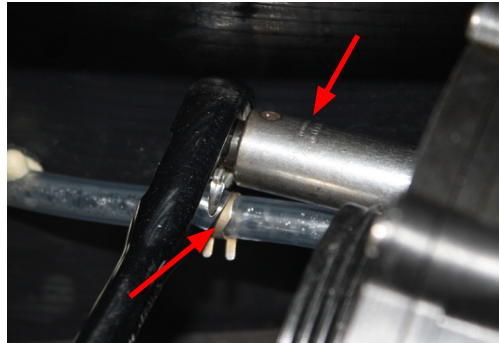
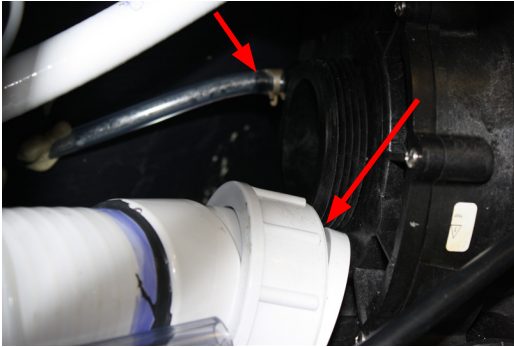


INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

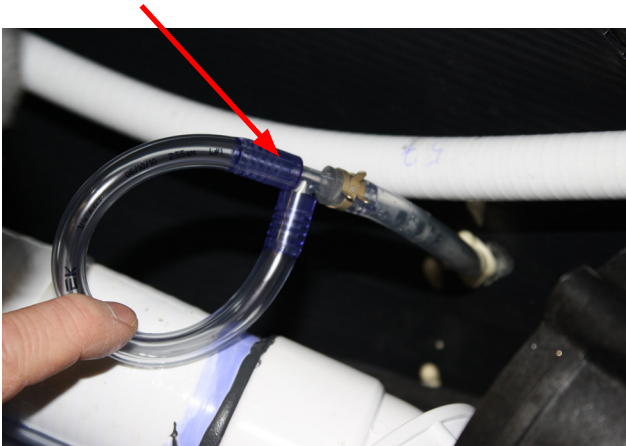
STEP 3: Removing 3/8" Line from Pump Drain Nipple and removing Pump Drain Nipple using 9/16" deep well socket

- 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.



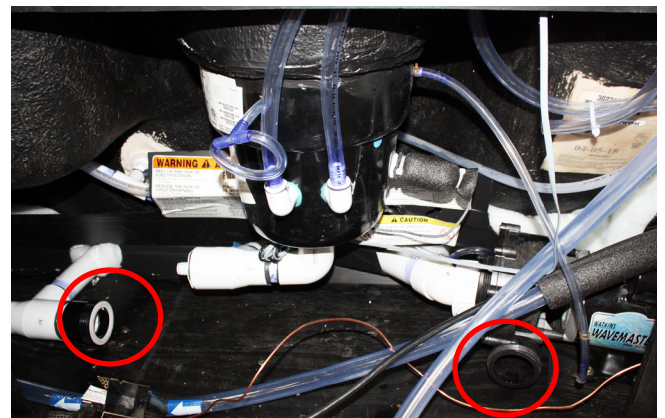
STEP 4: Attach Extension Tube (from Kit) into 3/8" Line removed from Pump Drain in step 3



STEP 5: Locate Bypass Line (A), 2" - 45° (B), 2" - 90° (C) Compression Fittings, two 2" 45° Street elbows (D) and PVC Primer & Glue



