

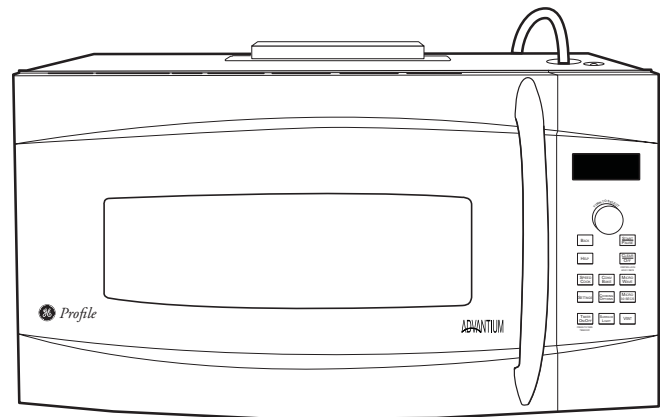
GE Appliances

Technical Service Guide

OCTOBER 2010

Advantium 120 V (ATC)

PSA1200R
PSA1201R
CSA1201R



31-9204



GE Appliances
General Electric Company
Louisville, Kentucky 40225



IMPORTANT SAFETY NOTICE

The information in this service guide is intended for use by individuals possessing adequate backgrounds of electrical, electronic, and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

WARNING

To avoid personal injury, disconnect power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks.

RECONNECT ALL GROUNDING DEVICES

If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

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PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY.

- A. DO NOT OPERATE OR ALLOW THE OVEN TO BE OPERATED WITH THE DOOR OPEN.
- B. IF THE OVEN OPERATES WITH THE DOOR OPEN, INSTRUCT THE USER NOT TO OPERATE THE OVEN AND CONTACT THE MANUFACTURER IMMEDIATELY.
- C. MAKE THE FOLLOWING SAFETY CHECKS ON ALL OVENS TO BE SERVICED BEFORE ACTIVATING THE MAGNETRON OR OTHER MICROWAVE SOURCE, AND MAKE REPAIRS AS NECESSARY:
 - 1. INTERLOCK OPERATION.
 - 2. PROPER DOOR CLOSING.
 - 3. SEAL AND SEALING SURFACES (ARCING, WEAR AND OTHER DAMAGE).
 - 4. DAMAGE TO OR LOOSENING OF HINGES AND LATCHES.
 - 5. EVIDENCE OF DROPPING OR ABUSE.
- D. BEFORE TURNING ON MICROWAVE POWER FOR ANY TEST OR INSPECTION WITHIN THE MICROWAVE GENERATING COMPARTMENTS, CHECK THE MAGNETRON, WAVE GUIDE OR TRANSMISSION LINE AND CAVITY FOR PROPER ALIGNMENT, INTEGRITY AND CONNECTIONS.
- E. ANY DEFECTIVE OR MISADJUSTED COMPONENTS IN THE INTERLOCK MONITOR, DOOR SEAL AND MICROWAVE GENERATION AND TRANSMISSION SYSTEMS SHALL BE REPAIRED, REPLACED OR ADJUSTED BY PROCEDURE DESCRIBED IN THIS MANUAL BEFORE THE OVEN IS RELEASED TO THE OWNER.
- F. A MICROWAVE LEAKAGE CHECK TO VERIFY COMPLIANCE WITH THE FEDERAL PERFORMANCE STANDARD SHOULD BE PERFORMED ON EACH OVEN PRIOR TO RELEASE TO THE OWNER.

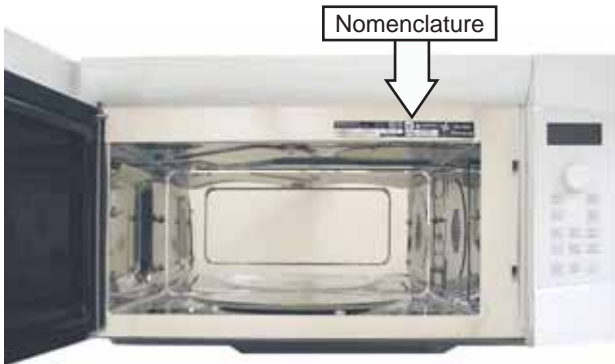
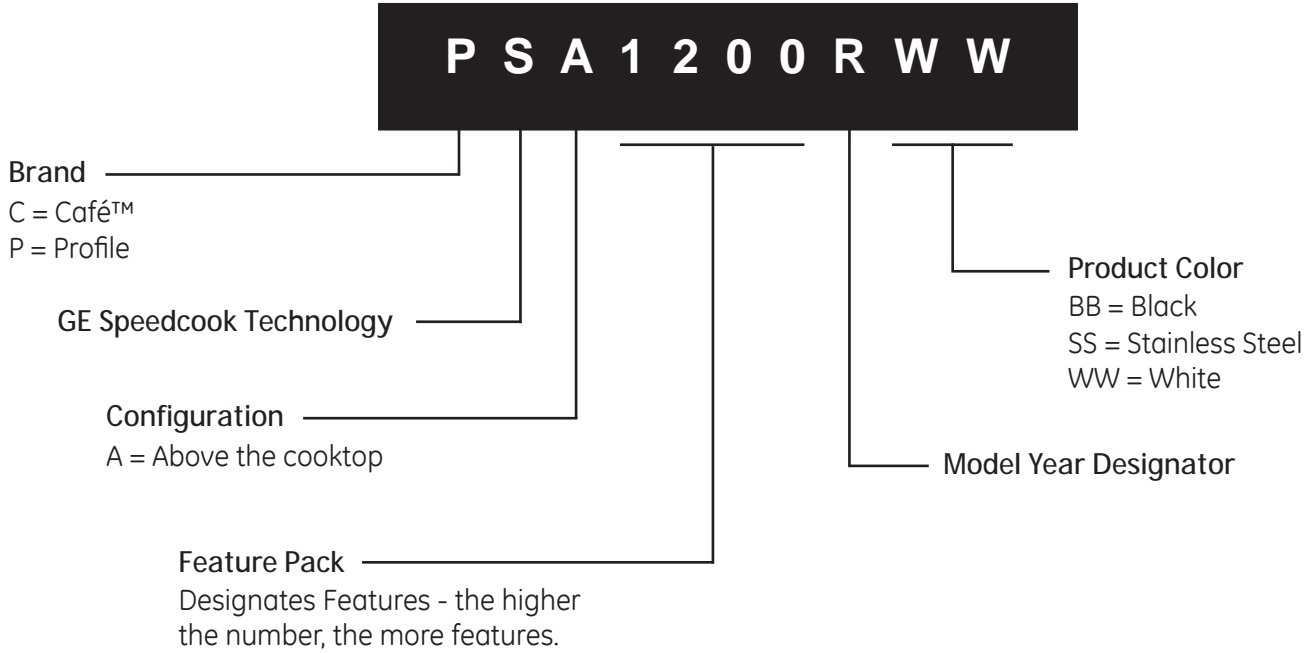
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Nomenclature

Model Number



The nomenclature plate is located on the inside door frame.

The mini-manual is located behind the control panel on the right side of the oven.

Serial Number

The first two characters of the serial number identify the month and year of manufacture.

Example: TT123456S = October, 2010

T - OCT	2010 - T
V - NOV	2009 - S
Z - DEC	2008 - R
A - JAN	2007 - M
D - FEB	2006 - L
F - MAR	2005 - H
G - APR	2004 - G
H - MAY	2003 - F
L - JUN	2002 - D
M - JUL	2001 - A
R - AUG	2000 - Z
S - SEP	1999 - V

The letter designating the year repeats every 12 years.

Example:

T - 2010
T - 1998
T - 1986

Introduction

The Advantium 120 V ATC is an "Above The Cooktop" oven that has the functionality of a microwave, convection, and speedcook oven. Four heat sources are available for cooking. A 500-watt halogen light and 700-watt ceramic heater are located at the top of the unit. A convection system, located behind the right-side of the oven cavity, provides a 1550-watt heat source and fan to circulate cavity air. A 375-watt ceramic heater provides additional heat from the bottom of the oven. The Advantium can also be used as a 900-watt microwave oven.

The oven operates in one of 8 consumer modes and 2 special modes:

- Idle - No cycles have been selected; unit is plugged in and idle.
- Speedcook - Used for faster cooking. Uses the upper and lower heaters along with the microwave. The upper and lower heaters share time with the microwave.
- Microwave - Functions as a standard microwave; cooks with microwave energy only.
- Convection - Uses only the convection element and convection fan.
- Broil - Uses the upper heaters only.
- Toast - Operates similar to Broil.
- Warm - Used to keep items warm after they have been cooked.
- Proof - Provides correct temperature for proofing dough.
- Service Test Mode - Used to operate loads for testing (not used by consumer).
- Demo Mode - Used by dealer to demonstrate operation without operating heat loads.

See the *Operating Modes* section for information pertaining to starting a cycle. See *Load Algorithm Chart* for information pertaining to load cycling.

Cooking modes are started by pressing a key on the key panel. When a selection has been made, a menu appears on the display. The selector knob is then used to navigate. Rotating the knob allows scrolling menu items and highlights each item. When the knob is pressed in, the highlighted item is selected. Press the start key and the cycle starts.

When the cycle starts, the Smart Board sends 5 VDC to the appropriate relays on the Relay Board. The relay then switches neutral to the load. Loads are operated according software algorithms contained in the Smart Board.

To troubleshoot the oven:

1. Determine in which mode of operation the failure is occurring.
2. Check the *Load Algorithm Chart* to determine normal operation.
3. Determine which part is not functioning correctly.
4. Look up failing part in the table of contents.
5. Go to the appropriate page and find the troubleshooting section for that part.
6. Follow troubleshooting instructions.

Operating Modes

Speedcook

See *Load Algorithm Chart* for load operation in Speedcook.

To use the SPEEDCOOK feature:

1. Press the **SPEEDCOOK** pad.
2. Turn the selector dial to select the type of food category you want, then press the dial to enter.
3. Turn the selector dial to select the specific food (menu selection), then press the dial to enter.
4. Turn the selector dial to select amount, size and/or doneness (if required, the oven will prompt you), then press the dial after each selection.
5. Once the display shows: **EDIT**, **SAVE** or **START**, press the **START/PAUSE** pad or the selector dial to start cooking. (**EDIT** allows you to change the settings.)

If you want to cook a food item that is not among the pre-set selections, use **My Recipe** to custom speedcook:

1. Press the **SPEEDCOOK** pad and select **My Recipe**, then press the dial to enter. Select **New Recipe**.
If no entries are made within 15 seconds, the display will revert back to the time of day.
2. Turn the selector dial to select the cooking time, then press the dial to enter.
The display will prompt you to select the power level(s).
3. Turn the dial to select the upper power level. Turn the dial clockwise to increase or counterclockwise to decrease the upper power level, then press the dial to enter.
4. Turn the dial to select the lower power level, then press the dial to enter.
5. Turn the dial to select the microwave power level, then press the dial to enter.
6. Press the **START/PAUSE** pad or press the selector dial to start cooking.

Speedcook Tips:

- When speedcooking pre-set menu foods, you may see **Optimizing time** in the display several seconds after you press **START/PAUSE**. The oven automatically senses the electrical voltage level in your home and adjusts the cooking time up or down for proper cooking.
- To prevent arcing, the wire oven rack should not be used for speedcook or microwave cooking.
- The oven and door will get very hot when speedcooking.
- Do not use coverings, containers, or cooking/roasting bags made of foil, plastic, wax, or paper when speedcooking.
- Use of the clear glass tray when speedcooking will result in inferior cooking performance and possible cracking of the glass tray.

Microwave

Microwave cooking options include cooking by time, cooking by food, and defrosting.

See *Load Algorithm Chart* for load operation in Microwave.

To cook by time:

1. Press the **MICROWAVE** pad.
2. Turn the dial to select **Cook by Time**, then press the dial to enter.
3. Turn the dial to set the cook time, then press the dial to enter.
4. Turn the dial to set the power level, then press the dial to enter.
5. Press the dial or the **START/PAUSE** pad to start cooking.

To cook by time 1 & 2:

1. Press the **MICROWAVE** pad.
2. Turn the dial to select **Cook**, then press the dial to enter.
3. Turn the dial to select **Cook by Time 1 & 2**, then press the dial to enter.
4. Turn the dial to set the first time. Press the dial to enter. Repeat for the first power level, the second time, and the second power level.
5. Press the dial or the **START/PAUSE** pad to start cooking.

To cook by Micro 30 Secs:

Press **MICRO 30 SECS** repeatedly for 30-second increments of microwave cooking time. Oven starts immediately. The power level is automatically set at high, but you can change it for more flexibility. See Microwave power levels section in the Owner's Manual for instructions.

To defrost by time:

1. Press the **MICROWAVE** pad.
2. Turn the selector dial to **Defrost**, then press the dial to enter.
3. Turn the dial to **By time**, then press the dial to enter.
4. Turn the dial to select the time you want, then press the dial to enter.
5. Press the dial or **START/PAUSE** pad to start defrosting.
6. Turn the food over when the oven signals **Turn food over**.

Power level is automatically set at 3, but can be changed. To change the power levels, see Microwave power levels section in the Owner's Manual for instructions.

You can defrost small items quickly by raising the power level after entering the time. Power level 7 cuts the total defrosting time in about half; power level 10 cuts the total time to about 1/3. When defrosting at high power levels, food will need more frequent attention than usual and may have some cooking.

To defrost by food type:

1. Remove meat from the package and place it on a microwave-safe dish. Bread should be left in the package with any metal twist-ties removed.
2. Press the **MICROWAVE** pad.
3. Turn the dial to **Defrost**, then press the dial to enter.
4. Turn the dial to **By food type**, then press the dial to enter.
5. Turn the dial to select food type, then press the dial to enter.
6. Turn the dial to the food weight, using the Conversion Guide. See Microwave power levels section in the Owner's Manual for instructions. For example, dial 1.2 for 1.2 pounds (1 pound, 3 oz.) Press the dial to enter.
7. Press the dial or **START/PAUSE** pad to start defrosting.
8. Turn the food over when the oven signals **Turn food over**.

Sensor Cooking

*Do not use the sensor features twice in succession on the same food portion—it may result in severely overcooked or burnt food. If food is undercooked after the first countdown, use **Cook by Time** for additional cooking time.*

The proper containers and covers are essential for best sensor cooking.

- Always use microwave-safe containers and cover them with lids or vented plastic wrap. Never use tight sealing plastic containers—they can prevent steam from escaping and cause food to overcook.
- Be sure the outside of the cooking containers and the inside of the oven are dry before placing food in the oven. Beads of moisture turning into steam can mislead the sensor.
- Popcorn and potatoes are best heated uncovered.

Convection

See *Load Algorithm Chart* for load operation in Convection.

How to convection bake:

1. Press **CONV BAKE** pad.
2. Turn the dial to set the temperature, then press the dial to enter.
3. Press the dial to enter and confirm the selection.

To start immediately without setting a cook time, select **Start** or press the **START/PAUSE** pad:

To set a cook time:

1. Turn the dial and select **Cook Time**.
2. Turn the dial to set the cook time, then press the dial to enter.
3. To start the cook time immediately, place the food in the oven and select **Start Cook Time**, then press the dial or the **START/PAUSE** pad to start. The cook time will immediately start to count down.

To start cook time after preheat:

1. Select **Start Preheat**. The oven will signal once the oven reaches the cooking temperature.
2. Place the food in the oven, then press the **START/PAUSE** pad. The cook time will begin to count down.
 - If the oven door is opened during cooking, **Pause-Door open** or **Oven is hot** will appear in the display. Close the door and press **START/PAUSE** pad.
 - Cook times are shown in hours and minutes and can be set to a maximum of 2 hours 59 minutes. Time can be changed during cooking by turning the dial.

Cooking Tips for Convection Baking:

- Metal pans are recommended for all types of baked products, but especially where browning is important.
- Dark or dull finish metal pans are best for breads and pies because they absorb heat and produce crisper crust.
- Shiny aluminum pans are better for cakes, cookies, or muffins because they reflect heat and help produce a light tender crust.
- Glass or glass-ceramic casserole or baking dishes are best suited for egg and cheese recipes due to the cleanability of glass.
- When baking on one level, use the lower level. The top clips are to only be used in two-level baking.

Broil

See *Load Algorithm Chart* for load operation in Broil.

How to Broil:

1. Press the **COOKING OPTIONS** pad.
2. Turn the dial to **Broil**, then press the dial to enter.
3. Place the food in the oven, then select **START** or press the **START/PAUSE** pad to start.

If the oven door is opened during cooking, **Pause-Door open** or **Oven is hot** will appear in the display. Close the door and press the **START/PAUSE** pad.

- For best performance, preheat the oven for 5 minutes when broiling meat. Chicken performs best with no preheating.
- Foods should be turned halfway through broiling time.
- Remove thinner pieces, as needed, to prevent overcooking and drying.

Toast

See *Load Algorithm Chart* for load operation in Toast.

How to Toast:

1. Press the **COOKING OPTIONS** pad.
2. Turn the dial to **Toast**, then press the dial to enter.
3. Turn the dial to set the toast time, and place the food in the oven, then select **START** or press the **START/PAUSE** pad to start.

If the oven door is opened during cooking, **Pause-Door open** or **Oven is hot** will appear in the display. Close the door and press the **START/PAUSE** pad.

Cooking Tips for Toasting

- For best results when toasting, use the metal tray.
- No turning is necessary for most foods.
- When toasting nuts, stir halfway through the cooking time.
- Toast thicker pieces a longer time, thinner pieces a shorter time.

Warm

See *Load Algorithm Chart* for load operation in Warm.

The WARM feature will keep hot, cooked foods at serving temperature. Always start with hot food. Use cookware and utensils that can withstand temperatures up to 230°F.

1. Press the **COOKING OPTIONS** pad.
2. Turn the dial to select **Warm**, then press the dial to enter.
3. Turn the dial to select the level of moisture you want, then press the dial to enter. See the chart and tips in the Warming section of the Owner's Manual.
4. Select **START** or press the **START/PAUSE** pad to start. The oven starts warming immediately and shows the amount of warming time to complete.

If the oven door is opened during warming, **Pause-Door open** or **Oven is hot** will appear in the display. Close the door and press the **START/PAUSE** pad.

To crisp stale items:

- Select the **Crisp** setting. Preheat the oven for 10 minutes.

NOTE: Only preheat when crisping stale items.

- Place food or dishes directly on the metal tray.
- Check crispness after 45 minutes. Add time as needed.

Proof

See *Load Algorithm Chart* for load operation in Proof.

The proofing feature automatically provides an appropriate temperature for the proofing process, and therefore does not have a temperature adjustment.

1. Press the *COOKING OPTIONS* pad.
 2. Turn the dial to select **Proof**, then press the dial to enter.
 3. Select **START** or press the *START/PAUSE* pad to start. The oven starts proofing immediately and shows the amount of proofing time to complete.
- Check bread products early to avoid over-proofing.
 - To avoid lowering the oven temperature and lengthening proofing time, do not open the oven door unnecessarily.

NOTES:

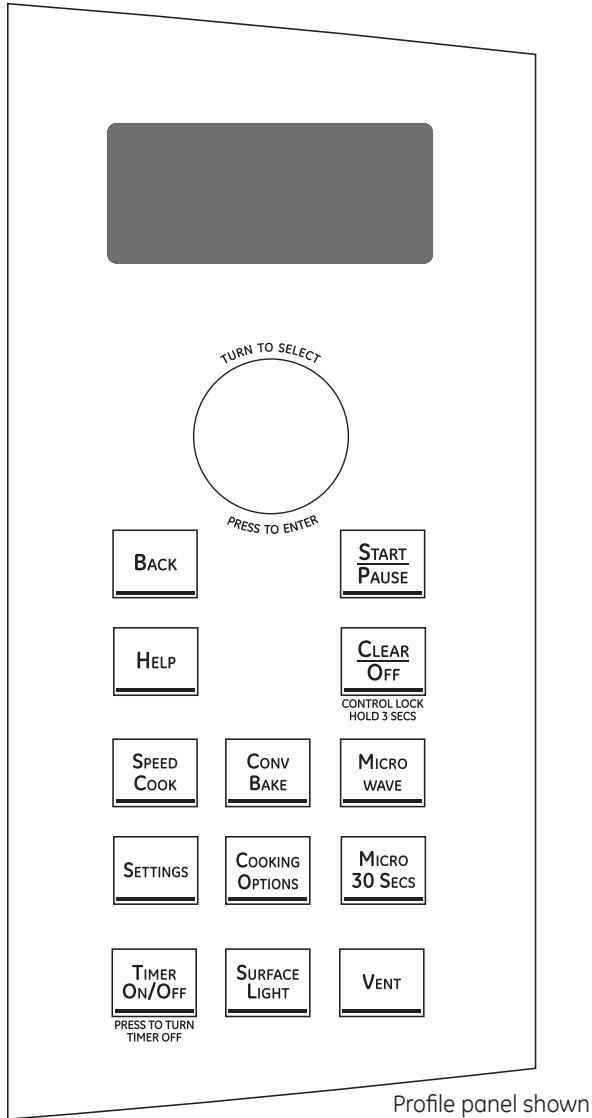
- Do not use the proofing mode for warming food or keeping food hot. The proofing oven temperature is not hot enough to hold foods at safe temperatures. Use the **Warm** feature to keep food warm.
- Proofing will not operate if the oven is too hot. Allow the oven to cool before proofing.

Idle

When the microwave is in the idle or clock mode, all heaters are off, the damper is open, and the clock is displayed. It is normal for the time of day to change positions on the display. This is done to avoid pixel burn in.

Control Features

With your Advantium oven, you can cook with high-intensity halogen lights, ceramic heaters, convection heating element, and/or conventional microwave energy.



SELECTOR DIAL

Turn to select. Press to enter. Turn to select food, power level, or temperature selections. Also use the dial to increase (turn clockwise) or decrease (turn counterclockwise) time. Simply press the button to enter the selection.

BACK

Press this pad to step back one or more levels in the programming process.

HELP

Press this pad to find out more about your oven's features.

DISPLAY

Shows feature selections and information about the oven when in use.

START/PAUSE

Press this pad to start or pause any cooking function.

CLEAR/OFF

Press this pad to cancel ALL oven programs except clock, auto night light, timer, vent fan, and surface light.

SPEEDCOOK

Press this pad to access the pre-set speedcook menu or to set your own speedcook program.

CONV BAKE

Press this pad to use convection bake.

MICROWAVE

Press this pad to access the microwave menu or to set your own microwave program.

SETTINGS

Press this pad to set the clock and access Turntable On/Off, Auto Conversion, Auto Night Light, Beeper Volume, Display On/Off, Reminder, and Temperature Units.

COOKING OPTIONS

Press this pad to access Repeat Last, Broil, Proof, Toast, Warm and Delay Start.

MICRO 30 SECS

Starts the microwave for 30 seconds of cooking time. An additional 30 seconds is added to the remaining cooking time each time the pad is pressed.

TIMER ON/OFF

Press this pad to set a minute and seconds timer.

SURFACE LIGHT

Press this pad to turn the cooktop light on and off.

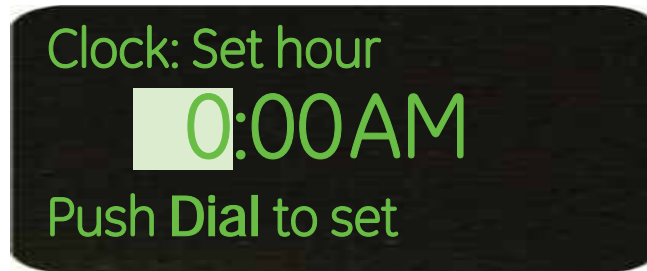
VENT

Press this pad to turn the vent fan on and off.

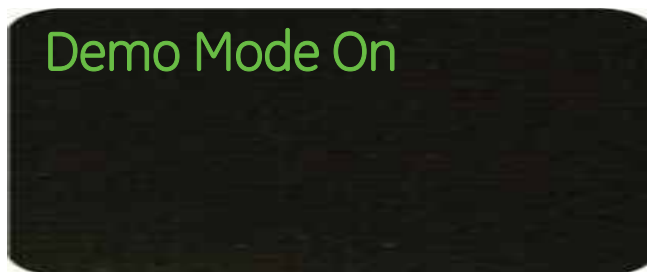
Demo Mode

The sales demo mode will allow dealers to demonstrate all oven functionality with one exception. (See #1 below.)

The sales demo mode can only be entered during the initial **Clock: Set hour** display that occurs when the unit powers up after a long (greater than 60 seconds) power outage.



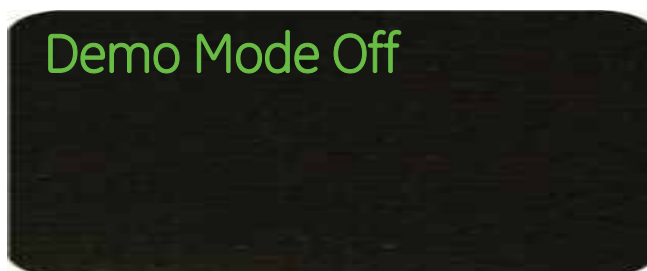
The sales demo mode will be initiated by holding the *START/PAUSE* and *HELP* pads down at the same time for a full 3 seconds.



When sales demo mode is initiated, 2 short-beeps are sounded and all oven functions will operate with the following exceptions;

1. No power shall ever be applied to the heaters, halogen lamps, magnetron high voltage transformer, or Inrush control relays. The control relays for any of these loads shall not be switched during sales mode.
2. The *DEMO* icon will be lit whenever the unit is in sales mode regardless of settings or the feature being selected.

The sales demo mode is cleared by holding the *START/PAUSE* and *HELP* pads down at same time for a full 3 seconds. The sales mode can **only** be cleared during the same initial **Clock: Set hour** display that occurs when the unit powers up after a long (greater than 60 seconds) power outage. After 5 seconds elapse, all functions of the oven will return to normal operation.



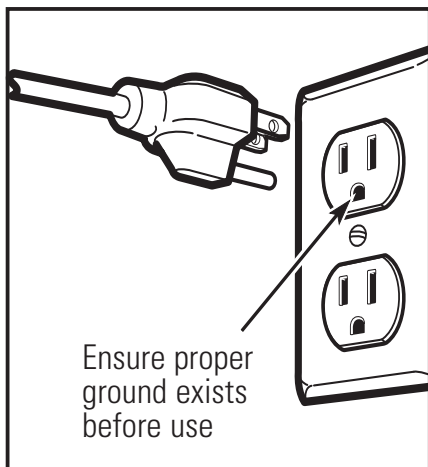
When power-up occurs, software will check the special sales demo identifier code. If the code is set, then the oven will stay in the sales demo mode. This will prevent the unit from powering back up to a normal mode if power to the salesroom had gone off.

Installation

WARNING: Risk of Electric Shock. Can cause injury or death: THIS APPLIANCE MUST BE PROPERLY GROUNDED to avoid severe or fatal shock.

A qualified electrician must perform a ground continuity check on the wall receptacle before beginning the installation to ensure that the outlet box is properly grounded. If not properly grounded, or if the wall receptacle does not meet electrical requirements noted (under Electrical Requirements), a qualified electrician should be employed to correct any deficiencies.

The power cord of this appliance is equipped with a three-prong (grounding) plug which mates with a standard three-prong (grounding) wall receptacle to minimize the possibility of electrical shock hazard from this appliance.



Caution:

- For personal safety, the mounting surface must be capable of supporting the cabinet load, in addition to the added weight of this 63–85 pound product, plus additional oven loads of up to 50 pounds or a total weight of 113–135 pounds.
- For personal safety, this product cannot be installed in cabinet arrangements such as an island or a peninsula. It must be mounted to BOTH a top cabinet AND a wall.
- To avoid the risk of personal injury (back injury or other injuries due to excessive weight of the microwave oven) or property damage, you will need two people to install this microwave oven.

