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## **DISCLAIMER**

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SCI Resource Partners believe that this information is accurate and reliable, but does not guarantee its accuracy or completeness.

Due to manufacturer variances and availability of materials there may be inaccurate information i.e. wire colors, types of wire caps, types of sensors or fan terminals.

SCI Resource Partners recommends the use of skilled service technicians when servicing any electrical appliances or products.

SCI Resource Partners is not responsible for any error or omissions in this information, or for the results obtained from the use of any of this information, and under no circumstances is SCI Resource Partners liable for any loss or damage caused by reliance on this information.

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## **IMPORTANT NOTES**

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1. Always use a clean soft surface to place the unit on when servicing to prevent any damage to the top, back, front and side panels.
2. The heater has many sharp edges, be careful not to cut yourself when servicing.
3. Prevent the risk of electrical shock by unplugging the heater when servicing unless otherwise noted.
4. Do not over tighten the screws.
5. You may need to replace some of the sheet metal screws with larger ones if they do not fasten securely.
6. Do not use unnecessary force to reassemble any part of the heater.
7. Only use approved replacement parts obtained through SCI Resource Partners.
8. Install replacement parts and reattach wires to their proper/previous locations.
9. Always replace any removed wire restraints.
10. Never reuse previously crimped wire caps, damaged wire ports or damaged wire clips.
11. Make sure all of the wires are secure in the new cap; gently pull on each wire to make sure they are not loose. Gently pull the cap to make sure it will not slip off. If the cap or any wire is loose, replace the cap.
12. Be careful not to damage wires or wire clips. Do not pull by wires except when testing wire caps.
13. Test the heater to make sure its working properly before and after reassembly.
14. If the heater is to be shipped; make sure it is properly packaged to prevent any damage while in transit. The heater must meet all UPS packaging specifications in order to be insured. Heaters that are damaged in transit as a result of poor packaging will be replaced by the party responsible at their own cost.
15. You might encounter alternate sensors, thermostats, fans, power switches and other replacement parts.
  - Make sure you are using a compatible part when you replace a defective one.
  - Make sure to install replacement parts in the correct location and direction.

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# HEATER TROUBLESHOOTING GUIDE

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## NO POWER

- Check wires on front power switch for connection
- Check front power switch wire connections on back of unit
  - ◆ Check wire nuts/caps
- Check power cord wires and their connections
  - ◆ Check wire nuts/caps
- Check ground wire connection

## NO HEAT or LIMITED HEAT

- Check thermostat for click
  - ◆ Recalibrate the thermostat if it doesn't click (refer to Thermostat Calibration)
  - ◆ If recalibrating the thermostat doesn't work, replace the thermostat
- Check thermostat wires and connections
  - ◆ Check wire nuts/caps
- Check wires to heat sensor
  - ◆ Check wire nuts/caps
- Check all connections to the bulbs
  - ◆ Check wire nuts/caps
- Check heat sensor
  - ◆ Make sure the correct sensor is installed
  - ◆ Unplug wires to old sensor and plug them into new one, just let it hang there to check. If unit heats replace the old sensor.
- Check bulbs (operate unit to see which bulbs do or do not light up)
  - ◆ If a pair/series of bulbs doesn't work, remove or disconnect bulbs and determine if one or more bulbs need replaced.
    - Replace the bulb if the glass/ceramic is cracked/broken/overly discolored or if the quartz element appears to be damaged.

## HEAT NO FAN

- Check all fan wires and connections
  - ◆ Check wire nuts/caps
- Check fan motor
  - ◆ Using a pair of insulated needle nose pliers; touch the tips of the pliers to the metal connectors of the fan sensor. Be careful not to shock yourself. If the fan starts, it is good. (Fan Test Diagram)
- Check fan sensor
  - ◆ Make sure the right sensor is installed
  - ◆ Install new fan sensor and operate the heater. Allow enough time for the sensor to heat up. Replace the old sensor if the fan powers on.

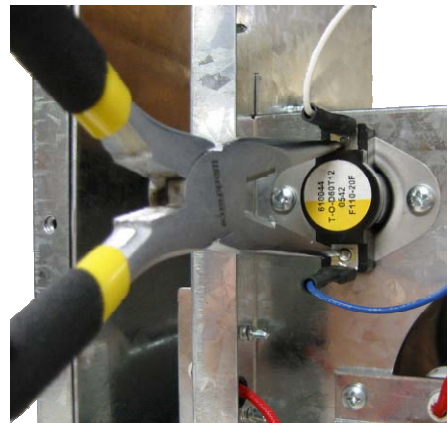
## BAD THERMOSTAT

- No click - Calibrate the thermostat (refer to Thermostat Calibration)
- No heat - Check thermostat connections and perform continuity test using a multimeter
- You have recalibrated thermostat and the bulbs stay on after turning thermostat dial to the lowest setting

## SHORT

- Check for bare wires or bulb wires touching metal

**FAN TEST DIAGRAM**



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# BASIC TESTING WITH MULTIMETER

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## 1. Continuity Test: Quartz Heating Elements

- a. Make sure the heater is unplugged.
- b. Disconnect the bulb from all connections.
- c. Attach one of the two test leads to one metal side of the bulb or exposed wire.
- d. Attach the other test lead to the other metal side of the bulb or exposed wire.
- e. If the meter beeps; the bulb should be functioning properly.

*Notes: Replace the bulb if the glass/ceramic is cracked/broken/overly discolored or if the quartz element appears to be damaged. Bulbs that pass a continuity test aren't always in good working order. Always perform a visual inspection of each bulb when servicing.*

## 2. Continuity Test: Model 500 & 750

- a. Unplug the power cord.
- b. Turn the thermostat dial to the highest setting.
- c. Turn the front power switch to the on position.
- d. Set your multimeter to the  $\Omega$  (Resistance Measurement Setting).
- e. Attach one of the two test leads to one of the flat metal prongs at the end of the plug.
- f. Attach the other test lead to the other flat metal prong at the end of the plug.
- g. Your meter should make a solid beep sound.
- h. If the meter makes a solid beep sound; the power switch, thermostat, high limit switch, power cord and all bulbs should be in proper working condition.
- i. You should also test the round ground prong on the plug by placing one test lead on it and the other test lead to any bare metal part of the heater. If the ground is good, your multimeter will make a solid beep sound.
- j. Place one test lead on a flat metal prong at the end of the plug and place the other test lead on any exposed bare metal part of the heater. You shouldn't hear the beep. Now try the other flat metal blade. You shouldn't hear the beep. If you heard the multimeter beep, you have a short somewhere.

