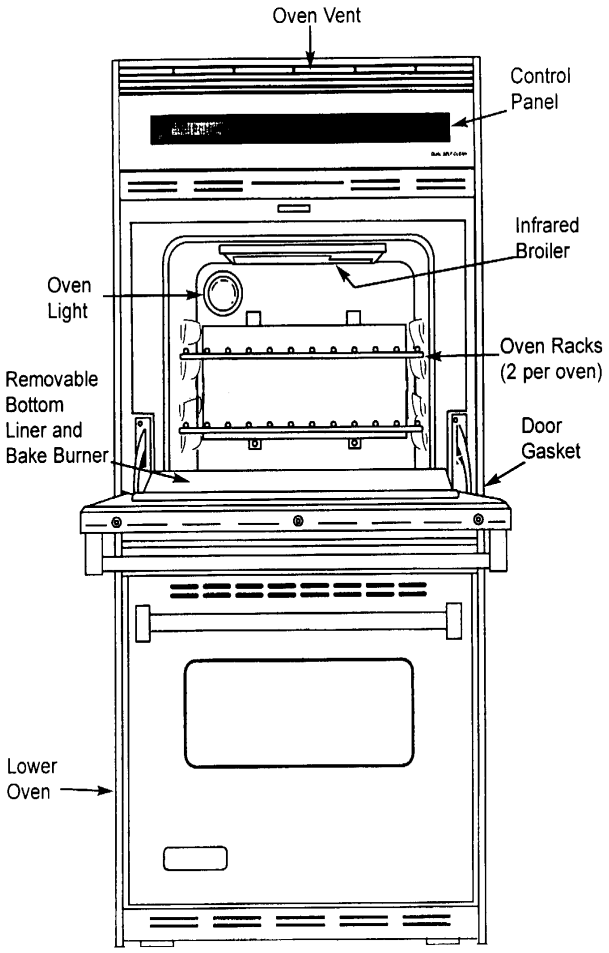
SERVICE NOTEBOOK

GAS WALL OVENS

VGDO271

VIKING RANGE CORPORATION®



VIKING RANGE CORPORATION, P. O. DRAWER 956, GREENWOOD, MS. 38930 - USA

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IMPORTANT INFORMATION

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime a **product** may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. **REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL and TECHNICAL SHEETS BEFORE BEGINNING REPAIRS.**

Important Notice for Consumers and Services

WARNING

To avoid risk of serious injury or death, repairs should not be attempted by unauthorized personnel; dangerous conditions (such as exposure to electrical shock) may result.

CAUTION

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

To locate an authorized servicer, consult the dealer from whom you purchased this product. For further assistance, call:

Viking Preferred Service
Phone # 601-451-4133

Address your written correspondence to:

Viking Preferred Service
111 Front Street
P. O. Drawer 956
Greenwood, MS. 38935-9560

Recognize Safety Symbols, Words, and Labels

DANGER **Danger-**Immediate hazards which WILL result in severe personal injury or death

WARNING **Warning**-Hazards or unsafe practices which COULD result in severe personal injury or death

CAUTION **CAUTION-**Hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

INTRODUCTION

General Information

This manual provides basic instructions and suggestions for handling, installing and servicing your VIKING gas wall oven.

The directions, information, and warnings in this manual are developed from experience with, and careful testing of the product. If the unit is installed according to the manual, it will operate properly and will require minimal servicing. A unit in proper operating order insures the consumer all the benefits provided by clean, modern gas cooking.

This manual contains basic information needed be authorized VIKING service technicians to install and service VIKING gas wall ovens. There may be, however, some parts which need further explanation. Refer to the owners guide or VIKING maintains a toll-free technical support line to answer questions from authorized service technicians. The number is 1-800-467-2665.

Model Identification and Ordering Replacement Parts.

Unit's model and manufacturing numbers are located on its rating label. Rating label is located on the door frame. It can be seen by opening the oven door. Before ordering parts, write down the correct model and manufacturing numbers from the rating label.. This avoids incorrect shipments and delays. Please refer to parts catalog when ordering replacement parts.

SAFETY INFORMATION

As with all appliances, there are certain rules to follow for safe operation. Verify everyone who operates oven is familiar with the operations and with these precautions. Use appliance only for its intended purpose as described. Pay close attention to the safety sections of this manual. Recognize the safety section be looking for the symbol or the word safety.
Recognize this symbol as a safety precaution.

⚠ WARNING

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

- Extinguish any open flames
- 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 local fire department.

Installation and service must be performed by an authorized installer, service agency or gas supplier.

SAFETY PRACTICES FOR SERVICER

Safe and satisfactory operation of gas wall ovens depends upon its design and proper installation. However, there is one more area of safety to be considered: **SERVICING.**
Listed below are some general precautions and safety practices which should be followed in order to protect the service technician and consumer during service and after service has been completed.

⚠ WARNING

To avoid risk of electrical shock, property damage, personal injury, or death verify wiring is correct, if components were replaced. Verify proper and complete operation of unit after servicing.
This gas appliance contains or produces a chemical or chemicals which are known to the state of California to cause cancer, birth defects, or other reproductive harm. To reduce the risk from substances in the fuel or from fuel combustion make sure this appliance is installed, operated and maintained according to the instructions in this manual.
Due to the nature of cooking, fires can occur as a result of overcooking or excessive grease.

1. Gas smell-Extinguish any and all flames and open windows.
2. Turn gas off-Service wall oven with gas turned off unless testing requires it.
3. Checking for gas leaks-Never check for leaks with any kind of open flame. Soap and water solution should be used for this purpose. Apply solution to suspected area and watch for air bubbles which indicates a leak. Correct leaks by tightening fittings, screws, connections, applying approved compound, or installing new parts.
4. Using lights-Use a hand flashlight when servicing wall ovens or checking for gas leaks. Electric switches should not be operated where leaks are suspected. This will avoid creating arcing or sparks which could ignite the gas. If electric lights are already turned on, they should not be turned off.
5. Do not smoke-Never smoke while servicing gas wall ovens, especially when working on piping that contains or has contained gas.
6. Check wall oven when service is completed-After servicing, make visual checks on electrical connection, and check for gas leaks. Inform consumer of the condition of the wall oven before leaving.
7. Adhere to all local regulations and codes when performing service.

SAFETY INFORMATION

RECEIVING WALL OVEN

- Installer needs to show consumer location of the wall oven gas shut-off valve and how to shut it off, if necessary.
- Authorized servicer must install the wall oven in accordance with the installation instructions. Adjustments and service should be performed only by authorized servicer.
- Plug wall oven into a 120-volt grounded outlet only. Do not remove round grounding prong from the plug. If in doubt about grounding of the home electrical system, it is consumers responsibility and obligation to have an ungrounded outlet replaced with a properly grounded three-prong outlet in accordance with the National Electrical Code. Do not use an extension cord with this appliance.
- Insure all packing materials are removed from the wall oven before operating it, to prevent fire or smoke damage should the packing material ignite.
- Ensure wall oven is correctly adjusted by a qualified service technician or installer for the type gas (NAT or LP). Some wall ovens can be converted for use with NAT or LP gas.
- With prolonged use of a wall oven, high floor temperatures could result. Many floor coverings will not be able to withstand this kind of use. Never install wall oven over vinyl tile or linoleum that cannot withstand high temperatures. Never install wall oven directly over carpeting.

ALL APPLIANCES

1. Proper Installation--Be sure your appliance is properly installed and grounded by a qualified technician.
2. Never Use Appliance for Warming or Heating the Room.
3. Do Not Leave Children Alone-- Children should not be left alone or unattended in the area where the appliance is in use. They should never be allowed to sit or stand on any part of the appliance.
4. Wear Proper Apparel--Loose fitting or hanging garments should never be worn while using appliance.
5. User Servicing--Do not repair or replace any part of the appliance unless specifically recommended in the manual. All other servicing should be referred to a qualified technician.
6. Storage in or on Appliance--Flammable materials should not be stored in oven.

7. Do Not Use Water on Grease Fires-- Smother fire or flame, or use dry chemical or foam-type extinguisher.
8. Use Only Dry Potholders--Moist or damp potholders on hot surfaces may result in burns from steam. Do not let potholder touch burners. Do not use a towel or other bulky cloth.

SELF-CLEANING OVENS

1. Do Not Clean Door Gasket--The door gasket is essential for a good seal. Care should be taken not to rub, damage, or move the gasket.
2. Do Not Use Oven Cleaners--No commercial oven cleaner or oven liner protective coating of any kind should be used in or around any part of the liner.
3. Clean Only Parts Listed in Manual. *See Cleaning* section.
4. Before Self-Cleaning the Oven--Remove broiler pan, oven racks, and other utensils.
5. Remove all items from oven top and backguard.

OVEN

1. Use Care When Opening Door--Let hot air or steam escape before removing or replacing food.
2. Do Not Heat Unopened Food Containers--Build-up of pressure may cause container to burst and result in injury.
3. Keep Oven Vent Ducts Unobstructed.
4. Placement of Oven Racks--Always place oven racks in desired location while oven is cool. If rack is removed while oven is hot, do not let potholder contact hot heating element in oven.

DELAYED IGNITION

Bake Burner Flame

Allow no more than 40-60 seconds before burner ignites and heat is felt. To check for heat, open oven door to first stop and place hand over oven door. If heat is not felt, cancel bake function. If burner repeatedly fails to ignite, contact an authorized servicer.

Broiler Flame

Allow no more than 40-60 seconds before burner ignites and flame is seen. If burner does not ignite cancel broil function. If burner repeatedly fails to ignite within 40-60 seconds contact an authorized servicer.

Radiant screen style broiler flame should appear hazy or fuzzy. Haze should be no more than 3/8 inch thick. The radiant screen should begin to glow red within 1-2 minutes.

SAFETY INFORMATION

IN CASE OF FIRE

Fires can occur as a result of over cooking or excessive grease. Though a fire is unlikely, if one occurs, proceed as follows:

OVEN FIRES

1. If you see smoke from oven, do not open oven door.
2. Turn oven control to **OFF.**
3. As an added precaution, turn off gas supply and power at main circuit breaker, or fuse box.
4. Turn on vent to remove smoke.
5. Allow food or grease to burn itself out in oven.
6. If smoke and fire persist, call fire department.
7. If there is any damage to components, call repair service before using oven.

If smoke or fire persists call the local fire department.

To avoid the risk of property damage or personal injury do not obstruct the flow of combustion or ventilation air to the oven.

To avoid the risk of electrical shock, serious personal injury or death: Make sure your oven has been properly grounded and always disconnect the electrical supply before servicing this unit.

NOTE: The maximum gas supply pressure for these models must not exceed 14 inches W.C.P.

PRECAUTIONS

- Do not mix household cleaning products. Chemical mixtures may interact with objectionable or even hazardous results.
- Do not put plastic items on warm cooking areas. They may stick and melt.
- Do not use damp sponge or dishcloth to clean oven when oven is hot. Steam from sponge or dishcloth can burn.
- Do not leave fat heating unless you remain nearby. Fat can ignite if overheated by spilling onto hot surfaces.

