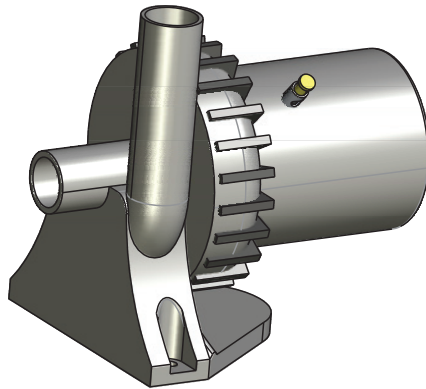


INSTALLATION

Of your HOT SPOT 2020 TX CIRCULATION PUMP



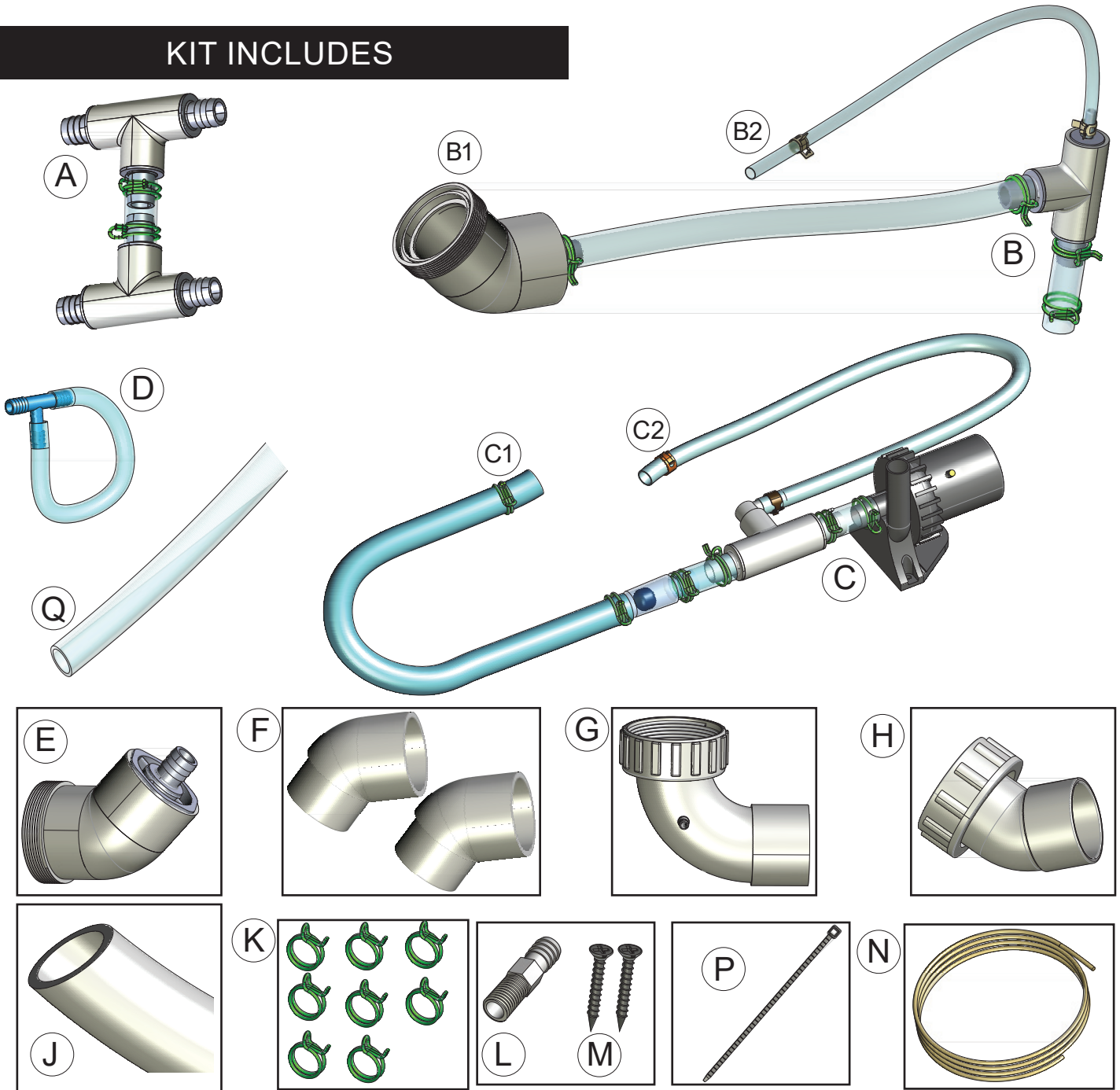
These instructions to be used with kit 79173

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INSTALLATION REQUIREMENTS

KIT INCLUDES



Part	Description	Quantity
A	Frog Bypass Assembly	1
B	Circulation Pump to Heater Inlet Assembly	1
B1	2" Heater Inlet Connector with 3/4" barb fitting	(Part of Circulation Pump to Heater Inlet Assy).
B2	1/4" Clear Vinyl Hose Connection	(Part of Circulation Pump to Heater Inlet Assy).
C	Circulation Pump Assembly	1
C1	3/4" Clear Vinyl Hose Connection	(Part of Circulation Pump Assembly).
C2	1/2" Clear Vinyl Hose Connection	(Part of Circulation Pump Assembly).
D	Extension Tube (Plug)	1
E	Heater Outlet Assembly	1

INSTALLATION REQUIREMENTS

KIT INCLUDES (CONTINUED)

Part	Description	Quantity
F	2" Street Elbow 45°	2
G	2" Compression Fitting 90° with 1/4" Barb Fitting	1
H	2" Compression Fitting 45°	1
J	2" Flex Tubing (Long Piece, Cut to Size)	1
K	3/4" Hose Clamp	8
L	1/2" Drain Nipple	2
M	Circulation Pump Mounting Screws	1
N	Copper Bonding Wire	1
P	Zip Tie	1
Q	3/4" Clear Vinyl Hose (Long Piece, Cut to Size)	1

TOOLS REQUIRED

PHILLIPS #2 BIT
CORDLESS DRILL



HOSE CUTTER



FLAT HEAD
SCREWDRIVER



3/8" RATCHET
9/16" DEEP SOCKET



WIRE CUTTERS



PHILLIPS #2 SCREWDRIVER



PERMANENT
MARKER



LARGE CHANNEL LOCK &
NEEDLE-NOSE PLIERS



MATERIAL REQUIRED

PVC CEMENT AND PRIMER



SILICONE



CIRCULATION PUMP INSTALLATION IMPORTANT INFORMATION

IMPORTANT INFORMATION

DANGER



Disconnect Power to spa before beginning Circulation Pump installation procedure.

