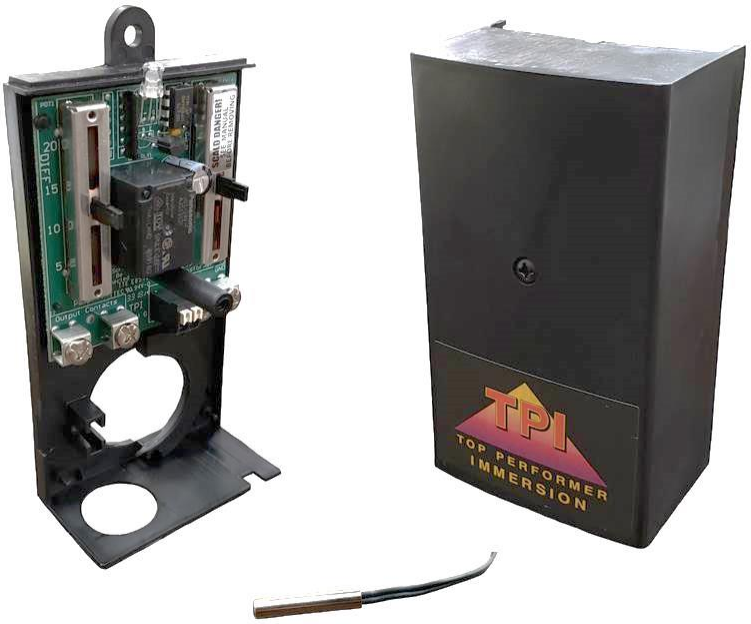
VAUGHN

Operation & Installation Manual



T.P.I

Top Performer Immersion

INSTALLATION

A. Attaching the TPI to Top Performer tank

- ❑ Place hole in back of the TPI over immersion well. (See Diagram 1)
- ❑ The TPI should fit flush against the tank without immersion well protruding beyond bottom of the TPI case.
- ❑ Use self-tapping screw provided (Screw A) to attach the TPI directly to the Top Performer.

B. Attaching the TPI to Other Tanks

- ❑ Place hole in back of the TPI over immersion well. (See Diagram 1)
- ❑ If the TPI cannot fit flush against the tank without immersion well protruding beyond bottom of the TPI case, the TPI can be mounted directly onto the immersion well itself.
- ❑ Place square nut in the retaining well on the TPI box.
- ❑ Use proper machine screw provided (Screw B or Screw C, one is long, and one is short) to tighten against the immersion well.

C. Inserting the Temperature Sensor

- ❑ Slide temperature sensor all the way into the immersion well – until it contacts the end. (See Diagram 1)
- ❑ The sensor will measure temperature adequately by resting against the bottom of the immersion well.
- ❑ Note: Sensor does NOT need to make intimate contact with entire well surface to work properly.
- ❑ The sensor is wired to the thermistor wire connector button on the TPI. To remove or install, See Diagram 4.

D. Wiring the TPI

- ❑ **THE TPI MUST BE POWERED WITH 24VAC.**
- ❑ Run all 24VAC wiring through the square notch on bottom of the TPI case. (See Diagram 2)
- ❑ Connect incoming wiring to 24VAC connectors on the bottom right corner of the TPI. (See Diagram 2)
- ❑ Connect outgoing wiring to PUMP/TT connectors on the bottom left corner of the TPI. (See Diagram 2)
- ❑ If output wiring is 110VAC, use knockout at bottom of the TPI case, with appropriate chase nipple.
- ❑ Consult attached wiring diagrams for appropriate wiring configurations.

E. TPI Cover:

- ❑ Be certain to replace the TPI cover using black screw provided.

OPERATION

A. Indicator Light Operation

- The TPI has an integral indicator light at the top of the case. (See Diagram 3)
- Indicator light will come on (green) when the TPI is powered.
- When the TPI is calling for heat, the indicator light will blink.
- When the TPI is satisfied, the indicator light will be solid.
- During normal operation, indicator light is green.
- If the thermostat detects no probe, the indicator LED will flash red. Ensure connections are tight.

