

Use & Care Manual

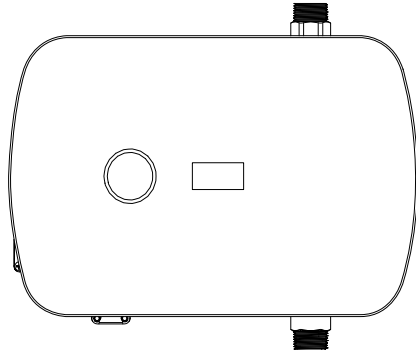
With Installation Instructions for the Installer

Electric Tankless

Water Heaters

WATER HEATER BOOSTER

RETEX-AB7
RMTEX-AB7
HATB007240
EEMTB240
RTEX-AB7
ECOTB240



Tested and certified by the Canadian Standards Association for low lead compliance.



Recognize this symbol as an indication of Important Safety Information!

DO NOT

Destroy this manual. Please read carefully and keep it in a safe place for future reference

IMPORTANT SAFETY INFORMATION

When installing or using any high voltage electrical appliance, basic safety precautions should always be followed. Under no circumstance should you attempt to clean, install, inspect, repair, disassemble or otherwise service this water heater, without first shutting off all power to the unit directly at the circuit breaker box. **SERIOUS BODILY INJURY OR DEATH OCCUR IF YOU IGNORE THIS WARNING.**

THIS PRODUCT SHOULD BE INSTALLED BY A QUALIFIED ELECTRICIAN AND A QUALIFIED PLUMBER IN ACCORDANCE WITH ALL NATIONAL, STATE, PROVINCIAL AND LOCAL ELECTRICAL & PLUMBING CODES.

PLEASE READ THESE INSTRUCTIONS THOROUGHLY AND COMPLETELY PRIOR TO INSTALLATION & USE. FAILURE TO DO SO COULD CAUSE PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH.

This manual should be given to the homeowner after installation and should be retained for future reference.

Proposition 65 Warning: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm

AP25495

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FOR YOUR RECORDS

Write the model and serial numbers here:

You can find them on a label on the appliance.

Staple sales slip or cancelled check here.

Proof of the original purchase date is needed to obtain service under the warranty.



READ THIS MANUAL

Inside you will find many helpful hints on how to use and maintain your water heater properly. A little preventive care on your part can save you time and money over the life of your water heater.

You'll find many answers to common problems in the before You call for Service section. If you review our chart of Troubleshooting Tips first, you manu not need to call for service at all.



READ THE SAFETY INFORMATION

Your safety and the safety of others are very important. There are many important safety messages in this manual and on your appliance. Always read and obey all safety messages.



This is the safety alert symbol. Recognize this symbol as an indication of Important Safety Information! This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word “DANGER”, “WARNING”, “CAUTION” or “NOTICE”.

ABOUT YOUR BOOSTER

Congratulations on the purchase of your Water Heater Booster!

The Booster is a device that extends the usable hot water from your existing hot water storage device, while maintaining the existing electrical power infrastructure.

TECHNICAL SPECIFICATIONS	
Voltage	240 VAC
Max Amperage	30 Amps
Max Power Rating	7.2 kW
Max Tank Power Rating	5.5 kW
Pre-Set Outlet Temperature	120°F
Activation Temp Range	60-130°F
Outlet Temperature Range	60-140°F
Activation Flow Rate	0.3 GPM

To get the best performance and energy savings from your Water Heater Booster, it is important that it be installed in accordance with the instructions and the electrical and plumbing codes applicable to your area, and that you read this manual thoroughly for important operating instructions and tips.

If you have questions at any time, please contact us directly at:

Manufacturer's National Service Department

800 Interstate Park Drive
Montgomery, Alabama

IMPORTANT SAFETY INFORMATION.

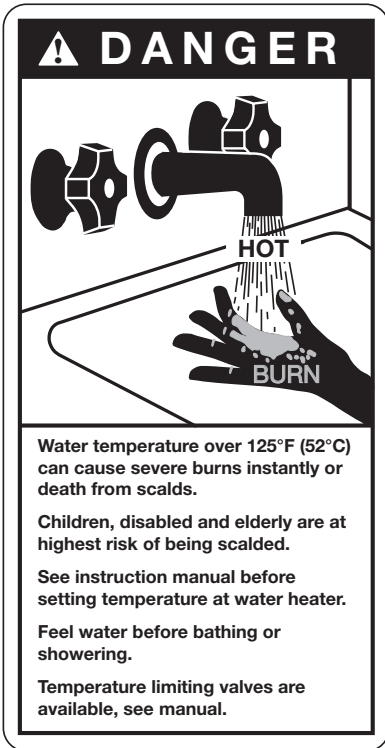
READ ALL INSTRUCTIONS BEFORE USING.



