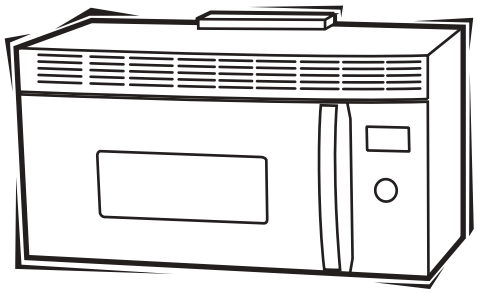
GE Consumer Home Services Training

TECHNICAL SERVICE GUIDE

Advantium 120



MODEL SERIES:
SCA1000
SCA1001

PUB # 31-9076 05/01

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 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.

GE Consumer Home Services Training

Technical Service Guide

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Table of Contents

Introduction 2

Nomenclature 3

Warranty 4

Oven Features 5

Control Panel Features 6

Operating Characteristics 7

Mechanical Disassembly 25

Troubleshooting 39

Component Locator View 53

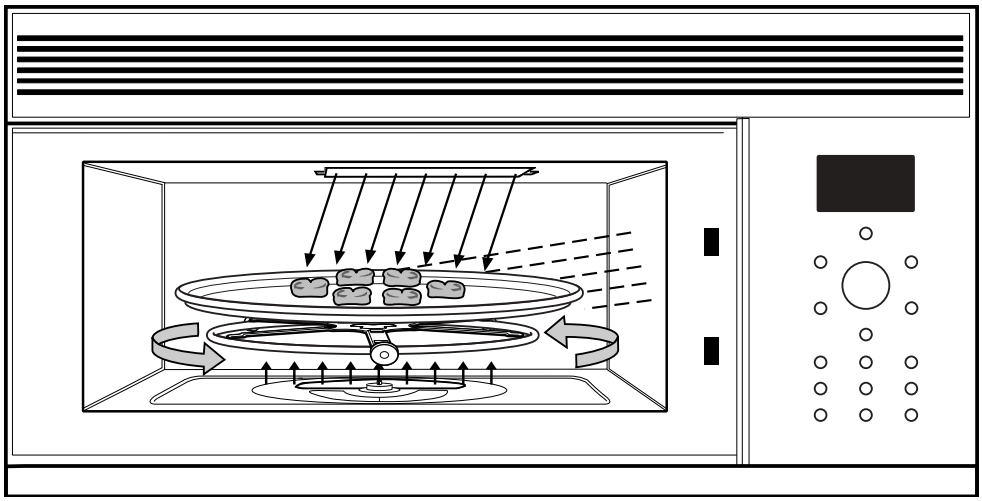
Schematics and Wiring Diagrams 57

Illustrated Parts Breakdown 62

Quiz 69

Introduction

The new Advantium oven uses breakthrough Speedcook technology to harness the power of light. The Advantium oven cooks the outside of foods much like conventional radiant heat, while also penetrating the surface so the inside cooks simultaneously. While radiant heat is the primary source of power, a “microwave boost” is added with certain foods. Foods cook evenly and fast, retaining their natural moisture.



Turntable

• The oven rack (turntable) rotates to ensure even cooking.

Controls

• The oven control contains preset recipes.

• Turn and press dial makes menu selection easy.

Speedcooking

• A 500-watt halogen bulb and a 600-watt ceramic heater cook food from above.

• One 375-watt ceramic heater cooks food from below.

• The convection fan ensures even heating.

Oven/Bake and Warming

• One 1100-watt heater cooks food from above.

• One 375-watt ceramic heater cooks food from below.

• The convection fan ensures even heating.

Microwave

• A microwave “boost” is automatically added with certain foods.

• The oven can also be used as a 900-watt microwave oven.

Nomenclature

S C A 1 0 0 0 D C C

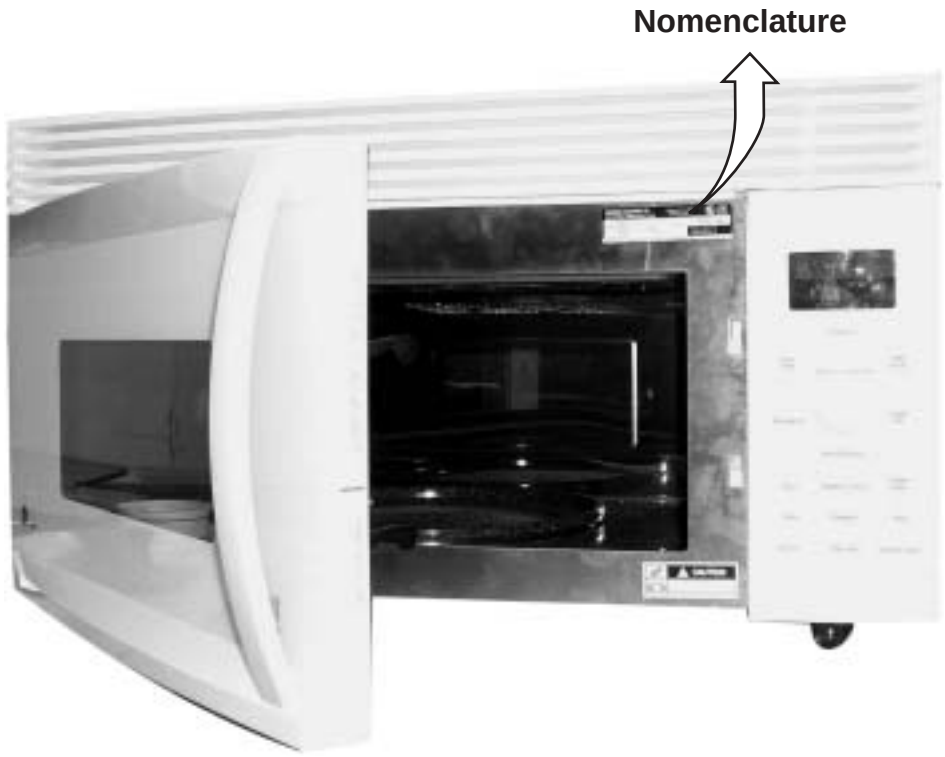
GE Speedcook Technology

Configuration
A = Above-the-cooktop
B = Wall oven

Feature Pack
Designates the features; the higher the number, the more features.

Product Color
SS = Stainless
WW = White on white
CC = Bisque
AA = Almond on almond
BB = Black on black

Model Year Designator



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Warranty

All warranty service provided by an authorized Customer Care® technician. To schedule service, online, 24 hours a day, contact us at www.GEAppliances.com, or call 800-GE-CARES.

For The Period Of:	GE Will Replace:
One Year *From the date of the original purchase*	***Any part*** of the oven which fails due to a defect in materials or workmanship. During this ***full one-year warranty,*** GE will also provide, ***free of charge,*** all labor and in-home service to replace the defective part.
Three Years *From the second through the third year from the date of original purchase*	***The heating system,*** if any heater or lamp fails due to a defect in materials or workmanship. During this ***full three-year warranty,*** GE will also provide, ***free of charge,*** all labor and in-home service to replace the defective part.
Ten Years *From the second through the tenth year from the date of original purchase*	***The magnetron tube,*** if the magnetron tube fails due to a defect in materials or workmanship. During this additional ***nine-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.**
- **Failure of the product if it is abused, misused, or used for other than the intended purpose or used commercially.**
- **Replacement of house fuses or resetting of circuit breakers.**
- **Damage to the product caused by accident, fire, floods or acts of God.**
- **Incidental or consequential damage caused by possible defects with this appliance.**

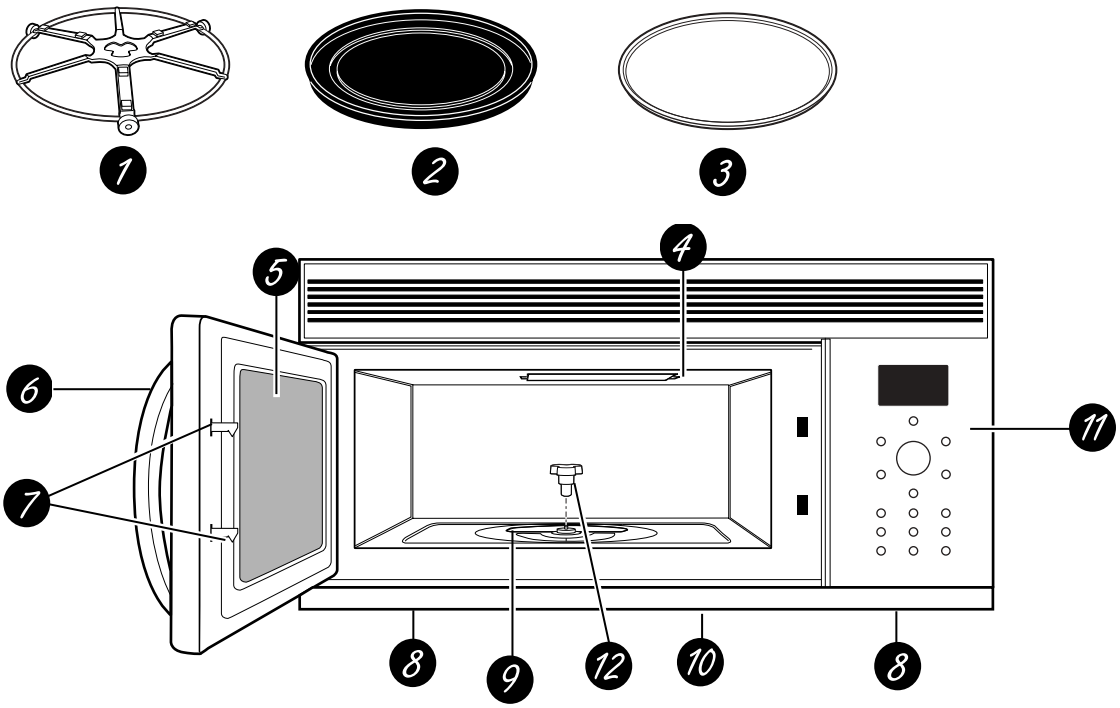
This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. In Alaska, the warranty excludes the cost of shipping or service calls to your home. Proof of the original purchase date is needed to obtain service under the warranty.

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.

Warrantor: General Electric Company. Louisville, KY 40225

Oven Features

Throughout this manual, features and appearance may vary from your model.



1 *Oven Rack (Turntable)*
The oven rack (turntable) must always be in place, on the oven floor, for all cooking. Be sure the oven rack (turntable) is seated securely over the hub in the center of the oven.

2 *Black Metal Tray/Baking Sheet*
Put food or appropriate cookware directly on the black metal tray and place on the oven rack (turntable) When using the speedcook, oven/bake or warming features.

3 *Glass Microwave Tray*
Center the tray on the oven rack (turntable) when using the microwave features. The tray will not lock onto the center hub. Place food or microwave-safe cookware directly on the tray.

4 *Upper Heaters*
Operate when using the speedcook, oven/bake or warming features.

5 *Window*
Allows food to be viewed while keeping microwaves confined on the oven.

6 *Door handle*
Pull to open the door. The door must be securely latched for the oven to operate.

7 *Door Latches*

8 *Vent Fan*
Press VENT FAN button to remove steam and other vapors from surface cooking.

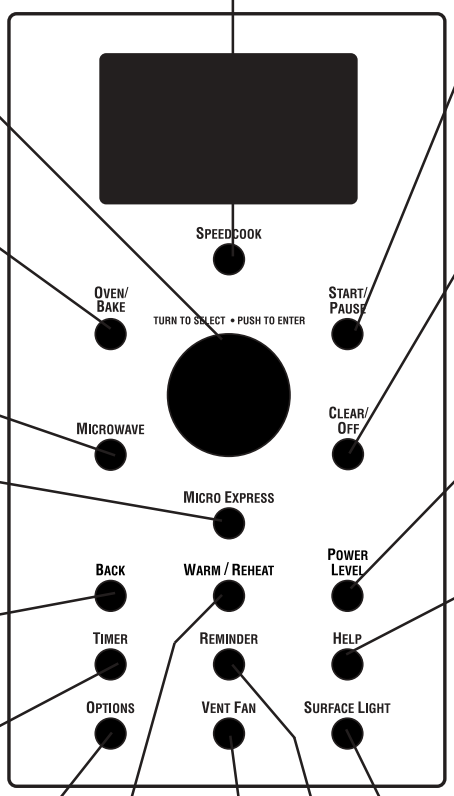
9 *Lower Ceramic Heater*
Operates when using the speedcook, oven/bake or warming features.

10 *Cooktop Light*
Press the SURFACE LIGHT button to turn the cooktop light on and off.

11 *Control Panel*
The buttons used to operate the oven are located on the control panel.

12 *Hub*
The hub turns the oven rack. Make sure the hub is always firmly place in the bottom of the oven.

Control Panel Features



SPEEDCOOK
Press this button to access the speedcook menu or to set your own speedcook program. Press and hold for 3 seconds to repeat the last cooking selection.

SELECTOR DIAL
Turn to select, Push to enter
First turn then press the dial to make selections. Also use the dial to increase (turn clockwise) or decrease (turn counterclockwise) cooking times or temperatures.

OVEN/BAKE
Press this button to bake foods using conventional oven cooking.

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

MICRO EXPRESS
Press for 30 seconds of cooking time. Each time the button is pressed adds an additional 30 seconds to the remaining cooking time. The oven starts immediately.

BACK
On certain features, press this button to return to the previous step.

TIMER
Press this button to set the minute timer.

OPTIONS
Choose and set: clock, auto night light, beeper volume, clock display on/off, delayed start, and display scroll speed.

Auto Night Light
Set Auto Night Light
On Time
Off Time
Beeper Volume
Mute
Low
Normal
Loud
Clock (Time of Day)
Clock Display
On
Off
Scroll Speed
Slow
Med-slow
Normal
Med-fast
Fast

WARM/REHEAT
Press this button to operate the warming and reheating features. Keep hot, cooked foods at serving temperature, or reheat servings of previously cooked foods.

VENT FAN
Press this button to remove steam and other vapors from surface cooking.

REMINDER
Can be used like an alarm clock and can be used any time, even when the oven is operating. It can be set to beep at a certain time, up to 24 hours later.

SURFACE LIGHT
Press this button to turn the cooktop light on and off.

START/PAUSE
Press this button to start or pause any cooking function.

CLEAR/OFF
Press this button to cancel **ALL** oven programs except the clock, auto night light, timer, and reminder. Press and hold for 3 seconds to lock or unlock the control panel.

POWER LEVEL
Press this button and turn/press the selector dial to change the speedcook or microwave power levels, or the oven/bake temperature before and during cooking.

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

Adjust
Back
Bacon
Beeper Volume
Beverage
Child Lockout
Clear/Off
Clock
Clock Display On/Off
Defrost (Auto)
Defrost (Time)
Delayed Start
Display Speed
Food Menu
Heat/Pwr/Temp
Help
Manual Cook
Microwave
Micro Express
Micro Power
My Recipes
Night Light
Options
Oven/Bake
Popcorn
Power Level
Reheat - 1 Serving
Reminder
Repeat Last
Resume
Review
Soup
Speedcook
Start/Pause
Surface Light
Time Cook
Time On/Off
Vegetables (Canned)
Vegetables (Fresh)
Vegetables (Frozen)
Vent Fan

Operating Characteristics

Table of Contents

Speedcook Power Levels 8
Upper Heaters 8
Lower Heater 8
Microwave Energy 8
Sensor Cooking 8
Voltage Compensation 8
Thermal Protection 9
Thermal Compensation 9
Fuses 10
Cavity TCO 10
Magnetron TCO 10
Interlocks and Monitor 10
Damper Assembly 11
Damper Door Switch 11
Magnetron Fan 11
Convection Fan 11
Vent Fan 11
Automatic Fan Feature 11
Airflow 12
Operation Maps 16
Inrush Control and Damper Operation Map 22
Load Operation Map 23
Speedcook Power Levels 24

Speedcook Power Levels

Advantium uses power from a high-intensity halogen light, ceramic heaters, and microwaves to cook food from the top, bottom, and interior simultaneously, sealing in moisture and flavor.

When using preset Speedcook recipes on the food menu, power levels are preselected. However, these power levels can be adjusted before or during cooking. Also, the manual cook feature allows you to speed cook items not on the preset food menu by selecting your own cook time and power level settings.

Each power level alternates heater power and microwave energy throughout the cook time. Percentage times of each power source vary, dependant upon which power level has been selected. The halogen light and ceramic heaters will cycle on and off during a speedcook cycle, even when full power has been selected.

UPPER POWER (U) controls both the upper heating assembly and microwave power. A higher UPPER POWER setting will utilize more upper heater power, browning food faster on top. A lower UPPER POWER setting utilizes more microwave power, causing food to cook more evenly throughout. Select a higher setting for such foods as pizza and baked goods. Select a lower setting for foods such as casseroles, meats, and fish.

LOWER POWER (L) controls the lower heater. Select a higher setting to brown foods more on the bottom. Select a lower setting for less browning on the bottom.

Refer to the Speedcook Power Level Chart in this chapter for specific power source operating percentages.

Upper Heaters

The upper heating assembly consists of an 1100-watt sheath heater, a 500-watt halogen heater, and a 600-watt ceramic heater. The halogen and ceramic heaters provide radiant heat, which browns the outside of the food while sealing in moisture and flavor. These heaters only operate in the speedcook mode and always cycle on and cycle off at the same time.

The sheath heater operates in oven/bake and warm modes only and provides conventional heating by convection.

Lower Heater

The lower heater is a 375-watt ceramic heater. It operates in speedcook, oven/bake, and warm modes. The lower heater assists in browning foods on the bottom.

Microwave Energy

Note: When cooking in Microwave mode, always use the glass tray.

The Advantium 120 provides 900-watts of microwave power which is delivered directly into the oven cavity to work independently, or in conjunction with, other cooking cycles. As the food rotates on the oven turntable, microwave energy is evenly distributed to all portions of the food.

Sensor Cooking

Advantium's Microwave mode features sensor cooking, which automatically selects cook times and power levels. A humidity sensor detects the increasing humidity released during cooking, senses when the food is done, and shuts the oven off at the appropriate time. Sensor cooking is not available for 5 minutes immediately following Speedcook.

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 12-minute speedcook selection (such as Biscuits, Refr; 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 COOK TIME. The time will flash and then display the new adjusted time, based on the amount of voltage compensation required.

Voltage compensation only occurs during Speedcook operation and only occurs once during the cooking cycle (at initial start of Speedcook operation).

Thermal Protection

Thermal protection is a safety feature built into the Advantium's software. In the event that the internal oven temperature reaches 500° F, the thermistor will communicate this information to the main PCB and thermal protection will be initiated. While in thermal protection mode, cooking cycles will be maintained; however, heaters will not be utilized until the oven reaches the proper operating temperature.

Thermal Compensation

Note: Thermal compensation only occurs when using a preselect 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 amount of time the upper and lower heaters are on during each 32-second duty cycle.

At the start of each new Speedcooking operation, the cavity thermistor reads the oven temperature and sends this information to the main PCB board. If the oven temperature is 150° F or higher, the main PCB board will initiate thermal compensation. Thermal compensation will reduce the amount of time the heaters are on in each 32-second duty cycle. The reduction in heater time is based on the oven temperature at the start of Speedcook. The higher the initial cavity temperature, the less time the heaters will be on per duty cycle.

Thermal compensation occurs only once, at the beginning of a Speedcook cycle. In the following thermal compensation table, the first column lists the initial cavity temperature, the second and third columns list the number of minutes and seconds the unit will have thermal compensation active.

Thermal Compensation Chart		
Initial Cavity Temperature	Compensation Time Minutes	Compensation Time Seconds
150° F	2	7
175° F	2	33
200° F	3	0
225° F	3	27
250° F	3	53
275° F	4	20
300° F	4	47
325° F	5	13
350° F	5	40
375° F	6	7
400° F	6	33
425° F	7	0
450° F	7	27

Fuses

The unit is equipped with two fuses. The 20-amp fuse located near the magnetron fan is common to all functions and the door switches. If this fuse blows (open), no functions will operate, including the display.

The 12-amp fuse is located on the sub PCB. This fuse prevents the sheath heater from operating at the same time that the speedcook heaters (ceramic and halogen) are operating in the event of a stuck-closed relay. The 12-amp fuse also provides protection in the event of a heater failure or a short to ground in a heater circuit.

Cavity TCO

The cavity TCO is mounted on the side of the damper duct. This position allows the TCO to sense the temperature of the air escaping from the oven. If an excessive temperature is measured, the TCO will open, shutting the unit down. The cavity TCO is a one shot type and is not resetable. The TCO is secured to the damper duct with a small screw and retainer.

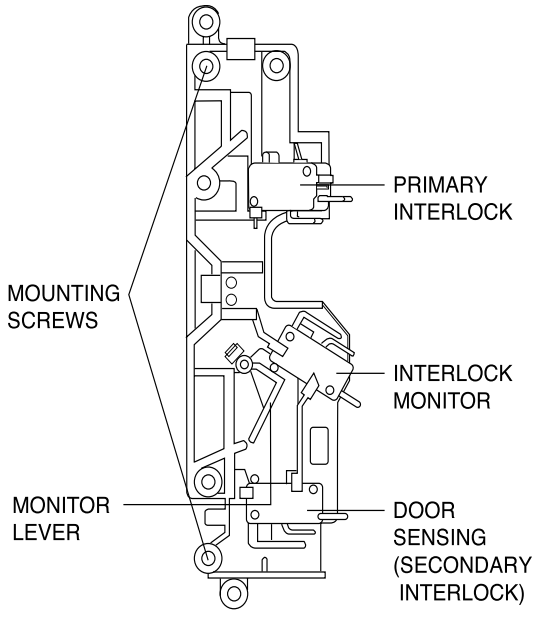
Magnetron TCO

The magnetron TCO is mounted on the side of the magnetron. This position allows the TCO to sense the temperature of the magnetron. If magnetron temperature becomes excessive, the TCO will open, temporarily shutting the unit down. The TCO is secured to the damper duct with a small screw and retainer.

Interlocks and Monitor

The Primary Interlock, Interlock Monitor, and Door Sensing switches are mounted to a plastic latch board on the right side of the cavity. From top to bottom, the switches are as follows:

- Primary Interlock
- Interlock Monitor
- Door Sensing (Secondary Interlock)



Damper Assembly

The damper assembly opens and closes the damper doors to allow air to enter and exit the oven cavity. The assembly consists of the damper motor, damper door switch, and damper inlet door. The damper motor opens and closes the damper inlet and damper outlet door when commanded to do so by the main PCB.

The damper inlet door is on the right side of the oven cavity and is attached directly to the damper assembly. The damper outlet door is on the top left side of the unit and is operated by a metal tie rod that extends from the damper assembly across the top of the oven. The two doors always open or close at the same time.

When the damper doors are closed, moisture is retained in the cabinet. When the damper doors are open, moisture is released, allowing food to be more crisp. For detailed information on the positions of the damper doors in various cooking modes, see the operation maps in this chapter.

Damper Door Operating Modes			
Cooking Mode	Damper Position	Sw. Plunger Position	Switch Contacts
Microwave Speedcook	Open Closed	Not Depressed Depressed	Closed Open

Damper Door Switch

The damper door sensing switch is mounted to the damper assembly. The switch monitors the damper door position and provides this information to the main PCB, which controls the operation of the damper door motor. When the damper door is closed, the switch is open. The motor will run until the switch sends the door closed signal. If the damper door sensing switch circuit shorts (or opens), the damper motor will run continually.

Magnetron Fan

The magnetron fan operates in all modes of cooking (Microwave, Speedcook, and Oven/Bake), even when microwave energy is not being used. Room air is drawn in through the upper grille area and into the magnetron blower area. The magnetron fan blows the air through and around the magnetron tube and the other components in the magnetron area.

Convection Fan

The convection fan is used to gently circulate warm, heated air from the heating elements throughout the oven and around the food. The convection fan will always operate when Oven/Bake, Speedcook, or Warm/Reheat modes are selected. It will also operate at various times during microwave use to assist in removing excess heat from the oven. For detailed information on convection fan operation in various cooking modes, see the operation maps in this chapter.

Vent Fan

The vent fan is designed to remove steam and other vapors produced while surface-cooking. The vent fan may be turned on manually (high and medium speed) by pressing the Vent Fan button. It also operates automatically in low speed and at various times during Speedcook and Oven/Bake to assist in removing excess heat from the unit.

Note: Ovens configured to recirculate air back into the room should use a charcoal filter.

The vent fan can be mounted to exhaust air through the top of the unit or positioned to recirculate air back into the room.

