

Service Manual

This manual is to be used by qualified appliance technicians only. Viking does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

36" Gas Single Wall Oven

This Base Manual covers general and specific information including, but not limited to the following models:

VGSO166



SAVE THESE INSTRUCTIONS

REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL AND TECHNICAL SHEETS BEFORE BEGINNING REPAIRS.

Pride and workmanship go into every product to provide our customers with quality appliances. It is possible, however, that during the lifetime of a product, service may be required. Products should be serviced only by a qualified authorized service technician who is familiar with the safety procedures required to perform the repair and is equipped with the proper tools, parts, testing instruments, and the appropriate service manual.

Safety Information

We have provided many important safety messages throughout this manual and on the appliance. Always read and obey all safety messages. This is a safety alert symbol.




This symbol alerts personnel to hazards that can kill or hurt you and others. All safety messages will be preceded by a safety alert symbol and the word "DANGER", "WARNING" or "CAUTION". These words mean:

All safety messages will identify the hazard, tell you how to reduce the chance of injury, and inform you what can happen if the instructions are not followed.

 DANGER
Immediate hazards which WILL result in severe personal injury or death.
 WARNING
Hazards or unsafe practices which COULD result in severe personal injury or death.
 CAUTION
Hazards or unsafe practices which COULD result in minor personal injury, product or property damage.

 WARNING
To avoid risk of serious injury or death, repairs should not be attempted by unauthorized personnel.

 CAUTION
VIKING will not be responsible for any injury or property damage from improper service procedures. If performing service on your own product, you must assume responsibility for any personal injury or property damage which may result.

To locate an authorized service agent, call:
Viking Customer Service
Phone No. 1-888-845-4641
Address your written correspondence to:
Viking Preferred Service
1803 HWY 82 West
Greenwood, MS 38930

Professional 36" Single Wall Oven Warranty

One Year Full Warranty

Built-in gas ovens (VGSO Series) and all of their component parts, except as detailed below*, are warranted to be free from defective materials or workmanship in normal household use for a period of twelve (12) months from the date of original retail purchase. Viking Range Corporation, warrantor, agrees to repair or replace, at its option, any part which fails or is found to be defective during the warranty period.

*Painted and decorative items are warranted to be free from defective materials or workmanship for a period of ninety (90) days from the date of original retail purchase. ANY DEFECTS MUST BE REPORTED TO THE SELLING DEALER WITHIN NINETY (90) DAYS FROM DATE OF ORIGINAL RETAIL PURCHASE.

Viking Range Corporation uses the most up-to-date processes and best materials available to produce all color finishes. However, slight color variation may be noticed because of the inherent differences in painted parts and porcelain parts as well as differences in kitchen lighting, product locations, and other factors.

Five Year Limited Warranty

Any oven tubular burner which fails due to defective materials or workmanship in normal household use during the second through fifth year from the date of original retail purchase will be repaired or replaced, free of charge for the part itself, with the owner paying all other costs, including labor.

Ten Year Limited Warranty

Any porcelain oven or porcelain inner door panel which rusts through due to defective material or workmanship in normal household use during the second through the tenth year from the date of original retail purchase will be repaired or replaced, free of charge for the part itself, with the owner paying all other costs, including labor.

Ninety (90) Day Residential Plus Warranty

This warranty applies to applications where use of the product extends beyond normal residential use. Examples are, but not limited to, bed and breakfasts, fire stations, private clubs, churches, etc. This warranty excludes all commercial locations such as restaurants, food service locations and institutional food service locations.

This warranty extends to the original purchaser of the product warranted hereunder and to each transferee owner of the product during the term of the warranty.

This warranty shall apply to products purchased and located in the United States and Canada. Products must be purchased in the country where service is requested. Warranty labor shall be performed by an authorized Viking Range Corporation service agency or representative. Warranty shall not apply to damage resulting from abuse, accident, natural disaster, loss of electrical power to the product for any reason, alteration, outdoor use, improper installation, improper operation, or repair or service of the product by anyone other than an authorized Viking Range Corporation service agency or representative. This warranty does not apply to commercial usage. Warrantor is not responsible for consequential or incidental damage whether arising out of breach of warranty, breach of contract, or otherwise. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Owner shall be responsible for proper installation, providing normal care and maintenance, providing proof of purchase upon request, and making the appliance reasonably accessible for service. If the product or one of its component parts contains a defect or malfunction during the warranty period, after a reasonable number of attempts by the warrantor to remedy the defects or malfunctions, the owner is entitled to either a refund or replacement of the product or its component part or parts. Warrantor's liability on any claim of any kind, with respect to the goods or services covered hereunder, shall in no case exceed the price of the goods or service or part thereof which gives rise to the claim.

VIKING RANGE CORPORATION
111 Front Street, Greenwood, Mississippi (MS) 38930 USA 662-455-1200

Specifications are subject to change without notice.
For more product information, call 1-888-VIKING1 (845-4641), or visit our web site at <http://www.vikingrange.com>

WARRANTY SERVICE

Under the terms of this warranty, service must be performed by a factory authorized Viking Range Corporation service agent or representative. Service will be provided during normal business hours, and labor performed at overtime or premium rates shall not be covered by this warranty. To obtain warranty service, contact the dealer from whom the product was purchased, an authorized Viking Range Corporation service agent, or Viking Range Corporation. Provide model and serial number and date of original purchase. For the name of your nearest authorized Viking Range Corporation service agency, call the dealer from whom the product was purchased or Viking Range Corporation. **IMPORTANT:** Retain proof of original purchase to establish warranty period.

The return of the Owner Registration Card is not a condition of warranty coverage. You should, however, return the Owner Registration Card so that Viking Range Corporation can contact you should any question of safety arise which could affect you.

Any implied warranties of merchantability and fitness applicable to the above described oven tubular burner, porcelain oven, or porcelain inner door panel are limited in duration to the period of coverage of the applicable express written limited warranties set forth above. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from jurisdiction to jurisdiction.

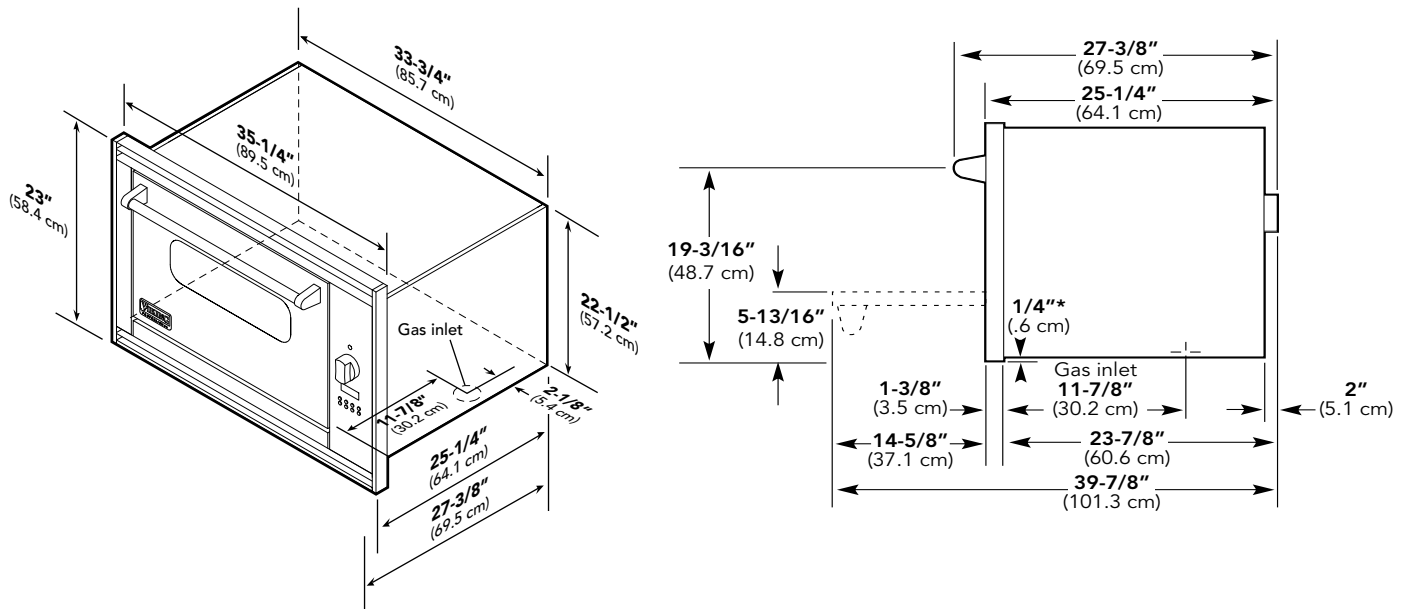
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Specification subject to change without notice