## 3. Amp Test: Model 500 & 750

- a. Plug the power cord into the altered appliance cord.
- b. Plug the altered appliance cord into an active AC outlet.
- c. Turn the thermostat dial to the highest setting.
- d. Turn the front power switch to the on position.
- e. Set your multimeter function to the 40A (Amps Measurement Setting).
- f. Press the trigger to open the transformer jaws and clamp onto one conductor only.
- g. The meter should display the amount of amps being used.
- h. Note: Each of the three bulbs consumes about 2 amps (total = about 6). The fan consumes about 0.21 amps. The meter should display a number somewhere between 5.7 – 6.7 amps.
- i. If the total amps are less than 1; at least 1 bulb isn't functioning properly or there is a problem with the power switch, thermostat, high limit switch or power cord.

**Notes:** You should always operate the heater through multiple heating cycles when servicing to insure it is functioning properly.

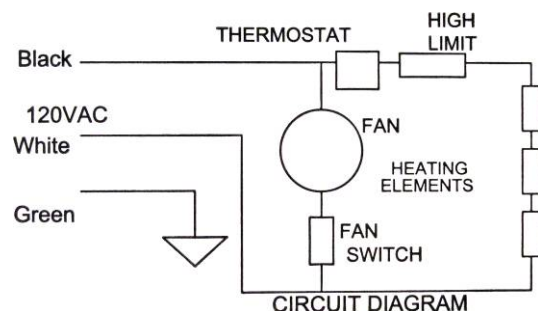
*Make sure the high limit switch is functioning properly. Block the rear intake of the heater and confirm that the bulbs disengage to prevent overheating. The high limit switch should disengage the power shortly after the output temperature exceeds 220° – 230° Fahrenheit.*

*The heat output is approximately 120° - 140° above the ambient room temperature i.e. if the room temperature is 65°, the heat output should be approximately 185° - 205° Fahrenheit.*

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## WIRING DIAGRAM FOR SMALL HEATERS

Note: The thermostat, high limit switch and bulbs are attached to the power switch. The fan sensor has constant power and works as the power switch for the fan. Both the fan and the fan sensor bypass the front power switch.



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## 21 POINT CHECKUP

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**These steps must be performed on all units in for service**

### 1) Heater unplugged and disassembled

- a) Check wires on front power switch for connection.
- b) Check front power switch wire connections on back of unit. (Check wire nuts/caps)
- c) Check power cord wires and their connections. (Check wire nuts/caps)
- d) Check ground wire connection.
- e) Check thermostat wires and connections. (Check wire nuts/caps)
- f) Check wires to heat sensor. (Check wire nuts/caps)
- g) Check all connections to the bulbs. (Check wire nuts/caps)
- h) Perform a thorough bulb inspection. Replace the bulb if the glass/ceramic is cracked/broken/overly discolored or if the quartz element appears to be damaged.
- i) Check for bare wires or bulb wires touching metal, shorter wires are more likely to touch.
- j) Check all fan wires and connections. (Check wire nuts/caps)
- k) Perform a multimeter continuity test. Refer to the continuity test under "Basic Testing with Multimeter".

### 2) Heater plugged in and disassembled

- a) Check bulbs (operate unit to see if the bulbs are functioning).
  - If a pair/series of bulbs does not work, disconnect the power and remove or disconnect bulbs to determine if one or more bulbs need replaced.
  - Replace the bulb if the glass/ceramic is cracked/broken/overly discolored or if the quartz element appears to be damaged. Make sure the elements don't have any hotspots (part of the element is much brighter than the rest).
- b) Check front power switch.
  - Set thermostat to high and press the front power switch to on.
  - The bulbs should light to confirm that the switch is functioning properly.
- c) Check fan motor. Using a pair of insulated needle nose pliers; touch the tips of the pliers to the metal connectors of the fan sensor. Be careful not to shock yourself. If the fan starts, it should be good. The fan should start quickly and operate smoothly without producing any unfavorable sounds.
- d) Rotate the thermostat dial and make sure it clicks.
  - Recalibrate the thermostat if it does not click. (refer to Thermostat Calibration).
  - Make sure it clicks at the proper dial location, recalibrate thermostat if needed.
- e) Make sure the bulbs power on and off properly when the thermostat dial clicks on or off.

### 3) Heater plugged in and assembled

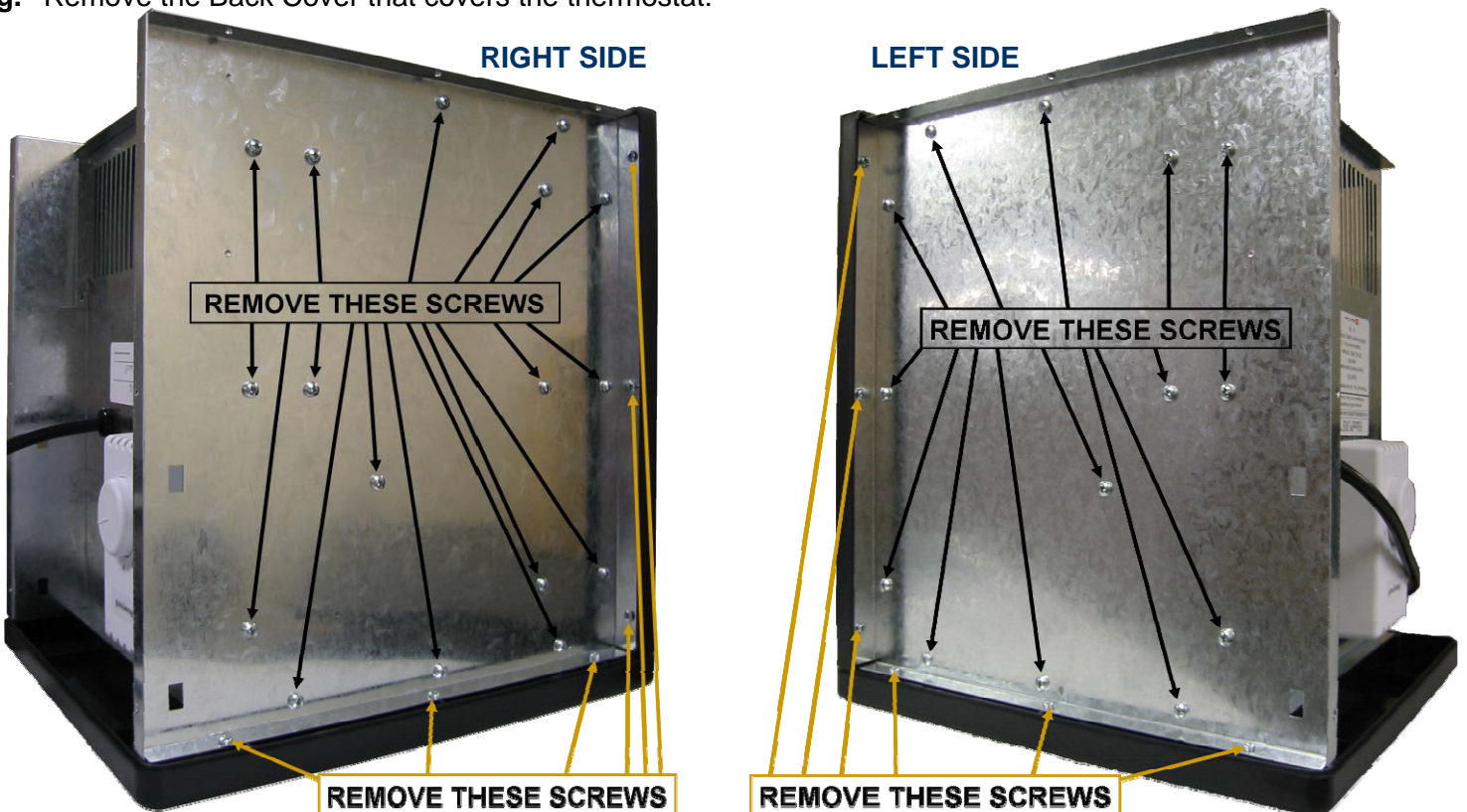
- a) Turn heater on and set thermostat to high. Wait a few minutes to make sure the fan comes on.
- b) Check the output temperature with a digital thermometer.
  - The small heaters should read somewhere between 180 and 200 degrees. The ambient temperature of the testing area will affect the test results.
  - The large heaters should read somewhere between 195 and 215 degrees. The ambient temperature of the testing area will affect the test results.
- c) Make sure the high limit switch is functioning properly. Block the rear intake of the heater and confirm that the bulbs disengage to prevent overheating. The high limit switch should disengage the power shortly after the output temperature exceeds 220° – 230° Fahrenheit.
- d) Turn heater off. Wait a few minutes to make sure the fan turns off.
- e) Fill out all required service logs.