For detailed information on vent fan operation in various cooking modes, see the operation maps in this chapter.

Automatic Fan Feature

The vent fan may automatically turn on (low speed) under heavy surface unit usage and will turn off automatically (fan cannot be turned off manually once activated by hood TCO). The vent fan may stay on up to 15 minutes after the range and lower oven controls are turned off.

A single pole thermostat (TCO) mounted on the bottom plate controls the Automatic Fan Feature.

Airflow

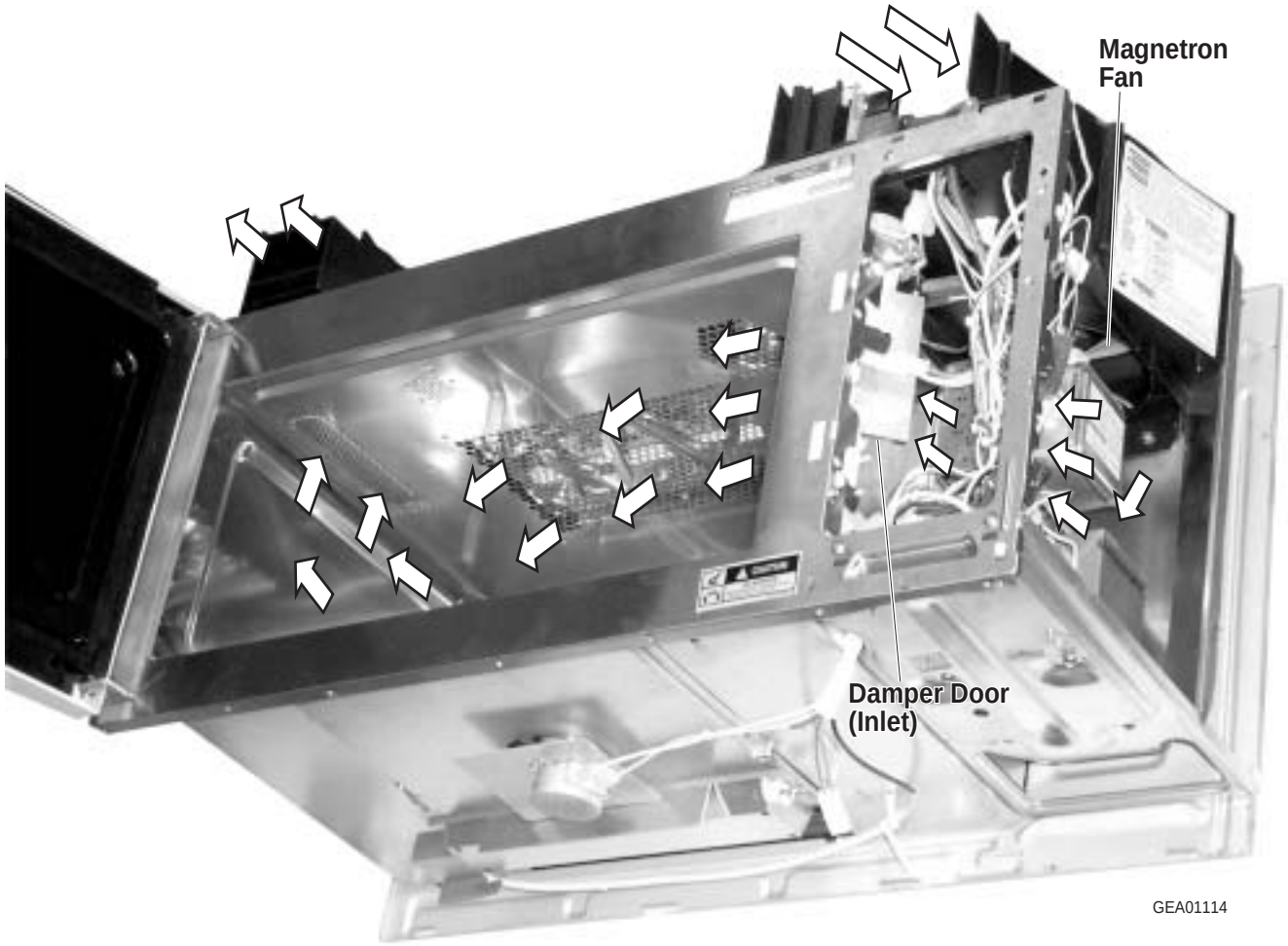


Figure 1 - Magnetron Fan and Damper Airflow

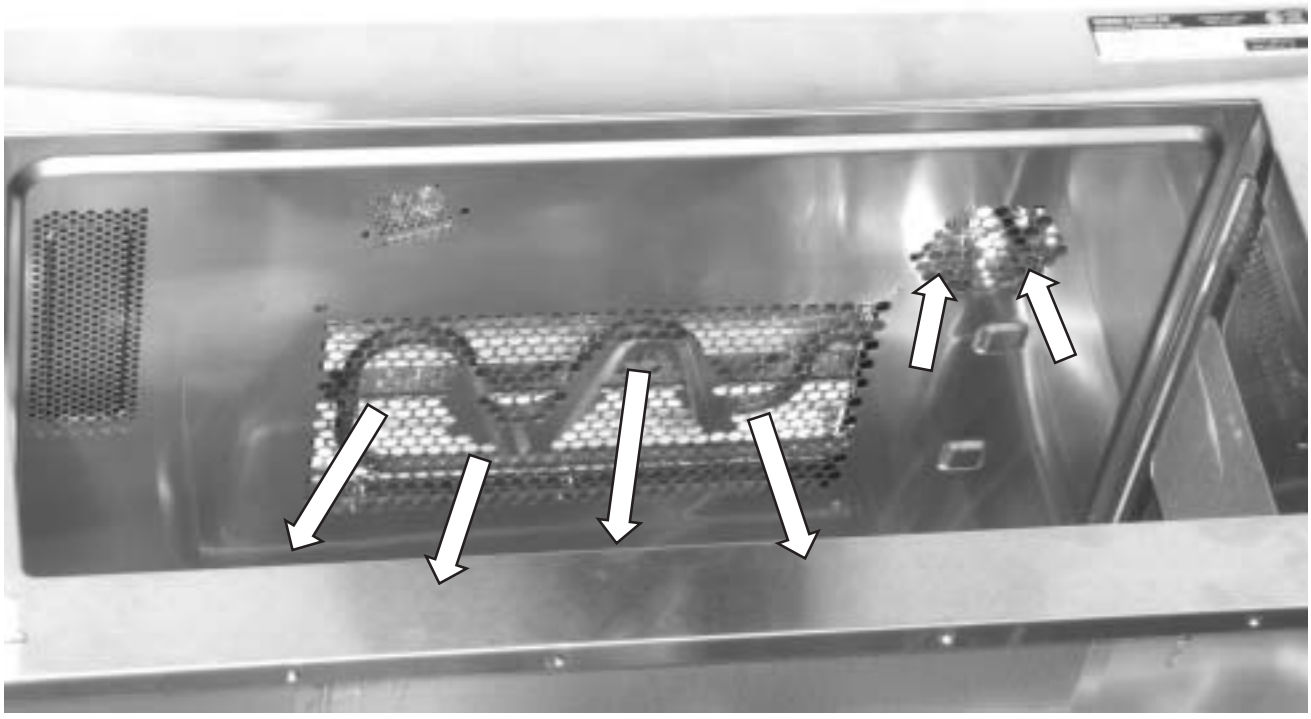


Figure 2 - Convection Fan Airflow

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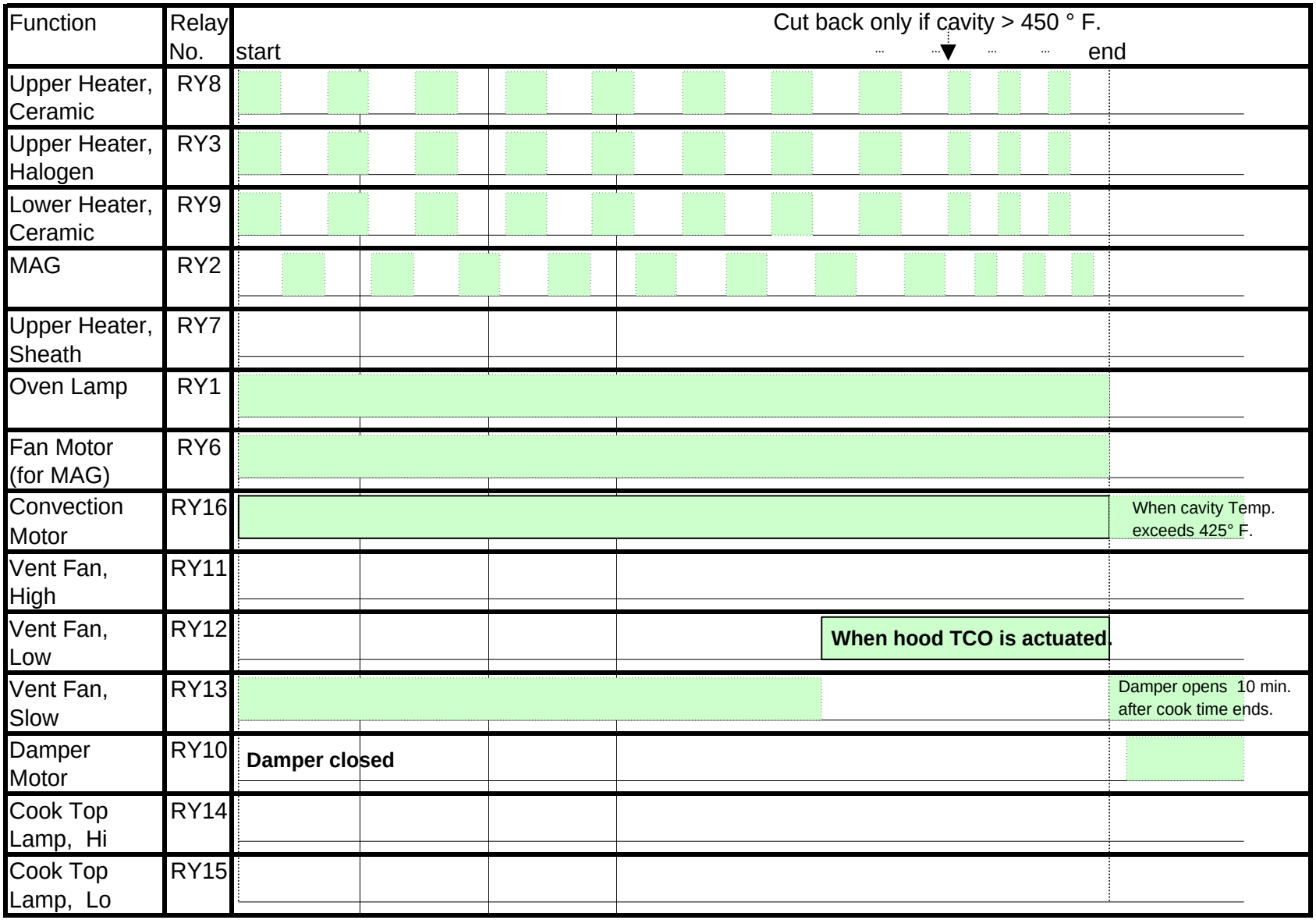
Figure 3 - Vent Fan Airflow

Notes

Notes

Shaded areas indicate relay contacts closed.

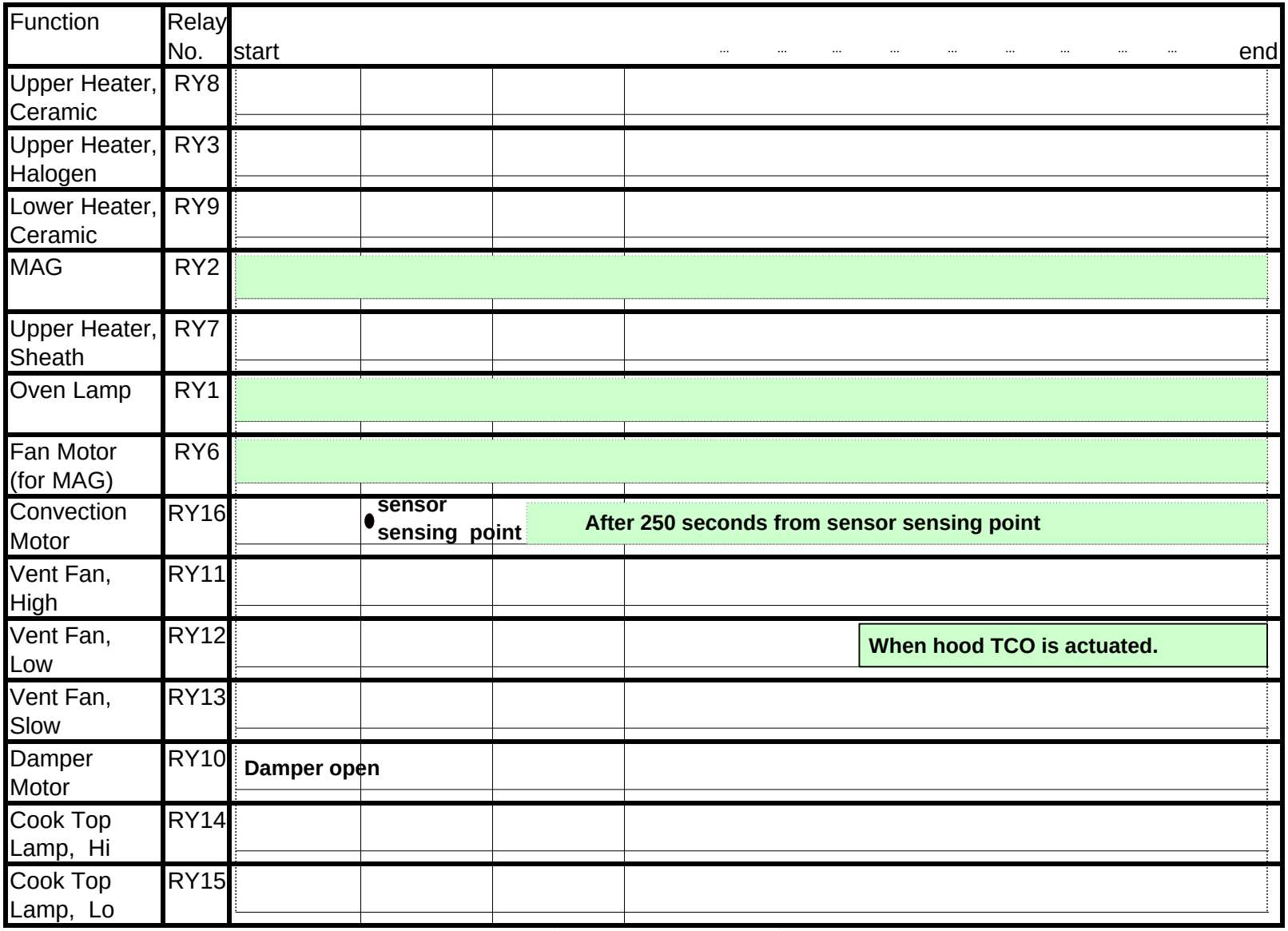


Shaded areas indicate relay contacts closed.

Shaded areas indicate relay contacts closed.

Function	Relay No	start … reached target temp. … end
Upper Heater, Ceramic	RY8	
Upper Heater, Halogen	RY3	
Lower Heater, Ceramic	RY9	
MAG	RY2	
Upper Heater, Sheath	RY7	
Oven Lamp	RY1	
Fan Motor (for MAG)	RY6	
Convection Motor	RY16	
Vent Fan, High	RY11	
Vent Fan, Low	RY12	When hood TCO is actuated.
Vent Fan, Slow	RY13	
Damper Motor	RY10	**Damper closed = moist / Damper open = crisp**
Cook Top Lamp, Hi	RY14	
Cook Top Lamp, Lo	RY15	

Shaded areas indicate relay contacts closed.

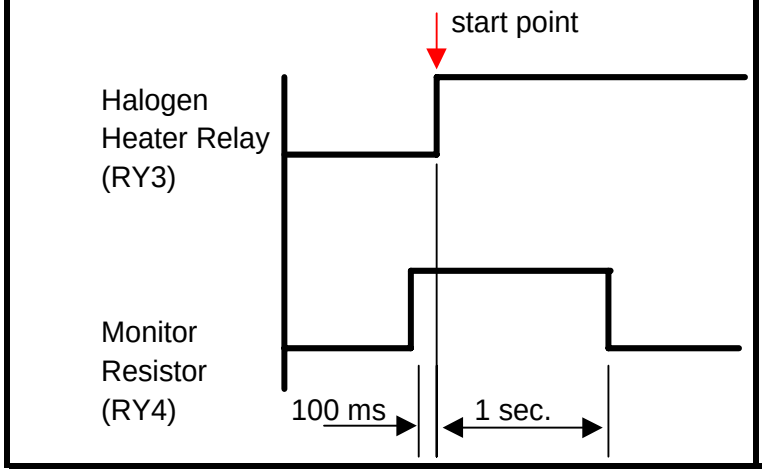


Shaded areas indicate relay contacts closed.

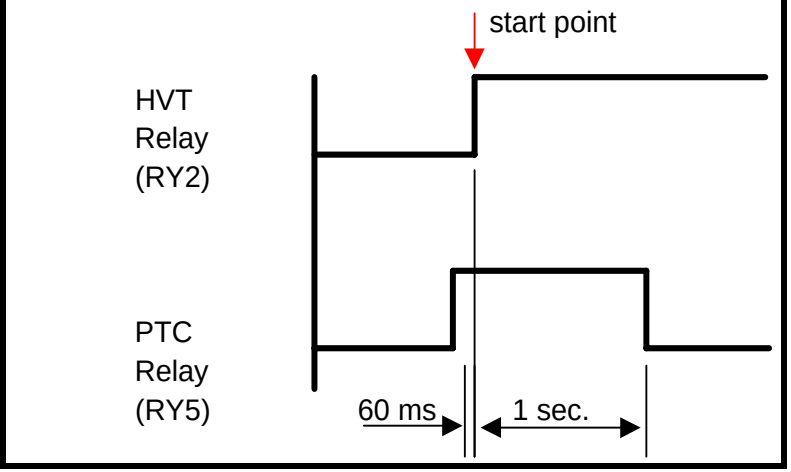
Function	Relay No.	start ... ... end
Upper Heater, Ceramic	Ry8	
Upper Heater, Halogen	Ry3	
Lower Heater, Ceramic	Ry9	
MAG	Ry2	
Upper Heater, Sheath	Ry7	
Oven Lamp	Ry1	
Fan Motor (for MAG)	Ry6	
Convection Motor	Ry16	
Vent Fan, High	Ry11	
Vent Fan, Low	Ry12	**When hood TCO is actuated.**
Vent Fan, Slow	Ry13	
Damper Motor	Ry10	**Damper open**
Cook Top Lamp, Hi	Ry14	
Cook Top	Ry15	

Shaded areas indicate relay contacts closed.

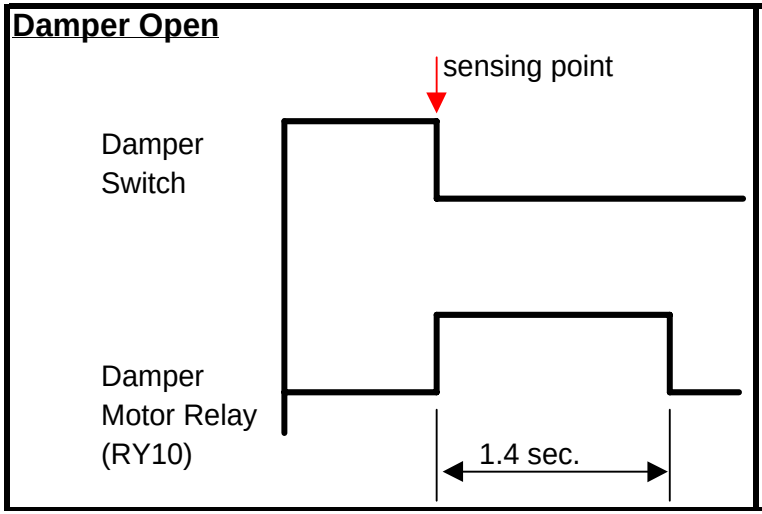
Halogen Heater Inrush Control



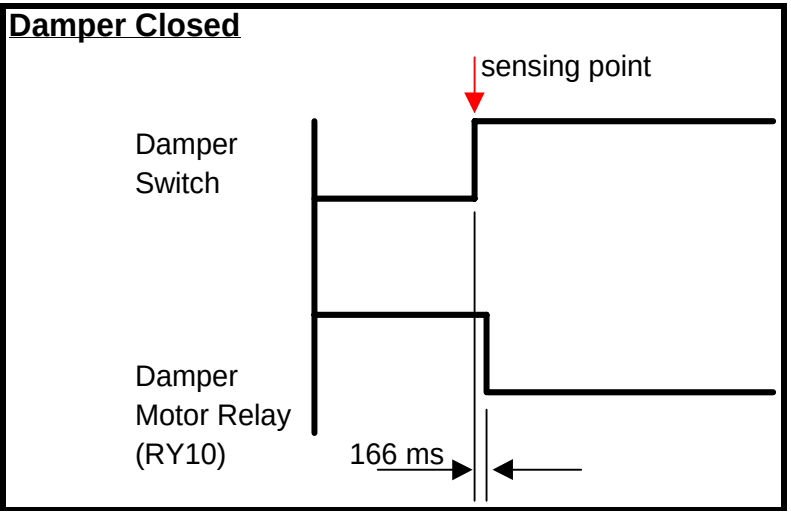
Magnetron Inrush Control



Damper Open



Damper Closed



Load (Relays)	Relay	Microwave (time cook)	Microwave (sensor)	Speedcook	Oven/Bake (before reached target temp.)	Oven/Bake (after reached target temp.)	Warm (Crisp)	Warm (Moist)	Ventilation	Cook Top
Upper Heater, Ceramic	RY8	o	o	x (a)	o	o	o	o		
Upper Heater, Halogen	RY3	o	o	x (a)	o	o	o	o		
Lower Heater, Ceramic	RY9	o	o	x (a)	x (pl8)	x (pl6)	o	o		
MAG	RY2	x	x	x (a)	o	o	o	o		
Upper Heater, Sheath	RY7	o	o	o	x	x	x	x		
Oven Lamp	RY1	x	x	x	x	x	x	x		
Fan Motor, (for MAG)	RY6	x	x	x	x	x	x	x		
Convection Motor	RY16	x (after 15min from start)	x (after 250sec. from sensing point)	x	x	x	x	x		
Vent Fan, High	RY11	I	I	I	I	I	I	I	I	
Vent Fan, Low	RY12	I	I	I	I	I	I	I	I	
Vent Fan, Slow	RY13	o	o	x	o	x	o	o		
Damper Motor	RY10	Open	Open	Close	Close	Close	Open	Close		
Cook Top Lamp, Hi	RY14	I	I	I	I	I	I	I		I

x = Operation o = No operation x(a) = Alternative operation I = Independence

Speedcook Power Level Chart				
Upper Power Level	Lower Power Level	Upper Heater On Time	Lower Heater On Time	Microwave On Time
Hi	Hi	100%	100%	0%
	Lo	100%	80%	0%
Medium Hi	Hi	100%	70%	0%
	Lo	100%	65%	0%
Med	Hi	90%	90%	10%
	Lo	90%	65%	10%
Med Lo	Hi	80%	70%	20%
	Lo	70%	70%	30%
Lo	Hi	60%	60%	40%
	Lo	30%	30%	70%

Mechanical Disassembly

Precautions to be observed before and during servicing to avoid possible exposure to excessive microwave energy:

A. A microwave emissions check should be performed prior to servicing if oven is operative.

B. Do not operate or allow the oven to be operated with the door open.

C. If the oven operates with the door open:

1) Instruct the user not to operate the oven.

2) Contact the manufacturer and the center for devices and radiological health immediately.

D. Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source. Make repairs as necessary:

1) Interlock operation

2) Proper door closing

3) Seal and sealing surfaces (arching, wear, and other damage)

4) Damage to and loosening of hinges and latches

5) Evidence of dropping or abuse

E. 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.

F. 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.

G. A microwave leakage check to verify compliance with the federal performance standard should be performed on each oven prior to release to the owner.