Advanced Planning

The product should not be installed over any cooktop or range with a combined BTU greater than 60000 BTU.

This oven is for installation over ranges up to 36 inches wide.

The space between the cabinets must be 30 inches wide and free of obstructions. If the space between the cabinets is greater than 30 inches, a filler panel kit may be used to fill in the gap between the oven and the cabinets. Filler panel kits available from GE are: White - JX52WH, and Black - JX52BL. These filler kits are for installation between cabinets only and are not for end-of-cabinet installation.

Maximum cabinet depth above and beside the unit is 13 inches.

When installing the oven beneath smooth, flat cabinets, be careful to follow the instructions on the top cabinet template for power cord clearance.

For models with top venting holes: Do not allow cabinetry or other objects to block the airflow of the vent.

If the oven is to be vented outside, it is important that venting be installed using the most direct route and with as few elbows as possible. This ensures clear venting of exhaust and helps prevent blockages. Also, make sure dampers swing freely and nothing is blocking the ducts.

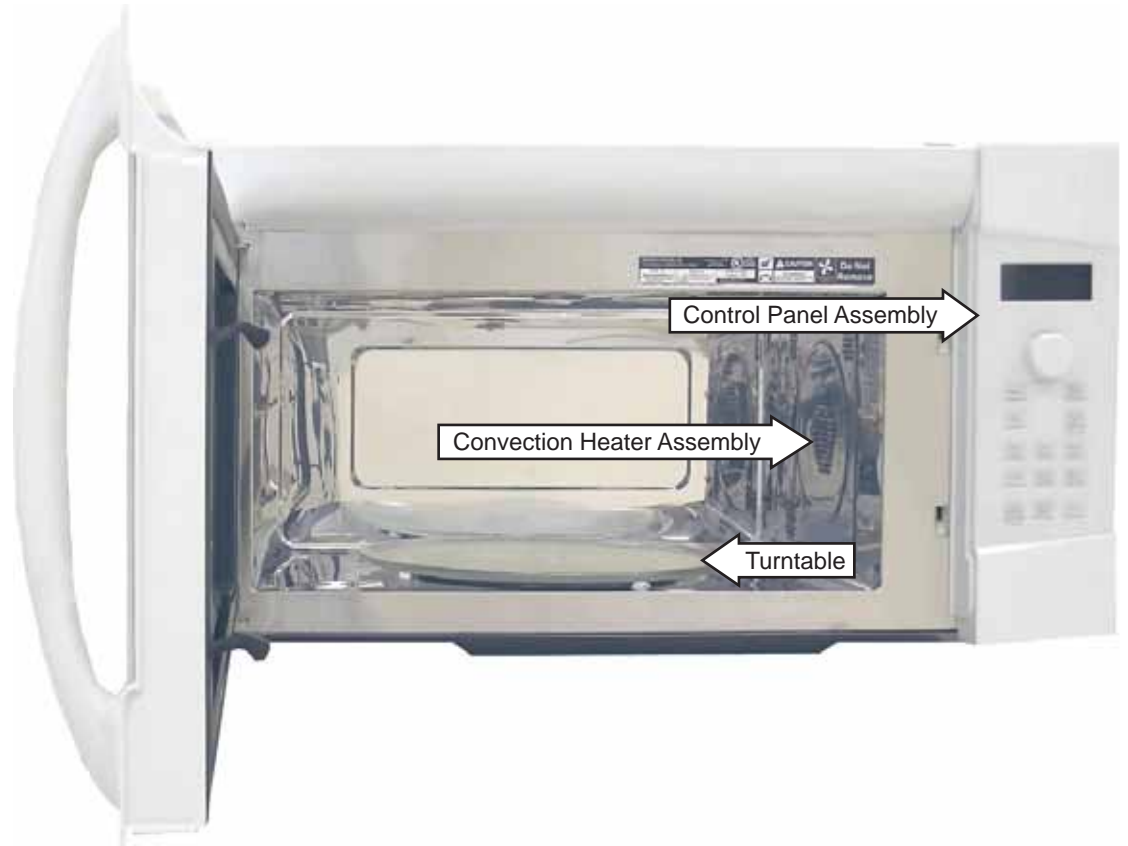
Note: The total duct length of 3¼" x 10" rectangular or 6" diameter round duct should not exceed 140 equivalent feet. Refer to the Installation Instructions (Hood Exhaust Section) for exhaust duct preparation.

Electrical Requirements

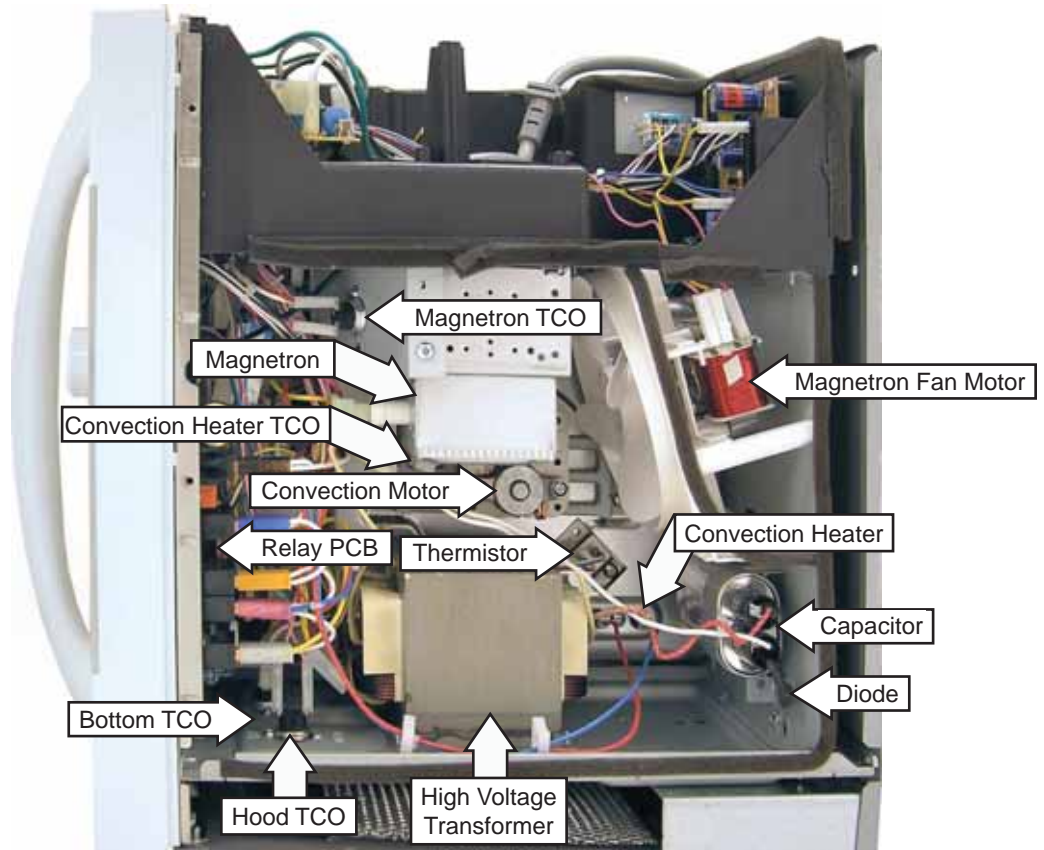
Product rating is 120 volts AC, 60 Hertz, 15 amps and 1.70 kilowatts. The outlet box should be located in the cabinet above the oven and away from any potential microwave oven ducting. The outlet box and supply circuit should be installed by a qualified electrician and conform to the National Electrical Code or the prevailing local code.

Component Locator Views

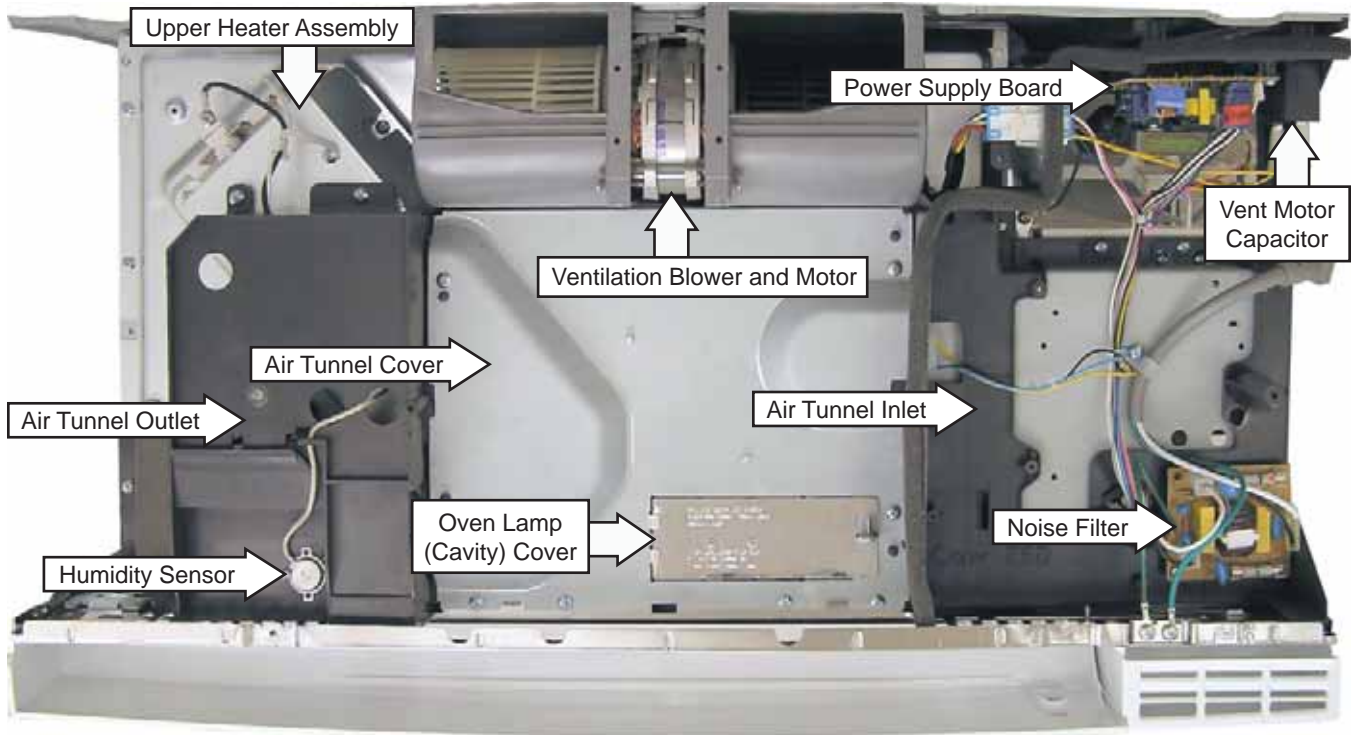
Front View



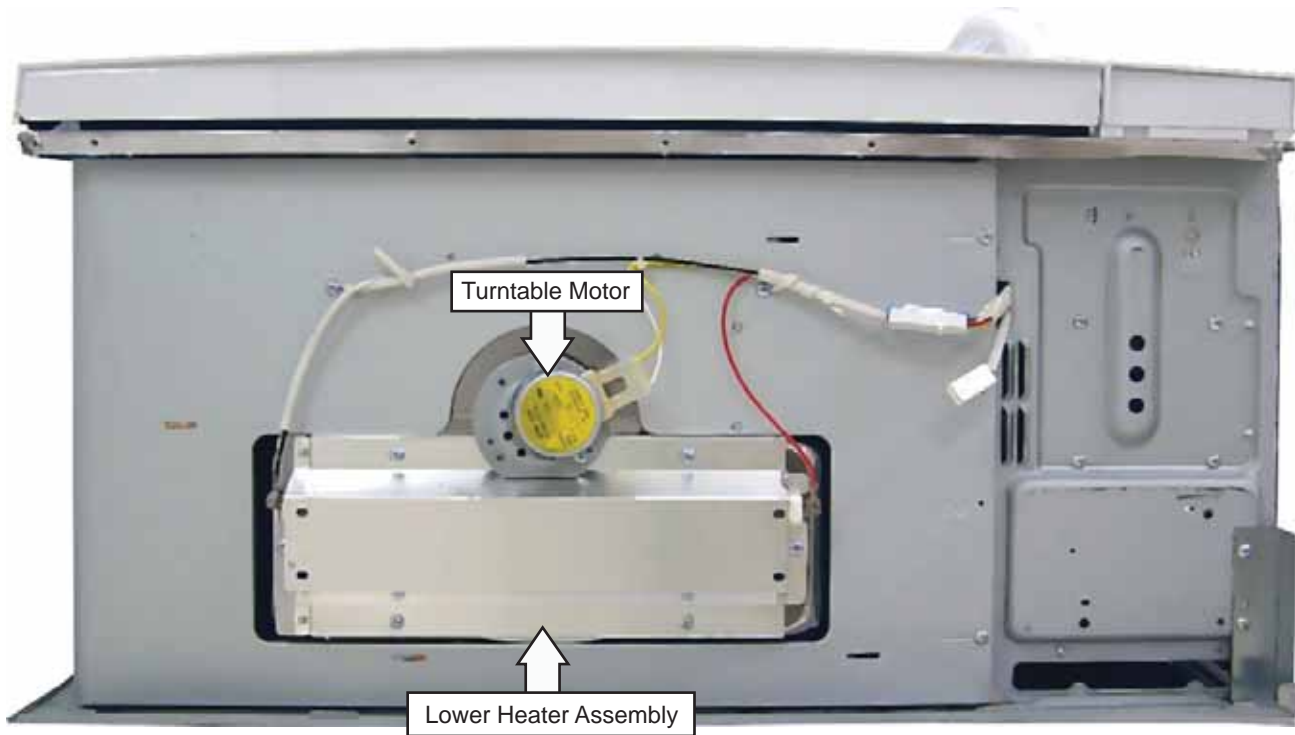
Right Side View



Top View

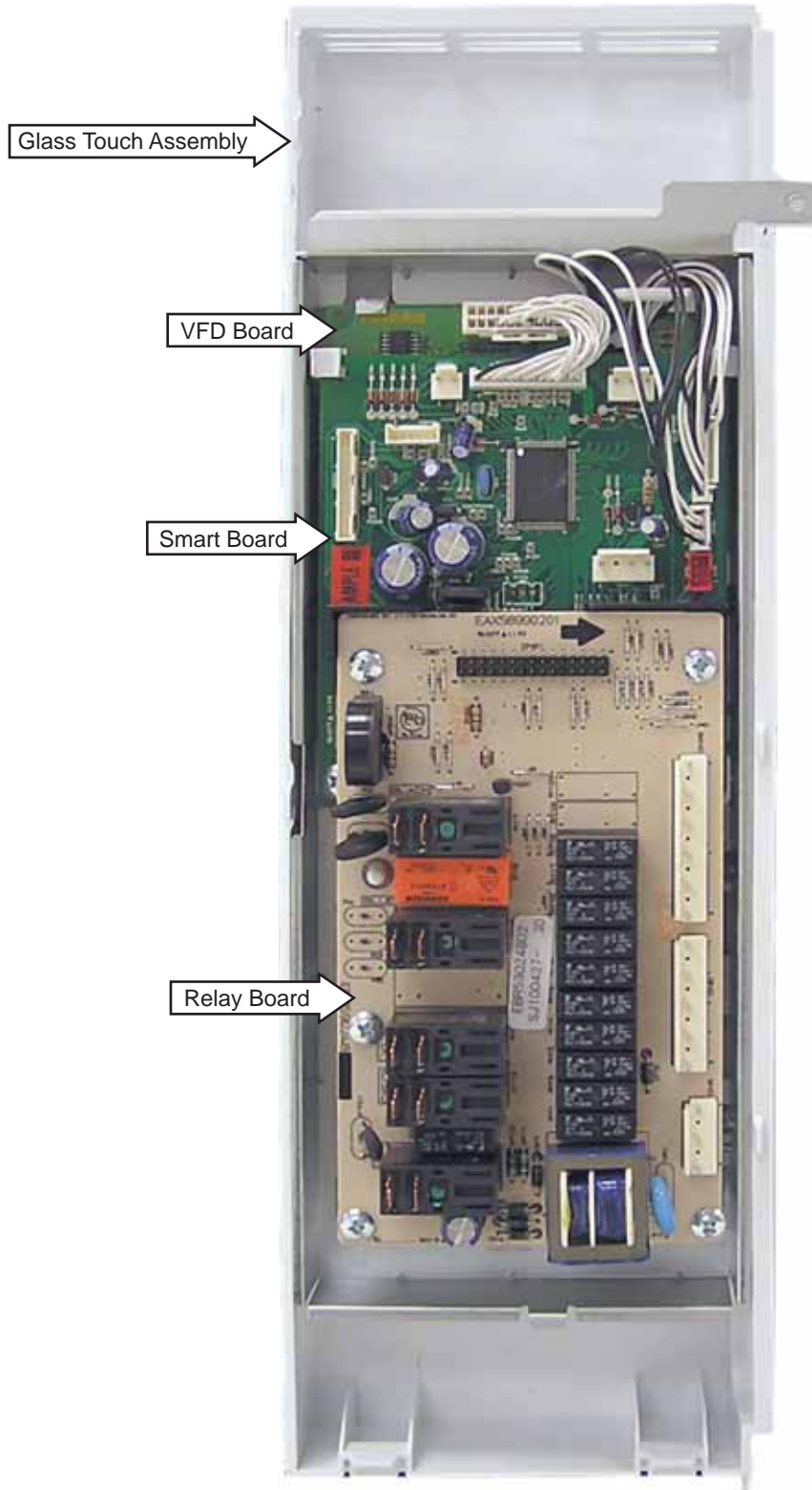


Bottom View



Control Boards and Panel Connections

Control Panel Assembly (rear view)



Note: The Selector Board, not visible, is located behind the Relay Board.

Components

Component Access Chart

WARNING:

- The oven is heavy and requires two people to remove from the cabinet. Care should be taken when removing and installing.
- Sharp edges may be exposed when servicing. Use caution to avoid injury. Wear Kevlar gloves or equivalent protection.

	Serviceability - Unit Removed	Serviceability - Unit Installed
Air Tunnel Cover		●
Air Tunnel Inlet		●
Air Tunnel Outlet		●
Bottom Cover	●	
Bottom TCO (Thermal Cut Out)	●	
Capacitor and Diode		●
Control Panel Assembly	●	
Convection Heater Assembly		●
Cooktop Lamp and Receptacle	●	
Damper Assembly		●
Door Assembly	●	
Door Interlock Switches	●	
Grill	●	
High Voltage Transformer		●
Hood TCO (Thermal Cut Out)	●	
Humidity Sensor		●
Lower Heater Assembly	●	
Magnetron		●
Magnetron Fan Motor Assembly		●
Magnetron TCO (Thermal Cut Out)	●	
Noise Filter Fuses		●
Noise Filter		●
Outer Cover		●
Oven Lamp (Cavity) Assembly	●	
Oven TCO (Thermal Cut Out)		●
Power Supply Board		●
Stirrer Assembly (Stirrer motor requires removal)	●	
Thermistor		●
Turntable Motor	●	
Upper Heater Assembly and TCO		●
Ventilation Motor		●
Ventilation Motor Capacitor		●

Oven Removal

The oven is hooked on metal tabs at the bottom of the wall mounting plate and fastened to the cabinet with 4 top cabinet bolts.

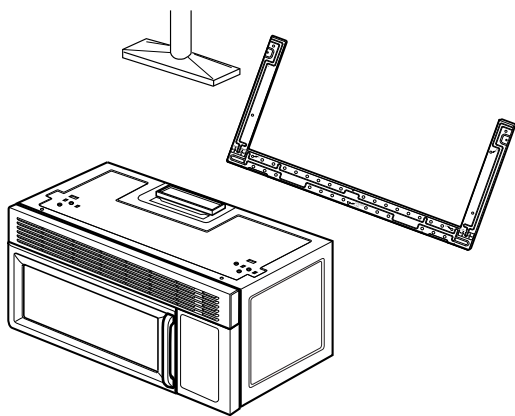
To remove the oven from the cabinet or wall opening:

WARNING: This oven requires 2 people for complete oven removal.

1. Disconnect power to the oven.
2. For top-vented models, disconnect the duct and remove the Damper Assembly.

Caution: When removing the oven, be sure to provide adequate support to prevent dropping the unit.

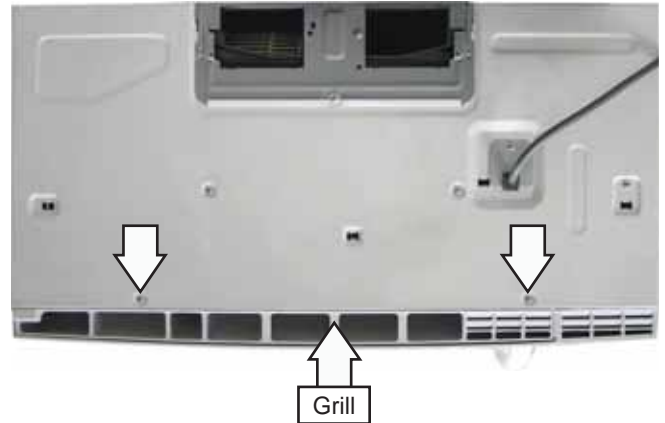
3. Remove the 4 top cabinet bolts.
4. Rotate the front of the oven down from the bottom of the cabinet.
5. Lift the oven and unhook it from the tabs of the mounting plate.



Grill

To remove the Grill:

1. Remove 2 Phillips-head screws that attach the Grill to the top of the Outer Cover.
2. Open the door.
3. Slide the Grill to the left and remove.



Outer Cover

To gain access to many of the oven components, it is necessary to remove the Outer Cover.

To remove the Outer Cover:

1. Remove the oven. (See *Oven Removal*.)
2. Remove 6 Phillips-head screws from the bottom of the oven.



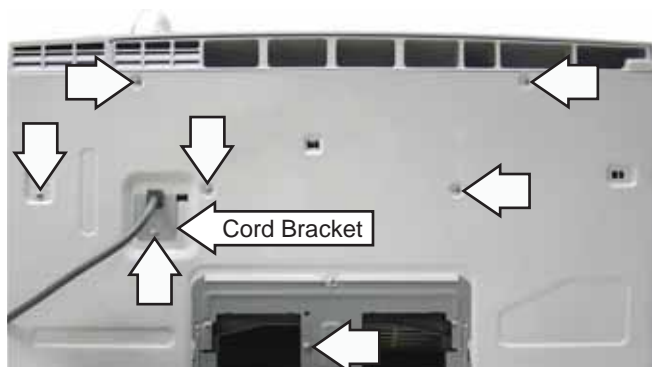
- Remove 6 Phillips-head screws from the back of the oven.



- Remove the Phillips-head screw from the left side of the oven.



- Remove 7 Phillips-head screws, Grill (See *Grill*), and the power cord bracket from the top of the oven.
- Slide the cord out from the cutout on top of the oven.



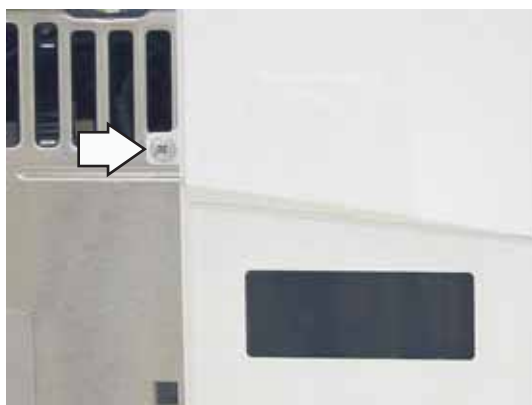
- Slide the Outer Cover back about 1 inch toward the rear of the oven, then lift the cover from the oven.

Control Panel Assembly

The Control Panel Assembly consists of a Relay Board, Smart Board, frame, and a touch pad/escutcheon. The Control Panel Assembly is attached to the oven with a Phillips-head screw and 6 tabs.

To remove the Control Panel Assembly:

- Disconnect power to the microwave oven.
- Remove the Grill. (See *Grill*.)
- Remove the Phillips-head screw from the top left corner of the Control Panel Assembly.
- Lift the Control Panel Assembly up and disengage the 6 tabs from the oven.

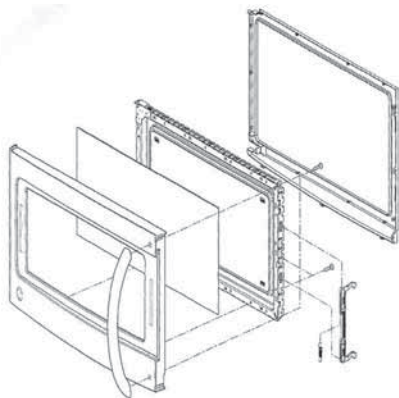


- Pivot the Control Panel Assembly out from the oven. Mark and disconnect the wire harnesses that connect the Control Panel Assembly to the oven.



Door Assembly

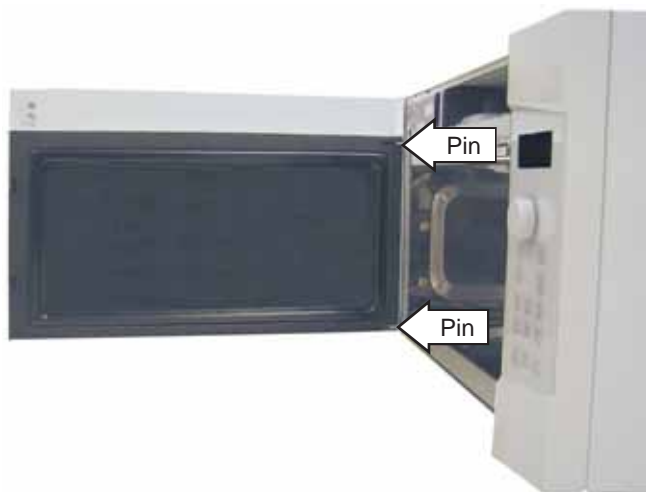
The door is available as a complete assembly or as individual parts.



A microwave leakage test must be performed any time a door is removed, replaced, disassembled, or adjusted for any reason. The maximum leakage is 4 MW/CM².

The Door Assembly utilizes permanently attached upper and lower hinge pins. Each pin engages a hole in each hinge arm attached to the oven.

To remove the door, first remove the glass turntable, then remove the Grill. (See *Grill*.) The door can then be lifted up to disengage the door's upper and lower hinge pins from the hinge arms protruding from the oven.

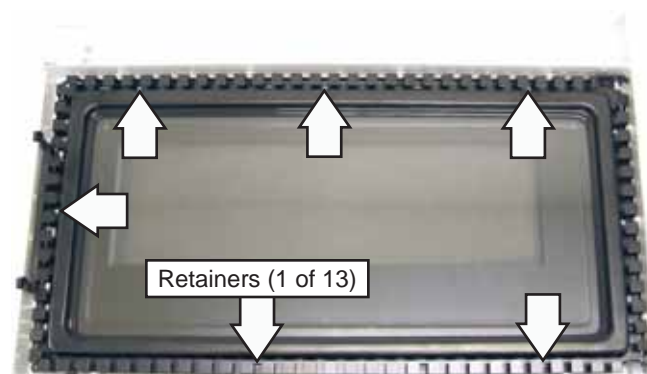


To disassemble the door:

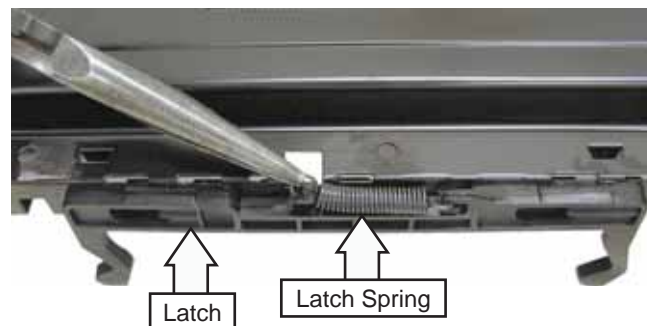
1. Place the door, face down on a protective surface.
2. Using a putty knife, carefully pry the choke cover away from the door frame.