- One Technician is needed for this installation.
- Wear safety glasses at all times.
- Refer to Page 4 for (TX) model plumbing configuration.
- During the procedure instruction illustrations are shown without a spa frame to improve visibility of components and connections inside the equipment compartment.
- All clear vinyl connections must be secured with a clamp of appropriate size.
- When installation is complete do the following;
 - Replace control box lid.
 - Fill your spa with water.
 - Power on your spa.
 - Check for leaks.

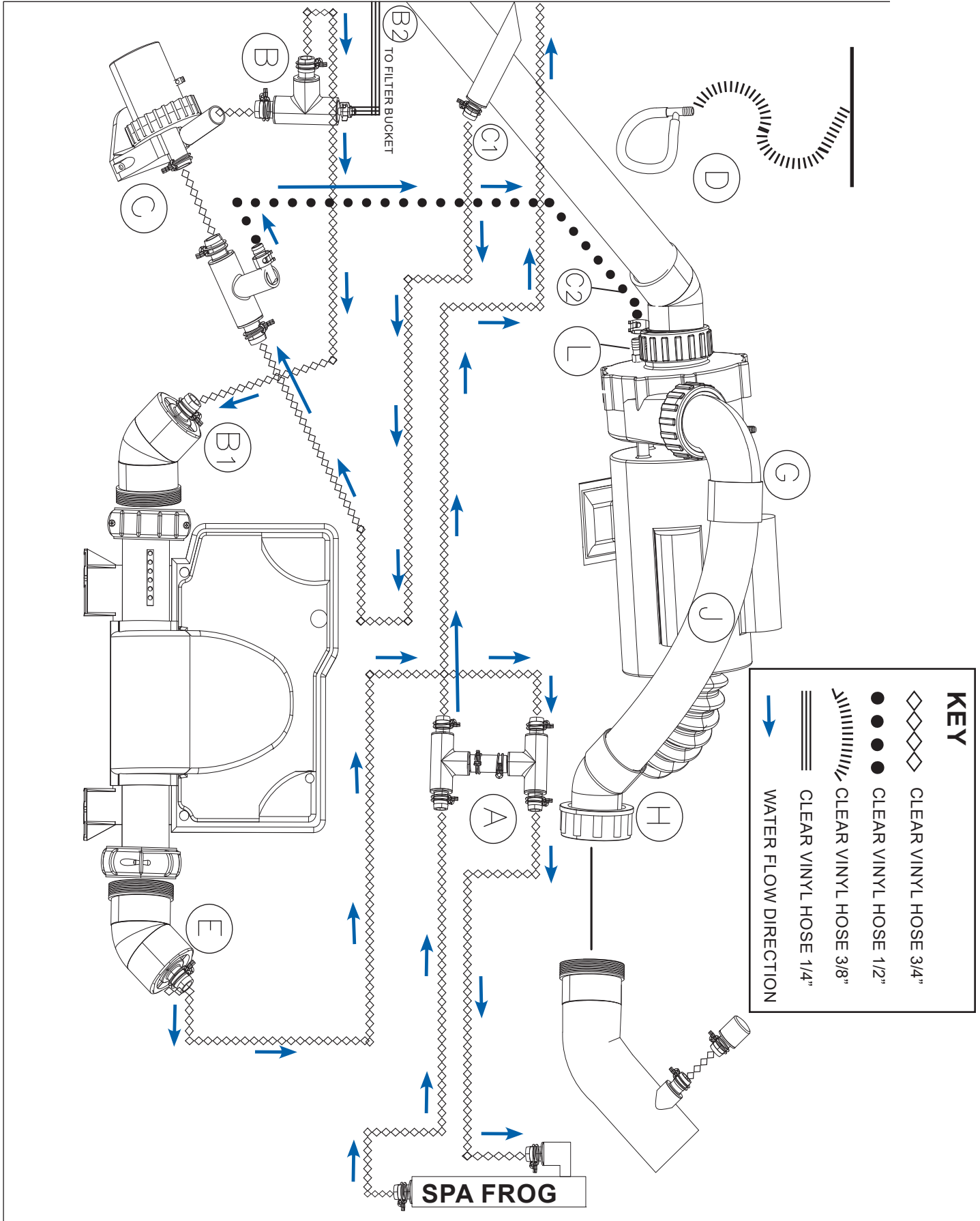
Jet Pump and Circulation Pump Air Bleeding

If circulation pump system is not primed, bleed air out of jet pump or circulation pump until pumps are primed.

Frog System Air Bleeding

- While spa is running, remove spa frog cap and frog insert.
- Wait 5-10 second and ensure that water flows steadily out of frog housing
- Replace frog insert and spa frog cap. Spa is now primed and ready to use.

TX CIRCULATION PUMP PLUMBING OVERVIEW



CIRCULATION PUMP INSTALLATION PREPARATION

STEP 1

REMOVE SPA DOOR

DANGER



Disconnect Power to spa before opening the Control Box to prevent possible electrocution.

NOTE

Your spa has to be completely drained before starting the procedure.

1. Remove all screws that hold the equipment compartment door to the spa.
2. Put the equipment compartment door to the side.

STEP 2

REMOVE JET PUMP DISCHARGE

1. Locate the 1/4" vinyl tube connected to the barb fitting on the elbow of the Jet discharge line.
2. Disconnect the 1/4" vinyl tube from the jet pump discharge line (Figure 1.1).
3. Locate the jet pump discharge line connections (Figure 1.2).
4. Disconnect the jet pump discharge line from both the jet pump and the heater (Figure 1.2).