B. Adjusting the Temperature Setting

- The temperature setting slide is on the right-hand side of the TPI. (See Diagram 3)
- The TPI comes with a factory set temperature setting of 125°F.
- To adjust the temperature setting, slide the lever to the desired setting, using the indicator scale.
- The TPI has a normal temperature setting range from 100°F to 140°F.
- **CAUTION: IT IS NOT RECOMMENDED TO SET TEMPERATURE ABOVE 140°F. (SEE WATER TEMPERATURE REGULATION)**
- In order to set the temperature above 140°F, (NOT **RECOMMENDED**), you must remove the SCALD DANGER label attached to the temperature slide.

C. Adjusting the Differential Setting

- The differential setting slide is on the left-hand side of the TPI. (See Diagram 3)
- The TPI comes with a factory set differential setting of 10°.
- This means that the TPI will call for heat when the tank temperature has fallen to 10 degrees below the temperature set point.
- To adjust the differential setting, slide the lever to the desired setting, using the indicator scale.

D. Calibration Steps

- With system shut off, install the TPI according to this manual and wiring diagrams
- Ensure the tank is colder than 75°F, run water through if needed.
- Make sure there will be no use of hot water fixtures until startup is complete.
- Power on the system and allow the water heater to fully satisfy.
- Allow water heater to sit at least five minutes without a call for heat.
- The startup is complete when five minutes has passed without a call for heat.

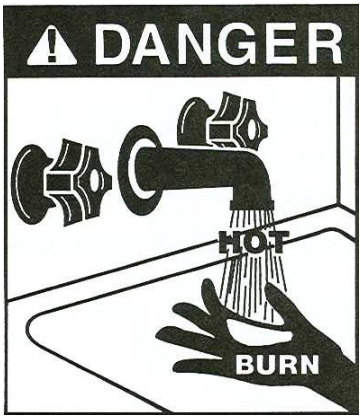
WATER TEMPERATURE REGULATION

WARNING: Exposure to water hotter than 125° F can cause scalding injuries. Appropriate caution must be taken when using hot water. Special supervision must be given to those who cannot act quickly such as children, elderly, or disabled persons.

The input of heat into the tank is controlled by an immersion thermostat. These automatic controls are set at the factory to maintain a water temperature of 125° F.

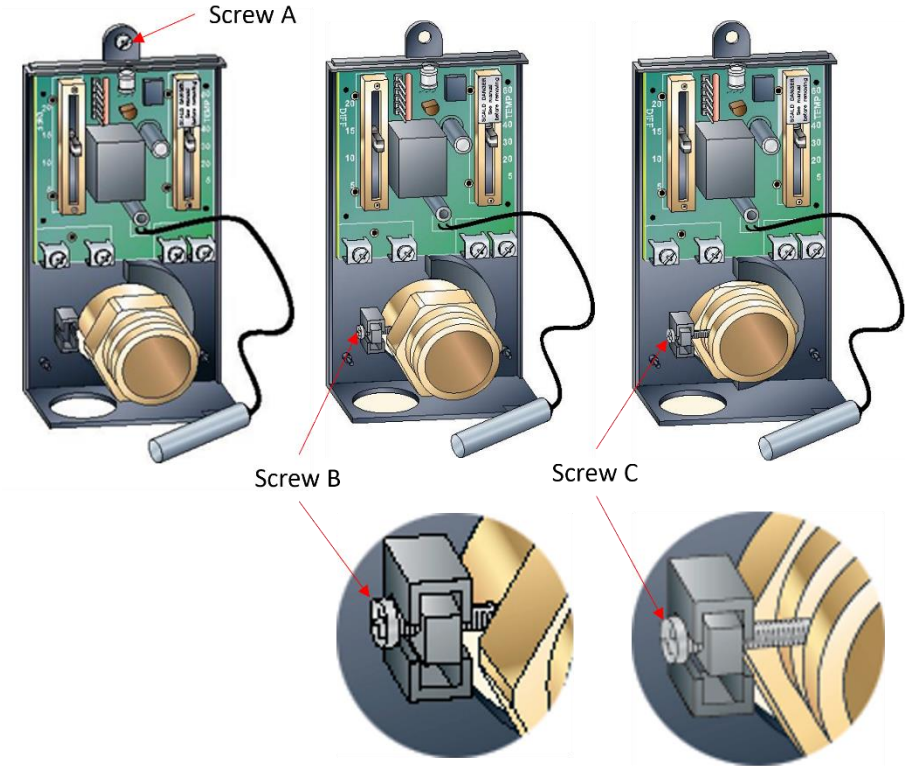
Although these thermostats are designed to meet industry standards, they can fail to control temperature properly without any notice, and therefore should be tested periodically for your protection.