USING THE OVEN

- Do not leave children alone or unattended where a wall oven is hot or in operation. They could be seriously burned.
- Do not allow anyone to climb, stand or hang on the door. They could damage the wall oven and cause severe personal injury.
- Wear proper apparel. Loose fitting or hanging garments should never be worn when using oven. Flammable material could ignite if brought in contact with flame or hot oven surfaces which may cause severe burns.
- Never use wall oven for warming or heating a room. This may cause burns, injuries or a fire.
- Do not use water on grease fires
- Do not let grease or other flammable material collect in or around wall oven.
- Do not repair or replace any part of wall oven yourself unless it is recommended in this manual.
- Use only dry potholders. Moist or damp potholders used on hot surfaces may result in a burn from steam. Do not let a potholder touch the flame. Do not use a towel or a bulky cloth as a potholder.
- Never leave wall oven unattended while cooking. Boilovers can cause smoking and may ignite.
- Only certain types of glass/ceramic, earthenware, or other glazed utensils are suitable for oven use. Unsuitable utensils may break due to sudden temperature change.
- Use care when opening oven door. Let hot air or steam escape before removing or replacing food.
- Do not heat unopened food containers in oven. Build-
  up of pressure may cause a container to burst and result in injury.
- Keep wall oven vent ducts unobstructed.
- Place oven racks in desired location while oven is cool. If a rack must be moved while oven is hot, use a dry potholder.
- Do not use aluminum foil to line oven bottom or racks. Aluminum foil can cause a fire and will seriously affect baking results.
- Do not touch interior surfaces of oven during or immediately after use. Do not let clothing or other flammable materials come in contact with bake or broil burners.
- Other areas of the oven can become hot enough to cause burns, such as vent openings, window, oven door and oven racks.
- To avoid steam burns, do not use a wet sponge or cloth to wipe up spills on hot cooking area.
- Do not store combustible or flammable materials such as gasoline or other flammable vapors and liquids near or in oven.
- Do not clean oven gasket located on back of the door. Gasket is necessary to seal the oven and can be damaged as a result of rubbing or being moved.
- Do not drape towels or any material on oven door handles. These items may ignite causing a fire.

⚠ CAUTION

Do not store items of interest to children in cabinets above wall oven. Children may climb on oven to reach these items and become seriously injured.

SAFETY INFORMATION

SELF-CLEANING OVEN

- Do not clean door gasket. Door gasket is essential for a good seal. Be careful not to rub, damage or move it.
- Do not use oven cleaners. No commercial oven cleaner or oven liner protective coating of any kind should be used in or around any part of the oven.
- Remove the broiler pan and other cookware before self-cleaning oven.

BAKING, BROILING, AND ROASTING

- Do not use oven area for storage.
- Stand back from wall oven when opening door of a hot oven. Hot air or steam can cause burns to hands, face, and eyes.
- Do not use aluminum foil anywhere in the oven. This could result in a fire hazard and damage the wall oven.
- Use only glass cookware appropriate for use in gas ovens.
- Always remove broiler pan from oven when finished broiling. Grease left in pan can catch fire if oven is used without removing grease from the broiler pan.
- When broiling, meat that is close to the flame, may ignite. Trim any excess fat to help prevent excessive flare-ups.
- Make sure broiler pan is placed correctly to reduce any possibility of grease fires.
- Should a grease fire occur in the broiler pan, turn off oven, and keep oven door closed until fire burns out.

CONNECTING WALL OVEN TO GAS

Install manual shut-off valve in gas line for easy accessibility outside wall oven. Be sure of the location of the shut-off valve.

ELECTRICAL REQUIREMENTS

120-volt, 60 Hertz, individual circuit which is properly grounded and protected by a circuit breaker or fuse.

EXTENSION CORD

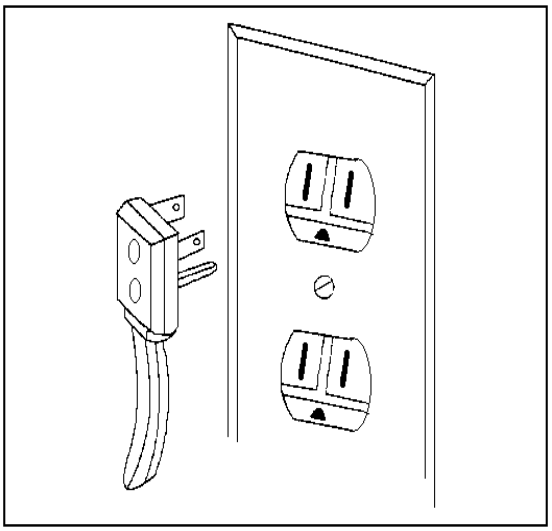
Due to possible pinching during installation, extension cords should not be used on built-in products.

GROUNDING

NOTE: This appliance must be properly grounded, for personal safety.

Power cord on this appliance is equipped with a three prong grounding plug. This matches standard three prong grounding wall receptacle to prevent possibility of electric shock from the appliance.

Consumer should have wall receptacle and circuit checked by qualified electrician to verify receptacle is properly grounded.



Where standard two prong wall receptacle is encountered, it is consumers responsibility and obligation to have it replaced with a properly grounded three prong wall receptacle.

DO NOT, UNDER ANY CIRCUMSTANCES, CUT OR REMOVE THE THIRD (GROUND) PRONG FROM POWER CORD.

SAFETY INFORMATION

PRODUCT SAFETY DEVICES

Safety devices and features have been engineered into the product to protect consumer and servicer. Safety devices must never be removed, bypassed, or altered in such a manner as to defeat the purpose for which they were intended.

Listed below are various safety devices together with reason each device is incorporated in the gas wall oven.

Pressure Regulator Regulator	Maintains proper and steady gas pressure for operation of wall oven controls. must be set for the type of gas being used whether Natural or LP. After servicing regulator, make certain it is set properly before completing service.
Gas Burner Orifice	Universal orifices are used on some oven valves. They must be adjusted or set for type of gas being used, Natural or LP. If not universal orifice, the orifice spud or hood must be of proper size for gas used. After servicing a valve or orifice verify it is adjusted properly before completing service.
Oven Safety Valve	Oven valve is designed to be a safety valve. Two basic designs are used in gas wall ovens. Hydraulic type valve Electric type valve Both types are safety valves because they are indirectly operated by the oven thermostat, which controls a pilot flame or electric ignitor, to open the oven valve. Incoming gas pressure closes the valve.
Latch Assembly	Locks the door during self-cleaning cycle. Prevents possible injury to consumer by preventing door opening at high temperatures where ignition of soil could take place with the in-rush of air.
Grounded Wall Oven Frame	Ground prong on power cord is connected to the frame, usually a green lead fastened by a screw. In addition, any part or component capable of conducting an electrical current is grounded by its mounting. If any ground wire, screw, strap, nut, etc. is removed for service, or any reason, it must be reconnected to its original position with original fastener before the appliance is put into operation again. Failure to do so can create a possible shock hazard.

GENERAL INFORMATION

Baking Guide

Refer to owners manual for following recommendations only as a guide for times and temperature. Times, rack position, and temperatures may vary depending on conditions and food type. For best results, always check food at minimum time. When roasting, choose rack position based on size of food item.

Prepare to Bake

To reduce risk of food poisoning due to bacterial

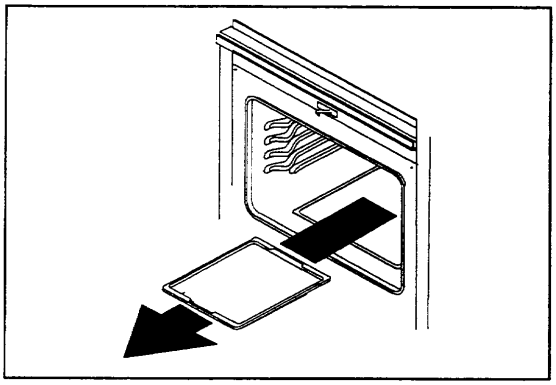
⚠ CAUTION

growth and production of toxins, keep meat, milk, fish, and eggs
refrigerated until needed.

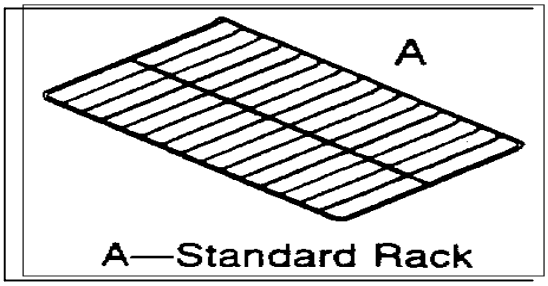
Remove Items Stored in Oven

Remove any pans and other cooking utensils stored in oven.

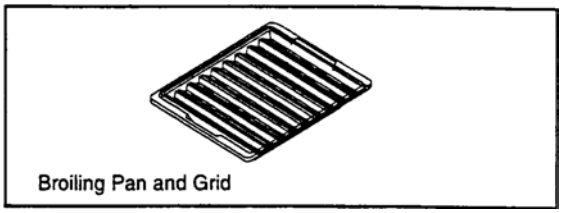
Oven Racks



Use Standard rack for normal baking and broiling.



Oven Rack Placement



Position oven rack before turning oven on.

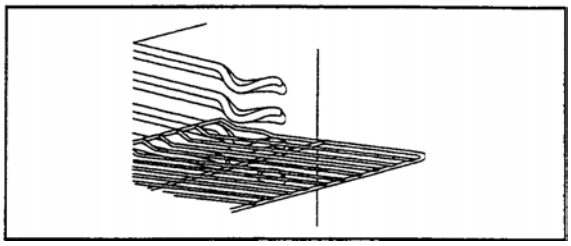
To avoid damaging oven liner or creating fire, do not

⚠ WARNING

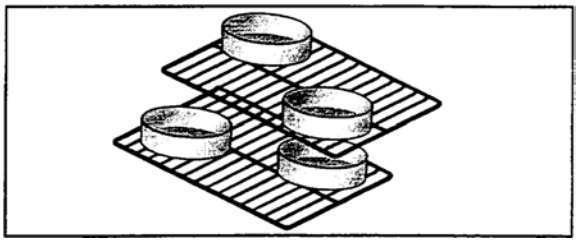
line oven bottom or racks with foil.

1. Pull rack forward to stop position.
2. Raise front edge of rack and pull until rack is out of oven.
3. Place rack in new rack position.
   - Curved edge of rack must be toward rear of oven.

Bake Pan Placement



- Keep pans and baking sheets 2 " from oven walls.
- Stagger pans placed on different racks so one is not directly over the other.



GENERAL INFORMATION

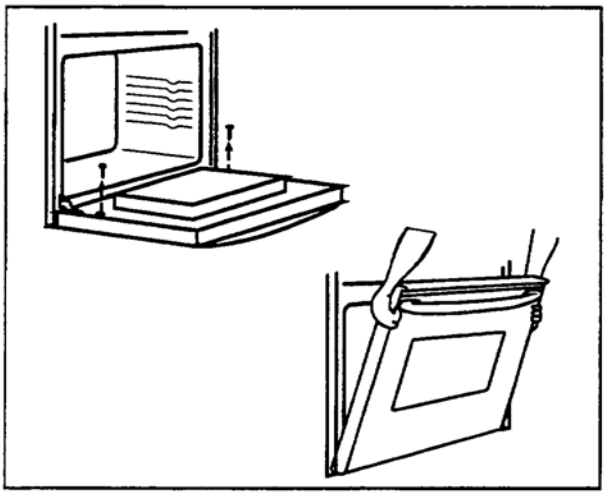
Removing Oven Door

⚠ CAUTION

To avoid personal injury or property damage, handle oven door with care.

- Door is heavy and can be damaged if dropped.
- Avoid placing hands in hinge area when door is removed. Hinge can snap closed and pinch hands.
- Do not scratch or chip glass, or twist door. Glass may break suddenly.
- Replace door glass if damaged.
- Do not lift door by handle.

