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Sequence of Operation for a Dual Element Electric Water Heater

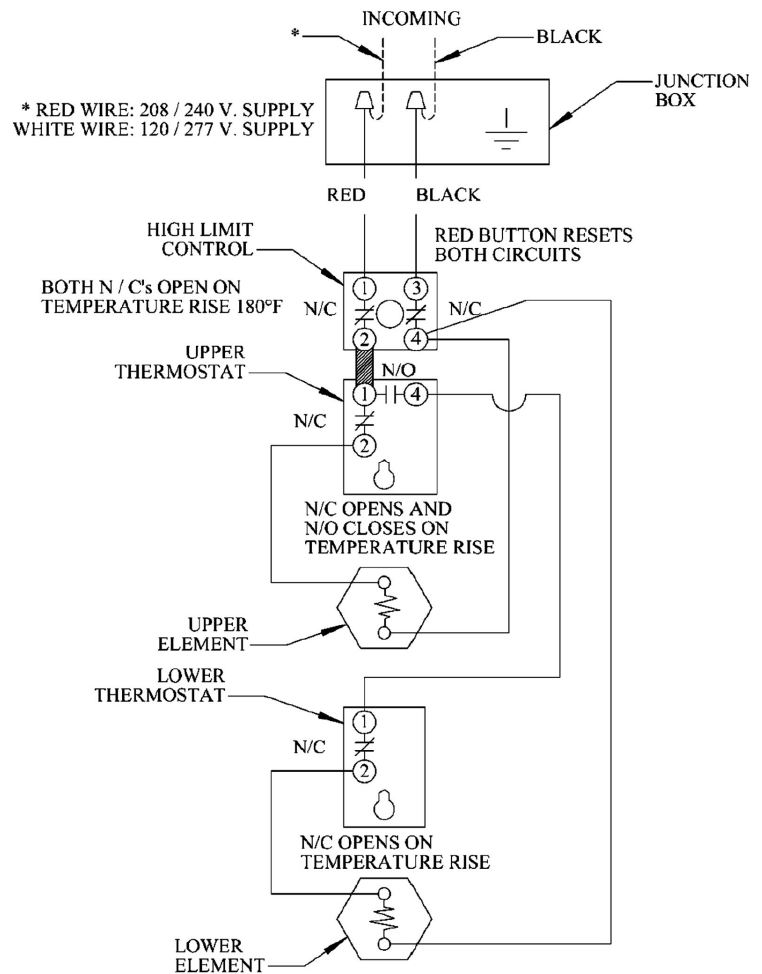
The basic operation of a two thermostat system (upper and lower) on an electric water heater of 240 volt supply is as follows:

Only one element will come on at any one time. This is known as a flip/flop system. On a 240 volt water heater, there will always be 120 volts to both elements. The thermostat will direct the second leg of the 120-volts to the element to complete the 240 volts required to energize the element.

Initial start up:

When the tank is full of cold water, the upper thermostat will take priority and heat up the top portion of the water to the setting of the thermostat. Once that temperature has been reached, the thermostat will then flip power down to the lower thermostat. The lower thermostat switch will close and heat up the bottom portion of the tank until the water is heated to the setting of that thermostat. At this point the tank will be full of hot water.

TWO WIRE CIRCUIT FOR TWO (2) ELEMENT HEATERS
EQUIPPED WITH SINGLE (1) HIGH LIMIT CONTROL.
NON-SIMULTANEOUS OPERATION.



WATER HEATER MUST BE GROUNDED TO THE ELECTRIC SUPPLY SERVICE.

Normal operation:

When hot water is being used, cold water enters the bottom of the heater (either through the bottom inlet nipple or the dip tube), the bottom thermostat closes and the element will begin to heat the cold water.

When a significant amount of hot water has been used, the upper thermostat will take priority and heat up the top portion of the heater. Once heated, it will flip/switch power down to the lower thermostat and heat the lower portion.

High Limit Control:

All electric water heaters are supplied with a high limit control switch. This switch is a safety device designed to shut the unit off if it over heats and the water reaches an unsafe temperature. Power to the thermostats and elements is completely cut off when it trips. The high limit control can be reset by firmly pushing on the red button above the upper thermostat. An audible click can be heard when it resets. If the high limit control trips frequently it is an indication of additional problems. Contact a qualified technician for service.