⚠ DANGER!

WATER TEMPERATURE SETTING

Safety and energy conservation are factors to be considered when selecting the water temperature setting of water heater's thermostat. Water temperatures above 125°F (52°C) can cause severe burns or death from scalding. Be sure to read and follow the warnings outlined on the label pictured below. This label is also located on the water heater near the thermostat access panel.



Notice: Mixing valves are recommended for reducing point of use water temperature by mixing hot and cold water in branch water lines. It is recommended that a mixing valve complying with the Standard for Temperature Actuated Mixing Valves for Hot Water Distribution Systems, ASSE 1017 be installed.

Time/Temperature Relationship in Scalds

Water Temperature	Time To Produce a Serious Burn
120°F	More than 5 minutes
125°F	1½ to 2 minutes
130°F	About 30 seconds
135°F	About 10 seconds
140°F	Less than 5 seconds
145°F	Less than 3 seconds
150°F	About 1½ seconds
155°F	About 1 second

Table courtesy of Shriners Burn Institute

⚠ DANGER:

Households with small children, disabled, or elderly persons may require a 120°F(49°C) or lower thermostat setting to prevent contact with "HOT" water. The temperature of the water in the heater is regulated by the electronic control on the front of the water heater. To comply with safety regulations the thermostat was set at 120°F(49°C) before the water heater was shipped from the factory.

Please consult Section 9 to learn more about setting your heaters temperature.

INSTALLATION INSTRUCTIONS

Before Installation

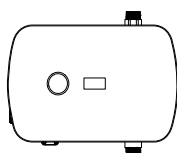
PLEASE READ THESE INSTRUCTIONS THOROUGHLY AND COMPLETELY PRIOR TO INSTALLATION & USE.

FAILURE TO FOLLOW INSTRUCTIONS COULD CAUSE PROPERTY DAMAGE, SERIOUS PERSONAL INJURY, OR DEATH.

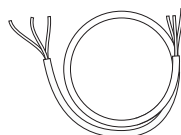
By installing this product, you acknowledge the terms of the manufacturer's warranty. Once the heater is installed, do not return product to the place of purchase. If you have any questions regarding the warranty or product return policies, please call 1-(800)-374-8806.

Inspect all components. The contents of your box should include the following components:

Included Items



Booster Unit



Pigtail Cord (1X)

What you will need to install:

1. Phillips Head Screwdriver
2. Flat Head Screwdriver
3. Pipe Cutter
4. Adjustable Wrench
5. Teflon Tape
6. Tape Measure/Ruler
7. Pencil (recommended for marking measurements when cutting pipe)
8. Needle-Nose Pliers (not required but may be beneficial)
9. Appropriate fittings and piping

INSTALLATION INSTRUCTIONS

This product is designed to be installed indoors only, in series with your pre-existing tank water heater.

DO NOT install this product in a location where it may be subject to freezing temperatures. If the water inside your unit freezes, it can cause severe and permanent damage that is not covered under your warranty.

DO NOT locate the Water Heater Booster in a location that is difficult to access.

DO NOT locate the Water Heater Booster in areas of excessive heat, if using on a gas water heater remotely mount the unit away, provide at least 6" of clearance.

This product does **NOT** require venting.

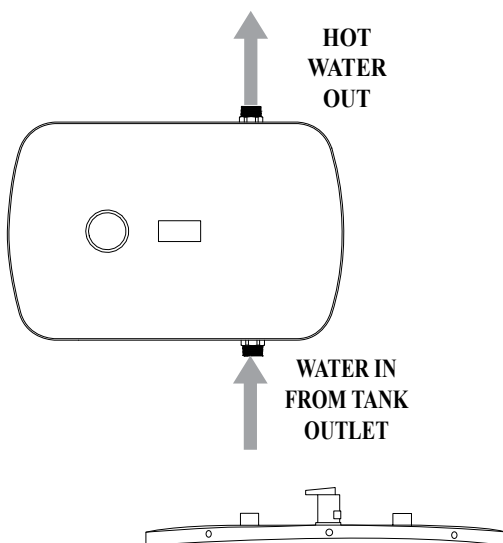
Avoid installing your Water Heater Booster in a location prone to excessive humidity, moisture, or dust, or in an area where it may be splashed lines that might leak or condense moisture that could then drip onto the booster. **DO NOT** install above electrical boxes or junctions.

