

# HydroAir



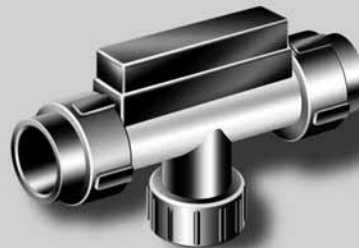
Listed  
Hydromassage  
Bath Accessory

## INSTALLATION INSTRUCTIONS

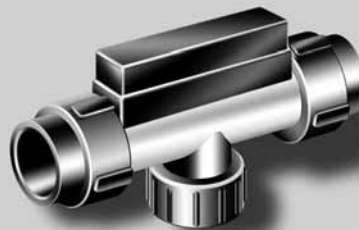
### *AquaHeat II™ Retrofit Bath Heater*



FLOW THROUGH - AQUAHEAT II™



LONG TEE - AQUAHEAT II™



SHORT TEE - AQUAHEAT II™

### **WARNING**

**FOR YOUR SAFETY** - This product should be installed by a professional service technician, qualified in hydrotherapy bath installations. Improper installation and/or operation could cause serious injury, property damage or death. Improper installation and/or operation will void the warranty.

 **ITT Industries**  
*Engineered for life*

**IMPORTANT SAFETY INSTRUCTIONS  
SAVE THESE INSTRUCTIONS  
READ AND FOLLOW ALL INSTRUCTIONS**

**INSTRUCTIONS PERTAINING TO RISK OF FIRE,  
ELECTRIC SHOCK OR INJURY TO PERSON**

**WARNING** - When using this unit, basic precautions should always be followed, including the following:

1. **READ AND FOLLOW ALL INSTRUCTIONS.**
2. **DANGER:** To reduce the risk of injury, do not permit children to use this unit unless they are closely supervised at all times.
3. Use this unit only for its intended use as described in this manual. Do not use attachments not recommended by the manufacturer.
4. Never drop or insert any object into any opening.
5. Do not operate this heater without the guard over the suction fitting.
6. The heater must be connected only to a supply circuit that is protected by a Ground Fault Circuit Interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the heater without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this heater. Disconnect the heater and have the problem corrected by a qualified service representative before using.