## REMOVING THE EXTERIOR CABINET

- a. Place the unit upside-down on a soft surface that won't scratch the plastic panels.
- b. Remove the screws from the back of the heater. These are the screws that are attached to the rear of the side panels. Place these screws aside in their own pile (screw pile # 1).



- c. Remove the screws from the bottom of heater that hold the sides in place. Some of these screws are also used to secure the rubber feet. Place these screws aside in their own pile (screw pile # 2).
- d. Carefully remove the two side panels.
- e. Remove the screws that are securing the top and front plastic panels to the metal sides. Place these screws aside in their own pile (screw pile # 3).
- f. Remove all of the screws that secure the metal sides to the inner cabinet. Place these screws aside in their own pile (screw pile # 4).
- g. Remove the Back Cover that covers the thermostat.





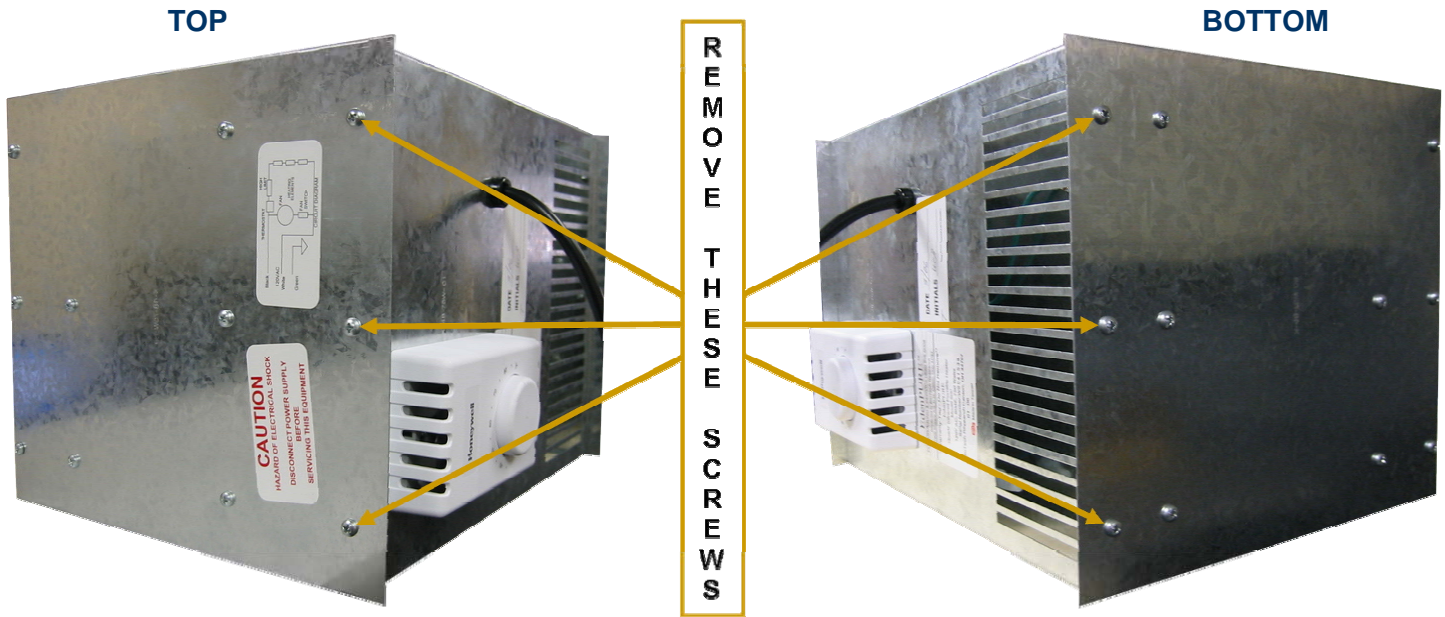
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## REINSTALLING THE EXTERIOR CABINET

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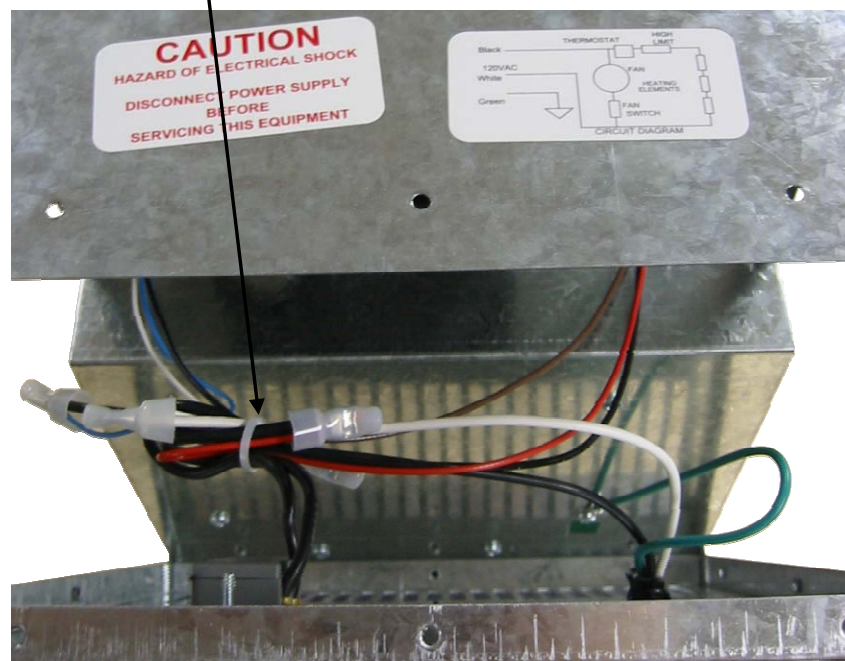
- a. Reinstall all of the sheet metal screws that were securing the metal sides to the inner cabinet (screw pile # 4).
- b. Reattach the screws to the top and front plastic panels (screw pile # 3).
- c. Reinstall the Back Cover that covers the thermostat.
- d. Carefully reinstall the two side panels.
- e. Reinstall the screws to the bottom of heater that were holding the sides in place (screw pile # 2). Some of these screws are also used to secure the rubber feet.
- f. Reinstall the screws to the back of the heater. These are the screws that were attached to the rear of the side panels (screw pile # 1).