If you plan to install your water heater on a second floor or in a heated attic space, make sure that you follow all code requirements for such installations as required for your area. You can install an active water leak detector and shutoff valve designed to turn off your water supply in the event that a leak is ever detected.

Setting up to install

Recommended Clearances:

Adequate space for installation and service of the unit is needed.



INSTALLATION INSTRUCTIONS

- 1. SHUT OFF ELECTRICITY ON YOUR CIRCUIT BREAKER BEFORE PROCEEDING TO ANY FURTHER INSTALLATION STEPS.**
2. Make sure there is adequate clearance above the tank heater. If there is not enough room above the tank, this unit may be installed on an adjacent wall.
- 3. IF SPACIAL ISSUES ARISE OR USED WITH A GAS FIRED TANK, OR IF THE PIPING IS NOT STRAIGHT (ABNORMAL PIPING THAT IS NOT STRAIGHT), ADDITIONAL PIPING MAY NEED TO BE USED.**
4. Close the supply water valve to the tank heater, located in most cases above the tank heater on the cold water inlet side.
5. Drain the piping below your work area to prevent damage from water. The drain valve is usually located near the bottom of the tank.
6. Drain the water from all existing hot water pipes by first opening all hot water faucets of any kind in the house. Leave the faucets open until plumbing installation is complete. If water does not stop flowing, check to make sure the inlet water to the tank heater has been completely shut off.
7. Assess your plumbing system before you cut the pipe.

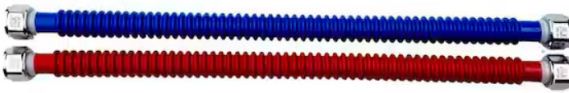
Installing the water heater.

Please follow all pre-installation instructions carefully. If further assistance is needed, a licensed and qualified plumber in accordance with all applicable national, state, provincial, and local plumbing codes should be hired.

When there is not enough room above the tank to install this unit, it may be installed on an adjacent wall utilizing appropriate flexible stainless steel or copper connectors. This typically occurs if there is very low ceiling height.

In order to install your unit, you will need to purchase flexible stainless steel or copper connectors.

We recommend to purchase **a water heater installation kit. A kit such as the one shown can be purchased at a low cost at most home center stores.**



This method of installation requires more experience and judgment, because each household may have a moderately different layout in this situation.

For further installation assistance, please call or email our customer service and technical support team for any help you may need.

Plumbing Installation

Plumbing Installation Instructions

Please follow all plumbing instructions carefully. We recommend that this product be installed by a qualified person. If further assistance is needed, a licensed and qualified plumber in accordance with all applicable national, state, provincial, and local plumbing codes should be hired.

Please see installation diagrams on the following pages for visual guidance.

STEP 1: Using the corresponding fittings for which layout was used, connect the HOT WATER outlet from your water tank to the INLET thread located on the bottom side of the Water Heater Booster when facing the unit. Use a ¾" Union to secure the connection.

STEP 2: Connect hot water outlet (3/4" NPT) to hot water distribution system.

STEP 3:

- Close the tank drain valve.
- Make sure at least one warm water faucet is open in the house.
- Re-open the water supply valve on the cold water copper pipe.

FAILURE TO FOLLOW THESE STEPS WILL CAUSE WATER TANK DAMAGE.

STEP 4: After tightening all fittings, open all hot water faucets and allow un-heated water to run through the water heater for at least 2 to 3 minutes. This process purges all the air from the water lines and **MUST** be performed prior to turning on the power at the unit.

FAILURE TO FOLLOW THIS STEP CAN CAUSE PERMANENT DAMAGE TO THE HEATING ELEMENTS OF THE TANK

If any maintenance is performed on the water heater or the home's plumbing system that may introduce air into the plumbing pipes, it is important to turn the power off to the water heater and purge the air out of the lines before allowing the unit to power up.