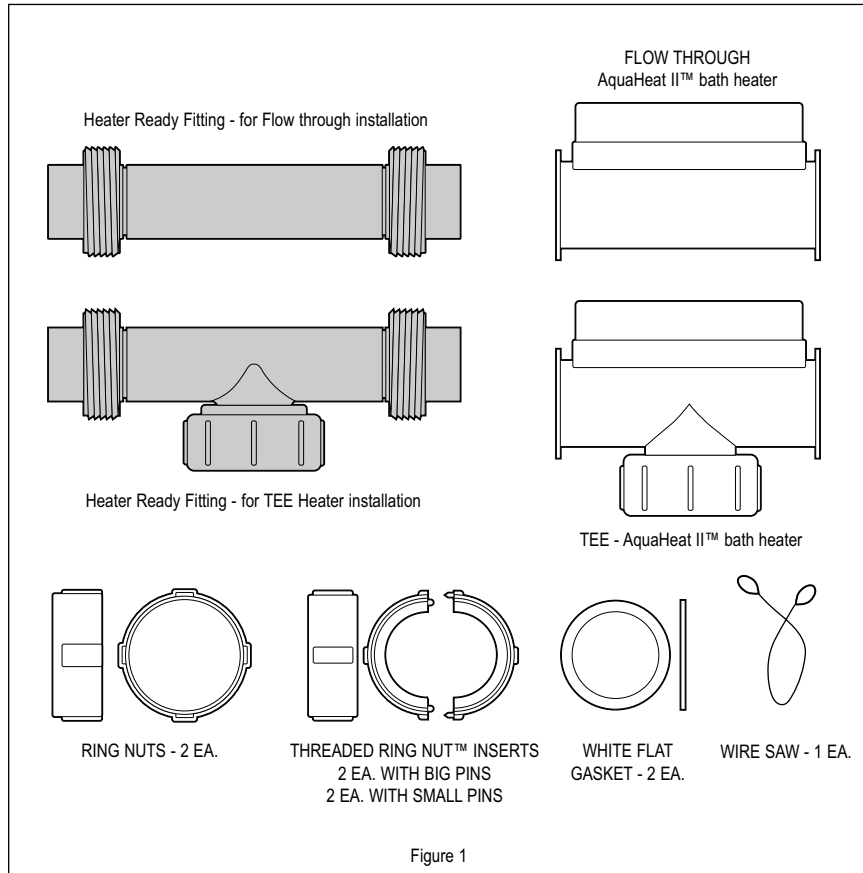
**INSTALLATION INSTRUCTIONS**

 **WARNING**

When using electrical products, basic precautions should always be followed, including the following:

1. **DANGER: RISK OF ELECTRIC SHOCK.** Connect only to a circuit protected by a Ground Fault Circuit Interrupter.
2. Grounding is required. The unit should be installed by a qualified service representative and grounded.
3. Install to permit access for servicing

## INSTALLATION OVERVIEW

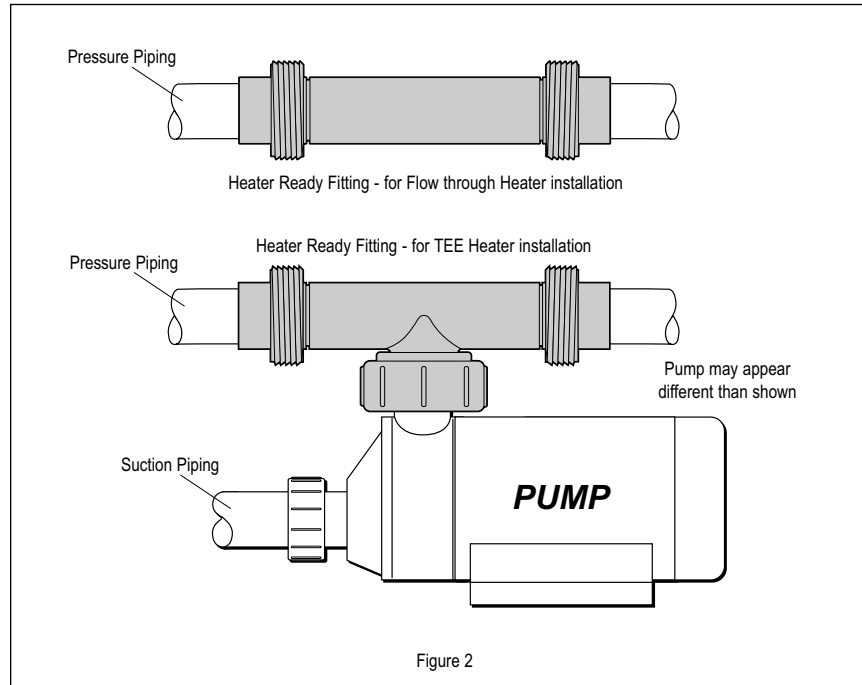


The whirlpool bath manufacturer has provided a simple method of installing a UL Listed AquaHeat II™ retrofit whirlpool bath heater. The piping system of the bath tub includes a factory installed “Heater ready fitting”. The Heater ready fitting is a UL Recognized component that provides a convenient means to correctly field install the AquaHeat II™ whirlpool bath heater.

To install the AquaHeat II™ retrofit heater, the installer must first locate the red “Heater ready fitting” in the plumbing system of the Whirlpool bath, then make two cuts through the red plastic “Heater ready fitting” using a wire saw provided with the AquaHeat II retrofit heater. The wire saw will be the only special tool required to install the heater.

The installer must follow the instructions below EXACTLY and IN THE ORDER LISTED. Once properly installed, the AquaHeat II™ heater will provide years of reliable operation.

