

MiniMax NT Heater Dual Voltage 6800 Temperature Controller Retrofit Kit (472098) Installation Instructions

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WARNING

FOR YOUR SAFETY - READ BEFORE OPERATING

Warning: This product must be installed and serviced by a professional service technician qualified in pool/spa heater installation and maintenance. If you do not follow these instructions exactly, a fire or explosion may result, causing property damage, personal injury or loss of life. For additional free copies of these instructions; call (800) 831-7133.

Important Notice



Attention Installer.

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

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Because **reliability** matters most

A. INSTALLATION

1. Turn off the electrical power to the heater.
2. Open the heater's right door.
3. Disconnect all wires from the 7800 Temperature Controller and the Ignition Module.
4. Remove the left and right doors from the heater if necessary.
5. Remove six screws on the rear cover of the 7800 Temperature Controller.
(NOTE: Please discard the cover, not used.) Then, remove the cover, the PC board, and the front face carrier.
6. Install the 6800 Temperature Controller, (provided in the kit), by using four screws only. See Figure 1.
7. Remove two screws on existing Ignition Module and replace with new Ignition Module using the same two screws, (provided in the kit).

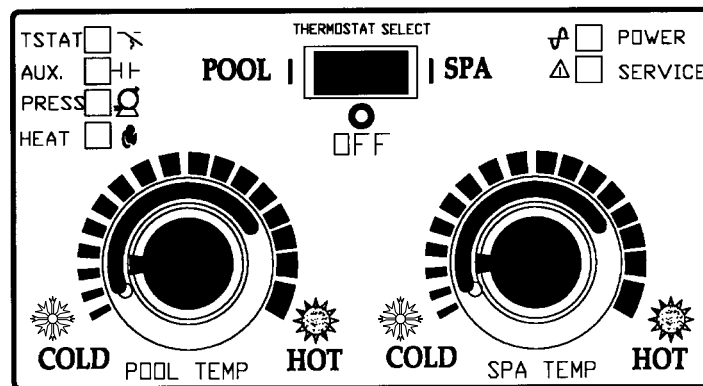
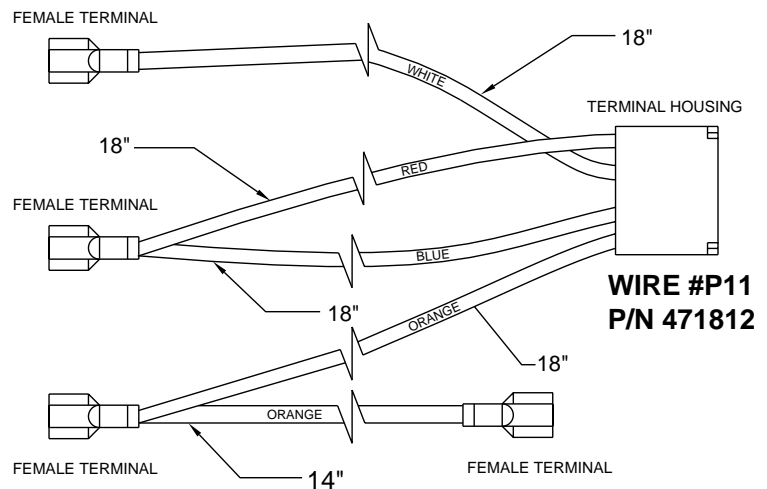
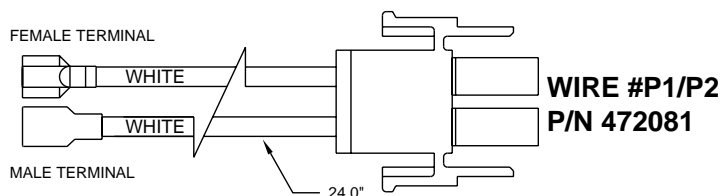
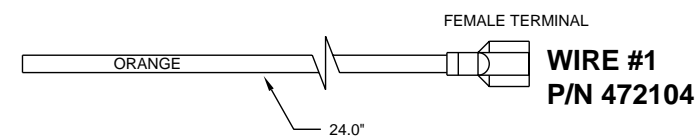


Figure 1.

B. WIRES IDENTIFICATION

The following items are new wire assembly, (provided in the kit).