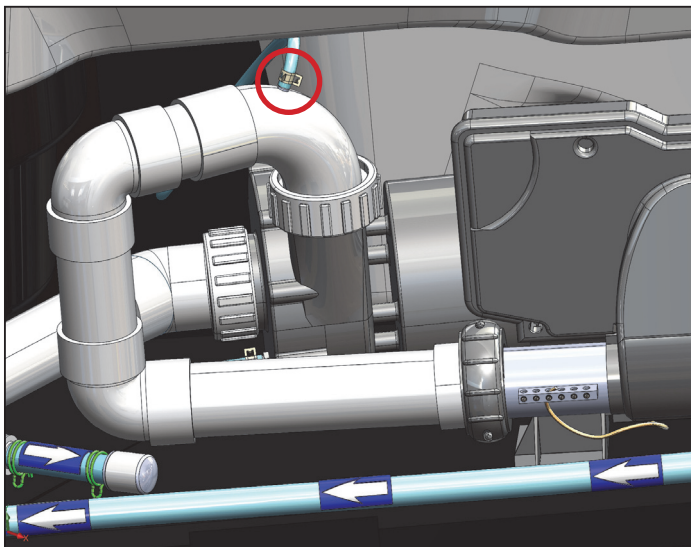


Figure 1.1

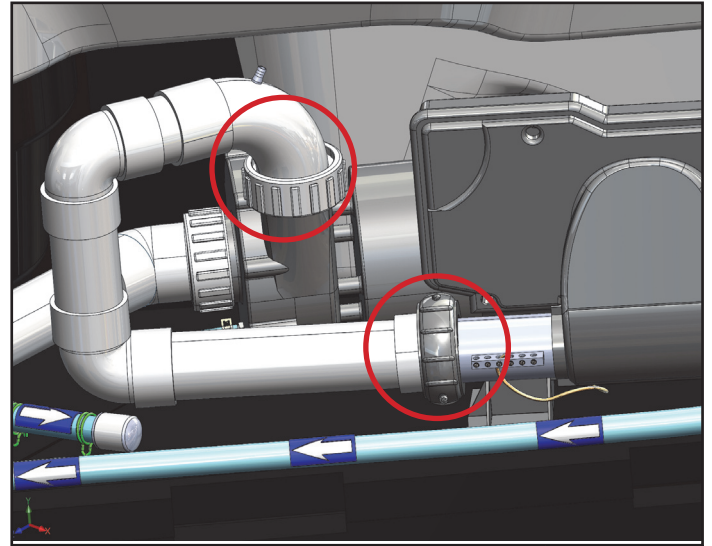


Figure 1.2

STEP 3

REPLACE 3/8" DRAIN WITH 1/2" DRAIN

1. Locate drain nipple in the front part of the jet pump (Figure 2.1).
2. Using needle nose pliers, press on the clamp to release the 3/8" vinyl hose from the barb fitting.
3. Remove the factory installed 3/8" drain nipple from front of jet pump (Figure 2.2).
4. Locate (L) 1/2" Drain Nipple that comes with kit and add silicone to the thread part of the drain nipple.
5. Insert 1/2" Drain Nipple (L) into jet pump drain located in the front of the jet pump (Figure 2.3).
6. Locate Extension Tube (Plug) (D) that comes with kit (Figure 2.4).
7. Connect Extension Tube (Plug) (D) to 3/8" vinyl tube that was previously disconnected from the front of the jet pump (Figure 2.4).