Table of Contents

Serviceability with Oven Installed 27
Grille 27
Door Removal 27
Door Disassembly 28
Cooktop Light 28
Oven Light 28
Vent Cover 28
Control Panel 29
Door Interlock Switches 29
Main PCB 29
Sub PCB 30
Fuse (Located on Sub PCB) 30
Fuse (20-amp, In-Line) 30
Low Voltage Transformer and Low Voltage Transformer 2 30
High Voltage Transformer 31
Magnetron 31
Damper Assembly 31
Capacitor and Diode 32
Magnetron TCO 32
Hood TCO 32
Cavity TCO 33
Turntable Motor 33
Lower Heater 33
Serviceability with Oven Removed 34
Oven Removal 34
Vent Fan 34
Outer Case 35
Damper Outlet Door 35
Magnetron Fan 35
Vent Fan Capacitor 36
Convection Fan 36
Upper Heaters (Halogen, Glass, Sheath) 36
Thermistor 37
Humidity Sensor 38

Serviceability with Oven Installed

WARNING: Before proceeding, remove all power to the oven by turning off the appropriate circuit breaker or unplugging the power cord.

WARNING: When reassembling the product, remember to reattach all ground wires and put screws in their correct locations.

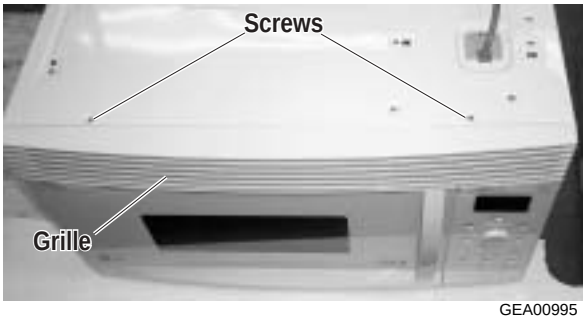
Note: This unit contains various types and sizes of screws. Be certain to keep screws sorted. Be certain to use the correct screws for each panel and component when reassembling.

The following components can be accessed from the front of the oven with the unit installed:

- Grille
- Oven door
- Cooktop light
- Oven light
- Vent cover
- Control panel
- Door interlock switches
- Main PCB
- Sub PCB
- Fuses
- Low voltage transformers
- High voltage transformer
- Magnetron
- Damper assembly
- Capacitor and diode
- Magnetron TCO
- Hood TCO
- Cavity TCO
- Turntable motor
- Lower heater

Grille

1. Remove 2 screws from the top of the oven.



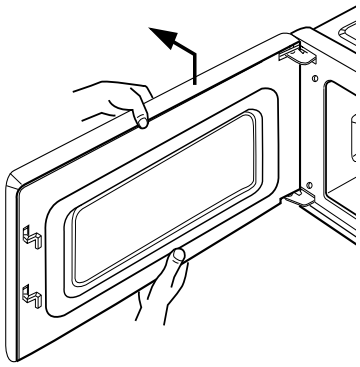
GEA00995

2. Open the door, pull the top of the grille out while pressing up on the bottom to release the lower locking tabs, and remove the grille.

Door Removal

WARNING: 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 (refer to Microwave Leakage Test on page 41).**

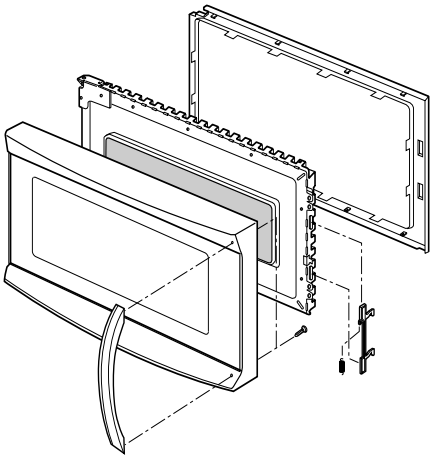
1. Open the door and remove any trays or grilles from the oven.
2. Remove the grille (see procedure).



3. Lift the door up until the hinge pins clear the hinge holes.
4. Slide the door off the hinges and remove.

Door Disassembly

1. Remove the door (see procedure).
2. Insert a small flat screwdriver into the gap between the choke cover and the lower right corner of the door frame, then work the screwdriver around the seal plate to free engaging parts of the choke cover.
3. Lift up the latch until the pins clear the mounting holes.



4. Disconnect the spring and remove the latch.
5. Remove 2 screws and the door handle.

Cooktop Light

1. Remove 1 screw and lower the light cover.

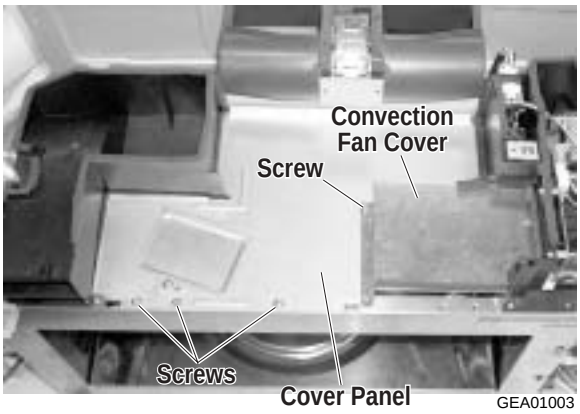
GEA00985

Caution: Light bulb is 12-volt, 20-watt. Bulb is plug-in type, do not twist.

2. Pull the bulb out of the receptacle.

Oven Light

1. Remove the grille (see following procedure).



GEA01003

2. Remove the cover panel.
3. Slide the light assembly toward the oven door to disengage it from the locked position, lift the assembly, and turn it over to access the bulb.

Caution: Light bulb is 12-volt, 10-watt. Bulb is plug-in type, do not twist.

4. Pull the bulb out of the receptacle.

Vent Cover

1. Remove the grille (see procedure).

GEA00991

2. Remove 2 screws and the vent cover.

Control Panel

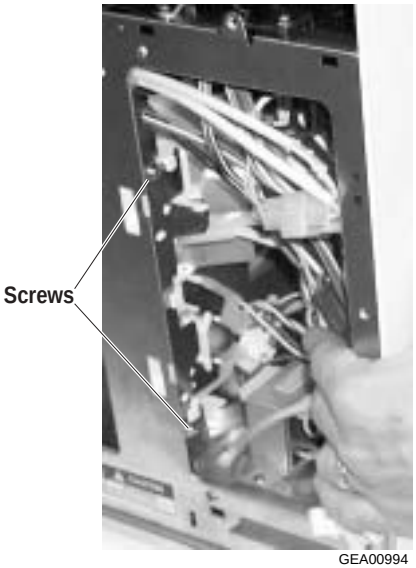
1. Remove the grille (see previous procedure).
2. Remove 1 screw from the top center of the control panel.
3. Open the oven door.
4. Slide the panel up to release the upper locking tabs and tilt the top of the panel out.

GEA00989

5. Pull the bottom of the panel out and slide the panel down to release the lower locking tab.
6. Disconnect wiring harness connectors and remove the control panel.

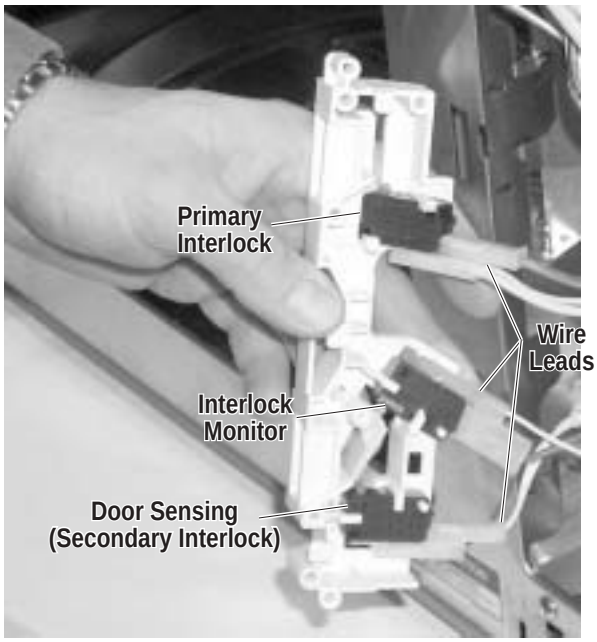
Door Interlock Switches

1. Remove the control panel (see procedure).



GEA00994

2. Remove 2 screws and pull the interlock latch board out to access the wire leads.



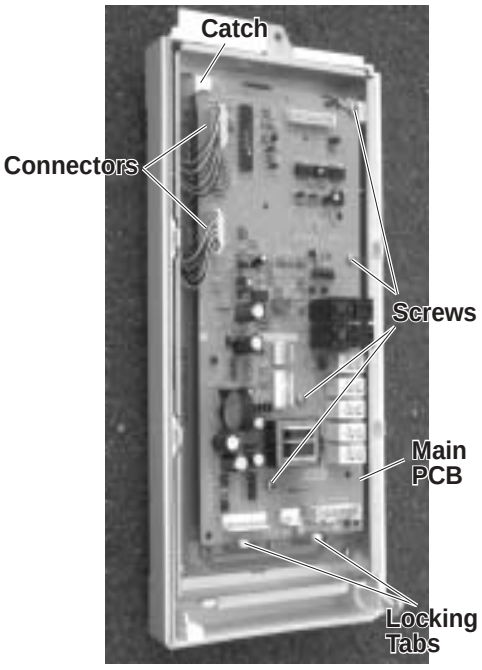
GEA01022

3. Remove the wire leads from the switches and remove the interlock latch board.

Main PCB

Note: Voltage compensation test must be performed when main PCB is replaced (refer to test on page 50).

1. Remove the control panel (see procedure) and place face down on a protected surface. The main PCB is attached to the back of the control panel.



GEA00990

2. Disconnect 2 connectors.
3. Remove 4 screws from the PCB.
4. Push back the bottom locking tabs, lift the PCB above the tabs, slide the top out of the upper catch, and remove.

Sub PCB

1. Remove the grill and vent cover (see procedures).

GEA01127

2. Remove the convection fan cover.

Note: CN10 connector does **not** disconnect from sub PCB. CN10 must be disconnected from main PCB end.

3. Disconnect wiring connectors from Sub PCB.
4. Release front of board by pressing in locks on 2 front standoffs.
5. Release 2 rear standoffs by squeezing tabs on convection fan side of magnetron housing and remove Sub PCB.

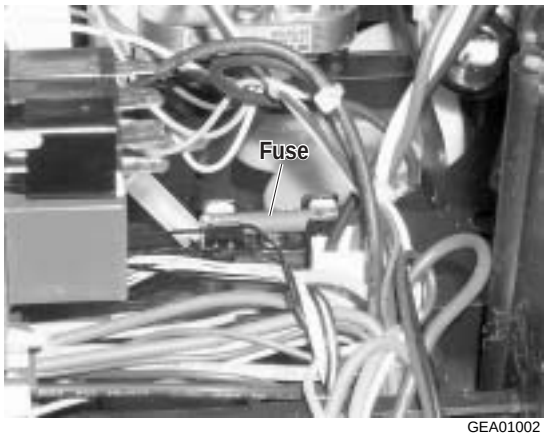
Note: Rear edge of sub PCB must be under rear catch when reassembling.

Fuse (Located on Sub PCB)

See Sub PCB procedure.

Fuse (20-Amp, In-Line)

1. Remove the grille (see procedure).

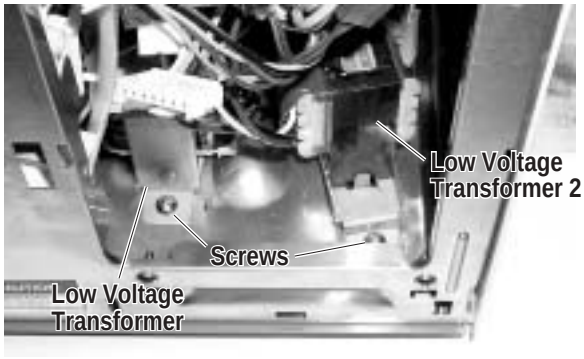


GEA01002

2. Pull the fuse out of the receptacle.

Low Voltage Transformer and Low Voltage Transformer 2

1. Remove the control panel (see procedure).
2. Disconnect the transformer wiring at the quick disconnection.

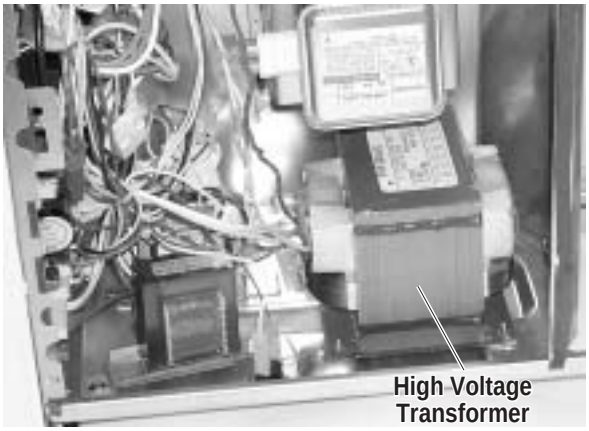


GEA01010

3. Remove 1 screw from the front of the transformer mounting.
4. Slide the transformer forward to disengage the back tab from the oven chassis and remove the transformer.

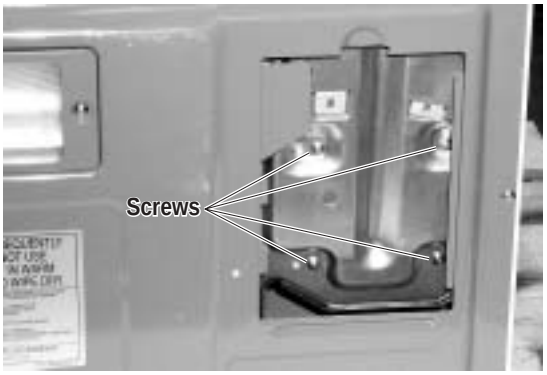
High Voltage Transformer

1. Remove the control panel (see procedure).



GEA01015

2. Remove the low voltage transformers (see procedure).
3. Disconnect the high voltage transformer wiring.

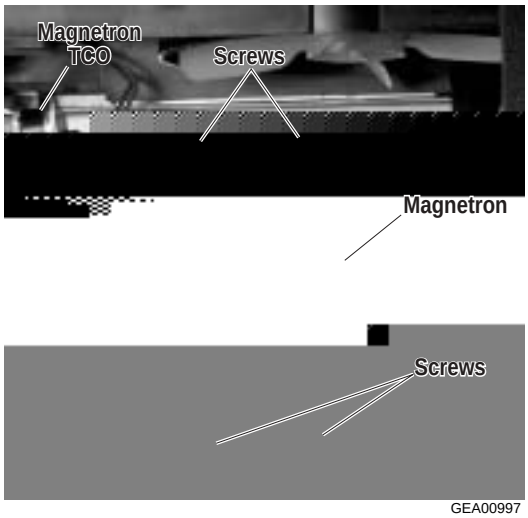


GEA00987

4. Remove the right cooktop filter.
5. Access and remove 4 screws securing the high voltage transformer.
6. Remove the transformer.

Magnetron

1. Remove the control panel (see procedure).
2. Remove the low voltage transformers (see procedure).
3. Remove the high voltage transformer (see procedure).
4. Disconnect the wiring from the magnetron and the magnetron TCO.



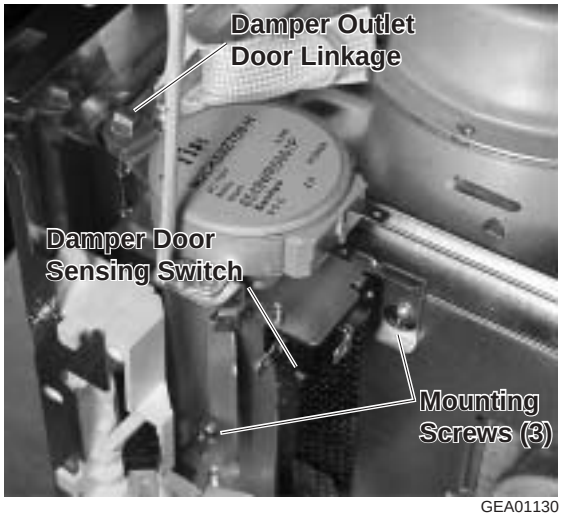
GEA00997

5. Remove 4 screws and the magnetron.

Damper Assembly

1. Remove the control panel (see procedure).
2. Disconnect the damper motor wire leads.
3. Remove 3 screws and lift the damper motor assembly straight up to disengage the damper door and remove.

Note: Be certain linkage to damper outlet door is connected when reassembling.



GEA01130

Note: Photo shows casing removed for clarity.

Capacitor and Diode

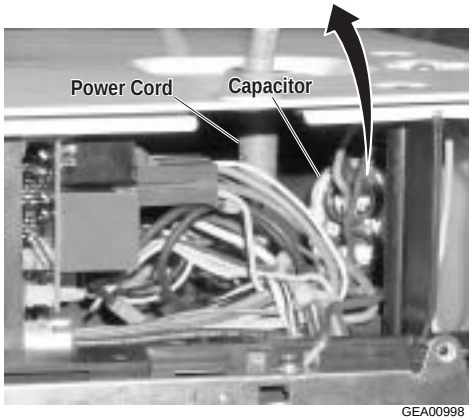
WARNING: Always be certain the capacitor is discharged before servicing. Mechanically discharge by placing an insulated handle screwdriver between the diode connection of the capacitor and the oven chassis ground.

Note: The high voltage 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.

• The case may be removed to provide greater access to the capacitor and diode.

1. Remove the grille and vent cover (see procedures).
2. Remove the sub PCB (see procedure).
3. Disconnect the wire leads from the capacitor.

Outer Case Removed FOR CLARITY

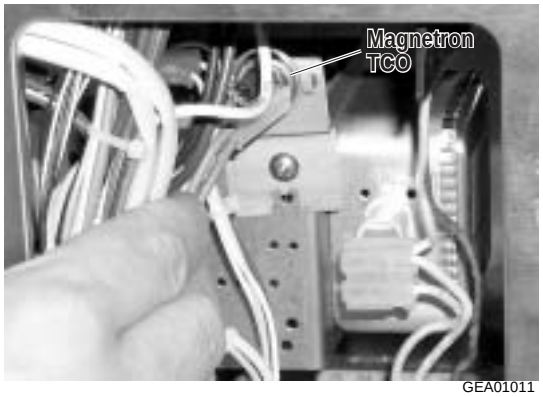


GEA00998

4. Remove 1 screw from the capacitor mounting bracket and lift the bracket up to disengage the bottom tab from the chassis. Remove the bracket and capacitor.
5. Remove the capacitor and diode from the mounting bracket.

Magnetron TCO

1. Remove the control panel to access the magnetron TCO, wiring, and screw through control panel opening (see procedure).

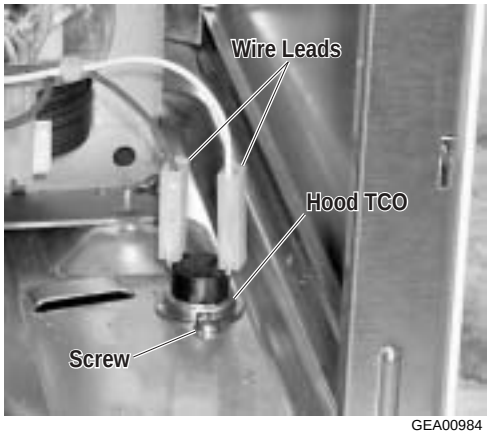


GEA01011

2. Disconnect the wire leads from the magnetron TCO.
3. Remove 1 screw and the TCO bracket from the magnetron.
4. Remove 1 screw and the TCO from the bracket.

Hood TCO

1. Remove the control panel (see Procedure).

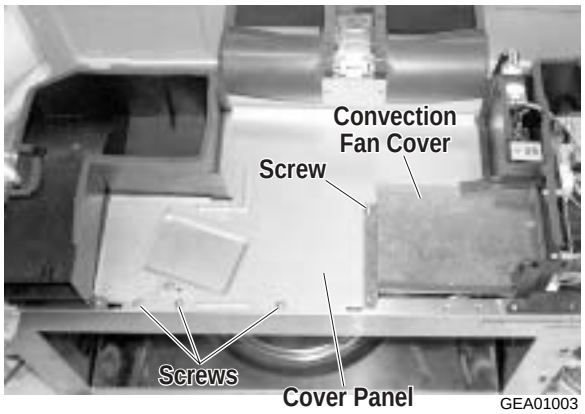


GEA00984

2. Disconnect the wire leads from the hood TCO.
3. Remove 1 screw and the TCO.

Cavity TCO

1. Remove the grille (see procedure).
2. Remove the cover panel.



GEA01003

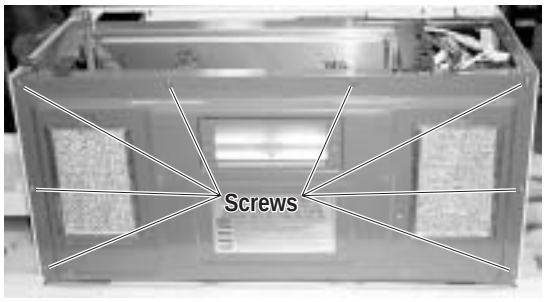
Disconnect the wire leads from the TCO.

GEA01007

3. Remove 1 screw and the TCO.

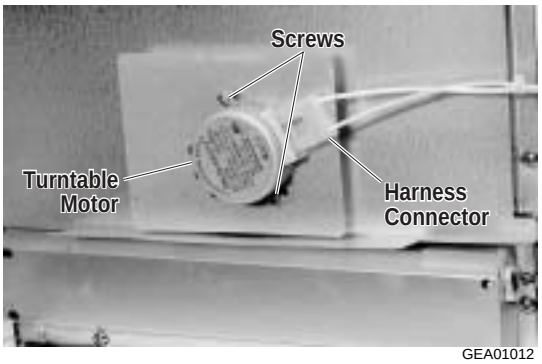
Turntable Motor

1. Remove the turntable shaft from the inside of the oven by lifting it out of the oven bottom.



GEA00986

2. Remove 8 screws, lower the bottom plate, disconnect the cooktop light wire leads, and remove the bottom.

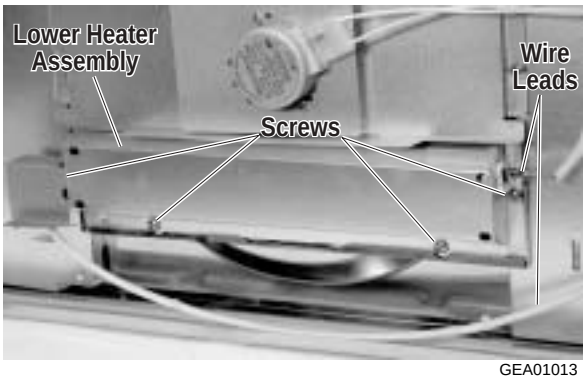


GEA01012

3. Disconnect the turntable motor harness connector.
4. Remove 2 screws and the turntable motor.

Lower Heater

1. Remove 8 screws, lower the bottom plate, disconnect the cooktop light wire leads, and remove the bottom (see photo in step 2 of previous procedure).



GEA01013

2. Remove 4 screws and lower the heater assembly.
3. Disconnect the wire leads and remove the heater assembly.

Serviceability with Oven Removed

WARNING: Before proceeding, remove all power to the oven by turning off the appropriate circuit breaker.
WARNING: When reassembling the product, remember to reattach all ground wires and put screws in their correct locations.

The oven must be removed from the installation to allow servicing of internal components.

The following components can be accessed with the oven removed:

- Vent fan
- Outer case
- Damper outlet door
- Magnetron fan
- Vent fan capacitor
- Convection fan
- Upper heaters
- Thermistor
- Humidity sensor

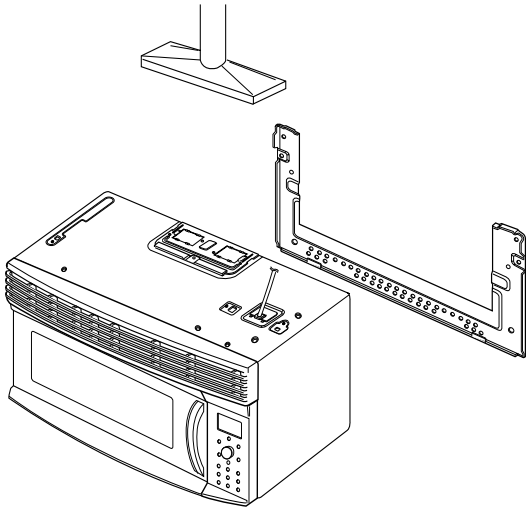
Oven Removal (2 Persons Required)

WARNING: To prevent electric shock, use extreme caution when diagnosing the oven with outer case removed and power ON. The high-voltage section of the power supply, including filament leads, is 4000 volts potential with respect to ground.