1. Open door fully.
2. Remove screws.
   - Oven doors are attached with a screw on each side of oven door.
3. Close door to first stop, grasp door firmly on each side, and lift upward until door is off hinges.
   - Do not lift door by handle. Glass or handle can break.
   - Only push hinges closed once oven door is removed if necessary. Use both hands when closing hinge. Hinge snaps closed.



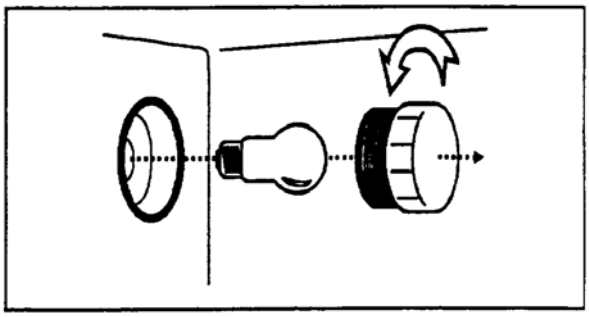
Replacing Oven Light

⚠ WARNING

To avoid risk of burns or electrical shock, disconnect electrical supply to oven before changing light bulb.

- Before replacing light bulb make sure bulb and lens are cool.
- Wear protective gloves.
- Do not operate oven without bulb and lens cover in place.

1. Disconnect electrical supply.
2. Remove oven door if desired.
3. Unscrew light bulb cover (counterclockwise) located in rear of cavity. Then turn light bulb counter-clock-wise to remove.
4. Replace light bulb with 120-volt, 40 watt appliance bulb.
   - Do not over-tighten bulb or cover. They may be difficult to remove later.
5. Replace light bulb cover and oven door before use.
6. Reconnect power supply.



CARE AND CLEANING

Cleaning

Part	Material to Use	General Directions
Clean burner area	Soap and a non-abrasive plastic scouring pad, cloth or toothbrush.	1. Pull oven bottom forward and lift out. 2. Unscrew nut on burner and remove burner baffle. 3. Wipe out burner area around burner with cloth and warm soapy water. 4. Dry area thoroughly. Replace burner baffle and oven bottom.
Broiler pan and grid	Soap and a non-abrasive plastic scouring pad, cloth or toothbrush.	Drain fat, cool pan and grid slightly.(Do not let soiled pan and grid stand in oven to cool.) Sprinkle with soap. Fill the pan with warm water. Let pan and grid stand for a few minutes. Wash or scour if necessary. Rinse and dry. The broiler pan and grid may also be cleaned in the dishwasher.
Inside oven door	Soap and water	Clean the outside of the door and the window area with warm soapy water. <u>Oven Door Gasket</u> Do not clean the braided oven door gasket. Gasket should not be moved while cleaning. Avoid getting any cleaning materials on gasket.
Outside finish	Soap and water	Wash all glass with cloth dampened in soapy water. Rinse and polish with a dry cloth.
Oven interior surfaces	Soap and water	Cool before cleaning. Frequent wiping with mild soap and water prolongs time between self-cleaning. Be sure to rinse thoroughly.
Control panel	Soap and water	Wash with cloth dampened in soapy water. Rinse and polish with a dry cloth.
Oven racks	Soap and water	For heavy soil, clean by hand and rinse thoroughly.

⚠ WARNING To avoid the risk of electrical shock, personal injury or death, disconnect power before servicing, unless testing requires it.

Control compartment tests generally requires removal of oven from cabinet cutout. See disassembly instructions to access control compartment.

Sail Switch

Sail switches are located in the rear of control compartment and mounted to control compartment back, in front of the fan motors. During self-clean operations thermal switch contacts close, supplying power to fan motors. Air from the fan motor pushes against the sail switch paddle, closing the sail switch contacts, supplying power to the self-clean circuit. The sail switch contacts must close for proper self-clean operation.

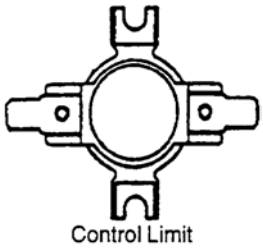
Use the following procedure to check sail switch contacts
for continuity.

1. Disconnect power from oven. Disconnect switch wires.
2. Access sail switches by removing control panel assembly.
3. Set ohmmeter in the low ohm range. Attach meter leads to switch terminals on sail switch.
4. Meter should indicate no continuity or infinite ohms when switch is in normal position.
5. Push switch paddle to close switch contacts. Meter should indicate continuity or a low ohm reading.
6. Replace sail switch that failed the test.

NOTE: Both sail switches must be tested.

Vent Hi-Limit Control

OPEN	CLOSED
145°F	185°F


Control Limit

1. Turn off power to oven and disconnect gas supply.
2. Remove oven from wall cutout.
3. Remove screws securing outer cabinet top shield to outer cabinet wrapper shield.
4. Disconnect wires from switch connections.
5. Attach ohmmeter leads to switch terminals. At ambient room temperature 70°F, continuity should be indicated.

Thermal Fan Switch

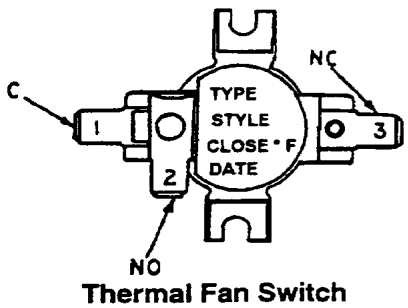
Thermal fan switches are mounted behind the control panel. Fan switches monitor the temperature at the rear of the oven cabinet and supply power to the fan motor if the rear cabinet temperatures exceed 150°F.

Thermal fan switch contains three terminals. Terminal 1 is the common terminal connected to the power source. Terminal 2 is the NO terminal connected to the fan motors and terminal 3 is the NC terminal connected to the oven elements.

During most cooking operations, the C-NC contacts remain closed. When the oven rear cabinet temperatures reach approximately 150°F, contacts C-NC open and C-NO closes supplying power to the fan motors. Use the following procedure to check contacts C-NC for continuity.

1. Disconnect power to oven. Remove switch wiring.
2. Access thermal fan switches by removing the oven from the cabinet and rear cabinet back panels
3. Set ohmmeter to low range.
4. Attach meter leads to switch terminal 1 or Com and 3 to NC.
5. Meter should indicate low ohms or continuity. It is difficult to check fan switch contacts COM-NO since they are closed when the rear cabinet temperature reaches 150°F and above.

Terminals 1-2 (NO) closed @150°F open @ 120°F
Terminals 1-3 (NC) opened @150°F closed @ 120°F



Thermal Fan Switch

⚠ WARNING To avoid the risk of electrical shock, personal injury or death, disconnect power before servicing, unless testing requires it.

Fan Motors

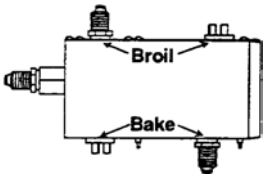
The fan motors are mounted to the control compartment back. They cool the exterior oven cabinets, electrical components and close the sail switch contacts during self-clean operation. Use the following procedure to check for continuity.

1. Remove oven from cabinet. Remove cabinet top.
2. Disconnect power from oven. Remove motor wiring.
3. Set ohmmeter to low range.
4. Attach meter leads to wiring terminals. Meter should indicate a low resistance reading of approximately 20 - 30 ohms for continuity.
5. If an open circuit is indicated, the motor coil has failed. Replace motor.
6. Test each terminal to ground. If motor cavity is shorted, replace motor.

Gas Valve

The bake and broil dual gas valves supply gas to the bake and broil burners. The valves contain bimetal arms attached to the valve seats held closed by incoming gas pressure. These arms are wrapped with a small electric heater coil. When a current range of approximately 3.2-3.6 amps flows through the bake or broil circuit, the bimetal arm is heated. Heating causes the arm to bend, allowing gas to flow and be ignited be the burner ignitor.

The broil gas valve is located on the right side of the control panel flueway and the bake gas valve is located on the left side of the control panel flueway.
The bimetal arms can be checked for continuity using the



following procedure.

1. Access valves by removing control panel glass and control panel mounting bracket.
2. Disconnect power to oven. Remove gas valve wiring.
3. Set ohmmeter to low ohms range. Attach meter leads to the two gas valve terminals facing rear of oven.
4. Meter should indicate low ohms or continuity.
5. Repeat on two gas valve terminals facing front of oven.
6. If meter indicates infinite ohms, an open heater coil, the complete gas valve must be replaced.

NOTE: Do not apply 120 VAC to valve. Apply 120 VAC to valve will render valve inoperative.

Bake and Broil Ignitors

The bake and broil ignitors are mounted to the bake and broil burners. They ignite the gas flowing into the burner.
During bake and broil operations, current flows through the ignitor, gas valve and thermostat at neutral. As the ignitor heats up and starts glowing, its internal resistance decreased. This allows more current to flow through the bake or broil circuit.

When the circuit current reaches approximately 3.2-3.6 amps, the bimetal arm in the gas valve flexes, opening the valve and allows gas to flow to the burner where it is ignited by the glowing ignitor. The ignitors glow anytime the bake or broil burners are operating and cycles on and off with the temperature setting.

Use the following procedure to check the ignitors for continuity.

1. Disconnect power to oven.
2. Remove ignitor from burner.Disconnect ignitor wiring.
3. Set ohmmeter R X 10 range. Attach one meter lead to each ignitor lead.
4. A resistance of several hundred ohms may be indicated. Amount of resistance may vary with each ignitor. This test determines if ignitor is opened internally.
5. Ignitor may still have to be replaced even though continuity is indicated and it glows when the oven is set for a bake, broil or clean function.
   Ignitor current may be measured more exactly by testing with the oven operating. Use the following procedure to test the ignitor current with the oven operating.
1. Insert an ammeter in series with one lead of ignitor or any amprobe attached to the lead to check amount of current flowing through the ignitor circuit.
2. Turn on oven and wait for ignitor to glow red. Meter should indicate approximately 3.2-3.6 amps.

The same procedure may be use to bench test the ignitor. Connect an AC jumper or test cord to the ignitor leads and follow the preceding procedure.

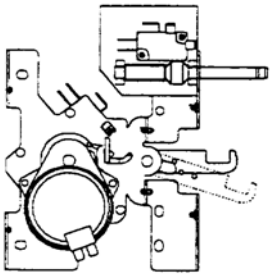
⚠ WARNING To avoid the risk of electrical shock, personal injury or death, disconnect power before servicing, unless testing requires it.

Auto Latch Motor

Do not remove latch motor or switches from latch assembly. If latch motor or switches have failed, replace latch assembly.

1. Disconnect power.
2. Slide oven out from wall cutout approximately 6 inches to gain access to control panel screws.
3. Remove screws securing control panel to unit, and pull control panel out of unit to gain access to latch assembly.
4. Disconnect lead wires from latch motor.
5. Connect jumper cord leads to latch motor.
6. Connect jumper cord to 120 AC power source.
7. Replace if latch motor fails to operate.
8. Reverse procedure to reconnect.

Auto Latch Switches



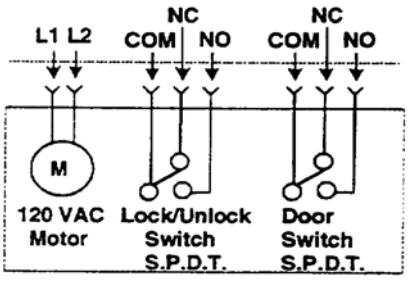
Door Latch Assembly

Unlock and lock door latch switches cannot be replaced.

Replace latch as an assembly.

1. Perform steps 1 through 3, from "Auto Latch Motor".
2. Disconnect lead wires from door latch switch (unlock)
3. Set ohmmeter to the R X 1 scale.
4. Attach meter leads to door latch switch (unlock).
5. Depress actuator arm. The meter should read continuity.
6. Reverse procedure to reconnect.
7. Use same procedure to test door latch switch (lock).