## STEP-BY-STEP INSTALLATION



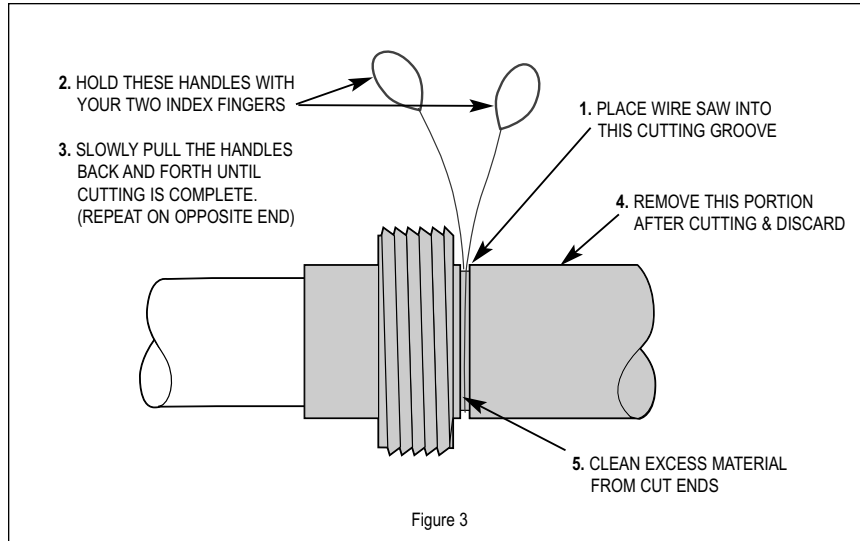
**Step 1** - Disconnect all electrical power connected to the Whirlpool Bath hydrotherapy system and drain all water from the bath and hydrotherapy jet system piping before starting the heater installation.

**Step 2** - Locate the red plastic Heater ready fitting in the plumbing system of the whirlpool bath. Two styles of Heater ready fittings are used by the manufacturer. The first is a straight flow-through style, and the second is a tee style that connects direct to the discharge port of the pump. If the Heater ready fitting is not connected directly to the discharge port of the pump, it is a flow-through style fitting. (See Fig. 2)

**Step 3** - Before starting installation, you will need to verify that the AquaHeat II heater is the correct model for the intended application. You cannot install a tee style heater on a flow-through style Heater ready fitting or vice versa.

**Step 4** - If the Heater ready fitting is attached directly to the hydrotherapy jet pump (a tee style fitting), do not remove the Heater ready fitting from the jet pump until you have successful cut through the red plastic Heater ready fitting in the two cutting grooves provided. Tee style Heater ready fittings will be supported by the pump while the Heater ready fitting is being cut. If the Heater ready fitting is not a tee style, carefully support the piping on each side of the Heater ready fitting when cutting through the fitting as described below.

## STEP-BY-STEP INSTALLATION



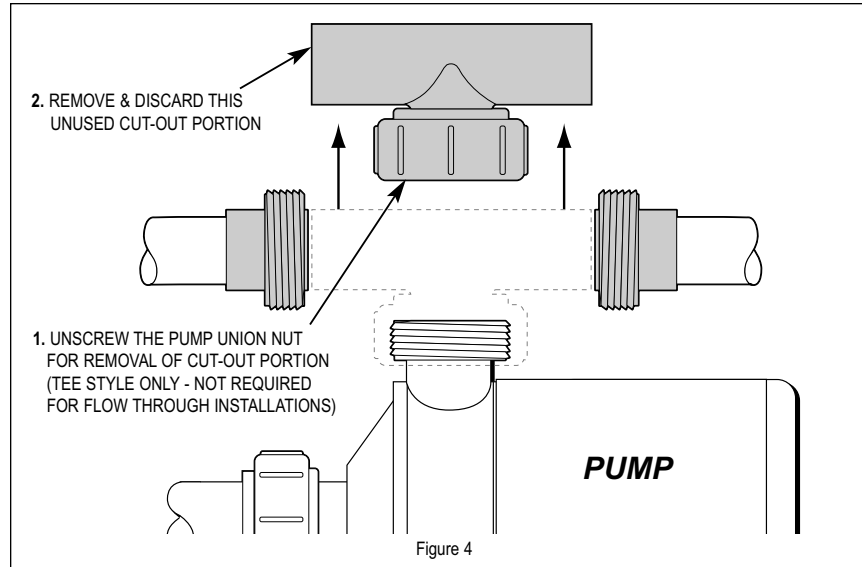
**Step 5** - Using the wire saw provided with the heater, place the wire portion of the saw into one of the two cutting grooves that are visible in the horizontal portion of the Heater ready fitting. You will find the two cutting grooves located to the left and right of the center of the fitting, just inside the large male threaded portion of the Heater ready fitting. These cutting grooves ensure that you will make a proper cut in the proper location. (See Fig. 3)