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Specifications

Built-In 36" W. Gas Oven	
Description	VGSO166
Overall width	35-1/4" (89.5 cm)
Overall height	23" (58.4 cm)
Overall depth from rear	To edge of door—25-1/4" (64.1 cm) To end of handle bracket—27-3/8" (69.5 cm) With door open—39-7/8" (101.3 cm)
Gas requirements	Shipped natural or LP/Propane gas; LP must be specified after color code; accepts standard residential 1/2" (1.3 cm) ID gas service line.
Gas manifold pressure	Natural 5.0" W.C.P. / Liquid propane L/P 10.0" W.C.P.
Electrical requirements	120 VAC/60 Hz 4 ft. (121.9 cm) 3-wire cord with grounded 3-prong plug attached to product. Flexible cord/connector must be 1/2" ID (1.3 cm). Cord must be agency approved for use with household gas ovens.
Maximum amp usage	8.0 amps
Infrared broil burner rating	18,000 BTU Nat. (5.3 kW) 15,000 BTU LP (4.4 kW)
Bake burner rating	Two 15,000 BTU Nat./LP (4.4 kW) (each)
Oven interior width	24-1/8" (61.3 cm)
Oven interior height	13-3/4" (34.9 cm)
Oven interior depth	17-1/8" (43.5 cm)
Oven volume	Total oven capacity—3.6 cu. ft. Measure to AHAM standards 3.3 cu. ft.
Approximate shipping weight	257 lbs. (116.6 kg)



Warnings

Read and follow all instructions before using this appliance to prevent the potential risk of fire, electric shock, personal injury, or damage to the appliance as a result of improper usage of the appliance. Use appliance only for its intended purpose as described in this manual.

To ensure proper and safe operation: appliance must be properly installed and grounded by a qualified technician. DO NOT attempt to adjust, repair, service, or replace any part of your appliance unless it is specifically recommended in this manual. All other servicing should be referred to a qualified servicer. Have the installer show you the location of the gas shut-off valve and how to shut off in an emergency.



DANGER

Fire/explosion hazard.

IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH.

- **Do not** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS:**
 - Do not try to light any appliance.
 - Do not touch any electrical switch.
 - DO NOT use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone.
 - Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

Electrical Requirements

Check your national and local codes regarding this unit. These ovens require 3-wire, 120 VAC/60 Hz.



WARNING

Electrical shock hazard.

To avoid the risk of electrical shock, personal injury or death; verify electrical power is turned off at the breaker box and gas supply is turned off until the oven is installed and ready to operate, installation by an authorized installer only.



WARNING

Electrical shock hazard.

Disconnect the electric power at the main fuse breaker before replacing bulb.

Gas Connection

The gas supply (service) line must be the same size or greater than the inlet line of the appliance. This oven uses a 1/2" (1.3 cm) ID NPT (Sch40) inlet. Sealant on all pipe joints must be resistive to LP gas.



DANGER

Gas leak hazard.

To avoid risk of personal injury or death; leak testing of the appliance must be conducted according to the manufacturer's instructions. Before placing appliance in operation, always check for gas leaks with soapy water solution.

- **DO NOT USE AN OPEN FLAME TO CHECK FOR GAS LEAKS.**

The oven is designed specifically for natural gas or liquid propane (LP) gas. It is shipped from the factory adjusted for use with natural or propane (LP) gas. Before beginning installation verify that the model is compatible with the intended gas supply.

Manual Shut-Off Valve:

This installer-supplied valve must be installed in the gas service line before the appliance in the gas stream and in a location where it can be reached quickly in the event of an emergency.

In Massachusetts: A "T" handle type manual valve must be installed in the gas supply line to the appliance.

IMPORTANT: Any conversion required must be performed by your dealer or a qualified licensed plumber or gas service company. Please provide the service person with this manual before work begins.

Pressure Regulator:

- All heavy-duty, commercial type cooking equipment must have a pressure regulator on the incoming service line for safe and efficient operation, since service pressure may fluctuate with local demand. External regulators are not required on this oven since a regulator is built into each unit at the factory. Under no condition bypass this built-in regulator.
- Manifold pressure should be checked with a manometer, natural gas requires 5.0" W.C.P. and LP gas requires 10.0" W.C.P. Incoming line pressure upstream from the regulator must be 1" W.C.P. higher than the manifold pressure in order to check the regulator. The regulator used on these ovens can withstand a maximum input pressure of 1/2" PSI (14.0" W.C.P.). If the line pressure is in excess of 1/2" PSI (14.0" W.C.P.), a step down regulator will be required.
- The appliance must be disconnected from the gas supply piping system during any pressure testing of that system.

Flexible Connections:

If the unit is to be installed with flexible couplings and/or quick-disconnect fittings, the installer must use a heavy-duty AGA design-certified flexible connector of at least 1/2" (1.3 cm) ID NPT (with suitable strain reliefs) in compliance with ANSI Z21.41 and Z21.69.

Rigid Connections:

Incoming gas is brought from an intake pipe (not supplied) to the lower right center of the unit to the pressure regulator. The only connection necessary is from the service supply, through the shut-off valve (not supplied) to this intake pipe (not supplied) to the regulator.

In Canada: CAN 1-6, 10-88 metal connectors for gas appliances and CAN 1-6.9 M79 quick disconnect devices for use with gas fuel.

In Massachusetts: This appliance must be installed with a 36" (3-foot) long flexible gas connector.



WARNING

DO NOT use the handle or oven door to lift the oven. Remove door before installation to ensure that it is not used to lift the unit.



WARNING

NEVER use this appliance as a space heater to heat or warm the room. Doing so may result in carbon monoxide poisoning and overheating of the oven.



CAUTION

Before placing the oven into operation, always check for gas leaks with a soapy water solution or other acceptable method. **DO NOT USE AN OPEN FLAME TO CHECK FOR LEAKS.**



CAUTION

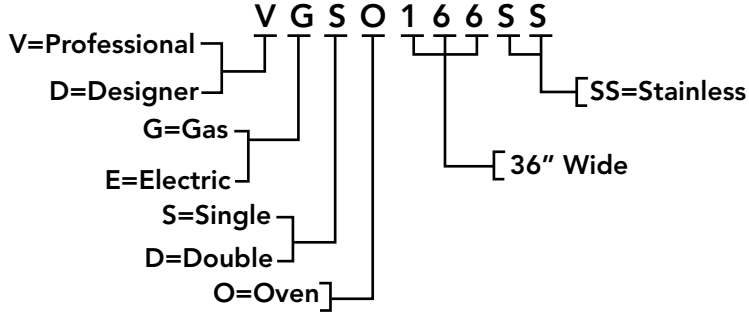
DO NOT use the handle or oven door to lift the oven. **DO NOT** lift or carry the door by the handle.

Removing the door must be done by your dealer, a qualified licensed plumber, or certified gas installer.

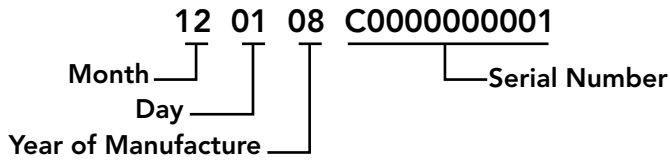
Model – Serial Number Matrix

The model number and serial number are located on the data plate. The data plate is located on the top left side of the oven cavity under the control panel.

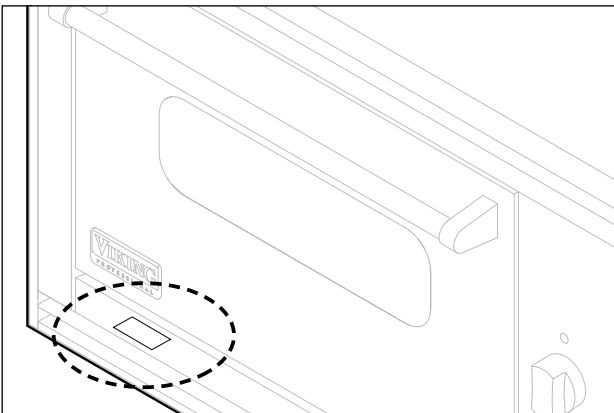
Model Numbers



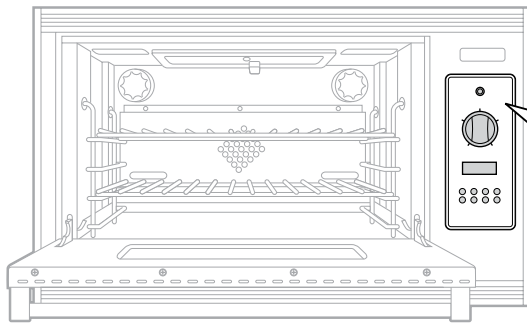
Serial Numbers



The model and serial number tag is located on the base behind the lower access panel.