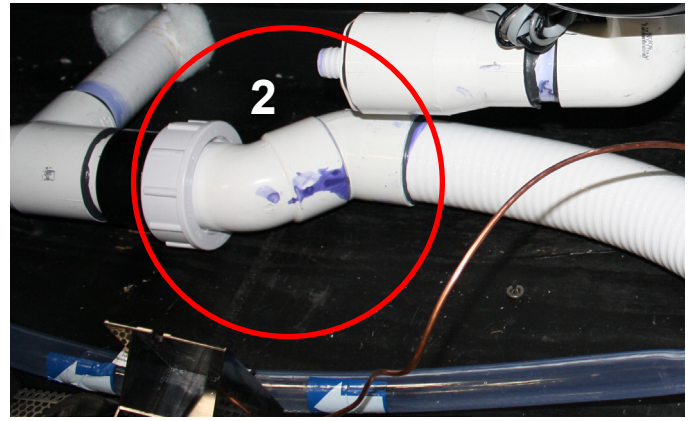
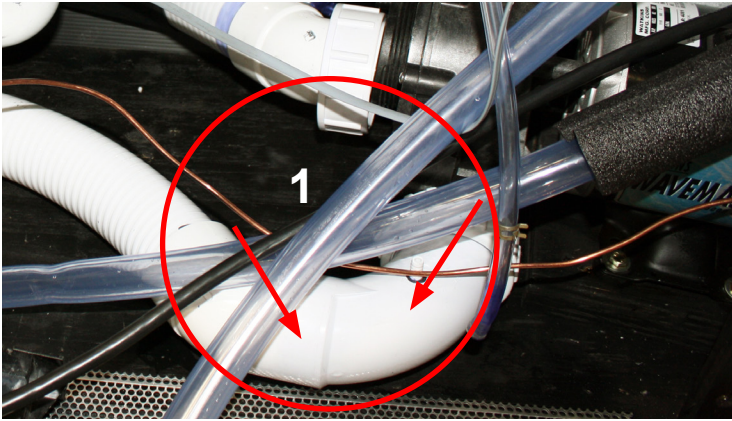
Before



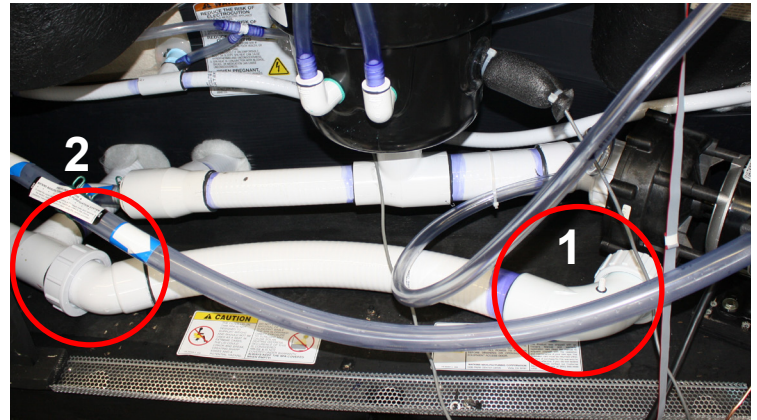
INSTALLATION OF NEW CIRCULATION PUMP KIT For SX ONLY (Continued)

STEP 5 Continued:

- Attach **2"- 90° Compression Fitting** onto jet pump discharge, attach **2"- 45° Street elbow to 90°**.
- Attach **2"- 45° Compression Fitting** to **2"- 45° Street elbow (2)**.
- Place **2" Bypass Line** into the end of one of the **45° Street elbows**, measure and cut for proper length making sure Bypass Line bends away from door opening (see After picture).
- Apply PVC Primer & Glue to attach everything from 1 to 2 (see After picture).
- Attach and tighten both ends of the Bypass Line Assembly (see After picture).

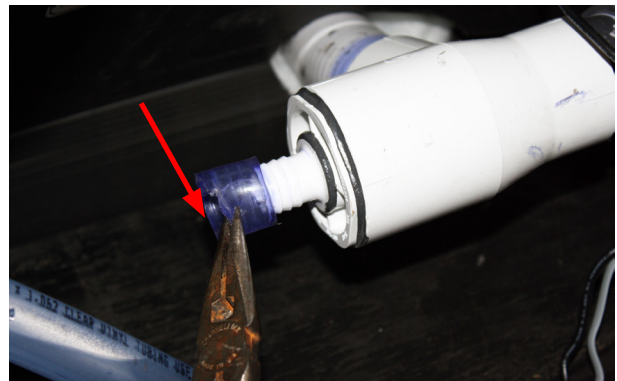


After



STEP 6: Cut the 3/4" Filter line at barb with plug on left side of equipment compartment and set aside. Remove cut piece of filter line off barb using needle nose pliers and discard.