3. Remove the 5 Phillips-head screws from the choke (3 on top, 1 each on bottom and latch side).
4. Using a flat blade screwdriver, disengage the 13 door frame retainers (4 each on top and bottom, 3 on hinge pin side, and 2 on latch side), then separate the door frame from the door panel.



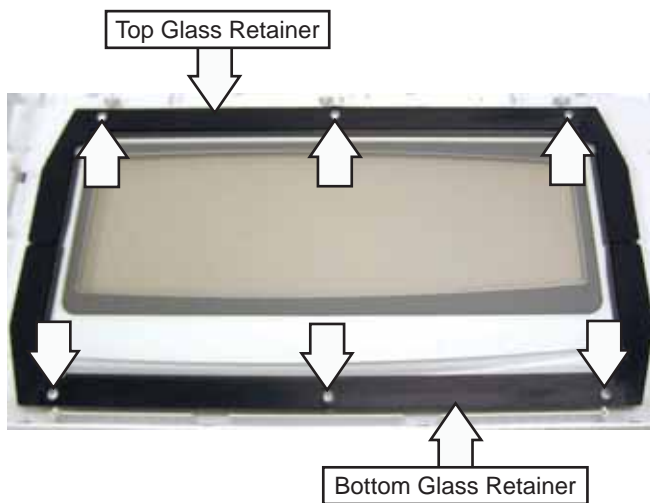
5. Using long nose pliers, remove the latch spring, then slide and remove the latch from the choke.



- Remove the 3 Phillips-head screws that attach the door handle to the door frame.



- Remove the 6 Phillips-head screws that attach the top and bottom glass retainers to the door frame.



- Carefully lift the 2 glass retainers and glass from the door frame.

Bottom Cover

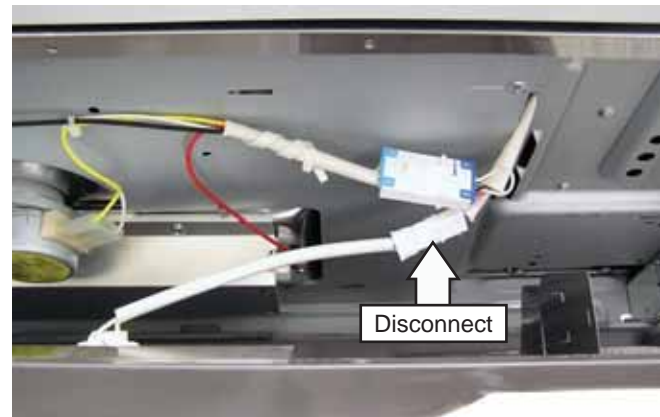
It is necessary to remove the Bottom Cover to remove the Turntable Motor, Lower Heater Ceramic, and High Voltage Transformer.

To remove the Bottom Cover:

- Remove the 11 Phillips-head screws that attach the Bottom Cover to the oven.



- Lower the front of the Bottom Cover, then disconnect the cooktop light wire harness.
- Remove the Bottom Cover from the oven.



Air Tunnel Inlet

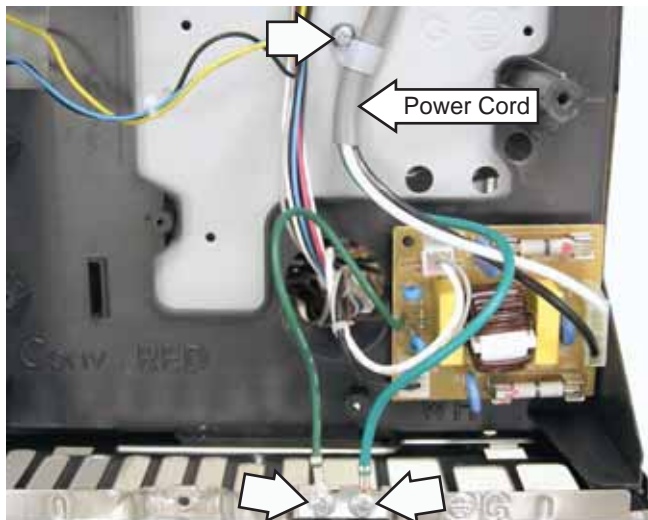
The Air Tunnel Inlet must be removed to access the Damper Motor, damper door switch, and damper door assembly.

To remove the Air Tunnel Inlet:

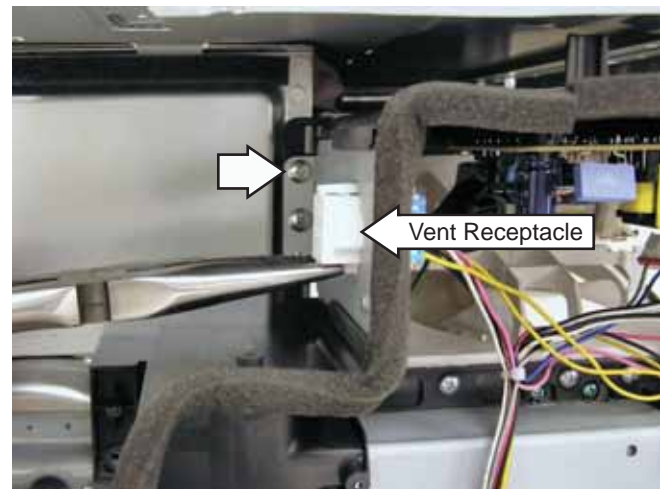
1. Remove the control panel. (See *Control Panel Removal*.)
2. Remove the Phillips-head screw from the top right corner of the oven frame.



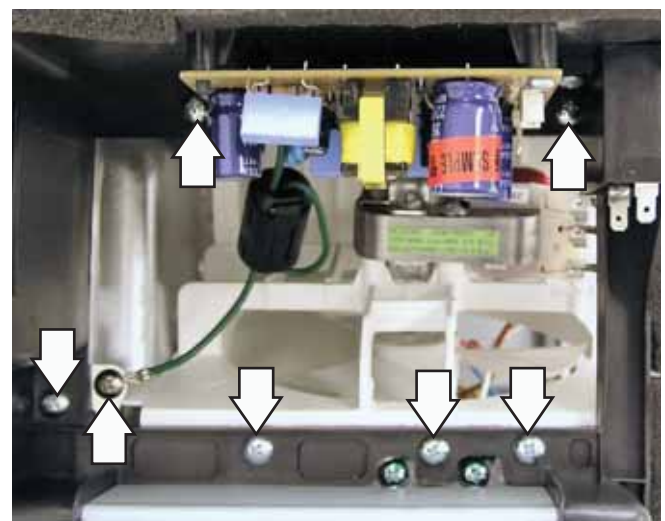
3. Remove the Air Tunnel Cover. (See *Air Tunnel Cover*.)
4. Remove the Phillips-head screw that attaches the power cord to the metal shield.
5. Remove the Phillips-head screw that attaches the power cord ground wire to the oven frame.
6. Disconnect wiring to the filter board and the Phillips-head screw that attaches the filter board ground wire to the oven frame. (See *Noise Filter*.)



7. Remove the rear Phillips-head screw underneath the ventilation motor receptacle.
8. Using long nose pliers, squeeze the tabs on each side and push the ventilation motor receptacle from the Air Tunnel Inlet.

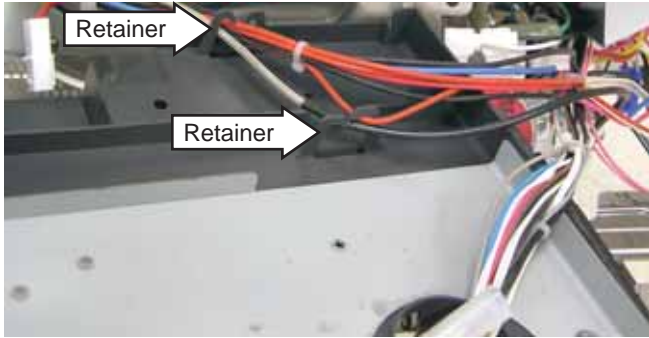


9. Disconnect the wires attached to the Ventilation Motor Capacitor. (See *Ventilation Motor Capacitor*.)
10. Disconnect the stirrer motor wire harness. (See *Stirrer Assembly*.)
11. Disconnect the wires attached to the Magnetron Fan Motor. (See *Magnetron Fan Assembly*.)
12. Disconnect the wire harnesses attached to the Power Supply Board. (See *Power Supply Board*.)
13. Remove the Phillips-head screw that attaches the power supply board ground wire to the oven chassis.
14. Remove 6 Phillips-head screws that attach the Air Tunnel Inlet to the oven.



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- Lift up the Air Tunnel Inlet, then remove wiring from the 2 retainers.



- Push wiring through the entry hole, then remove the Air Tunnel Inlet.

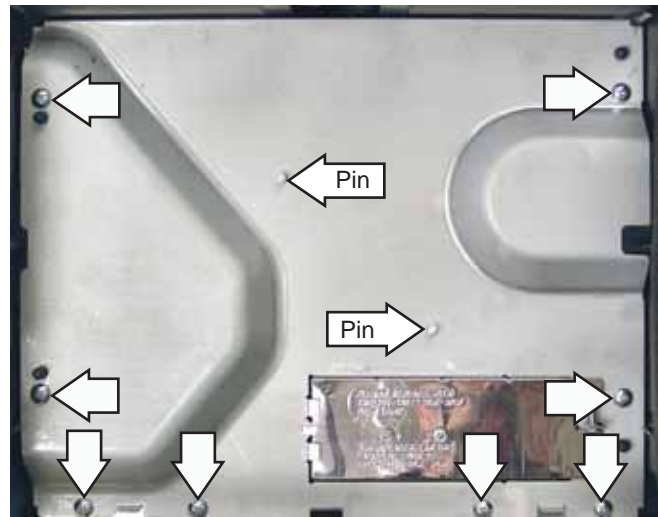


Air Tunnel Cover

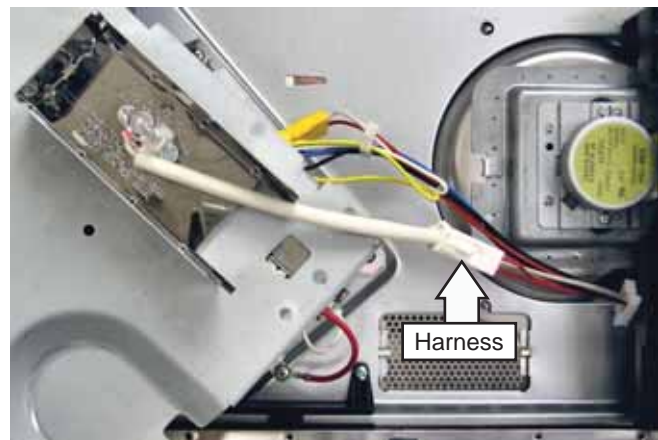
The Air Tunnel Cover must be removed when replacing the Upper Heater Assembly, TCO, and stirrer motor.

To remove the Air Tunnel Cover:

- Remove the Outer Cover. (See *Outer Cover*.)
- Remove the Ventilation Motor. (See *Ventilation Motor*.)
- Compress the 2 pins holding the 2 wire retainers to the Air Tunnel Cover.
- Remove the 8 Phillips-head screws that attach the Air Tunnel Cover to the top of the oven.



- Lift the cover and disconnect the light bulb wire harness.

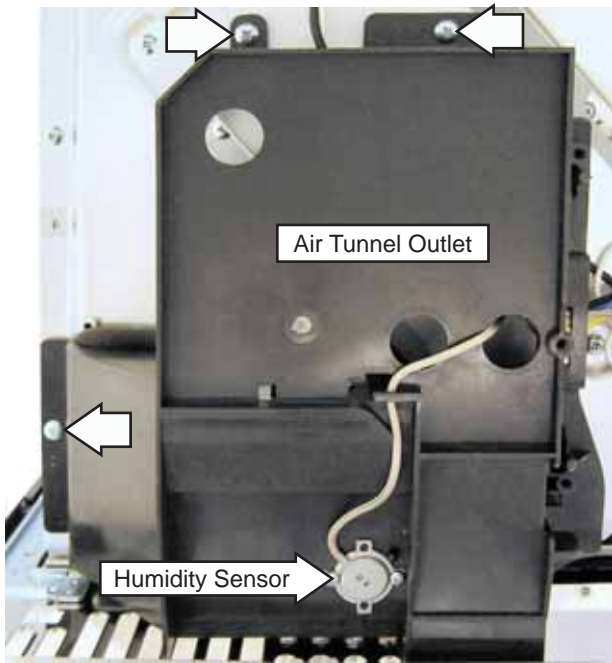


Air Tunnel Outlet

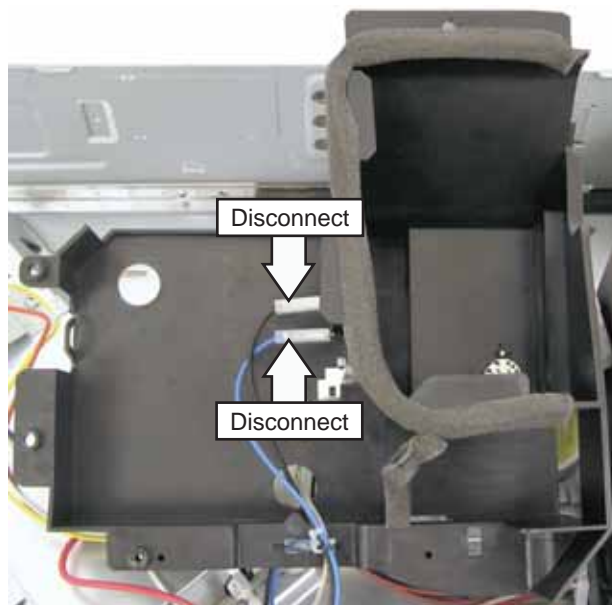
The Air Tunnel Outlet must be removed to access the Oven TCO and the Upper Heater Assembly and TCO.

To remove the Air Tunnel Outlet:

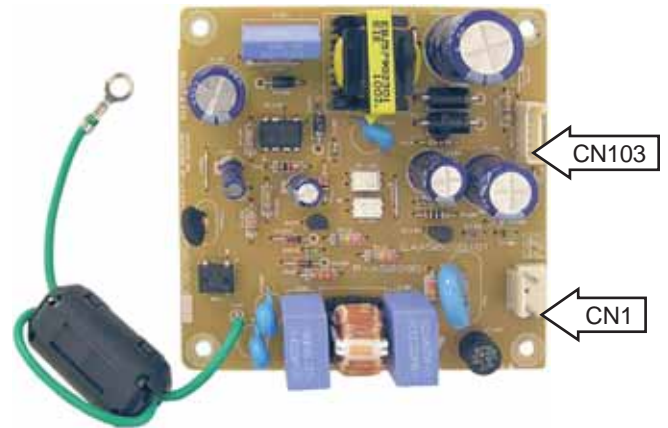
- Remove the Humidity Sensor. (See *Humidity Sensor*.)
- Remove the 3 Phillips-head screws that attach the Air Tunnel Outlet to the oven.



4. Lift and turn the Air Tunnel Outlet over, then disconnect the oven TCO wires.
5. Note the routing of wiring through air tunnel outlet retainers, then remove wiring from retainers.



Power Supply Board



Note: Callout arrows identify location of pin #1.

- Location (See *Top View*.)
- Generates all DC voltages.
- 120 VAC input at CN1 pins 1 and 3.
- 18 VDC (CN103 pin 1) Operating voltage for the Smart Board.
- 12 VDC (CN103 pin 2) Buzzer and Backlight Operating Voltage. (Backlight is Monogram Only).
- 12 VDC (CN103 pin 3) Relay Operating Voltage.
- 5 VDC (CN103 pin 4) VFD Operating Voltage.
- All DC voltages are measured to DC Ground (CN 103 pin 5).
- Disassembly. (See *Disassembly*.)

Troubleshooting

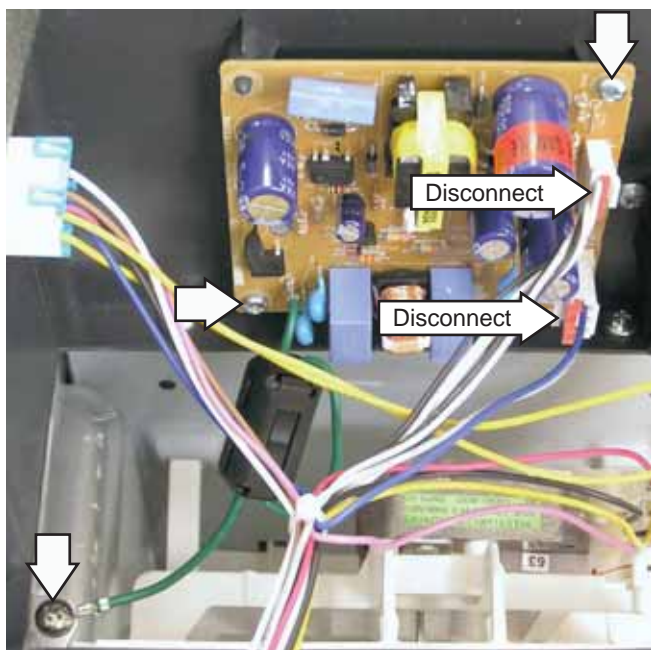
1. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
2. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.

3. Check voltage between Smart Board CN103 pins 1 and 5 (18 VDC), pins 2 and 5 (12 VDC), pins 3 and 5 (12 VDC), pins 4 and 5 (5 VDC).
 - If all voltages are correct, the Power Supply is operating properly.
 - If some but not all voltages are missing, check wiring between the Power Supply Board and the Smart Board. If wiring is OK, replace the Power Supply Board.
 - If all voltages are missing, go to step 4.
4. Check voltage between the double wire in the connector that connects to Relay Board RY14 and the output of the Bottom TCO (yellow and black wires).
 - If 120 VAC is not present, see *Bottom TCO*, troubleshooting step 3.
 - If 120 VAC is present, check line and neutral wiring to the Power Supply Board. If OK, replace the Power Supply Board.

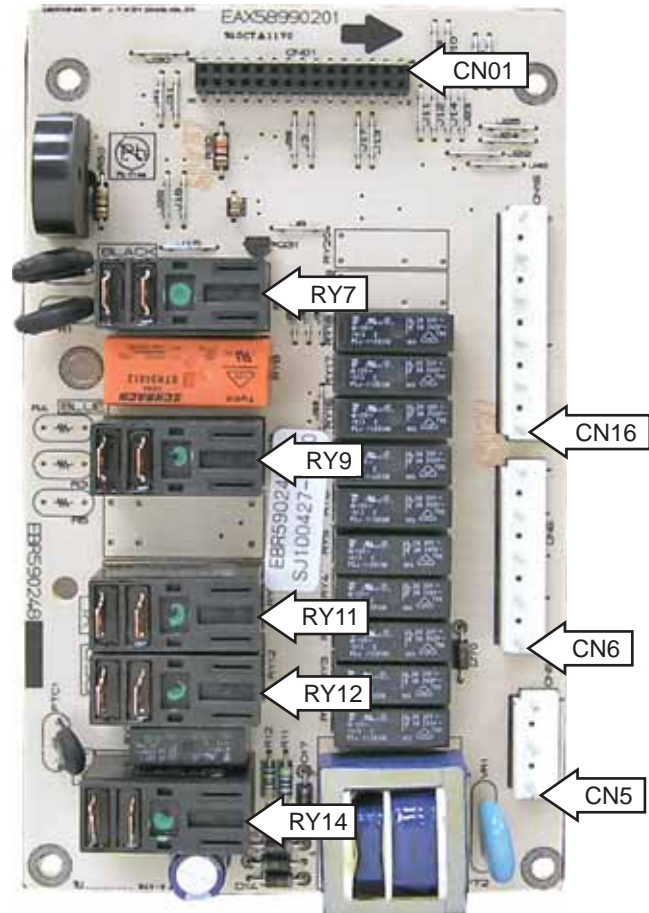
Disassembly

To remove the Power Supply Board:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Disconnect the 2 wire harnesses from the Power Supply Board.
3. Remove the Phillips-head screw and ground wire from the oven frame.
4. Remove the 2 Phillips-head screws that attach the Power Supply Board to the Air Tunnel Inlet.



Relay Board



Note: Where applicable, board callout arrows identify pin #1.

- Location (See *Control Boards and Panel Connections*.)
- Used for load switching, but also contains voltage compensation circuits and the buzzer.
- Relays are switching neutral to loads.
- Heat source relays require:
 - ◇ Relay Enable Voltage (5 VDC between CN01 pins 4 and 28.)
 - ◇ Relay Operating Voltage (12 VDC between CN01 pins 2 and 4.)
 - ◇ Relay Activate Signal (5 VDC between the active relay, see Relay Chart in troubleshooting section), and CN01 pin 4.

(Continued Next Page)

- Non-heat source relays require:
 - ◊ Relay Operating Voltage (12 VDC between CN01 pins 2 and 4.)
 - ◊ Relay Activate Signal (5 VDC between the active relay, see Relay Chart in troubleshooting section), and CN01 pin 4.
- Buzzer and Backlight Operating Voltage (12 VDC between CN01 pins 3 and 4.)
- DC Ground is on CN01 pins 4, 5, and 6.
- Disassembly. (See *Disassembly*.)

Troubleshooting

1. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
2. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
3. Is the inoperative relay stuck closed.
 - If yes, go to step 8.
 - If no, go to step 4.
4. Check voltage between Relay Board CN01 pins 2 and 4.
 - If 12 VDC is not present, see *Smart Board*, troubleshooting step 9.
 - If 12 VDC is present, go to step 5.
5. Is inoperative relay energizing a heat source.
 - If no, go to step 7.
 - If yes, go to step 6.
6. Check voltage between Relay Board CN01 pins 4 and 28.
 - If 12 VDC is present, replace Smart Board.
 - If 5 VDC is present, continue to next step.
7. Locate the inoperative relay in the relay chart below. Check voltage between inoperative relay pin and Relay Board CN01 pin 4.
 - If 5 VDC is present, replace Replace Relay Board.
 - If 5 VDC is not present, replace Smart Board.

Note: For situations where the above-mentioned 5 VDC is not present, some relays operate loads that can be controlled by the consumer from the Glass Touch Assembly. If the inoperative relay is such, make sure the option is selected at the key panel. If it is, and the relay is still inoperative, check harness between Glass Touch Assembly and Smart Board. If harness is OK, replace Glass Touch Assembly and Smart Board.

Relay Chart

Relay	Relay Board Connector
Cavity Light Relay	CN01 pin 7
Cooktop Lamp Bright Relay	CN01 pin 8
Cooktop Lamp Night Relay	CN01 pin 9
Turntable Motor Relay	CN01 pin 10
Damper Motor Relay	CN01 pin 11
Convection Motor Relay	CN01 pin 12
Magnetron Fan Motor and Stirrer Motor Relay	CN01 pin 13
Ventilation Fan High Relay	CN01 pin 14
Ventilation Fan Medium Relay	CN01 pin 15
Ventilation Fan Low Relay	CN01 pin 16
Upper Heater Halogen Relay	CN01 pin 20
Upper Heater Ceramic Relay	CN01 pin 22
Lower Heater Relay	CN01 pin 24
Convection Heater Relay	CN01 pin 25
High Voltage	CN01 pin 27

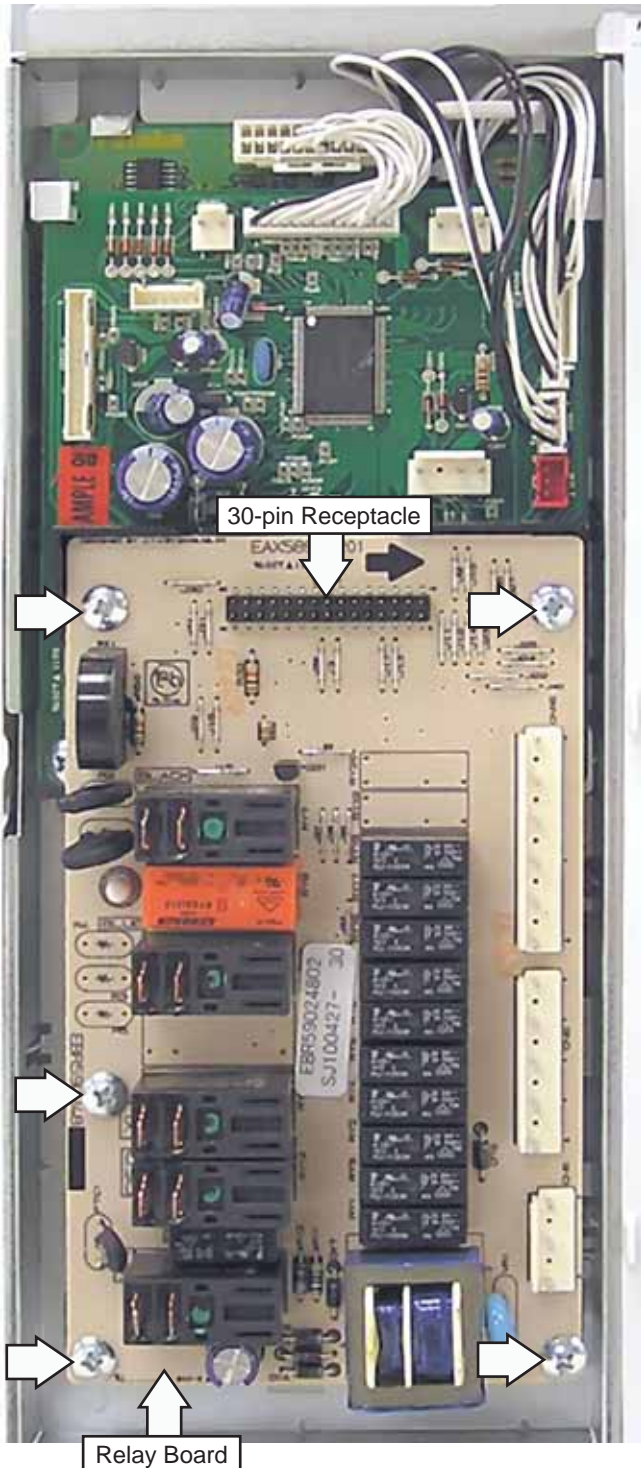
8. Locate the stuck relay in the chart above. Check voltage between inoperative relay pin and Relay Board CN01 pin 4.
 - If 5 VDC is present, replace Replace Smart Board.
 - If 5 VDC is not present, replace Relay Board.