## REMOVING THE METAL BACK PLATE TO ACCESS WIRES



- Remove the screws that secure the metal back plate as indicated in above picture and set them aside.
- The back will come off easily but you will have limited working space until you remove the wire restraint(s).
- Use a pair of wire snips to remove the wire restraint(s), be careful not to cut any wires or wire casings.
- After servicing is completed, bunch the wires together and install a new wire restraint(s). Wires should look similar to the picture below when finished.
- Align the back panel up with the screw holes and reinstall the screws that were removed in step “a”.

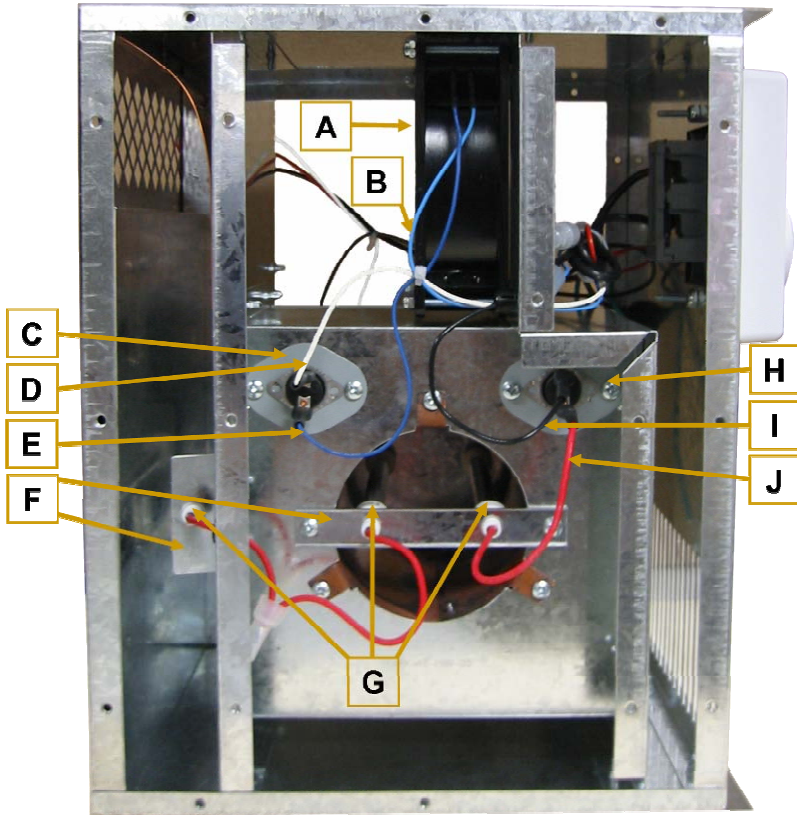
**CAREFULLY REMOVE THE WIRE RESTRAINTS BEFORE SERVICING WIRES**



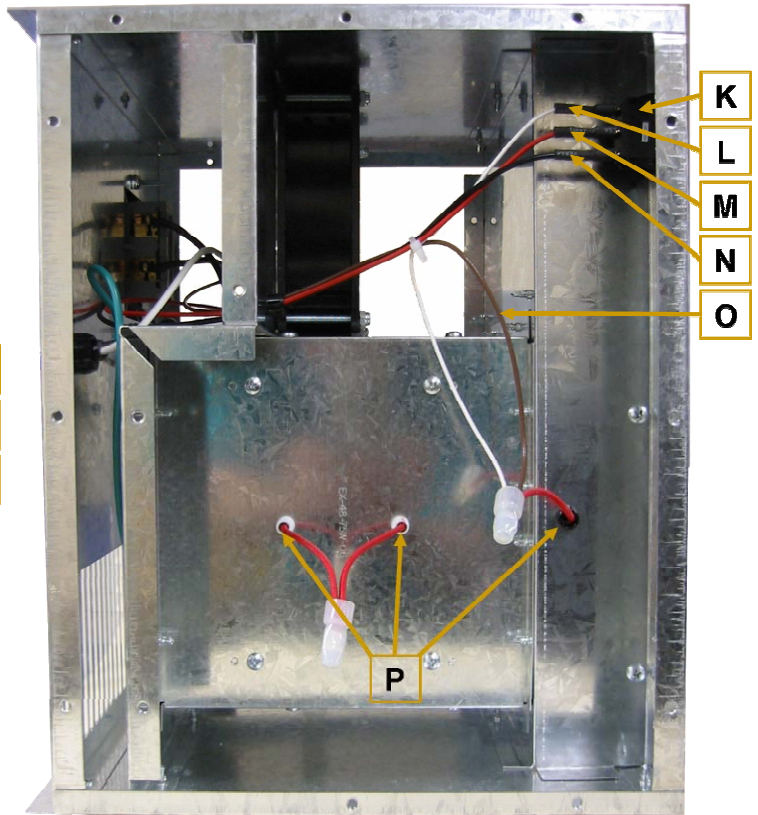


## UNDERSTANDING THE INSIDE OF THE HEATER

INSIDE - RIGHT SIDE



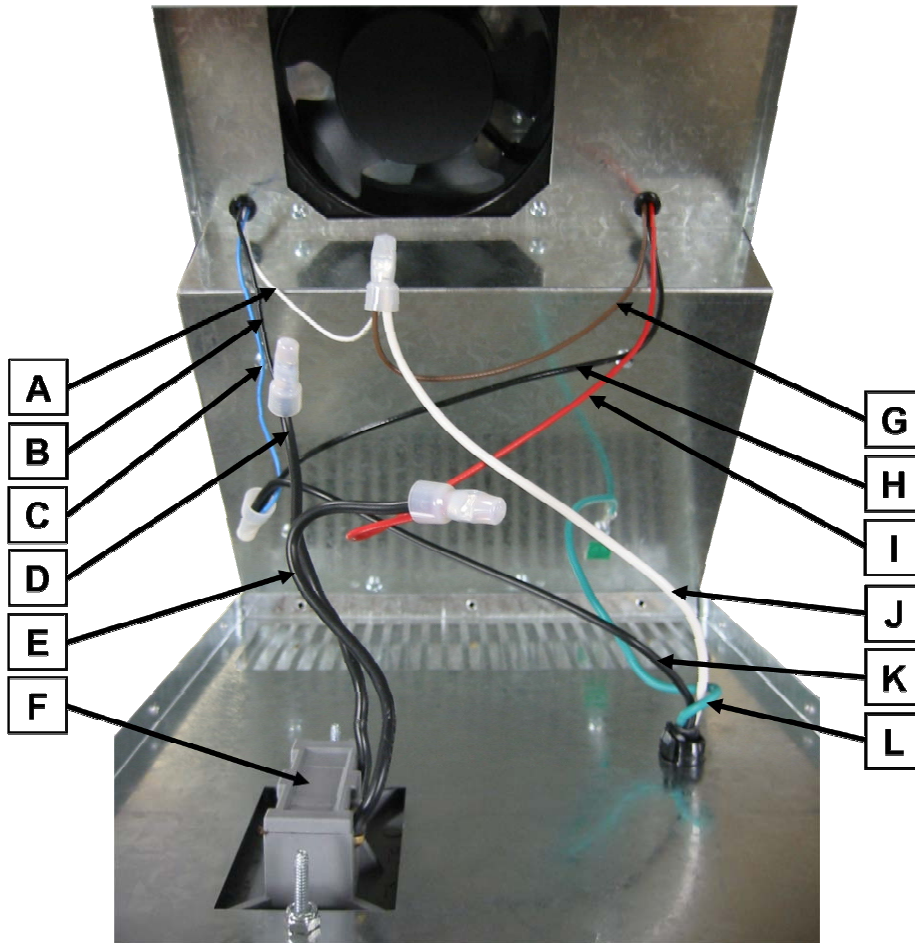
INSIDE - LEFT SIDE



- A. Fan
- B. Light blue wire - Connects to black wire from power cord along with black wire to Front Power Switch
- C. Fan Sensor
- D. White wire - Connects to white wire from power cord along with brown wire to 3<sup>rd</sup> Heating Element
- E. Blue wire - Connects to Fan
- F. Bulb Brackets
- G. Quartz Heating Elements
- H. Heat Sensor
- I. Black wire - Connects to bottom thermostat wire
- J. Red wire - Connects the Heat Sensor to the first Quartz Heating Element
- K. Front Power Switch
- L. White wire - Connects to 3<sup>rd</sup> Heating Element along with brown wire that connects to white wire from power cord and white wire from the Fan Sensor
- M. Red wire - Connects to top thermostat wire
- N. Black wire - Connects to black wire from power cord along with light blue wire from the Fan
- O. Brown wire - Connects to white wire from power cord along with white wire from the Fan Sensor
- P. Quartz Heating Elements

**The color of the wires may change time to time without notice. Make sure to reconnect everything the way it was previously.**

## INSIDE - BACK



- A. White wire from Fan Sensor - Connects to white wire from power cord along with brown wire from 3<sup>rd</sup> Heating Element
- B. Black wire from Heat Sensor - Connects to bottom thermostat wire
- C. Light blue wire from Fan - Connects to black wire from power cord along with black wire from Front Power Switch
- D. Bottom thermostat wire - Connects to black wire from Heat Sensor
- E. Top thermostat wire - Connects to red wire from Front Power Switch
- F. Thermostat
- G. Brown wire from 3<sup>rd</sup> Heating Element - Connects to white wire from power cord along with white wire from Fan Sensor
- H. Black wire from Front Power Switch - Connects to black wire from power cord along with light blue wire from Fan
- I. Red wire from Front Power Switch - Connects to top thermostat wire