STEP 5: Carefully inspect all connections, unions, and the pressure relief valve (if installed) for leaks

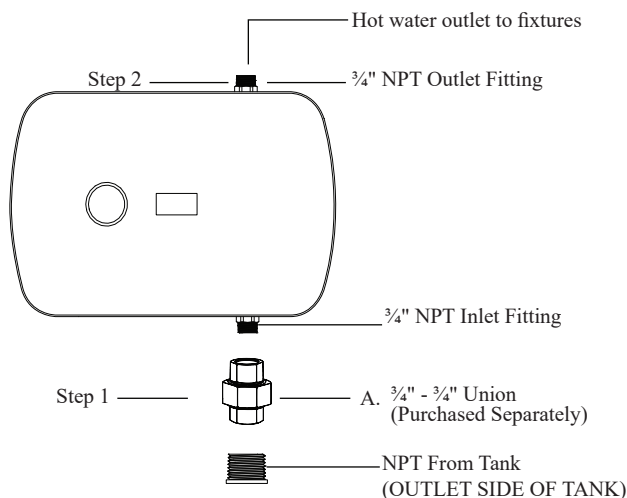
STEP 6: TURN OFF ALL FAUCETS BEFORE PROCEEDING TO ELECTRICAL INSTALLATION

Installation Instructions

Important installation notes:

1. Do not apply heat or solder directly to this unit. Heat from soldering may damage the flow sensor in the unit.
2. This unit is quipped with both computer-controlled and electro-mechanical auto resting thermostat switches for high-limited temperature protection. Since this product does not use a storage tank, the use of a temperature pressure relief valve (T&P) is not required for most installations. UL standard 499 does **NOT** require that a pressure relief valve be used. However, a T&P valve may be required to meet installation code in your area. If one is required, install the pressure relief valve in accordance with local codes and ensure that it operates correctly and that air is purged from the valve prior to installing the water heater. When connecting to Flex to High Temperature CPVC pipe, we recommend that a T&P valve be used for added safety.
Please note: Installations in the Commonwealth of Massachusetts require a pressure relief valve. Please check your local installation codes for any special requirements.
3. The maximum operating water pressure is 150 PSI. If the water pressure is higher, a pressure reducing valve must be installed on the main incoming water supply line prior to installing the unit.
4. When connecting the inlet water pipe to the unit, make sure to use a wrench to hold the unit's connection, and another wrench to tighten, so the flow sensor on the unit is not loosened or damaged. Serious internal damage to the water heater can occur if the inlet connections are over tightened or if solder connections are made.
5. We recommend that a manual shut-off valve (ball valve) be installed on the inlet and outlet of the water heater so that there is a convenient shut-off point available in the event that future maintenance or servicing is required. Before connecting pipes to the water heater, it is extremely important to flush the lines to eliminate all plumbing paste or residue in the lines caused by any brazing or soldering.

We recommend that all the water piping within 3 feet of the inlet and outlet connections be rated for high temperature applications with a 150 °F minimum temperature rating.



Electrical Installation

Electrical Installation instructions

STEP 1: Making sure all electrical power is shut off, remove the **red**, **black** (possibly **white** in some applications), and **ground** wires from the existing tank heater coming from the circuit breaker. These wires will now go into the Water Heater Booster through the hole in the unit's side plate (see wiring diagram and connection reference 1 on the subsequent pages).

STEP 2: Using the existing wires removed from the tank in step 1, **run Line 1 (red wire)**, **Line 2 (black wire** - possibly white in some applications), and **ground (green wire)** from the home's main breaker panel to the Water Heater Booster, through the side plate hole. This is **connection reference 1**, specified on page 12.

Note: If you are installing a new circuit, select a suitable wire gauge that meets all applicable electrical codes for the size of the breakers used.

Note: A separate **ground** conductor for each incoming circuit is required.

STEP 3: Connect the supplied pigtail cord to the Booster. **See connection reference 2** on page 12.

STEP 4: Now connect the wires from the Water Heater Booster (pigtail cord stemming from the unit) to the existing tank heater. The **red**, **black**, and **green/yellow (ground)** wires should all have secure connections.

MAKE SURE THESE CONNECTIONS ARE IN AN ENCLOSED AREA. EXPOSED CONNECTIONS CAN LEAD TO SERIOUS INJURY OR DEATH.

STEP 5: **DOUBLE CHECK** the electrical connections to make sure they are correct and that all wire connections are tight and secure. Also confirm that the correct breaker size and wire gauge has been used and confirm that the unit has been connected to a ground in accordance with applicable codes.

STEP 6: Confirm that all the air has been purged from the water lines prior to turning on power to the unit. Refer to STEP 4 in the plumbing installation section.

