

# **OASIS OZONE GENERATOR TROUBLESHOOTING**

## **ALL VOLTAGES**

**\*\* READ THE OPERATING INSTRUCTIONS TO FULLY UNDERSTAND HOW THE MACHINE WORKS.**

**CAUTION: THERE MAY BE VERY HIGH VOLTAGE PRESENT.**

**NOTE:** be sure to read all operating instructions before continuing.

There are several components that can prevent the Oasis from turning on and generating ozone:

- Power Cord
- Circuit Breaker
- Safety Switch
- Timer Module & Keypad
- Transformer

## **EVALUATING THE PROBLEM**

**BEGIN BY TESTING THE MACHINE TO SEE WHAT ACTUALLY ISN'T WORKING.**

**Do NOT jump to any conclusion.**

Is the Circuit Breaker on the bottom of the machine tripped? If so, reset the breaker.

Set the timer for an hour or so. Set the output level to 100%. Turn the machine on in an uninhabited area with good air flow to see if the machine continues to run, or note how long it runs before the circuit breaker trips. If the breaker trips, note if there is a loud arcing sound coming from the machine before the breaker trips. A loose wire connection, wires too close to each other inside the unit, or a damaged electrode rod may cause a high voltage arc, which should trip the breaker. Note if there is any burning smell.

- 1. Unplug the machine.** Lay the machine on it's side so that the 3" tube is to your left, and remove the four screws that hold the bottom cover on. Gently lay the component mounting plate immediately next to the machine -- **NOTE:** wires will still be connecting components on the plate to other components on the inside of the machine. **DO NOT DISCONNECT ANY WIRES.**
- 2.** Visually inspect all the wires for loose connections or damage. Visually inspect the components for any signs of damage. Make any repairs, as needed, before testing. Refer to the wiring diagram and part schematic.
- 3.** Disable the safety switch by using tape to secure the lever arm down. **Note:** you should be able to hear a click in the safety switch as the lever arm is moved into a down position. Refer to Page 3 for instructions to test the switch itself.
- 4.** Plug the machine into a 115 Volt. outlet and use the touch pad to set the timer for several seconds. Position yourself so you are not leaning over any components, but where you can clearly see them all. Turn the machine on by pressing the ON button on the touch pad.

## EVALUATING THE PROBLEM (continued)

**CAUTION: DO NOT BREATHE IN ANY OZONE WHILE PERFORMING THESE TESTS.**

Notice if there is any arcing sound, if you see sparks, if there is any smoke from the transformer, or if there are any other unusual symptoms.

**NOTE:** the electrodes normally make a little arcing sound, (this is the sound of ozone being produced -- do NOT breathe the ozone) but if one of the insulators on an electrode is damaged, a big arcing sound will be heard and a tiny lightning bolt will be visible inside the High Voltage Electrode Tube. There should be no sparks visible anywhere in the machine.

### **Unplug the machine.**

If you were able to see what the problem is, refer to the part list and wiring schematic to repair. Call the factory if you have any questions.

If you were not able to make a diagnosis from the above steps, follow the troubleshooting steps listed below, in order, just until you isolate the problem. Once you have discovered the failure, stop troubleshooting.

## **TESTING INPUT AND OUTPUT VOLTAGE**

### **1. Unplug the machine.**

*If not already done, open the machine to prepare to test internal components as described:*

- Lay the machine on it's side, and remove the screws that hold the bottom cover on, if not already done.
- Gently lay the bottom plate, with all wires and components still attached, along side the machine. Visually inspect all the wires for loose, disconnected or damaged wires or connections.
- Make sure the circuit breaker on the component plate is closed.
- Disable the Safety Switch by using tape to position the lever arm down flat against the bottom component plate.

### **2. TEST AC Input voltage: to check power to the machine.**

#### ***WITH THE MACHINE UNPLUGGED***

- Remove the AC HOT and the AC NEUTRAL wires from the Control Circuit Board. Connect a voltmeter, set to AC volts on the correct range, to the slide connectors on the ends of the black wire and the white wire. Be sure the meter probes are making metal contact to the connectors on the wires.
- Make sure the circuit breaker is not tripped. Reset if necessary. ( Follow the steps to TEST THE CIRCUIT BREAKER, or replace if it won't stay closed).
- Plug the machine into a working outlet.
- Measure the AC voltage.