CIRCULATION PUMP INSTALLATION PREPARATION

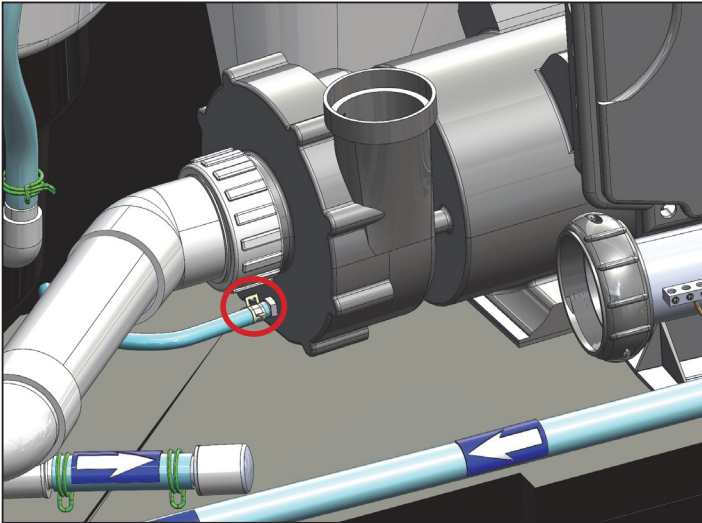


Figure 2.1

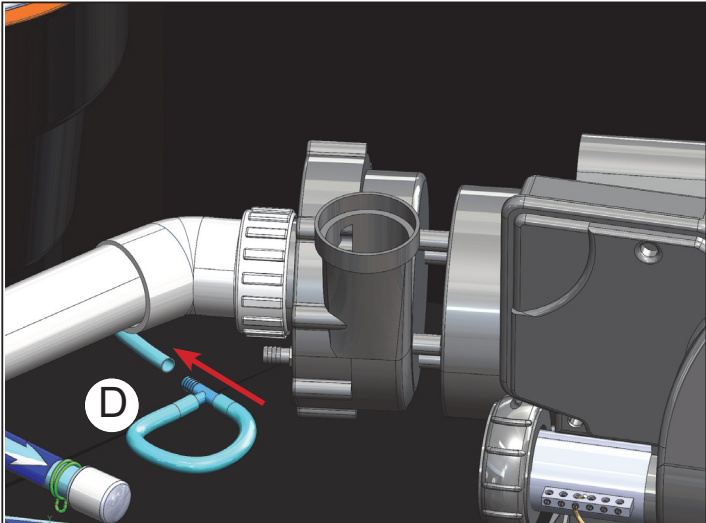


Figure 2.4

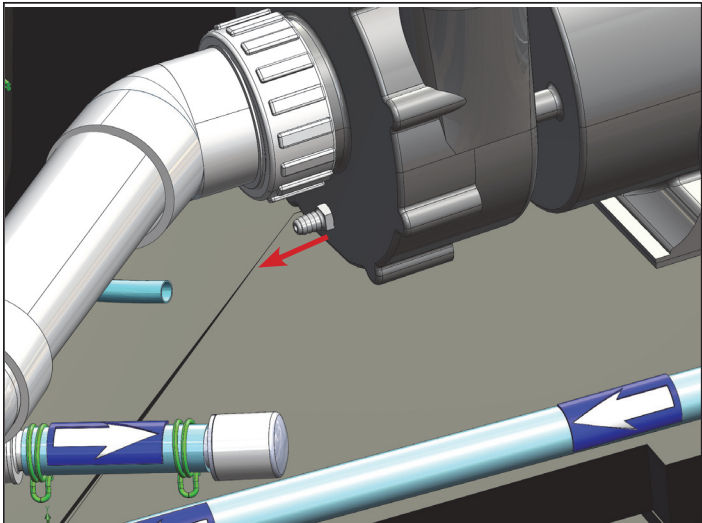


Figure 2.2

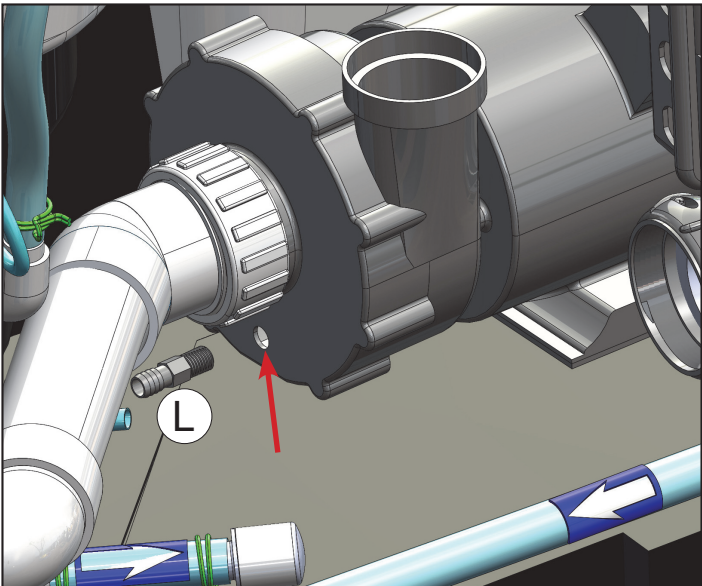


Figure 2.3

CIRCULATION PUMP INSTALLATION PREPARATION

STEP 4 DISCONNECT HEATER OUTLET LINE

1. Locate 3/4" clear vinyl hose at the beginning of the heater discharge line (Figure 3.1).

NOTE

This 3/4" clear vinyl hose is connected to the spa frog inlet at the other end of the hose.

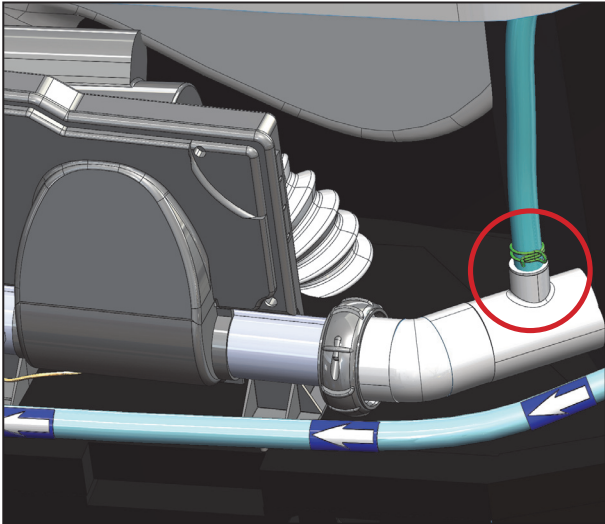


Figure 3.1

2. Disconnect 3/4" clear vinyl hose from heater discharge line (Figure 3.1).
3. Locate the split nut that connects the heater to the 2" heater discharge line (Figure 3.2).
4. Loosen split nut and remove the 2" heater discharge line (Figure 3.2).

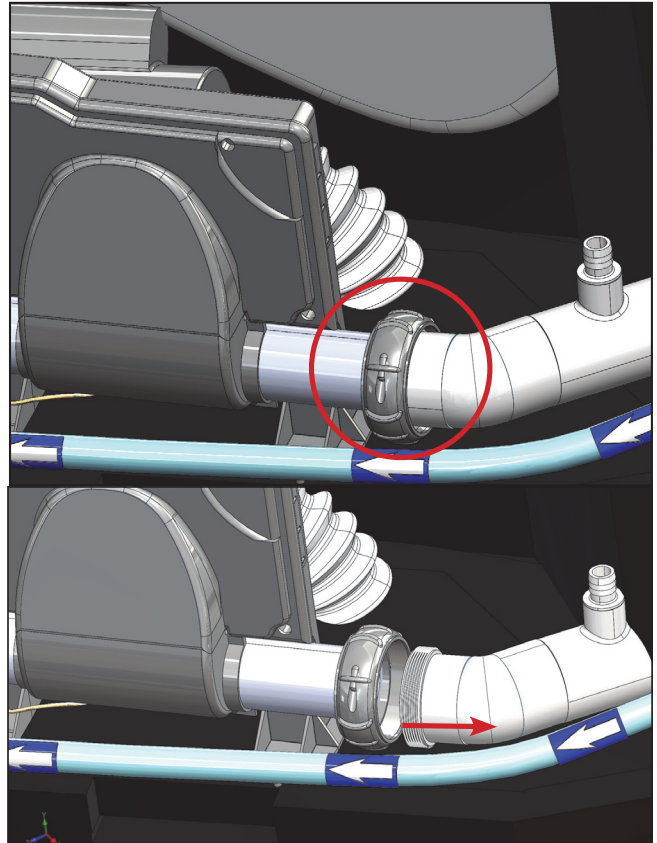


Figure 3.2

STEP 5 REMOVE CONTROL BOX/HEATER

1. Locate the (2) 1/4-20 hex bolts that hold the control box to the bottom of the equipment compartment (Figure 4.1).
2. Remove both 1/4-20 hex bolts (Figure 4.1).
3. Move Control box/heater out of equipment compartment (Figure 4.1).