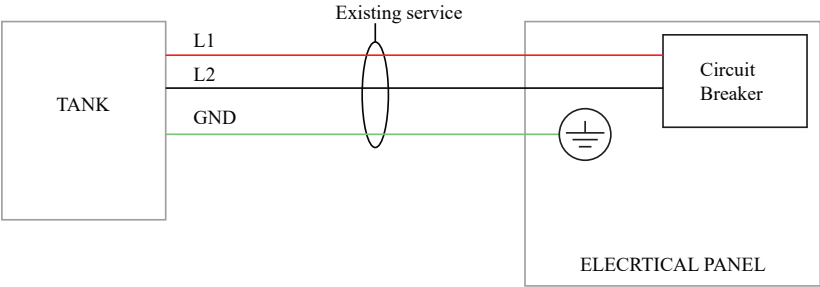
CAUTION:

Ensure that you have made the correct connections. You must follow the wiring connection as shown to ensure the proper operation of the unit. If you mix up one set of wires with another, the unit will not operate correctly even though it turns on and otherwise appears to function properly.

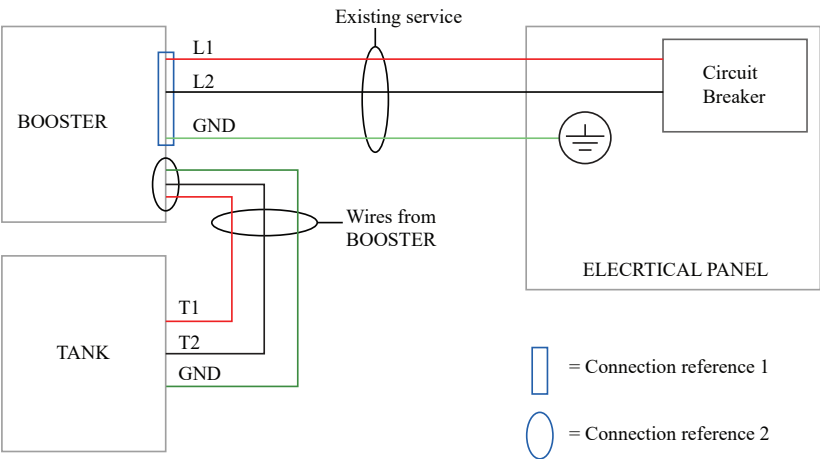
Installation Instructions

Wiring Diagram

Normal Tank Configuration:



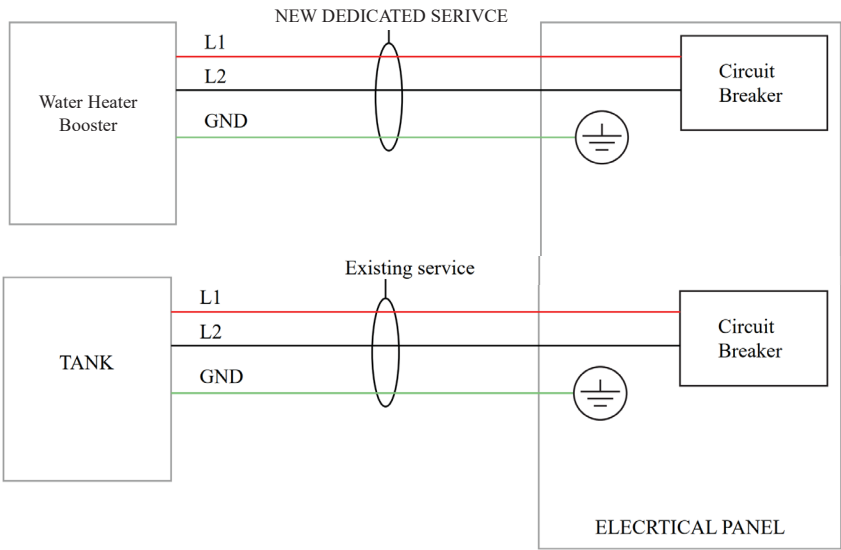
Booster and Electric Tank Configuration:



Installation Instructions

Wiring Diagram

Gas or Heat Pump Tank Configuration:



Installation Instructions

Connection Reference 1

Connecting Lines 1 & 2 from the circuit (existing service) to the Booster:

For Gas or Heat Pump Tank configurations, follow these steps with a NEW DEDICATED SERVICE from the panel to the Booster.