#### **UNPLUG THE MACHINE**

**If the measured voltage is not correct:**

- check the AC power outlet. Try the machine in a working outlet.
- make sure no wires, other than the two you just removed, are disconnected in the machine. Refer to the wiring diagram to reconnect any wires that may have come loose.
- Go to TEST THE CIRCUIT BREAKER and/or TEST THE SAFETY SWITCH
- to determine why power is not getting into the machine. Repair as needed. Continue. Retest.

**If the voltage is correct (approx. 120V), continue with Step 3.**

3. **AC Output voltage:** to check power to the transformer from the Control Circuit Board:

### **UNPLUG THE MACHINE**

- Reconnect the black wire to OZ HOT terminal and the white wire to OZ NTRL terminal.
- Remove the OZ HOT and OZ NTRL wires from the Control Circuit Board, and connect a voltmeter, set to AC volts on the correct range, to the terminals on the board labeled OZ HOT and OZ NTRL. Be sure the meter probes are making metal contact to the terminals on the board.

**CAUTION:** Do not short two terminals together, and do not let the loose wires touch anything.

Plug the machine into a working outlet.

Set the timer to a couple of minutes.

Press the ON button, and measure the AC voltage going from the circuit board to the transformer.

### **UNPLUG THE MACHINE**

If the voltage is not correct (approximately 120V):

- Check all wiring connections. Refer to the wiring diagram to reconnect any wires that may have come loose.
- If all wires are correct, and if correct AC voltage was going into the Circuit Board, but no voltage is coming out of Circuit Board and/or if the digital display is not lighting up, replace the Board.
- Part number OZ-17 (120V).
- Retest.

If the voltage reading is correct, continue.

## **TESTING THE SAFETY SWITCH WITH YOUR OHM METER:**

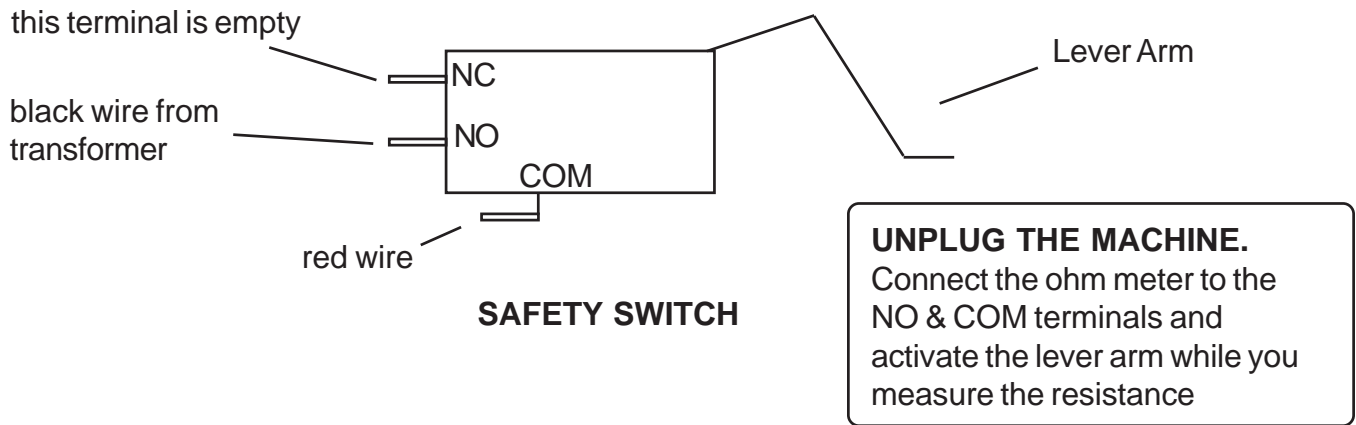
### **1. UNPLUG THE MACHINE**

- Disconnect the red wire from the "COM" terminal on the switch, then connect your meter lead to the terminal (bottom terminal, see drawing below).
- Disconnect the black wire from the "N.O." terminal and connect your meter lead to the terminal.
- Set your meter to OHMs on a range of about 200.
- Activate the Safety switch while you measure ohms. The reading should go from infinite resistance when the switch lever arm is up to zero ohms when you put the lever arm of the switch down.