If upper latch fails in the closed position.



Double Switch

1. Shut off electricity at the fuse box or circuit breaker.
2. Remove control panel to gain access to latch assembly.
3. Force door latch rod past "fishhook" detent.
4. Replace latch assembly.

Oven Temperature Sensor

Detail testing can be accomplished as follows.

Oven temperature sensor is mounted in the oven cavity and electrically connected to the ERC.

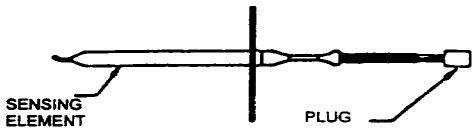
Following is approximate resistance.

75°F--1082 ohms
350°F--1656 ohms
550°F--2056 ohms
880°F--2686 ohms

Sensor resistance can be checked by removing the sensor interconnect harness plug from the ERC and inserting ohmmeter leads into the harness connector plug. A resistance reading of approximately 1100 ohms should be indicated at ambient room temperature, 75°F. If a higher resistance is indicated, then remove sensor from oven. Disconnect sensor from harness at plug and recheck sensor resistance to assure that the problem is in the sensor and not in the interconnect harness or due to a bad connection.

NOTE: Sensor resistance will increase if held in your hand.

1. Disconnect power to oven.



2. Disconnect sensor harness plug from ERC.
3. Connect meter leads into harness connector plug, resistance should be approximately 1100 ohms at room temperature 75°F.
   - If a higher resistance is indicated remove sensor from oven. Disconnect sensor from harness at the plug and recheck sensor resistance to assure the problem is in the sensor and not in the interconnecting harness or due to a bad connection.

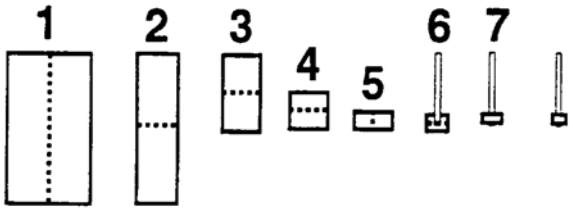
⚠ WARNING To avoid the risk of electrical shock, personal injury or death, disconnect power before servicing, unless testing requires it.

Oven Temperature Test

The following procedure should be used to verify oven temperature calibration.

- Verify oven door is adjusted and sealing properly.
- Do not cover the oven racks or oven bottom with foil.

1. Acquire an 8-1/2 X 11 inch piece of aluminum foil.
2. Fold the aluminum foil five times, doubling the thickness with each fold.
3. After the fifth fold, place the thermocouple tip into the center of the foil and fold foil over the thermocouple. Fold ends of the foil sides to attach foil to thermocouple.



4. Place the oven rack in the center of the oven cavity. Position thermocouple on the center of the rack.
5. Turn oven to 350°F and allow oven to cycle for 25 to 30 minutes. Oven should cycle between 330°F to 370°F.

TEST PROCEDURES

⚠ WARNING To avoid the risk of electrical shock, personal injury or death, disconnect power before servicing, unless testing requires it.

Problem	Probable Cause	Correction
1. No oven operation in bake or broil.	A. No voltage to ERC	A. Check for 120 VAC at ERC. If no voltage is present, check for broken or loose wiring.
2. No gas flows to burner, Ignitor glows red.	A. Failed ignitor	A. Check ignitor current draw. Replace ignitor if it fails test.
	B. Gas pressure too high	B. Check for correct gas pressure. Natural gas pressure should be 5" WCP and LP gas pressure should be 10" WPC.
	C. Failed gas valve	C. Check gas valve for continuity.
3. Gas flows to bake/broil burner, but does not light.	A. Ignitor positioned too far from burner.	A. Reposition ignitor closer to Bake/broil burner.
	B. Dirt or grease in orifice or burner.	B. Clean orifice or burner.
	C. Insufficient gas pressure.	C. Check for correct gas pressure. Natural gas pressure should be 5" WCP and LP gas pressure should be 10" WCP.
4. Broil burner shuts off shortly after the start of self-clean operation. Bake and broil functions operate normally.	A. Sail switch contacts not closing.	A. Check both sail switch contacts for continuity.
5. Fan motor does not operate.	A. No power to fan motor.	A. Check for 120 VAC supplied at fan motor. If no voltage is present, check for broken or loose wiring between fan motor and relay board. If voltage is present at fan motor, go to next step.
	B. Failed fan motor or winding or frozen shaft.	B. Check motor winding for continuity. Check for a frozen motor shaft. Check for broken wiring between motor and neutral terminal block.

TEST PROCEDURES

⚠ WARNING To avoid the risk of electrical shock, personal injury or death, disconnect power before servicing, unless testing requires it.

Problem	Probable Cause	Correction
6. Oven light does not operate	A. Failed light bulb. B. Failed light switch C. Failed light socket.	A. Replace bulb. B. Check light switch contacts for continuity. Replace light switch if necessary.. C. Check for 120 VAC at the light socket terminals. If voltage is present, replace socket. If no voltage is present, check for broken wiring between hot terminal block and light switch and between light switch and socket.
7. Oven light stays on.	A. Burned out bulb. B. Failed light switch contacts C. Failed light socket.	A. Check light switch contacts for continuity.

DISASSEMBLY PROCEDURES

⚠ WARNING To avoid the risk of electrical shock, personal injury or death, disconnect power before servicing, unless testing requires it.

⚠ CAUTION

To avoid risk of personal injury or property damage this unit requires a two man lift when lifting unit in or out of cutout

Removing and Replacing Oven

1. Turn off power to the oven at the circuit breaker.
2. Open oven door and remove screws securing unit to the wall.
3. Pull oven forward out of the cabinet opening.
4. Disconnect or unplug the power cord leading from unit to fuse box or junction box depending on unit.
5. Disconnect gas supply from unit.
6. Replace the oven using the installation instructions.

After final gas connection is made, turn on manual gas valve and test all connections in gas supply piping and oven for gas leaks.
To avoid property damage or serious personal injury,

⚠ WARNING

never use a lighted match to test for gas leaks.

Control Panel Assembly

1. Turn off power to unit.
2. Remove screws securing top piece to the unit.
3. Mylar control panel is loose, but the ribbon cable does not allow complete removal.

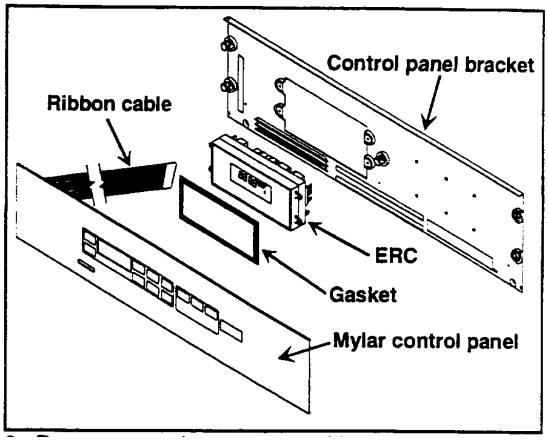
NOTE: Mylar control panel needs to be supported while removing rest of assembly.

4. Remove screws securing bottom trim under Mylar panel.
5. Remove screws securing control panel bracket.
6. Lean control panel bracket forward to disconnect wire terminals and ribbon cable.

⚠ CAUTION

While unplugging electrical connections, pins may be damaged, use extreme care when disconnecting.

7. Gently pull control panel up and forward to remove complete assembly.



8. Reverse procedure to reassemble control panel.

ERC

1. Turn off power to unit.
2. Remove screws securing top trim piece to the unit.
3. Mylar control panel is loose, but the ribbon cable does not allow complete removal.

NOTE: Mylar control panel needs to be supported while removing rest of assembly.

4. Remove screws securing ECR to control panel bracket.
5. Gently pull ECR forward to gain access to wire terminals.

⚠ CAUTION

While unplugging electrical connections, pins may be damaged, use extreme care when disconnecting.

6. Disconnect all electrical connections from ECR and remove.
7. Reverse procedure to reassemble.

DISASSEMBLY PROCEDURES

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

Mylar Control Panel

1. Turn off power to unit.
2. Remove screws securing top trim piece to the unit.
3. Mylar control panel is loose, but the ribbon cable does not allow complete removal.

NOTE: Mylar control panel needs to be supported while removing rest of assembly.

4. Remove screws securing ERC to control panel bracket.
5. Gently pull ERC forward to gain access to ribbon cable.

CAUTION While unplugging electrical connections, pins may be damaged, use extreme care when disconnecting.

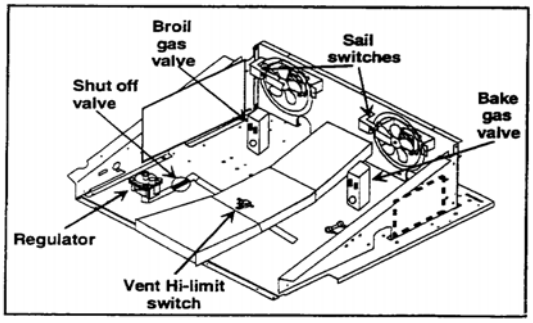
6. Disconnect ribbon cable from ERC and remove Mylar control panel.
7. Reverse procedure to reassemble.

Transformer / Relay Board(s)

1. Turn power off to unit.
2. Remove control panel, see "Control Panel Assembly" for removal.
3. PC board is mounted to the chassis side walls behind the control panel assembly.
4. Disconnect and label wire terminals.
5. Release plastic tabs securing circuit board.
6. Reverse procedure to reassemble.

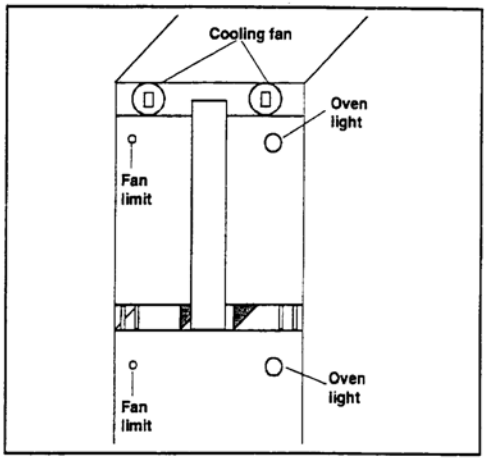
Vent Hi-Limit Switch

1. Turn power and gas off to unit.
2. Remove control panel, see "Control Panel Assembly" for removal.
3. Disconnect wire terminals from control limit switch.
4. Remove screws securing control limit switch.
5. Reverse procedure to reassemble.



Thermal Fan Limit Switch

1. Turn off and disconnect both electrical and gas supplies to the unit.
2. Open oven door and remove screws securing unit to the wall.
3. Remove unit from cutout opening.
4. Remove screws securing top or bottom back rear outer wrapper from the unit, depending on which limit switch need replaced.
5. Disconnect wiring terminal leads from limit switch.
6. Remove screws securing limit switch.



7. Reverse procedure to reassemble.

Oven Sensor

1. Turn off power to unit.
2. Open oven door or remove oven door, see "Door Removal".
3. Remove screws securing sensor to top right rear corner of oven cavity.
4. Pull sensor forward, maneuver wires through insulation to disconnect wire plug connector.
5. Reverse procedure to reassemble.