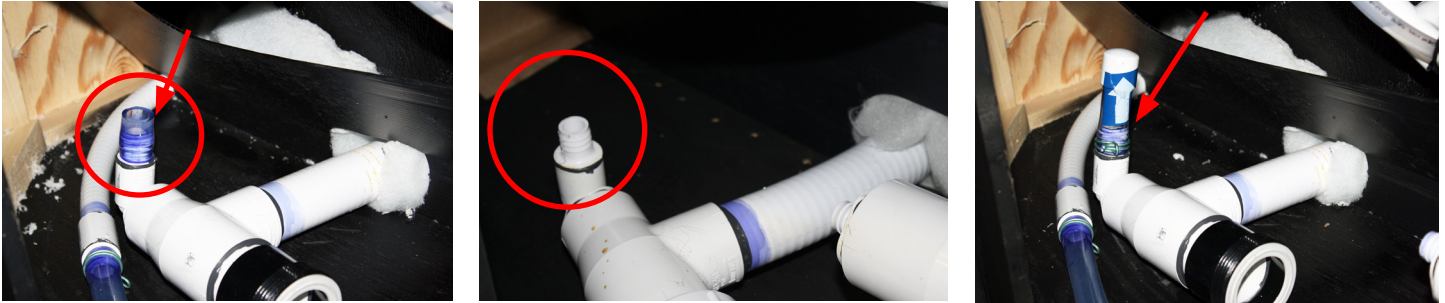
Before



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

STEP 7

- Cut and remove the 3/4" Ozone line (attached to barb on left side of equipment compartment). Remove cut piece from barb using needle nose pliers.
- Attach 3/4" Filter line with plug (removed in step 6) to 3/4" Ozone line barb.



STEP 8:

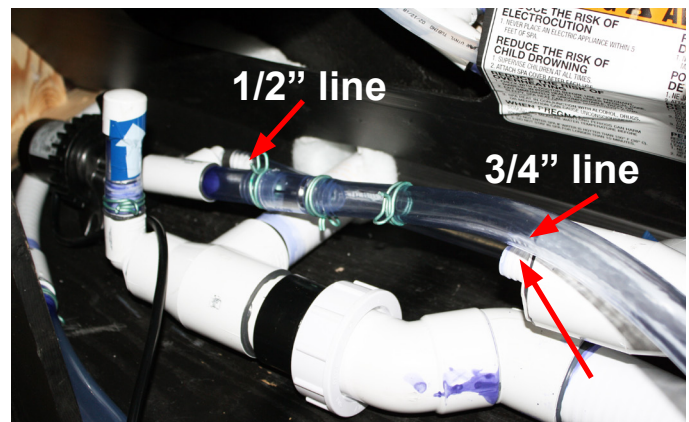
- Cut and attach 3/4" line from **Circulation Pump Assembly** to barb as illustrated.