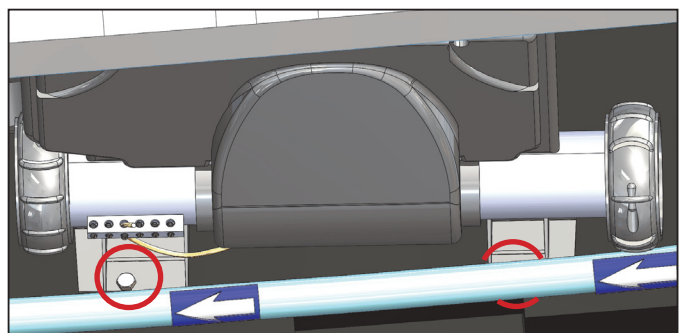


Figure 4.1

CIRCULATION PUMP INSTALLATION

STEP 1 INSTALL JET PUMP 2" BYPASS LINE TX SPA

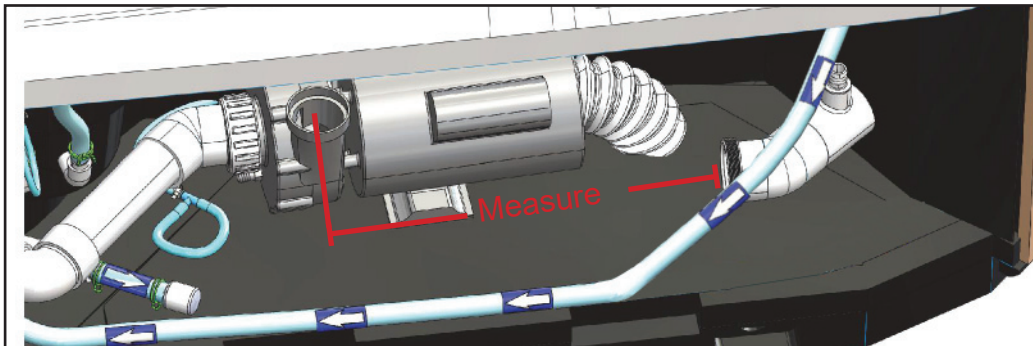


Figure 5.1

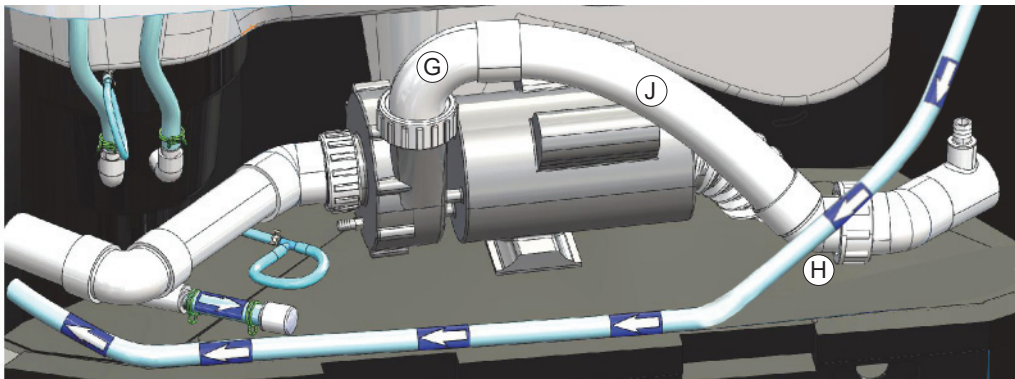


Figure 5.2

1. Measure distance from jet pump discharge to connection that was previously used as heater discharge line (Figure 5.1).
2. Locate 2" 90° Compression fitting (G) that comes with kit.
3. Attach 2" 90° Compression fitting (G) to jet pump discharge (Figure 5.2).
4. Locate 2" Flex Tubing (J) provided with kit and place into on Compression fitting (G) (Figure 5.2) (DO NOT GLUE).
5. Locate 2" 45° Compression fitting (H) that comes with kit.
6. Attach 2" 45° Compression fitting (H) to connection that was originally used as heater discharge line (Figure 5.2).
7. Connect 2" Flex Tubing(J) to 2" 45° Compression fitting (H) (Figure 5.2). (DO NOT GLUE).
8. Make sure that the 2" Flex Tubing (J) bends upward and that all pieces fit similar as in (Figure 5.2).
9. Apply PVC Primer and Glue to attach all components as seen in (Figure 5.2).

CIRCULATION PUMP INSTALLATION

STEP 2 INSTALL 3/4" VINYL TUBE RETURN LINE

1. Locate the 3/4" Clear vinyl hose connection (R1) (Figure 6.1) on the left side of equipment compartment.
2. Using a needle nose pliers, remove bottom clamp from barb fitting and remove 3/4" clear vinyl hose connection from barb fitting (Figure 6.1).
3. After removing 3/4" clear vinyl hose connection (R1), Attach it on to the 3/4" barb fitting that is located on the 2" connector that was previously connected to the heater outlet (Figure 6.2).
4. Secure 3/4" clear vinyl hose connection (R1) to 3/4" barb fitting with hose clamp (Figure 6.2).

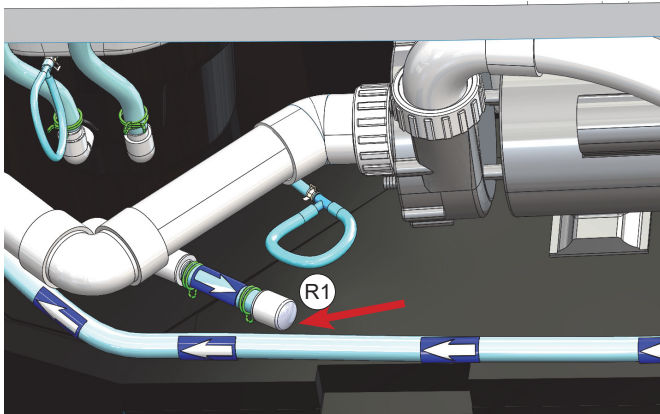


Figure 6.1

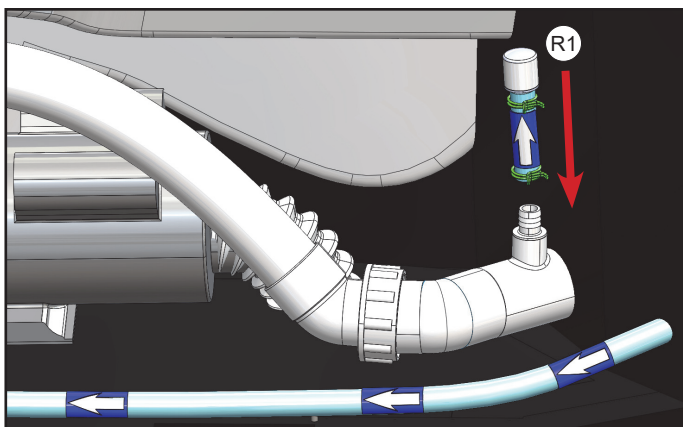


Figure 6.2

STEP 3 MOVE CONTROL BOX/HEATER BACK IN

1. Re-insert control box/heater back into the equipment compartment (Figure 7.1).
2. Align control box /heater as seen in (Figure 7.1). Make sure control box/heater will not interfere with equipment compartment door.
3. Fasten control box/heater to equipment compartment floor.

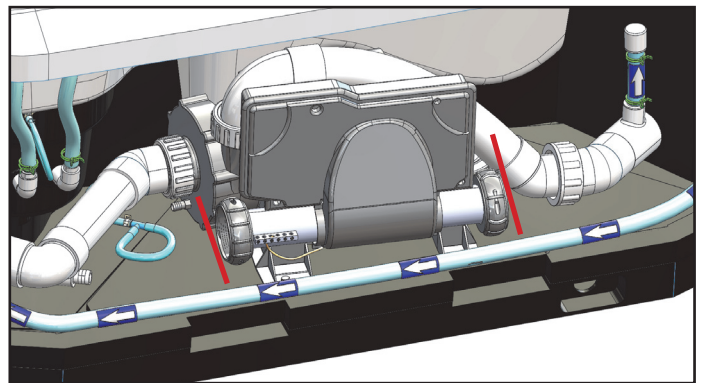


Figure 7.1

STEP 4 ATTACH HEATER OUTLET ASSEMBLY

1. Locate Heater Outlet Assembly (E) that comes in kit.
2. Connect Heater Outlet Assembly (E) to right side for of heater as shown in (Figure 8.1) and secure with heater split nut.

