

3.3 Closed system thermal expansion

Periodic discharge of the temperature and pressure relief valve or failure of the element gasket may be due to thermal expansion in a closed water supply system. The water utility supply meter may contain a check valve, backflow preventer or water pressure reducing valve which will create a closed water system.

During the heating cycle of the water heater, the water expands causing pressure inside the water heater to increase.

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To prevent this from happening, there are two recommendations:

- Install a diaphragm-type expansion tank that is suitable for potable water on the cold water supply line. A minimum 0.5 gallon expansion tank should be used.

Contact the local water supplier or plumbing inspector for information on how to control this situation. Do not plug the temperature and pressure relief valve.

4 Use

4.1 Starting and testing



CAUTION

DO NOT supply power to water heater until filled with water.

To fill the heater:

- Open supply valve for water heater to fill with water.
- Open hot water tap(s) supplied by the water heater to purge air out of the system. Once air is purged, close hot water tap.
- Visually check for any leaks.

Turning heater on

For models which are not fitted with a switch:

- Supply power to the water heater by plugging in the power cord.

If the light does not come on, turn the control knob in a clockwise direction.

The light will come on until water temperature has reached the thermostat temperature setting. The light will come back on any time the water temperature inside the tank drops below the thermostat setting.



DANGER

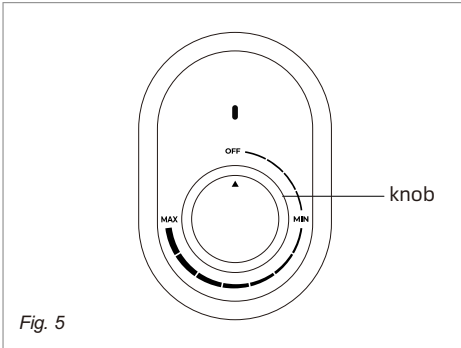
If user's water pressure is high, TP valve may relieve pressure under high pressure during the heating process, water temperature will be over 145 °F after pressure relief, which can cause severe burns instantly or death from scalds. Please take attention!

4.2 Temperature setting

To fill the heater:

The temperature of the hot water is adjusted by rotating the knob located on the front cover. Temperature range is 55-145 °F.

- Turn the knob clockwise to increase temperature.
- Turn the knob counter-clockwise to decrease temperature.



5 Maintenance



CAUTION

Do not attempt to repair this water heater yourself. Call a service person for assistance. Always turn off the power supply to the heater prior to servicing or draining the heater.



NOTICE

For most of these operations, the water will have to be drained from the heater. For all of these operations the cord should be disconnected and the front cover removed.

5.1 Removing the cover

- Remove rubber seal which covers the Phillips screw, and unscrew the Phillips screw.
- The cover can now be removed by slightly rotate. When reassembling, work in the opposite way being careful to insert the tongue of the cover into the slot.

5.2 Draining the heater

If the heater has been installed with flexible hoses:

- Shut off the power supply.
- Turn the heater upside down over a sink to drain the water out of it.

5.3 Inspecting the anode rod

If the heater has been installed with flexible hoses:

The purpose of the anode rod (Fig. 8) is to protect the tank against corrosion. It is critical that the anode rod be inspected once a year to determine whether it requires replacement. To access the anode rod, the heating element must be removed (see Section 5.4 Removing the heating element). Upon inspection, the anode rod surface should appear smooth. If the rod surface appears pitted, bumpy, rusty, or if the rod is missing completely, then it must be replaced.

To access the anode rod:

- Remove the heating element (see Section 5.4 Removing the heating element).

Original anode rod sizes

- Length 4.72" Diameter 0.787"

Certain installations may require more frequent replacement of the anode rod:

- recirculation applications
- poor water quality
- galvanic/electrolytic corrosion
- high flow applications

In the event of poor water quality, we recommends consulting a local water treatment professional for water treatment options. Always ensure the water heater is grounded. **Damage resulting from poor water quality or failure to replace the anode rod is not covered under the manufacturer's warranty.** For additional questions, please call Technical Service.