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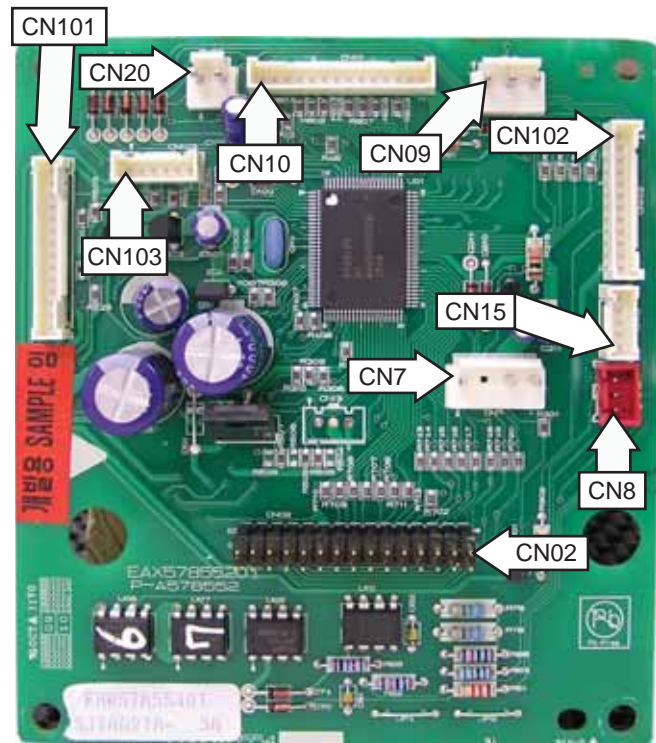
Disassembly

To remove the Relay Board:

1. Disconnect power to the oven.
2. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
3. Remove the 5 Phillips-head screws. Carefully unplug the Relay Board from the Smart Board.



Smart Board



Note: Callout arrows identify location of pin #1.

- Location (See *Control Boards and Panel Connections*.)
- Part of the Control Panel Assembly.
- Performs all logic operations. Contains all cooking and operating algorithms.
- Requires +18 VDC between CN103 pins 1 and 5 (powers the Smart Board).
- Buzzer and Backlight Operating Voltage (12 VDC) enters the Smart Board at CN103 pins 2 and 5, and exits the Smart Board at CN103 pins 3 and 4.
- Relay Operating Voltage (12 VDC) enters the Smart Board at CN103 pins 3 and 5, and exits the Smart Board at CN02 pins 2 and 4.
- VFD Operating Voltage (5 VDC) enters the Smart Board at CN103 pins 4 and 5, and exits the Smart Board at CN10 pins 13 and 14.
- Disassembly. (See *Disassembly*.)

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Troubleshooting

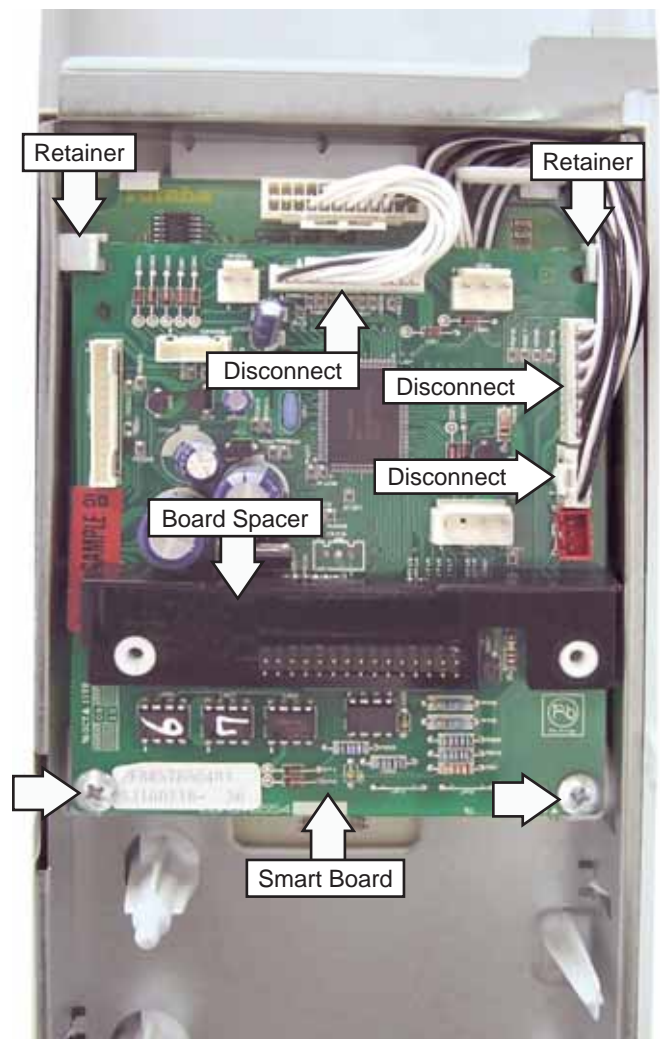
1. If Buzzer and Backlight Operating Voltage is missing, go to step 4.
2. If Relay Operating Voltage is missing, go to step 7.
3. If VFD Operating Voltage is missing, go to step 10.
4. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
5. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
6. Check voltage at Smart Board CN103 pins 2 and 5.
 - If 12 VDC is present, replace Smart Board.
 - If 12 VDC is not present, see *Power Supply Board*, troubleshooting step 3.
7. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
8. To gain better access to components, remove the wires that plug into the large relays on the Relay Board and cut the wire tie that the Smart Board CN103 wire harness is routed through.
9. Check voltage at Smart Board CN103 pins 3 and 5.
 - If 12 VDC is present, replace Smart Board.
 - If 12 VDC is not present, see *Power Supply Board*, troubleshooting step 3.
10. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
11. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
12. Check voltage at Smart Board CN103 pins 4 and 5.
 - If 5 VDC is present, replace Smart Board.
 - If 5 VDC is not present, see *Power Supply Board*, troubleshooting step 3.

Disassembly

To remove the Smart Board:

1. Disconnect power to the oven.
2. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
3. Remove the Relay Board. (See *Relay Board Removal*.)
4. Disconnect wire harnesses at CN102, CN15, and CN10.
5. Remove the 2 Phillips-head screws from the bottom of the Smart Board.
6. Lift and remove the Smart Board from the top 2 retainers.

Note: When replacing the Smart Board, transfer the board spacer to the replacement board.



Glass Touch Assembly



- Part of the Control Panel Assembly.
- Converts user touch to electrical signals.
- Has nothing to do with the display.
- Requires 5 VDC from Smart Board. Voltage can only be checked between Smart Board CN102 pins 10 and 12.
- Contains the back light (Monogram only).
- Disassembly. (See *Disassembly*.)

Troubleshooting

1. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
2. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.

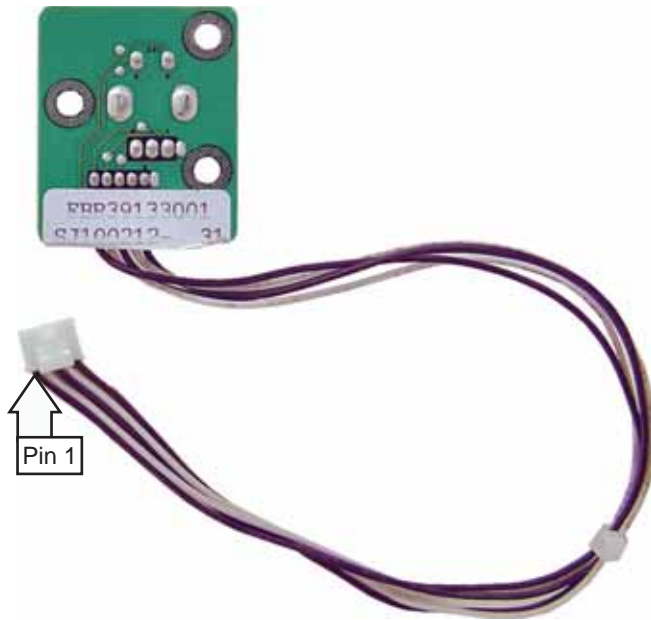
3. Disconnect Smart Board CN15 (Selector Board). Test the Glass Touch Assembly.
 - If keys are working correctly, replace the Selector Knob.
 - If keys are not working correctly, go to step 4.
4. Reconnect Smart Board CN15.
5. Check voltage between Smart Board CN102 pins 10 and 12.
 - If 5 VDC is present, check the harness between the Smart Board and Glass Touch Assembly. If OK, replace Glass Touch Assembly and Smart Board.
 - If 5 VDC is not present, replace Smart Board.

Disassembly

To remove the Glass Touch Assembly:

1. Disconnect power to the oven.
2. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
3. Remove the Relay Board. (See *Relay Board Removal*.)
4. Remove the Smart Board. (See *Smart Board Removal*.)
5. Remove the VFD Board. (See *VFD Board Removal*.)
6. Remove the Selector Board. (See *Selector Board Removal*.)

Selector Board



- Location - Attached to the Glass Touch Assembly and positioned behind the Relay Board. (See *Control Boards and Panel Connections*.)
- Part of the Control Panel Assembly.
- Used for menu navigation, in general, rotating clockwise (CW) increments selections, rotating counterclockwise (CCW) decrements selections. Pressing the knob in makes a selection.
- Pins 4-5 close when switch shaft is pressed in and open when shaft is released.
- Pins 1-2 and pins 2-3 close when the shaft is rotated in either direction. **Note:** When shaft is rotated, detents can be felt. If shaft is stopped between detents, pins 1-2 and 2-3 are closed.
- Disassembly. (See *Disassembly*.)

Troubleshooting

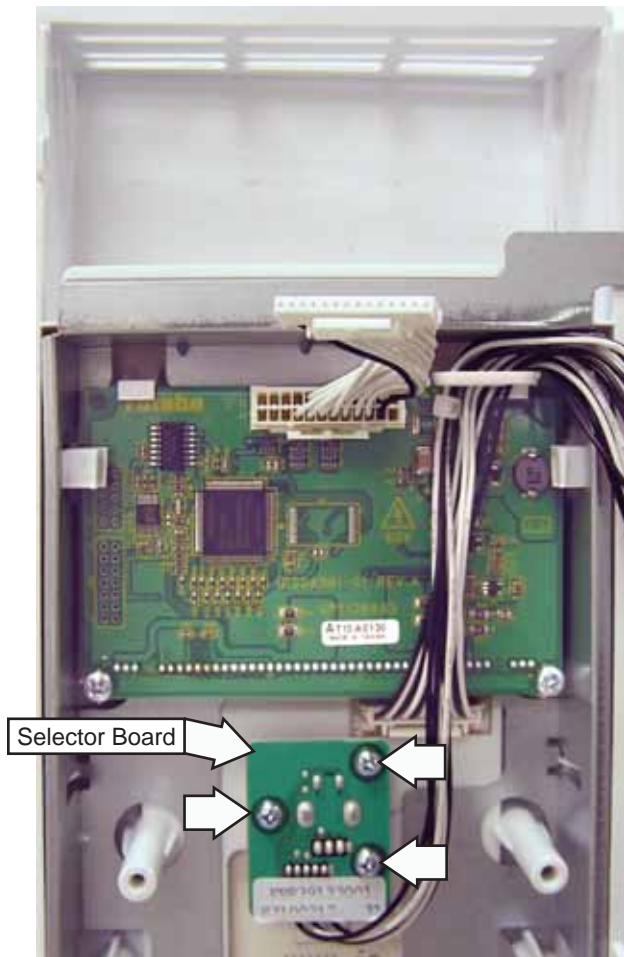
1. Disconnect power to the oven.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. Disconnect Smart Board connector CN15. Check resistance between pin 1 and pin 2 of the CN15 harness.
 - If resistance is not infinite, replace the Selector Board.
 - If resistance is infinite, go to step 4.

4. Position the selector knob between detents, check the resistance between pins 1 and 2.
 - If resistance is infinite, replace the Selector Board.
 - If resistance is approximately 0 Ω , go to step 5.
5. With the selector knob positioned so that it is not between detents, check the resistance between pins 2 and 3.
 - If resistance is not infinite, replace the Selector Board.
 - If resistance is infinite, go to step 6.
6. With the selector knob positioned between detents, check the resistance between pins 2 and 3.
 - If resistance is infinite, replace the Selector Board.
 - If resistance is approximately 0 Ω , go to step 7.
7. Ensure selector knob is not pressed in, check the resistance between pins 4 and 5.
 - If resistance is not infinite, replace the Selector Board.
 - If resistance is infinite, go to step 8.
8. With selector knob pressed in, check the resistance between pins 4 and 5.
 - If resistance is infinite, replace the Selector Board.
 - If resistance is approximately 0 Ω , the Selector Board is operating properly, problem is with the Smart Board.

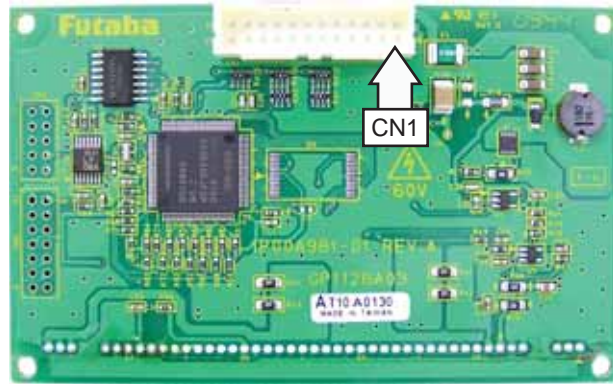
Disassembly

To remove the Selector Board:

1. Disconnect power to the oven.
2. Remove the Control Panel Assembly.
(See *Control Panel Removal*.)
3. Remove the Relay Board.
(See *Relay Board Removal*.)
4. Remove the Smart Board.
(See *Smart Board Removal*.)
5. Pull the selector knob off.
6. Remove the 3 Phillips-head screws holding the Selector Board in place.



VFD Board (Vacuum Florescent Display)



Note: Callout arrow identifies location of pin #1.

- Location (See *Control Boards and Panel Connections*.)
- Part of the Control Panel Assembly.
- Displays information to the user.
- Requires 5 VDC between VFD Board CN1 pins 11 and 17 to operate.
- Display data comes from the Smart Board.
- Font information is contained in the VFD software.
- All text is displayed in green.
- Disassembly. (See *Disassembly*.)

Troubleshooting

1. Is the display dead or displaying incorrect or incomplete information?
 - If display is displaying incorrect or incomplete information, check the harness between the Smart Board and VFD. If OK, replace the Smart Board and VFD.
 - If display is dead, go to step 2.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.

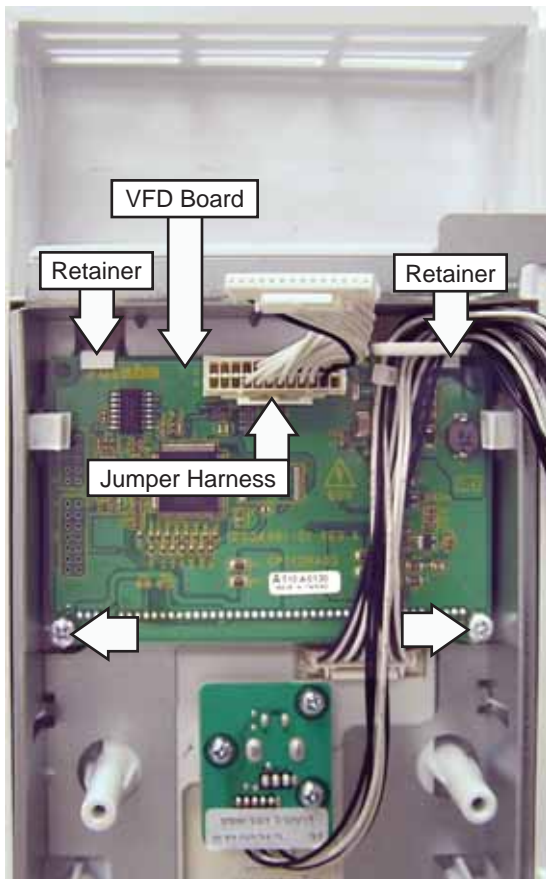
4. Check voltage between Smart Board CN10 pins 13 and 14.
 - If 5 VDC is present, check the harness between the Smart Board and VFD. If OK, replace VFD and Smart Board.
 - If 5 VDC is not present, see *Smart Board*, troubleshooting step 12.

Disassembly

To remove the VFD Board:

1. Disconnect power to the oven.
2. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
3. Remove the Relay Board. (See *Relay Board Removal*.)
4. Remove the Smart Board. (See *Smart Board Removal*.)
5. Remove the 2 Phillips-head screws and remove the control panel and selector wiring from the retainer. Slide the VFD Board down from the retainers.

Note: When replacing the VFD Board, transfer the Jumper harness to the replacement VFD Board.



Noise Filter



- Location (See *Top View*.)
- Helps suppress electromagnetic interference radiating from the oven and also protects the microwave from any line noise.
- Supplies filtered neutral to the Power Supply Board and Relay Board.
- Contains two 20-amp fuses (WB27x10388).
- Disassembly. (See *Disassembly*.)

Troubleshooting

1. Disconnect power to the oven.
2. Remove the Grill. (See *Grill*.)
3. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
4. To get better access to components, remove the wire connected to Noise Filter line out.
5. Reconnect power to the oven.
6. Check voltage between the Noise Filter line out and neutral out.
 - If 120 VAC is present, the Noise Filter is good. **Note:** If you are troubleshooting L1 not present at the Magnetron TCO, the wire between the double wire that connects to RY14 and the Noise Filter neutral out is open.
 - If 120 VAC is not present, go to step 7.
7. Disconnect power to the unit. Disconnect Noise Filter line in and neutral in.

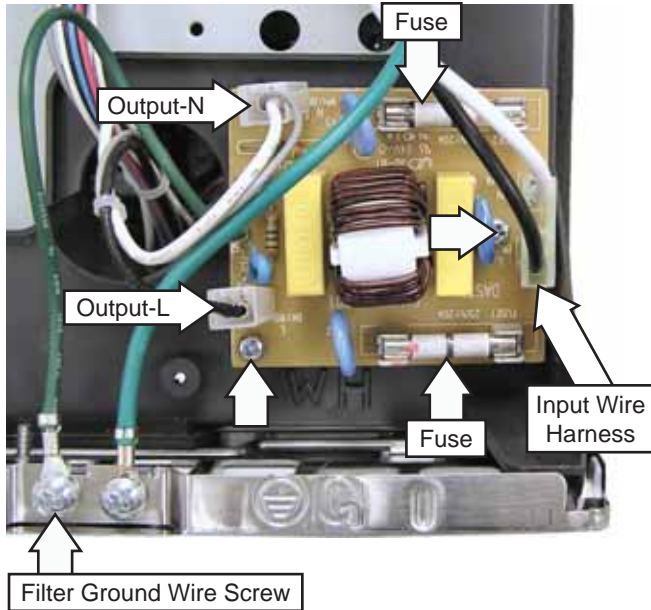
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8. Check resistance between Noise Filter line in and line out, and Noise Filter neutral in and neutral out.
 - If both resistance readings are approximately $0\ \Omega$, problem is with house supply voltage or the power cord.
 - If either resistance reading is infinite, check both Noise Filter Fuses. If both fuses are OK, replace the Noise Filter.

Disassembly

To remove the Noise Filter:

1. Disconnect power to the oven.
2. Remove the Outer Cover. (See *Outer Cover*.)
3. Disconnect the input wire harness, line output, and neutral output wires.
4. Remove the Phillips-head screw that attaches the filter ground wire.
5. Remove the 2 Phillips-head screws holding the Noise Filter in place.



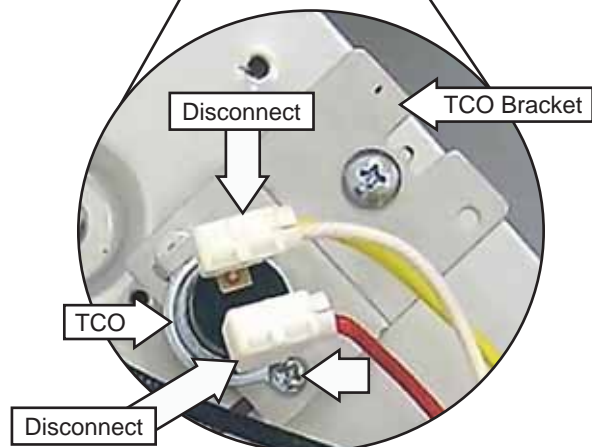
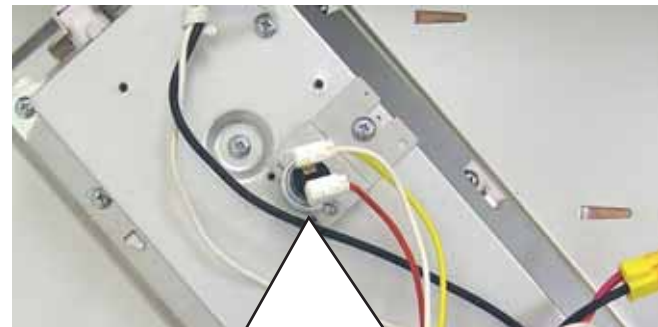
Upper Heaters' TCO (Thermal Cut Out)

- Location - Attached to the Upper Heater Assembly. (See *Top View*.)
- Safety thermostat that interrupts power to both upper heaters in the event of excessive temperatures.
- Normally closed.
- Opens at 320°F, non-resettable.
- Disassembly. (See *Disassembly*.)

Disassembly

To remove the Upper Heaters' TCO:

1. Remove the Air Tunnel Cover. (See *Air Tunnel Cover*.)
2. Remove the 3 Phillips-head screws that attach the Air Tunnel Outlet to the oven. (See *Air Tunnel Outlet*.)
3. Lift and position the Air Tunnel Outlet to the right.
4. Disconnect the 2 wires from the TCO.
5. Remove the Phillips-head screw that attaches the TCO to the TCO bracket.



Convection Heater TCO (Thermal Cut Out)

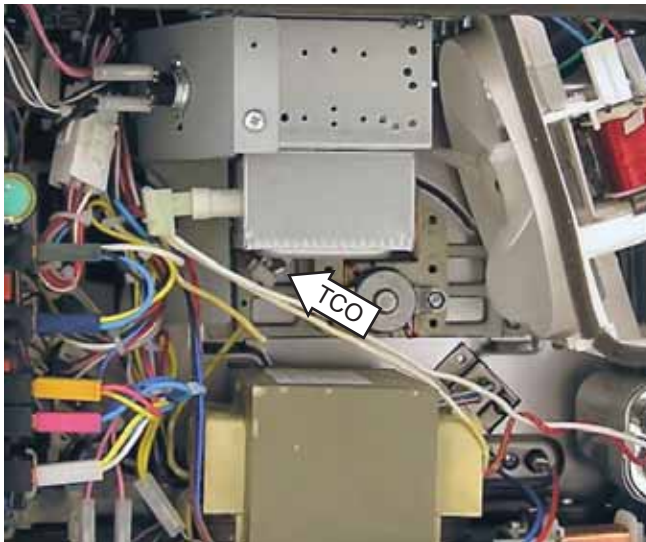
- Location (See *Right Side View*.)
- Interrupts line voltage to the convection heater in the event of excessive temperatures.
- Normally closed.
- Opens 320°F, non-resettable.
- Disassembly. (See *Disassembly*.)

Disassembly

To remove the Convection Heater TCO:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Disconnect the 2 wire harnesses from the TCO.
3. Remove the 2 Phillips-head screw that holds the TCO in place.

Right Side View



Oven TCO (Thermal Cut Out)

- Location - Attached to the inside of the Air Tunnel Outlet. (See *Top View*.)
- Disables the oven, if the oven cavity gets too hot.
- Normally closed.
- Opens 320°F, non-resettable.
- Disassembly. (See *Disassembly*.)

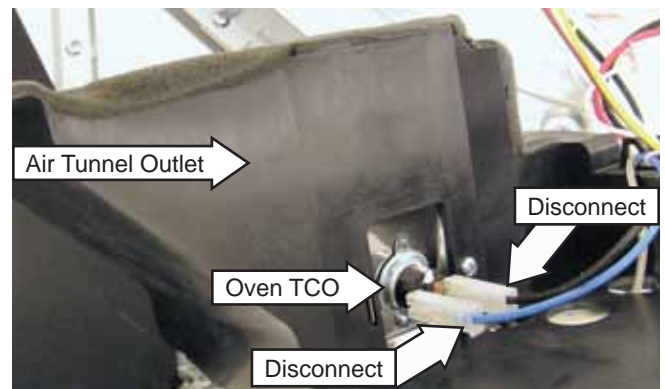
Troubleshooting

1. Disconnect power to the oven.
2. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
3. Disconnect Noise Filter line out.
4. Check resistance between the wire that connects to Noise Filter line out and the input of the Magnetron TCO (blue and red wires).
 - If resistance is approximately 0 Ω , the Oven TCO and wiring is operating correctly. **Note:** If you are troubleshooting L1 not present at the Magnetron TCO, see Noise Filter, troubleshooting step 5.
 - If resistance is infinite, problem is with:
 - ◇ Oven TCO, or
 - ◇ Wiring between the Oven TCO and Noise Filter line out, or
 - ◇ Wiring between the Oven TCO and the Magnetron TCO.

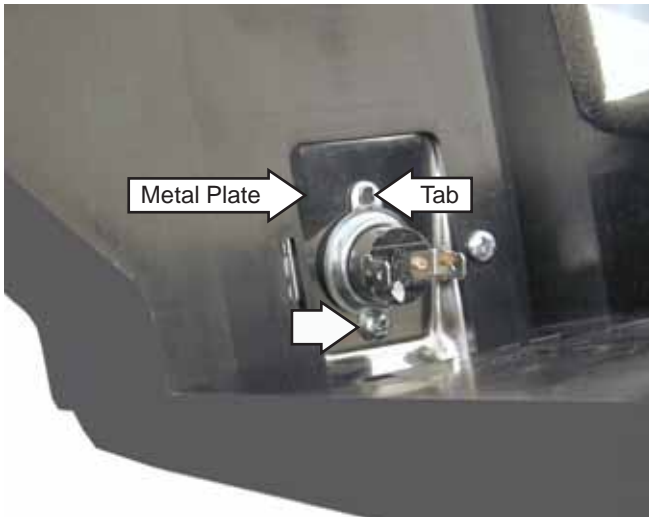
Disassembly

To remove the Oven TCO:

1. Remove the 3 Phillips-head screws from the Air Tunnel Outlet. (See *Air Tunnel Outlet*.)
2. Turn the Air Tunnel Outlet over.
3. Disconnect wiring to the Oven TCO.



- Remove the Phillips-head screw attaching the TCO to the metal plate and slide the TCO out from the tab.



Magnetron TCO (Thermal Cut Out)

- Location (See *Right Side View*.)
- Disables the oven if the Magnetron overheats.
- Normally closed.
- Opens 320°F, non-resettable.
- Disassembly. (See *Disassembly*.)

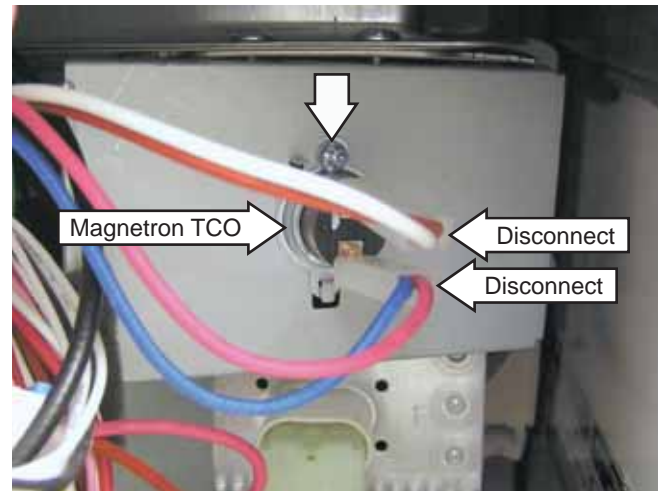
Troubleshooting

- Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
- To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
- Check voltage between the double wire in the connector that connects to RY14 and both sides of the Magnetron TCO.
 - If 120 VAC is present on both sides of the Magnetron TCO, the Magnetron TCO is operating properly.
 - If 120 VAC is present on only one side of the Magnetron TCO, replace the Magnetron TCO.
 - If 120 VAC is not present on either side of the Magnetron TCO, L1 is not present at Magnetron TCO, see *Oven TCO*, troubleshooting step 1.