Upper Oven Door Latch / Door Plunger Light Switch Assembly

1. Turn off power to unit.
2. See "Control Panel Assembly " for removal.
3. Remove screws securing latch assembly to chassis.
4. Disconnect and label wire terminals.
5. Remove latch assembly from chassis.
6. Reverse procedure to reassemble door latch assembly

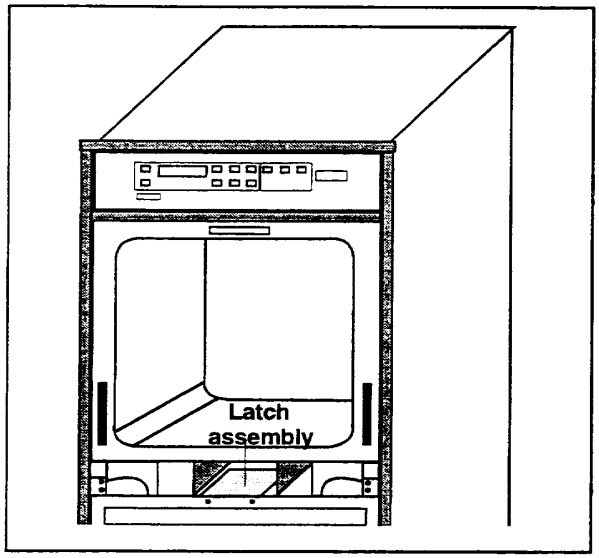
DISASSEMBLY PROCEDURES

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

Lower Oven Door Latch / Door Plunger
Light Switch Assembly

1. Turn off power to unit.
2. Remove top oven door, see "Oven Door" procedure.
3. Remove screws securing center trim between oven doors.
4. Remove screws securing latch assembly to chassis.
5. Remove latch assembly from chassis.
6. Disconnect and label wire terminals.
7. Reverse procedure to reinstall door latch assembly.

Oven Light Bulb / Oven Light Socket



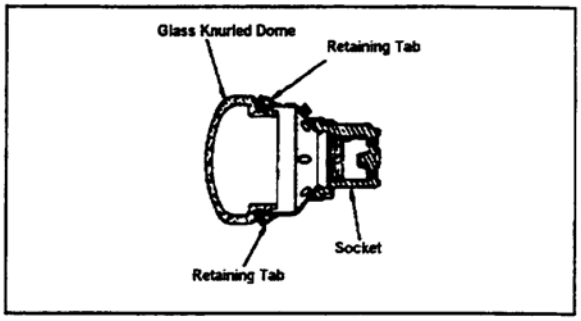
1. Turn off power to unit.
2. Open oven door to gain access to oven light.
3. Unscrew (counterclockwise) glass knurled dome.
4. Using a glove, unscrew (counterclockwise) oven light bulb.

NOTE: Proceed with the following steps for oven light socket removal.

5. Remove screws securing unit to the wall.
6. Remove oven from cutout opening and disconnect gas supply.
7. Disconnect or unplug the power cord leading from unit to fuse box or junction box depending on unit.
8. Remove screws securing outer wrapper cover and remove.
9. Carefully displace fiberglass insulation away from rear of light socket.
10. Push inner assembly of light socket toward rear of range, or twist out, depending on style of base.
11. Disconnect wires from light socket.
12. Reverse procedure to reinstall light socket. Reposition insulation around lamp socket. Do not over tighten.

NOTE: Reposition fiberglass insulation around oven light socket to eliminate possibility of heat related problems.

Oven Liner Removal



NOTE: Unit should be run through at least one clean cycle to set insulation.

1. Turn off and disconnect both electric and gas supplies to oven.
2. Remove oven door and oven racks.
3. Remove oven bottom and temperature sensor. Pull capillary tube through side of oven.
4. Remove oven light cover and bulb.
5. Remove bake burner, ignitor, broil burner, and broil ignitor.
6. Remove chip cover.
7. Remove cabinet back.
8. Remove screws securing oven liner at the rear. Maneuver oven liner from frame by pulling outward.
9. Reverse procedure to reassemble.

When reinstalling new liner, use flat sheet metal strips 4 X 28 inches to prevent insulation from "bunching up" as new liner is installed.

NOTE: When removing oven liner be certain not to dislodge the broil air duct on the right side of cabinet. If air duct is dislodged, broiler burner will not function as it will disrupt the flow of air to the broiler, resulting in poor air-gas mixture.

DISASSEMBLY PROCEDURES

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

Oven Door Removal

1. Open oven door and remove screws securing door to hinge assembly.
2. Place oven door in first stop position, then grasp both sides and lift up off the hinge.

NOTE: Door hinges are spring loaded and will snap closed if bumped. Avoid pinching fingers by closing hinges completely until ready to mount door back on the unit.

3. Reverse procedure to reassemble.

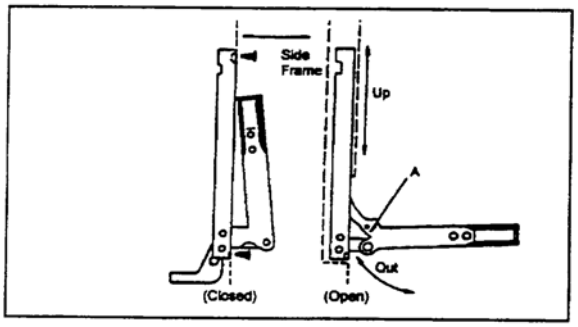
Door Disassembly

1. Remove oven door, see "Door Removal".
2. Remove screws on right, left, top, and bottom of oven door.
3. Remove door liner from door assembly.
4. Remove screws securing inner glass support securing glass and door handle.
5. Remove glass mounting bracket and glass window.
6. Remove screws securing heat door liner shield and remove.
7. Reverse procedure to reassemble.

NOTE: When reassembling door, verify HB ll marking on the glass is facing toward the heat (inside of the oven).

Oven Door Hinge

1. Turn off power to unit.
2. Remove oven door, see "Door Removal".
3. Carefully open the hinge fully, and insert a wooden dowel or screwdriver bit into opening marked A on the following diagram.
4. Remove the top and bottom screws securing hinge assembly to the front frame.
5. Slide the hinge assembly up and move top of hinge towards rear of the range. Withdraw hinge assembly through the frame opening.
6. Reverse procedure to reinstall oven door hinge assembly.



Blower Motor

1. Turn off and disconnect electrical and gas supplies to the oven.
2. Open oven door and remove screws securing unit to the wall.
3. Remove unit from cutout opening.
4. Remove screws securing top outer wrapper from the unit.
5. Disconnect and label wire terminals connected to blower motor.
6. Remove screws securing blower motor assembly to bracket.
7. Reverse procedure to reassemble.

Vent Assembly

1. Turn off and disconnect electrical and gas supplies to the oven.
2. Open oven door and remove screws securing unit to the wall.
3. Remove unit from cutout opening.
4. Remove screws securing top and back outer wrapper from the unit.
5. Remove screws securing vent assembly to unit.
6. Turn off and disconnect electrical and gas supplies to the oven. Vent assembly and slowly maneuver vent assembly away from unit.
7. Reverse procedure to reassemble.

Broil Ignitor

1. Shut off power and gas supply to oven.
2. Remove oven door and oven racks.
3. Unscrew broil ignitor wire cover mounting screw. Remove cover.
4. Remove broil ignitor mounting screws. Pull ignitor leads and connectors into oven cavity through hole in broil chamber.
5. Disconnect ignitor wiring.
6. Reverse procedure to reassemble.

Broil Burner

1. Shut off power and gas supply to oven.
2. Remove oven door and oven racks.
3. Remove broil ignitor mounting screws. Remove ignitor from broiler burner.
4. Remove broil burner mounting screws securing burner to burner bracket.
5. Move burner up against burner bracket, push burner towards rear of oven. Slide broiler burner out of broil chamber.
6. Reverse procedure to reassemble.

DISASSEMBLY PROCEDURES

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

Oven Burner Ignitor

1. Shut off power and gas supply to oven.
2. Remove oven door and oven racks.
3. Remove oven bottom by lifting from front and sliding it out of oven.
4. Remove screws securing ignitor bracket to back burner box. Remove screw securing ignitor to bake burner.
5. Pull ignitor leads and connectors through opening. Disconnect ignitor wiring.
6. Reverse procedures to reassemble.

Oven Burner

1. Shut off power and gas supply to oven.
2. Remove oven door and oven racks.
3. Remove oven bottom by lifting from front and sliding it out of oven.
4. Remove screws securing ignitor bracket to back burner box. Remove screw securing ignitor to bake burner.
5. Disconnect and remove bake burner.
6. Reverse procedures to reassemble.

Pressure Regulator

1. Turn off and disconnect electrical and gas supplies to the oven.
2. Remove control panel assembly, see "Control Panel Assembly" procedures.
3. Unscrew and remove regulator from 90° elbow fitting.
4. Reverse procedures to reassemble.

NOTE: Use a soap solution to check for leaks after installing replacement regulator.

Shut - Off Valve

1. Turn off and disconnect electrical and gas supplies to the oven.
2. Remove control panel assembly, see "Control Panel Assembly" procedures.
3. Unscrew pressure regulator from 90° fitting.
4. Unscrew shut-off valve and fitting assembly from gas manifold.
5. Unscrew 90° fitting from shut-off valve.
6. Reverse procedures to reassemble.

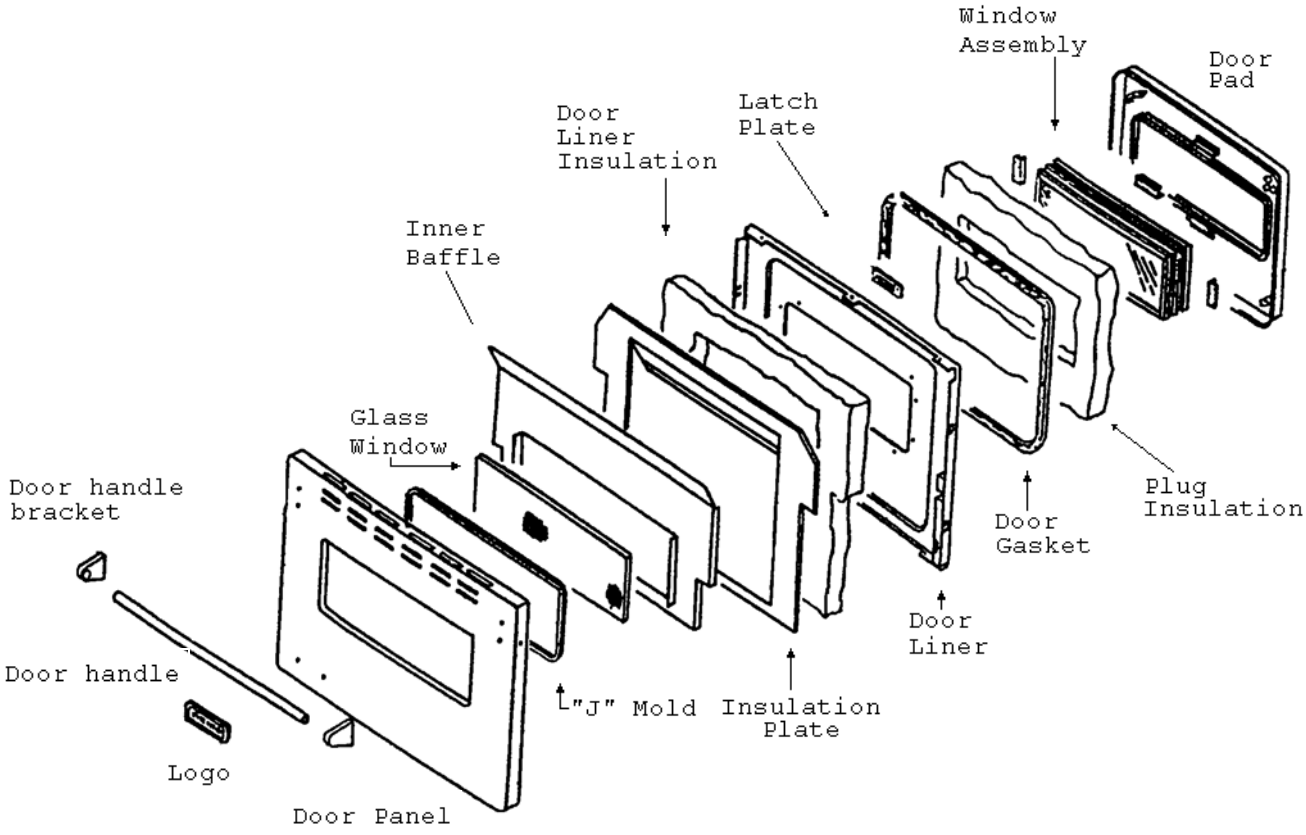
NOTE: Use soap solution to check for leaks after installing replacement valve.