- J. White wire from power cord - Connects to white wire from Fan along with brown wire from 3<sup>rd</sup> Heating Element
- K. Black wire from power cord - Connects to black wire from front power switch along with light blue wire from Fan
- L. Green wire from power cord - Connects to the metal cabinet with a screw (Ground)

**The color of the wires may change time to time without notice. Make sure to reconnect everything the way it was previously.**

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## THERMOSTAT CALIBRATION

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- a. We recommend resetting the thermostat in a 60 - 70 degree environment.
- b. Unplug heater from power source to prevent risk of electrical shock.
- c. Remove outer thermostat cover by holding the top and bottom of cover while pulling it away from the heater. (Diagram - 1)
- d. Turn thermostat dial to the right. Place thumb on flat part of dial and your index finger on the lower backside of dial. Carefully pry the outer dial off of the inner dial. (Diagram - 2)
- e. Turn the inner dial clockwise until it stops and then turn it counter clockwise, stopping when it clicks. The thermostat is now set to the current room temperature. (Diagram - 3)
- f. Align the removed dial over the inner dial with the arrow pointing up towards the current room temperature. (Diagram - 4)
- g. Press the outer dial over the inner dial using even pressure until it snaps over the inner dial. (Diagram - 4)
- h. Place the white cover over the thermostat and slide it back on. (Diagram - 1)
- i. Test the thermostat to make sure it clicks on and off appropriately.

**Diagram - 1**



**Diagram - 2**



**Diagram - 3**



**Diagram - 4**





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## REPLACING WIRE CAPS

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- a. Make sure the heater is unplugged.
- b. Look at the wire cap to determine which side has been crimped.
- c. Using a pair of pliers, squeeze the cap on the opposite side of the original crimp until the cap loosens. (Diagram - 1)
- d. Throw the old cap away. **DO NOT REUSE THE PREVIOUSLY CRIMPED CAP.**
- e. Prepare the wires to be re-capped by stripping the wires (if needed) enough to expose approximately 3/8" to 1/2" of bare wire. If you expose more than 1/2", just cut off the excess wire using a pair of wire snips.
- f. Place a new wire cap into the crimping tool. Place the wires into the cap and hold them in place to keep them from slipping out. Once everything is in place, squeeze the crimping tool firmly to complete the new crimp. (Diagram - 3)
- g. Make sure all of the wires are secure in the new cap; gently pull on each wire to make sure they are not loose. Gently pull the cap to make sure it won't slip off. If the cap or any wire is loose, replace the cap.