Oven Main Panel



BAKE (Natural Airflow Bake)

Use this setting for baking, roasting, and preparing casserole dishes.

CONVECTION BAKE

Use this setting to bake and roast foods at the same time with minimal taste transfer.

BROIL (Infrared Broil)

Use this setting for broiling dark meats at 1" thickness or less where rare or medium doneness is desired.

CONVECTION BROIL (Infrared Convection Broil)

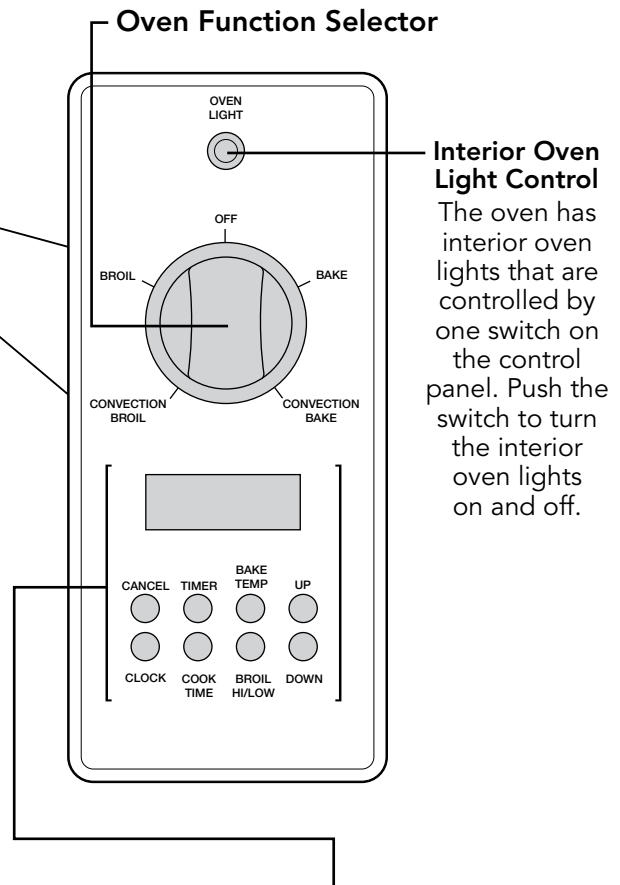
Use this setting to broil thick cuts of meat.

Convection Dehydrate (CONVECTION BAKE)

Use this function to dehydrate fruits and vegetables.

Convection Defrost (CONVECTION BAKE)

Use this function to defrost foods.



Interior Oven Light Control
The oven has interior oven lights that are controlled by one switch on the control panel. Push the switch to turn the interior oven lights on and off.

Electronic Timing/Temperature Center

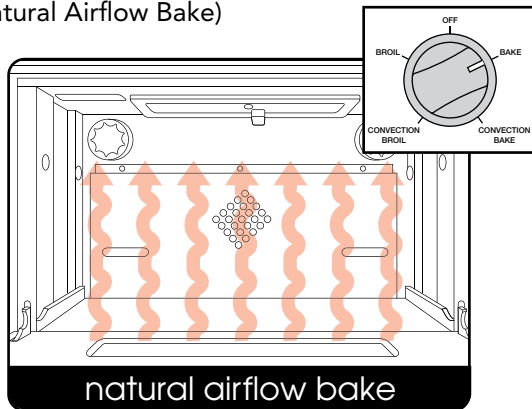
The electronic timing/temperature center is used to program and control all timing and temperature functions. Each oven has a separate temperature control and a separate oven function selector. The button control can be set at any temperature from 170°F (76.6°C) to 550°F (287.8°C) by pressing "UP" or "DOWN". There are separate settings for broiling and HI/LO BROIL. **ALWAYS** be sure the controls are in the OFF position when the oven is not in use.

IMPORTANT—The time-of-day must be set before any other program can be used.

The 30" Single Wall Oven models offer the following cooking cycles:

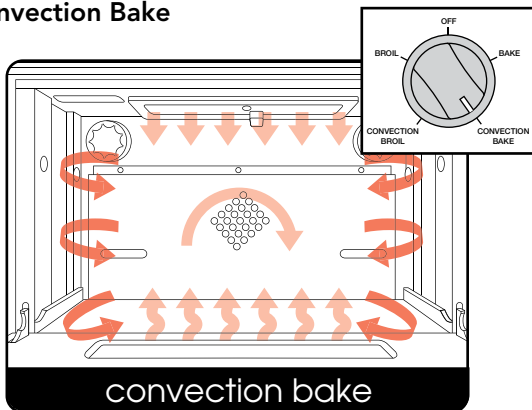
Bake

(Natural Airflow Bake)



Full power heat is radiated from the U-shaped bake burners in the bottom of the oven cavity and is circulated with natural airflow. This function is recommended for single rack baking. Many cookbooks contain recipes to be cooked in the conventional manner. Conventional baking is suitable for dishes that require a high temperature. Use this setting for baking and preparing casserole dishes.

Convection Bake



Heat is radiated from the U-shaped bake burners in the bottom of the oven cavity. The heated air is circulated by one motorized fan in the rear of the oven providing a more even heat distribution. Multiple rack use is possible for the largest baking job. When roasting, cool air is quickly replaced—searing meats on the outside and retaining more juices and natural flavor on the inside with less shrinkage. This even circulation of air equalizes the temperature throughout the oven cavity and eliminates the hot and cold spots found in conventional ovens.

Convection Dehydrate

This oven is designed not only to cook, but also to dehydrate fruits and vegetables. With the oven function selector set to "CONVECTION BAKE" and the temperature control on 170°F (76.6°C), warm air is circulated by a motorized fan in the rear of the oven. Over a period of time, the water is removed from the food by evaporation. Removal of water inhibits growth of microorganisms and retards the activity of enzymes. It is important to remember that dehydration does not improve the quality, so only fresh, top-quality foods should be used.

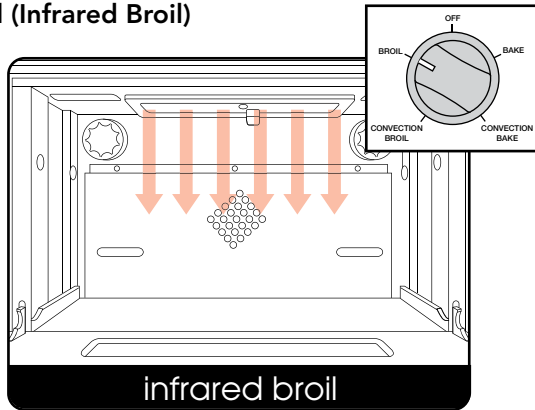
1. Prepare the food as recommended.
2. Arrange the food on drying racks (not included with the oven; contact a local store handling speciality cooking utensils).
3. Set the appropriate low temperature and turn the selector to "CONVECTION BAKE".

Convection Defrost

With the selector set to "CONVECTION BAKE" and the temperature control off, air is circulated by a motorized fan in the rear of the oven. The fan accelerates natural defrosting of the food without heat. To avoid sickness and food waste, DO NOT allow defrosted food to remain in the oven for more than two hours.