WARNING: Oven weighs 84 pounds and requires 2 people for the removal process. Grasp the bottom of the oven at the front and rear on each side.

Caution: Do not use the oven handle to lift or lower the oven. Damage will occur!
- Use care to prevent the power cord from being caught or stressed during removal.

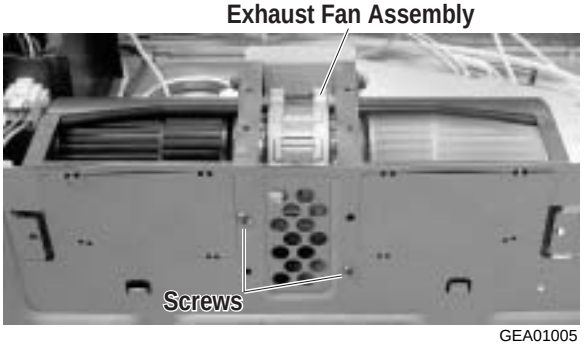
Note: Oven is hooked on metal tabs on bottom of wall mounting plate and fastened to cabinet by 3 top cabinet bolts.



1. Disconnect the power cord. Disconnect the duct and remove the damper assembly (top exhaust models only).
2. Remove 3 top cabinet bolts while supporting the unit.
3. Lift the unit off the wall mounting plate and slowly pull the unit forward. Provide adequate support to prevent the unit from dropping during removal.

Vent Fan

1. Remove the oven from its installation (see installation procedure).
2. Disconnect the wiring at the quick disconnect.

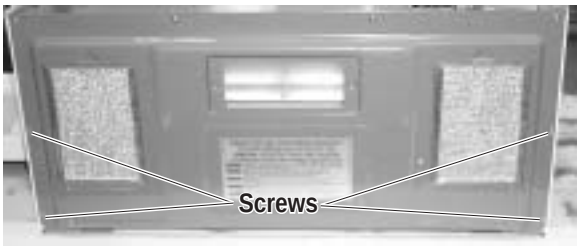


GEA01005

3. Remove vent fan access panel.
4. Remove 2 screws and the fan assembly.

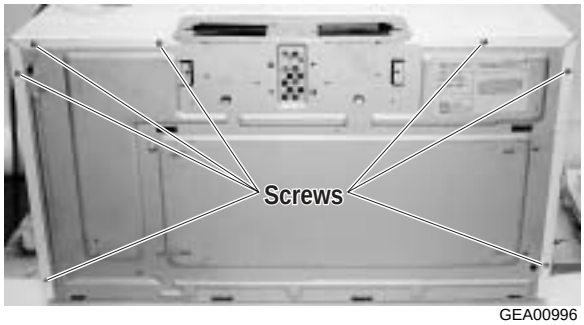
Outer Case

1. Remove the grille (see procedure).
2. Remove 2 screws and the front vent cover (see procedure).
3. Remove 7 screws and the power cord access plate from the top of the oven outer case.



GEA01018

4. Remove 4 screws from the bottom of the oven.



GEA00996

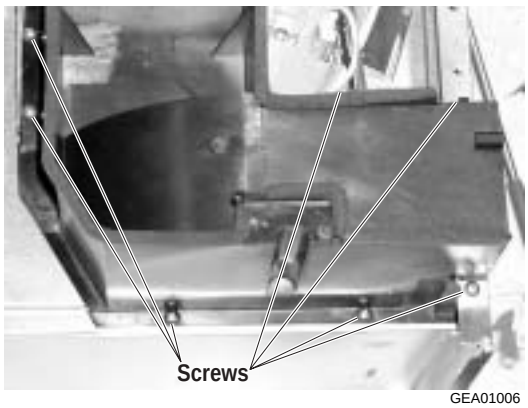
5. Remove 7 screws from the back of the oven.

Note: Feed cord through access hole while lifting cabinet off unit.

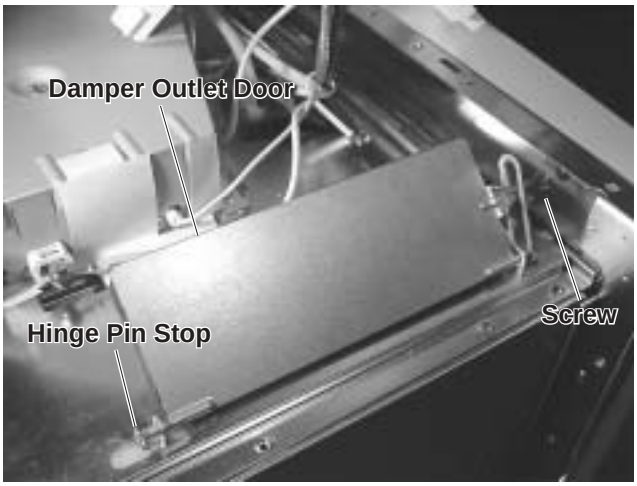
6. Lift the front corners of the outer case up approximately 1/8 in. Pull the cabinet back and lift off the unit.

Damper Outlet Door

1. Remove the outer case and cover panel (see previous procedure).
2. Remove 7 screws and the exhaust duct.



GEA01006

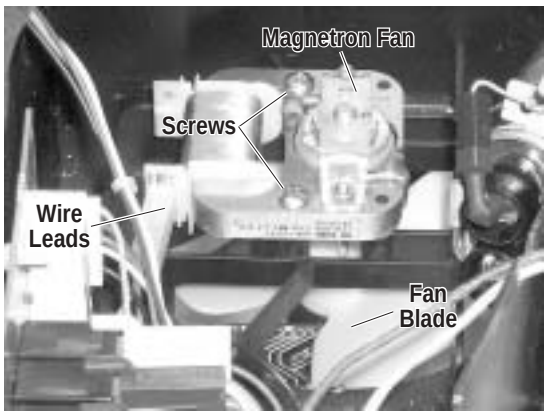


GEA01131

3. Bend down the hinge pin stop.
4. Slide the damper door toward the back of the unit and lift the front hinge pin out of the hinge hole.
5. Remove the screw attaching the tie rod to the outlet door and remove the door.

Magnetron Fan

1. Remove the outer case (see procedure).
2. Pull the fan blade off the fan motor shaft.



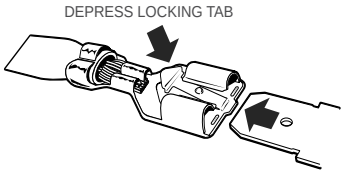
GEA001016

3. Disconnect the wire leads.
4. Remove 2 screws and the fan motor.

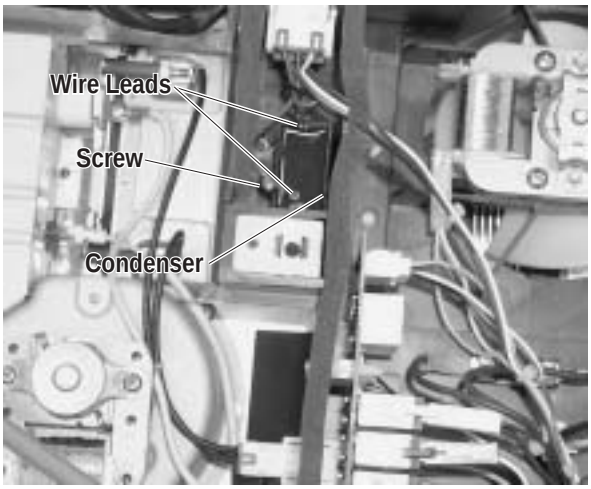
Vent Fan Capacitor

1. Remove the outer case (see procedure).

NOTE: Capacitor wire leads have locking tabs that must be depressed to be disconnected.



2. Disconnect the capacitor wire leads.

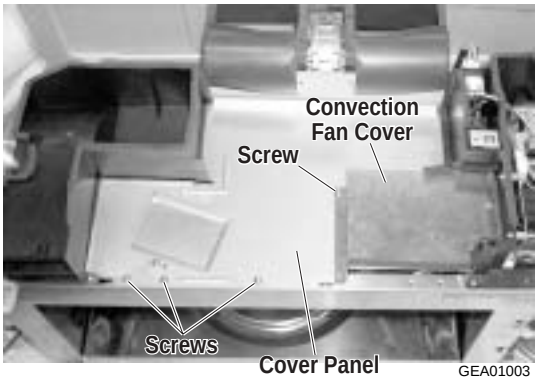


GEA01021

3. Remove 1 screw and the fan capacitor.

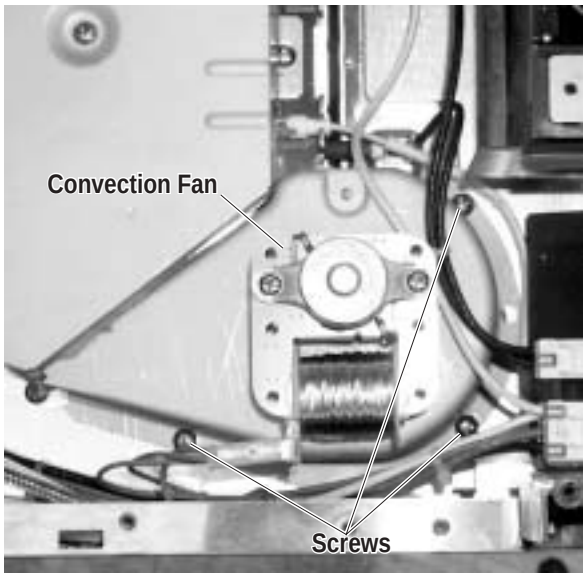
Convection Fan

1. Remove the outer case (see procedure).
2. Remove 2 screws and the front vent cover (see procedure).



GEA01003

3. Remove 1 screw and the convection fan cover.
4. Remove 3 screws and the cover panel.
5. Disconnect the wiring from the fan motor.

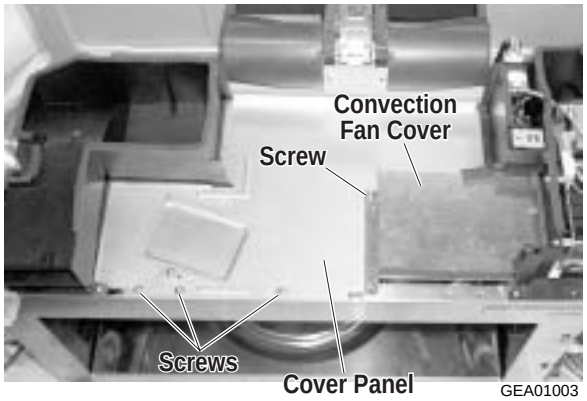


GEA01001

6. Remove 3 screws and the fan assembly.
7. Remove the 7-mm fan blade nut and fan blade from the motor shaft.
8. Remove 2 screws from the inside of the fan housing and separate the inner and outer sections.
9. Remove 2 mounting nuts and the fan motor from the outer fan housing section.

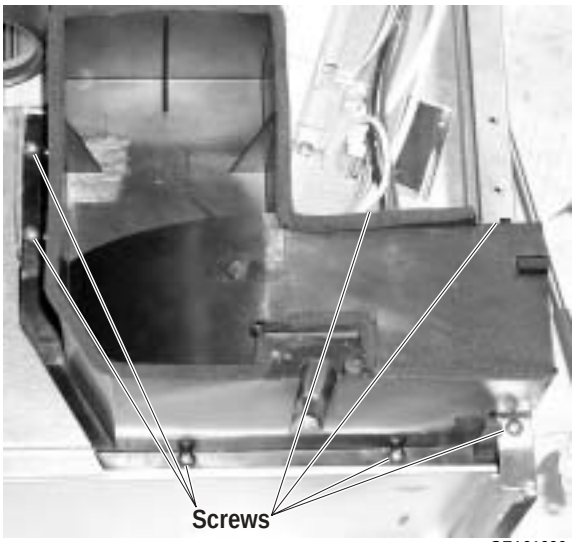
Upper Heaters (Halogen, Glass, Sheath)

1. Remove the outer case (see procedure).
2. Remove 2 screws and front vent cover (see procedure).
3. Remove the exhaust fan (see procedure).



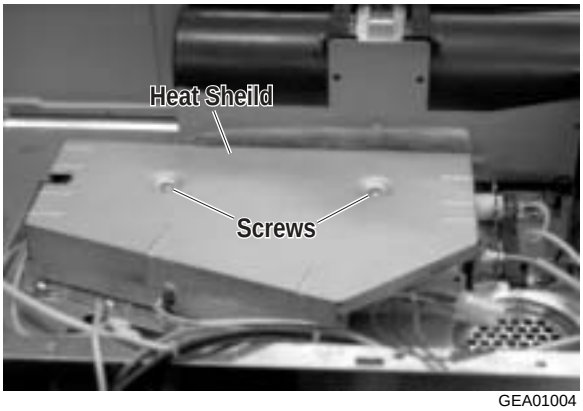
GEA01003

4. Remove the convection fan cover and the cover panel.



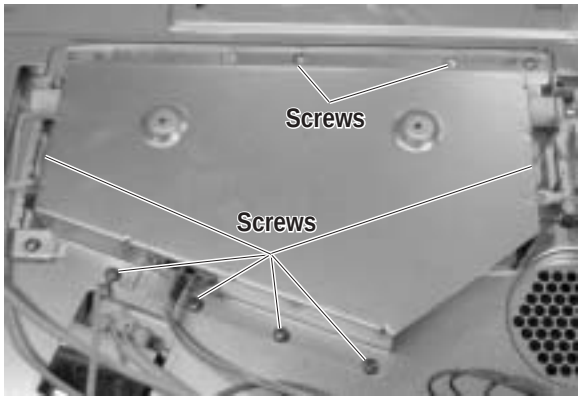
GEA01006

5. Remove 7 screws from the exhaust duct and position to access the heat shield.



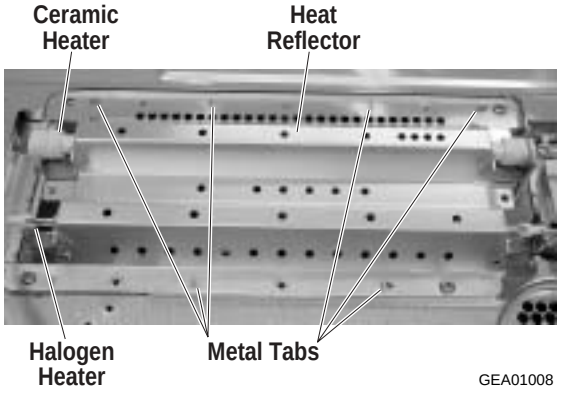
GEA01004

6. Remove 2 screws, heat shield, and insulation.



GEA01017

7. Remove 8 screws from the heater cover and position to access the heaters.

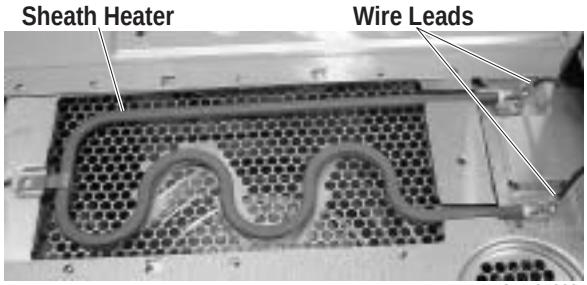


GEA01008

8. Disconnect the heater wiring.

Caution: Do not touch the halogen heater with bare hands. Touching the halogen heater with bare hands may cause heater failure.

9. Straighten metal tabs and remove all remaining screws and the heater assembly.

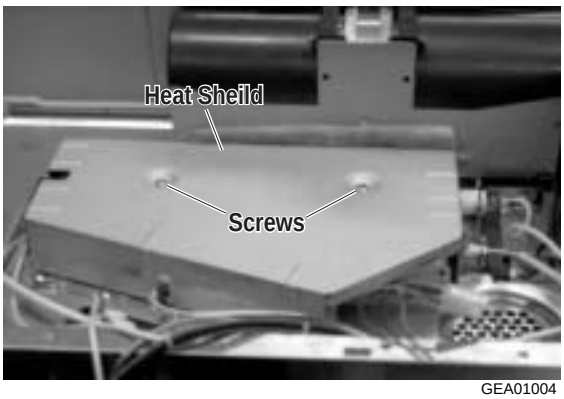


GEA01009

10. Remove the sheath heater.

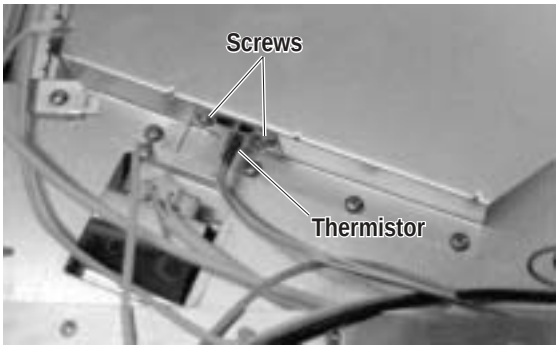
Thermistor

1. Remove the outer case (see procedure).
2. Disconnect the thermistor wiring from the PCB.



GEA01004

3. Remove 2 screws, heat shield, and insulation.

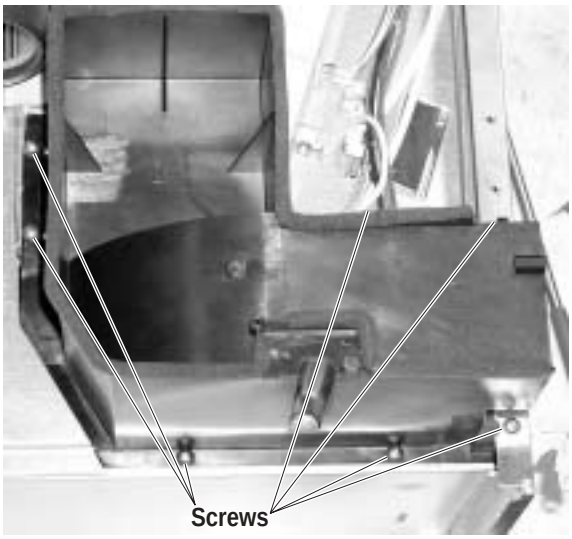


GEA00988

4. Remove 2 screws and the thermistor.

Humidity Sensor

1. Remove the outer case (see procedure).
2. Disconnect the humidity sensor wiring from the PCB.



GEA01006

3. Remove 7 screws securing the damper duct to the unit and lift to provide access to the humidity sensor.

GEA01007

4. Remove 2 screws and the humidity sensor.

Troubleshooting

Table of Contents

Fault Codes 40

Diagnosing Cooking Problems 40

Food Items Appear to Be Undercooked 40

Food Items Appear to Be Overcooked or Burned 41

Microwave Performance Test 41

Microwave Leak Test 41

Unit Dead (Blank Display) ***(Diagnostic Chart)*** 42

Control and/or Display Does Not Operate Properly ***(Diagnostic Chart)*** . . . 42

Speedcook ***(Diagnostic Chart)*** 43

Microwave ***(Diagnostic Chart)*** 44

Oven/Bake Under Temperature ***(Diagnostic Chart)*** 45

Oven/Bake Over Temperature ***(Diagnostic Chart)*** 46

Cooktop Light Does Not Illuminate in BRIGHT and/or NIGHT Mode or Does Not Turn Off (Diagnostic Chart) 47

Vent Fan Does Not Operate in One or Both Speeds or Does Not Turn Off (Using Vent Fan Button) ***(Diagnostic Chart)*** 48

Heater Shorted to Ground 49

Control Panel Test 49

Low Voltage Transformer Test 49

Humidity Sensor Test 50

Voltage Compensation Test 50

Damper Door Test 51

Heater Resistance Values 51

Thermal Cut-Outs (TCOs) 51

Oven Door Switches 51

Interlock System Test 52

Interlock Adjustment 52

Thermistor Resistance Values 52

Fault Codes

Display	Failure Detected
F1	Oven cavity thermistor open
F2	Oven cavity thermistor shorted
F3	Key panel shorted (> 60 seconds)
F4	Humidity sensor open or shorted
F6	High cavity temperature detected during microwave oven cooking

A flashing fault code and a four-beep signal will occur within a brief period after attempting to use the oven or microwave function that uses the failed sensor (humidity sensor or thermistor). If a sensor fails during cooking, the oven or microwave function will be terminated immediately, and the display and signal will occur.

Detection of a failed sensor will have no effect on functions that do not use that sensor.

Pressing the Clear key will remove the fault code display. This does not apply to the control panel short detection.

Sometimes fault codes will appear with no apparent cause. These codes and their symptoms include:

- **F1** - When cooking in Oven/Bake or Speedcook mode, the main PCB will monitor the thermistor output after 20 minutes of operation. If the thermistor does not read a temperature of 165° F or greater, then an F1 fault code will signal, and operation will terminate. If a large cold load is being cooked, the thermistor may not reach the needed 165° F within the 20-minute time period, thus the main PCB will read this information as the thermistor not responding and will display the F1 code. If the consumer reports an F1 fault code, it will take an extended amount of time to duplicate.
- **F4** - If there is an electrical surge or excessive line “noise” within the home, it could cause F4 to display on the control. The sensor will remain inoperable until the control is reset. This can be done by removing power (turning off the circuit) to the unit for 1 minute. Replacing the humidity sensor will **not** cure this situation if it was due to electrical “noise.”

Diagnosing Cooking Problems

An important part of diagnosing any consumer cooking concern is listening carefully to the consumer describe the problem. Equally important is asking the consumer the right questions. The following diagnostic information is intended as a guide for you to follow when addressing cooking concerns.

Food Items Appear to Be Undercooked

Foods which appear to be undercooked or partially cooked can be the result of any one of the following items. The possible causes listed below are sorted from most likely to least likely, with item number 1 being the first item that you should check.

1. Is the consumer selecting the correct type of cooking (microwave vs. Speedcook), and/or is the consumer using the correct time and power levels for the type, size, and quantity of food being cooked?
2. Is the consumer using the correct cookware for the type of food being cooked?
3. Is the consumer arranging the food properly on the metal cooking trays?
4. Is the turntable operating properly so that microwave energy and halogen heat are being evenly distributed to the food?
5. Are the damper doors closed in Speedcook and Oven/Bake? If the damper doors are open in Speedcook or Oven/Bake, heat will escape from the oven and it will not be able to maintain the proper temperature. Perform damper door test.
6. Confirm proper line voltage to the unit (check voltage under full load).
7. Confirm that voltage compensation is operating properly.
8. Perform a microwave performance test to confirm that microwave energy output (HV/ magnetron circuit) is operating to specification.
9. Are all fan motors operating properly? During

speedcook operation, **all** fan motors must operate (vent fan, convection fan, and magnetron fan). Improper airflow can cause the thermal cut-outs (TCOs) to open.

Food Items Appear to Be Overcooked or Burned

Foods which appear to be overcooked or burned can be the result of any one of the following items. The possible causes listed below are sorted from most likely to least likely, with item number 1 being the first item that you should check.

1. Is the consumer selecting the correct type of cooking (microwave vs. Speedcook), and/or is the consumer using the correct time and power levels for the type, size, and quantity of food being cooked?
2. Is the consumer using the correct cookware for the type of food being cooked?
3. Is the consumer arranging the food properly on the metal cooking trays?
4. Is the turntable operating properly so that microwave energy and halogen heat are being evenly distributed to the food?
5. Confirm proper line voltage to the unit (check voltage under full load).

Microwave Performance Test

This test will verify that the microwave oven high voltage and magnetron circuits are operating to performance specifications.

The standard load is 1 liter (1000 ml) of water with a starting temperature of 59° F to 75° F in a 1000-ml beaker. (**Do not use any other load or dish, as results will vary from the standard.**)

1. Use glass tray and WB64X0073 beaker. Record the initial water temperature prior to making the test.
2. Place the beaker in the center of the oven on the glass tray and run the microwave on high power setting for 2 minutes, 3 seconds.
3. At the end of the cooking cycle, record the water temperature. The minimum difference between the initial and ending temperatures should be 28° F @120 volts.

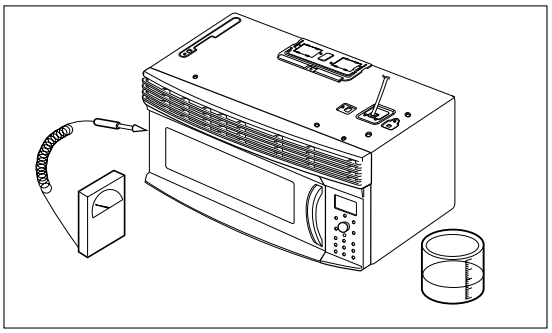
If the water temperature rose but did not reach the 28° F minimum difference, suspect a problem with the line voltage (test under full load), voltage compensation, or magnetron tube/high-voltage circuit.