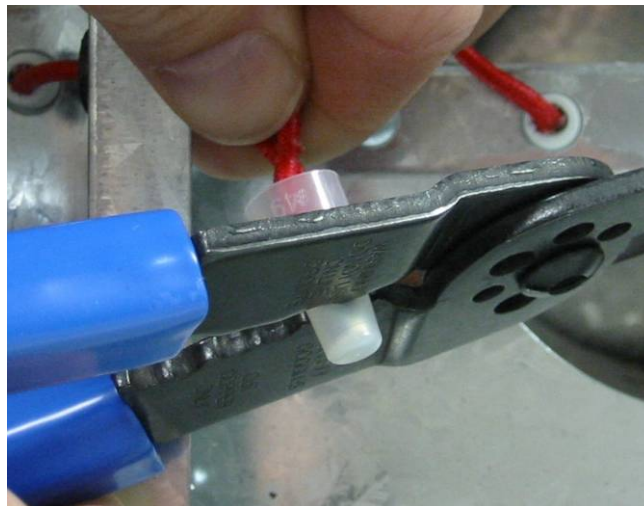
Diagram - 1



Diagram - 2



Diagram - 3



## REPLACING QUARTZ BULBS

- a. Make sure the heater is unplugged before you remove wire caps, cut wires, etc...
- b. Check bulbs (operate unit to see if the bulbs are functioning)
  - ◆ If a pair/series of bulbs does not work, remove or disconnect bulbs and determine if one or more bulbs need replaced.
  - ◆ Replace the bulb if the glass/ceramic is cracked/broken/overly discolored or if the quartz element appears to be damaged. Make sure the elements do not have any hotspots (part of the element is much brighter than the rest).
- c. Remove the wire caps that are connected to the bulb(s) and throw them away.
- d. Remove the bulb bracket
  - ◆ Remove the two screws holding the bracket. (Diagram - 1)
  - ◆ Remove the front metal panel to access the front bulb bracket (8 screws). (Diagram - 2)
- e. Remove the defective bulb(s) and insert a new one into its place. Be sure to use the correct bulb.
- f. Slide the bulb bracket over the wires and ceramic bulb ends. Reinstall the screws. Be careful not to damage the bulb(s).
- g. Install new wire caps. Place a new wire cap into the crimping tool. Place the wires into the cap and hold them in place to keep them from slipping out. Once everything is in place, squeeze the crimping tool firmly to complete the new crimp.
- h. Make sure all connections are secure. Operate unit to verify all bulbs are functioning properly.
- i. Reassemble the heater if all repairs are complete.

Diagram - 2

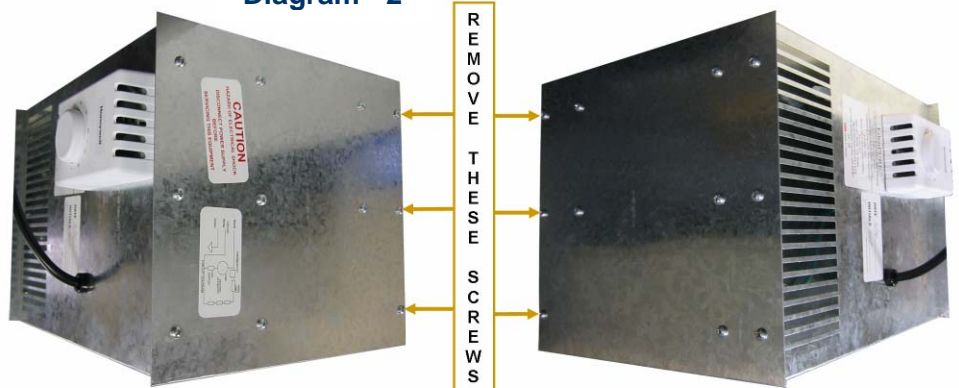
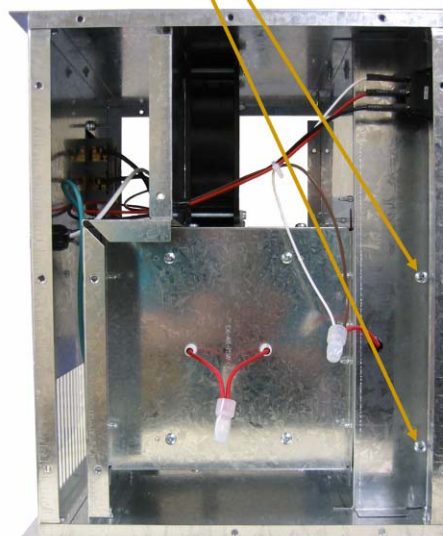
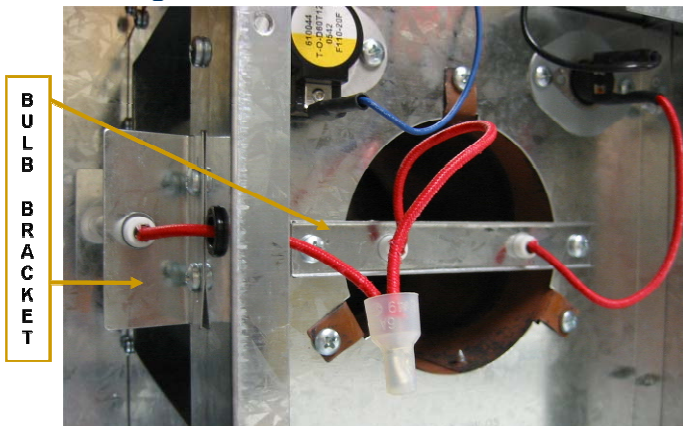


Diagram - 1





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## REPLACING THE FAN SENSOR

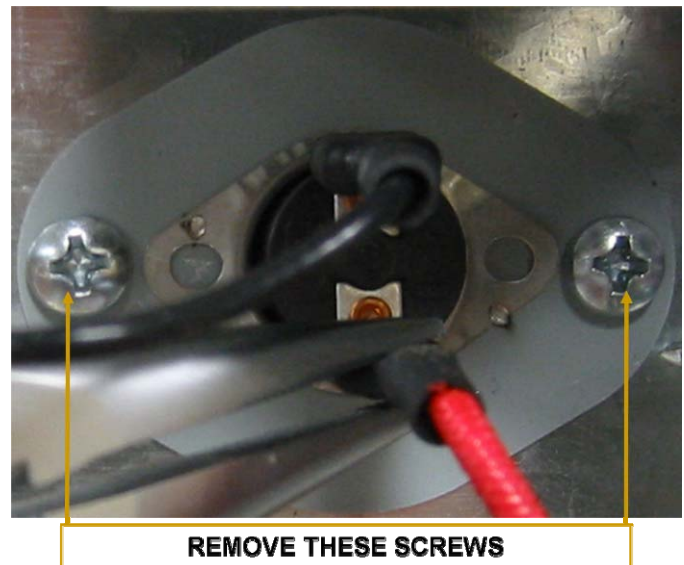
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- a. Make sure the heater is unplugged before you remove wire caps, cut wires, etc...
- b. Using a pair of pliers; remove the wires connected to the fan sensor by pulling from the clip, do not pull by the wire. Be careful not to damage wires or wire clips. (Fan Sensor Diagram)
- c. Remove the screws securing the fan sensor and set them aside. (Fan Sensor Diagram)
- d. Install the new sensor and secure it with the screws that were removed in step “c”. Make sure to install the correct sensor.
- e. Reconnect the wire clips.
- f. Test the heater to make sure its working properly before reassembly.