If the switch is working correctly, reconnect the wires correctly and continue.

If the switch is not working correctly, replace it and then retest the machine. Refer to the part list for part numbers.

**REFER TO THE DIAGRAM ON THE FOLLOWING PAGE**



**TESTING THE TRANSFORMER** **NOTE: A HIGH VOLTAGE PROBE IS REQUIRED.**

**1. Testing the TRANSFORMER OUTPUT VOLTAGE: 7000 volts to the Electrodes.**

**UNPLUG THE MACHINE**



**CAUTION: VERY HIGH VOLTAGE IS PRESENT.**

**NOTE: the transformer in this ozone generator puts out about 6000 volts. Most voltmeters can not read voltage this high without damage. A HIGH VOLTAGE PROBE IS NECESSARY TO TEST THE TRANSFORMER OUTPUT VOLTAGE.**

- ▶ Make sure all the wires in the machine are connected correctly.
- ▶ Connect a High Voltage Probe to your voltmeter.
  - NOTE:** read the instructions that come with the High Voltage Probe, and be sure you understand how to use it before attempting to use it.
- ▶ Connect the High Voltage Probe *ground wire* to the metal component plate.
- ▶ Disable the Safety Switch by using tape to hold the lever arm down.
- ▶ Plug the machine into a working outlet.
- ▶ Set the timer to a couple of minutes.
- ▶ Place the High Voltage Probe on the metal stud in the orange terminal block. Refer to the schematic.

**NOTE:** You must make metal-to-metal contact between the stud and the high voltage probe.

- ▶ Turn the machine on by pressing the ON button on the keypad.



**CAUTION : do not position yourself over any components or allow your body to touch any part of the machine.**

- ▶ Measure the voltage output. **NOTE:** this should take only a couple of seconds.
- ▶ **UNPLUG THE MACHINE.**

If the voltage reading was 7000 volts (+/- 5%) the transformer is working correctly.

If the voltage reading was less than 6500 volts, replace the transformer. The part number is OZ-4.

After replacing the transformer, retest.

**NOTE:** Make sure wire connections are correct and tight before plugging the machine in.

Apply an insulating paint or varnish over the top of the nut on the orange terminal block.

## **TESTING THE CIRCUIT BREAKER**

### **1. Test the Circuit Breaker**

The circuit breaker is a simple current sensitive switch. When it is in the normal position there should be almost no resistance through it. If the transformer puts out too low of voltage, or if there is high voltage arcing going on in the machine, the circuit breaker will detect too much current flow and will trip.

#### **UNPLUG THE MACHINE.**

- ▶ Remove the two black wires that connect to the terminals on the circuit breaker.
- ▶ Make sure the breaker is closed. If it has tripped, reset it.
- ▶ Connect the Ohm meter to the two terminals.
- ▶ Read the ohms, or test the continuity.

If the ohms reading is nearly zero (the breaker has continuity), the circuit breaker is working correctly.

If the ohms reading is very high (or no continuity is present) when the breaker is not tripped, replace the circuit breaker. Part number is OZ-5. Retest.

## **TESTING THE POWER CORD**

### **UNPLUG THE MACHINE.**

#### **1. Test each of the three wires in the power cord:**

- ◆ remove the white wire from the “AC NTRL” terminal on the Circuit Board.

Connect one of your ohm meter leads to the metal in the connector on the end of the white wire just removed from the circuit board.

Touch your other meter lead to the terminal on the right on the power cord (when the round ground prong is on the bottom and the terminals are facing you). Read the ohms or test the continuity. If no resistance (continuity) is measured, the white wire in your power cord is good. Reconnect the white wire to AC NTRL and continue.