Sail Switch

1. Shut off electrical and gas supplies to the oven.
2. Remove control panel assembly, see "Control Panel Assembly" procedures.
3. Remove screws securing sail switch mounting bracket to control compartment back. Disconnect switch wiring.
4. Remove sail switch and bracket assembly.
5. Reverse procedures to reassemble.

DISASSEMBLY PROCEDURES

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.



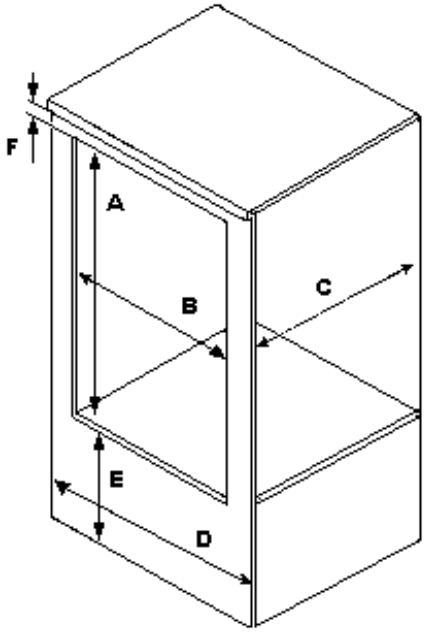
Door Assembly

INSTALLATION INSTRUCTIONS

Packing Material
Remove protective packing material from oven. Tape residue can be cleaned with a soft cloth and alcohol.

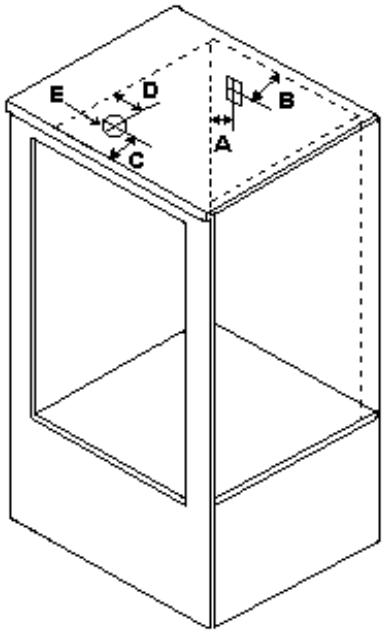
Oven Location
Choose a location based on following factors.

- Make sure there is adequate space for proper installation.
- Carefully read all instructions before beginning installation.



A --- 54 inches
B --- 25 inches
C ---23 3/4 inches
D ---27 inches
E ---12 ½ inches
F --- 3 inches

Gas and Electric Supply Location
Gas supply must be located in the area shown. Gas connection must not interfere with the electrical connection.



Electrical
A --- 8 inches
B --- 5 inches

Gas
C --- 5 ½ inches
D --- 5 inches
E --- 4 inch round hole

Electrical Connection Requirements

WARNING

To avoid the risk of serious electrical shock or property damage, do not cut or remove the third (ground) prong from the power plug. A 3-wire grounded conductor system must be used. Relying on the flexible connector, hard piping or any other part of the part of the gas supply line as a ground may cause fire, electrical shock and/or erratic control operation.

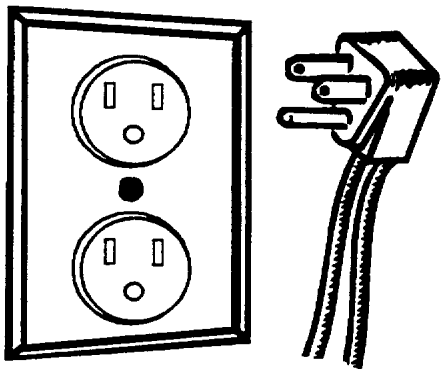
Oven must be electrically grounded in accordance with local codes or in the absence of local codes, with the National Electrical Code, ANSI/NFPA #70-latest edition.

INSTALLATION INSTRUCTION

In Canada, electrical connections are to be made in accordance with CSA C22.1 Canada Electrical Code. All electrical connections are to be made in accordance with CSA standards Z240.6.1 electrical requirements for mobile homes.

Use a 120 volt, 60 hertz, 3-prong receptacle protected by a 15 amp circuit breaker or time delay fuse. A qualified electrician should confirm the outlet is properly grounded and polarized.

If a 2-prong outlet is encountered, home owner must replace outlet before using oven. Do not cut off cord, use plug adapter or extension cord, or remove grounding plug.



Gas Connection Requirements

Before connecting this appliance to the gas supply piping system, confirm installation meets the requirements of local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-Latest Edition.

When installed in mobile housing, installation is to be in accordance with CSA standard A241.1 gas equipped mobile housing.

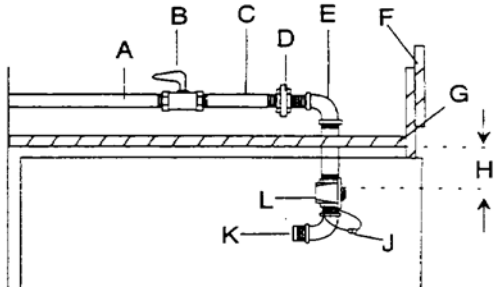
The installation of appliances designed for manufactured (mobile) home installation must conform with Manufactured Home Constriction and Safety Standard, Title 24 CFR, Pare 3280, or when such standard is not applicable, the Standard for Manufactured Home Installation, ANS1225.1/NPA 501 A-Latest Edition, or with local codes or the standard CAN/CSA-Z240MH, "Mobile Homes", and with local codes where applicable.

The installation of appliances is to be in accordance with CAN1-B149.1 or B149.2 installation code for gas burning appliances and equipment and/or local codes. Part1 and/or local codes.

Assemble gas supply line to oven. All gas supply piping tubing, fittings, and shutoff valves are not supplied with this oven. See examples.

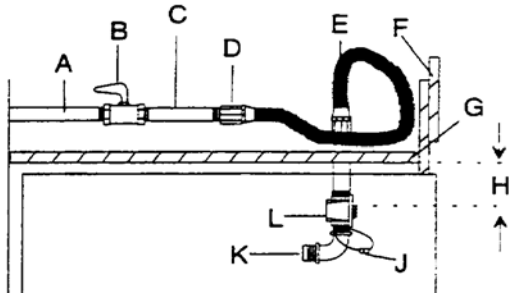
NOTE: Refer to National Fuel Gas Code to determine gas pipe sizing requirements, if oven performance is in question.

A --- ½-inch rigid pipe supply line.
B --- Manual shutoff valve



C --- Nipple
D --- Union
E --- Elbow
F --- Upper cabinet door or removable panel
G --- Upper cabinet shelf.
H --- 2 1/4 inches
J --- L.P. orifice spuds.
K --- Inlet to oven.
L --- Pressure regulator.

A --- ½-inch rigid pipe supply line.



B --- Manual shutoff valve.
C --- Nipple
D --- Adapter.
E --- Flexible gas connector.
F.--- Upper cabinet door or removable panel.
G--- Upper cabinet shelf
H --- 2 1/4 inches.
J --- L.P. orifice spuds
K --- Inlet to oven
L --- Pressure regulator.

INSTALLATION INSTRUCTIONS

Gas Supply Pressure

CAUTION

To avoid property damage, maximum gas supply pressure must not exceed 14" WCP.

- Appliance and individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psig (3.5 kPa) (14" WCP).
- Appliance must be isolated from gas supply piping system by closing manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psig (3.5 kPa) (14"WCP).
- Gas supply pressure for checking regulator setting must be at least 1" WCP above manifold pressure shown on rating label.

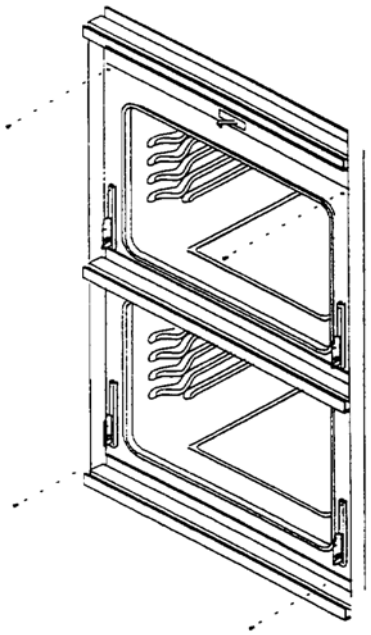
Seal Openings

Openings in wall behind the oven or on the floor under oven must be sealed before sliding oven into position.

Place Oven in Wall

This procedure should be performed by 2 people.

1. Lean oven to each side and remove shipping base.
2. Move wall oven close to wall opening and plug in oven cord.
3. Place in wall opening.
4. Secure wall oven to cabinet with 4 screws.



Converting Pressure Regulator for Use with Natural Gas or Propane Gas

This oven arrives from factory adjusted for use with natural gas. If using LP/propane gas is desired, oven must be converted. See "Type 1" or Type 2" regulator.

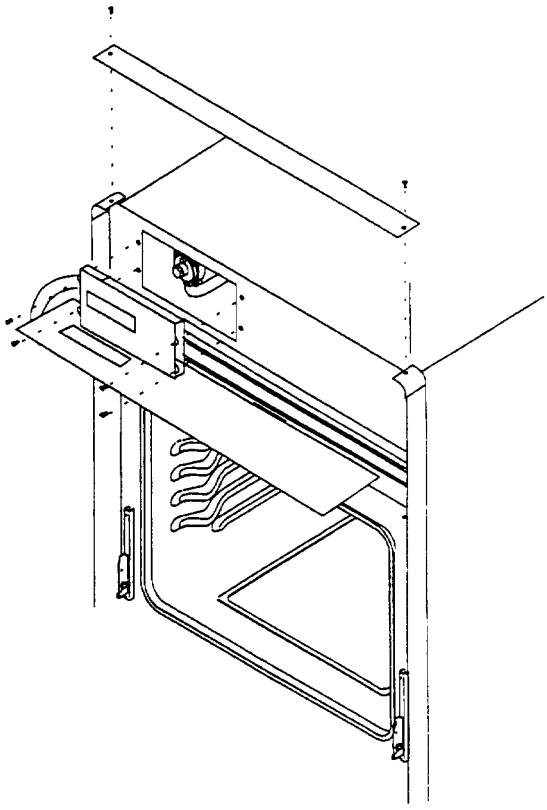
WARNING

To avoid electrical shock that can cause personal Injury or death, disconnect main electrical supply To oven before servicing.

Remove Control Panel

To convert pressure regulator remove oven control panel.