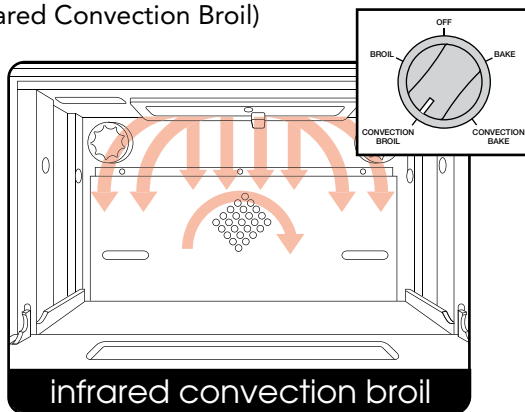
1. Place the frozen food on a baking sheet.
2. Set the temperature control to "OFF".
3. Turn the selector to "CONVECTION BAKE"

Broil (Infrared Broil)



The broil burner at the top of the oven heats the metal screen until it glows. Heat radiates from the GourmetGlo™ infrared broiler located at the top of the oven cavity. The distance between the foods and the broil elements determines broiling speed. For “fast” broiling, food may be as close as 2 inches (5 cm) to the broil element or on the top rack. “Fast” broiling is best for meats where rare to medium doneness is desired. Use this setting for broiling small and average cuts of meat.

Convection Broil (Infrared Convection Broil)



The top element operates at full power. This function is exactly the same as regular broiling with the additional benefit of air circulation by the motorized fan in the rear of the oven. Smoke is reduced since the airflow also reduces peak temperatures on the food. Use this setting for broiling thick cuts of meats.

Built-In Error Codes

The thermostat timer digital display is designed to alert you if there is an error or problem in the control. If one of the following codes occurs, perform the following to determine the proper repair:

F1 – Shorted probe

1. With Volt-Ohm meter set for resistance, remove the wires from Thermostat Timer terminals AT5 and AT6 and measure the resistance across them.
2. If zero or infinite resistance, replace the RTD.
3. If resistance is in range per RTD chart on page 20, check each wire to ground.
4. If resistance is present, the RTD is grounded and the physical wires will need to be checked for a grounded connection.

F2 – Open Probe

1. Replace RTD

F3 – Controller Malfunction

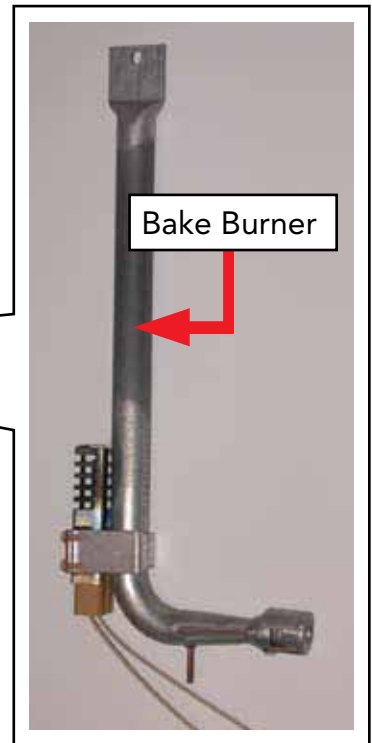
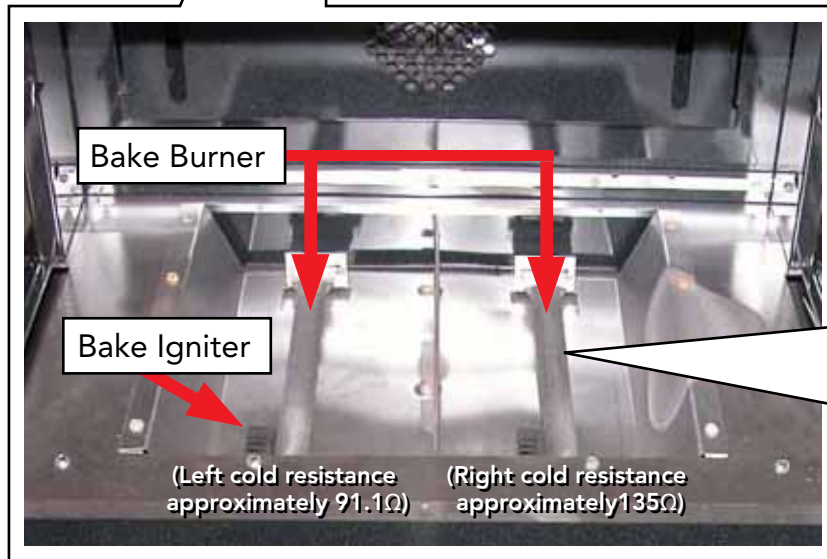
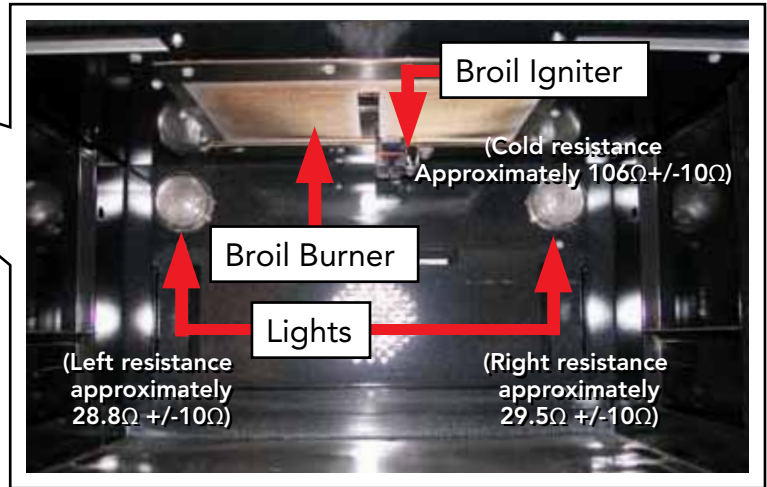
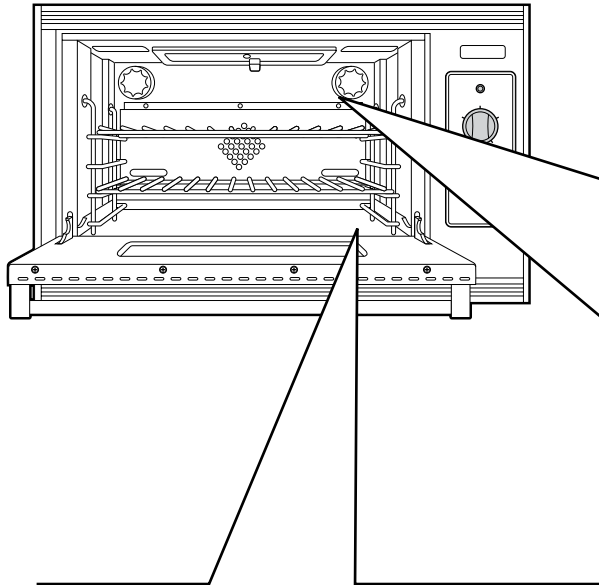
1. With Volt-Ohm meter set for resistance, remove the wires from thermostat timer terminals AT5 and AT6 and measure the resistance across them.
2. If resistance is in range per RTD chart on page 20, verify output at thermostat timer.
3. With unit set for bake or broil, 120 VAC should be present from AT4 to ground.
4. If no voltage is present, replace thermostat timer.
5. If voltage is present, verify wiring between thermostat timer and selector (BA and BR).
6. With unit set for convection, 120 VAC should be present from AT3 to ground.
7. If no voltage is present, replace thermostat timer.
8. If voltage is present, verify wiring between thermostat timer and selector (CV).