If the water temperature did not rise at all, suspect a problem in the high voltage circuit.

Microwave Leak Test

Warning: Maximum allowable leakage is 4 MW/cm^2.

Inform the manufacturer of any oven found to have emission in excess of 4 MW/cm^2. Make repairs to bring the unit into compliance at no cost to the owner and determine the cause. Instruct the owner not to use the oven until it has been brought into compliance.



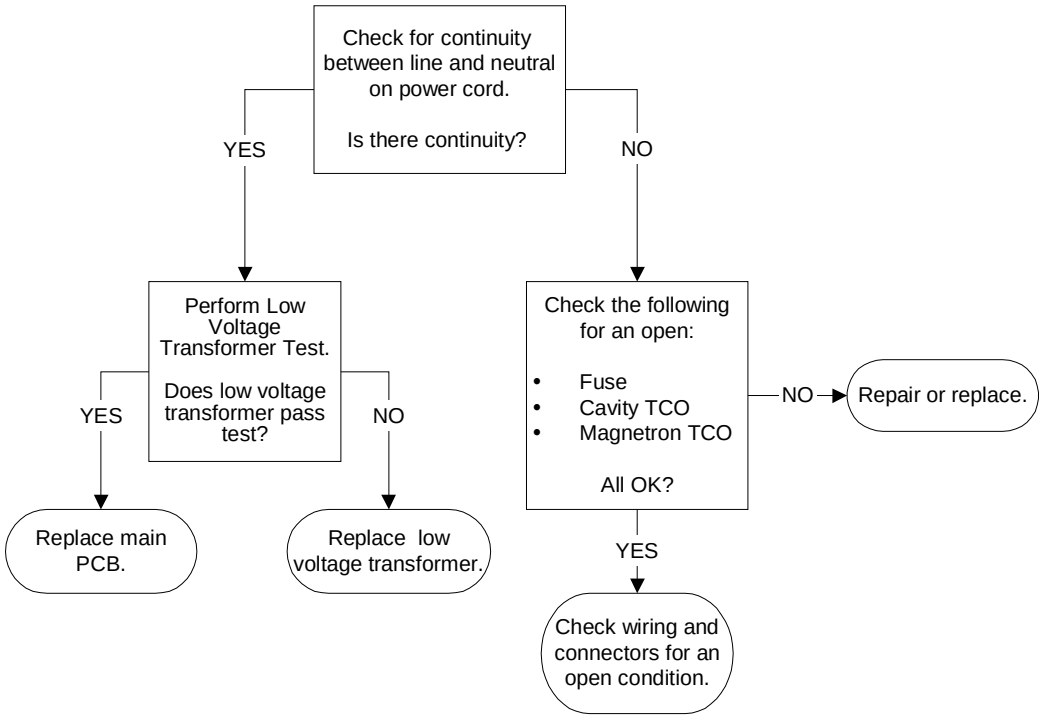
To perform a microwave leak test:

1. Place 275 ml of water in a 600-ml beaker (WB64X5010).
2. Place the beaker in the center of the oven on the turntable.
3. Set the leakage meter to the 2450 MHz scale.
4. Turn microwave on for 5 minutes.
5. Hold the probe perpendicular to the surface being tested and scan surfaces at a rate of 1 inch per second. Scan the following areas:
   - Entire perimeter of door and control panel
   - Viewing surface of door window
   - Exhaust vents

Warning: Maximum allowable leakage is 4 MW/cm^2.

6. Record data on service invoice and microwave leakage report.

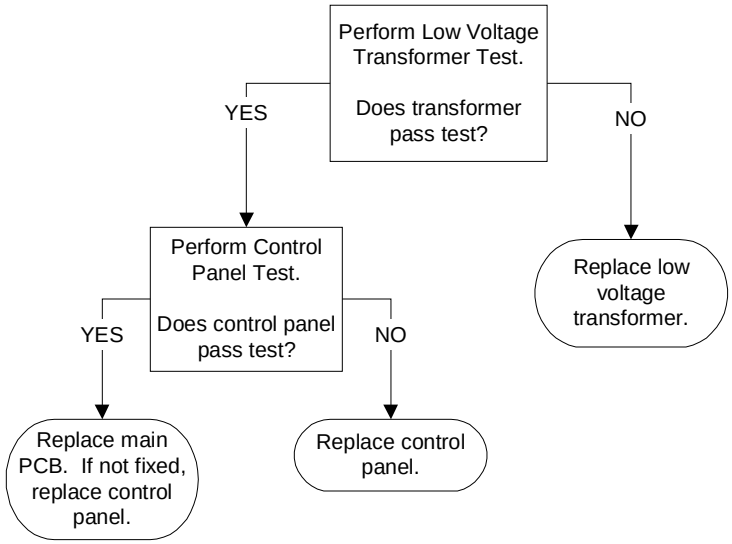
Unit Dead (Blank Display)



Control and/or Display Does Not Operate Properly

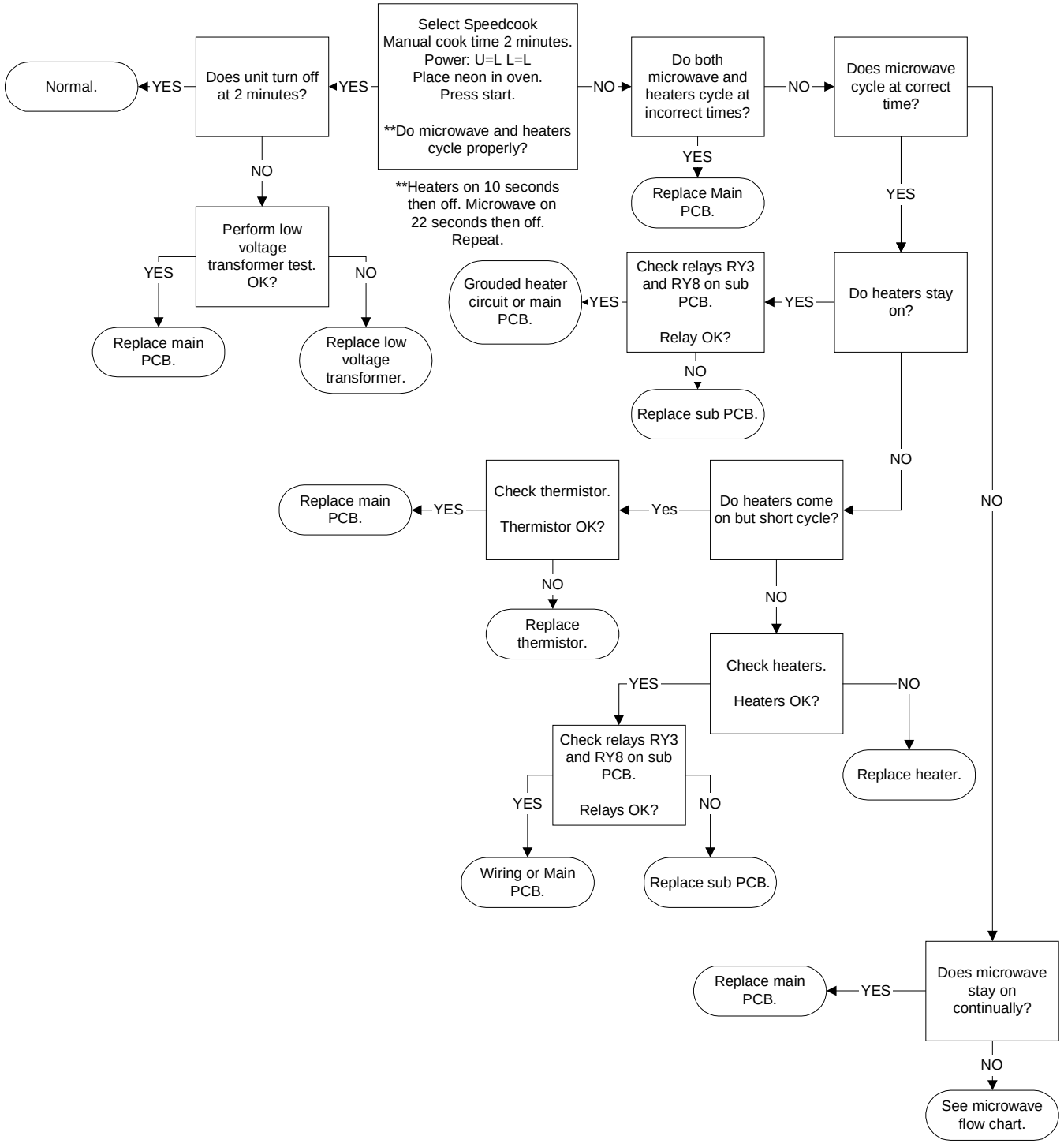
Note: Use this diagnostic procedure if unit has one of the following malfunctions:

- No beep (check control program for beeper MUTE)
- Some or all keys do not operate (check for CONTROL PANEL LOCKED)
- Display does not show what was entered
- Display erratic
- Display blank (check control for display turned OFF)
- Cannot clear display

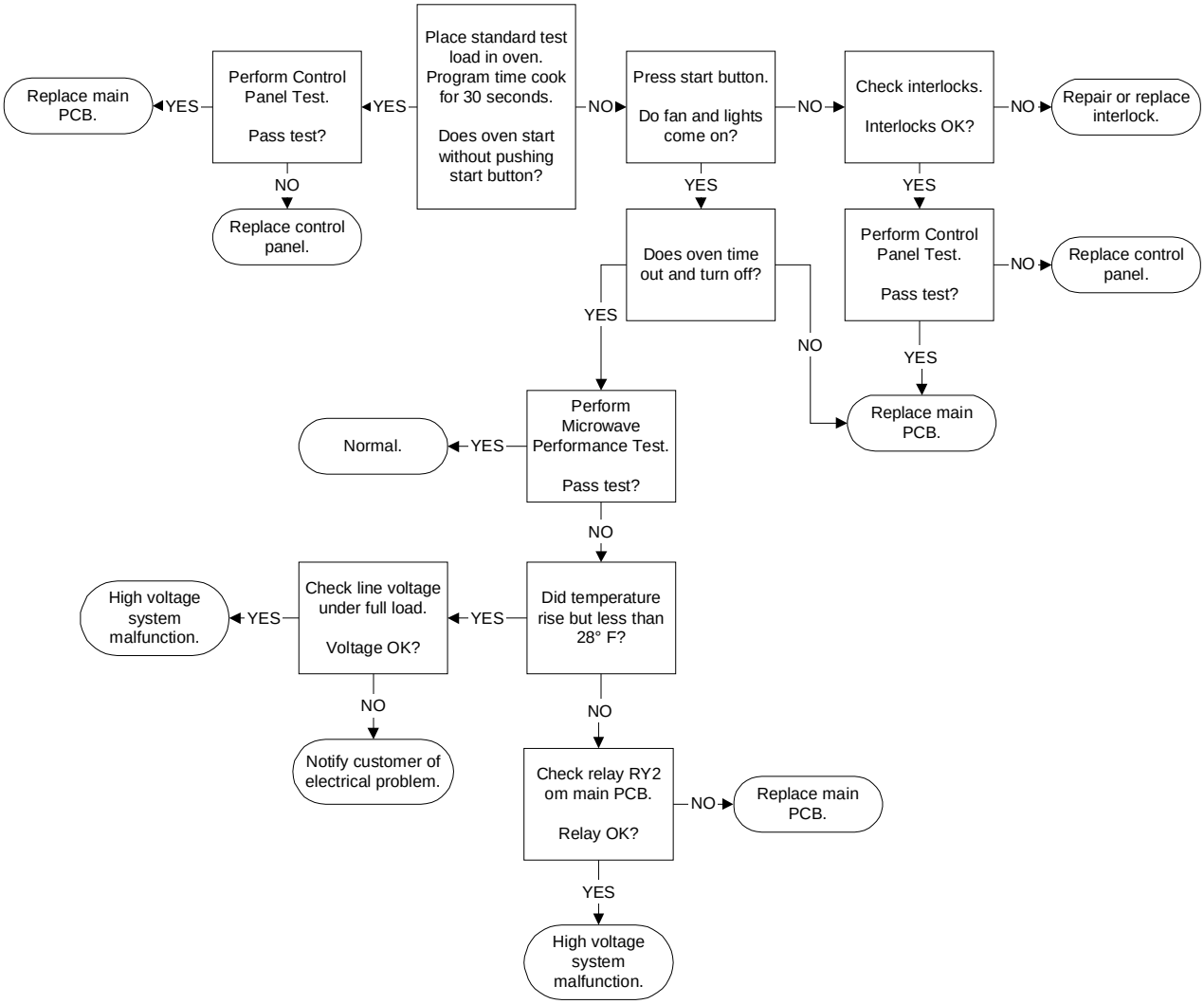


Speedcook

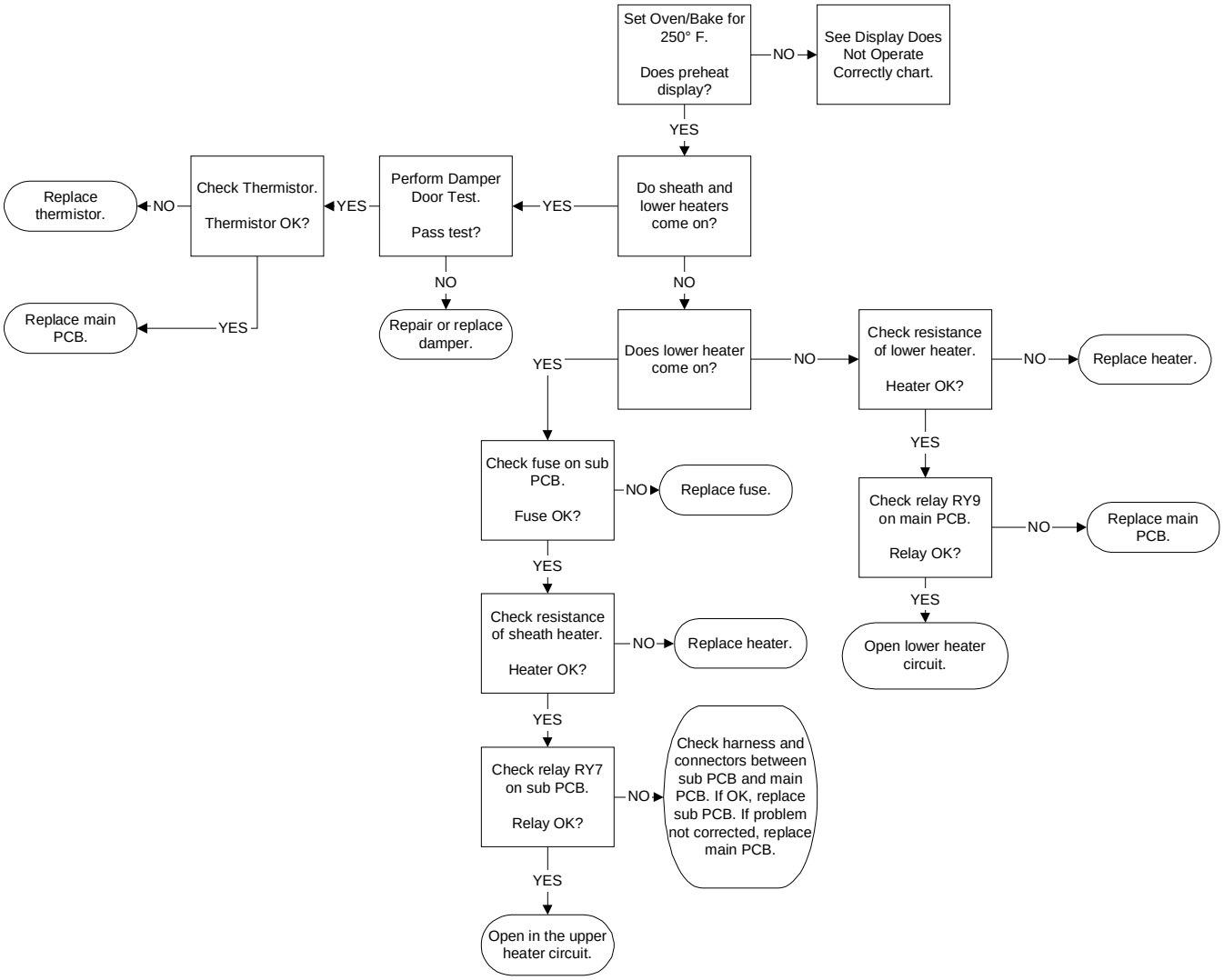
Note: Oven must be at room temperature at the start of Speedcook load test.



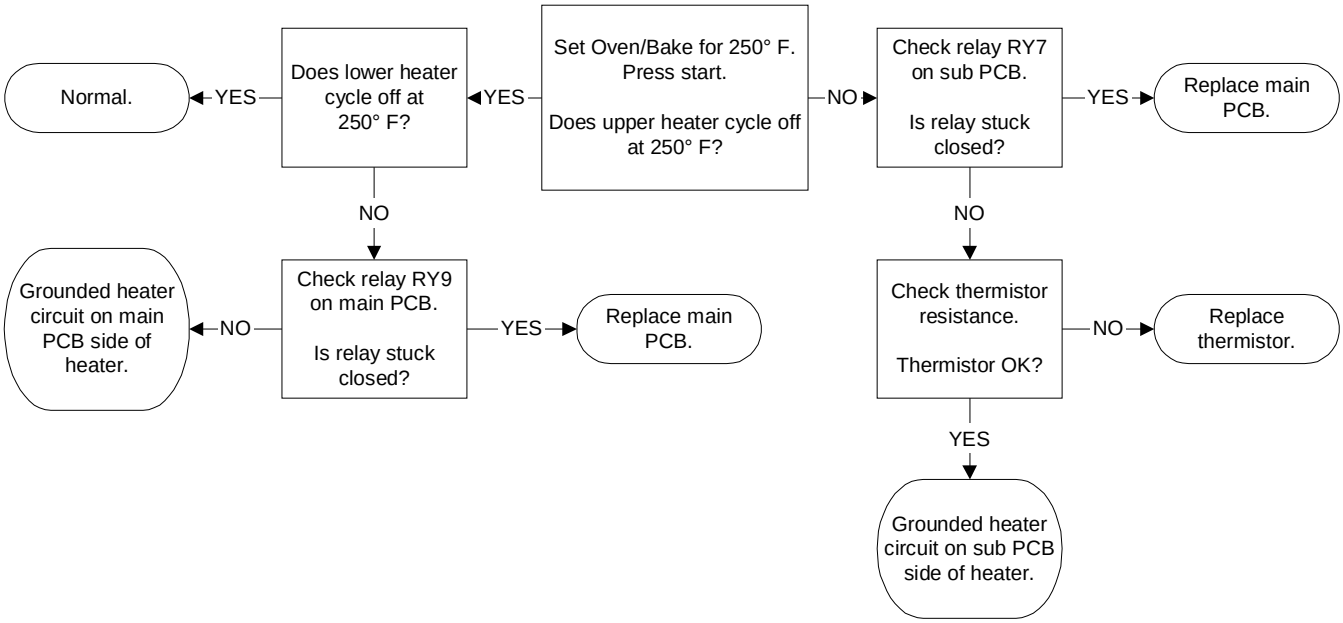
Microwave


Place standard test load in oven. Program time cook for 30 seconds. Does oven start without pushing start button?
NO
Press start button. Do fan and lights come on?
NO
Check interlocks. Interlocks OK?
NO
Repair or replace interlock.
YES
YES
Perform Control Panel Test. Pass test?
NO
Replace control panel.
YES
Does oven time out and turn off?
YES
NO
Perform Control Panel Test. Pass test?
NO
Replace control panel.
YES
Replace main PCB.
Perform Microwave Performance Test. Pass test?
YES
Normal.
NO
Did temperature rise but less than 28° F?
YES
Check line voltage under full load. Voltage OK?
YES
High voltage system malfunction.
NO
Notify customer of electrical problem.
NO
Check relay RY2 om main PCB. Relay OK?
NO
Replace main PCB.
YES
High voltage system malfunction.
Replace main PCB.
YES

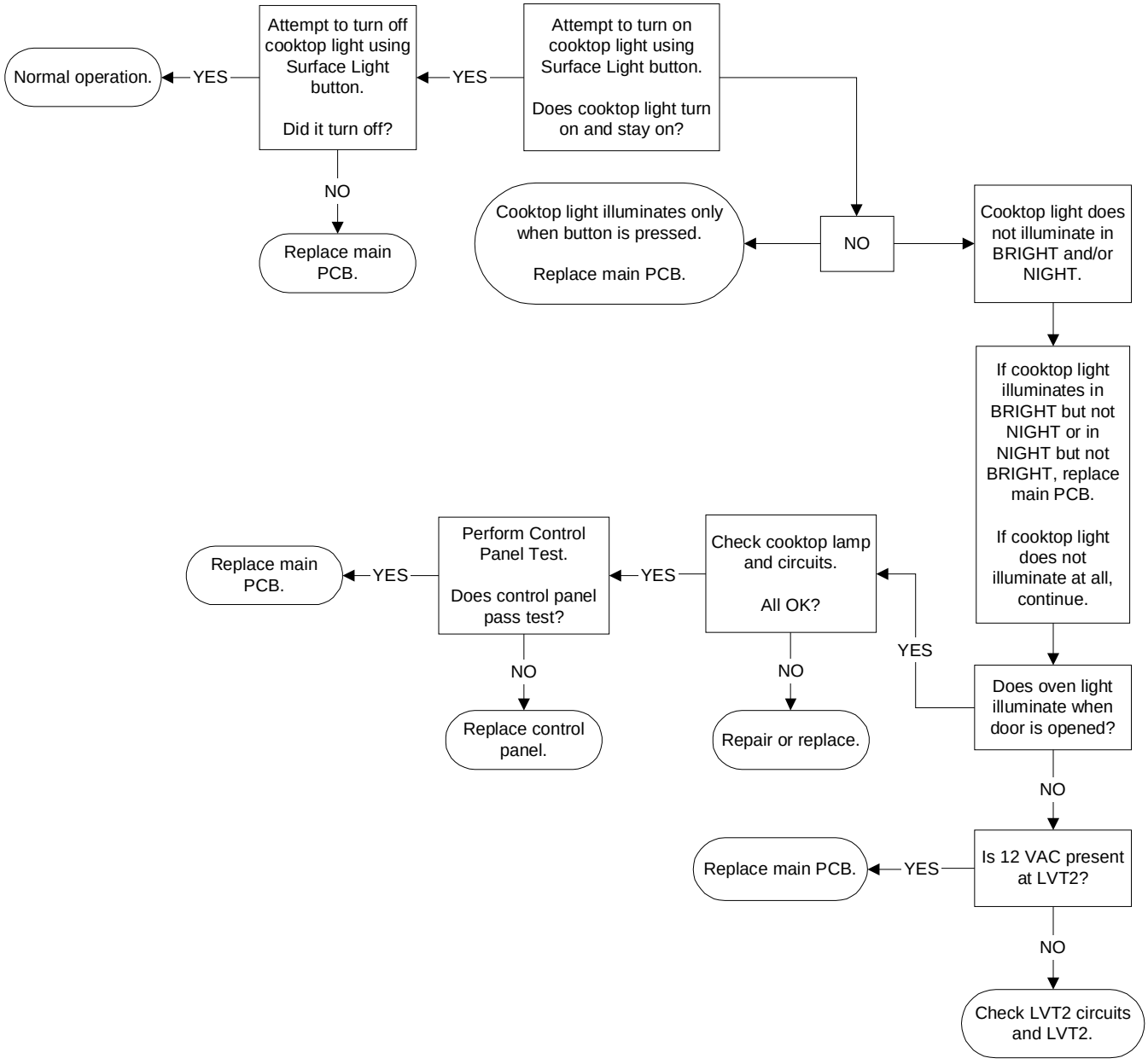
Oven/Bake Under Temperature



Oven/Bake Over Temperature

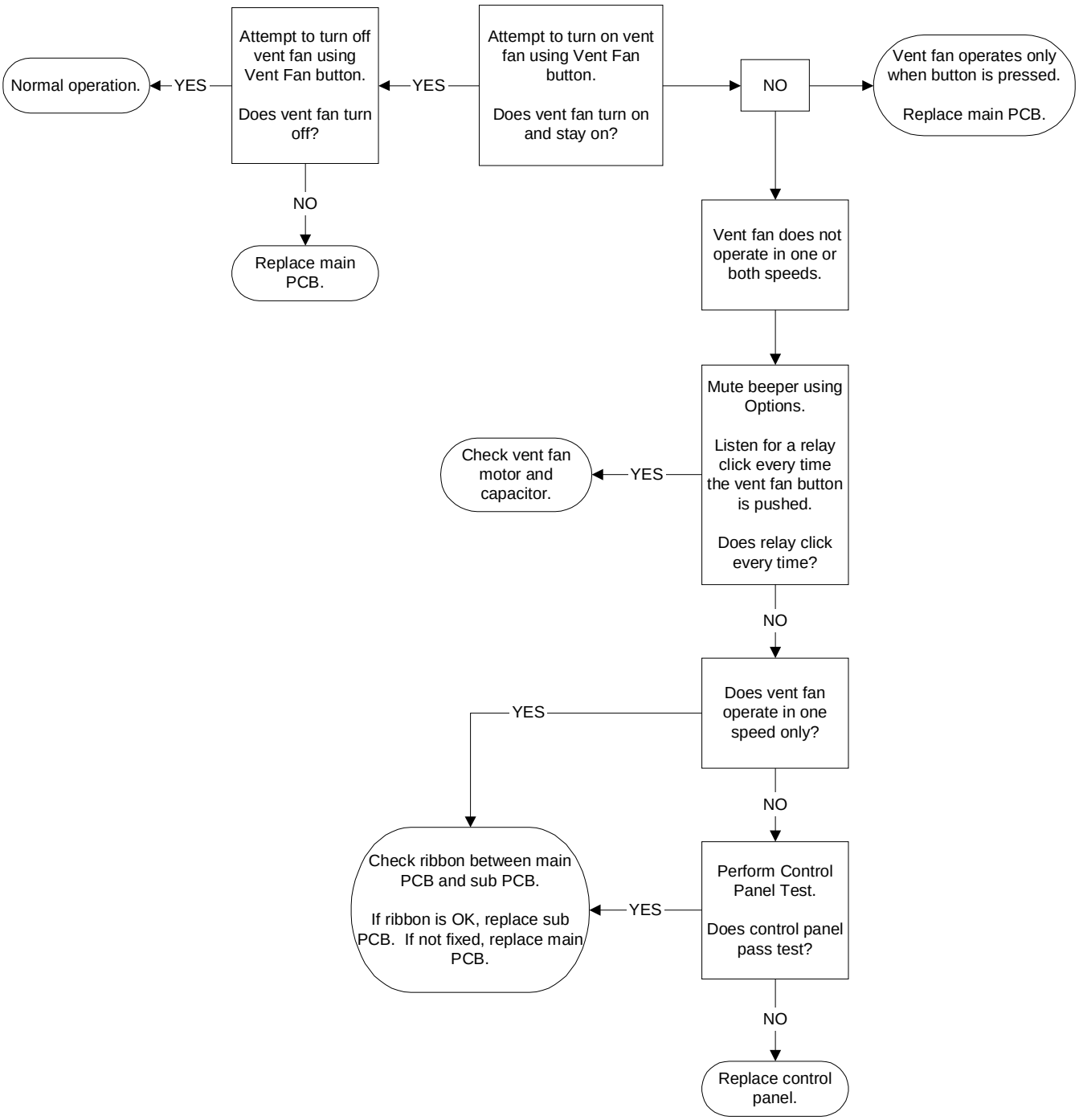


Cooktop Light Does Not Illuminate in BRIGHT and/or NIGHT Mode or Does Not Turn Off



Vent Fan Does Not Operate in One or Both Speeds or Does Not Turn Off (Using Vent Fan Button)

Note: This oven is equipped with an Automatic Fan feature. If cabinet or cavity temperature is high, the vent fan will automatically operate at a low speed. The fan cannot be turned off and will stop automatically.