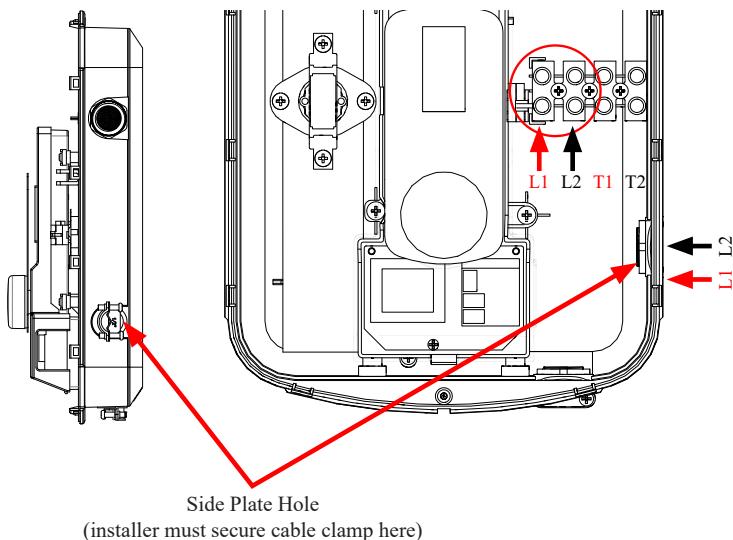
1. Remove the control knob from the unit, then remove the cover of the unit. Two screws on the end must be removed in order to do this.
2. **For this step, if the leads from the breaker are wrapped a common household cable jacket, make sure the ends of the leads are exposed from the external jacket for at least 10 inches. Strip back 3/8" to bare copper on L1 & L2.**
 - Lines **1** & **2** and **ground** (from the circuit breaker) will be connected to the Booster's inner terminal block. Make sure to thread these lines into the heater from the side via the Side hole, using the supplied cord grommet.
 - Connect **Line 1 (red)** to the "**L1**" labelled wire terminal, and **Line 2 (black)** to the "**L2**" labelled wire terminal, using a flathead screwdriver to secure the terminal.
 - Using a supplied wire nut, connect the circuit breaker **ground** wire to the **green/yellow** ground wire stem already inside the unit, which will be exposed. **Twist wires together, then twist the wire nut with both wires inside to secure the connection.**



Cable clamp
(Purchased
Separately)



Wire Nut



3. Tighten the connections on the terminal block with a flathead screwdriver. **MAKE SURE WIRES ARE INSERTED ALL THE WAY IN THE TERMINAL, AND THAT THE SCREWS SECURING THE CONNECTION ARE TIGHT AND SECURE. FAILURE TO DO THIS WILL CAUSE HEATER MALFUNCTION.** Also, make sure that the wire insulation is not inserted into the terminal block as this will inhibit a good electrical connection.
4. Proceed to Connection Reference 2 on following page.

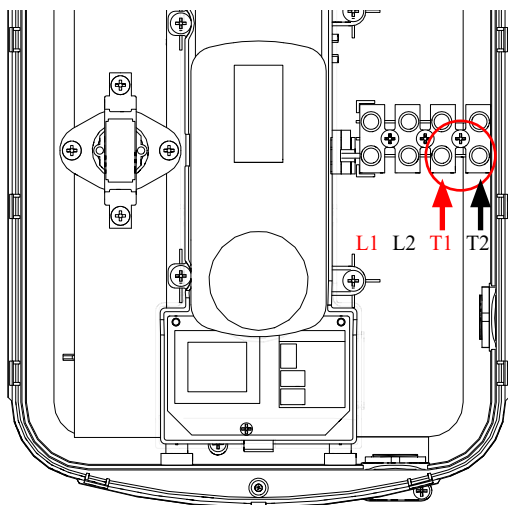
For Gas or Heat Pump Tank configurations, remove the pigtail cord from the Booster as it is not needed.

Installation Instructions

Connection Reference 2

Connecting the pigtail cord from the Booster to the tank heater:

1. The pigtail cord should be partially attached to the unit through the ground connection. With the cover off, you should see an exposed red wire, black wire, and green wire from the pigtail, on the end that's inside the unit. Connect the **red** wire to the "**T1**" labeled wire terminal, and the **black** wire to the "**T2**" labeled terminal.