1. Remove 2 screws and lift off top trim.
2. Tilt control panel out to expose electronic range control.
3. Remove 4 screws and pull out range control to expose pressure regulator.
   - Broiler burner orifice spuds are wired to manifold behind pressure regulator.
4. After converting broiler burners and wiring orifice spuds to manifold, see "Testing for Gas Leaks"

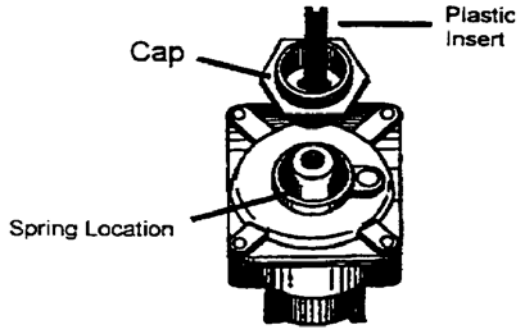


section, reverse procedure to reinstall control panel.

INSTALLATION INSTRUCTIONS

Converting Type 1 Pressure Regulator for Use with LP/ Propane

1. Remove pressure regulator cap with a wrench.
2. Remove plastic insert from pressure regulator cap.
   - Plastic insert fits tightly in cap.
3. Reverse plastic insert and carefully push plastic insert firmly into hole in pressure regulator cap.
   - Cap must show “LPG10" or “LP10".



4. Place pressure regulator cap on pressure regulator and tighten.
   - Insert should not disturb spring in body of regulator.

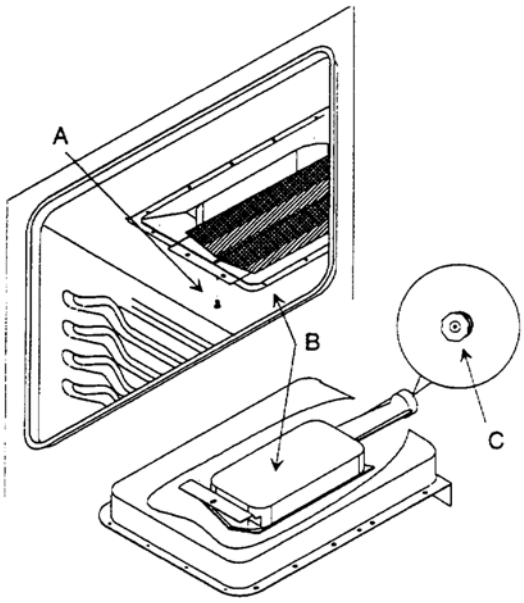
Converting Type 2 Pressure Regulator for Use with LP/Propane

1. Remove pressure regulator cap with a wrench.
2. Reverse pressure regulator cap.
   - Cap must show “LP”.

3. Place pressure regulator cap on pressure regulator and tighten.

Converting Broiler Burner for Use with LP/Propane

1. Locate orifice spud attached adjacent to pressure regulator and remove for later use.
2. Open oven door and locate broiler burner on oven ceiling.
   - Remove oven door to make conversion easier. See “Removing Oven Door” section.
3. Remove screw securing front of burner to oven ceiling and remove broiler.
   - Be careful not to damage ignitor while removing broiler.



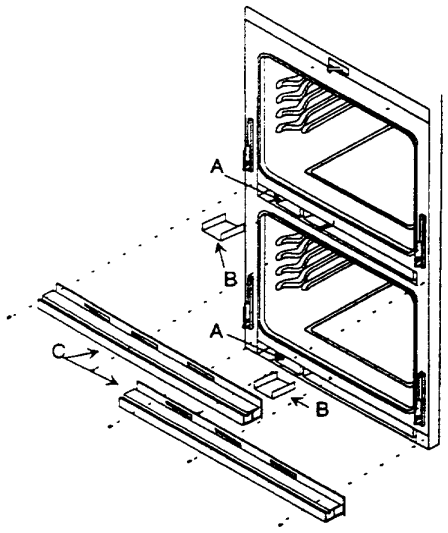
A--- Remove Screw B --- Broiler C --- Orifice

4. Unscrew natural gas burner spud stamped “52" with 5/16-inch socket wrench and replace with LP/propane burner spud stamped “58".
   - Attach unused burner spud near regulator for future use.
5. Reinstall broiler.

INSTALLATION INSTRUCTIONS

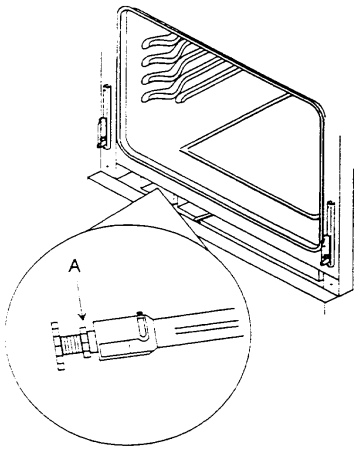
Converting Oven Burners for Use with LP/Propane
Lower burner orifices and air shutters are located behind front trim. Remove oven trim to convert oven burners.

1. Remove oven doors.
   - See "Removing Oven Doors" section.
2. Remove screws (3) from each trim piece.
3. Pull trim away from oven.
   - Each orifice box has an air channel. Air channel must be in place before reinstalling trim.
   - Reverse procedure to reinstall trim.



A --- Air Channel B --- Orifice Box C --- Trim

4. Turn (tighten) orifice hood clockwise until snug.
   - Do not over tighten orifice hoods. Orifice hoods can strip.



A – Orifice Hood

5. Replace trim after burner is tested and air shutter is properly adjusted.
   - See "Test and Adjust Oven Burner " section.

Converting Type 1 Pressure Regulator for Use with Natural Gas

1. Remove pressure regulator cap with a wrench.
2. Remove plastic insert from pressure regulator cap.
   - Plastic insert fits tightly in cap.
3. Reverse plastic insert and carefully push plastic insert firmly into hole in pressure regulator cap.
   - Insert must show "NAT" or be blank.
4. Place pressure regulator cap on pressure regulator and tighten.
   - Insert should not disturb spring in body of regulator.

Converting Type 2 Regulator for Use with Natural Gas

1. Remove pressure regulator cap with a wrench.
2. Reverse pressure regulator cap.
   - Insert shows "NAT" or is blank.
3. Place pressure regulator cap on pressure regulator and tighten.

Converting Oven Burner for Use with Natural Gas
Lower burner orifices and air shutters are located behind front trim. Remove oven trim to convert oven burners.

1. Remove oven doors.
   - See "Removing Oven Door" section.
2. Remove screws (3) from each trim piece.
3. Pull trim away from oven.
   - Each orifice box has an air channel. Air channel must be in place before reinstalling trim.
   - Reverse procedure to reinstall trim.
4. Turn (loosen) orifice hood counterclockwise 2 full turns.
5. Replace cover plate and storage drawer.

INSTALLATION INSTRUCTIONS

Converting Broiler Burner for Use with Natural Gas

1. Locate orifice spud attached adjacent to pressure regulator and remove for later use.
   - Orifice spud used for natural gas is silver and is stamped “52".
2. Open oven door and locate broiler burner on oven ceiling.
   - Remove oven door to make conversion easier. See “Removing Oven Door” section.
3. Remove screw securing front of burner to oven ceiling and remove broiler.
   - Be careful not to damage ignitor as you remove broiler.
4. Unscrew LP/propane burner spud stamped “58" with 5/16 inch socket wrench and replace with natural gas spud stamped “52". Replace LP spuds on inlet piping.
5. Reinstall broiler and, if necessary, oven door.

Gas Connection

Connect gas supply to regulator using hard pipe or flexible connector (check local codes). Pressure regulator supplied with this appliance has a ½ inch NPT female connector.

- A manual shutoff , not supplied with oven, must be installed in an accessible location outside of oven.
- Use joint compound that is resistant to action of propane gas on all male pipe threads.
- Do not over tighten gas fitting when attaching to pressure regulator. Over tightening may crack regulator.
- Support pressure regulator with wrench when installing gas fitting.

WARNING

To avoid property damage or personal injury, only use a new flexible connector that is AGA/CGA design certified.

- Do not use an old connector.
- Do not reuse a connector after moving appliance.

Testing for Gas Leaks

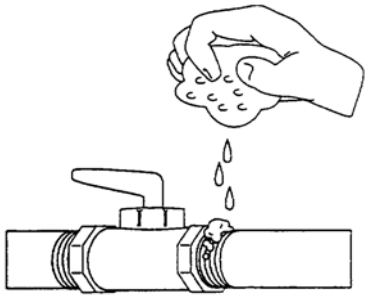
After final gas connections are made, turn on manual gas valve and test all connections in gas supply piping and oven for gas leaks.

~~To avoid property damage or serious personal injury,~~

WARNING

never use a lighted match to test for gas leaks.

1. Place soap suds on connection.
   - Bubbles appear if leak is present.
2. If bubbles appear, shut off gas supply valve.
3. Tighten joint if leak is at factory fitting.
   - If leak is not at factory fitting, unscrew, apply more joint compound, and tighten to correct leak.
4. Retest connection for leak after tightening.
   - Retest any connections that were disturbed.



Test Oven Burner Flame

Properly adjusted oven burner flames are blue with a distinct deep blue inner cone approximately ½ inch long. When using natural gas, flame should not have any yellow flame when burning. Some yellow flame when burning LP/propane gas is normal.

Flame should not be visible in the oven cavity when burning and should not extend into the oven cavity beyond the removable oven bottom.

- If burner flame is blowing or noisy, reduce airflow to burner.
- If burner flame is yellow and does not hold its shape, increase airflow to burner.

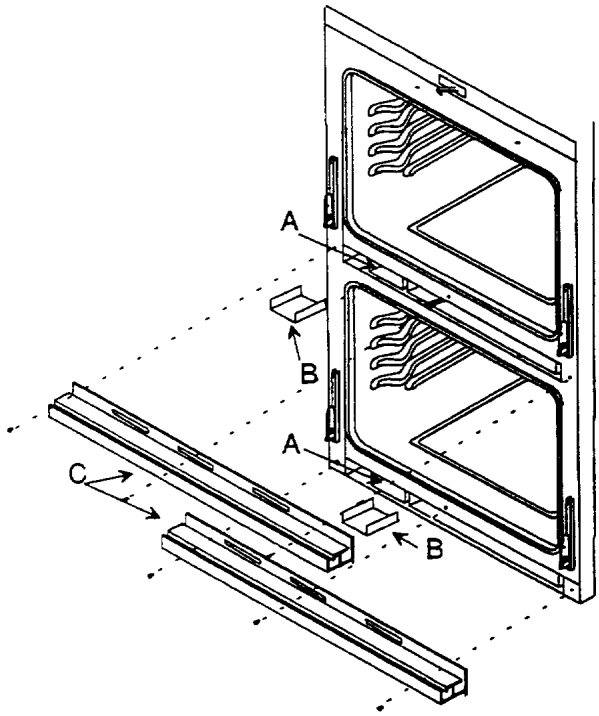
INSTALLATION INSTRUCTIONS
Adjust Oven Burner Flame

⚠WARNING

To avoid electric shock that can cause personal injury or death, disconnect main electrical supply to oven before servicing.