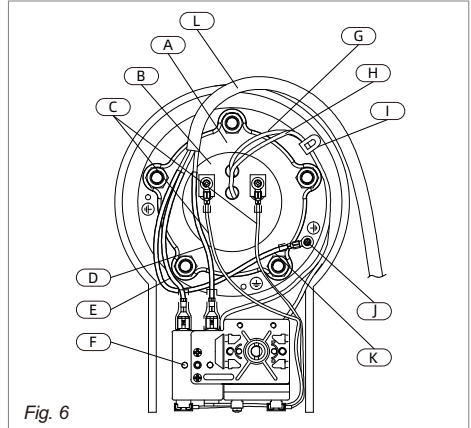


Fig. 6

- A. Heating Element Pressing Plate
- B. Heating Element
- C. Wire
- D. Live Wire
- E. Null Wire
- F. Return Pin
- G. Thermostat Capillary
- H. Thermal cut-out Capillary
- I. Wire Nail
- J. 3-in-1 Cross Screw
- K. Ground Wire
- L. Power Cord

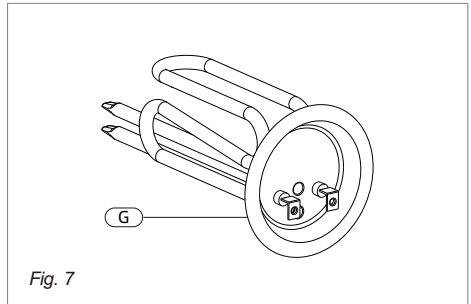


Fig. 7

5.4 Removing the heating element

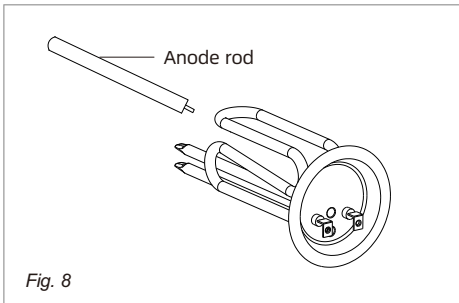
- Take out the power cord L from the plastic part. (Fig. 6)
- Use a cross screwdriver to unscrew the 3-in-1 cross screw J on the heating element terminals of red wire J and blue wire C. (Fig. 6)
- Remove the wire nail I and press the thermostat capillary G and the thermal cut-out capillary H, and take it out of the blind tube opening. (Fig. 6)
- Loosen the 5 nuts and spring washer on the heating element pressing plate A with the sleeve, and take out the heating element pressing plate A. (Fig. 6)
- Remove heating element B. (Fig. 6)

5.5 Descaling the heating element

Scale deposits can affect the heating capability of the element.

Heavy scale can even cause damage to the element. The element can be descaled either chemically or manually:

- Soak the element in white vinegar or other descaling solution.
- Once descaled, rinse well with fresh water, to which you should add some baking soda.
- or-
- Once the element has dried, use a soft brush (non metallic to prevent damaging the stainless steel sheath) on element.
- Brush the dried mineral off.
- Reinstall the element with gasket and make the wire connections.



NOTICE

Make sure the tank has been refilled with water before restoring power.

6 Replacement of parts

6.1 Changing the anode rod

- Turn off the power supply and drain the heater (5.2 Draining the heater).
- Remove heating element (see previous section).
- Unscrew anode rod from threaded connection.
- Remove and replace the anode rod (Fig. 8).
- Reinstall heating element.
- Refill tank with water before restoring power.

6.2 Changing the heating element

- Turn off power supply and drain the heater (see Draining the Heater).
- Remove the heating element (see section on Removing the Heating Element).
- Install new element with gasket, making sure the gasket and element are positioned correctly. Tighten the retaining nuts and make the wire connections.
- Ensure that the thermostat temperature sensor is inserted into the well located on the element assembly and secured with black rubber grommet.
- Refill tank with water before restoring power.

6.3 Changing the thermostat

- Turn off power supply.
- Disconnect the 2 wire connectors on thermostat.
- Loosen the two brass screws at right side of thermostat and pull wires out.
- Remove thermostat temperature sensor from well located in element assembly.
- Unscrew and remove the two Phillips screws holding the thermostat onto the tank.
- Install new thermostat and re-attach wiring and screws.
- Ensure that the thermostat temperature sensor is inserted into the well located on the element assembly and secured with black rubber grommet.