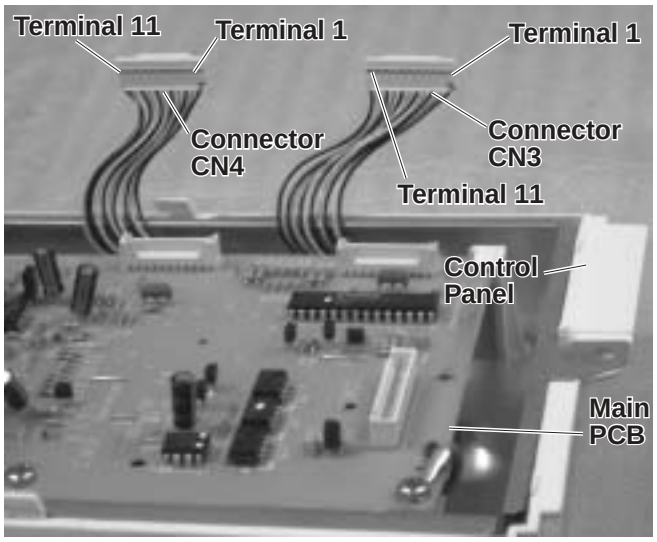
Heater Shorted to Ground

Some components are switched on the neutral side; therefore, it is possible to bypass the relay and close the heater circuit by shorting it to ground. If a heater shorts to ground, it will energize any time the door is closed. This will usually trip a GFCI but not a standard household breaker. This problem will most likely cause the cavity TCO to open. However, if a heater is shorted to ground and the microwave is used, either the 20-amp in-line fuse or the household breaker will trip. If the sheath heater is shorted to ground and Speedcook is used, the 12-amp fuse on the sub PCB will trip.

Control Panel Test

The control panel circuits from the keys to the main PCB can be verified by a continuity test.

1. Remove the control panel.
2. Disconnect connectors CN3 and CN4 from the main PCB.



3. Using the chart, perform continuity tests for the keys that are suspect. With the ohmmeter leads connected to the appropriate terminals on connector CN3 or CN4, press the key and note the ohmmeter reading.
   - key not pressed - infinite resistance should be measured
   - key pressed - continuity should be measured

Note: Ohmmeter **must** be set at high scale.

Control Panel Test Chart					
Pad	CN3 Pin	CN4 Pin	Pad	CN3 Pin	CN4 Pin
Selector Dial	7	5	Speedcook	7	5
Clear/ Off	8	5	Oven/Bake	8	5
Back	9	5	Micro Express	9	5
Reminder	11	5	Help	11	5
Start/ Pause	7	5	Microwave	7	5
Power Level	8	5	Warm/ Reheat	8	5
Timer	9	5	Surface Light	9	5
Options	11	5	Vent Fan	11	5

Low Voltage Transformer Test

To perform a low voltage transformer test:

Verify 120 VAC is present at CN1 on main PCB across the white and black wires. If 120 VAC is not present, suspect a faulty main PCB. If 120 VAC is present, use the following chart to check the voltage output of the low-voltage transformer.

If the voltage output or resistance is not correct, replace the low voltage transformer.

Low Voltage Transformer Voltage and Resistance Values				
Measure Across	Line Voltage = 108 VAC	Line Voltage = 120 VAC	Line Voltage = 132 VAC	Ohms
Yellow to Black	10.1 VAC	11.4 VAC	12.7 VAC	1.4
White to Black	15.9 VAC	18.1 VAC	20.0 VAC	4.9
Red to Red	11.9 VAC	13.5 VAC	14.9 VAC	8.1
Brown to Brown	3.64 VAC	4.13 VAC	4.58 VAC	1.4

Humidity Sensor Test

Note:

- An open or shorted humidity sensor will cause fault code F4.
- Oven should be plugged in at least 5 minutes before the test.
- Room temperature should not exceed 95° F.
- Be sure the exterior of the cooking container and the interior of the oven are dry.
- No sensor cooking is available during the 5 minutes immediately after speedcook.

The humidity sensor can be tested from the control panel area using the following diagnostic procedure:

1. Remove control panel enough to gain access to connector CN5 on main PCB.
2. Disconnect the humidity sensor connector (CN5) from the main PCB.
3. Using an ohmmeter, set the scale to Rx1000 and confirm the following approximate resistance readings:
   a. BLK - RED = 6.2K ohms
   b. RED - WHT = 3.1K ohms
   c. BLK - WHT = 3.1K ohms

Voltage Compensation Test

A voltage compensation test should be conducted any time the main PCB is changed. To perform a voltage compensation test, do the following:

1. Measure and record the line voltage.

Note: No load is required during this test.

2. Select Speedcook, Biscuits, Refr, Large.
3. Press the Start key. Normal cook time for this selection is 12 minutes. After 7 seconds, voltage compensated time should be displayed.
4. Compare your recorded line voltage and cook time with the line voltage and cook time on the chart. Your recorded time should be within 20 seconds of the times listed in the Voltage Compensation Chart.

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

Damper Door Test

To test damper doors:

1. Select Warm/Reheat mode.
2. Select Keepwarm Lo program.
3. Select Moist setting.
4. Press start and run for 5 seconds. Open the door and visually check to see if both damper doors are closed.
5. Close the door and press Clear/Off.
6. Select Warm/Reheat mode.
7. Select Warm/Reheat Lo program.
8. Select Crisp setting.
9. Press start and run for 5 seconds. Open the door and visually check to see if both damper doors are open.

Heater Resistance Values

Resistance can be checked across a heater using the line-in side of the power cord and the heater connector at the main PCB or sub PCB. The oven door must be closed when checking through the power cord.

The following chart lists the wattage and resistance values for each of the four heaters.

Heater Resistance Values		
Halogen Heater	2.5 ohms	500 watts
Sheath Heater	12.8 ohms	1100 watts
Upper Ceramic	22.5 ohms	600 watts
Lower Ceramic	36.6 ohms	375 watts

Thermal Cut-Outs (TCOs)

The following chart lists each TCO, the temperature it will open at, and the temperature it will close at. Use an ohmmeter to check for an open TCO.

Thermal Cut-Out Values		
Description	Open	Closed
Cavity TCO	302° F 150° C	32° F 0° C
Hood TCO	104° F 40° C	133° F 56° C
Magnetron TCO	302° F 150° C	140° F 60° C

Oven Door Switches

Primary Interlock Test

1. Remove the grille and discharge the capacitor.
2. Check continuity between switch terminals. Normal readings are as follows:
   - Door closed: 0 ohms.
   - Door open: infinite ohms.

Door Sensing Switch Test

1. Remove the grille and discharge the capacitor.
2. Check continuity between switch terminals. Normal readings are as follows:
   - Door closed: 0 ohms.
   - Door open: infinite ohms.

Monitor Switch Test

The bottom latch pawl pushes horizontally and actuates the lever of the monitor interlock opening the switch.

1. Remove the monitor switch leads to isolate the switch.
2. Check continuity between switch terminals. Normal readings are as follows:
   - Door closed: infinite ohms.
   - Door open: 0 ohms.

Interlock System Test

1. Remove the grille and discharge the capacitor.
2. Check 20-amp fuse for continuity and proper size. Do not use any fuse other than 20 amp.
3. Remove the monitor switch leads to isolate the switch. Check continuity of switch with door open and door closed.
   - Door closed: infinite ohms.
   - Door open: 0 ohms.
4. Reconnect the switch leads.
5. Test the circuit operation:
   A) Connect a temporary jumper across relay (RY2) contacts, primary interlock, and door sensing switch to simulate shorted switch contacts.
   B) Connect the ohmmeter (Rx1) across the line terminals of the appliance cord.
      Continuity must show:
      - Door closed: infinite ohms.
      - Door open: 0 ohms.
   C) Remove the 20-amp fuse - circuit must open (infinite ohms).
6. After testing is complete, remove temporary jumper leads from interlocks and relay and reconnect monitor switch leads.

Interlock Adjustment

Warning: A microwave leakage test must be performed any time a door is removed, replaced, disassembled, or adjusted for any reason. **The maximum allowable leakage is 4 MW/cm².**

The latch board is adjusted for door fit and switch operation.

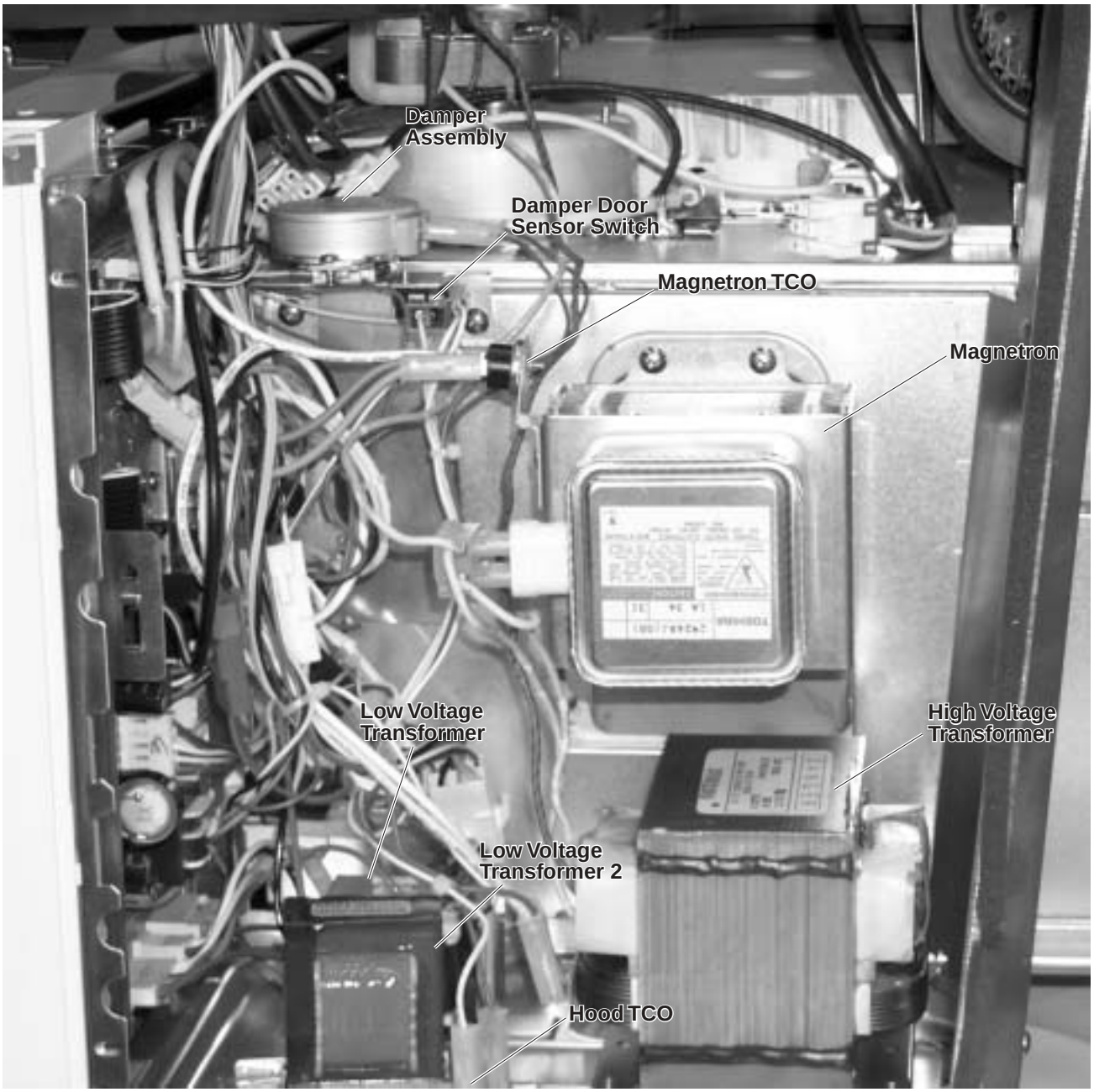
1. Remove the key panel.
2. Loosen the latch-board mounting screws at the vertical flange.
3. Adjust the latch-board for proper switch operation and door fit. Retighten screws.

Thermistor Resistance Values

Thermistor resistance can be checked at the main control board, connector CN6. Check between the white and red wire for the high-thermistor side of the thermistor. Check between the white and the blue wire for the low-thermistor side of the thermistor. The thermistor must be at room temperature when testing.

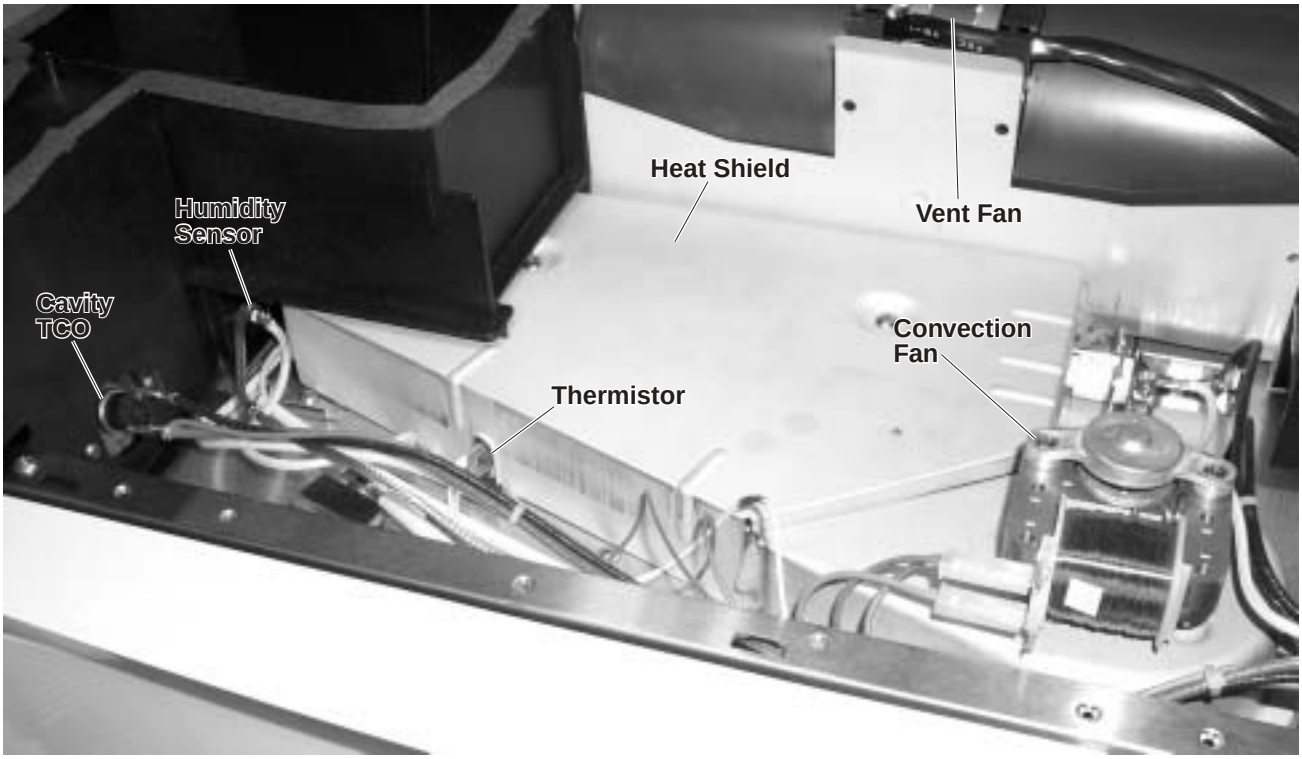
Thermistor Resistance Values			
High Thermistor		Low Thermistor	
Temperature	Acceptable Range (K-ohms)	Temperature	Acceptable Range (K-ohms)
50° F	370-522	50° F	186-192
70° F	224-310	70° F	112-115
90° F	139-189	90° F	69.0-71.2