2. Tighten the connections on the terminal block with a flathead screwdriver. **MAKE SURE WIRES ARE INSERTED ALL THE WAY TERMINAL, AND THAT THE SCREWS SECURING THE CONNECTION ARE TIGHT AND SECURE. FAILURE TO DO THIS WILL CAUSE HEATER MALFUNCTION.** Also, make sure that the wire insulation is not inserted into the terminal block as this will inhibit a good electrical connection.
3. Take the **green/yellow** wire from the end of the pigtail, outside of the Unit, and connect it to the existing ground connection on the tank heater's terminal. If additional help is required, reference your tank heater manual.
4. Replace the unit cover, screws, and control knob.

Installation Instructions

General operating instructions

Operating your new unit is very similar to using any traditional water heating system. However, it is very important that you carefully read all of the set-up procedures and operating instructions and tips to ensure the maximum performance and energy savings from your new water heater. We recommend that all members of the household read these General Operating Instructions.

How your new unit works: The Water Heater Booster combines with the traditional hot water tank to provide an effective and efficient way of heating your home. The unit reads the temperature coming out of the tank, and will turn on if the water drops below a set temperature, which you can set. The booster will keep the water at the desired temperature, another limit which you can set.

Maintenance

To ensure maximum performance of your unit and to reduce the risk of a water leak, we recommend the following maintenance:

You should inspect the connections on the inlet and outlet of the unit at least on an annual basis for any signs of damage or failure. Any signs of damage, cracks, leakage or weakness should be addressed. Take care not to over-tighten the connections. Serious internal damage to your water heater can occur if you over-tighten the water heater connections at the unit.

IMPORTANT NOTES:

As with all electrical appliances, under no circumstances should you attempt to install, repair or disassemble this water heater without first shutting off all power to the unit directly at the fuse or breaker box. **SERIOUS BODILY INJURY OR DEATH COULD OCCUR IF YOU IGNORE THIS WARNING.**

When any maintenance is performed on the unit or the home's plumbing system that may introduce air into the plumbing pipes, it is important to turn the power off to the water heater and purge the air out of the lines before allowing the unit to power up. **FAILURE TO DO SO COULD CAUSE PERMANENT DAMAGE TO THE HEATING ELEMENT AND VOID YOUR WARRANTY.**

If you have a water supply with a high level of mineralization (hard water), you should increase the frequency of your maintenance. Remove element and inspect for scale build up –soak in vinegar or de-liming solution until scale is removed, typically within a few hours.

Caring For Your Water Heater



Trouble shooting Guide

Are you having problems with your water heater?

Please call our customer service and technical support team for any help you may need.

The following table represents some of the most common technical support questions we receive. Before calling us, please read thoroughly to see if your question or problem is addressed.

PROBLEM	POSSIBLE CAUSES	SOLUTION
Unit is not heating at all (water is flowing but the unit is not heating at all-the outgoing water temperature is the same as my cold water supply) and/or the digital display does NOT light up.	No power or incorrect wiring.	Make sure the breakers at main electrical panel are ON. you may have a faulty breaker unit may be Wired incorrect. Refer to 15 for proper Wiring laout.
	Internal part failure.	Please call us for technical assistance.
Unit is not heating at all (water is flowing but the unit is not heating at all-the outgoing water temperature is the same as my cold water supply) and/or the digital display does light up.	Internal part failure.	Please call us for technical assistance.
	Flow rate is too low/ water pressure is too low	Your water heater has an activation flow rate of approximately 0.3 GPM. If your water flow rate is less than this level, your unit will not activate. Increase the flow rate.
	Activation temperature too low	The water heater will turn on when the temperature of the water at the inlet of the unit falls below the activation temperature (when the tank is not providing hot water). Increase activation temperature.
Unit is heating but the water temperature is not hot enough.	User temperature setting too low.	Tern up the temperature setting on the unit.
	Voltage less than 240 volts.	The heating elements on your unit are designed for 240 volts. When use with a lower voltage, they produce less heating power.
	Mixing too much cold water	You may have an anti-scald feature on your faucet that is mixing cold water. These types of faucets can usually be adjusted to reduce the amount of cold water mixed. Also, your tank may be completely out of hot water and is mixing cold water. Give the tank time to recover or reduce the amount of water your are using.

Caring For Your Water Heater



Troubleshooting Guide...