Service Situation Chart

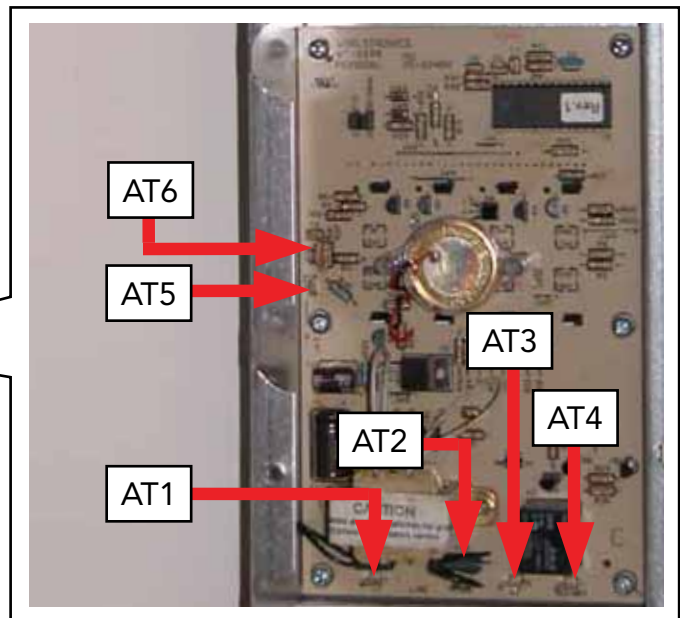
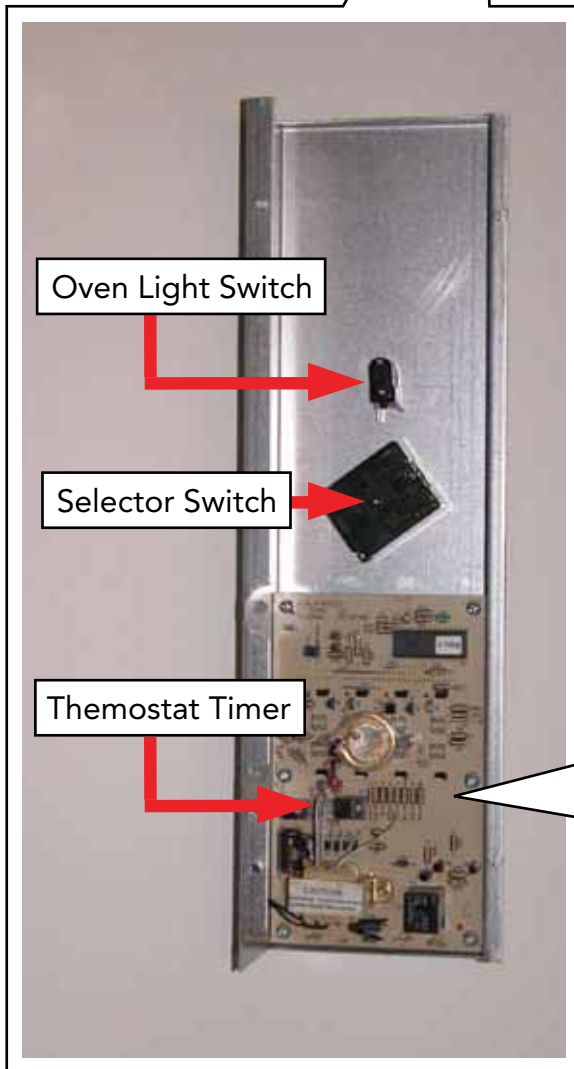
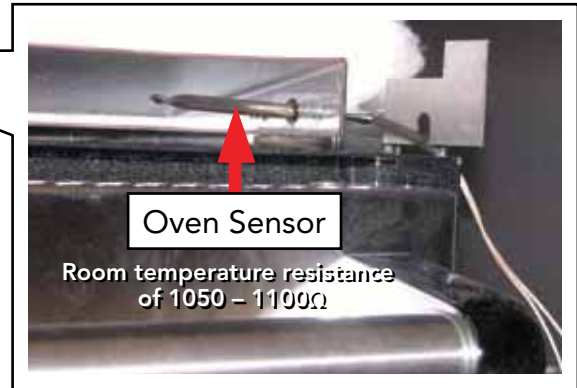
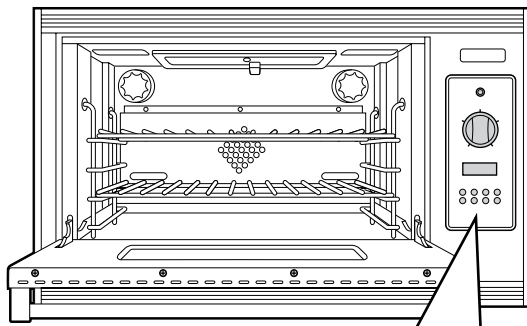
The chart below is a basic overview of the serviceability and accessibility of components in the oven.

Task	Front Serviceable	Partial Removal Required	Full Removal Required
Door Assembly	X		
Inner Door Glass	X		
Outer Door Glass	X		
Door Hinge	X		
Door Handle	X		
Oven Racks	X		
Oven Rack Supports	X		
Broil Burner	X		
Broil Igniter	X		
Bake Burner	X		
Bake Igniter	X		
Convection Motor Assembly	X		
Oven Light Assembly	X		
Oven Temperature Probe		X	
Oven Control Panel		X	
Selector Switch		X	
Thermostat Timer		X	
Oven Light Switch		X	
Dual Bake Valve			X
Broil Valve			X
Shut-off Valve			X