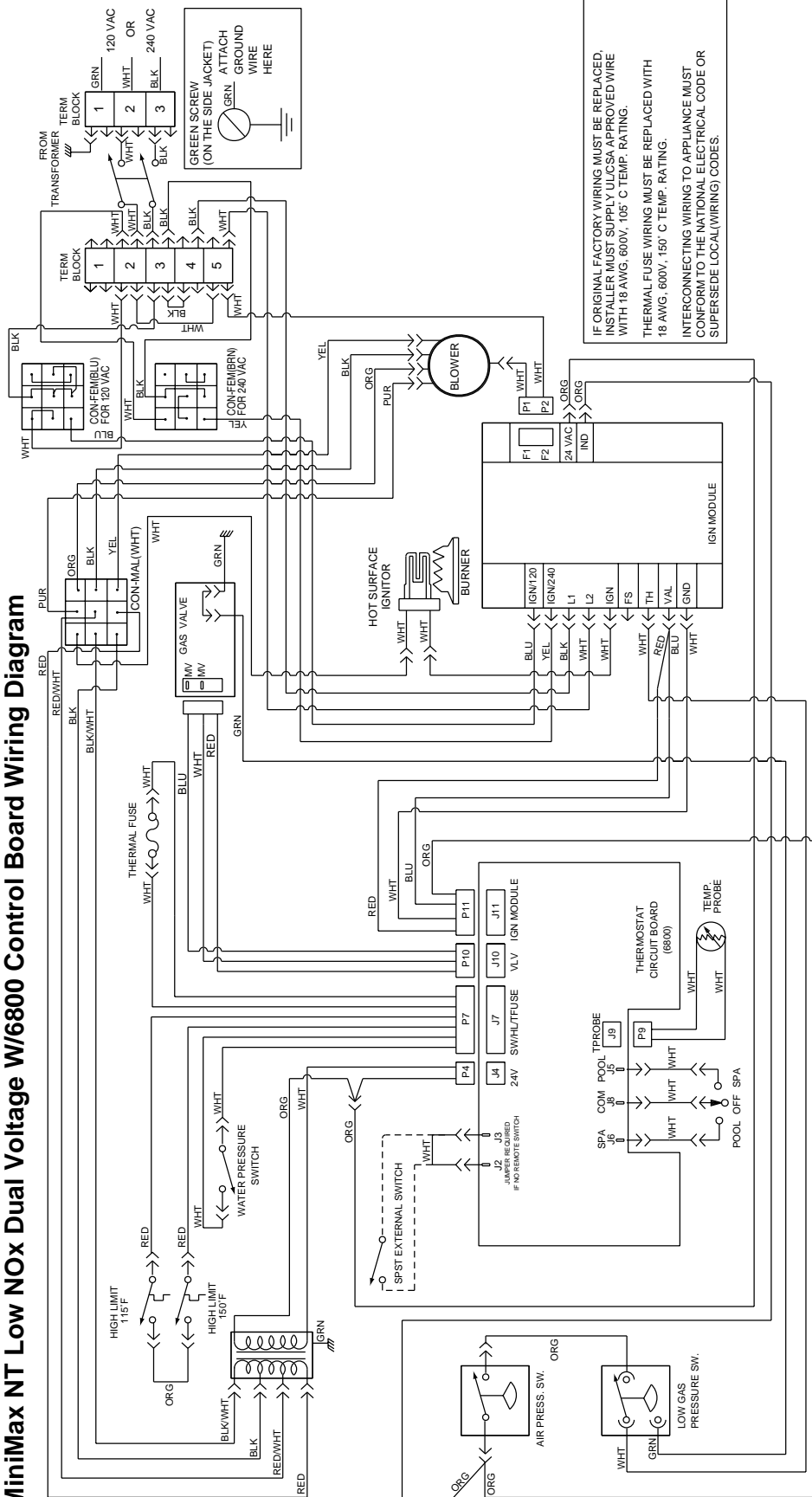
C. WIRING

NOTE

First check the five terminals on your blower. If there are male terminals, please cut them and replace with female terminals, (provided in the kit). Second look at the existing wiring diagram on the left door and find out what model of the NT heater you have from top of wiring diagram.