PROBLEM	POSSIBLE CAUSES	SOLUTION
The water temperature at my faucet is less than the temperature setting of my water heater.	Voltage less than 240 volts.	The computer chips in your unit are programmed with the expectation that your incoming line voltage is 240 volts. If you have less than 240 volts, it may affect the reading on your unit's digital and cause it to read slightly higher than the actual output temperature. To compensate for this, increase the setting on your unit if you need/want hotter water.
	Anti-scald pressure/balancing valve or tempering valve.	Your faucet may have an anti-scald feature or a tempering valve that automatically mixes cold water even when you turn your control lever or handle to full hot. These devices are usually adjustable so you can turn off the cold mix completely. You can compensate for this by increasing the setting on your unit if you need/want hotter water.
	Thermal loss due to long pipe run	As the hot water from the unit runs through the hot water delivery system to your faucet, some heat will be lost especially if it has long distance to travel or the pipes are cold. This is normal. You can compensate for this by increasing the setting on your unit if you need/want hotter water.
Pre-existing water tank is not heating.	Incorrect wiring.	The unit may be wired incorrectly. Refer to page 12 for proper wiring layout.
	Relay switch is defective.	Please call us for technical assistance
Unit displays 999 as inlet and/or outlet temperature	Thermistor on corresponding channel is defective	The unit may be wired incorrectly. Refer to page 12 for proper wiring layout.

Caring For Your Water Heater



Service Error Code Chart

Error Code	Description
A70	High water temperature (>180 °F) Instantaneous heating shutdown
A74	Inlet or outlet water temperature below freezing point (>35 °F) Instantaneous heating off
b00	Water inlet probe failure (>-20°F) Instantaneous heating off
b10	Inlet and outlet probe failure meanwhile Instantaneous heating off
c05	Outlet thermistor disconnected (>-20 °F)
d85	flow too high, inlet temperature too low

Booster Features

List of menu Options Provided by the Software (Clarified Below and on Following Page):

- Inlet/Outlet Temperature Reading
- Active Unit in Operation
- Software Version
- Vacation Mode

Primary Menu Cycle Screens

Turn the control knob in either direction to cycle through menu options.

Inlet/Outlet Temperature Reading The temperature of the water going in and out of the Booster can be observed from this display.	
Active Unit in Operation 1. External water tank TANK OFF/ON 2. Unit heating UNIT ON/OFF.	
Flow The flow screen will tell the user the amount of water that is flowing through the unit in gallons per minute.	
Load factor Here you can see how hard your Booster is working.	

Booster Set Up Menu Cycle Screens

Turn the control knob in either direction to cycle through menu options.

Software Version Here you can view the heater software version (Useful for troubleshooting)	
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Parts Ordering

WARNING:

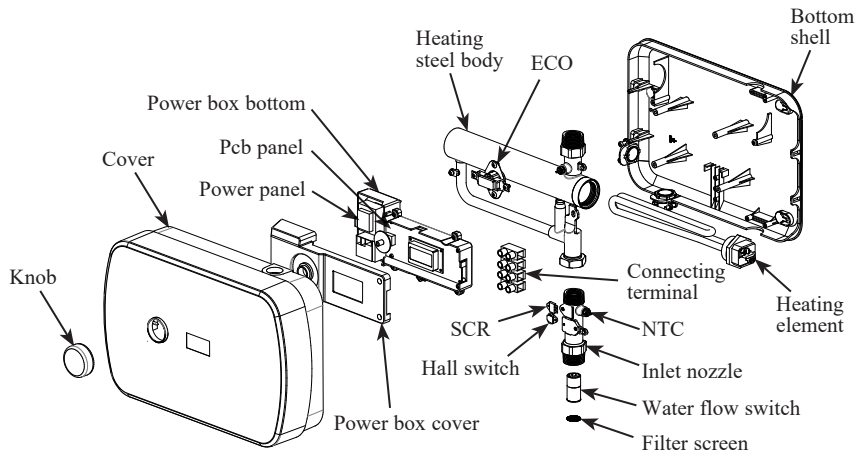
For your safety, **DO NOT** attempt to disassemble, repair, or replace any portion of this unit. Refer all repairs, service, and/or adjustments to qualified service personnel.

Address all parts orders to the distributor or store where the water heater was purchased.

All parts orders should include:

1. The model and serial number of the water heater from the rating plate.
2. Parts description (as shown below) and number of parts desired.

Replacement Parts



Heating element	220V/6000W 240V/7200W
ECO	43V 70°C
Connecting terminal	300V 68A