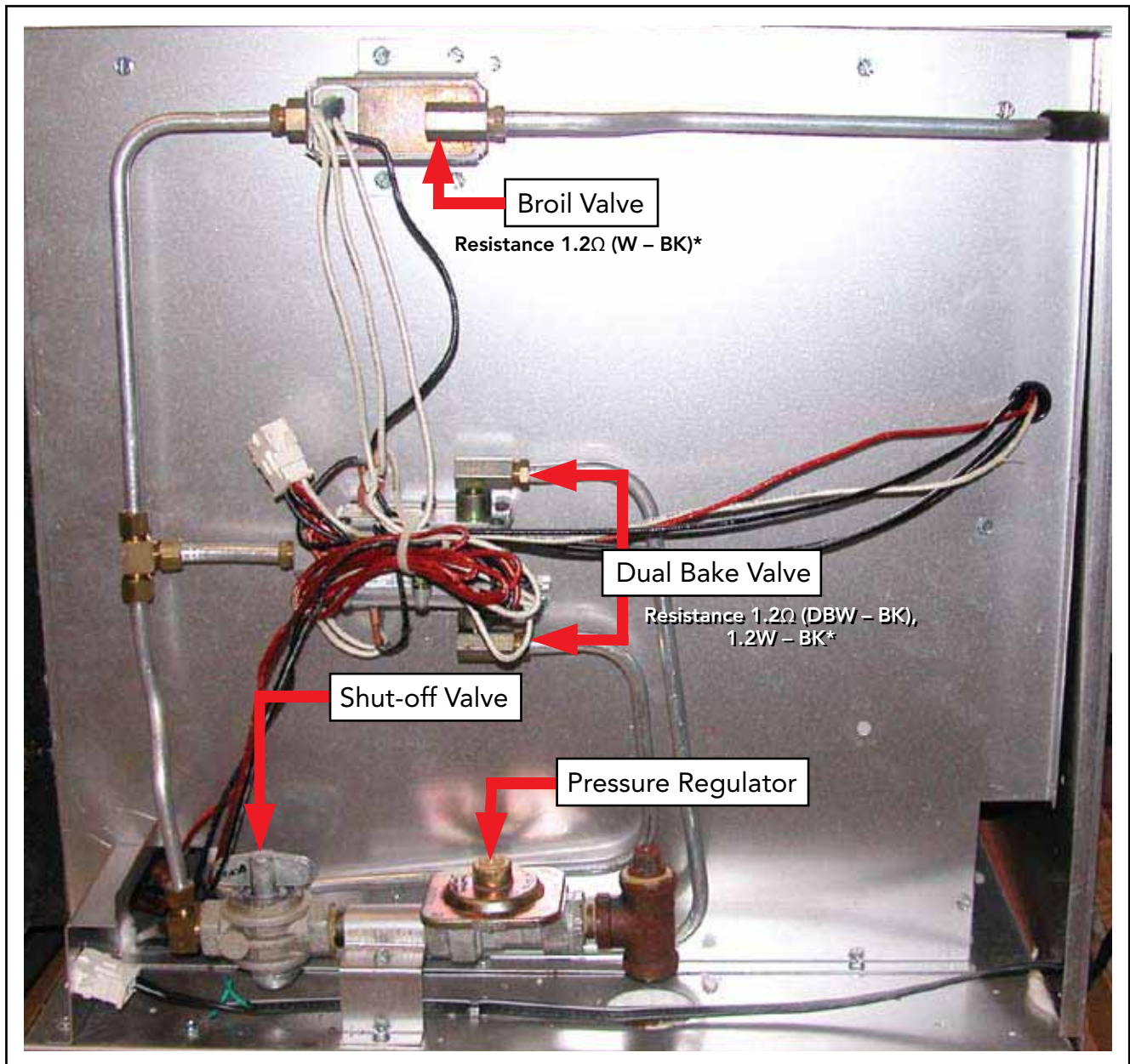
Parts Location – Main Oven



Parts Location – Control Panel



Parts Location – Side Oven

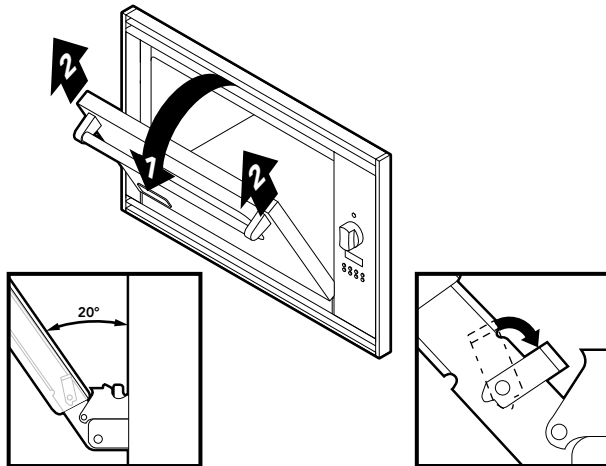


***Note:** The voltage to the bake and broil valve is 3.2 – 3.6. Using voltage above this range can damage the valve.

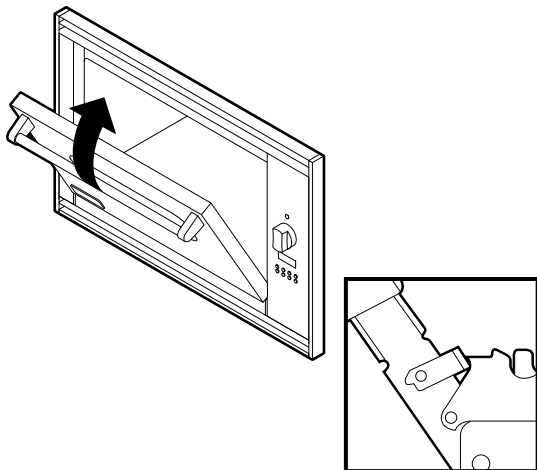
****Note:** It is important that the shut-off valve be in the on position.

Door Removal

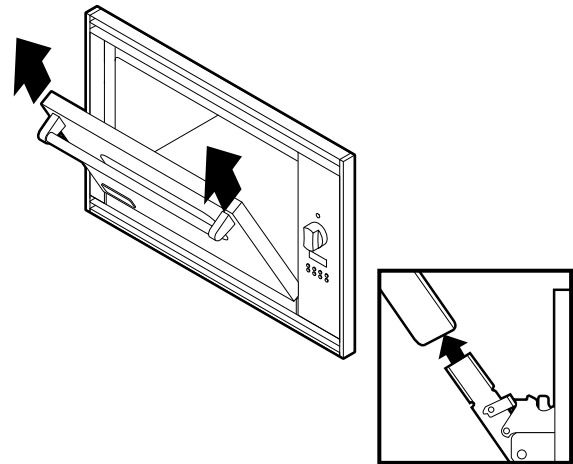
In order to remove the oven door, you will first need to make sure the door stops are in the correct position for door removal.



Open door approximately 20°, then slowly pull upward until the door stop pops out of door socket.



Gently close until the door rests against one of the stop notches.



Slide door completely from hinge arms (verify door stops are engaged before removing door).

Door Reinstallation

In order to reinstall the door, grasp firmly from each side and align the door hinges. Place door onto hinge arms. Pull door stops up and slowly slide door down.

Component Testing

Component	Volts	Ohms	Amps	Test Location
Thermostat Timer	120	0	N/A	AT1 (BK) to AT2 (WH) @ thermostat timer
RTD	5 VDC	1100 Ω @ 75°	N/A	AT5 to AT6 @ thermostat timer
Selector Switch	120	Infinite	N/A	BA to 2 @ selector switch with bake not selected
Selector Switch	0	0	N/A	BA to 2 @ selector switch with bake selected
Selector Switch	120	Infinite	N/A	BR to 1 @ selector switch with broil not selected
Selector Switch	0	0	N/A	BR to 1 @ selector switch with broil selected
Selector Switch	120	Infinite	N/A	CV to 3 @ selector switch with convection not selected
Selector Switch	0	0	N/A	CV to 3 @ selector switch with convection selected
Bake Igniter – RH	120	135	N/A	Bake igniter RH
Bake Igniter – LH	120	91	N/A	Bake igniter LH
Broil Igniter	120	106	N/A	Broil igniter
Dual Bake Valve	3.2 – 3.6	1.2	3.2	Bake valve
Broil Valve	3.2 – 3.6	1.2	3.2	Bake valve
Convection Motor	120	29.8	N/A	Convection motor

The chart shown here is a Temp-to-Resistance Chart for RTD.

The oven sensor is also know as a P.T.C. (Positive Temperature Control) device which means that as the temperature rises, the resistance increases.

RTD (Resistive Thermal Service)	
Temperature (°F)	Resistance (approximate)
50	1038
75	1090
100	1143
200	1350
300	1553
350	1654
400	1754
450	1852
500	1950
550	2047

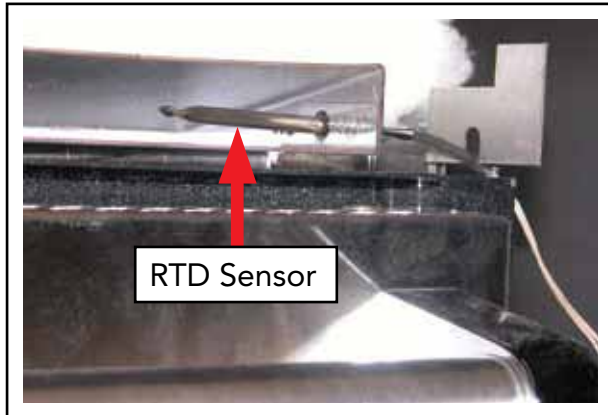
Troubleshooting Guide

Below and on the following page are some general guides should a problem be detected. Please refer to the test procedures in this manual to determine the defective component.

Problem	Probable Cause	Correction
No oven operations No display or lights	House breaker tripped Defective oven wiring (shorted, open, or burned)	Reset breaker Repair or replace defective wiring
No burners working Display lights and fans work normally	Gas valve turned off Igniter Gas valve Selector switch Thermostat timer Sensor	Turn valve to on position Verify voltage to igniter Verify resistance and current Verify proper contacts close Verify voltage to and from timer Verify resistance
No bake	Gas valve turned off Igniter Gas valve Selector switch Thermostat timer Sensor	Turn valve to on position Verify voltage to igniter Verify resistance and current Verify contacts are closed Verify voltage to and from timer Verify resistance
No broil	Gas valve turned off Igniter Gas valve Selector switch Thermostat timer Sensor	Turn valve to on position Verify voltage to igniter Verify resistance and current Verify contacts are closed Verify voltage to and from timer Verify resistance
No convection bake	Gas valve turned off Igniter Gas valve Selector switch Thermostat timer Sensor	Turn valve to on position Verify voltage to igniter Verify resistance and current Verify contacts are closed Verify voltage to and from timer Verify resistance
No convection broil	Gas valve turned off Igniter Gas valve Selector switch Thermostat timer Sensor	Turn valve to on position Verify voltage to igniter Verify resistance and current Verify contacts are closed Verify voltage to and from timer Verify resistance
No convection fan	Convection fan Selector switch Thermostat timer Wiring	Verify voltage and resistance Verify contacts are closed Verify voltage to and from timer Repair or replace defective wiring
No lights	Defective bulb Oven light switch Defective or broken wiring	Check for 120 VAC to the lights Verify light switch changes states when switch is pushed Repair or replace defective wiring

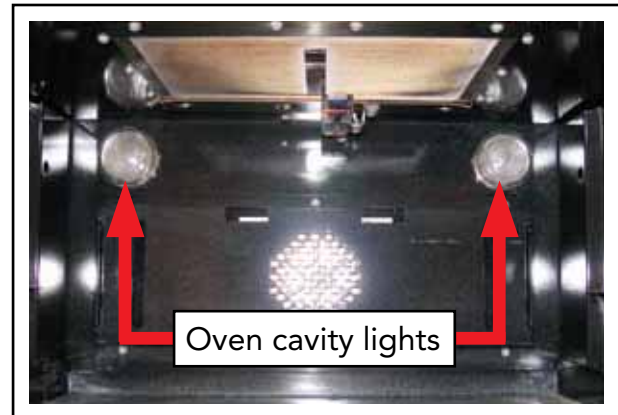
RTD Temperature Sensor Testing

The oven utilizes an RTD (Resistance Temperature Detectors) to measure the temperature in the oven cavity. As the temperatures rise and fall, the resistance in the RTD changes. These changes are interpreted by the thermostat timer, thus controlling the bake and broil burners. As the temperature rises, the resistance increases. Page 20 shows the ratio of temperature to resistance.