**FAN SENSOR DIAGRAM**



**HEAT SENSOR DIAGRAM**



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## REPLACING THE HEAT SENSOR

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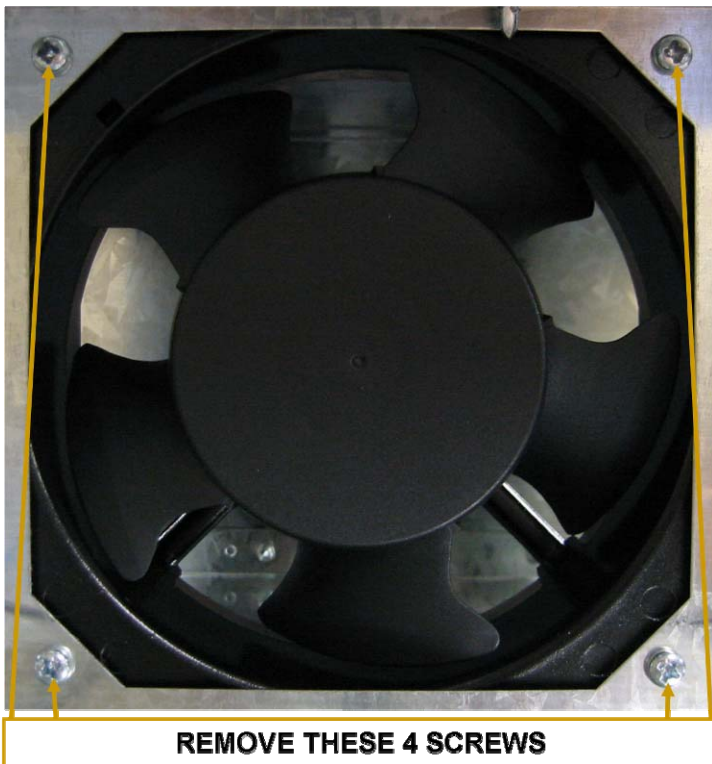
- a. Make sure the heater is unplugged before you remove wire caps, cut wires, etc...
- b. Using a pair of pliers; remove the wires connected to the heat sensor by pulling from the clip, do not pull by the wire. Be careful not to damage wires or wire clips. (Heat Sensor Diagram)
- c. Remove the screws securing the heat sensor and set them aside. (Heat Sensor Diagram)
- d. Install the new sensor and secure it with the screws that were removed in step “c”. Make sure to install the correct sensor.
- e. Reconnect the wire clips.
- f. Test the heater to make sure its working properly before reassembly.

**The color of the wires may change time to time without notice. Make sure to reconnect everything the way it was previously.**

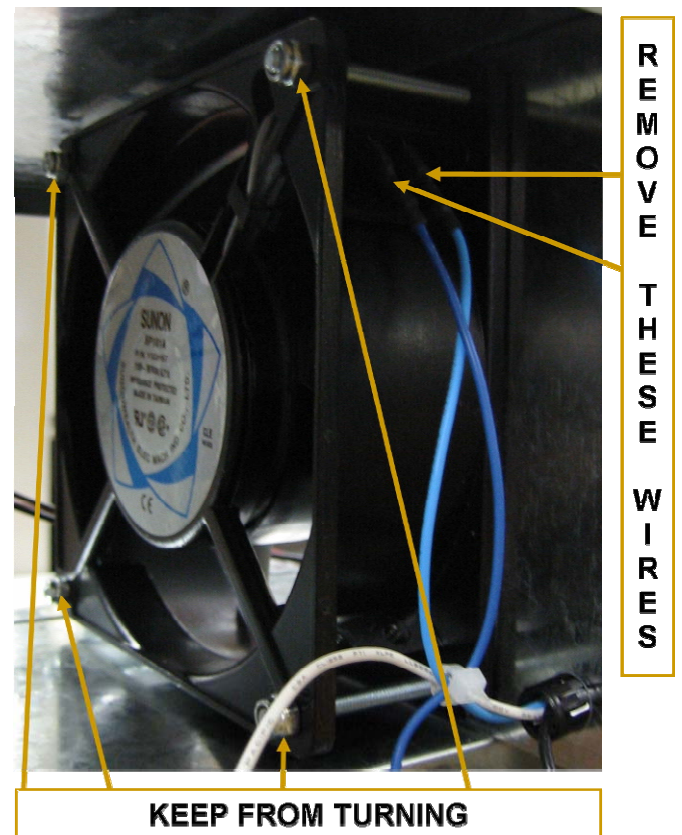
## REPLACING THE FAN

- a. Make sure the heater is unplugged before you remove wire caps, cut wires, etc...
- b. Remove the metal back plate to access fan screws.
- c. Secure the inside bolts to keep them from turning while removing the fan screws. Set the screws aside until later. (Fan Diagram – 1 & 2)
- d. Using a pair of pliers; remove the wires connected to the fan by pulling from the clip, do not pull by the wire. Be careful not to damage wires or wire clips. If the fan is hardwired; cut the wires leaving as much old wire as possible so that there is more to work with when installing the new fan. (Fan Diagram - 1)
- e. Carefully reconnect wires to the new fan. Install new wire caps or clips if necessary.
- f. Install the new fan using original screws (unless alternate screws were provided). Make sure all wires will reach their connection locations. Make sure the air flows from the rear to the front of the heater; one side of fan housing has arrows reflecting airflow direction. Over tightening the screws can damage the fan housing.
- g. Test the heater to make sure its working properly before reassembly.

FAN DIAGRAM - 1



FAN DIAGRAM - 2



**The color of the wires may change time to time without notice. Make sure to reconnect everything the way it was previously.**