- ◆ remove the black power cord wire from where it connects to the Circuit Breaker terminal. Connect one meter lead to this wire connector and the other meter lead to the cord plug-end terminal on the left (when the round ground prong is on the bottom and the terminals are facing you). Read the ohms or test the continuity. If no resistance (continuity) is measured, the black wire in your power cord is good. Reconnect the black wire to Circuit Breaker

- ◆ Connect one meter lead to the ring connector on the fan bolt, inside the machine, and connect the other meter lead to the round prong on the power cord plug. Read the ohms or test the continuity. If no resistance (continuity) is measured, the ground wire is good in your cord.

If the ohms reading is nearly zero on all three wires, the power cord is good.

If any wire reads no continuity or high resistance, replace the power cord. Check your machine schematic and part list for the correct part number.

## **CONTROL CIRCUIT BOARD PROBLEMS**

### **READ THE OPERATING INSTRUCTIONS TO FULLY UNDERSTAND HOW THE MACHINE WORKS.**

The time can be set from a few seconds to 29:59 minutes. Press the ▲ button to increase the time, and press the ▼ button to decrease the time. To easily set the machine to maximum time, press the ▼ button until the timer wraps around past 00:00.

The OASIS ozone machine can be set to 100%, 75%, 50%, or 25% output. When the machine is set to any volume setting other than 100%, the Control Board will cycle the ozone production on and off. For example, if the machine is set to 50%, the machine will generate ozone for 50% (30 seconds) of each minute.

If you experience any problem with the timing module of the Oasis machine, please call the factory for technical assistance (1-800-257-7982).

If one or more of the output LEDs does not light up, replace the Control Circuit Board. Part number is OZ-17 (120V) or OZ-17-240 (240V).

If any one of the four numbers in the timer display does not work, or some of the light segments in the number do not turn on, replace the Control Circuit Board. Part number is OZ-17 (120V).

If you can not adjust the time or can not adjust the output volume, that is, if the key pad is not working, call the factory for troubleshooting assistance (1-800-257-7982).

# **REPAIR INSTRUCTIONS FOR THE OASIS-PLUS**

## **100V, 120V, and 240V**

After following the Oasis Troubleshooting steps to identify the cause of the failure, follow the steps in the appropriate section below to replace the faulty part.

### **MACHINE DOES NOT RUN AT ALL:**

#### **Circuit Breaker**

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.
4. Find the circuit breaker. Mark the two wires that are connected to the terminals on the breaker so that you can tell one from the other. Pull the slide connectors on the wires off the breaker.
5. Test the circuit breaker with an ohm meter to verify it is bad. Connect one meter lead tightly to one of the terminals on the circuit breaker and connect the other meter lead to the remaining circuit breaker terminal. Measure the resistance of the breaker when it is NOT tripped. A good circuit breaker should read 3 ohms or less. If the breaker reads high ohms, or infinite resistance, replace it.
6. Notice that the breaker has a lock-tab on each side (two total). Press both of the lock-tabs in towards the center of the breaker, at the same time. Now push the breaker through the hole. Test the new breaker before installing it and connecting the wires.
7. Tilt the bottom cover up towards the machine and make sure the high voltage wires from the transformer and the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the safety switch will make contact when you screw the cover back onto the machine.

#### **Power Cord**

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.

4. Find the power cord wires where the cord comes through the side of the machine. Follow the black wire and the white wire. Cut the wires so that a few inches of the original wire remains attached inside the machine.
5. Follow the green wire from the power cord and cut it so a few inches of it remain inside the machine.
6. Use a wrench to loosen the cord retainer on the outside of the machine.
7. Pull the power cord away from the machine.
8. Strip the white, black, and green insulation from the last 1/2" on the new power cord, or cut the copper wires to a length of 1/2".
9. Slide the new cord into the machine through the cord retainer until about eight inches of wire is inside the machine. Tighten the cord retainer.
10. Crimp a slide connector onto the end of the black wire and the white wire. Add a connector to the green ground wire.
11. Route the white wire to the location where the original white wire was plugged-in on the circuit board. Pull the small section of white wire that you cut off the original cord from the terminal, and plug the new white wire in its place. Do the same thing with the new black power cord wire at the circuit breaker.
12. Route the green wire from the new power cord to the high voltage electrode chamber and make a tight connection. **NOTE:** if the electrode chamber is not connected to ground, no ozone will be produced.
13. Tilt the bottom cover up towards the machine and make sure the high voltage wires from the transformer and the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the safety switch will make contact when you screw the cover back onto the machine.