NOTE: Attach Bonding Wire to Circulation Pump before installing assembly

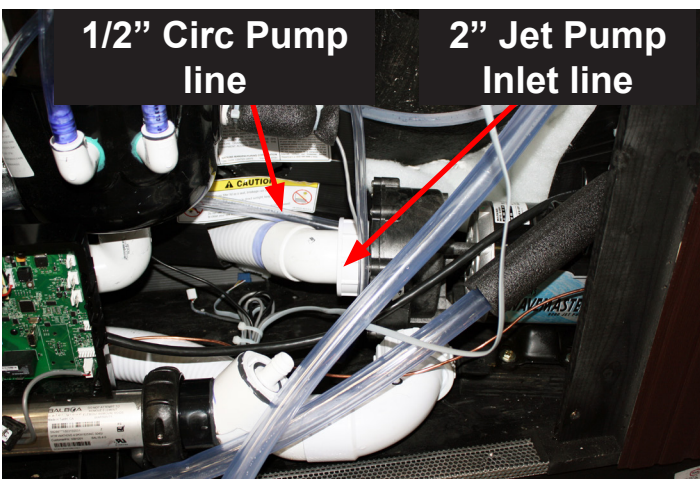
Before



After



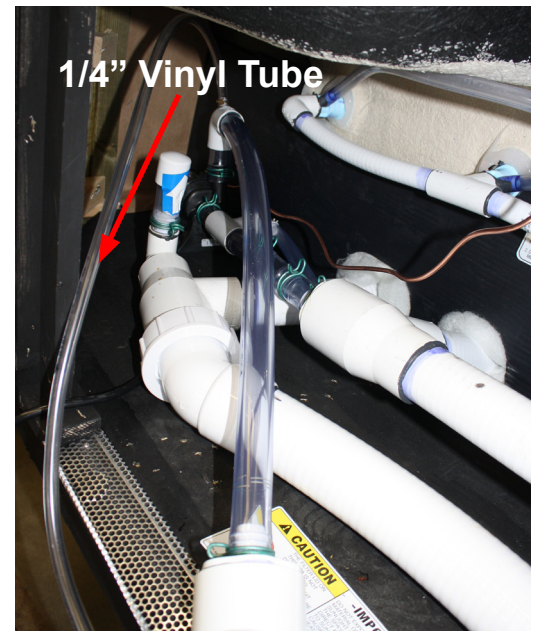
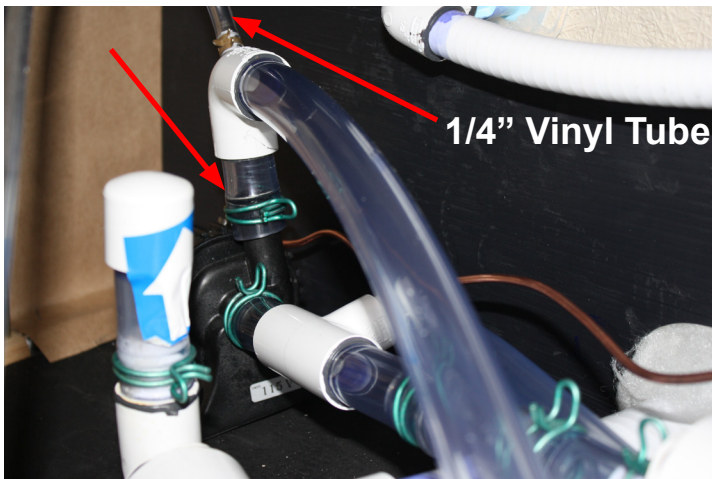
- STEP 9:** Attach 1/2" line from **Circulation Pump Assembly** (in step 8) to 1/2" Drain Nipple on pump (in step 3). Reattach the 2" Jet Pump Inlet line to pump.



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

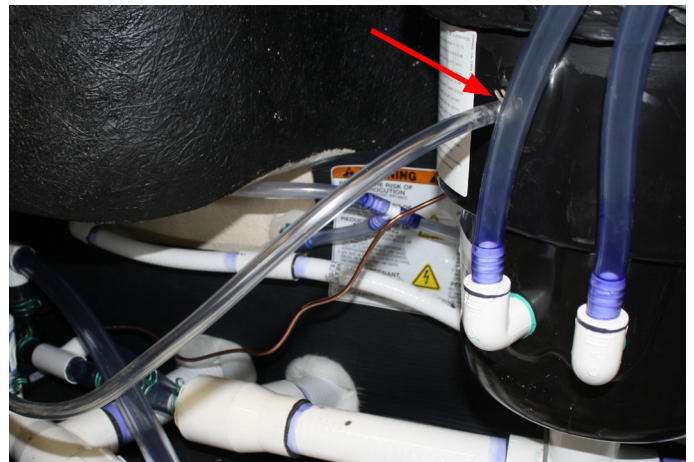
STEP 10

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



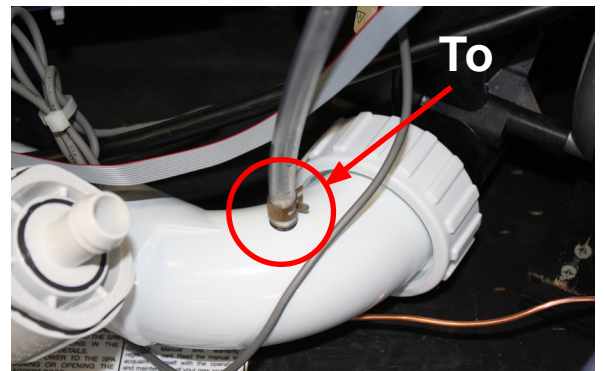
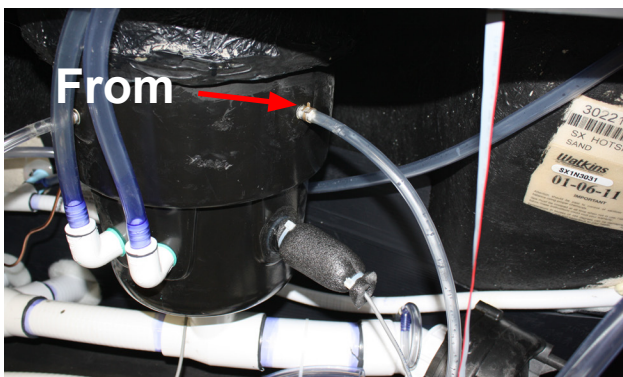
STEP 11:

- Remove the 1/4" Vinyl Tube (Plug) attached to filter bucket
- Attach the 1/4" Vinyl Tube from step 10 (Heater Inlet Assembly) 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

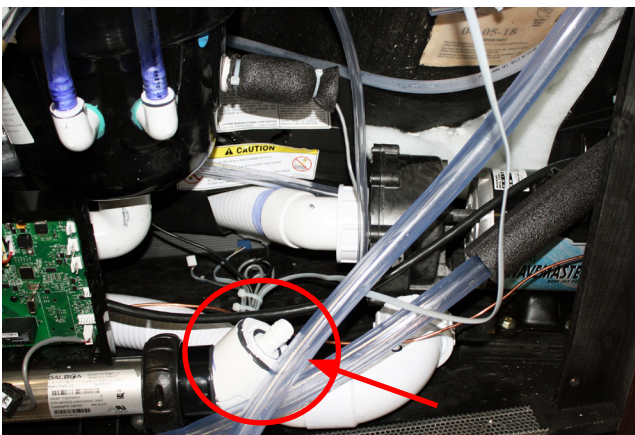
- Attach **Circulation Pump to Heater Inlet Assembly** (step 10) to left side of Heater (will require cutting the tube to fit).
 - Fasten Heater back to equipment compartment floor (4 screws)
- NOTE:** Heater will not fit in same location as factory installation. Make sure Heater will fit behind equipment compartment door.



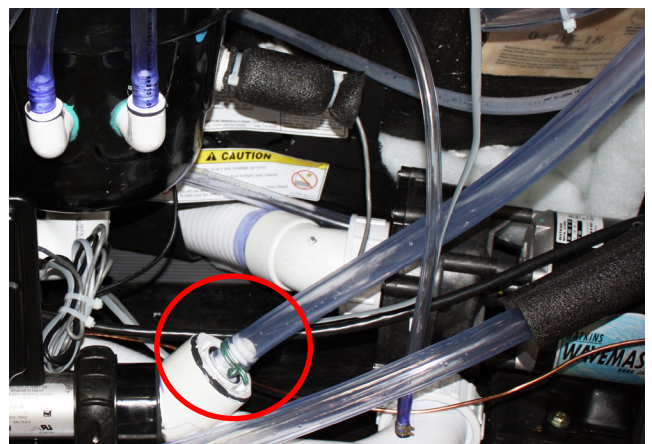
STEP 14

- Attach Heater Outlet Assembly to right side of Heater
- Measure and cut the 3/4" tubing to fit on barb
- Attach Tube to Heater Outlet barb fitting

Before



After



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

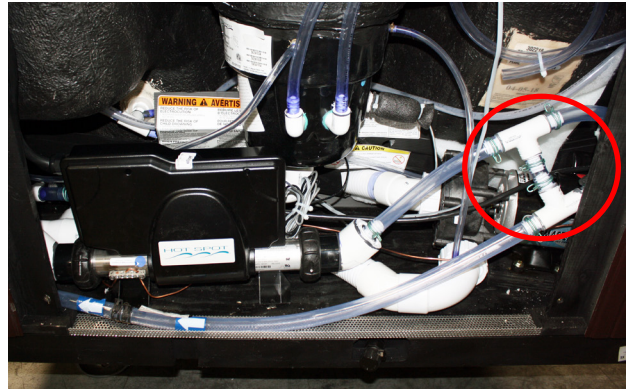
STEP 15

- Cut the 3/4" tubing to right side of Heater and 3/4" tubing below (See Before below)
- Attach Frog Bypass Assembly between upper 3/4" tubing from Heater and lower 3/4" tubing from Frog (See After below).