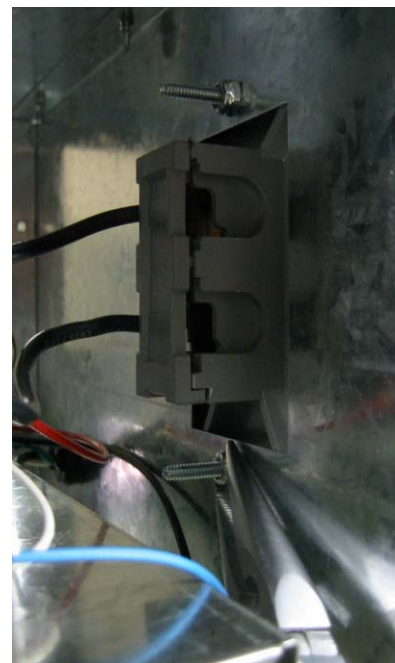
## REPLACING THE THERMOSTAT

- a. Make sure the heater is unplugged before you remove wire caps, cut wires, etc...
- b. Remove the white cover from the thermostat by pulling it away from heater while holding the top and bottom at the same time.
- c. Remove the outer thermostat dial.
- d. Secure the inside bolts to keep them from turning while removing the thermostat screws (not all thermostats use the same screw design). Set the screws aside until later. (Diagram - 1 & 2)
- e. Remove the metal back plate to access wires.
- f. Use a pair of wire snips to remove the wire restraint(s), be careful not to cut any wires or wire casings.
- g. Remove the thermostat wire caps and throw them away.
- h. Install the new thermostat. Use the original screws if needed.
- i. Place a new wire cap into the crimping tool. Place top thermostat wire and wire from front power switch into the new wire cap. Hold the wires in place to keep them from slipping out. Once everything is in place, squeeze the crimping tool firmly to complete the new crimp.
- j. Place a new wire cap into the crimping tool. Place bottom thermostat wire and wire from heat sensor into the new wire cap. Hold the wires in place to keep them from slipping out. Once everything is in place, squeeze the crimping tool firmly to complete the new crimp.
- k. Make sure wires are secure in the new caps and that there isn't any bare wire exposed.
- l. Bunch the wires together and install new wire restraint(s).
- m. Reinstall the metal back plate.
- n. Calibrate the thermostat.
- o. Test the heater to make sure its working properly before reassembly.

Diagram - 1



Diagram - 2



**The color of the wires may change time to time without notice. Make sure to reconnect everything the way it was previously.**

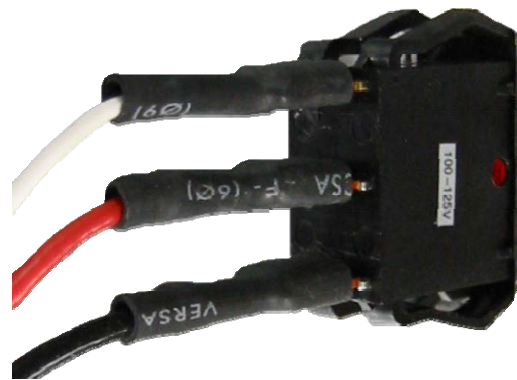
## REPLACING THE FRONT POWER SWITCH

- a. Make sure the heater is unplugged before you remove wire caps, cut wires, etc...
- b. Take note of the existing wire order (top, middle and bottom).
- c. Using a pair of pliers; remove the wires connected to the front power switch by pulling from the clip, do not pull by the wire. Be careful not to damage wires or wire clips. (Power Switch Diagram - 1)
- d. Remove the switch by squeezing the plastic spring locks and pushing/wiggling them out of the opening. If needed, use a pair of wire snips to remove the plastic spring locks and then remove the switch. (Power Switch Diagram - 1)
- e. Install the switch by pressing it all the way into the opening.
- f. Reconnect the wires to the switch in the same order they were as noted in step "b". You should be able to slide the wires back on with your fingers. Use a pair of pliers if needed, be careful not to damage wires or wire clips. (Power Switch Diagram - 2)
- g. Test the heater to make sure its working properly before reassembly.

### POWER SWITCH DIAGRAM - 1

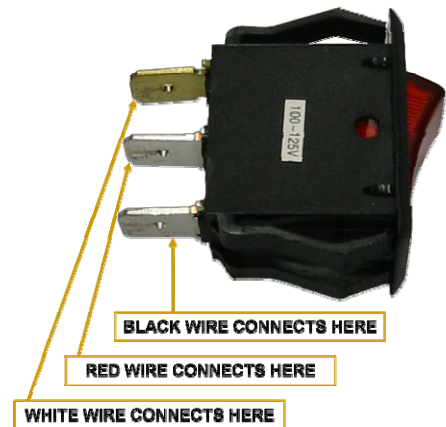


### POWER SWITCH DIAGRAM - 2



### POWER SWITCH CONNECTIONS

- Top:** Connects to 3<sup>rd</sup> Heating Element along with brown wire that connects to white wire from power cord and white wire from the Fan Sensor.
- Middle:** Connects to top thermostat wire.
- Bottom:** Connects to black wire from power cord along with light blue wire from the fan.



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## REPLACING THE POWER CORD

- a. Make sure the heater is unplugged before you remove wire caps, cut wires, etc...
- b. Using a pair of pliers; Squeeze the top and bottom of the cord coupler together and pull it away from the metal cabinet. (Power Cord Diagram - 1)
- c. Remove the power cord coupler. (Power Cord Diagram - 2)
- d. Remove the metal back plate to access wires.
- e. Remove the wire caps that are connected to the old power cord wires and throw them away.
- f. Remove the ground wire (green wire) screw from the metal of the cabinet.
- g. Attach the cord coupler to the new power cord. Insert the new cord wires through the opening in the back of the metal cabinet. Only replace 14/3 rated cords with 14/3 rated cords or better. (Power Cord Diagram - 3)
- h. Using a pair of pliers; squeeze the top and bottom of the cord coupler together and push it into the metal cabinet opening. (Power Cord Diagram - 4)
- i. Attach the ground wire to the metal cabinet with the screw and tighten. The ground screw must be secure, use a larger screw if the original screw doesn't fasten properly.
- j. Place a new wire cap into the crimping tool. Place the wire from front power switch, wire from fan and the black wire from the new power cord into the cap and hold them in place to keep them from slipping out. Once everything is in place, squeeze the crimping tool firmly to complete the new crimp.
- k. Place a new wire cap into the crimping tool. Place the wire from front power switch, the wire from the fan sensor and the white wire from the new power cord into the cap and hold them in place to keep them from slipping out. Once everything is in place, squeeze the crimping tool firmly to complete the new crimp.
- l. Make sure wires are secure in the new caps and that there isn't any bare wire exposed.
- m. Perform continuity tests with a multimeter. Refer to "Basic Testing With Multimeter" (All of Step 2)
- n. Test the heater to make sure its working properly before reassembly.

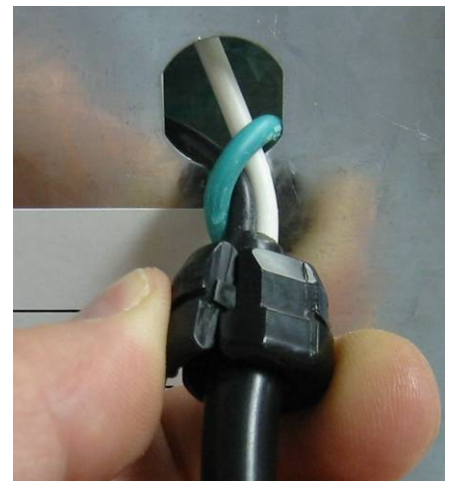
**POWER CORD DIAGRAM - 1**



**POWER CORD DIAGRAM - 2**



**POWER CORD DIAGRAM - 3**



**POWER CORD DIAGRAM - 4**



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