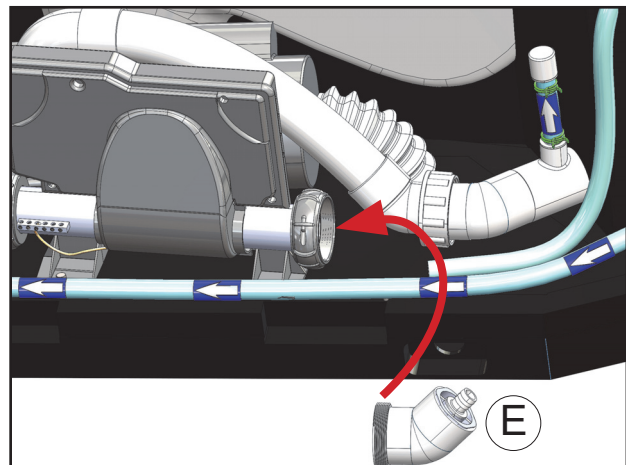


Figure 8.1

CIRCULATION PUMP INSTALLATION

STEP 5

ATTACH FROG BYPASS ASSEMBLY

1. Locate Frog Bypass Assembly (A) that comes in kit.
2. Identify 3/4" clear vinyl hose that goes into spa frog labeled here as (T1) and 3/4" clear vinyl hose coming from spa frog with arrow stickers attached to it (Figure 9.1).
3. Align Frog Bypass Assembly (A) to both 3/4" clear vinyl hoses so that Frog Bypass Assembly (A) fits as shown in (Figure 9.1).
4. Mark locations that will be cut to install Frog Bypass Assembly (A) with a marker and cut all locations previously marked with pen (Figure 9.1).

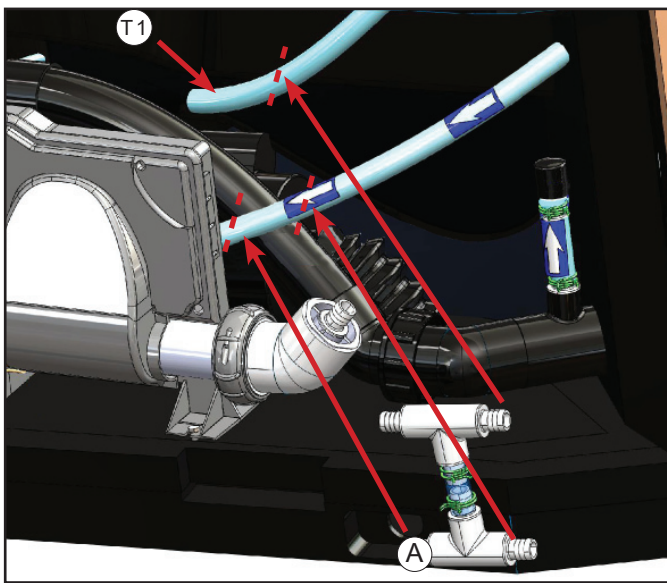


Figure 9.1

5. Install Frog Bypass Assembly (A) as shown in (Figure 9.2) making sure to secure all barb connections with 3/4" Hose Clamp (K).
6. Measure distance from Frog Bypass Assembly (A) barb connector to Heater Outlet Assembly (E) (Figure 9.2).
7. Using the 3/4" clear vinyl hose(Q) that comes in kit, cut to size measured in previous step (Figure 9.2).

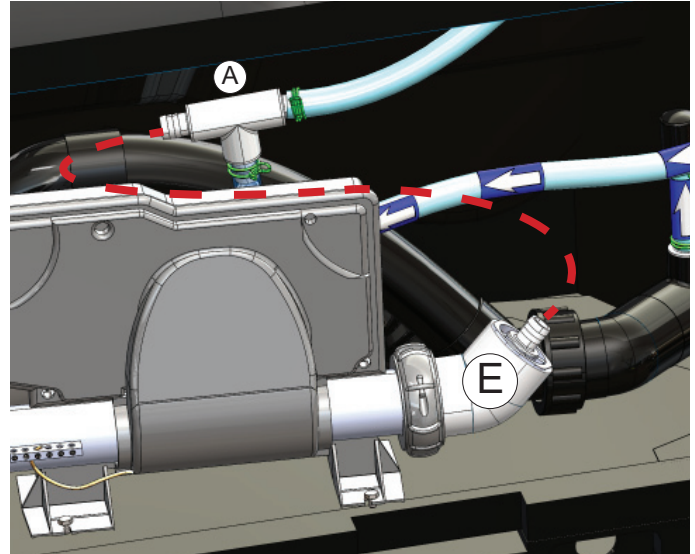


Figure 9.2

8. Secure the 3/4" clear vinyl hose to both the Frog Bypass Assembly barb fitting and the Heater Outlet Assembly (E) with 3/4" Hose Clamps.

STEP 6

SECURE CIRCULATION PUMP ASSEMBLY

1. Locate Circulation Pump Assembly (C) that comes with kit.
2. Place Circulation Pump Assembly (C) inside equipment compartment as shown in (Figure 10.1).
3. Once Circulation Pump Assembly (C) has been set inside equipment compartment, secure Circulation Pump Assy. to equipment compartment floor using 2 Circulation Pump Mounting screws (M) (Figure 10.1).

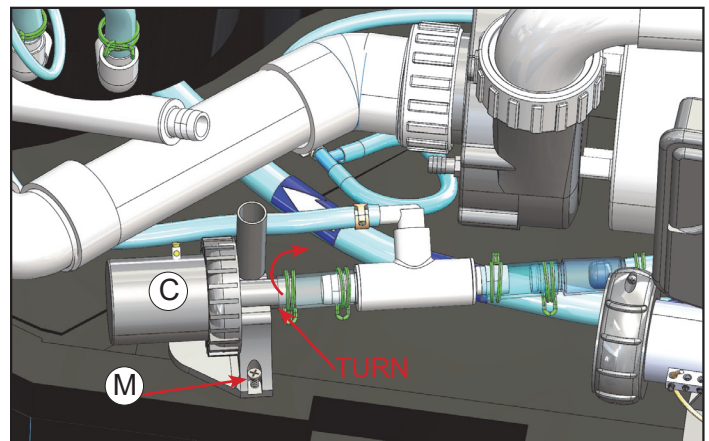


Figure 10.1

CIRCULATION PUMP INSTALLATION

- Turn 3/4" vinyl hose that connects to circulation pump inlet until it looks similar as in (Figure 10.1)

STEP 7 SECURE COPPER BONDING WIRE

- Locate Copper Bonding Wire (N) that comes in kit.
- Connect one end of the Copper Bonding Wire (N) to the bonding block on the left side of heater (Figure 11.1).
- Connect the other end of the Copper Bonding Wire (N) to the bonding lug located on the Circulation pump body (Figure 11.1).