**Step 6** - Once you have properly placed the wire saw into the first cutting groove (parallel with the cutting groove), cutting can begin by holding the wire saw with one hand on each of its two handles and sawing back and forth by slowly pulling first on one handle of the wire saw and then on the other handle of the wire saw. **DO NOT CUT QUICKLY!** While it takes only a few seconds to cut through the plastic body of the Heater ready fitting, moving the wire saw back and forth too rapidly can develop heat in the cut and the cut-out and stationary parts of the Heater ready fitting may fuse together slightly from the heat generated by the wire saw. Fusing will not leave the cut as smooth upon completion of the cut as it will if you saw slowly. **CUT SLOWLY AND BE PATIENT!**

**Step 7** - When you have successfully completed the first cut, repeat Steps 4 and 5 on the Heater ready fitting at the opposite end of the fitting in the similar cutting groove provided.

**Step 8** - Once you have successfully cut through both ends of the Heater ready fitting in the cutting grooves, the unused portion of the fitting (not attached to the piping system) can be removed from the piping system. If the Heater ready fitting is a tee style, remove the unused portion of the fitting by

## STEP-BY-STEP INSTALLATION



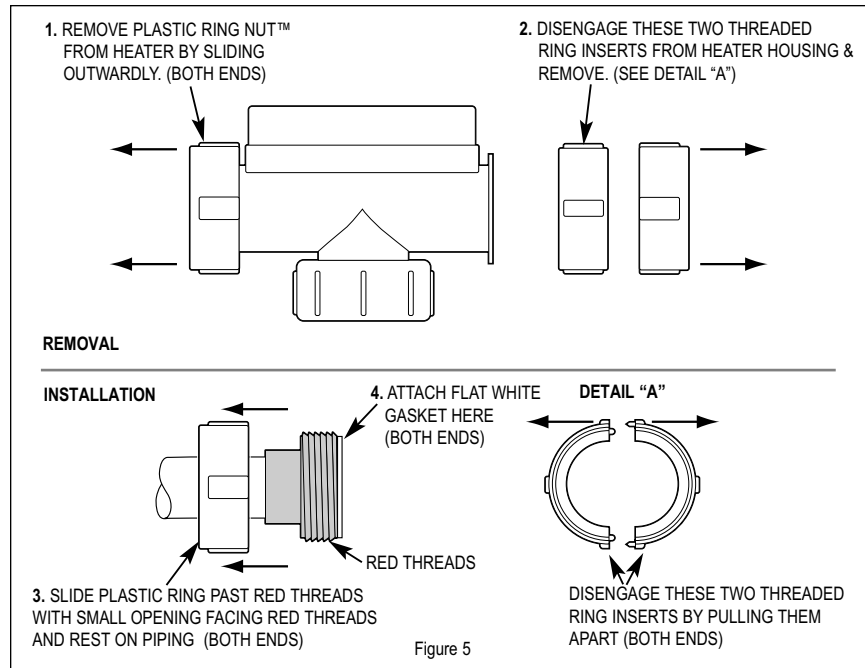
unscrewing the large union nut that attaches the Heater ready fitting to the pump. If the Heater ready fitting is a flow-through type, completing the second cut will allow the unused portion of the Heater ready fitting to be removed from the piping system. Discard the unused portion of the Heater ready fitting. (See Fig. 4)

**Step 9** - Check the cuts on the remaining portion of the Heater ready fitting and remove any loose plastic burrs left on the fittings to ensure a proper installation of the AquaHeat II™ heater.