To access the RTD sensor, slide the unit out 6 – 8", remove the screws securing the upper trim, sensor will be accessible on the right hand side. The RTD has a Molex connector that once disconnected allows testing of the sensor. With the sensor disconnected and Volt-Ohm meter set to Ohms, record the sensor resistance. At room temperature the resistance should be approximately 1050 ohms. If the resistance reading is zero ohms or extremely high, replace the RTD. If the readings are within range, ohm each wire to ground. If resistance is present, then the RTD is grounded and the physical wires must be checked for a grounded connection. If the RTD resistance is within range and the wires are not grounded, the RTD is functional and should not be replaced.

Oven Cavity Light Testing

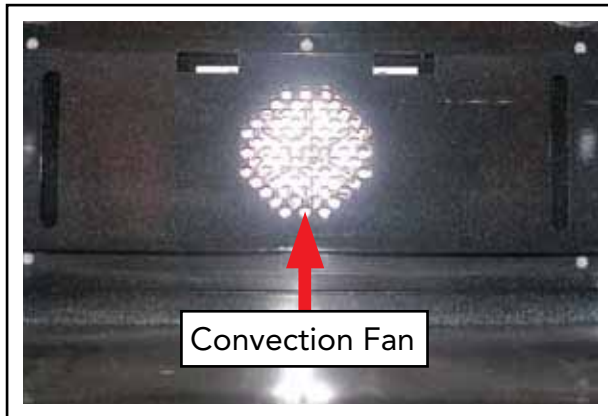


The oven utilizes 120 volt bulbs to illuminate the oven cavity. The lights are switched on by depressing the oven light switch on the control panel.

To access the cavity lights, locate in the oven cavity. Remove the lens. Remove the bulb from the socket once cool. With Volt-Ohm meter set to ohms, measure the resistance across the socket terminals upper right approximately 29.5 Ω and lower right approximately 28.8 Ω . If resistance is found, the socket and wiring is good and the bulb should be replaced. If no resistance is found, check the wiring for a short or break. If wiring is good, the problem lies in the socket.

Convection Fan Motor Testing

The oven utilizes a 120VAC convection fan motor to move air through the cavity. When the convection fan motor is required, power is supplied from the thermostat through selector switch.

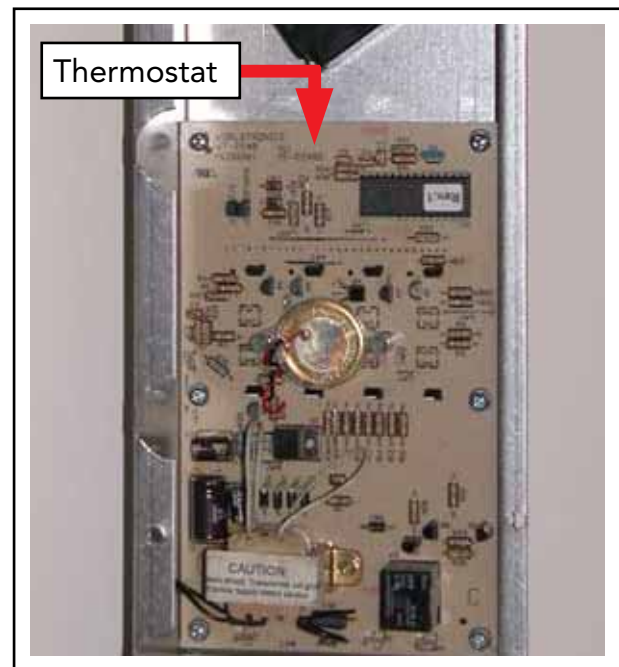


To access the convection fan assembly, remove the oven door, oven racks, and convection fan cover. The assembly is now accessible and can be removed from inside the oven cavity.

Line power comes from terminal AT3 of the thermostat timer, to terminal CV of the selector switch, through closed contact CV to 3 to the convection fan motor. Neutral is supplied via the power cord. With Volt-Ohm meter set to voltage and selector switch set to convection, measure the voltage at the convection fan motor (RD – WH). If 120 VAC is present and the fan is not turning, replace the convection fan motor. If no voltage is present, verify contact CV-3 is closed at the selector switch. If the contact is closed, verify 120 VAC to ground from thermostat timer terminal AT3. If voltage is present, check wiring and repair or replace as necessary. If no voltage is present, verify 120 VAC between thermostat timer AT1 and AT2. If voltage is present, replace the thermostat timer.

Thermostat Timer Testing

The operation of the oven is achieved by input from the thermostat timer to the selector switch. The thermostat timer receives power directly from the line cord at positions AT1 (L1) and AT2 (N). Power is transferred from the thermostat timer to the selector switch. Line power comes from the thermostat timer (AT4) to the selector switch terminal BA (bake) and BR (broil) via a black wire. Line power comes from the thermostat timer (AT3) to the selector switch terminal CV (convection) via a black wire.

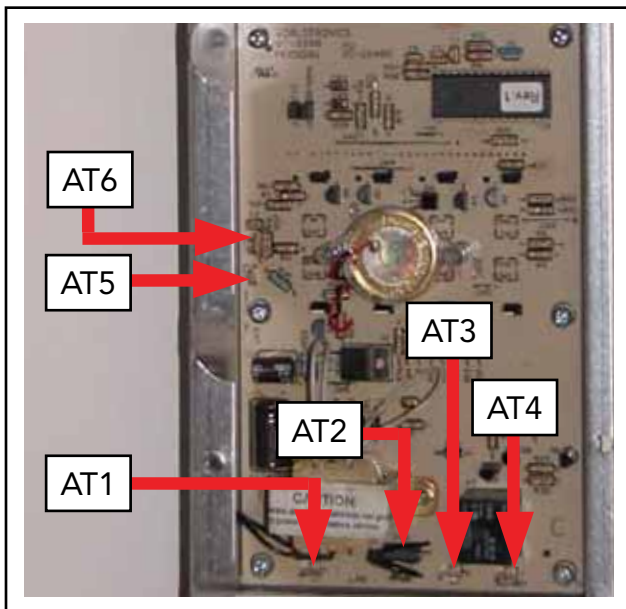


To access the thermostat timer, open oven door and remove screws securing control panel. Slide unit out 6 – 8” and remove screw from right side trim securing control panel. Remove nut securing oven light switch, selector switch knob, and timer buttons. Remove control cover and disconnect wiring. Separate the control cover by removing securing screws. The thermostat timer is now accessible.

The thermostat timer receives line power via terminal AT1 (double black wire) directly from the line cord. Neutral is supplied by the line cord at terminal AT2 (double white wire). The thermostat timer receives input from the sensor at terminals

Thermostat Timer Testing (continued)

AT5 and AT6. The thermostat timer sends power to the selector switch for bake and broil via terminal AT4. The thermostat timer sends power to the selector switch for convection via terminal AT3. With Volt-Ohm meter set for voltage, measure voltage between AT1 and AT2. If 120 VAC is not present, check supply wire and repair replace as necessary. With selector set for bake or broil, 120 VAC should be found between AT4 and ground. If no voltage is present, replace the thermostat timer. With the selector set for convection, 120 VAC should be found between AT3 and ground. If no voltage is present, replace the thermostat timer.



F1 – Shorted probe

1. With Volt-Ohm meter set for resistance, remove the wires from Thermostat Timer terminals AT5 and AT6 and measure the resistance across them.
2. If zero or infinite resistance, replace the RTD.
3. If resistance is in range per RTD chart on page 20, check each wire to ground.
4. If resistance is present, the RTD is grounded and the physical wires will need to be checked for a grounded connection.