Component Locator View



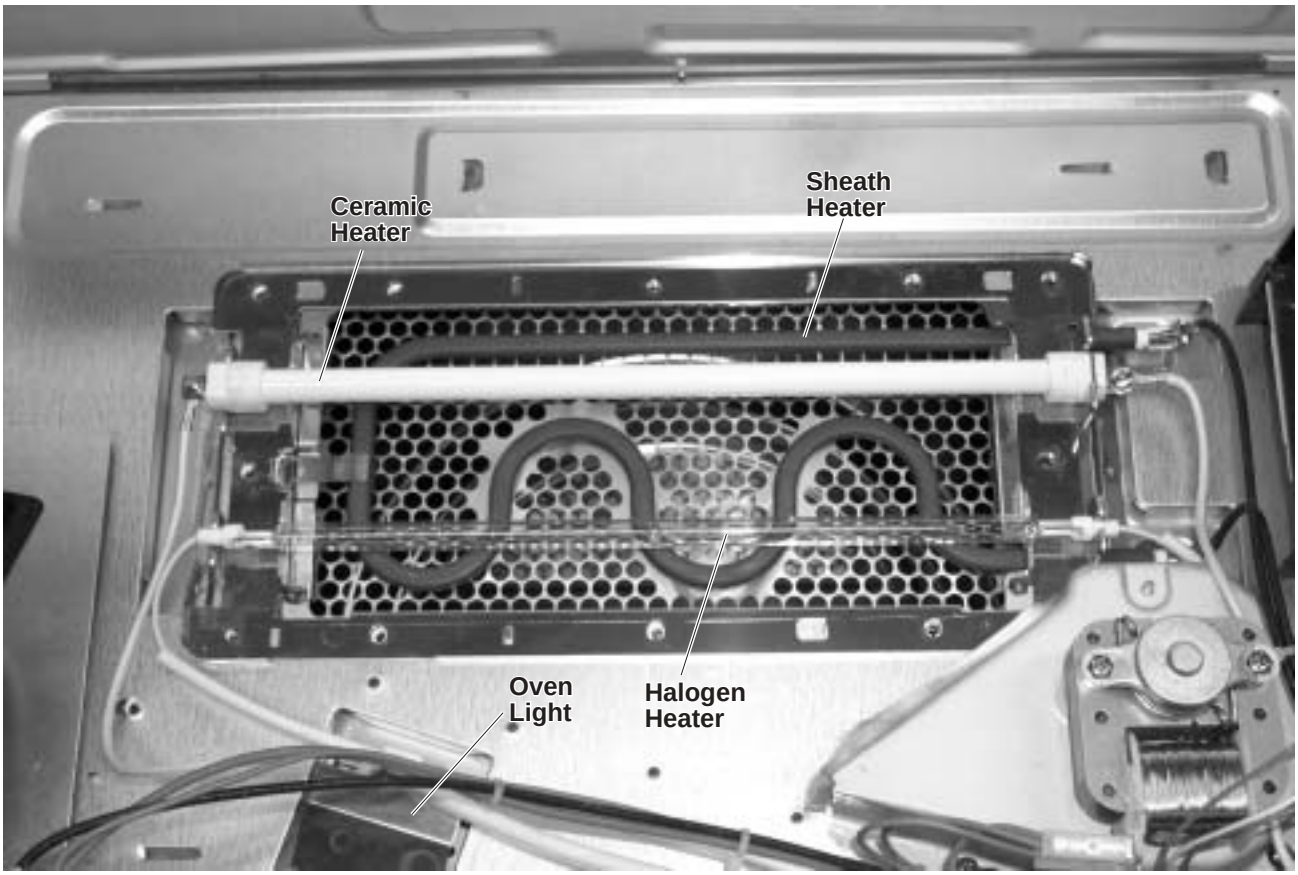
GEA01115

Figure 4 - High Voltage Compartment



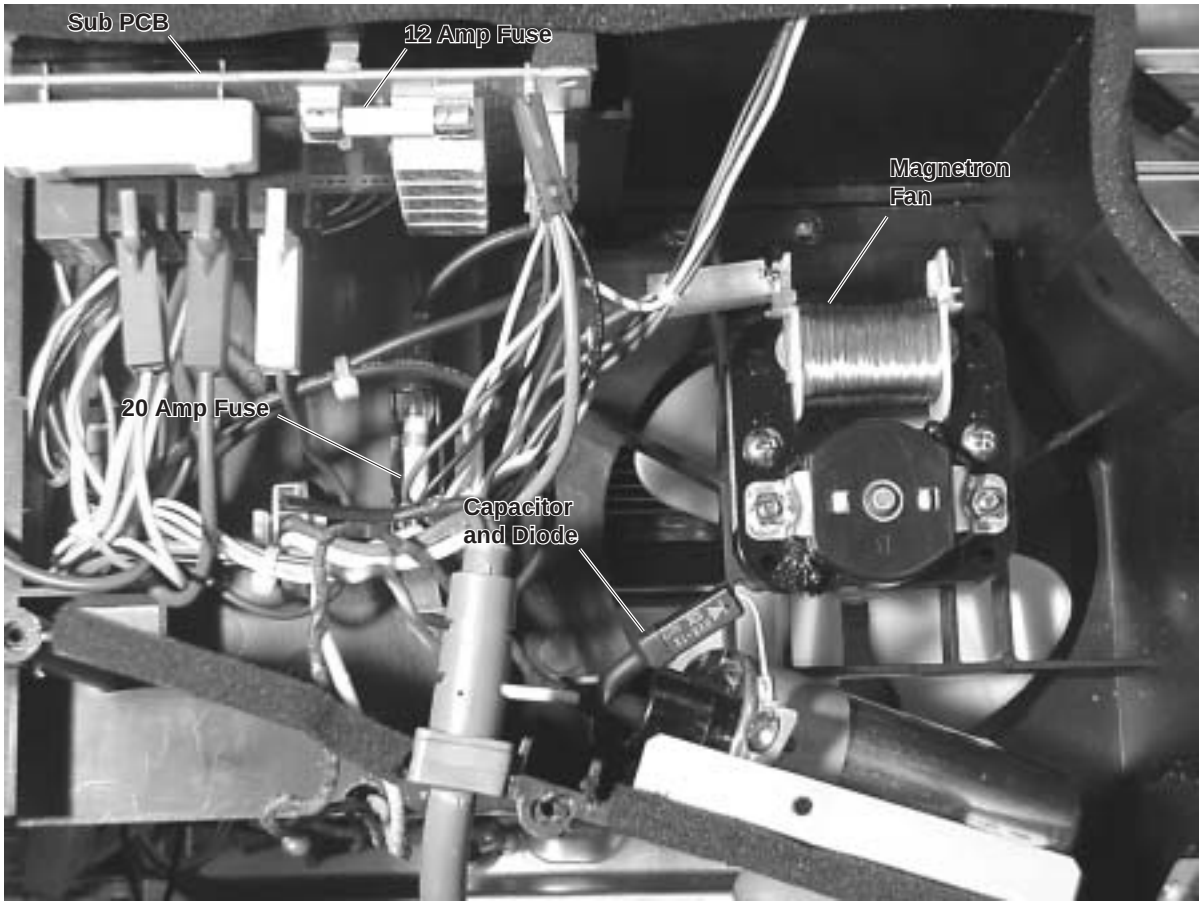
GEA01118

Figure 5 - Upper Components



GEA01121

Figure 6 - Upper Heaters



GEA01128

Figure 7 - Sub PCB and Magnetron Compartment

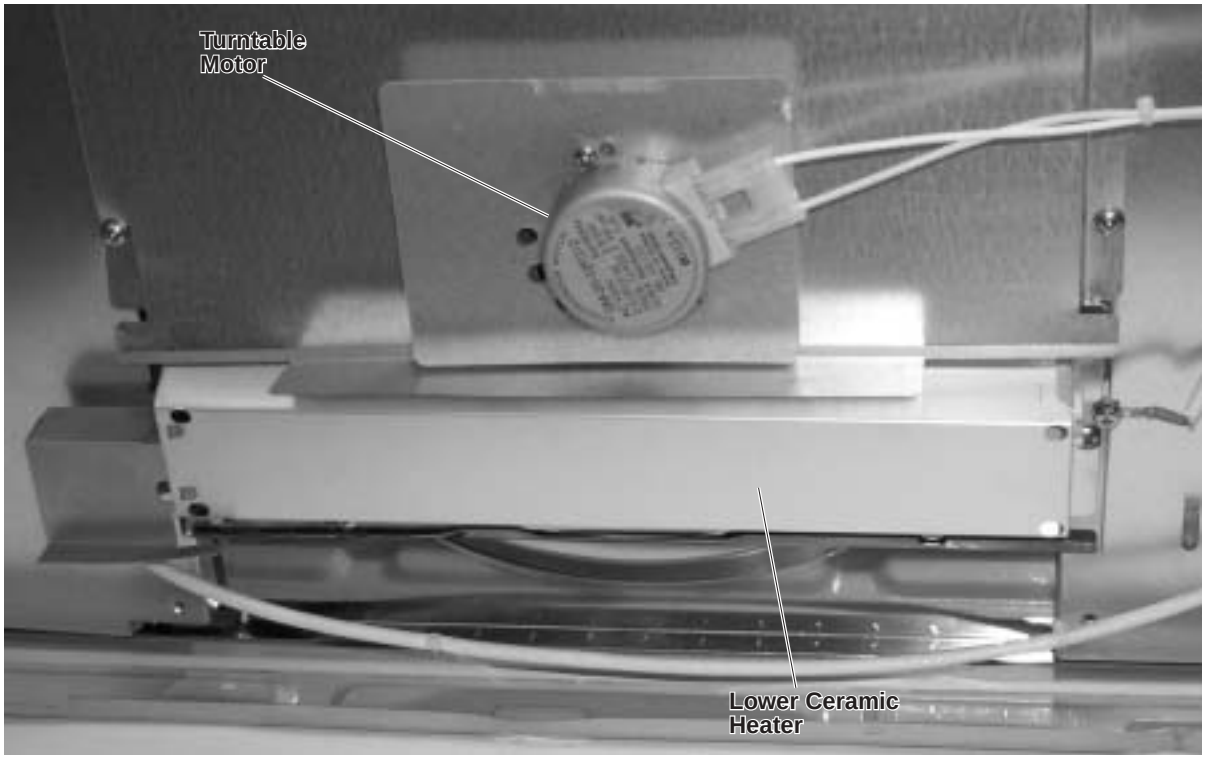


Figure 8 - Lower Heater and Turntable Motor

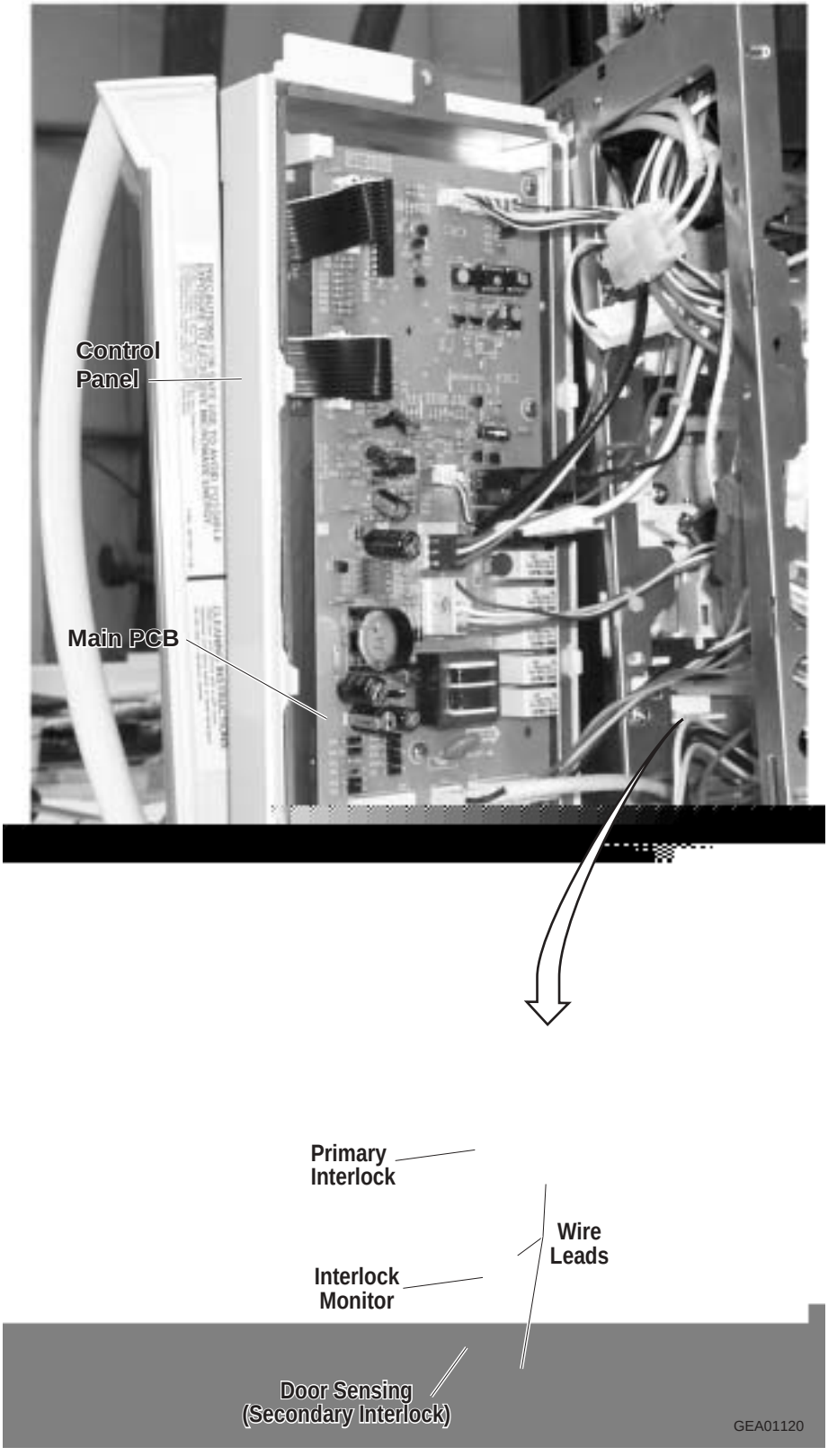
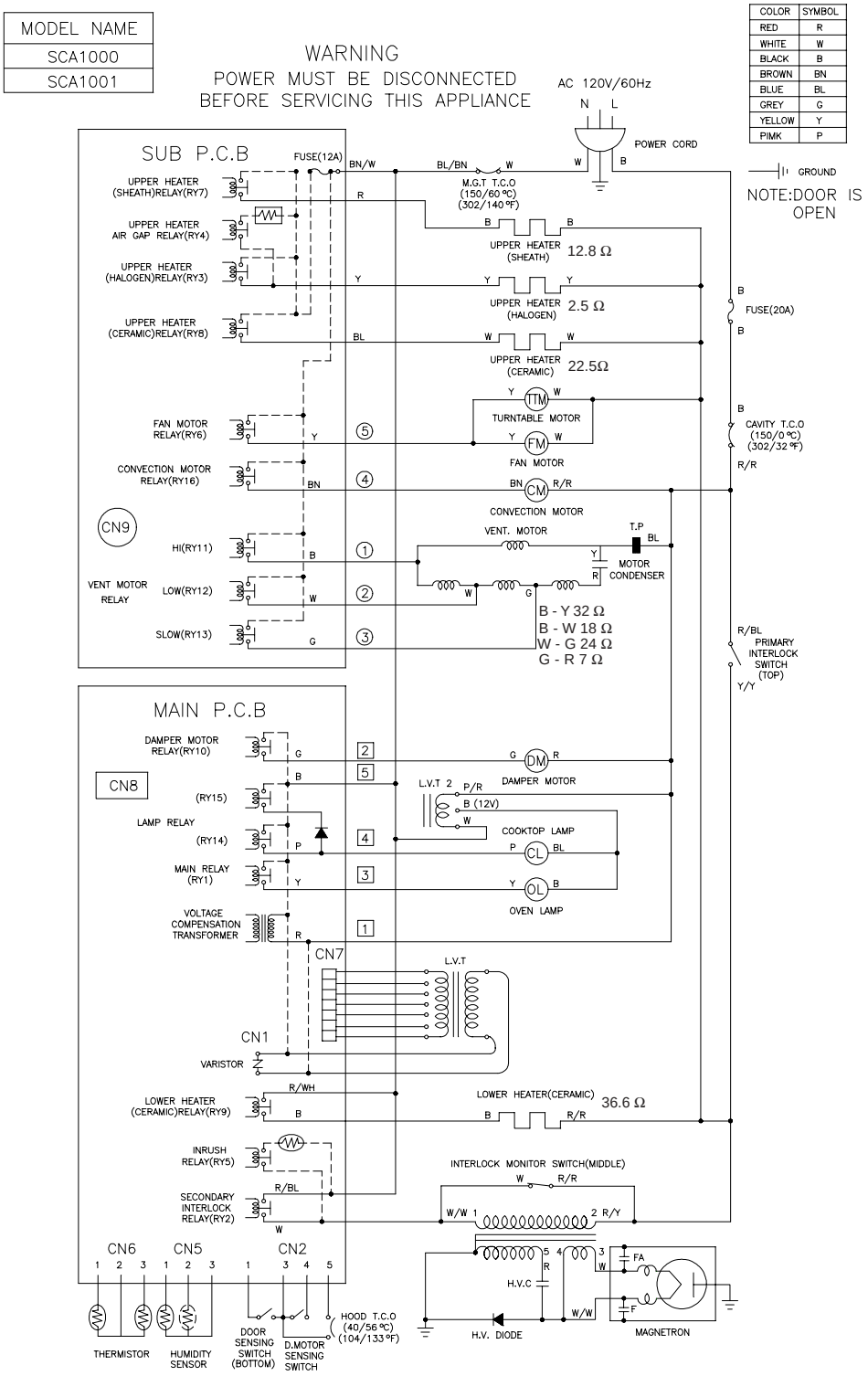


Figure 9 - Control Panel, Main PCB, and Interlocks

Schematics and Wiring Diagrams



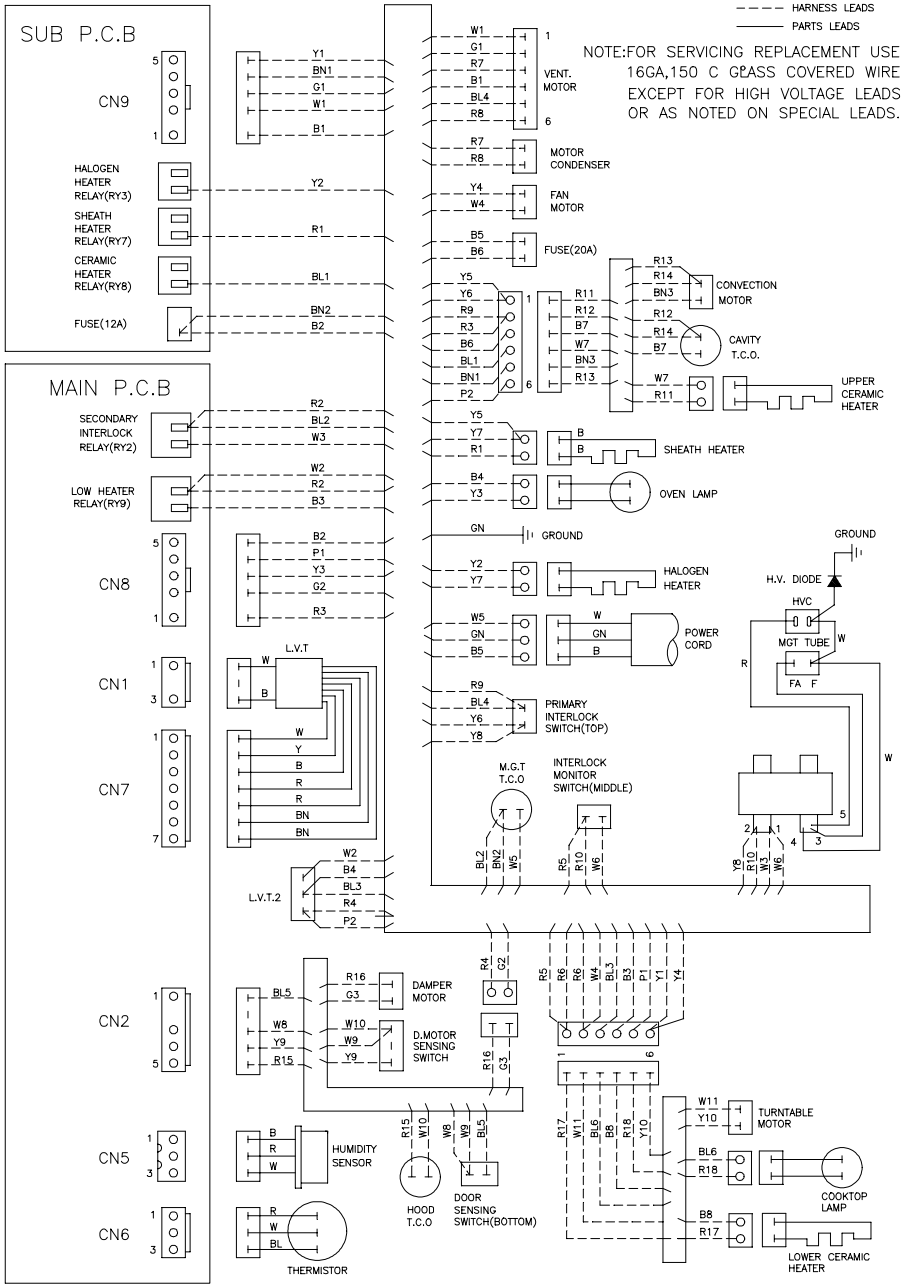
MODEL NAME
SCA1000
SCA1001

WARNING
POWER MUST BE DISCONNECTED
BEFORE SERVICING THIS APPLIANCE

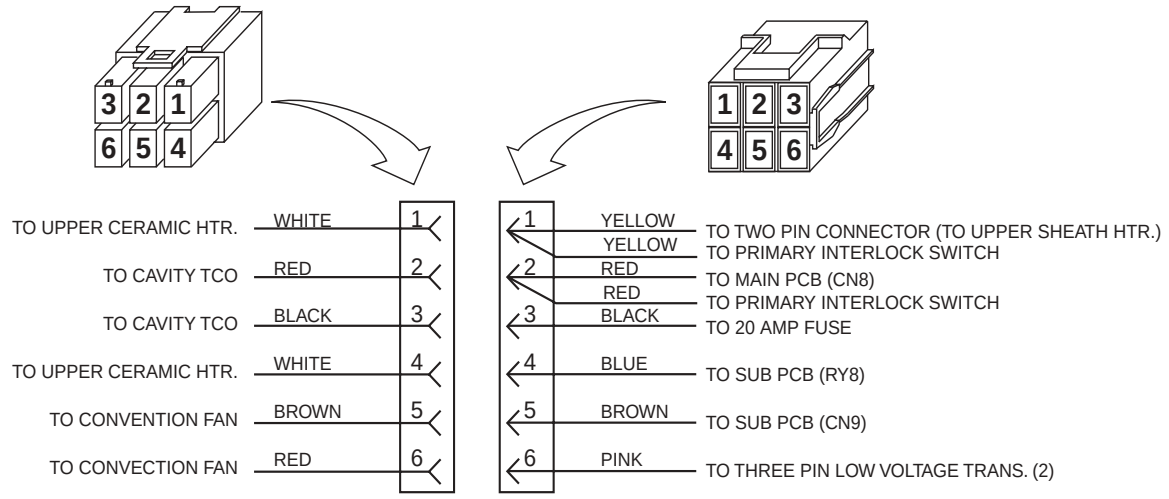
COLOR	SYMBOL
RED	R
WHITE	W
BLACK	B
BROWN	BN
BLUE	BL
GREY	G
YELLOW	Y
PIMK	P

GROUND
HARNESS LEADS
PARTS LEADS

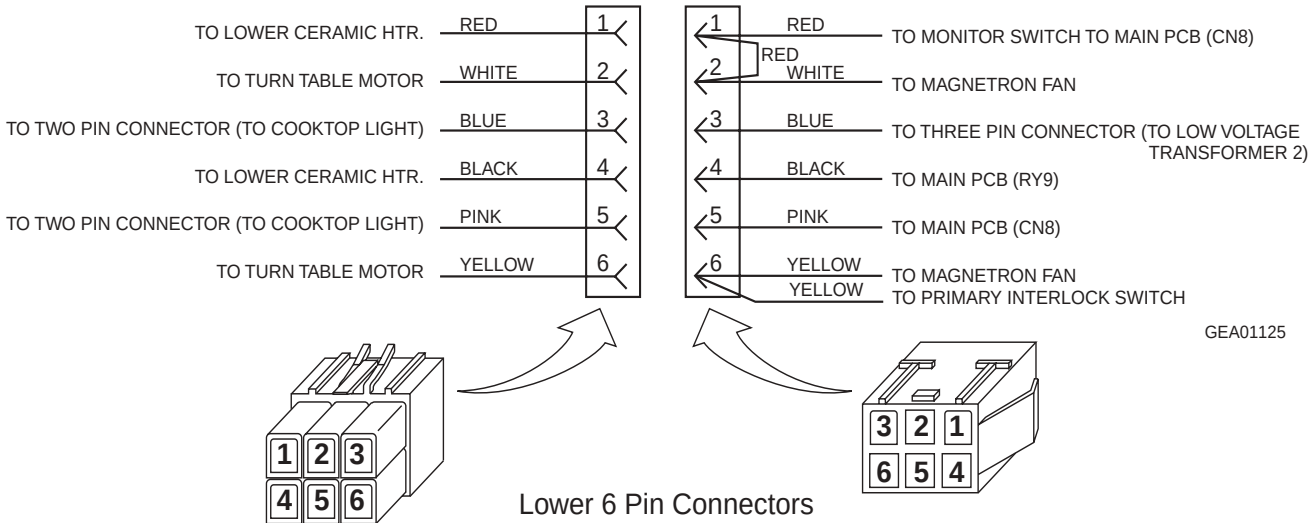
NOTE:FOR SERVICING REPLACEMENT USE 16GA,150 C GLASS COVERED WIRE EXCEPT FOR HIGH VOLTAGE LEADS OR AS NOTED ON SPECIAL LEADS.