**Step 10** - Packed with your AquaHeat II™ heater you will find two (2) white round flat rubber donut shaped gaskets. (See Fig 1) Remove them from the package and install one against the Heater ready fitting surface adjacent to the cut you made with the wire saw and up against the red large threads vertical flat surface. The gaskets will be held in place by that portion of the Heater ready fitting that protrudes through the center of the white gasket after they are installed on the Heater ready fitting. Continue the installation by the placement of the second white gasket on the opposite Heater ready fitting in the same manner.

**Step 11** - Remove the AquaHeat II™ heater from its carton. You will note that there are two large plastic Ring Nut™ union nuts on opposite ends of the heater. Tee style heaters will have a third large non-removable nut to attach the heater to the pump. The two plastic Ring Nuts need to be removed from the heater for use later in the installation, as they are installed on the AquaHeat II™ heater initially for shipping purposes only. (See Fig. 5)

## STEP-BY-STEP INSTALLATION

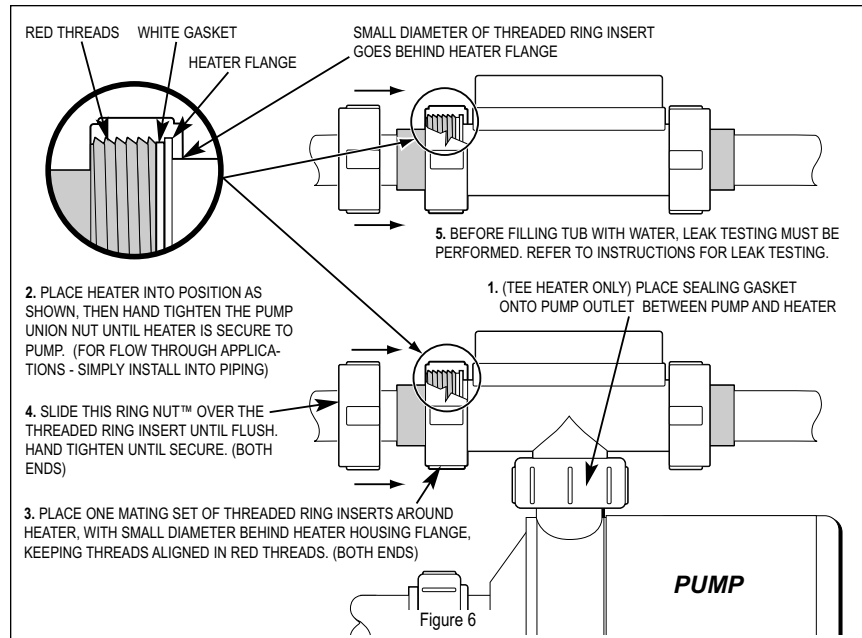


**Step 12** - To remove the plastic Ring Nuts from the heater, hold the heater firmly with one hand and with your free hand, slide the one-piece Ring Nut's outer retaining ring outwardly from the center of the heater until it disengages from the heater and leaves two threaded Ring Nut pieces on the heater body. Remove the two threaded pieces by pulling them apart. Set the Ring Nut's outer retaining ring and the two threaded pieces-aside for later use in the installation. Repeat the removal of the second plastic Ring Nut's retaining ring and two threaded pieces located on the opposite end of the heater. (See Fig. 5)

**Step 13** - The Ring Nut's outer retaining rings have one opening larger-than the other. Verify the small and large openings. With the small opening facing the large red threads on the Heater ready fitting, slide one of the Ring Nut's outer retaining rings over and past the large red threads of the Heater ready fitting until it goes past the red Heater ready fitting and rests on the piping. Repeat this on the opposite end of the Heater ready fitting. The AquaHeat II™ heater is now ready to be installed and secured onto the piping of the whirlpool bath. (See Fig 5)

**Step 14** - You will note that the distances left between the two white gaskets on the Heater ready fitting nearly exactly matches the length of the AquaHeat II™ heater. Slide the heater into the space left between the white gaskets. If the AquaHeat II heater is a tee style, secure the heater to the pump by

## STEP-BY-STEP INSTALLATION



the pump union nut located on the tee portion of the AquaHeat II™ heater, being careful to first place the sealing gasket provided onto the pump-outlet where it mates up against the plastic tee on the heater. Tighten the pump union nut by hand until it is secure.