- **If you see "MiniMax NT Low NOx" that means your heater is Low NOx Dual Voltage *Single Speed* (DVSS):** Replace the new wiring diagram. The label is provided in the kit (P/N: 472082).
- Please see **Figure 2 for Low NOx DVSS** and follow the instructions below exactly.
 - a. Reconnect the wire P7 to J7, P9 to J9, and P10 to J10 respectively on the 6800 control board.
 - b. Reconnect the white wire from Low Gas Pressure Switch to "TH" on the Ignition Module.
 - c. Reconnect black wire from "L1" of Ignition Module to the Terminal Block #4.
 - d. Reconnect white wire from "L2" of Ignition Module to the Terminal Block #5.
 - e. Reconnect blue wire from blue plug (CON-FEM FOR 120V) to "IGN/120" of Ignition Module.
 - f. Reconnect yellow wire from brown plug (CON-FEM FOR 240V) to "IGN/240" of Ignition Module.
 - g. Reconnect white wire from Hot Surface Igniter to "IGN" on the Ignition Module.
 - h. Connect **new wire #P11** to J11. Then, connect the common female terminal of orange wire to the Air Pressure Switch and single female terminal of orange wire to "IND" on the Ignition Module. Next, connect the common female terminal of red/blue wire to "VAL" on the Ignition Module and white wire to "GND" on the Ignition Module.
 - i. Connect existing wire P4 to J4 but using "Splice" (provided in the kit) to connect **new wire #1** (orange). The female terminal connects to "24VAC" on Ignition Module.
 - j. Connect **new wire #P1/P2** (white) to F1/F2 on the Ignition Module. Connect the P1 to the white wire of the Blower; the P2 to the Terminal Block #5.
- **If you see "MiniMax NT Standard" that means your heater is Standard (Non-Low NOx) Dual Voltage *Single Speed* (DVSS):** Replace the new wiring diagram. The label is provided in the kit (P/N: 472085).
- Please see **Figure 3 for Standard DVSS** and follow the instructions below exactly.
 - a. Reconnect the wire P7 to J7, P9 to J9, and P10 to J10 respectively on the 6800 control board.
 - b. Reconnect the white wire from Air Pressure Switch to "TH" on the Ignition Module.
 - c. Reconnect black wire from "L1" of Ignition Module to the Terminal Block #4.
 - d. Reconnect white wire from "L2" of Ignition Module to the Terminal Block #5.
 - e. Reconnect blue wire from blue plug (CON-FEM FOR 120V) to "IGN/120" on Ignition Module.
 - f. Reconnect yellow wire from brown plug (CON-FEM FOR 240V) to "IGN/240" on Ignition Module.
 - g. Reconnect white wire from Flame Sensor to "FS" on Ignition Module.
 - h. Reconnect white wire from Hot Surface Igniter to "IGN" on the Ignition Module.
 - i. Connect **new wire #P11** to J11. Then, connect the common female terminal of orange wire to the Air Pressure Switch and single female terminal of orange wire to "IND" on the Ignition Module. Next, connect the common female terminal of red/blue wire to "VAL" on the Ignition Module and white wire to "GND" on the Ignition Module.
 - j. Connect existing wire P4 to J4 but using "Splice" (provided in the kit) to connect **new wire #1** (orange). The female terminal connects to "24VAC" on Ignition Module.
 - k. Connect **new wire #P1/P2** (white) to F1/F2 on the Ignition Module. Connect the P1 to the white wire of the Blower; the P2 to the Terminal Block #5.

MiniMax NT Low Nox Dual Voltage W/6800 Control Board Wiring Diagram



472082

Figure 2.

[illegible]

472085

P/N 472126

D. OPERATION

Dual Temperature Control System

For convenience and economy all MiniMax NT heaters are equipped with two thermostats on the front of the heater control panel; see Figure 1.

THERMOSTAT KNOB STOPPER

Each thermostat is equipped with a mechanical stop that can be locked or unlocked with use of a screwdriver to prevent temperatures in excess of that desired by the user; see Figure 4.

The maximum setting can be adjusted by loosening the screw "A" and turning the stopper dial to desired maximum setting. Lock the setting by tightening the screw. The Mechanical stop is under the knob. Ensure that the knob is stopping at the correct position when the knob is rotated clockwise from a lower temperature position. (See Thermostat Adjustment.)

NOTE

To eliminate error due to piping heat losses, measure pool temperature with an accurate thermometer directly at the pool or spa.