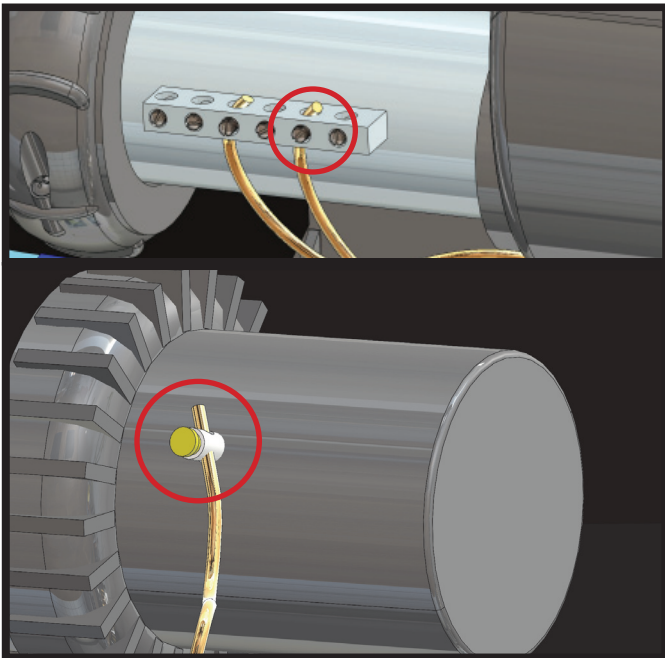


Figure 11.1

STEP 8 ASSEMBLE ASSEMBLY (B) AND (C)

- Locate Circulation Pump To Heater Inlet Assembly (B) that comes in kit.
- Connect Circulation Pump to Heater Inlet Assembly (B) into Circulation Pump Assembly (C) by connecting the bottom part of the Assembly (B) to the circulation pump outlet connection (Figure 12.1).

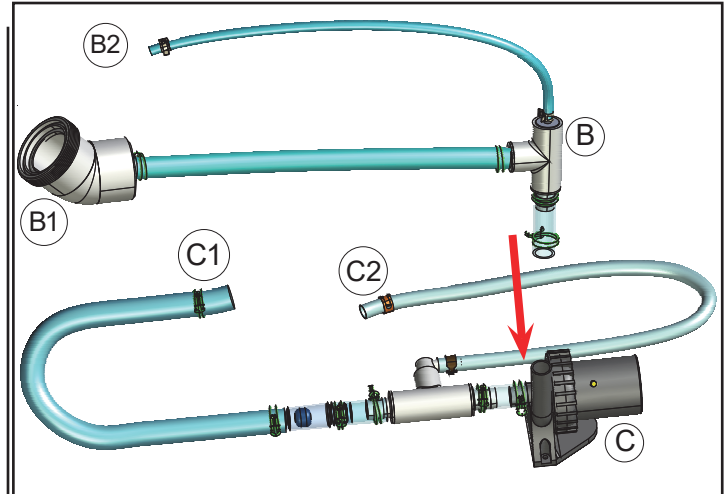


Figure 12.1

STEP 9 CONNECT CIRC. PUMP ASSY. CONNECTIONS

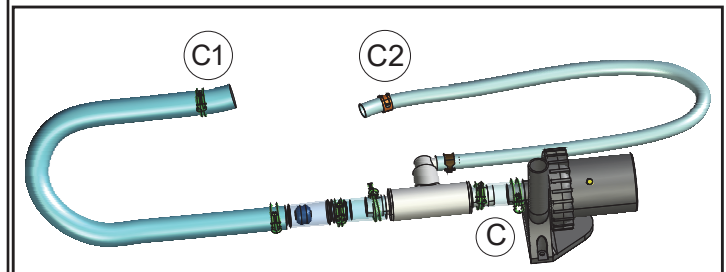


Figure 13.1

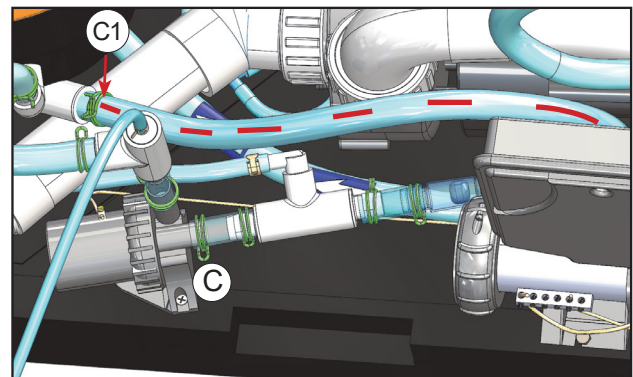


Figure 13.2

- Locate connection (C1) and connect it to the barb connection (Figure 13.1 and 13.2). (Cut to length if hose too long).
- Locate connection (C2) and connect it to the drain nipple(L) in front of jet pump (Figure 13.1 and 13.3). (Cut to length if hose is too long).

CIRCULATION PUMP INSTALLATION

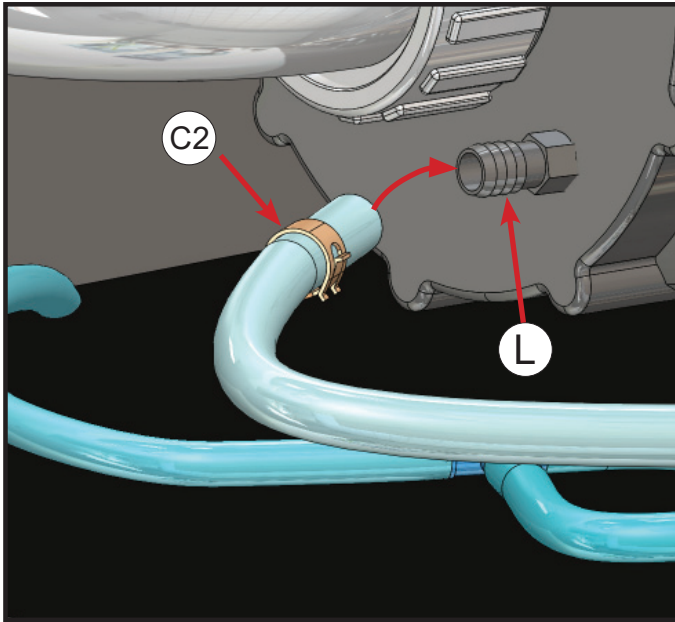


Figure 13.3

STEP 10 CONNECT CIRC PUMP TO HEATER ASSY CONNECTIONS

1. Locate connection (B1) and connect it to the heater connector on the left side of equipment compartment as seen in (Figure 14.1).
2. Locate plug on filter bucket and disconnect it. Then locate connection (B2) and connect it to filter bucket in the same spot where the plug was disconnected from (Figure 14.2).