**Step 15** - Attach the heater to the hydrotherapy system's piping by taking the two thread halves of the plastic Ring Nut and place them around the heater body and over the red threads of the Heater ready fitting. The metal flange on each end of the AquaHeat II heater is to be located in front of the retaining portion of the two Ring Nut threaded halves and is to come to rest against the white gasket on each end of the Heater ready fitting. Make sure that you have aligned the threads of the two Ring Nut threaded halves with the threads on the Heater ready fitting before you secure them in place with the Ring Nuts one-piece retainer ring. (See Fig. 6)

**Step 16** - Once proper alignment of the flange and threads is established, slide the Ring Nut's one-piece retainer ring towards the heater until it stops and cannot go further. You will know that you have gone far enough and have correctly accomplished the installation of the Ring Nut's outer retaining ring when the front and back surfaces of the Ring Nut's one-piece retainer ring are flush with the front and back surfaces of the thread halves of the Ring Nut. Repeat this procedure on the opposite end of the heater until you have successfully completed installation on that end as well. The heater installation in the piping system is nearly complete. (See Fig. 6)



## STEP-BY-STEP INSTALLATION

**Step 17** - Verify that all of the heater threaded components are properly aligned with the threaded surfaces that they mate to. Firmly hand tighten all large nuts so they are firm and secure up against the mating sealing surfaces and they cannot be tightened further using hands. If a wrench is used to tighten the plastic nuts, they can be cracked, so use a wrench very carefully and do not over-tighten.

**Step 18** - Prior to testing your installation for leaks, you must complete the electrical bonding of the heater to the bonding system of the hydrotherapy tub. The manufacturer has provided an unused bonding lug to electrically bond the heater to the electrical system of your tub. Read the manufacturers instructions to locate the bonding lug provided for electrical bonding of the heater. Packed with your AquaHeat II™ heater is a 36 inch long #8 bare copper wire. This wire is provided for your use to complete the electrical bonding of the heater to the manufactures bonding lug that is provided.

**Step 19** - Secure one end of the #8 copper wire to the bonding lug provided on the heater and the other end of the #8 copper wire to the manufacturers' bonding lug. Securing of the bonding wire is accomplished by placing the #8 copper wire into the pressure connector on the bonding lug, and then by tightening the pressure connector screw on the bonding lug with a screwdriver. All electrical wiring and bonding must be done as specified in Article 680,- National Electrical Code and your local Building Code. Contact a Licensed Electrician to perform the electrical installation and bonding of your heater for you.

**DANGER - RISK OF ELECTRICAL SHOCK — RISK OF INJURY OR DEATH IF ELECTRICAL INSTALLATION AND BONDING ARE NOT DONE PROPERLY.**



**This Product should be installed  
by a Licensed Electrician!**

**Step 20** - The AquaHeat II™ heater is provided with a 36 inch long 18/3 grounded power cord. Some models of the heater have a NEMA male plug on the end of the power cord, while others have a Ground Detector located in a small black box on the end of the power cord. The purpose of the Ground Detector on the end of the power cord is to ensure that the electrical receptacle has a proper ground and has proper polarity. Plug the power cord's NEMA plug or Ground Detector plug into a GFCI protected 120V power source.