THERMOSTAT ADJUSTMENT

The knob with locking feature eliminates the need for constant thermostat adjustments. Set the knob pointer to the desired pool or spa temperature.

If further adjustment is needed, rotate the knob until the desired temperature is obtained. This knob position corresponding to your desired maximum pool or spa temperature may now be preset (locked) by the knob stopper which prevents the knob from being turned beyond the maximum temperature you set.

INDICATOR LIGHT DESCRIPTION

The MiniMax Pool Heater provides nine status indicator lights, six can be seen from the front of the control panel which help you understand the operation of the heater. If something should go wrong, the lights will aid in troubleshooting the problem. Three additional lights can be seen after opening the control panel. These three lights give the service technician advanced troubleshooting capability. All the LED lights are green with the exception of the red service LED.

POWER LIGHT (POWER)

The light is on at all times, in any switch position, indicating 24 VAC power is being supplied to the control circuit. If it fails to light, no other light will be on. Possible causes are: a) external power to the heater is disconnected, check service panel circuit breaker or fuses; b) local circuit breaker inside the transformer has tripped -- investigate cause before resetting; c) transformer has failed.

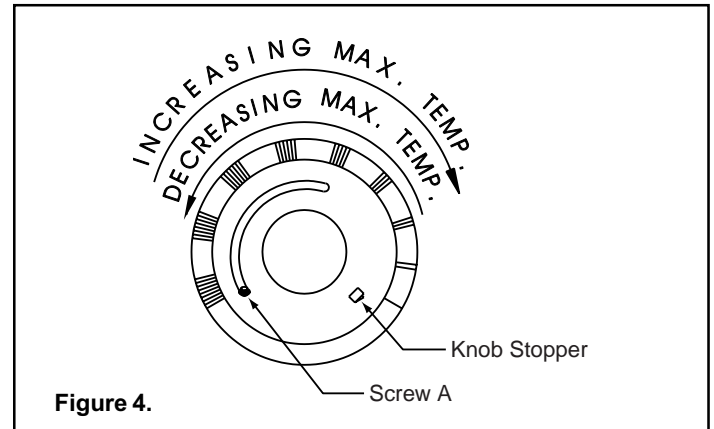
THERMOSTAT (TSTAT)

This light is on when the thermostat contacts close, signaled by the water temperature falling below the setpoint, calling for the heater to fire to maintain the desired water temperature.

POWER (THERMOSTAT SELECT) SWITCH

The Pool/Off/Spa switch allows the heater to be turned off when heating is not desired.

1. "Pool" position - Maintains selected pool temperature.
2. "Off" position - Heater will not come on regardless of drop in pool or spa temperature.
3. "Spa" position - This allows separate control of spa water temperature.



AUXILIARY (AUX)

This light is on when it indicates the remote switch contacts are closed. This allows you to observe if your remote switch is properly closing the heater control circuit. When shipped from the factory a jumper is installed to maintain closed circuit in the absence of a remote switch.

PRESSURE (PRESS)

This light is on when Spa/Pool Selector switch is on, indicates the circulation pump is running properly. If pressure light fails to light, the pump may have lost its prime or water flow may be restricted by an inadvertently closed valve or clogged filter or pump basket. If you have determined that there is no water flow restriction to the heater, you should call a qualified serviceman.

INDICATOR LIGHT DESCRIPTION, (cont'd.)

HEAT (HEAT)

The heat light is on any time the thermostat has signaled a call for heat which initializes the ignition safety firing circuit - the light comes on to indicate successful firing of the main burners.