F3 – Controller Malfunction

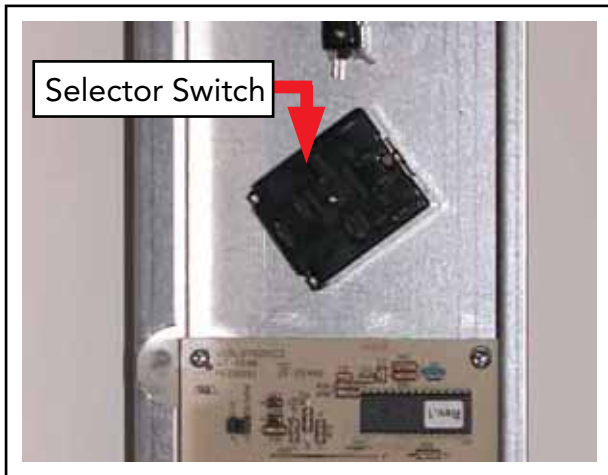
1. With Volt-Ohm meter set for resistance, remove the wires from thermostat timer terminals AT5 and AT6 and measure the resistance across them.
2. If resistance is in range per RTD chart on page 20, verify output at thermostat timer.
3. With unit set for bake or broil, 120 VAC should be present from AT4 to ground.
4. If no voltage is present, replace thermostat timer.
5. If voltage is present, verify wiring between thermostat timer and selector (BA and BR).
6. With unit set for convection, 120 VAC should be present from AT3 to ground.
7. If no voltage is present, replace thermostat timer.
8. If voltage is present, verify wiring between thermostat timer and selector (CV).

Selector Switch Testing

The selector switch controls the cooking operation. When the end user selects a cooking operation, the corresponding contacts within the selector switch closes, supplying L1 power to the bake igniter, broil igniter, or the convection fan motor. Switch contacts BA to 2, BR to 1, and CV to 3 closes for bake, broil, and convection functions respectfully.

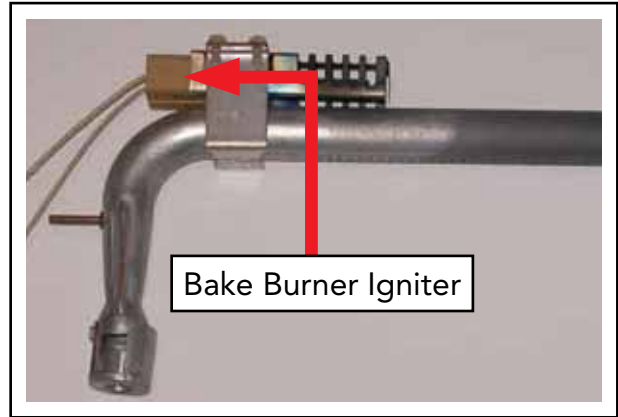
To access the selector switch, open oven door and remove screws securing control panel. Slide unit out 6 – 8" and remove screw from right side trim securing control panel. Remove nut securing oven light switch, selector switch knob, and timer buttons. Remove control cover and disconnect wiring. Separate the control cover by removing securing screws. The selector switch is now accessible.

The selector switch receives L1 from the thermostat timer AT3 (convection selected) or AT4 (bake or broil selected). With bake selected, closed contacts BA to 2 supplies L1 power to the left hand and right hand bake igniters. With broil selected, closed contacts BR to 1 supplies L1 power to the broil igniter. With convection selected, closed contacts CV to 3 supplies L1 power to convection fan motor.



Bake Igniter Testing

The bake igniter provides an ignition source for the gas being supplied by the gas valve. Once the end user selects bake, power is supplied to the bake igniter and it begins to glow red.

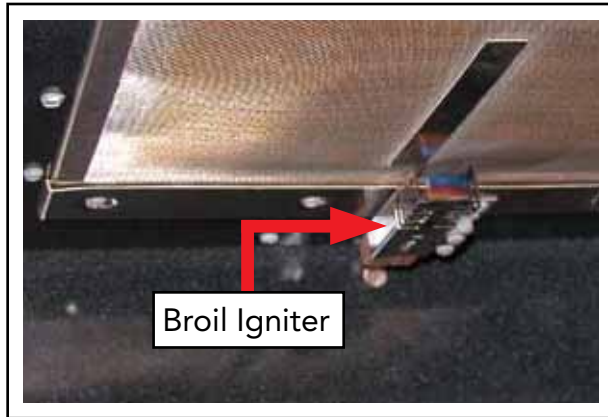


To access the bake igniter, remove the screws securing the lower panel. With the panel removed, remove the screws and brackets securing the bake burner. Disconnect wiring and remove the bake burner. The igniter is now accessible.

With a Volt-Ohm meter set for resistance, measure the igniter resistance. The left side bake igniter should be approximately 91 Ω and the right side igniter should be approximately 135 Ω . Supply voltage to the igniter is 120 VAC. As power is applied the igniter begins to glow. A glowing igniter does not mean it is good. Often times the igniter will glow, however it is weak and does not supply enough current flow to open the gas valve.

Broil Igniter Testing

The broil igniter provides an ignition source for the gas being supplied by the gas valve. Once the end user selects broil, power is supplied to the bake igniter and it begins to glow red.

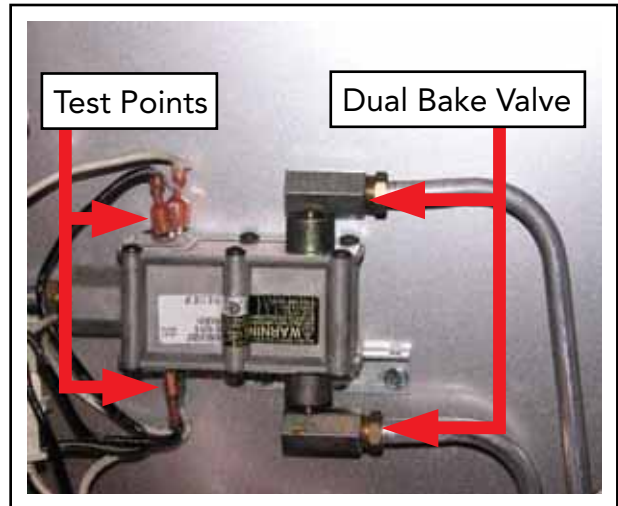


To access the broil igniter, open the oven door and remove the oven racks. The igniter is accessible at the top of the oven cavity.

With a Volt-Ohm meter set for resistance, measure the igniter resistance. The broil igniter should be approximately 106 Ω . Supply voltage to the igniter is 120 VAC. As power is applied the igniter begins to glow. A glowing igniter does not mean it is good. Often times the igniter will glow, however it is weak and does not supply enough current flow to open the gas valve.

Dual Bake Valve Testing

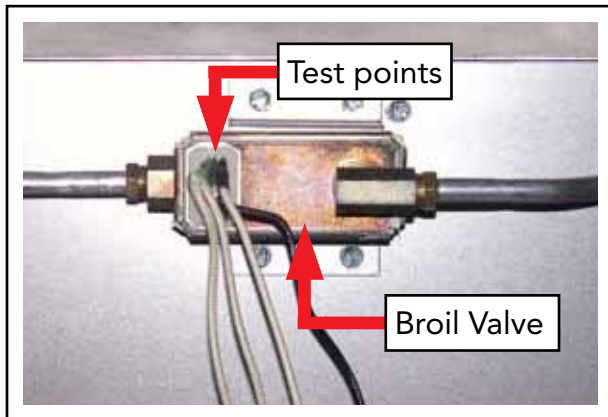
The bake valve supplies the gas flow to the burners to allow ignition. As voltage is applied to the bake igniter, the resistance begins to drop. As the resistance drops, current flow through the gas valve is increased. This increased current flow allows the gas valve to open and gas to flow to the igniter. Once the gas comes in contact with the hot igniter, ignition occurs.



To access the dual bake valve, remove the unit from installation. Remove screws securing the access panel on the right side. The bake valve is now accessible.

With Volt-Ohm meter set for resistance, measure the bake valve resistance. The valve should measure approximately 1.2 Ω from W-BK and DBL WH – BK. Current flow through the gas valve should be 3.2 – 3.6 Amps. Voltage to the valve is 3.2 – 3.6. Applying voltage above this range to the valve can cause damage to the valve.

Broil Valve Testing



The broil valve supplies the gas flow to the burners to allow ignition. As voltage is applied to the bake igniter, the resistance begins to drop. As the resistance drops, current flow through the gas valve is increased. This increased current flow allows the gas valve to open and gas to flow to the igniter. Once the gas comes in contact with the hot igniter, ignition occurs.

To access the dual bake valve, remove the unit from installation. Remove screws securing the access panel on the right side. The broil valve is now accessible.

With Volt-Ohm meter set for resistance, measure the broil valve resistance. The valve should measure approximately 1.2Ω from W-BK. Current flow through the gas valve should be 3.2 – 3.6 Amps. Voltage to the valve is 3.2 – 3.6. Applying voltage above this range to the valve can cause damage to the valve.