Disassembly

To remove the Magnetron TCO:

- Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
- Disconnect wiring from the Magnetron TCO.
- Remove the Phillips-head screw attaching the Magnetron TCO to the air guide, then pull the TCO towards the bottom.



Bottom Thermal Cutout (TCO)

- Location - (See *Right Side View*.)
- Disables oven in the event of a cooktop fire. Purpose is to keep the ventilation fan from sucking flames into the oven.
- Normally closed.
- Opens 320°F, non-resettable.
- Disassembly. (See *Disassembly*.)

Troubleshooting

- Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
- To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.

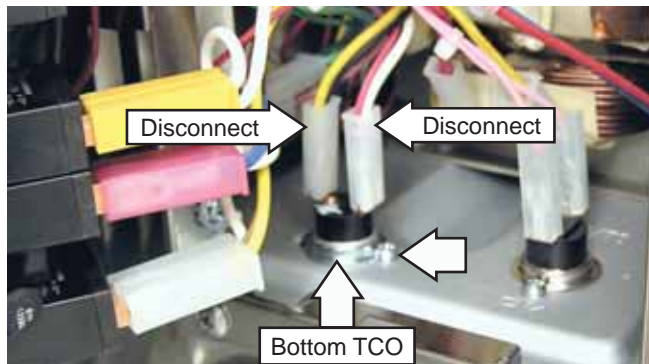
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3. Check voltage between the double wire in the connector that connects to RY14 and both sides of the Bottom TCO.
 - If 120 VAC is present on both sides of the Bottom TCO, the Bottom TCO is operating properly.
 - If 120 VAC is present on only one side of the bottom TCO, replace the Bottom TCO.
 - If 120 VAC is not present on either side of the Bottom TCO, go to step 4.
4. Check voltage between the double wire in the connector that connects to RY14 and the output of the Magnetron TCO (white and red wires).
 - If 120 VAC is present, the wire between the Bottom TCO and the Magnetron TCO is open.
 - If 120 VAC is not present, see Magnetron TCO, troubleshooting step 3.

Disassembly

To remove the Bottom TCO:

1. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
2. Disconnect wiring from the Bottom TCO.
3. Remove the Phillips-head screw attaching the Bottom TCO to the oven, then pull the TCO towards the right.



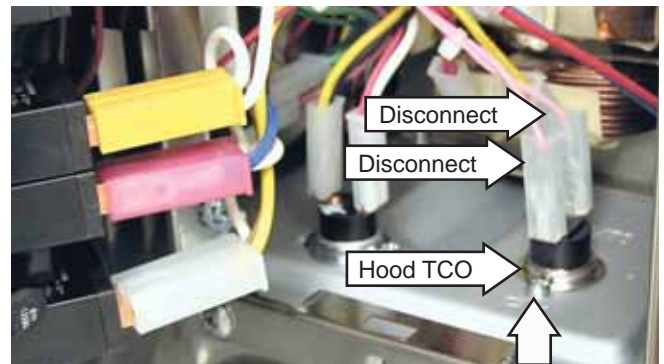
Hood Thermal Cutout (TCO)

- Location (See *Right Side View*.)
- Used to turn on the Ventilation Motor if the bottom of the microwave gets too hot.
- When switch is open, 5 VDC can be read between pins 1 and 2 of CN20. When switch is closed, voltage goes to 0 VDC.
- Normally open.
- Closes at 158°F, opens at 122°F.
- Disassembly. (See *Disassembly*.)

Disassembly

To remove the Hood TCO:

1. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
2. Disconnect wiring from the Hood TCO.
3. Remove the Phillips-head screw attaching the Hood TCO to the oven and pull the TCO forward.



Monitor Switch

- Location (See picture in *Door Switch Removal* section.)
- Attached to the latch bracket.
- The switch is intended to render the oven inoperative by means of blowing either of the 20-amp fuses on Noise Filter 1. This occurs when voltage is applied to the High Voltage Transformer and the monitor switch is closed. This creates a direct short between line and neutral.
- Switch is closed when door is open and open when door is closed.

To remove the Monitor Switch:

(See *Door Switch Removal*.)

Primary Interlock Switch

- Location (See picture in *Door Switch Removal* section.)
- Attached to the latch bracket.
- Switches L1 to the primary of the high voltage transformer, upper and lower heaters, Turntable Motor, and convection fan motor.
- Switch is engaged by the latch pawls of the oven door. The switch is closed when door is closed and open when door is open.

To remove the Primary Interlock Switch:

(See *Door Switch Removal*.)

Troubleshooting

1. Pivot the Control Panel Assembly out from the oven. (See *Control Panel*.)
2. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
3. While the door is open, check voltage between the double wire in the harness that connects to RY14 and the output of the Primary Interlock Switch (brown and red wires).
 - If 120 VAC is present, replace the Primary Interlock Switch.
 - If 120 VAC is not present, go to step 4.

4. While the door is closed, check voltage between the double wire in the harness that connects to RY14 and the output of the Primary Interlock Switch (brown and red wires).
 - If 120 VAC is present, the Primary Interlock Switch is operating properly.
 - If 120 VAC is not present, go to step 5.
5. Check voltage between the double wire in the harness that connects to RY14 and the input of the Primary Interlock Switch (black and yellow wires).
 - If 120 VAC is present, the Primary Interlock Switch is not closing. Check switch and actuation of the switch.
 - If 120 VAC is not present, go to step 6.
6. Check voltage between the double wire in the wire harness that connects to RY14 and the output of the Bottom TCO (yellow and black wires).
 - If 120 VAC is present, the wire between the Bottom TCO and the Primary Interlock Switch is open.
 - If 120 VAC is not present, see *Bottom TCO*, troubleshooting step 3.

Door Sensing Switch

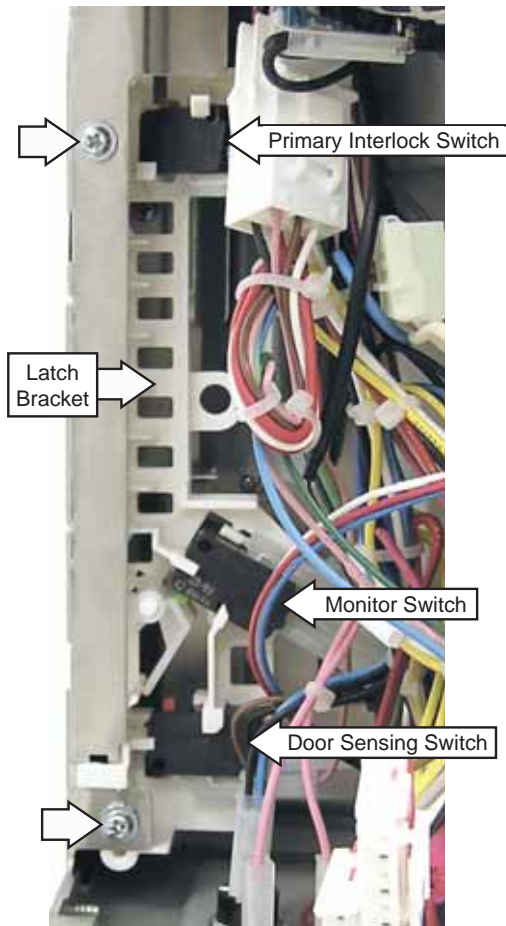
- Location (See picture in *Door Switch Removal* section.)
- Attached to the latch bracket.
- Provides door status to the Smart Board.
- Switch is closed when door is closed and open when door is open.
- When door is open, 5 VDC can be read between pins 1 and 3 of CN07. When the door is closed, voltage goes to 0 VDC.

To remove the door sensing switch:

(See *Door Switch Removal*.)

Door Switch Removal

1. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
2. Disconnect wiring to the door switches.
3. Remove the 2 Phillips-head screws that attach the plastic latch bracket to the microwave oven frame. Remove the latch bracket.



4. Using a small flat blade screwdriver, release the tabs and remove the door switch from the latch bracket.



Damper Switch

- Location - Behind the Control Panel Assembly next to oven cavity.
- Part of the Damper Assembly.
- The damper switch is used for a timing event. When the damper door is closed and then opened, a timer is triggered on the Smart Board. The damper motor will run until the timer has timed out. This time-based motor operation is used for both opening and closing the damper.
- Switch is open when the damper door is closed.
- When the damper door is closed, 5 VDC can be read between pins 3 and 4 of CN7, when the damper door is open, voltage goes to 0 VDC.

Troubleshooting

1. Disconnect power to the microwave.
2. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
3. Manually open the damper door.
4. Check resistance between pins 3 and 4 of the connector that connects to Smart Board CN7.
 - If resistance is approximately 0 Ω , go to step 5.
 - If resistance is infinite, problem is with the Damper Switch or wiring to switch.
5. While still checking resistance between pins 3 and 4, manually close and keep closed the damper door.
 - If resistance is infinite, the Damper Switch is operating properly, replace the Smart Board.
 - If resistance is approximately 0 Ω , problem is with the Damper Switch or engagement of the switch.

To remove the damper switch:

(See *Damper Assembly Removal*.)

Damper Motor

- Location - Behind control panel next to oven cavity.
- Part of the Damper Assembly.
- 120 VAC
- 3.36 K Ω
- 6 RPM
- Opens and closes inlet and outlet damper.

Troubleshooting

1. Is Damper Motor running all the time or not running at all?
 - If Damper Motor is running all the time, the Damper Switch is not functioning properly. (See *Damper Switch* troubleshooting section.)
 - If Damper Motor is not running at all, go to step 2.
2. Disconnect power to the oven.
3. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
4. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
5. Reconnect power to the oven.
6. Check voltage between either side of the Bottom TCO and Relay Board CN6 pin 5.
 - If 120 VAC is present, problem is with Damper Motor or wiring to motor.
 - If 120 VAC is not present, see *Relay Board*, troubleshooting step 4.

To remove the damper motor:

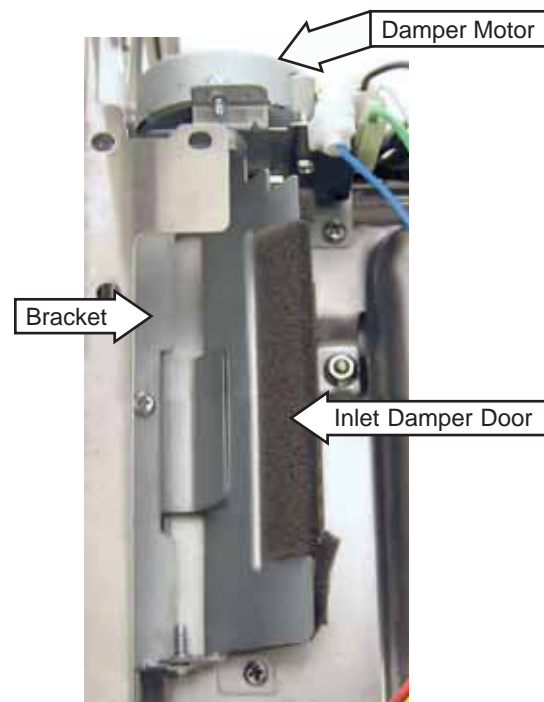
(See *Damper Assembly Removal*.)

Damper Assembly

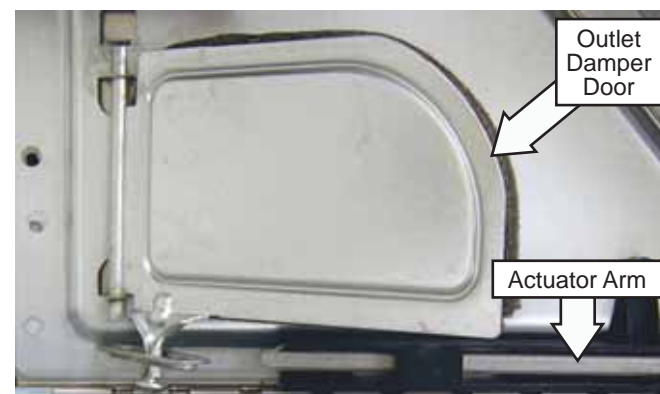
The Damper Assembly consists of inlet and outlet damper doors, Damper Motor, and Damper Switch. The inlet damper door, Damper Motor, and Damper Switch are located below the Air Tunnel Inlet. The outlet damper door is located below the Air Tunnel Outlet. (See *Component Locator Views*.)

The damper motor has a D-shaped shaft that is inserted into the top of the inlet damper door, and inserted into a link. The link is connected to an actuator arm that operates the outlet damper door.

Inlet Damper



Outlet Damper



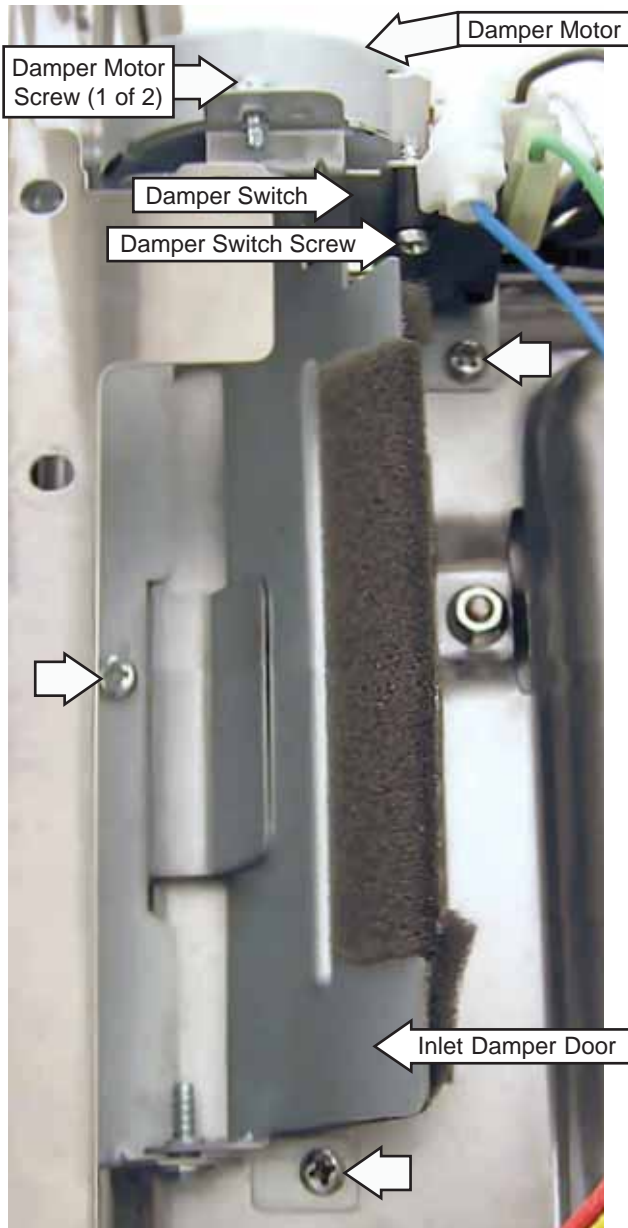
To remove the Damper Assembly:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
3. Remove the latch bracket.
4. Remove the Air Tunnel Inlet. (See *Air Tunnel Inlet*.)

Note: The Damper Motor is attached to the top of the Damper Assembly with 2 Phillips-head screws.

5. Remove the 3 Phillips-head screws holding the Damper Assembly to the Convection Heater Assembly.

Note: The Damper Switch is attached to the Damper Assembly with a single Phillips-head screw.



Humidity Sensor



- Location - The Humidity Sensor is mounted on the Air Tunnel Outlet on the left side of the oven. (See *Top View*.)
- The Humidity Sensor detects the increasing humidity released during cooking.
- Problems with the Humidity Sensor will show up as Sensor Open on the display.

To remove the Humidity Sensor:

(See *Humidity Sensor Removal*.)

Troubleshooting

Note:

- The oven should be plugged in at least 5 minutes before test.
- Room temperature should not exceed 95°F.
- Be sure the exterior of the cooking container and interior of the oven are dry.
- No sensor cooking is available while the oven is hot. Wait 5 minutes after using Broil, Toast, Warm, Convection Bake, or Speedcook to allow the oven to cool enough to use sensor cooking.

To test the Humidity Sensor, it is necessary to pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.) The Humidity Sensor wire harness must be disconnected from CN8 on the Smart Board. On the Humidity Sensor wire harness, check for approximate resistance values between:

Black-Red = 6.5 K Ω

Red-White = 3.25 K Ω

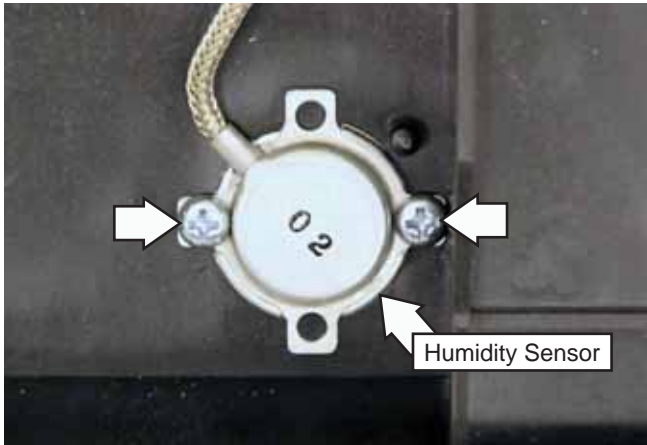
Black-White = 3.25 K Ω

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Disassembly

To remove the Humidity Sensor:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Remove the Air Tunnel Cover. (See *Air Tunnel Cover*.)
3. Remove the 2 Phillips-head screws that hold the sensor in place.



Thermistor



- Location (See *Right Side View*.)
- The upper thermistor (blue and white wires) is used for thermal compensation and more control in a higher temperature range (above 300°F) for Speed Cook, Broil, Toast, and Convection.
- The lower thermistor (red and white wires) is used for more control in a lower temperature range (below 300°F) and is used for Proof and Warm.
- When the thermistor harness is disconnected from the Smart Board, 5 VDC can be read between Smart Board CN9 pins 1 and 2 and between pins 2 and 3.

Troubleshooting

- To test the upper thermistor, check resistance between the blue and white wires. Resistance at room temperature is 100 K Ω .
- To test the lower thermistor, check resistance between the red and white wires. Resistance at room temperature is 256 K Ω .

Disassembly

To remove the Thermistor:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Remove the Phillips-head screw holding Thermistor in place.



Upper Heater Halogen

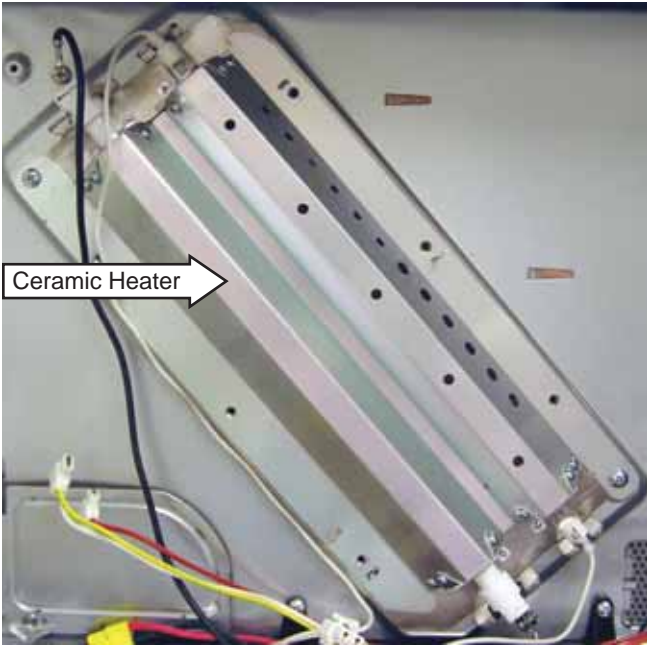


- Location (See *Top View*.)
- 500 Watts
- Approximately 4 Amps
- Approximately 3 Ω
- Paired with Upper Heater Ceramic to make up the Upper Heater Assembly.
- Upper Heater Halogen and Upper Heater Ceramic always cycle together except in test mode.
- For operating algorithms, see Upper Heater Halogen in the *Load Algorithm Chart*.
- Disassembly. (See *Upper Heater Assembly Removal*.)

Troubleshooting

1. Does the display operate properly?
 - If no, see *VFD Board*, troubleshooting step 1.
 - If yes, go to step 2.
2. Is Upper Heater Halogen staying on all the time or not coming on?
 - If heater is staying on, go to step 8.
 - If heater is not coming on, go to step 3.
3. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Assembly*.)
4. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
5. Set oven for Speedcook, Upper Lamp power level at 10. (See *Operating Modes* for set up instructions.)
6. Start Speedcook cycle. While unit is running, check resistance between the 2 terminals on Relay Board RY7. **Note:** This step requires checking resistance of relay contacts while the unit is running. The upper heater halogen relay wires must **not** be connected to the relay when making this check.
 - If resistance is infinite, the upper heater halogen relay is not closing. (See *Relay Board*, troubleshooting step 2.)
 - If resistance is approximately 0 Ω , go to step 7.
7. Disconnect power to oven. Check resistance between the single wire (black wire) that connects to Relay Board RY7 and the output of the Primary Interlock Switch (brown and red wires).
 - If resistance is approximately 3 Ω , see *Primary Interlock Switch*, troubleshooting step 4.
 - If resistance is infinite, problem is with:
 - ◇ Upper Heater Halogen, or
 - ◇ Upper Heaters TCO, or
 - ◇ Wiring between the Upper Heater Halogen and Upper Heaters TCO, or
 - ◇ Wiring between the Primary Interlock Switch and the Upper Heaters TCO, or
 - ◇ Wiring between Upper Heater Halogen and the connector that connects to RY7.
8. Disconnect Relay Board RY7 connector. Does heater stay on?
 - If no, the Relay Board RY7 is stuck on. (See *Relay Board*, troubleshooting section.)
 - If yes, the neutral wire to heater is shorted to ground.

Upper Heater Ceramic



- Location (See *Top View*.)
- 700 Watts
- Approximately 5.8 Amps
- Approximately 20 Ω
- Paired with Upper Heater Halogen to make up the Upper Heater Assembly.
- Upper Heater Ceramic and Upper Heater Halogen always cycle together except in test mode.
- For operating algorithms, see Upper Heater Ceramic in the *Load Algorithm Chart*.
- Disassembly. (See *Upper Heater Assembly Removal*.)

Troubleshooting

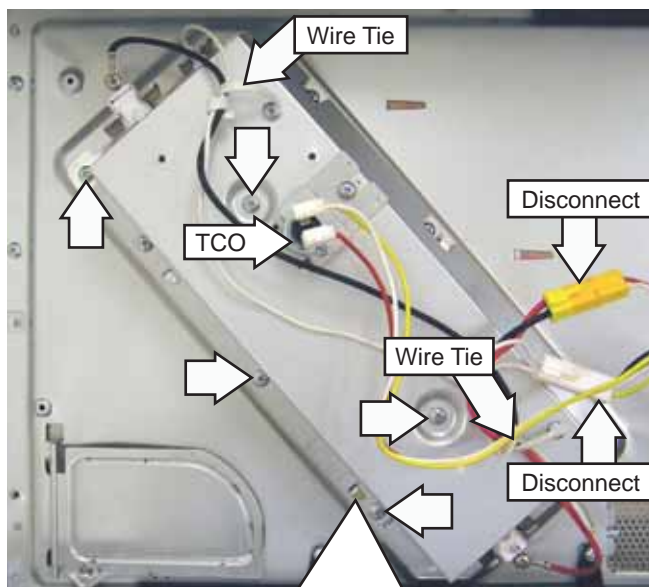
1. Does the display operate properly?
 - If no, see *VFD Board*, troubleshooting step 1.
 - If yes, go to step 2.
2. Is Upper Heater Ceramic staying on all the time or not coming on?
 - If heater is staying on, go to step 8.
 - If heater is not coming on, go to step 3.
3. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
4. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
5. Set oven for Speedcook, Upper Lamp power level at 10. (See *Operating Modes* for set up instructions.)
6. Start Speedcook cycle. While unit is running, check resistance between the 2 terminals on Relay Board RY9. **Note:** This step requires checking resistance of relay contacts while the unit is running. The upper heater ceramic relay wires must **not** be connected to the relay when making this check.
 - If resistance is infinite, the upper heater ceramic relay is not closing. (See *Relay Board*, troubleshooting step 2.)
 - If resistance is approximately 0 Ω , go to step 7.
7. Check resistance between the single wire (brown wire) that connects to Relay Board RY9 and the output of the Primary Interlock Switch (brown and red wires).
 - If resistance is approximately 20 Ω , see *Primary Interlock Switch*, troubleshooting step 4.
 - If resistance is infinite, problem is with:
 - ◇ Upper Heater Ceramic, or
 - ◇ Upper Heaters TCO, or
 - ◇ Wiring between the Upper Heater Ceramic and Upper Heaters TCO, or
 - ◇ Wiring between the Primary Interlock Switch and the Upper Heaters TCO, or
 - ◇ Wiring between Upper Heater Ceramic and the connector that connects to RY9.
8. Disconnect Relay Board RY9 connector. Does heater stay on?
 - If no, the Relay Board RY9 is stuck on. (See *Relay Board*, troubleshooting section.)
 - If yes, the neutral wire to heater is shorted to ground.

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Disassembly

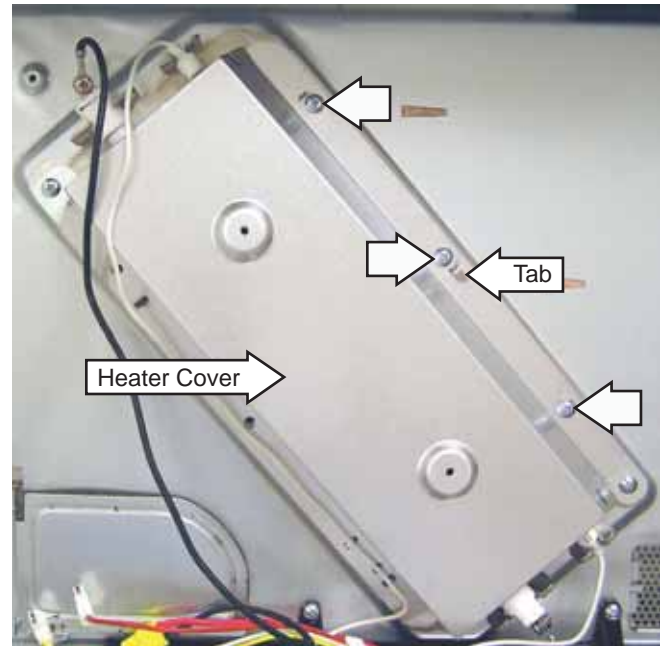
To remove the Upper Heater Assembly:

1. Remove the Air Tunnel Cover. (See *Air Tunnel Cover*.)
2. Remove the 3 Phillips-head screws that attach the Air Tunnel Outlet to the oven. (See *Air Tunnel Outlet*.)
3. Lift and position the Air Tunnel Outlet to the right.
4. Remove the wiring from the wire ties.
5. Disconnect wires from the TCO.
6. Disconnect the 2 heater wire harnesses.
7. Using a flat blade screwdriver, straighten the 2 left side folded lock tabs. Remove 5 Phillips-head screws from the heater shield.