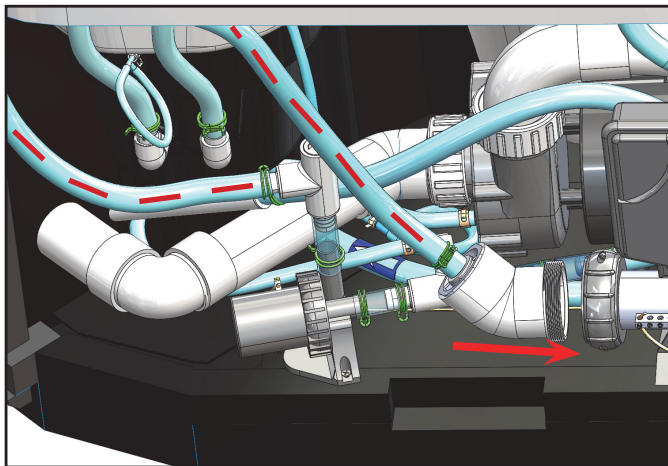


Figure 14.1

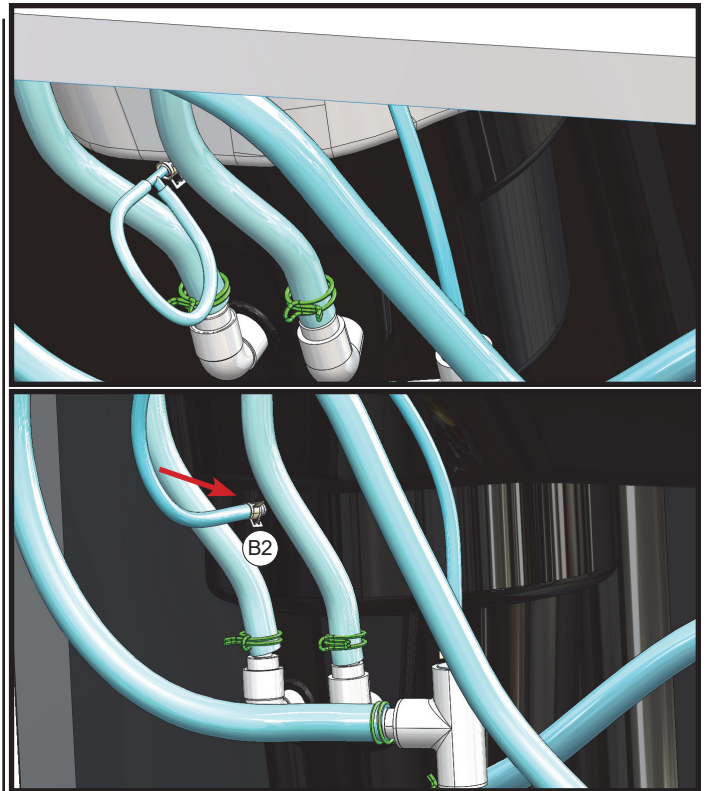


Figure 14.2

STEP 11 CONNECT 1/4" CLEAR VINYL HOSE AIR LINE

1. Locate 1/4" clear vinyl hose air line that was removed in (Step 2) at the beginning of the installation instructions (Figure 15.1).
2. Connect 1/4" clear vinyl hose air line to the 1/4" barb fitting located on the jet pump bypass line (on 90° compression fitting connected to Jet pump discharge) (Figure 15.1).

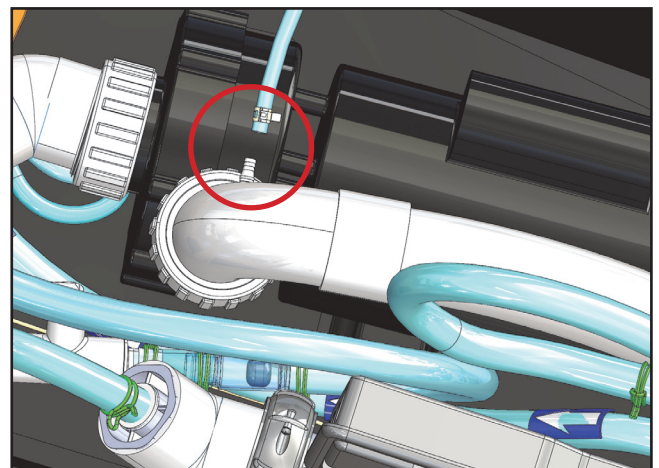
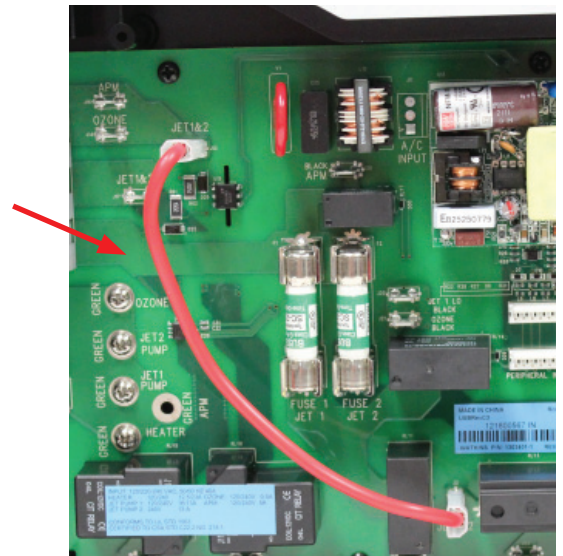


Figure 15.1

CIRCULATION PUMP ELECTRICAL

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 ▲ button on the control panel multiple times until “J11 +” is shown
4. Press TEMP (-) button. The display will show “J11-”.
5. Press the ▲ 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.

IMPORTANT: Bleeding Spa System

After program change is completed and spa is now ready to use, make sure that jet pumps and circulation pump are primed and operational.

Jet Pump and Circulation Pump Air Bleeding

If circulation pump system is not primed, bleed air out of jet pump or circulation pump until pumps are primed.

Frog System Air Bleeding

- While spa is running, remove spa frog cap and frog insert.
- Wait 5-10 second and ensure that water flows steadily out of frog housing
- Replace frog insert and spa frog cap. Spa is now primed and ready to use.

CIRCULATION PUMP ELECTRICAL

- 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 restart 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 mode ▲ button until the TOOLS menu is illustrated. Then press the TEMP (+) button to enter the TOOLS submenus. Press the mode ▲ 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 mode ▲ button until the TOOLS menu is illustrated. Then press the TEMP (+) button to enter the TOOLS submenus. Press the mode ▲ button until SUMMR is illuminated on the display. Press the TEMP (-) button to deactivate.



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