DANGER: IF YOU DISCOVER EXTREME HOT WATER COMING FROM THE FAUCET, IMMEDIATELY SHUT OFF THE MAIN SWITCH TO THE BOILER AND CALL COMPETENT SERVICE PERSONNEL. OVERHEATED WATER IS A POTENTIAL HAZARD TO LIFE AND PROPERTY. DO NOT OPERATE UNTIL THE SOURCE OF THE PROBLEM HAS BEEN DETERMINED AND ELIMINATED.



- ❑ Water temperature over 125° F can cause severe burns instantly or death from scalds.
- ❑ Children, disabled, and elderly are at the highest risk of being scalded.
- ❑ See instruction manual before setting the temperature at the water heater.
- ❑ Feel water before bathing or showering.

DIAGRAM 1



Screw A Option

Screw B Option

Screw C Option

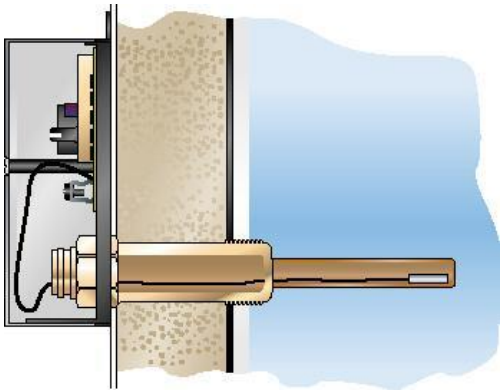
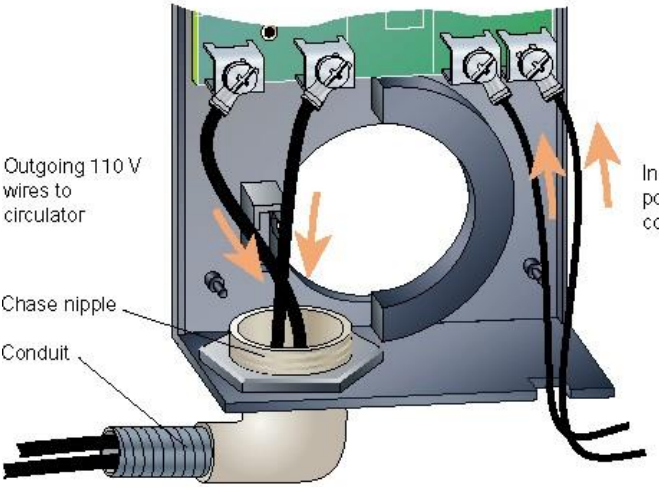