### **Safety Switch**

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.
4. Locate the safety switch on the plate. It is mounted to a bracket that is screwed to the plate.



5. Mark the two wires that go to the switch, then remove them by sliding the connectors off the switch terminals. **NOTE:** do not pull on the wires themselves, but rather, grasp the slide connectors on the wires.
6. Remove the bracket, with the switch still attached, from the bottom plate.
7. Bend the lever arm of the new switch using needle nose pliers. Use the original switch as a model. This lever arm must sit down against the plate -- and the small button under the arm must be pressed down --when the bottom plate is screwed onto the ozone machine.
8. Note the direction that the switch mounts to the bracket. Unscrew the two screws/nuts and remove the switch from the bracket. Install the new switch to the bracket. Tighten up the locknuts, but do not over-tighten. Make sure the switch is aligned correctly on the bracket.
9. Install the bracket (with the new switch) onto the ozone bottom plate. **NOTE:** when the bottom plate is screwed back in place on the machine, the switch lever should be down so the switch is activated, otherwise the machine will not turn on.
10. Connect the wires to the appropriate terminals on the new safety switch. **NOTE:** the top terminal on the switch should be empty. The wire connector on the bottom terminal must be insulated to prevent an electrical short between it and the bottom cover.
11. Tilt the bottom cover up towards the machine and make sure the high voltage wires from the transformer and the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the Safety Switch will make contact when you screw the cover back onto the machine.

### **POWER TO MACHINE BUT NO OZONE OUTPUT:**

#### **Transformer**

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.
4. Locate the Transformer on the plate.
5. Remove the bracket that crosses over the top of the transformer and holds the transformer to the plate.

8. Prepare the wires on the new transformer, if not already done, so that you can make the necessary wire connections after you install the new transformer onto the plate.
9. Place the new transformer on the plate, in the same orientation as the original. Bolt it to the plate with the original nuts and bolts. **NOTE:** be sure to connect the green wire with the ring connector to the correct bolt. Tighten.
10. Place the bracket that holds the transformer to the plate over the top of the transformer and then secure it to the plate with the original nuts and bolts.
11. Connect the black wire and the white wire from the new transformer to the appropriate locations
12. Inspect the transformer, the wires, and all the other components to make sure everything is tight and in the correct spot.
13. Tilt the bottom cover up towards the machine and make sure the High Voltage wires from the transformer and the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the Safety Switch will make contact when you screw the cover back onto the machine.

### **Control Circuit Board**

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.
4. Locate the the timer Control Circuit Board. **NOTE:** mark each wire that connects to the circuit board so that you can reconnect them correctly after you have replaced the circuit board.
5. Pull each wire off the circuit board. **CAUTION:** use needle nose pliers, if necessary, to grasp the slide connectors on the ends of the wires, but do not pull on the wires themselves. Move all the wires out of your way.

**INFORMATION:** The circuit board has a hole in each corner. The holes line-up with threaded studs that are attached to the bezel (located on the top of the machine) that holds down the touch pad. Under the circuit board at each stud is a nylon spacer. A locknut is threaded onto the studs, on the top of the board. A ribbon cable that comes from the touch pad on the top of the machine passes through a slot in the top of the machine body and connects to the printed circuit board.

6. Unplug the ribbon cable by gently pulling it straight away from the board to unplug it.

7. Remove the four locknuts (one at each corner of the board) that hold the board to the bezel studs.
8. Pull the circuit board -- carefully -- out of the machine. Look to make sure there is still a spacer on each bezel stud.
9. Remove the very thin plastic sheet that covers the digital display on the new circuit board, then place the new board into the machine and over the bezel studs -- the new board will sit on the spacers.
10. Thread a locknut over each bezel stud. Begin to tighten each locknut in an X pattern. Then start at the first stud again and finish tightening the nuts until they are all snug. Do NOT overtighten the nuts. Over tightening can damage the new board by causing it to flex or bow.
11. Plug the ribbon cable onto the pins on the board. Look closely to make sure the connector on the ribbon lines up with the pins on the board.
12. Connect each of the wires to the board. You unplugged each of them from the board in Step 5.
13. Tilt the bottom cover up towards the machine and make sure the high voltage wires from the transformer and the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the safety switch will make contact when you screw the cover back onto the machine.