## STEP-BY-STEP INSTALLATION

**NOTE: Do not use an electrical extension cord.**

### **GROUND DETECTOR INSTRUCTIONS: - (Note: ONLY PLUG THE GROUND DETECTOR INTO A 120V ELECTRICAL RECEPTACLE)**

If the unit is equipped with a Ground Detector on the plug end of the electrical power cord, and if after you plug it into your electrical supply receptacle, it shows the Red indicator light ON, **AN UNSAFE CONDITION EXISTS DUE TO NO GROUND BEING PRESENT IN THE ELECTRICAL RECEPTACLE.** When this happens, the heater will not receive power to operate until the Red indicator light is OFF (which will happen either if you have a proper ground initially, or after you have established a proper ground if one was not previously present) Once you have established a proper ground, the Ground Detector checks next for proper polarity of the electrical receptacle. Polarity checking verifies that the Hot and Neutral wires are wired correctly to the receptacle and are not reversed. If you find both the Red light ON and the second Yellow light ON, then your polarity is reversed and **YOU HAVE AN UNSAFE CONDITION.** Unplug the Ground Detector and correct the polarity at the electrical receptacle. When the condition is corrected, plug the heater Ground Detector back in to the electrical receptacle. If the Ground Detector verifies both proper ground and proper polarity, all lights will be OFF and power will be transferred to the heater which will operate automatically thereafter. Consult the Owners Manual for troubleshooting your heater after proper electrical installation is completed.

**REMEMBER: Red Light ON = Open ground.**

**Red Light and Yellow Light ON = Reversed Polarity**

**Red Light and Yellow Light OFF = Ground and Polarity are correct and power is available to operate the heater.**

The hydrotherapy system pump and the heater may possibly be powered from a single 20 Amp 120V GFCI protected 3-wire power source equipped with a duplex receptacle if the installation meets the following criteria. To use a single duplex receptacle for both the hydrotherapy jet pump and the heater, you must first verify that the combined electrical ratings of both components does not exceed 15 Amps (The AquaHeat II™ heater draws 5.3 Amps ). Therefore, to utilize a single electrical circuit, the pump must be rated at 120V and 9.7Amps maximum. If the pump is rated at any other voltage or at 120V but 9.8 Amps or more, then two individual electrical circuits must be provided for your installation to power both the heater and the pump. No electrical interlocking of the pump and heater is required as this function is contained within the safety design of the heater. Consult the hydrotherapy bath manufacturers Installation Manual for 240V pump electrical installation instructions.

## STEP-BY-STEP INSTALLATION

**Step 21** - Your installation must be hydrostatically tested for leaks before your installation is complete to make sure you have successfully installed the heater. This is accomplished by first filling the tub SLOWLY with water until the water is above the elevation of the heater. **IMPROPER INSTALLATION OF THE AquaHeat II™ HEATER CAN RESULT IN WATER LEAKING FROM THE PIPING SYSTEM! WATER DAMAGE CAN OCCUR TO SPACES BELOW OR ADJACENT TO THE HYDROTHERAPY BATH.** Do not leave the tub unattended during the testing process and only fill the tub with enough water to raise the level of water in the tub to above the heater. FILL THE TUB SLOWLY SO FILLING CAN BE STOPPED IF A LEAK IS DETECTED. DRAIN THE TUB IMMEDIATELY IF A LEAK IS DETECTED AND CORRECT THE LEAKING PROBLEM BEFORE RE -TESTING THE SYSTEM.

**Step 22** - If the above hydrostatic test of the piping system verifies that no leaks are present, you can perform the final REQUIRED hydrostatic leakage test by first filling the tub with water above the elevation of the heater, checking visually for leaks and if none are present, turn the hydrotherapy pump ON. It is suggested that the system run for 30 minutes minimum. The tub should be filled with cold water so you can check to make sure the heater ON light is ON. It is visible on the cover of the heater. If the light is not ON, check the troubleshooting section of the Owner's Manual packed with your heater.

### CONCLUSION

If you experience any difficulty in the installation of your AquaHeat II™ heater, you may contact us toll free in the US and Canada by calling 1-888-394-BATH, or faxing at 1-888-834-BATH Monday-Friday 8:00AM - 4:00 PM, USA Pacific Time.

**IMPORTANT SAFETY INSTRUCTIONS  
SAVE THESE INSTRUCTIONS**



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