DIAGRAM 2



NOTE: Use proper conduit
and chase nipple

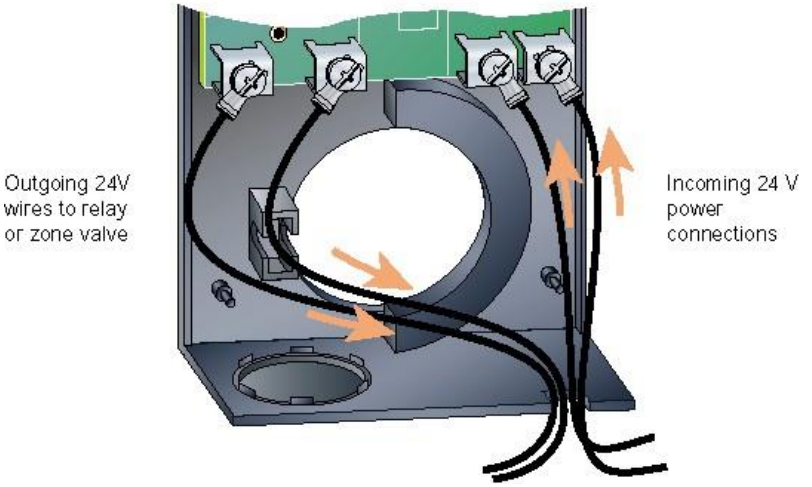


DIAGRAM 3

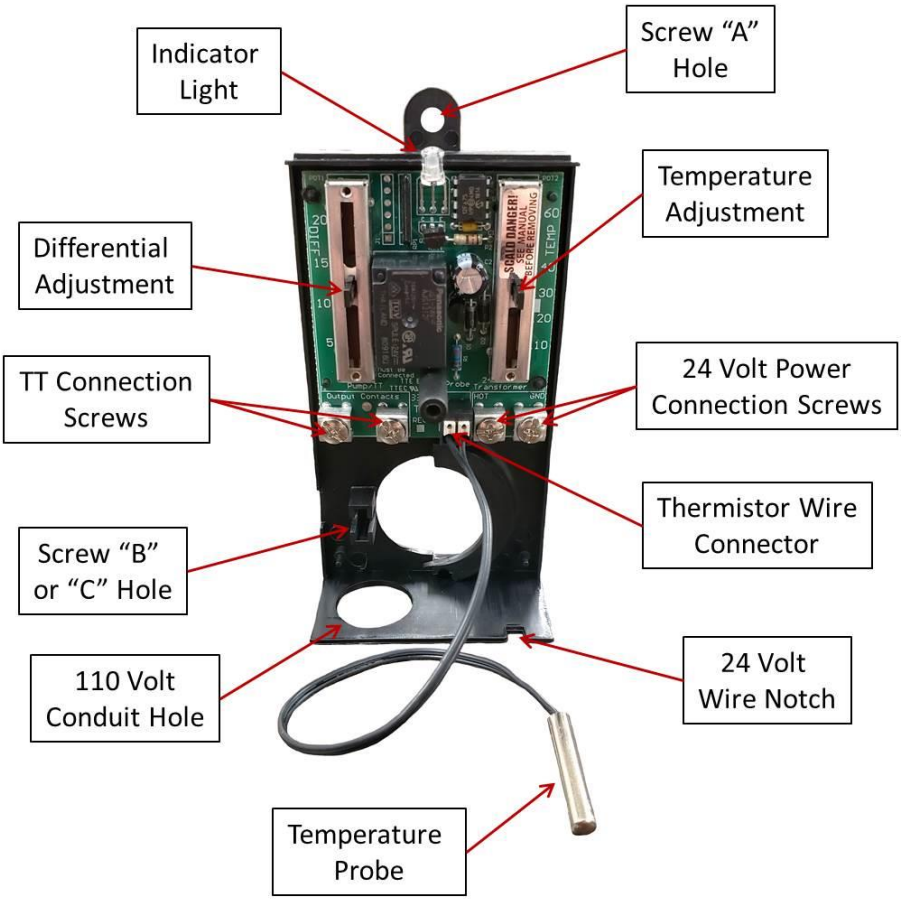

Indicator Light
Screw "A" Hole
Temperature Adjustment
Differential Adjustment
TT Connection Screws
24 Volt Power Connection Screws
Thermistor Wire Connector
Screw "B" or "C" Hole
110 Volt Conduit Hole
24 Volt Wire Notch
Temperature Probe

DIAGRAM 4

Inserting the Probe Wires

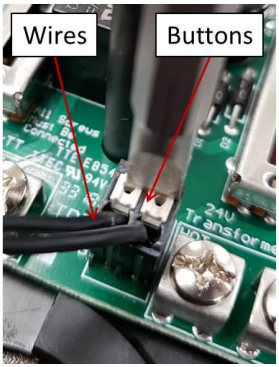
5.A – Position tool (such as screwdriver) on top of white buttons.

5.B – Push down on white buttons and push wires down into black holes in top of connector.
(This can also be done one side at a time)

5.C – Tug on each wire to make sure they don't move easily.

5.A – Buttons up

5.B – Buttons down, Wires pushed down



5.C – Buttons up, Wires Tight

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