## Touch Pad

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.
4. Locate the timer control circuit board. **NOTE:** mark each wire that connects to the circuit board so that you can reconnect them correctly after you reinstall the circuit board.
5. Pull each wire off the circuit board. **CAUTION:** use needle nose pliers, if necessary, to grasp the slide connectors on the ends of the wires, but do not pull on the wires themselves. Move all the wires out of your way.

**INFORMATION:** The circuit board has a hole in each corner. The holes line-up with threaded studs that are attached to the bezel (located on the top of the machine) that holds down the touch pad. Under the circuit board at each stud is a nylon spacer. A locknut is threaded onto the studs, on the top of the board. A ribbon cable that comes from the touch pad on the top of the machine passes through a slot in the top of the machine body and connects to the printed circuit board.

7. Pull the ribbon cable straight away from the board to unplug it.
8. Locate the bezel, on the top of the machine, that goes around the edge of the touch pad. Gently pull up on the bezel and remove it from the machine.
9. Slide the ribbon cable up through the slot in the top of the machine.
10. Grasp an edge of the touch pad and lift it off the top of the machine. **NOTE:** the back of the touch pad is slightly sticky. This helps it stay in place when it is installed.
11. Remove any protective covering on the new touch pad. Remove the backing from the back side of the touch pad. Carefully align the new touch pad to the area it needs to fit on the top of the machine. Slide the ribbon cable into the slot. Set the touch pad down, and gently press on it to stick it to the machine.
12. Gently place the bezel over the new touch pad, line-up the four stud holes on the bezel with the four small holes at the corners of the touch pad, and set the bezel down onto the touch pad with the studs going into the holes in the top of the machine.
13. Set the spacers over each of the four bezel studs, then set the circuit board onto the bezel studs. Thread a locknut onto each of the studs. Begin to tighten each locknut in an X pattern. Start at the first stud again and finish tightening the nuts until they are all snug. Do NOT overtighten the nuts. Over-tightening can damage the new board by causing it to flex or bow.
14. Plug the ribbon cable into the pins on the board. Look closely to make sure the connector on the ribbon lines up with the pins on the board.
15. Connect each of the wires that you unplugged from the board in Step 5.
16. Tilt the bottom cover up towards the machine and make sure the high voltage wires from the transformer and the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the safety switch will make contact when you screw the cover back onto the machine.

## Electrode

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.
4. Locate the red colored terminal block. The high voltage wires from the six electrodes all go

to the terminal block, the high voltage outlet wire from the transformer also goes to the terminal block.