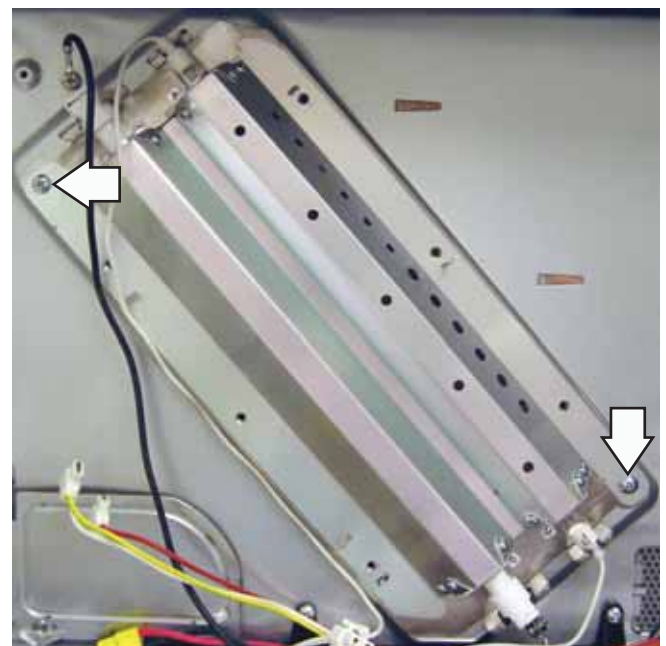


Note: Insulation is positioned underneath the heater shield. In the following step, note the position of the insulation for proper placement when installing the heater shield.

9. Lift the heater shield from the top of the oven.
10. Using a flat blade screwdriver, straighten the folded lock tab. Remove 3 Phillips-head screws that attach the heater cover.

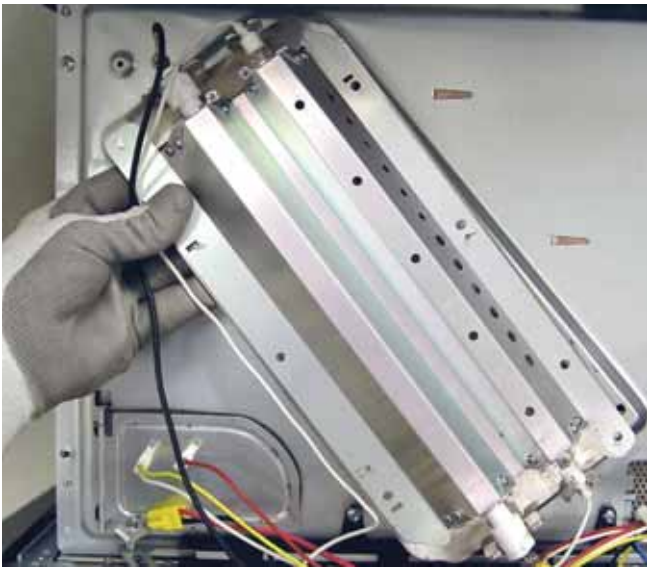


11. Lift the heater cover from the top of the oven.
12. Remove 2 Phillips-head screws that attach the heater to the oven.

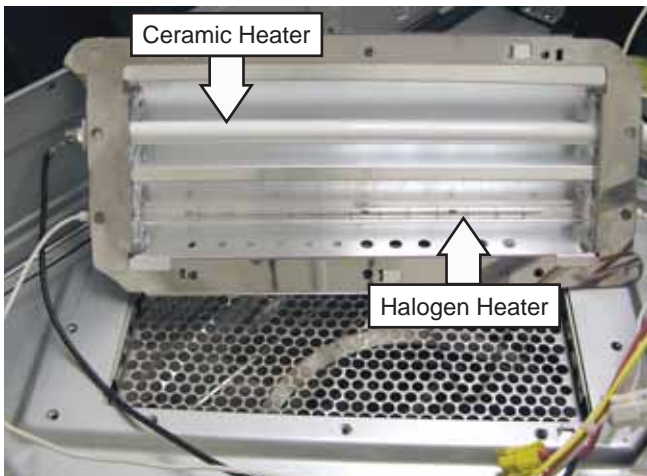


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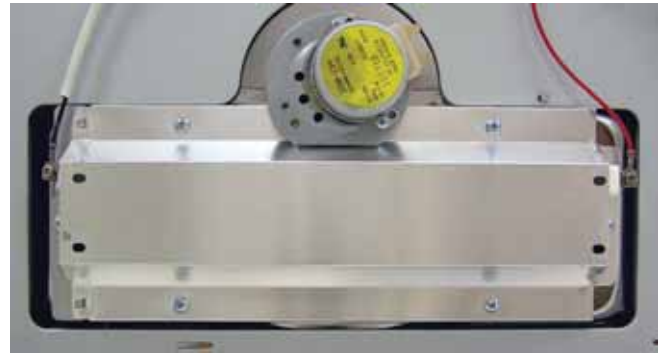
13. Carefully lift the heater from the oven.



Bottom View of Upper Heater Assembly



Lower Heater Ceramic



- Location (See *Bottom View*.)
- 375 Watts
- Approximately 3 Amps
- Approximately 38 Ω
- For operating algorithms, see Lower Heater Ceramic in the *Load Algorithm Chart*.
- Disassembly. (See *Disassembly*.)

Troubleshooting

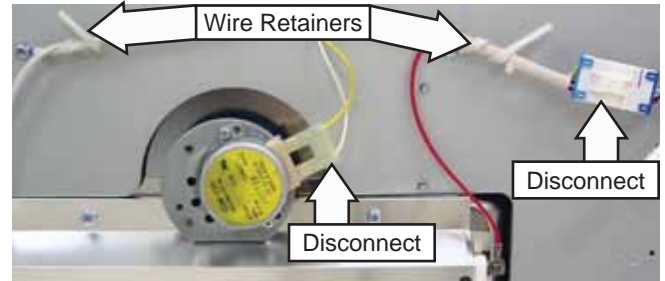
1. Does the display operate properly?
 - If no, see *VFD Board*, troubleshooting step 1.
 - If yes, go to step 2.
2. Is Lower Heater Ceramic staying on all the time or not coming on?
 - If heater is staying on, go to step 8.
 - If heater is not coming on, go to step 3.
3. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
4. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
5. Set oven for Speedcook, Lower Lamp power level at 10. (See *Operating Modes* for set up instructions.)

6. Start Speedcook cycle. While unit is running, check resistance between the 2 terminals on Relay Board RY11. **Note:** This step requires checking resistance of relay contacts while the unit is running. The lower heater ceramic relay wires must **not be** connected to the relay when making this check.
 - If resistance is infinite, the lower heater ceramic relay is not closing. (See *Relay Board*, troubleshooting step 2.)
 - If resistance is approximately 0 Ω , go to step 7.
7. Check resistance between the single wire (black wire) that connects to Relay Board RY11 and the output of the Primary Interlock Switch (brown and red wires).
 - If resistance is approximately 38 Ω , see *Primary Interlock Switch*, troubleshooting step 4.
 - If resistance is infinite, problem is with:
 - ◇ Lower Heater Ceramic
 - ◇ Wiring between the Primary Interlock Switch and the Lower Heater Ceramic
 - ◇ Wiring between Lower Heater Ceramic and the connector that connects to RY11
8. Disconnect Relay Board RY11 connector. Does heater stay on?
 - If no, Relay Board RY11 is stuck on. (See *Relay Board*, troubleshooting section.)
 - If yes, the neutral wire to heater is shorted to ground.

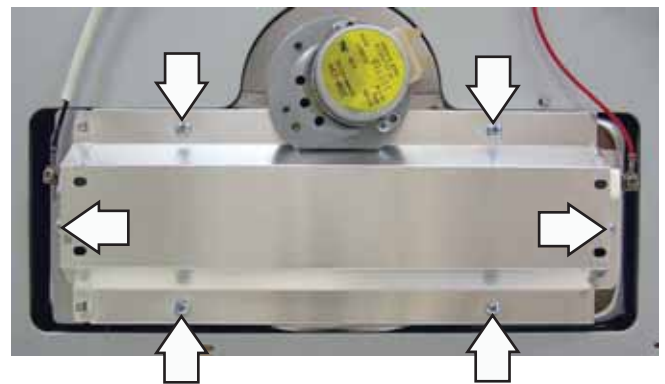
Disassembly

To remove the Lower Heater Ceramic:

1. Remove the Bottom Cover. (See *Bottom Cover*.)
2. Disconnect the turntable and heater wire harnesses, then remove wiring from the 2 wire retainers.



3. Remove the 6 Phillips-head screws that attach the heater assembly to the oven.



Convection Heater

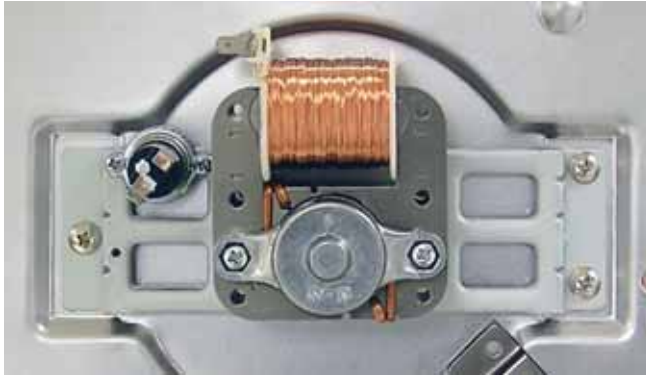


- Location (See *Right Side View*.)
- 1550 Watts
- Approximately 13 Amps
- Approximately 9 Ω
- For operating algorithms, see Convection Heater in the *Load Algorithm Chart*.
- Disassembly. (See *Disassembly*.)

Troubleshooting

1. Does the display operate properly?
 - If no, see *VFD Board*, troubleshooting step 1.
 - If yes, go to step 2.
2. Is Convection Heater staying on all the time or not coming on?
 - If heater is staying on, go to step 8.
 - If heater is not coming on, go to step 3.
3. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
4. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
5. Set oven for Convection Bake, 350°F. (See *Operating Modes* for set up instructions.)
6. Start Convection Bake cycle. While unit is running, check resistance between the 2 terminals on Relay Board RY12. **Note:** This step requires checking resistance of relay contacts while the unit is running. The convection heater relay wires must **not be** connected to the relay when making this check.
 - If resistance is infinite, the convection bake relay is not closing. (See *Relay Board*, troubleshooting step 2.)
 - If resistance is approximately 0 Ω , go to step 7.
7. Check resistance between the single wire (blue wire) that connects to Relay Board RY12 and the output of the Primary Interlock Switch (brown and red wires).
 - If resistance is approximately 9 Ω , see *Primary Interlock Switch*, troubleshooting step 4.
 - If resistance is infinite, problem is with:
 - ◇ Convection Heater, or
 - ◇ Convection Heater TCO, or
 - ◇ Wiring between the Convection Heater and Convection Heater TCO, or
 - ◇ Wiring between the Primary Interlock Switch and the Convection Heater TCO, or
 - ◇ Wiring between Convection Heater and the connector that connects to RY12.
8. Disconnect Relay Board RY12 connector. Does heater stay on?
 - If no, the Relay Board RY12 is stuck on. (See *Relay Board*, troubleshooting section.)
 - If yes, the neutral wire to heater is shorted to ground.

Convection Fan Motor



- Location (See *Right Side View*.)
- 120 VAC
- Approximately 2.6 kW
- Approximately 27 Ω
- Disassembly. (See *Disassembly*.)

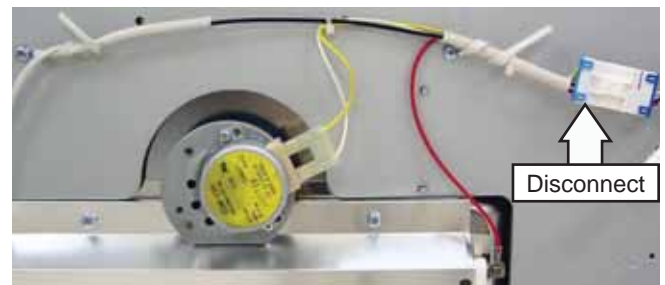
Troubleshooting

1. Disconnect power to the oven.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
4. Check voltage between either side of the Bottom TCO and Relay Board connector CN06 pin 7.
 - If 120 VAC is present, problem is with Turntable Motor, Primary Interlock Switch, or wiring to motor. (See *Wiring Diagram*.)
 - If 120 VAC is not present, the turntable motor relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)

Disassembly

To remove the Convection Heater Assembly:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Remove the Door. (See *Door Assembly*.)
3. Remove the Control Panel Assembly. (See *Control Panel Removal*.)
4. Remove the latch board. (See *Door Interlock Switches*.)
5. Remove the Magnetron. (See *Magnetron*.)
6. Remove the Bottom Cover. (See *Bottom Cover*.)
7. Disconnect the Turntable Motor and heater wire harness.



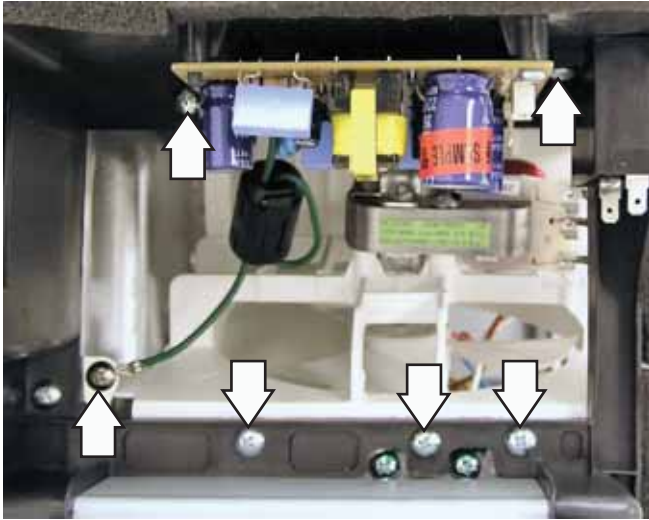
8. Place the oven on its left side.
9. Disconnect wiring connected to the Bottom TCO, Hood TCO, High Voltage Transformer primary, Convection TCO, and Convection Heater.
10. Remove the Convection Heater wires from 2 retainers located in front of the transformer.
11. Remove the Phillips-head screw that attaches the bottom of the baseplate to the back of the oven.



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12. Remove the Phillips-head screw that attaches the Power Supply Board ground wire to the chassis.

13. Remove the 5 Phillips-head screws from the top of the fan cover.

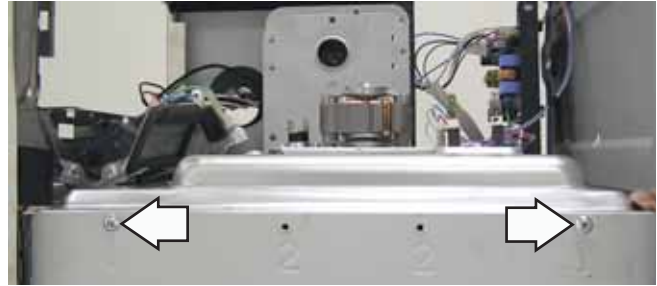


14. Push the top of the cooling fan cover toward the rear of the oven, then carefully lift the baseplate from the oven.

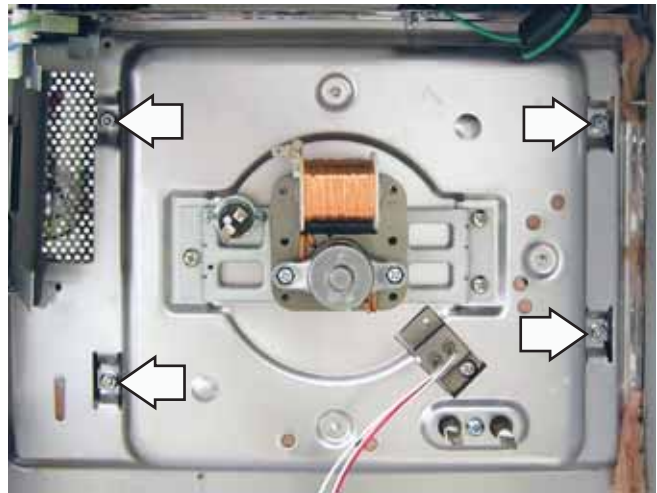


15. Remove the 3 Phillips-head screws that attach the Damper Assembly to the Convection Heater Assembly. (See *Damper Assembly*.)

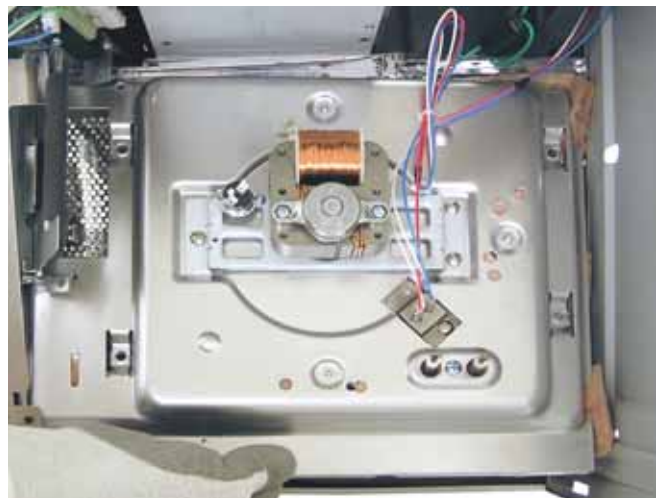
16. Remove the 2 bottom Phillips-head screws that attach the bottom of the Convection Heater Assembly to the oven.



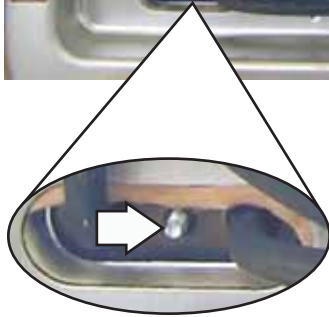
17. Remove the four 7-mm hex nuts that attach the Convection Heater Assembly to the oven.



18. Position the damper toward the front of the oven, then lift the bottom of the Convection Heater Assembly out from the oven.



Convection Heater

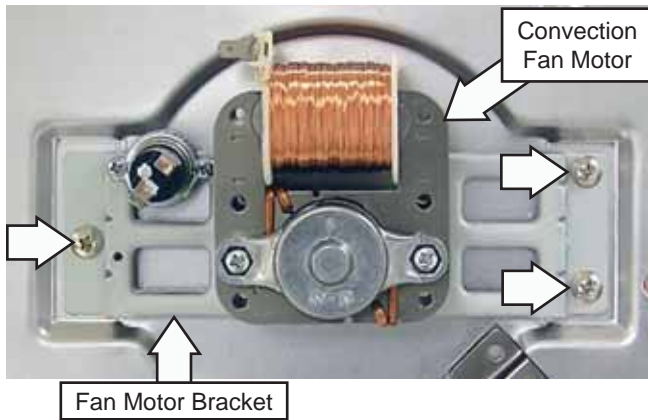


End View of Element

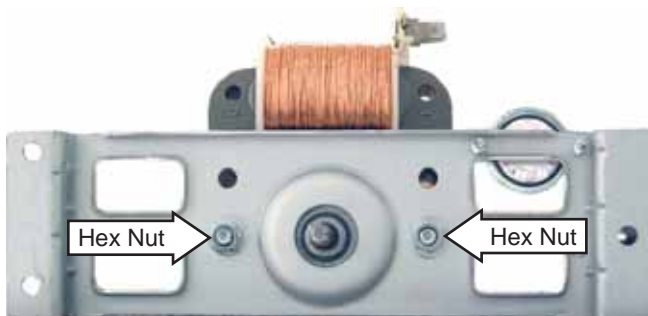
The convection heater element is held in place by 3 Phillips-head screws. (Two screws on the front, and 1 screw on the end.)

The convection fan motor is attached to the motor bracket with two 7-mm hex nuts. To access the hex nuts, it is necessary to remove the 3 Phillips-head screws and the fan motor bracket that is attached to the Convection Heater Assembly.

Rear View of Convection Fan Motor



Front View of Convection Fan Motor



Oven Lamp (Cavity)

- Location (See *Top View*.)
- Part of the *Oven Lamp (Cavity) Assembly*.
- 120 VAC
- 20 Watts
- Halogen
- For operating algorithms, see *Load Algorithm Chart*.

Troubleshooting

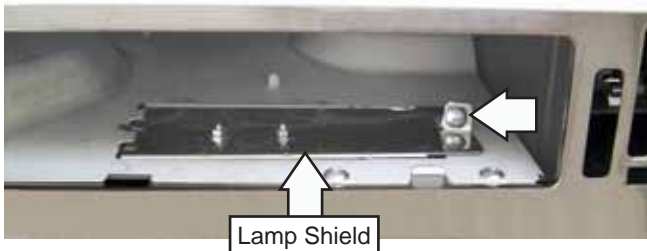
If it has been verified that the issue is not with the bulb, and that 120 VAC is not present at the socket, perform the following steps:

1. Disconnect power to the oven.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
4. Check voltage between either side of the Bottom TCO and Relay Board CN5 pin 5.
 - If 120 VAC is present, problem is with wiring to socket.
 - If 120 VAC is not present, the oven lamp (cavity) relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)

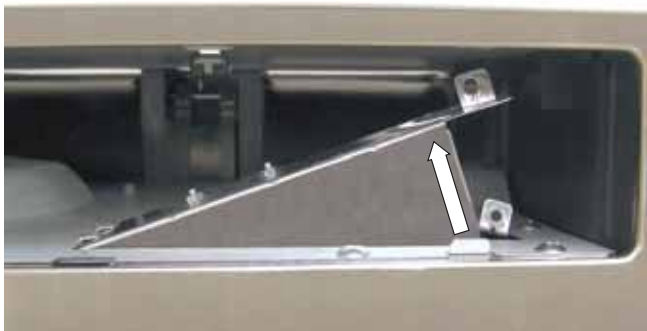
Oven Lamp (Cavity) Assembly

To remove the Oven Lamp (Cavity) Assembly:

1. Remove the Grill. (See *Grill*.)
2. If present, remove the optional charcoal filter. Slide the filter toward the left and pull it toward the front.
3. Remove the Phillips-head screw from the right side of the lamp shield.

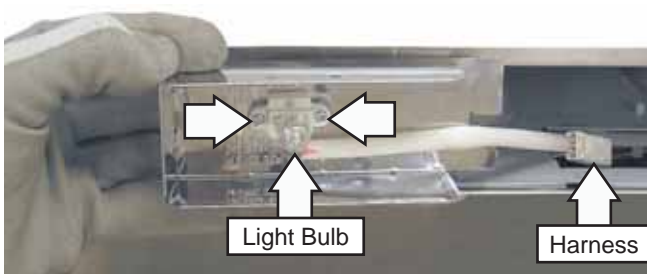


4. Lift the right side of the shield and remove it from the opening.



Note:

- If necessary, pull the light bulb out and replace with a 120V-130V, 20W halogen bulb (part # WB25X10019).
- The light bulb receptacle is attached to the shield with 2 Phillips-head screws and two 7/32-in. hex-head nuts.
- A wire harness connects the receptacle to the shield.



Cooktop Lamp

- Location - Bottom of microwave
- Part of the *Cooktop Lamp Assembly*
- 120 VAC
- 50 Watts
- Halogen
- Bright/Night/Off

Troubleshooting

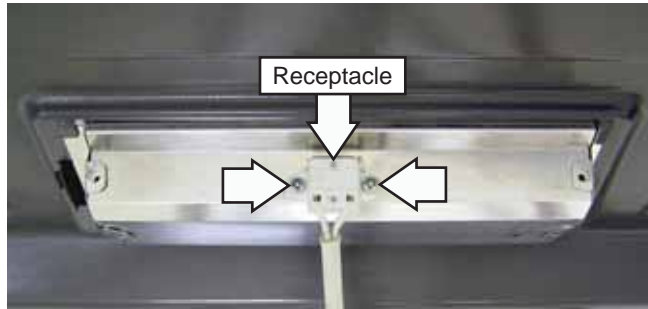
If it has been verified the issue is not with the bulb, and that 120 VAC is not present at the socket, perform the following steps:

1. Disconnect power to the oven.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
4. If Bright is not working, set the Cooktop Lamp to Bright.
5. Check voltage between either side of the Bottom TCO and Relay Board CN6 pin 1.
 - If 120 VAC is present, problem is with wiring to socket.
 - If 120 VAC is not present, the cooktop lamp bright relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)
6. If Night is not working, set the Cooktop Lamp to Night.
7. Check voltage between either side of the Bottom TCO and Relay Board CN6 pin 1.
 - If approximately 60 VAC is present, problem is with wiring to socket. (See *Wiring Diagram*.)
 - If approximately 60 VAC is not present, the cooktop lamp night relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)

Cooktop Lamp Assembly

To remove the Cooktop Lamp Assembly:

1. Remove the Bottom Cover. (See *Bottom Cover*.)
2. Remove the Phillip-head screw and the light cover from the Bottom Cover.
3. Gently pull the light bulb from the receptacle.
4. Remove the 2 Phillips-head screws and 7/32-in. hex nuts from the lamp receptacle.



Ventilation Motor



- Location (See *Top View*.)
- 120 VAC
- High/Medium/Low/Off
- Approximately 100 Ω from capacitor yellow wires.
- For operating algorithms, see *Load Algorithm Chart*.
- Can be positioned to re-circulate or vent outside.
- Disassembly. (See *Disassembly*.)

Troubleshooting

1. Disconnect power to the oven.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
4. If high speed fan is not working, go to step 8.
5. If medium speed fan is not working, go to step 9.
6. If low speed fan is not working, go to step 10.
7. If the motor hums in all speeds, go to step 11.
8. Set ventilation fan to high, check voltage between either side of the Bottom TCO and Relay Board CN16 pin 1.
 - If 120 VAC is present, problem is with Ventilation Motor, or wiring to motor.
 - If 120 VAC is not present, the ventilation fan high relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)
9. Set ventilation fan to medium, check voltage between either side of the Bottom TCO and Relay Board CN16 pin 3.
 - If 120 VAC is present, problem is with Ventilation Motor or wiring to motor. (See *Wiring Diagram*.)
 - If 120 VAC is not present, the ventilation fan medium relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)
10. Check voltage between either side of the Bottom TCO and Relay Board CN16 pin 5.
 - If 120 VAC is present, problem is with Ventilation Motor or wiring to motor. (See *Wiring Diagram*.)
 - If 120 VAC is not present, the ventilation fan low relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)
11. Rotate the fan blade by hand, if it does not rotate freely, check for obstructions in the blade. If clear, replace Ventilation Motor.

12. If motor starts up by rotating the blades, disconnect power, pull the two yellow wires off the Motor Capacitor, and check resistance between the 2 yellow wires. (See *Ventilation Motor Capacitor*.)

- If resistance is infinite, problem is with Ventilation Motor or wiring to motor.
- If resistance is approximately 100 Ω , replace the Motor Capacitor.

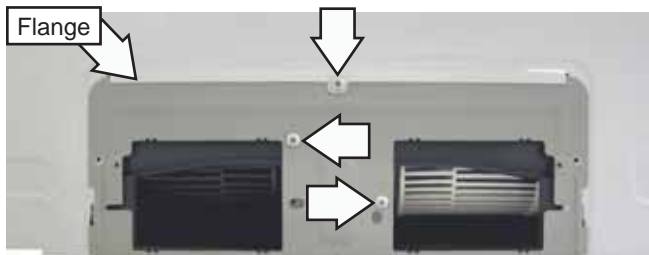
Disassembly

To remove the Ventilation Motor:

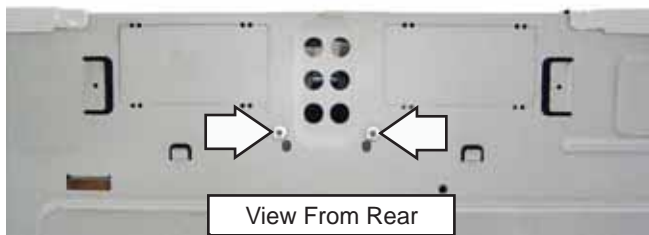
1. Remove the oven. (See *Oven Removal*.)