Strip Circuits

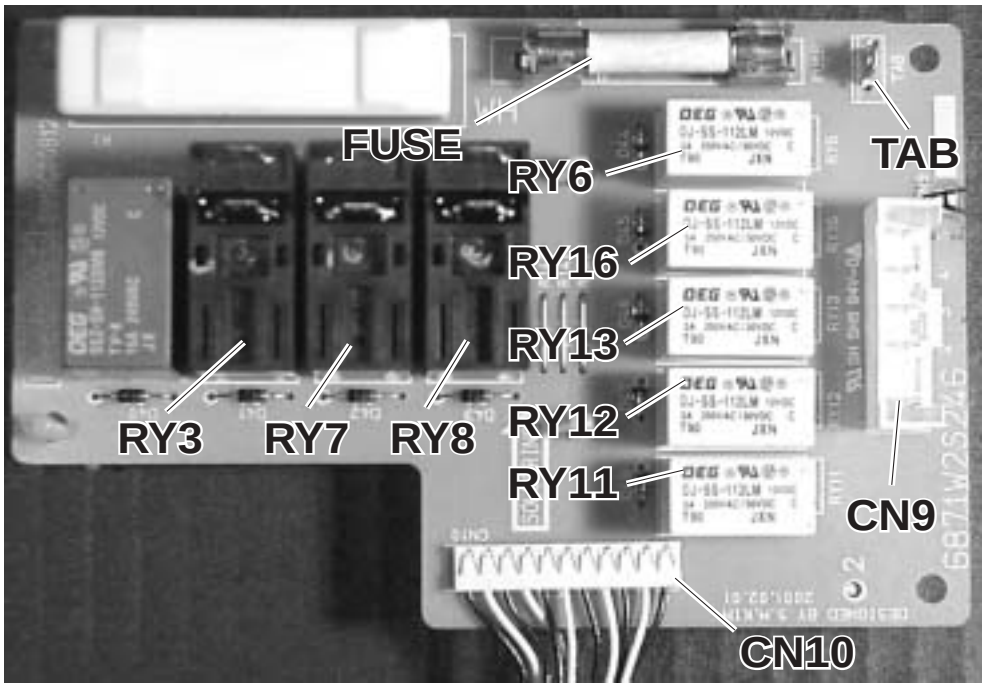


Upper 6 Pin Connectors



Lower 6 Pin Connectors

Sub PCB Locator Chart			
Connector	Color	Number of Terminals	Description
RY3	Blue	2	Halogen heater
RY7	Red	2	Sheath heater
RY8	White	2	Upper 6 pin connector, ceramic heater
CN9	White	5	Vent fan, upper 6-pin connector, lower 6-pin connector
CN10	White	11	Main PCB
Tab	Red	1	Main PCB, mag TCO



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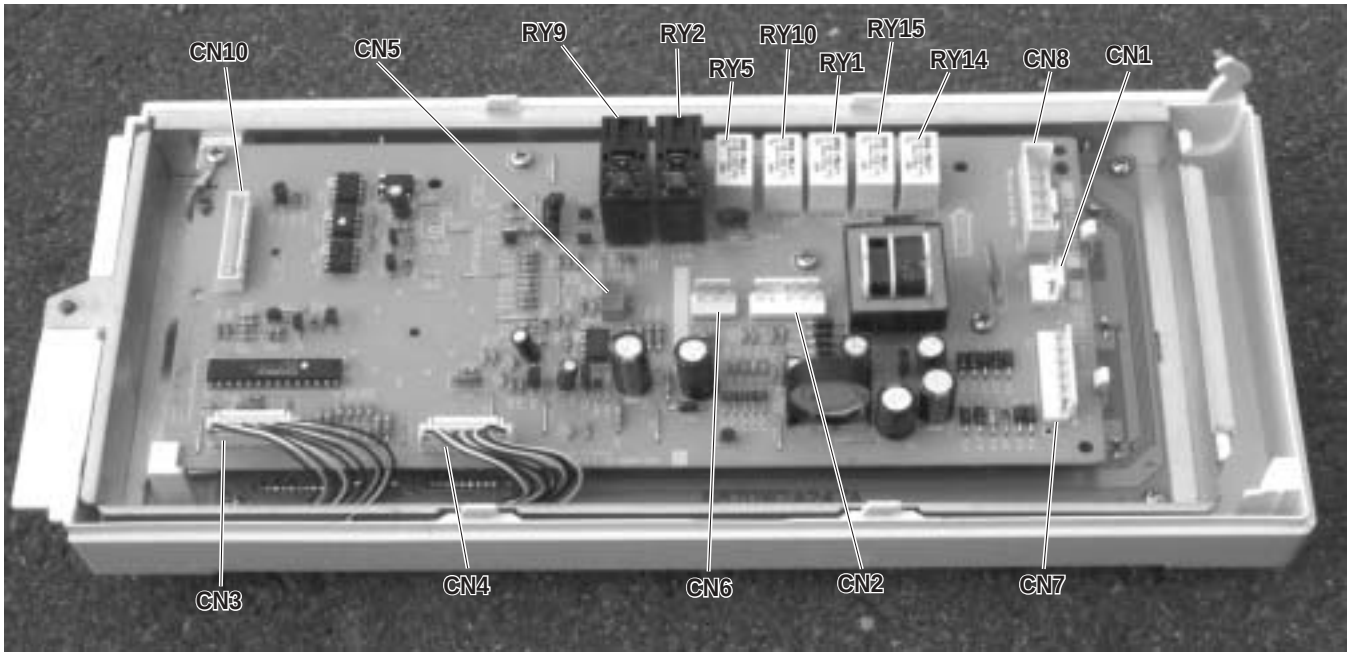
Main PCB Locator Chart			
Connector	Color	Number of Terminals	Description
CN1	White	2	Low voltage transformer
CN2	White	4	Damper switch, cooktop TCO, door sensing switch
CN3	White	11	Control panel
CN4	White	11	Control panel
CN5	White	3	Humidity sensor
CN6	Blue	3	Thermistor
CN7	White	7	Low voltage transformer
CN8	White	5	Damper motor, cavity light, sub PCB, bottom 6 pin connector
CN10	White	11	Sub PCB
RY2	White	2	RY9, High voltage transformer, magnetron TCO
RY9	Red	2	RY2, Lower 6-pin connector, Lower ceramic heater



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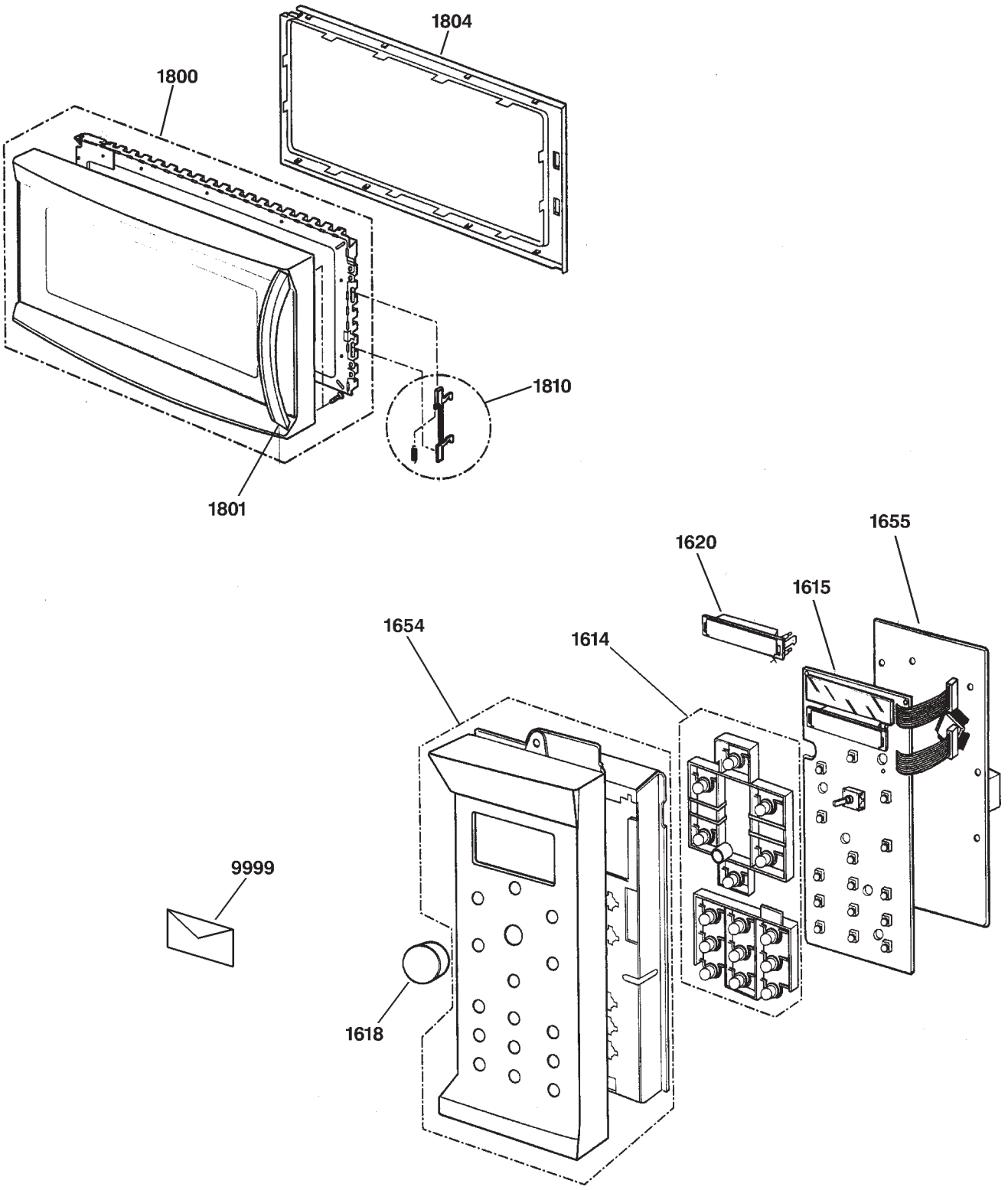
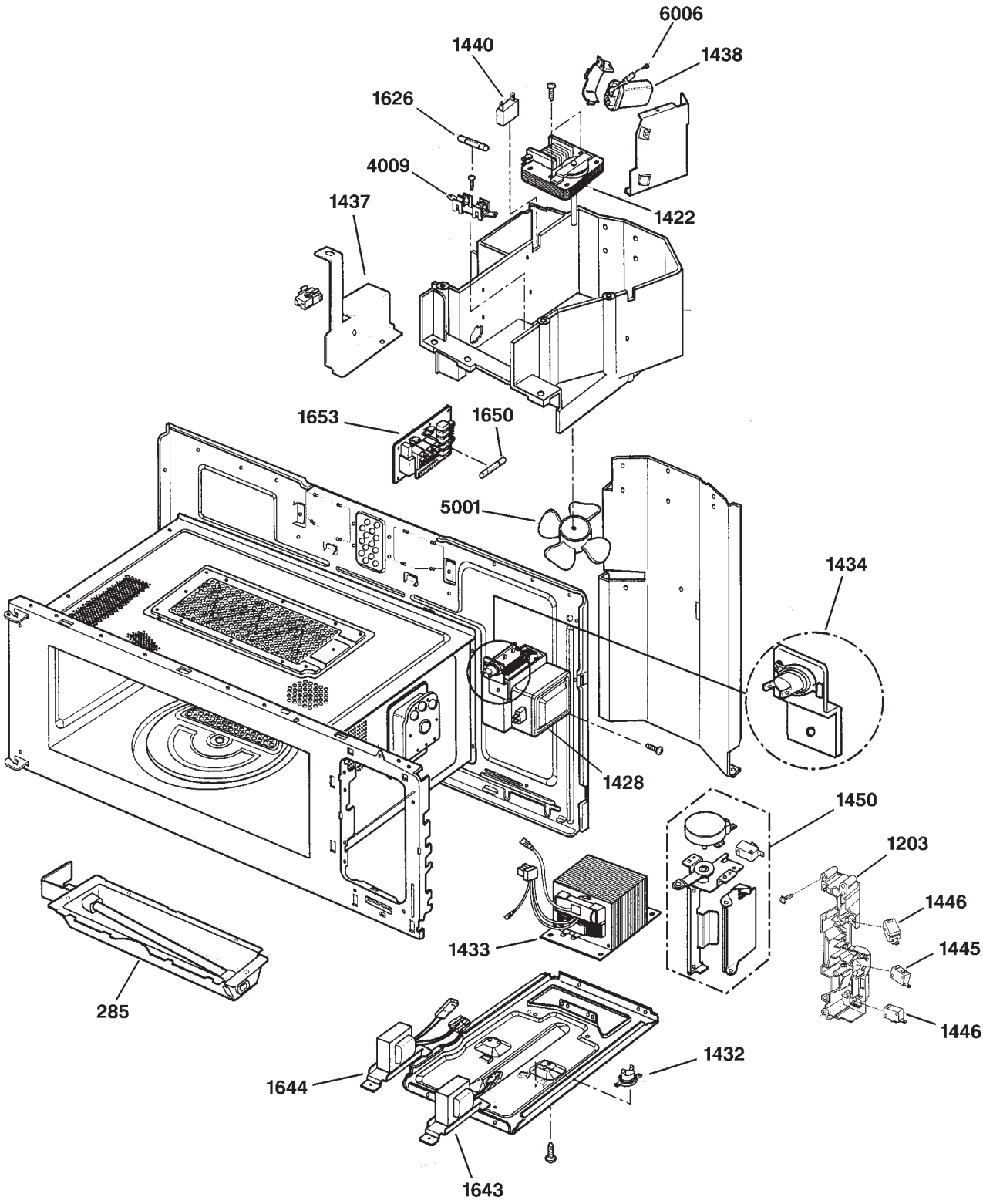
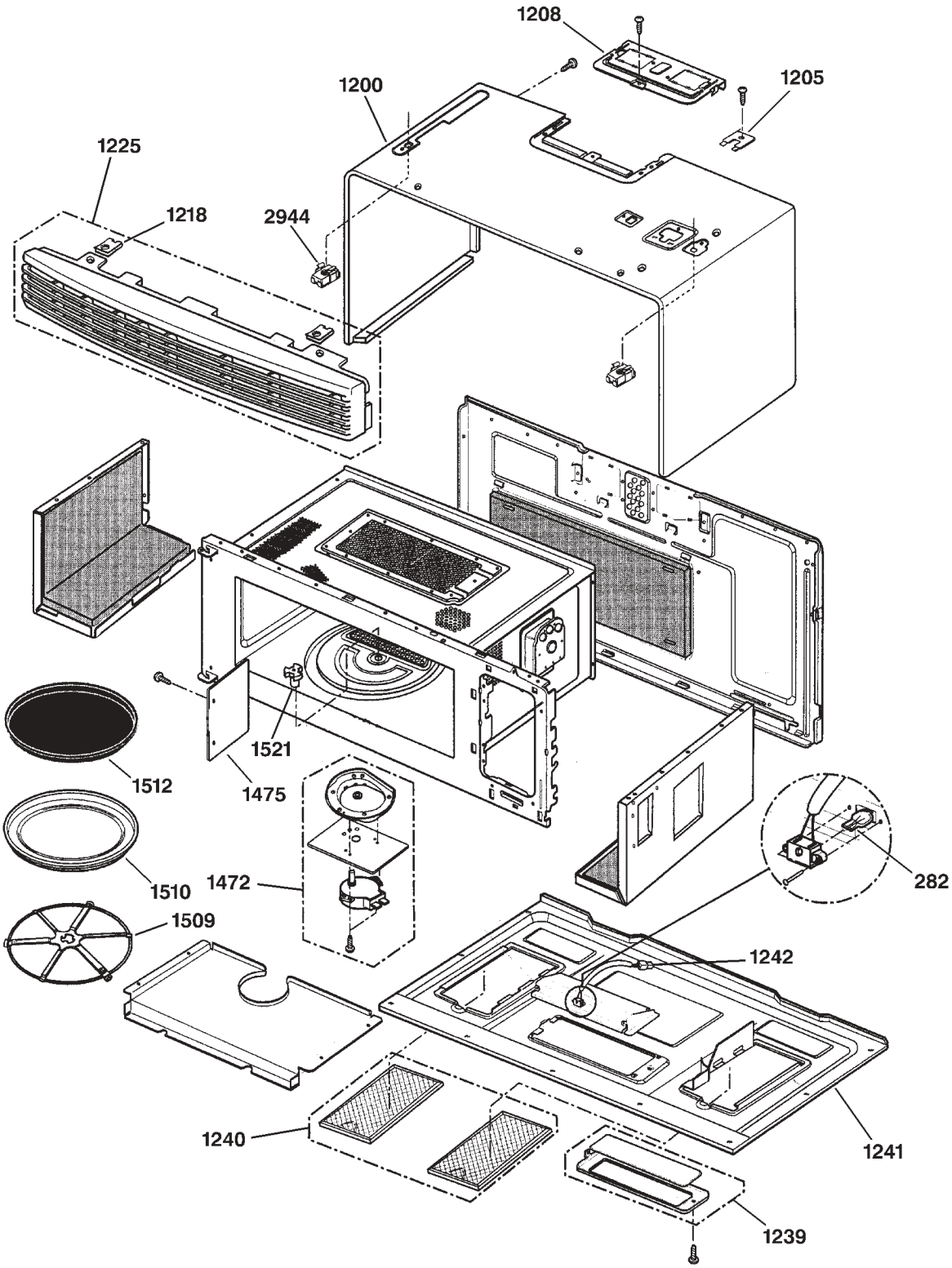
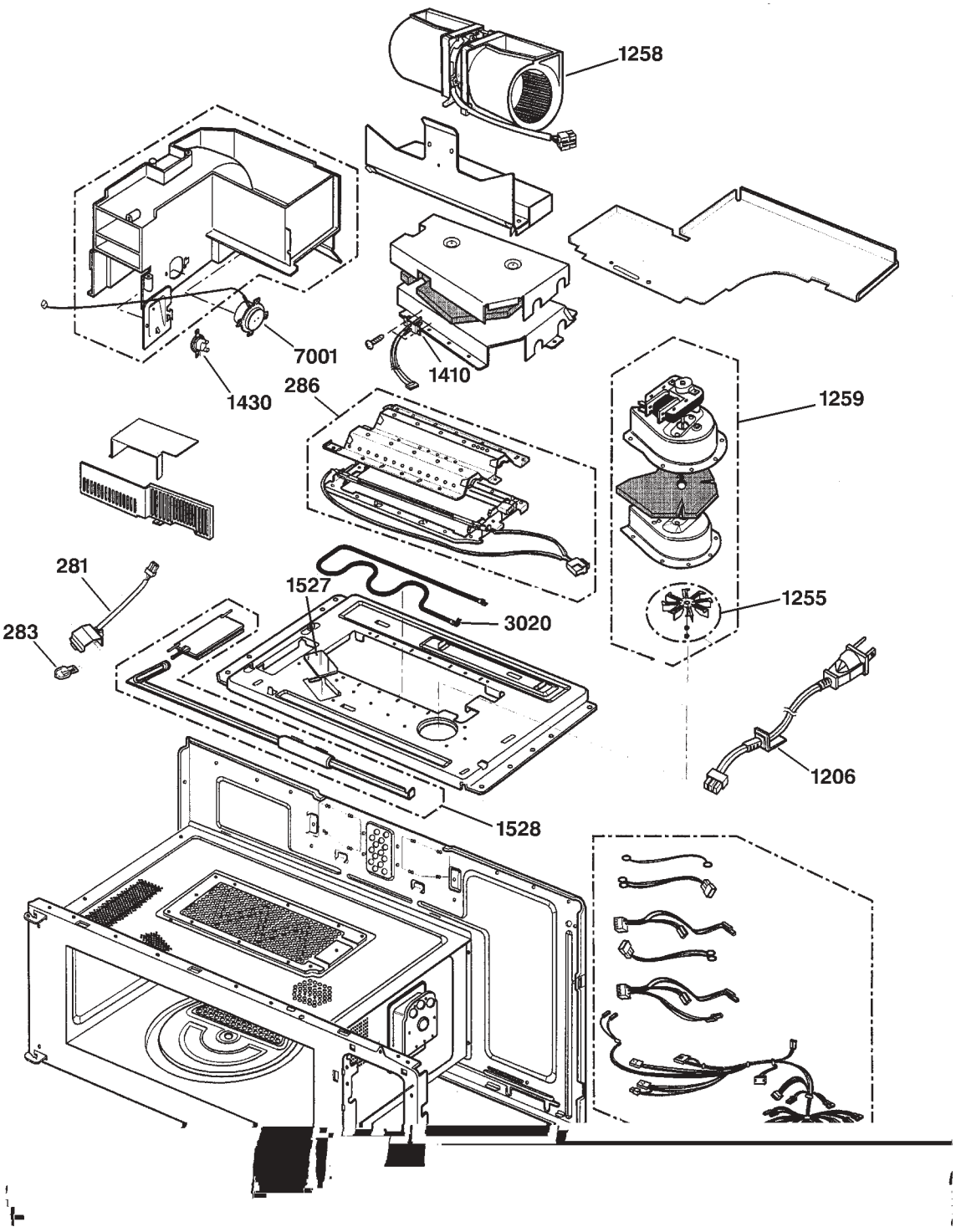

1804
1800
1810
1801
1620
1655
1615
1654
1614
9999
1618


6006
1440
1438
1626
4009
1437
1422
1653
1650
5001
1434
1428
1450
1203
1446
1445
1446
1433
285
1644
1432
1643


1208
1205
1200
1225
1218
2944
1521
1512
1475
1510
1472
1509
282
1242
1240
1241
1239


1258
7001
1430
1410
286
1259
281
1527
3020
1255
283
1206
1528

View	Part Number	Description	Quantity
281	WB36X10181	LAMP REFLECTOR ASS'Y	1
282	WB36X10176	LAMP 12V 20W	1
283	WB36X10177	LAMP,HALOGEN,10W	1
285	WB36X10180	REFLECTOR ASS'Y	1
286	WB36X10182	REFLECTOR ASS'Y	1
1200	WB56X10207	OUTER CASE WH	1
1203	WB06X10216	LATCH BRACKET	1
1205	WB06X10308	COVER, POWER CORD	1
1206	WB18X10150	POWER CORD ASS'Y	1
1208	WB06X10313	MOUNT,VENT MOTOR COVER	1
1218	WB06X10320	GRILLE CLIPS	2
1225	WB07X10431	VENT GRILLE ASS'Y	1
1239	WB36X10178	COOKTOP GLASS ASS'Y	1
1240	WB06X10309	GREASE FILTER ASS'Y	1
1241	WB56X10210	BASE PLATE	1
1242	WB06X10310	HOLDER ASS'Y LAMP	1
1255	WB38X10055	FAN BLADE ASS'Y	1
1258	WB26X10100	MOTOR, VENT	1
1259	WB38X10054	BLOWER ASS'Y	1
1410	WB27X10468	THERMISTOR	1
1422	WB26X10101	MOTOR FAN	1
1428	WB27X10309	MAGNETRON	1
1430	WB21X10046	THERMOSTAT, OVEN CAVITY	1
1432	WB21X10045	THERMOSTAT,BASE HOOD	1
1433	WB20X10022	TRANSFORMER, H.V.	1
1434	WB21X10054	MGT THERMO ASS'Y	1
1437	WB06X10316	BRACKET, MOUNT	1
1438	WB27X10233	CAPACITOR, H. V.	1
1440	WB27X10329	CAPACITOR	1
1445	WB24X0817	SWITCH, MICRO	1
1446	WB24X10047	SWITCH, MICRO	2
1450	WB06X10314	DAMPER INLET ASS'Y	1
1472	WB26X10099	MOTOR TURNTABLE ASS'Y	1
1475	WB06X10311	WAVE GUIDE - MICA COVER	1
1509	WB06X10315	ROTATING RING ASSY	1
1510	1B71961A	GLASS TRAY	1
1512	WB49X10053	TRAY - METAL PAN	1
1521	WB06X10312	SHAFT ASS'Y	1
1527	WB06X10317	GLASS,OVEN LAMP	1
1528	WB06X10318	DAMPER OUTLET ASS'Y	1
1614	WB03X10128	BUTTON ASS'Y	1
1615	WB27X10467	KEY PCB ASS'Y	1
1618	WB03X10129	KNOB WH	1
1620	WB06X10321	LED HOLDER ASS'Y	1
1626	WB27X10114	FUSE,20A	1
1643	WB20X10021	TRANSFORMER, POWER	1
1644	WB20X10023	TRANSFORMER,POWER	1
1648	WB18X10151	LEAD WIRE ASS'Y	1
1650	WB27X10471	FUSE,12A	1
1653	WB27X10470	RELAY PCB	1
1654	WB07X10436	CONTROL PANEL ASS'Y	1
1655	WB27X10469	SMART BOARD	1
1800	WB55X10433	DOOR ASS'Y	1
1801	WB15X10070	HANDLE, DOOR WH	1
1804	WB55X10428	CHOKE COVER	1

View	Part Number	Description	Quantity
2944	WB01X10124	NUT ASS'Y	3
3020	WB21X10055	HEATER	1
4009	WB06X10034	FUSE HOLDER	1
5001	WB38X10024	FAN BLADE	1
6006	WB27X10037	DIODE	1
7001	WB24X10044	SENSOR ASS'Y	1
9001	WB56X10204	MOUNTING PLATE ASS'Y	1
9005	WB64X10003	INSTALLATION KIT ASS'Y	1
9010	WB01X10125	MOUNTING BOLTS	1
9999	31-20960	MINI-MANUAL	1
9999	49-40161	OWNER'S MANUAL	1
9999	49-40162	INSTALLATION INSTRUCTION	1
9999	49-40167	COOK BOOK	1
9999	49-40176	TOP CABINET TEMPLATE	1
9999	49-40177	WALL CABINET TEMPLATE	1
9999	49-40185	CD-ROM	1
9999	49-40186	COOKING GUIDE SHEET	1

Quiz

1. Which heaters will be operating when using a preselected Speedcook setting?

   a. The upper halogen only.

   b. The upper and lower ceramic only.

   c. The sheath and lower ceramic only.

   d. The halogen, upper ceramic, and lower ceramic only.

2. Sensor cooking is **not** available for how many minutes following Speedcooking?

   a. 3

   b. 7

   c. 5

   d. 1

3. Voltage compensation occurs:

   a. When using a preselected menu item in Speedcook.

   b. When using Oven/Bake to cook conventionally.

   c. Any time optimal voltage is not detected by main PCB.

   d. All of the above.

4. If the 12 amp fuse located on the sub PCB is open, the symptoms will be:

   a. A blank display.

   b. The upper heaters will not operate.

   c. The high voltage section will not energize.

   d. None of the above.

5. Which components are one-time tripping devices?

   a. Magnetron TCO.

   b. All TCOs.

   c. Cavity TCO.

   d. Hood TCO.

6. Thermal protection is initiated at what temperature?

   a. 600° F.

   b. 650° F.

   c. 550° F.

   d. 500° F.

7. The damper doors are open for:

   a. Microwave cooking.

   b. Speedcooking.

   c. Oven/Bake cooking.

   d. None of the above.

8. If the main PCB is receiving power but there is no voltage at the CN1 terminal the most likely cause would be:

   a. Bad main PCB.

   b. Bad low voltage transformer.

   c. Blown 12 amp fuse on sub PCB.

   d. Bad sub PCB.

9. Which heaters produce radiant heat?

   a. Halogen only.

   b. Sheath only.

   c. Sheath and ceramic.

   d. Halogen and ceramic.

10. Thermal compensation:

    a. Only occurs when using the preselected Speedcook menu.

    b. Only once during Speedcook.

    c. Will reduce the amount of time the heaters are on in each duty cycle.

    d. All of the above.

    e. None of the above.

Notes

Notes