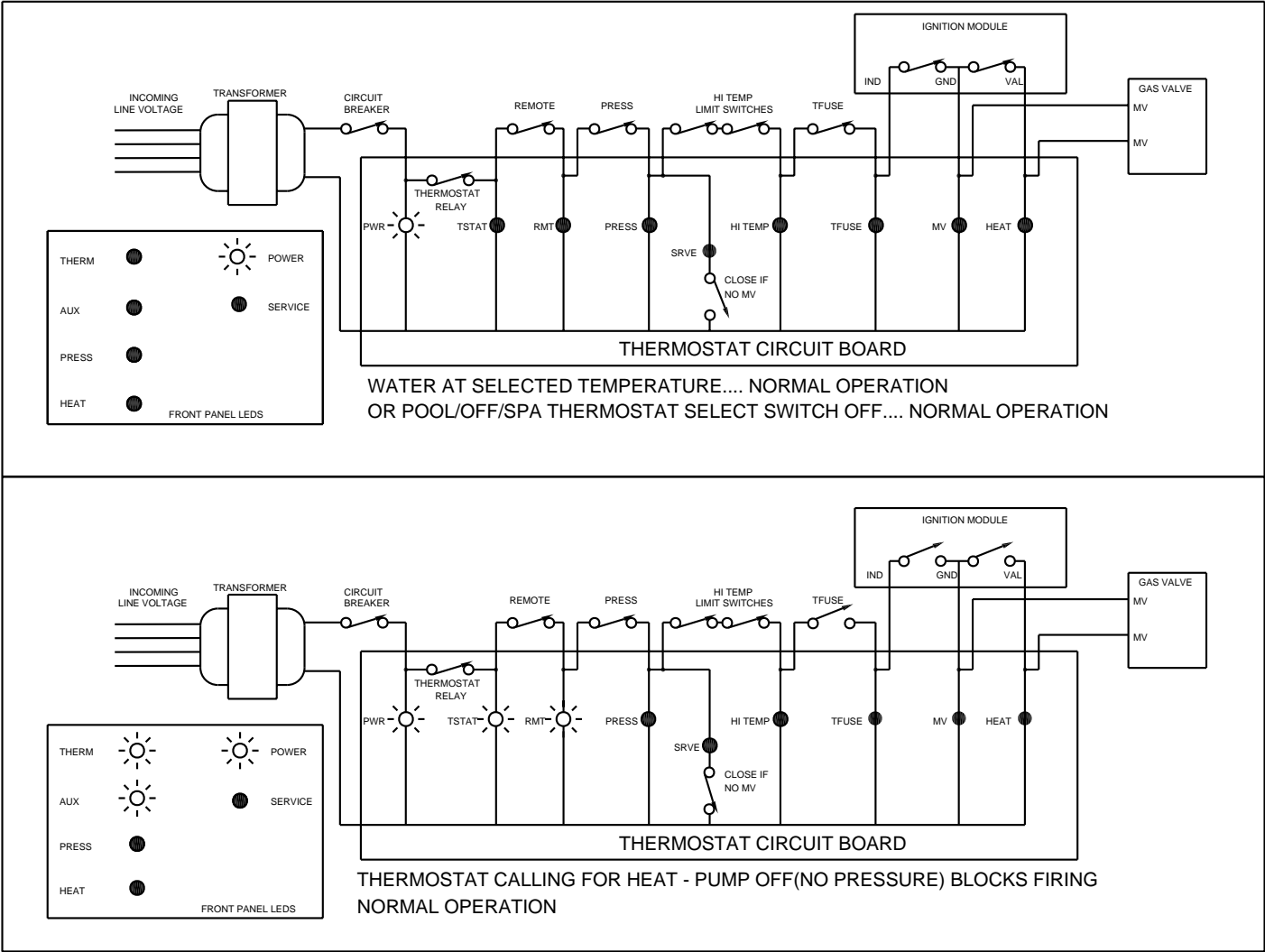
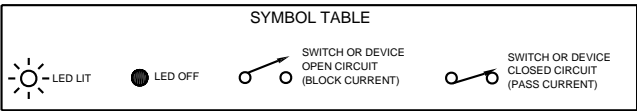
SERVICE (SERVICE)

The service light is off during normal operation of heater. The light only comes on if a problem with a control has occurred or when the heater is first firing. The problem must be investigated by the serviceman prior to attempts to fire the heater again.