Note: In the following step, the exhaust adapter with damper is not used on recirculating installations.

2. Remove the 2 Phillips-head screws and the exhaust adapter with damper from the oven.
3. Remove the 3 Phillips-head screws from the blower plate.
4. Slide the blower plate from under its retaining flange.



5. Remove the 2 Phillips-head screws that attach the Ventilation Motor to the back of the oven.

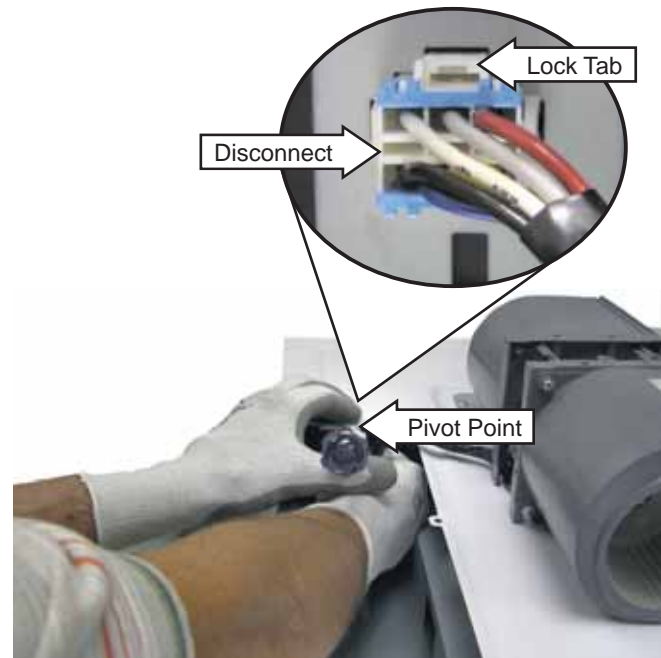


6. Lift up the Ventilation Motor and place it on top of the oven as shown below



Note: The Ventilation Motor electrical disconnect is located inside the Outer Cover.

7. Locate the lock tab on top of the disconnect and position a flat blade screwdriver as shown below.
8. Using the blower opening in the Outer Cover as a pivot point, carefully press down on the lock tab while disconnecting the electrical connector.



Ventilation Motor Capacitor

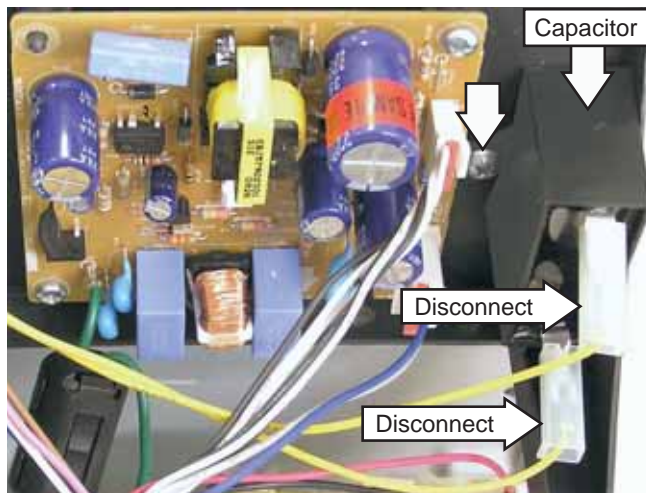


- Location - The Ventilation Motor Capacitor is located on the right side of the Air Tunnel Inlet, to the right of the Power Supply Board. (See *Top View*.)
- 120 VAC
- If Ventilation Motor is humming and not moving, (but can still be hand started), check capacitor, capacitor wiring to motor, and motor windings.

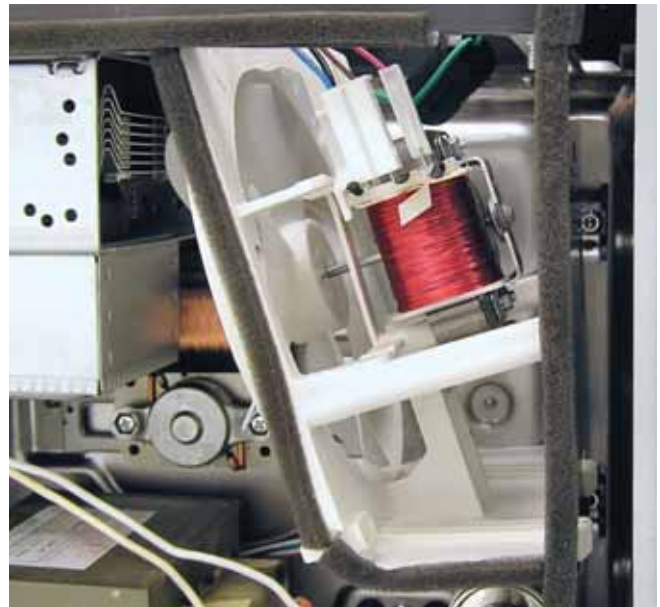
Disassembly

To remove the Vent Motor Capacitor:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Disconnect wiring to the Ventilation Motor Capacitor.
3. Remove the Phillips-head screw that attaches the Ventilation Motor Capacitor to the Air Tunnel Inlet.



Magnetron Fan Motor



- Location (See *Right Side View*.)
- 120 VAC
- Single speed
- Part of the Magnetron Fan Assembly.
- The fan motor has an approximate resistance value of:

Red to Blue/Black = 46.6 Ω

Red to Brown = 36 Ω

Brown to Blue/Black = 10.8 Ω

- For operating algorithms, see *Load Algorithm Chart*.
- Disassembly. (See *Disassembly*.)

Troubleshooting

1. Disconnect power to the oven.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.

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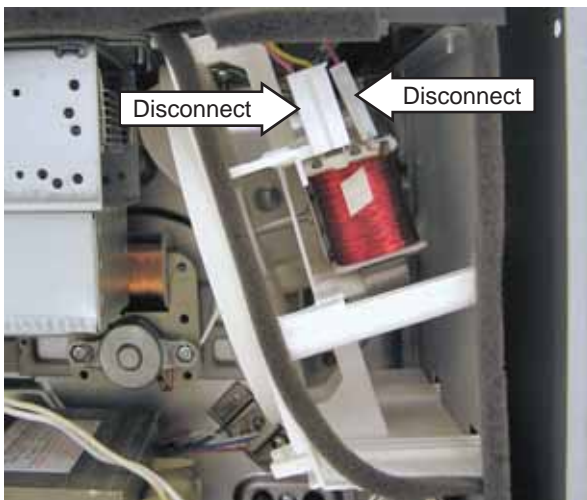
4. Check voltage between either side of the Bottom TCO and Relay Board CN6 pin 9.
 - If 120 VAC is present, problem is with Magnetron Fan Motor or wiring to motor. (See *Wiring Diagram*.)
 - If 120 VAC is not present, the magnetron fan motor relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)

Disassembly. (See *Magnetron Fan Assembly*.)

Magnetron Fan Assembly

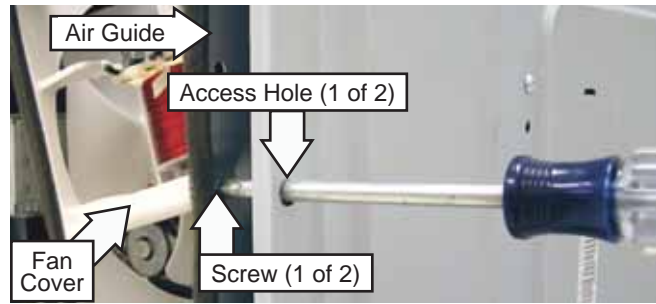
To remove the Magnetron Fan Assembly:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Note the location of the fan motor wire harness and wire, then disconnect the fan motor wiring.

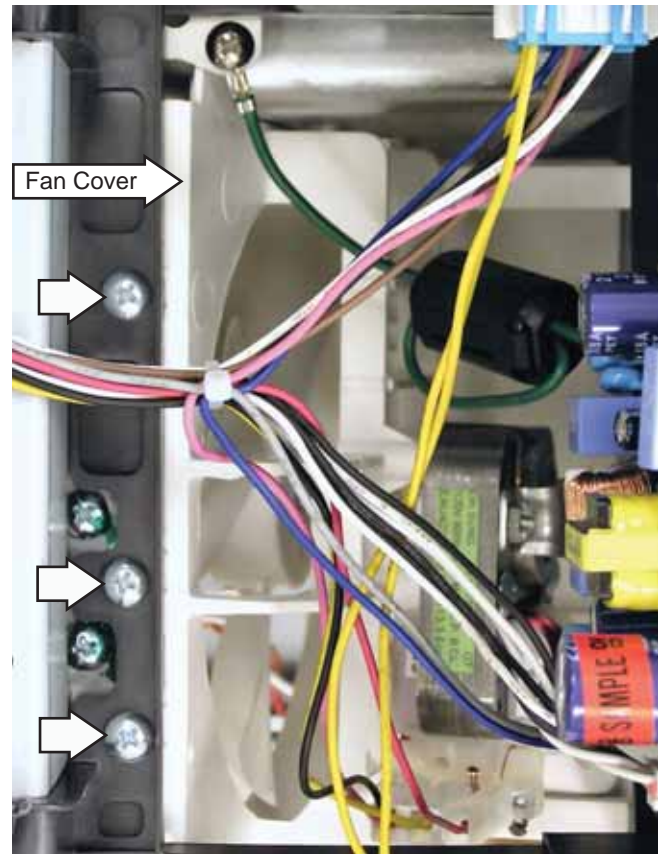


Note:

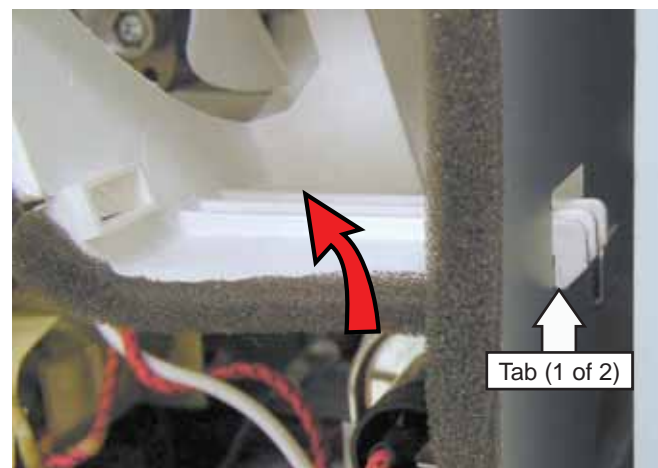
- In the following step, 2 screw access holes have been provided in the back of the oven to remove 2 fan cover screws.
 - Use a magnetic Phillips-head screwdriver (recommended).
3. Remove and capture the 2 Phillips-head screws that attach the bottom of the fan cover to the air guide.



4. Remove the 3 Phillips-head screws that attach the top of the fan cover to the oven chassis.



5. Release the fan cover bottom 2 tabs from the air guide by pushing up the bottom of the fan cover while pulling it toward the front of the oven.



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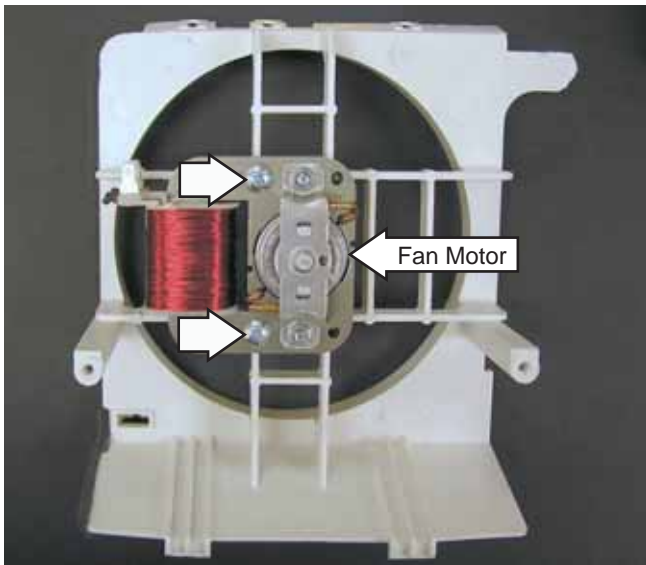
6. Push the top of the fan cover toward the rear of the oven and carefully remove it from the oven.

Note: In the following step, the fan blade is firmly attached to the D-shaped motor shaft. It may be helpful to use 2 flat blade screwdrivers, as shown, to remove the blade from the motor shaft.

7. Carefully pry up the fan blade from the motor shaft.



8. Remove the 2 Phillips-head screws that attach the fan motor to the fan cover.



Caution: To prevent damage to the fan blade, before installing the fan blade, align the D-shaped opening of the fan blade to engage the D-shaped motor shaft.

Stirrer Motor



- Location - Top of the oven cavity.
- 21 VAC
- Approximately 120 Ω
- Part of the *Stirrer Assembly*.
- The stirrer motor circuit is a series circuit with the Magnetron Fan Motor. 120 VAC is supplied to the Magnetron Fan Motor. The Magnetron Fan Motor drops 99 VAC, leaving 21 VAC to operate the Stirrer Motor.

Troubleshooting

Check to see if Magnetron Fan Motor is running. If yes, the problem is with the Stirrer Motor or wiring to motor.

If Magnetron Fan Motor is not running, the magnetron fan motor relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)

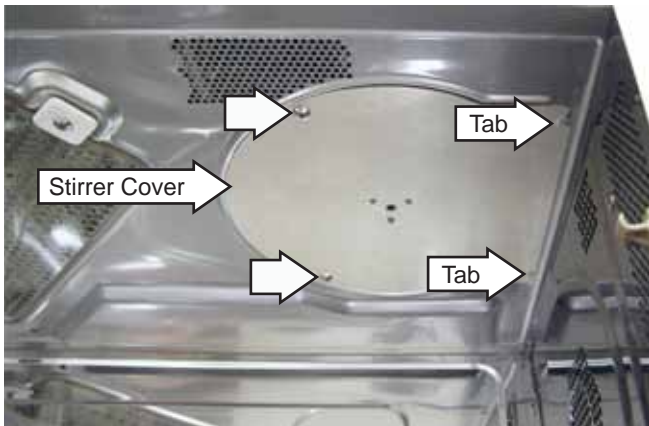
Stirrer Assembly

The Stirrer Assembly consists of a motor, blade, and cover. The blade is motor-driven and rotates on a pin embedded in the stirrer cover. The Stirrer Assembly is located at the top of the oven cavity.

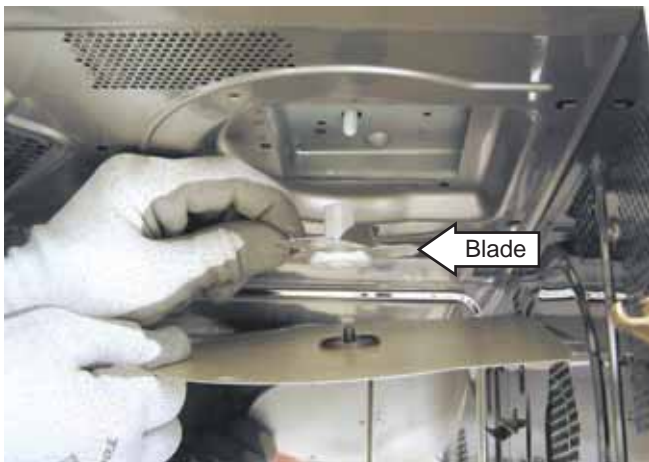
To remove the stirrer blade:

Note: It is not necessary to remove the stirrer motor when removing the stirrer blade.

1. Disconnect power from the microwave oven and open the door.
2. Remove the 2 Phillips-head screws that attach the cover to the oven cavity.
3. Lower the left side of the cover approximately 1 inch, then slide it to the left and remove the cover from 2 tabs located on the right.



4. Lift the stirrer blade off the pin embedded in the cover.

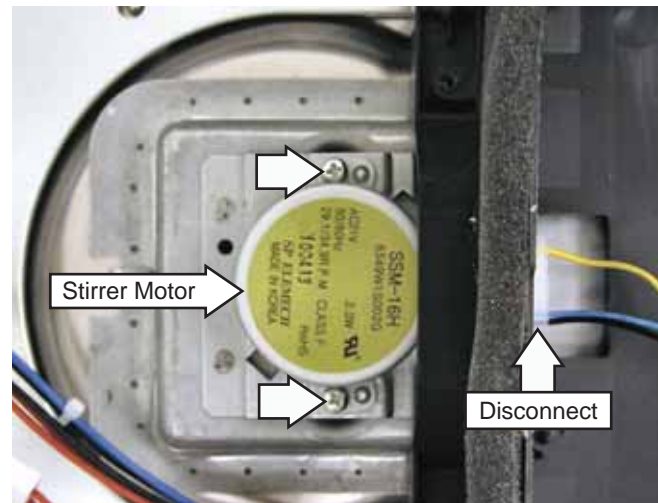


The stirrer motor has an approximate resistance value of 120 Ω .

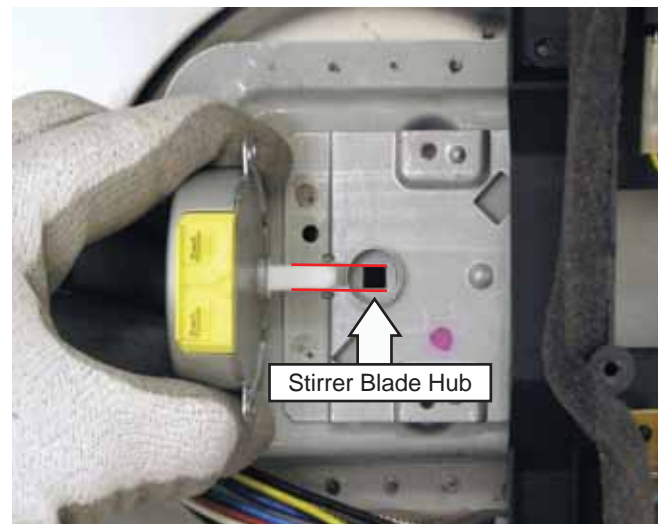
To remove the stirrer motor:

Note: It is not necessary to remove the stirrer blade when removing the stirrer motor.

1. Remove the Air Tunnel Cover. (See *Air Tunnel Cover*.)
2. Disconnect the stirrer motor wire harness.
3. Remove the 2 Phillips-head screws that attach the stirrer motor to the top of the oven.
4. Lift the left-side of the stirrer motor, then remove it from the oven.



Caution: When installing the stirrer motor, misalignment of the stirrer blade hub can damage the stirrer cover. Before installing the stirrer motor, use a screwdriver inserted into the stirrer blade hub to pre-align the square drive of the stirrer blade to allow engagement of the motor shaft.



Turntable Motor



- Location (See *Bottom View*.)
- 120 VAC
- Approximately 2.6 K Ω .

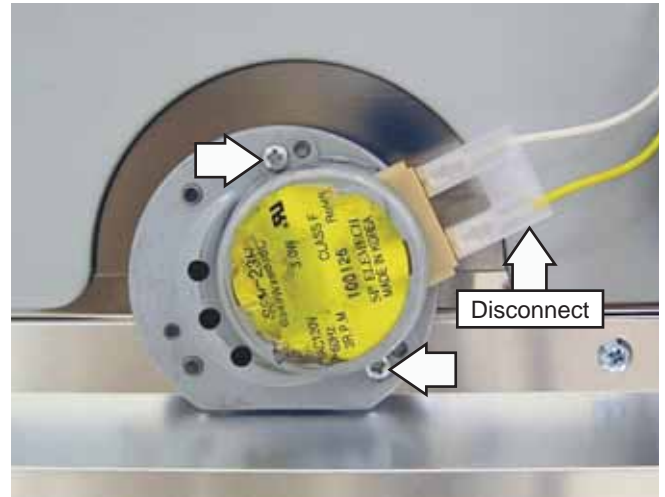
Troubleshooting

1. Disconnect power to the oven.
2. Pivot the Control Panel Assembly out from the oven. (See *Control Panel Removal*.)
3. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
4. Check voltage between either side of the Bottom TCO and Relay Board connector CN6 pin 3.
 - If 120 VAC is present, problem is with Turntable Motor, Primary Interlock Switch, or wiring to motor.
 - If 120 VAC is not present, the Turntable motor relay on the Relay Board is not closing. (See *Relay Board*, troubleshooting section.)

Disassembly

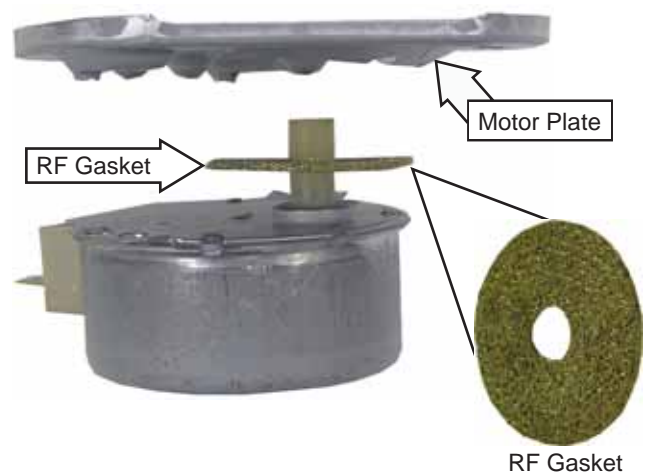
To remove the Turntable Motor:

1. Remove the turntable, turntable support, and the Bottom Cover.
2. Remove the 2 Phillips-head screws.

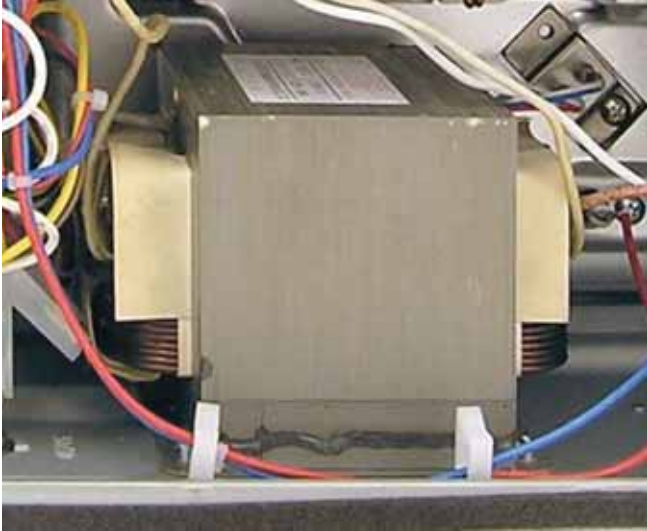


Note

- When replacing the Turntable Motor, be sure the RF gasket is positioned over the motor shaft and between the motor and motor plate, as shown below.
- When replacing the turntable support, ensure it is fully seated into the "D" shaped shaft of the Turntable Motor and is flush with the oven floor.



High Voltage Transformer



- Location (See *Right Side View*.)
- The transformer steps up 120 VAC line voltage to high voltage, which is then changed to an even higher DC voltage by the Capacitor and Diode.
- **WARNING:** Always be certain the capacitor is discharged before servicing. (See *Capacitor and Diode*.) Use electrician's discharge pliers and electrician's gloves under Kevlar gloves (or equivalent protective gloves) when discharging the capacitor.
- **Note:** The capacitor has an internal discharge resistor that automatically discharges the capacitor when the oven turns off. Under normal operation, the capacitor should fully discharge within 30 seconds.
- For operating algorithms, see *Load Algorithm Chart*, High Voltage.
- Disassembly. (See *Disassembly*.)

Troubleshooting

To troubleshoot High Voltage Transformer primary voltage, see *Magnetron* troubleshooting section. To test the High Voltage Transformer:

Check the following resistances:

Red to Yellow (primary) - .5 Ω

Red/Black to chassis ground (secondary) - 80 Ω

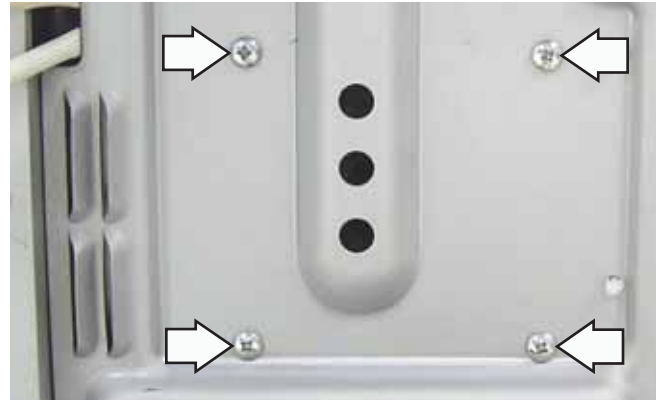
Magnetron harness (filament high voltage) - .2 Ω

If resistance values are correct, High Voltage Transformer is OK.

Disassembly

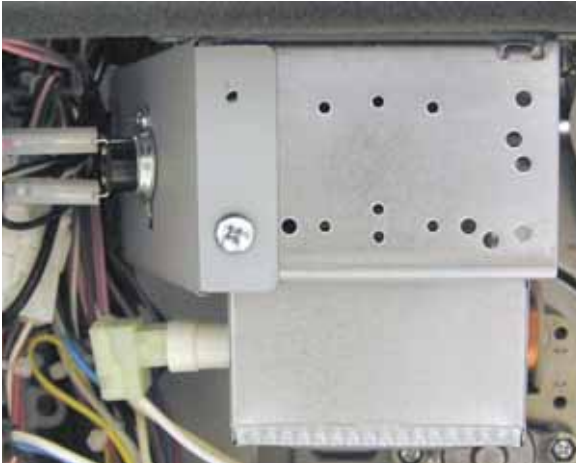
To remove the High Voltage Transformer:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Remove the Bottom Cover. (See *Bottom Cover*.)
3. Remove the 4 Phillips-head screws that attach the transformer to the baseplate.



Before disconnecting the primary and secondary wire connections, note the wire locations. The wire connectors are firmly attached and DO NOT use releasing locking tabs.

Magnetron



- Location (See *Right Side View*.)
- Filament resistance less than 1 Ω .
- The Magnetron converts the high voltage supplied by the transformer, capacitor, and diode into radio frequency waves of electromagnetic cooking energy.
- **WARNING:** Always be certain the capacitor is discharged before servicing. (See *Capacitor and Diode*.) Use electrician's discharge pliers and electrician's gloves under Kevlar gloves (or equivalent protective gloves) when discharging the capacitor.
- **Note:** The capacitor has an internal discharge resistor that automatically discharges the capacitor when the oven turns off. Under normal operation, the capacitor should fully discharge within 30 seconds.
- For operating algorithms, see High Voltage in the *Load Algorithm Chart*.
- Disassembly. (See *Disassembly*.)

Troubleshooting

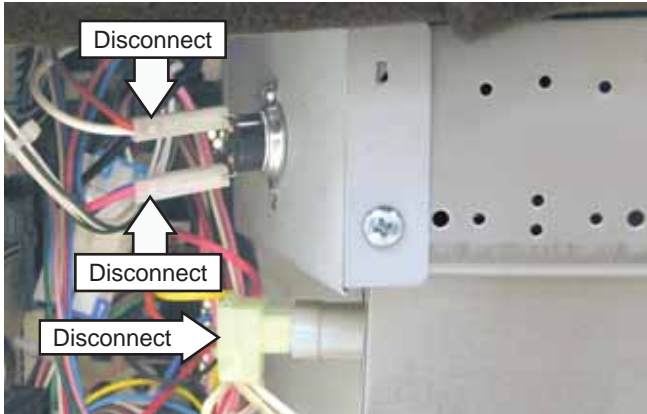
1. Does the display operate properly?
 - If no, see *VFD Board*, troubleshooting step 1.
 - If yes, go to step 2.
2. Is Magnetron staying on all the time or not coming on?
 - If Magnetron is staying on, go to step 8.
 - If Magnetron is not coming on, go to step 3.