Before

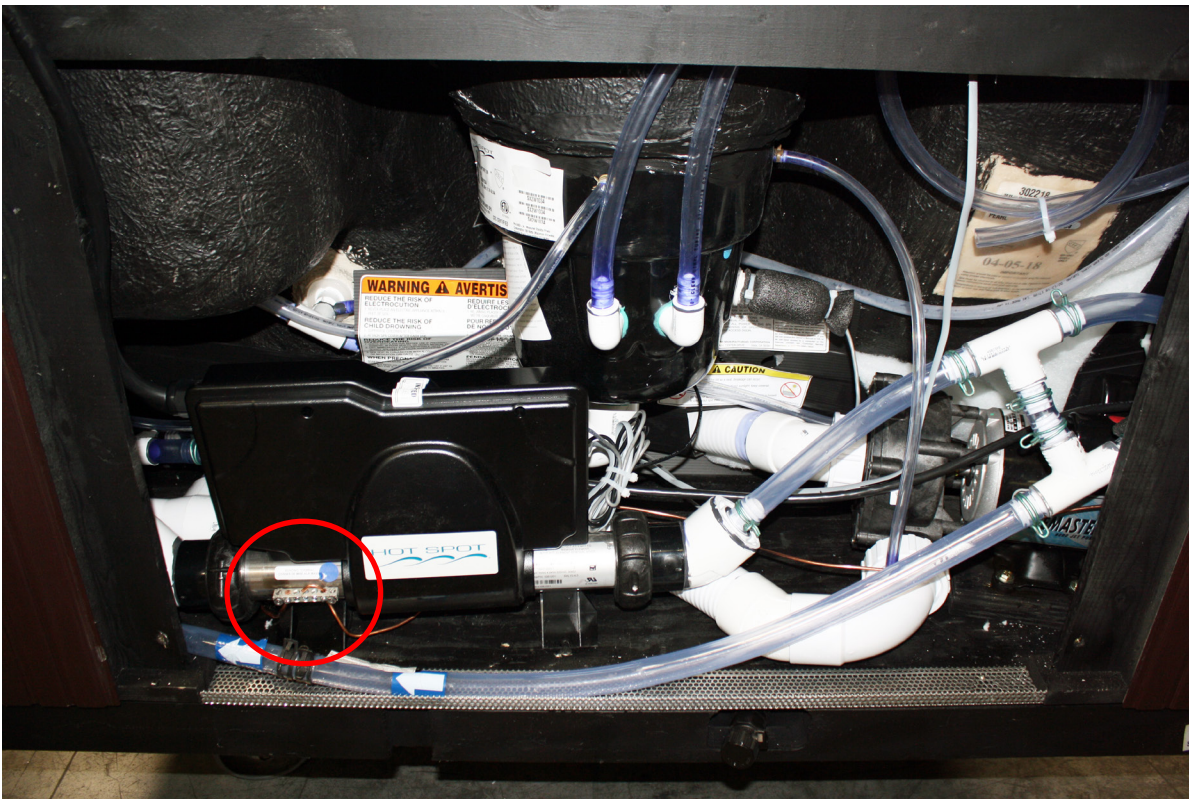


After



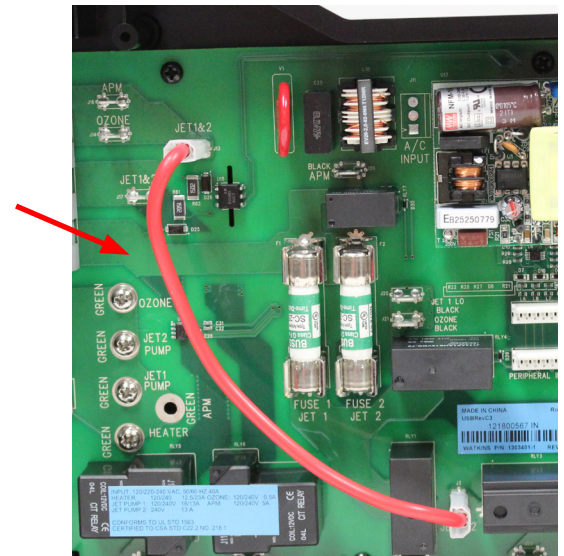
COMPLETE INSTALLATION FOR SX:

- Attach Bonding wire from circulation pump to Bonding Jumper Terminal on heater.



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.