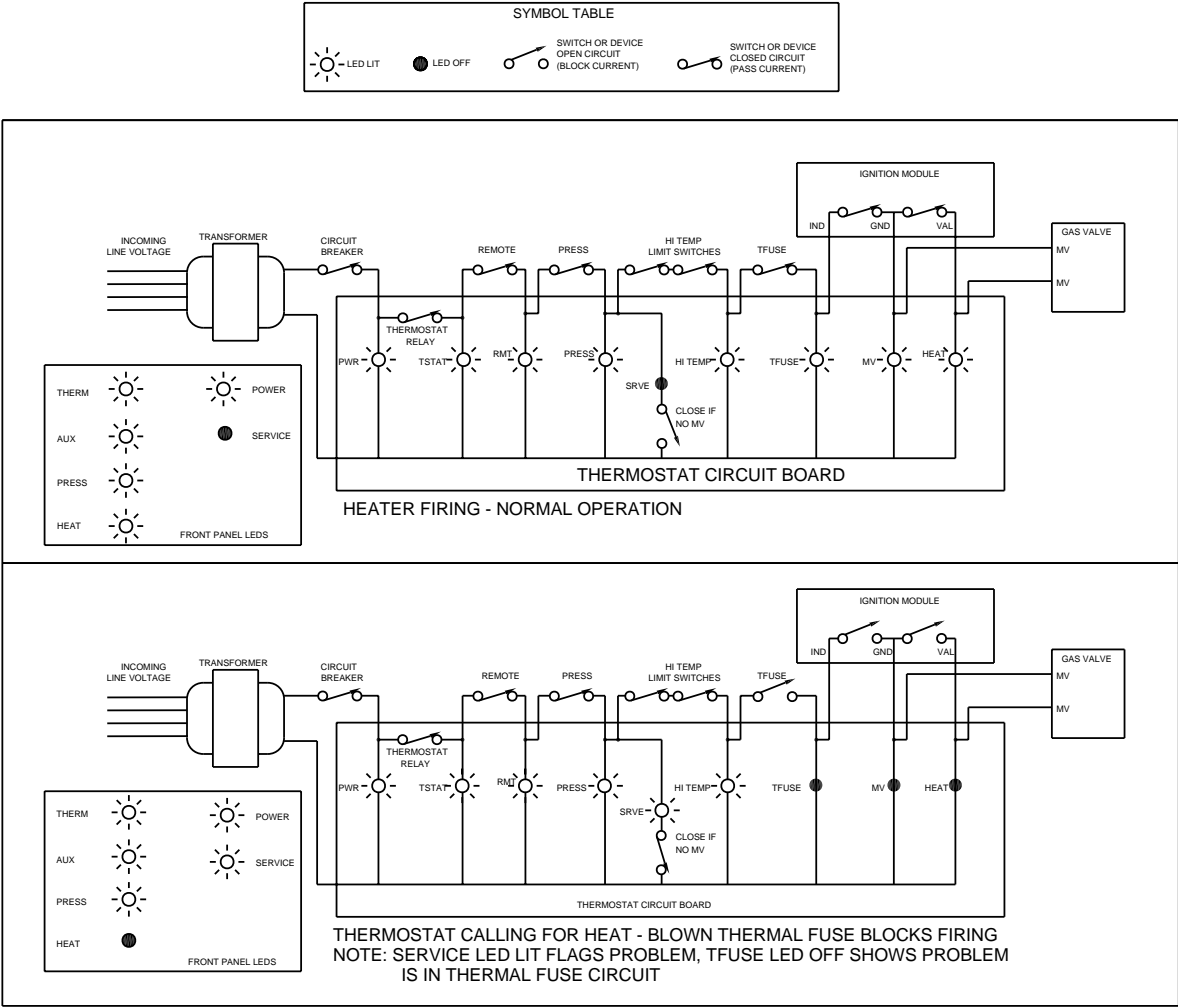
The diagrams that follow give examples of troubleshooting a malfunctioning heater using the assistance of the indicator lights.

E. TROUBLESHOOTING

Example of troubleshooting with the assistance of the indicator lights.



E. TROUBLESHOOTING, (cont'd.)



G. PARTS LIST

P/N	Description	Quantity
071925	Quick Connector, 1/4 in. Female Terminal	5
471812	Wire #P11, White/Red/Blue/Orange, with Terminal Housing	1
472080	Ignition Module, 05-339018-103	1
472081	Wire #P1/P2, White/White, with Mate-N-Lok Plug	1
472082	Label, Wiring Diagram, NT Low NOx DVSS	1
472085	Label, Wiring Diagram, NT Standard DVSS	1
472086	Temperature Controller Assembly, 6800	1
472094	Splice (Self-Stripping Electrical Tap Connector)	1
472104	Wire #1, Orange, 1 Female	1
472126	Instruction Sheet, 6800 Retrofit Kit, NT DVSS	1

Save These Instructions Together With Your Existing
Operation & Installation Manual For Future Reference.

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