5. Remove the nut that holds the seven high-voltage wires to the terminal block. Lift the wires and their ring connectors off the threaded stud in the terminal block.
6. Disconnect the green, ground wire from the high voltage chamber (the tube that holds the six electrodes).
7. Identify which electrode is bad by making a mark next to it on the gray ring inside the end of the high voltage chamber that extends out the front of the machine.
8. Remove the hose clamp that is holding the high voltage chamber securely in the machine.
9. Push the high voltage chamber from the front (nose) of the machine towards the interior of the machine. Carefully and slowly push on the outside edge of the aluminum tube until the tubing clears the hole at the front of the body. Once the tube is free of the hole in the front of the machine, you can grasp it from the back end (the end with the wires) and gently turn it towards the hole in the bottom of the machine to remove it.
10. Locate the bad electrode by the mark you made in Step 7. Grasp the wire at the opposite end of the electrode. Set the high voltage chamber on it's end so the wires are on top.
11. Cut the ring connector that pairs the faulty electrode with another electrode. Cut very close to the connector so that the wires remain as long as possible. Unwrap the spiral loom to separate all the wires.
12. Very carefully grasp - with needle-nose pliers - the end of the Stainless Steel perforated tubing that holds the faulty electrode. Gently squeeze the S/S tubing to make it rounded on the end. Once it is rounded, you can very gently pull the electrode out of the tubing.
13. Hold the new electrode by the black heat shrink on the wire end. **CAUTION:** do not touch the white ceramic with your fingers or get any kind of dirt on it. As you install the electrode, do not allow it to bump or rub against the S/S perforated tubing. Gently, slowly, and carefully insert the new electrode into the S/S perforated tubing until the red rubber at the end of the electrode is about 1/4" away from the screen on the front of the high voltage tube. **NOTE:** the red rubber end must extend out of the S/S perforated tubing but not get closer than 1/4" from the screen. At the other end of the electrode, the red rubber sleeve should line up with the end of the perforated tubing.
14. Very carefully pinch the S/S tubing at the wire end of the electrode -- on the red rubber sleeve -- only pinch the tubing hard enough to hold the electrode in place. Do not crush the electrode.
15. Place the wire on the new electrode with the wire on the adjacent electrode that was paired up with the original electrode. If necessary, cut the wire on the new electrode so that it is about the same length as the wire on the other one. Slide the heat shrink tubing over both wires. Strip the insulation from the last 1/2" on both wires. Twist the wires together then bend the wires in half, to form a "U". Slide both wires into the new ring connector and crimp them tightly.

16. Slide the heat shrink down the wires to the ring connector. Cover the straight end of the connector and the wires with the heat shrink tubing. Look at the other two pairs of electrode wires for examples. Shrink the tubing. Wrap the spiral loom around all six wires.
17. Replace the high voltage chamber into the machine by reversing the steps you followed to remove it. **NOTE:** the screened end of the high voltage chamber should extend only about 1" past the end of the Oasis body. Once the chamber is aligned, turn it so the ground screw is facing the same direction as it was before you removed the chamber.
18. Replace the hose clamp around the chamber. Tighten it.
19. Connect the green ground wire. Install the six electrode wires, and the high voltage wire from the transformer, to the threaded stud on the terminal block. Thread the nut down tightly on the ring connectors. **NOTE:** do not allow the wires to become twisted or bent sharply.
20. Inspect all the components inside the machine to make sure everything is as it should be and no wires are disconnected.
21. Tilt the bottom cover up towards the machine and make sure the High Voltage wires from the transformer and from the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the Safety Switch will make contact when you screw the cover back onto the machine.

## Fan

1. Unplug the machine.
2. Lay the machine on its side -- on a work bench -- so that the fan is on the right and the 'nose' of the machine points to the left.
3. Unscrew the four screws that hold the bottom plate to the machine, and gently allow the plate to lay on the work bench.
4. Remove the fan filter cover and the filter. Remove the four bolts and nuts that hold the fan in the machine. Note the orientation of the fan as it sits in the machine. Pull the bolts out and remove the fan guard.
5. Gently pull the two fan wires off the terminals at the control circuit board. **CAUTION:** do not pull on the wires themselves.
6. Pull the fan out of the machine. Take care not to pull on any wires as you remove the fan.
7. Orient the new fan in the machine to match the way the original was installed. Place the four bolts through the front of the fan guard, and then through the body and the fan.

4. Place the green, ground wire over the same bolt to which it was originally connected.
5. Thread a locknut onto each of the four bolts and partially tighten each nut. Carefully finish tightening the locknuts until they are snug -- do NOT overtighten the nuts.
6. Crimp new slide connectors onto the two fan wires. Plug the wires onto the board.
7. Orient the new fan in the machine to match the way the original was installed. Place the four bolts through the front of the fan guard, and then through the body and the fan.
8. Inspect all the components inside the machine to make sure everything is as it should be and no wires are disconnected.
9. Tilt the bottom cover up towards the machine and make sure the High Voltage wires from the transformer and from the electrodes do not lay on the signal wires that come from the circuit board. Make sure no wires lay on the ground wires (green). And make sure the Safety