3. Pivot the Control Panel Assembly out from the oven. (See *Control Panel*.)
4. To gain better access to components, remove the wires that plug into the large relays on the Relay Board. (See *Relay Board*.) Cut the wire tie that the Smart Board CN103 wire harness (See *Smart Board*.) is routed through.
5. Set oven to Microwave for 2 minutes. (See *Operating Modes* for set up instructions.)
6. Start Microwave cycle. While unit is running, check resistance between the 2 terminals on Relay Board RY14. **Note:** This step requires checking resistance of relay contacts while the unit is running. The high voltage relay wires (RY14) must **not** be connected to the relay when making this check.
 - If resistance is infinite, the high voltage relay is not closing. (See *Relay Board*, troubleshooting section.)
 - If resistance is approximately 0 Ω , go to step 7.
7. Check voltage between the primary leads of the High Voltage Transformer.
 - If 120 VAC is present, problem is with one or more of the high-voltage components. Check resistance of the magnetron filament. If OK, see *High Voltage Transformer*, troubleshooting section, see *Capacitor and Diode*, troubleshooting section.
 - If 120 VAC is not present, see *Primary Interlock Switch*, troubleshooting step 4.
8. Disconnect Relay Board RY14. Is the Magnetron staying on?
 - If the Magnetron turns off, the magnetron relay is stuck closed. (See *Relay Board*, troubleshooting section.)
 - If Magnetron stays on, the single wire in the connector that connects to RY14 is shorted to ground.

Disassembly

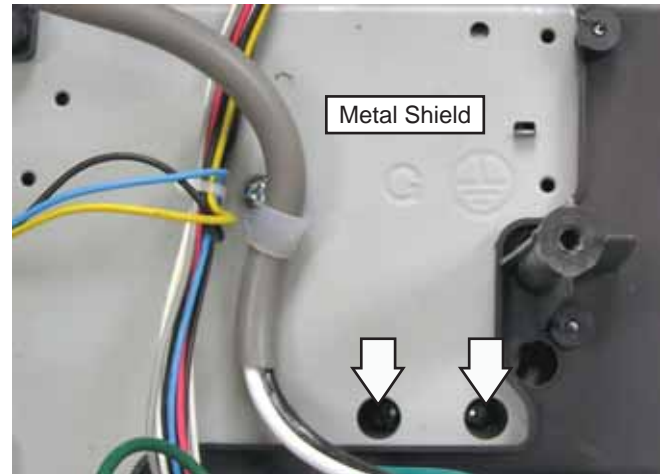
To remove the Magnetron:

1. Remove the Outer Cover. (See *Outer Cover*.)
2. Disconnect the Magnetron TCO wires.
3. Disconnect the magnetron filament wire harness.



Note: The 2 front screws are recessed from the top of the metal shield. Access holes are provided. A magnetic screwdriver is necessary to capture these screws.

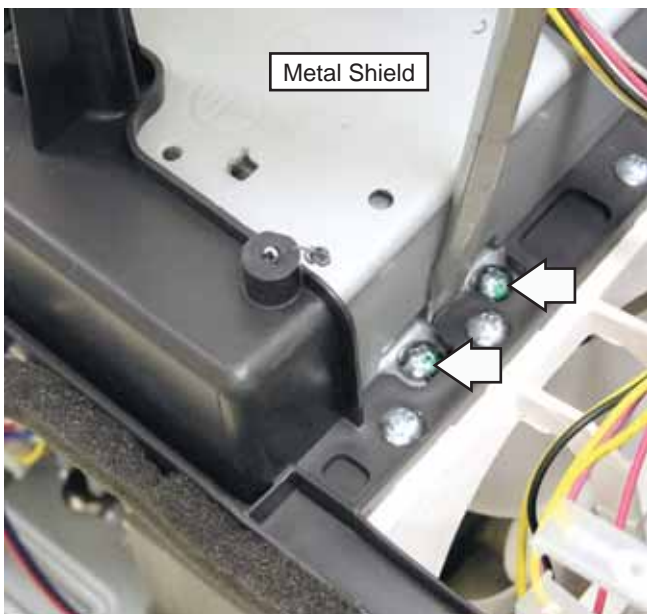
5. Grasp the Magnetron, then remove and capture the 2 front screws.



Note: In the following step, an overlapping metal shield may limit access to the 2 rear screws that attach the Magnetron to the oven. It may be necessary to pry back the shield while removing the 2 screws.

4. Using a large flat blade screwdriver, pry back the metal shield and remove the 2 rear Phillips-head screws.

6. Carefully remove the Magnetron from the oven.



Capacitor and Diode



- Location (See *Right Side View*.)
- The diode works along with the capacitor to effectively double the already-high voltage that is provided by the power transformer. This voltage, approximately 3000 - 5000 VDC, is applied to the Magnetron tube, causing it to produce the microwave energy that cooks the food.
- Disassembly. (See *Disassembly*.)

Troubleshooting

Diode - Check resistance of the diode using a meter operated by a 9-volt battery. Put the red lead on the positive side of the diode and the black lead on the negative side of the diode. Meter should read low resistance. Reverse the leads and meter should read infinity.

Capacitor - Discharge capacitor, then check resistance of both terminals and each terminal to the capacitor case. All readings should be infinite or very high.

Disassembly

To remove the capacitor or diode:

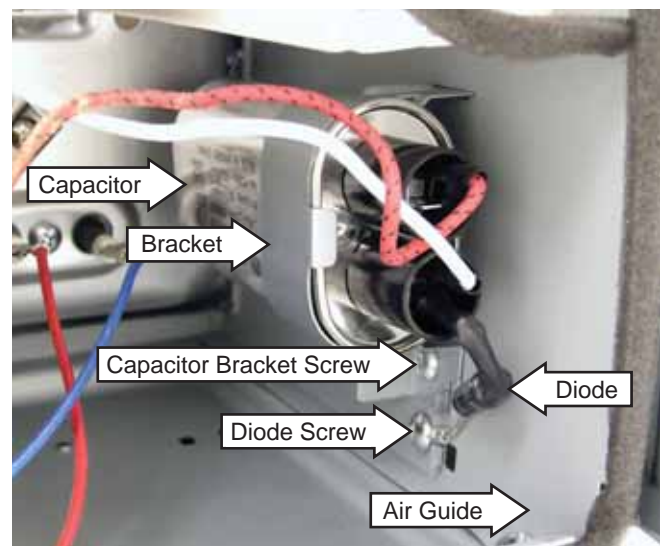
The capacitor is held in place with a bracket attached to the air guide with a tab and a Phillips-head screw. The diode is connected to the capacitor and attached to the air guide with a Phillips-head screw.

Before disconnecting the wires and diode from the capacitor, note the locations. The wire and diode connectors are firmly attached and DO NOT use releasing locking tabs.

WARNING: Always be certain the capacitor is discharged before servicing. Use electrician's discharge pliers and electrician's gloves under Kevlar gloves (or equivalent protective gloves) when discharging the capacitor. Place the pliers between the diode connection of the capacitor and the oven chassis ground.



Note: The capacitor has an internal discharge resistor that automatically discharges the capacitor when the oven turns off. Under normal operation, capacitor should fully discharge within 30 seconds.



Operating Charts

Load Algorithm Chart

	Microwave	Speedcook*	Convection	Broil**	Toast**	Warm	Proof
Upper Heater Halogen	Not Available	Cycles by PL (See PL Chart)	Not Available	On	On	Not Available	Not Available
Upper Heater Ceramic	Not Available	Cycles by PL (See PL Chart)	Not Available	On	On	Not Available	Not Available
Lower Heater	Not Available	Cycles by PL (See PL Chart)	Not Available	On	On	Not Available	Not Available
High Voltage	Cycles by PL (See PL Chart)	Cycles by PL (See PL Chart)	Not Available	Not Available	Not Available	Not Available	Not Available
Convection Heater	Not Available	Not Available	Preheats to and cycles around users set point.	Not Available	Not Available	Cycles from 169°F to 195°F.	Cycles at 95°F.
Convection Fan	Off	Not Available	On	Not Available	Not Available	On	On
Damper	Open	Closed	Closed	Closed	Closed	Closed (Moist) Open (Crispy)	Closed
TT Motor	On	On	On	On	On	On	On
Oven Lamp (Cavity)	On	On	On	On	Off	On	On
Ventilation Motor	Off	Low	Low	Low	Low	Off	Off
Magnetron Fan	On	On	On	On	On	On	On

* In Speedcook when the Upper Heaters or Lower Heater set above power level six, the heaters will cycle at the power level for which they are set for the first 25 minutes. After 25 minutes both heaters change to power level 8, after 50 minutes, both heaters switch to power level 6.

The upper and lower heaters load share with the microwave section. This means the microwave power level and the upper or lower heaters power level (which ever is highest), when added together can not be greater than power level 10. Ex. Upper Heater - 8, Lower Heater 7, maximum setting for Microwave is 2.

** In broil and toast, power levels cut back the same as Speedcook.

(Continued Next Page)

PL (Power Level) Chart

The programming on the smart board which controls the upper halogen lamps (pair) and the lower ceramic heater, as well as the high voltage/magnetron circuits, operates on a duty cycle of 32 seconds. This means the power level you select for each component controls the percentage of ON time during each 32-second period of time. For example, when the oven is set on power level 10, both the inner and outer halogen heaters will stay on 100% of the time. On power levels less than 10, both heaters will cycle together. The chart below shows on time verses off time for each power level setting.

Power Level	0	1	2	3	4	5	6	7	8	9	10
On Time (Seconds.)	0	3.2	6.4	9.6	12.8	16.0	19.2	22.4	25.6	28.8	32.0
Off Time (Seconds.)	32.0	28.8	25.6	22.4	19.2	16.0	12.8	9.6	6.4	3.2	0

Voltage Compensation

Note: Voltage compensation only occurs when using a preselected menu item in Speedcook. These items require compensation for accurate and consistent cooking results.

Voltage fluctuations in the power supply can cause inconsistencies in cooking. The main PCB measures line voltage at the start of each Speedcooking selection and adjusts the cooking time to achieve consistent results. Optimal line voltage, where no voltage compensation occurs, is 120 VAC. Above 120 VAC, time is subtracted from the recipe. Below 120 VAC, time is added to the recipe. The amount of voltage compensation required is dependent upon the incoming voltage at the start of the cooking cycle and the particular Speedcooking selection that is chosen.

The following chart shows the predicted compensation times based on a 5-minute Speedcook selection (e.g., Biscuits, Refrigerated, Large).

Voltage Compensation Chart

Voltage	Time Change (Seconds)
108	+180
110	+150
112	+120
114	+90
116	+60
118	+30
120	0
122	-21
124	-42
126	-63
128	-84
130	-105
132	-126

Note: Voltage compensation should be within 20 seconds of values in table.

Voltage compensation occurs after approximately 5 seconds of cooking operation. The display will show **Optimizing time**. The time will flash and then display the new adjusted time, based on the amount of voltage compensation required.

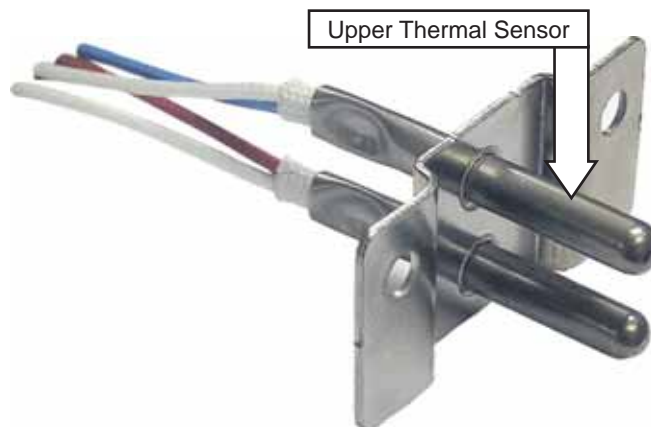
Thermal Compensation

Note: Thermal compensation only occurs once and only when using a preprogrammed menu item in Speedcook. These items require compensation for accurate and consistent cooking results.

When cooking several food items consecutively, the temperature in the oven may become very high. When Speedcooking, the Advantium automatically compensates for the increased temperature by reducing the power levels based on the following rules during each 32-second duty cycle.

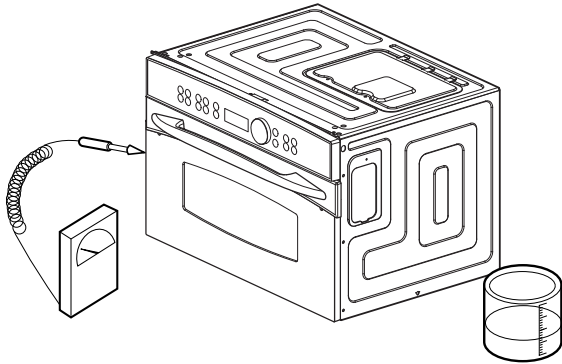
Note

- Thermal Compensation occurs only ONCE and when using a pre-programmed recipe.
- Activates when oven cavity temp is greater than 220°F.
- Compensation rules:
UPL = Upper Power Level,
LPL = Lower Power Level,
CPL = Convection Power Level.
- No compensation if cook time is less than 2 minutes 30 seconds or greater than 13 minutes.
- If cavity temp less than 220°F, no compensation.
- If cavity temp greater than 220°F but less than 288°F, reduce UPL by 1, LPL by 2, and CPL by 2.
- If cavity temp greater than 288°F but less than 340°F, reduce UPL by 1, LPL by 3, and CPL by 2.
- If cavity temp greater than 340°F, reduce UPL by 1, LPL by 3, and CPL by 3.
- Upper thermal sensor (blue and white wires) is used for thermal compensation.



Diagnostics and Service Information

Microwave Leak Test



1. Place 275 ml water in 600 ml beaker. (Part # WB64x5010)
2. Place beaker in center of Clear Glass Tray.
3. Set meter to 2450 MHz scale.
4. Turn ON for 5-minute test.
5. Hold probe perpendicular to surface being tested. Scan surfaces at the rate of one inch per second. Scan entire perimeter of door, control panel, viewing surface of door window, and exhaust vents.
6. Maximum leakage is 4 MW/CM².
7. Record data on service invoice and microwave leakage report.

Note

- Maximum allowable leakage is 4 MW/CM². Four MW/CM² is used to allow for measurement and meter accuracy.
- Inform the manufacturer of any oven found to have emission in excess of 5 MW/CM². Make repairs to bring the unit into compliance at no cost to owner and try to determine cause. Instruct owner not to use oven until it has been brought into compliance.

Standard Test Load

The standard test load is one liter (1000 ml) water with starting temperature of 59°F ~ 75°F in a 1000 ml beaker. (DO NOT USE ANY OTHER LOAD OR DISH AS RESULTS WILL VARY FROM STANDARD.)

PERFORMANCE TEST FOR MICROWAVE

1. Use Clear Glass Tray and the beaker (Part # WB64x0073).
2. Record initial water temperature.
3. Run at high power for 2:03 minutes.
4. Record end water temperature. The minimum difference between the initial and ending temperature should be: 32°F @ 240V.

Sensor and Keypanel Failure Detection

The control will have software to constantly detect sensor open/short failures and abnormal high temperatures. After the failure occurs, 3 to 20 minutes may elapse before the failure will be displayed to the consumer. The table below shows what will be displayed to the consumer after each particular failure is detected.

Display Scrolls	
Upper Thermal Sensor OPEN	SERVICE MAY BE NEEDED
Upper Thermal Sensor SHORTED	
Humidity Sensor OPEN*	
Abnormal High Temp**	
Lower Thermal Sensor OPEN	
Lower Thermal Sensor SHORTED	

* Any defect of the Humidity Sensor will display OPEN.

** Oven temperature higher than the set temperature for more than 30 minutes.

Service Test Mode

Remove any trays (metal or glass) from the oven before starting the diagnostic mode and make sure that the door is closed. Removing the trays will allow you to see the operation of the Turntable Motor and the lower ceramic heater. Closing the door will make sure that all loads (i.e. the halogen lamps and Magnetron) can be energized. Note that all safety components remain active in the service mode.

To start the service/diagnostics mode press the **SPEED COOK** pad and the **KNOB** for 3 seconds. To exit the service/diagnostics mode press the **CLEAR/OFF** key.

Upon entering into Field Service Mode, **SERVICE MODE Push Dial to begin** is displayed.

SERVICE MODE

Push Dial to begin

The control will then proceed to service mode.

1. The control shall turn on upper halogen lamps (center) for 3.5 seconds.
2. The control shall turn on upper halogen lamps (exterior) for 3.5 seconds.
3. The control shall turn on lower ceramic heater for 15 seconds.
4. The control shall turn on turntable and oven light 5.0 seconds.
5. The control shall turn on damper motor for 15 seconds.
6. The control shall turn on circulation fan and convection heater for 15 seconds.
7. The control shall turn on Magnetron and Magnetron Fan for 10 seconds.

8. The control shall turn on the vent fan motor at the HIGH for 5 seconds.
9. The control shall turn on the vent fan motor at the MEDIUM for 5 seconds.
10. The control shall turn on the vent fan motor at the LOW setting for 5 seconds.
11. The control shall turn on the surface light at the HIGH setting for 5 seconds.
12. The control shall turn on the surface light at the LOW (night light) setting for 5 seconds.

After service mode is completed, the control will display **SERVICE MODE COMPLETE**. Press dial to re-run. Press **CLEAR/OFF** to terminate.

If the dial press is detected the Service Mode is restarted from the beginning. If Clear is detected a 2-short beep signal is sounded, the Service Mode is terminated and the Clock/Idle state returns.

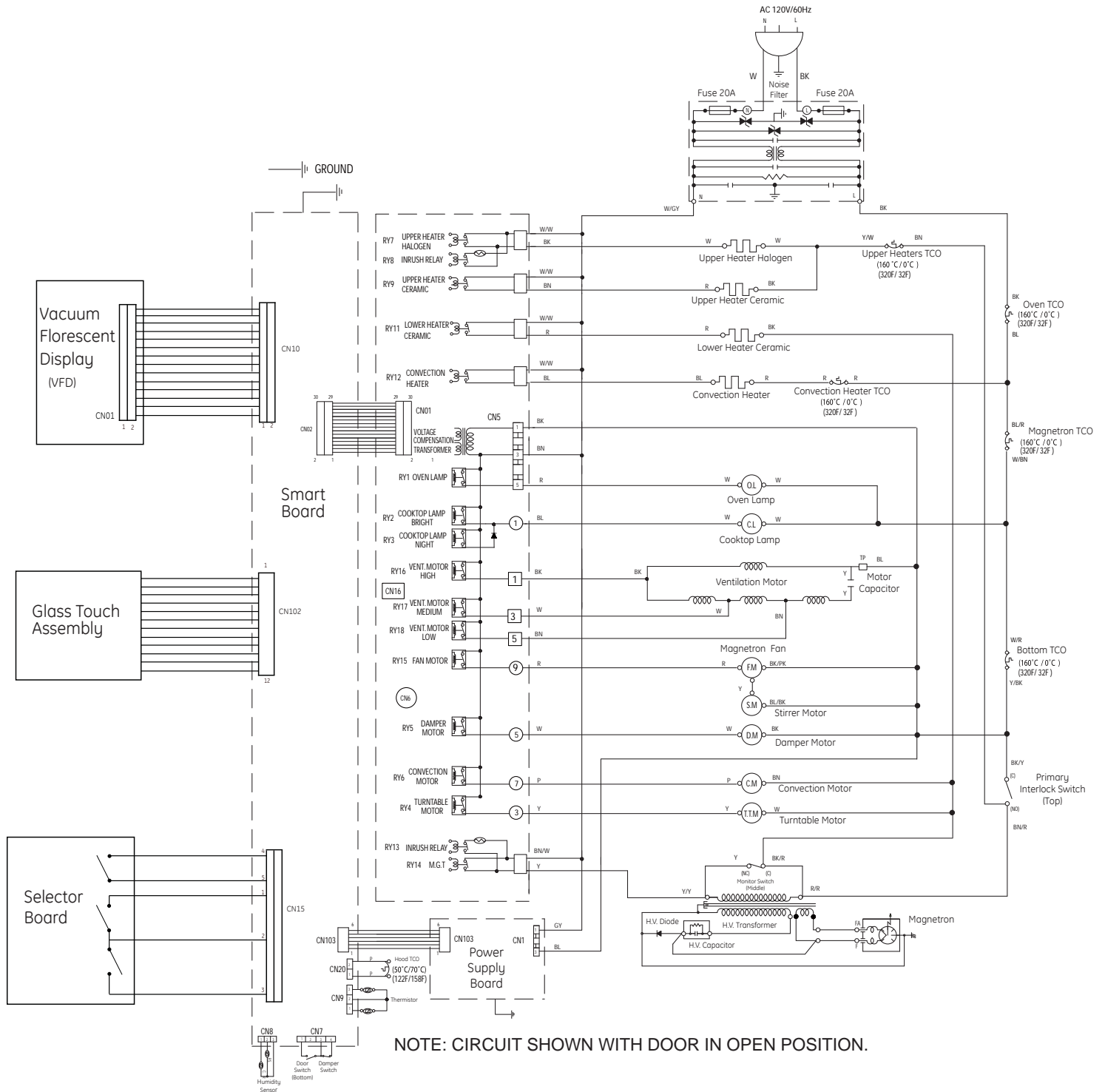
**SERVICE MODE
COMPLETE**

**Press dial to re-run
Press Clear to terminate**

- Once in the diagnostics cycle, control will start sequentially turning on loads/elements and advancing to the next step each time the dial is pressed or the "step" time has elapsed.
- Before advancing to the next step the current loads/components are turned off.
- If **CLEAR/OFF** is pressed at any time during service mode, the control shall exit service mode and return to normal operation.

Schematics and Wiring Diagrams

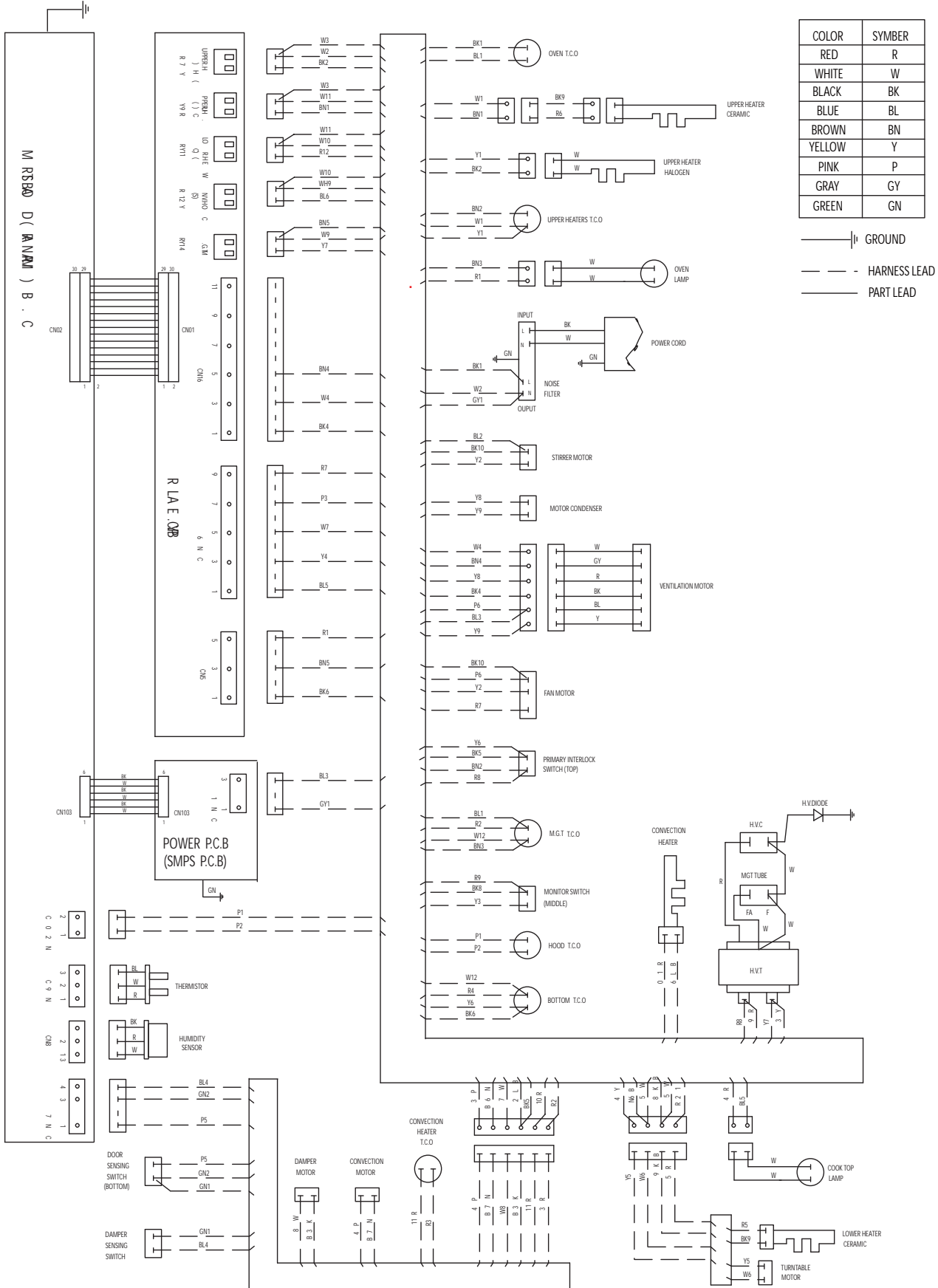
Schematic



Wiring Diagram

WARNING

RISK OF ELECTRIC SHOCK. CAN CAUSE INJURY OR DEATH. POWER MUST BE DISCONNECTED BEFORE SERVICING THIS APPLIANCE AND RECONNECT ALL GROUNDING DEVICES.



Warranty

All warranty service provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service, online, contact us at GEAppliances.com, or call 800.GE.CARES (800.432.2737). Please have serial and model numbers available when calling for service.

Staple your receipt here. Proof of the original purchase date is needed to obtain service under the warranty.

For The Period Of:	GE Will Replace:
One Year <i>From the date of the original purchase</i>	Any part of the oven which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE will also provide, free of charge , all labor and related service costs to replace the defective part.
Five Years <i>From the date of the original purchase</i>	The magnetron tube, if the magnetron tube fails due to a defect in materials or workmanship. During this five-year limited warranty, you will be responsible for any labor or in-home service costs.

What GE Will Not Cover:

- Service trips to your home to teach you how to use the product.
- Improper installation, delivery or maintenance.
- Product not accessible to provide required service.
- Failure of the product or damage to the product if it is abused, misused (for example, cavity arcing from wire rack or metal/foil), or used for other than the intended purpose or used commercially.
- Replacement of house fuses or resetting of circuit breakers.
- Replacement of the cooktop light bulbs.
- Damage to the product caused by accident, fire, floods or acts of God.
- Incidental or consequential damage caused by possible defects with this appliance.
- Damage caused after delivery.

EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. If the product is located in an area where service by a GE Authorized Servicer is not available, you may be responsible for a trip charge or you may be required to bring the product to an Authorized GE Service Location for service. In Alaska, the warranty excludes the service calls to your home.

Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.