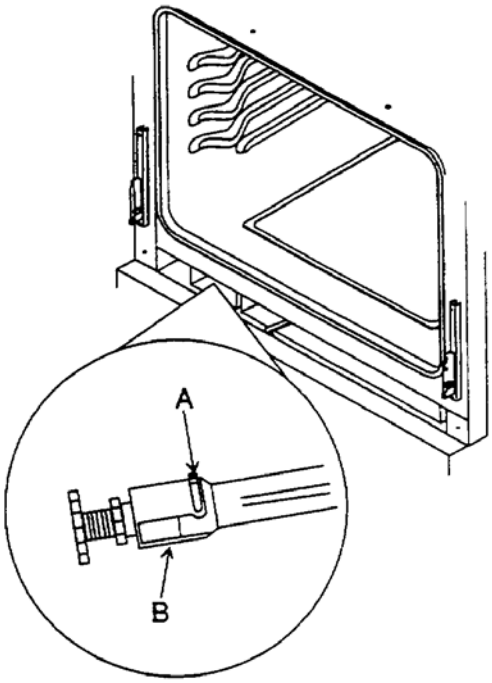
Lower burner orifices and air shutters are located behind front trim. Remove oven trim to adjust oven burners.

1. Remove oven doors.
   - See "Removing Oven Door" section.
2. Remove screws (3) from each trim piece.
3. Pull trim away from oven.
   - Each orifice box has an air channel. Air channel must be in place before reinstalling trim.
   - Reverse procedure to reinstall trim.



A --- Air Channel B --- Orifice Box C --- Trim

4. Loosen air shutter screw and open or close air shutter.



A --- Air Shutter screw B --- Air Shutter

5. Replace trim after burner is tested and air shutter is properly adjusted.

Test Broiler Flame

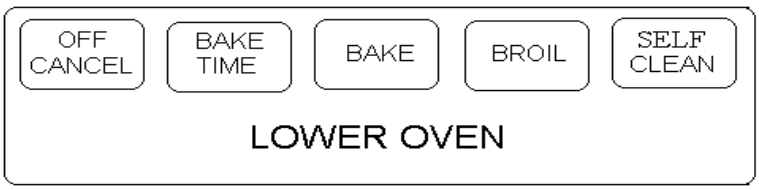
Broiler flame should appear hazy or fuzzy. Haze should be no more than 3/8 inch thick. The radiant screen should begin to glow red within 1--2 minutes.

Removal and Replacement of Oven

1. Disconnect power to oven at circuit breaker or fuse panel.
2. Turn off manual shutoff valve, and disconnect gas supply.
3. Remove oven, unplug power cord, and place oven aside.
4. To reinstall oven, follow instructions in Installation section of this manual.
   - Do not reuse a flexible connector after moving appliance.

PROGRAMMING INSTRUCTIONS

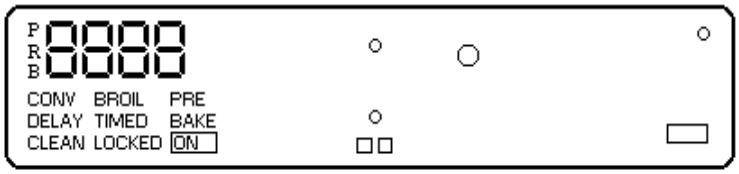
Controls clock, timer, and interior oven light for both ovens. **STOP TIME** pad is used to program delayed bake and delayed clean features for both upper and lower ovens.

Oven Control	**Description**
	Controls upper oven settings. Any time or temperature settings entered only effect upper oven.
	Controls lower oven settings. Any time or temperature settings entered only effect lower oven.

Pad	**Description**
OVEN LIGHTS	Turn light on and off in both upper and lower ovens.
TIMER ON/OFF	Use to time any kitchen function or cancel timer. Does not control bake, broil, or clean functions.
CLOCK	Use to set time of day.
STOP TIME	Use to set delayed bake and delayed self-clean.
OFF / CANCEL	Cancels any baking or cleaning function except timer.
COOK TIME	Use to set timed baking.
CLEAN	Use to set self-clean cycle.
BROIL	Use to select broil.
BAKE	Use to select bake.
+ *or* -	Use to set temperature or time.

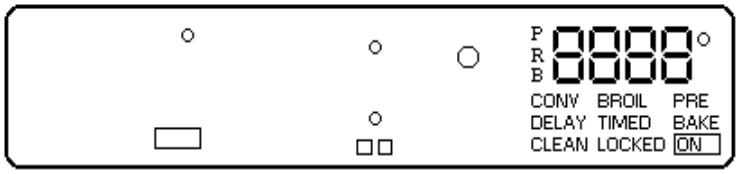
PROGRAMMING INSTRUCTIONS

Display
Some items in display can be seen but will not glow.



Displays temperature and baking method or function for upper oven.

Displays time-of-day, timer and Timed of delayed settings.



Displays temperature and cooling method or function for lower oven.

DESCRIPTION of DISPLAY

TIME AM, PM or HR	TIME AM or PM Flashes in display while time-of -day is entered. TIME HR flashes when time is entered for timed or delayed baking or delayed self-cleaning.
TIMER counts down.	Flashes in display while timer is set. TIMER stops flashing and displays while time
PRE-BAKE, BAKE	BAKE flashes while bake oven temperature is entered. While oven preheats PRE-BAKE displays. After oven has reached temperature, BAKE displays.
ON	Displays when oven is heating.
OVEN 1 or 2	Flashes while time is entered for timed or delayed baking. 1 displays when upper oven is set. 2 displays when lower oven is set.
TIMED BAKE	Flashes, then displays when a time baking cycle is set.
DELAYED TIME BAKE or CLEAN	Displays when delayed bake or self-clean cycle is set.
STOP	Displays when setting stop time for a delayed baking or self-clean cycle.
BROIL	Flashes, then displays when a broil is set.
CLEAN	Displays when self-clean cycle is entered and set.
LOCK	LOCK flashes while oven door is locked and remains in display while door is locked. After cycle is complete and oven has cooled to a safe temperature, LOCK no longer displays and door can be opened.
HLD	Displays when oven is holding oven temperature at 170°F for 1 hour.
SLO	Displays when oven is set to slow-bake temperature. Oven cooks like crockpot for up to 12 hours. Approximately 225°F.

PROGRAMMING INSTRUCTIONS

Oven Signals

Preheat signal	After setting oven to bake and selecting a temperature, oven preheats. When oven reaches set temperature, 1-second signal sounds.
Timer and end-of-cycle Signal	When a timed baking cycle is complete or time elapses on timer, three long signals sound, then once approximately every 6-8 seconds. End of cycle signal continues to sound until OFF/ CANCEL pad is pushed . If minute timer end of cycle signal is sounding, push TIMER ON/OFF pad. No signal will sound at the end of a clean cycle.

Other Features

12-hour automatic cancel	This safety feature prevents oven from continuing to operate if it has been left on for over 12 hours. If a cooking function continues longer than 12 hours without any options on oven control being touched, this feature turns oven off. Any time an option is touched, 12-hour automatic cancel is reset.
Child lockout	This safety feature is used to prevent children from accidentally programming oven by disabling electronic oven control. On the upper oven control press and hold BAKE and BAKE TIME for 5 seconds. "OFF" displays where the temperature normally appears. To reactivate control, press and hold BAKE and BAKE TIME pads for 5 seconds on the upper oven control. Child lockout must be reset after a power failure.
Service codes and tones	Electronic range control is equipped with a self diagnostic system. Self diagnostic system alerts you if there is an error or problem in the control. If electronic range control sounds a series of short, rapid beeps for over 16 seconds and display shows a F-code, record the F-code shown. Some F-codes can be cleared by touching OFF/ CANCEL or disconnecting power to the range. If the code continues to reoccur call an authorized servicer. Disconnect electrical supply to range and contact an authorized servicer. F1--Control malfunction F2--High oven temperature F3--Temperature sensor malfunction F4--Temperature sensor malfunction F7--Touch pad malfunction F9--Door lock malfunction (door unlocked) FF--Door lock malfunction (door locked)

Sounds

Oven Fan	Oven cooling fan can turn on while oven is heating to cool range control

PROGRAMMING INSTRUCTIONS

Quick Reference Instructions
Read "Important Safety Instructions" before using "Quick Reference Instructions". If there are unanswered questions, see detailed sections of this manual.

Flashing Display
When power is connected to oven display flashes. Press OFF/ CANCEL to clear display.

Setting Electronic Clock
1. Press CLOCK pad.
2. Press **+ *or -*** *pad* until correct time-of-day displays.
   - Clock saves time-of-day approximately 5-10 seconds after time is entered.

Setting Electronic Timer
1. Press TIMER pad.
2. Press **+ *or - pad*** until correct time displays.
3. Press TIMER pad again to cancel

Resetting and Canceling Timer
To reset the time when remaining time is displayed, press **+ *or - pad*** until new time displays. To cancel timer, press and hold TIMER pad for approximately 5 seconds.

Baking
1. Press BAKE pad.
2. Press + *or* - *pad* until desired temperature is displayed.
3. Press OFF/ CANCEL pad when finished.

Time Baking
1. Place food in oven.
2. Press BAKE TIME pad.
3. Press + *or* - *pad* until desired baking time is displayed.
4. Press BAKE pad.
5. Press + *or* - *pad* until desired temperature displays.
6. Press OFF/ CANCEL pad when finished.

Delayed Baking
1. Place food in oven.
2. Press BAKE pad.
3. Press + *or* - *pad* until desired temperature is displayed.
4. Press STOP TIME pad.
5. Press + *or* - *pad* until desired stop time displays.
6. Press BAKE TIME pad.
7. Press + *or* - *pad* until desired baking time displays.

To Cancel Remaining Baking Time
1. Press OFF/ CANCEL pad.

Instant Broil
1. Center food on broiling grid and pan, and place on rack in oven.
2. Push BROIL pad.
3. Press + *pad* to set HI, -*pad* to set lower broil temperature.
4. Press OFF/ CANCEL pad when finished.

Self-cleaning
1. Prepare oven for self-cleaning.
2. Press CLEAN pad.
3. Press + *or* - *pad* to adjust desired amount of cleaning time.
4. Press OFF/ CANCEL pad when finished.

Delayed Self-clean Cycle
1. Prepare oven for self-cleaning.
2. Press CLEAN pad.
3. Press + *or* - *pad* to adjust desired amount of cleaning time.
4. Press STOP TIME pad.
5. Press + *or* - *pad* until desired stopping time appears in display.
6. Press OFF/ CANCEL pad when finished.

Interrupt Self-clean Cycle
1. Press OFF/ CANCEL pad.
2. After oven has cooled to a safe temperature, door can be opened.

Hold
1. Press BAKE pad.
2. Press - *pad* until 170° , then HLD is displayed.
3. Press OFF/ CANCEL pad when finished.

Slow Bake
1. Press BAKE pad.
2. Press -*pad* until 170°, then HLD, and then SLO is displayed.
3. Pres OFF/ CANCEL pad when finished.

Timed Slow Bake
1. Place food in oven.
2. Press BAKE TIME pad.
3. Press + *or* - *pad* until desired baking time is displayed.
4. Press BAKE pad.]
5. Press + *or* - *pad* until 170°, then HLD, and then SLO is displayed.

6. Press OFF/CANCEL pad when finished.

Delayed Slow Bake
1. Place food in oven.
2. Press STOP TIME pad.
3. Press + *or* - *pad* until desired baking time displays.
4. Press BAKE TIME pad.
5. Press + *or* - *pad* until desired baking time displays.
6. Press BAKE pad.
7. Press - *pad* until 170°, HLD, and then SLO is displayed.

To Cancel Remaining Baking Time
Press BAKE CANCEL pad.

Flashing Display
When power is connected to oven display flashes. Press OFF/CANCEL to clear display.

Setting Electronic Clock
When power is connected or restored, display flashes until pad is pressed.
1. Press CLOCK pad.
2. Press + *or* - *pad* until correct time-of-day displays.
   - Time increases in larger increments the longer + *or* - *pad* is held.
   - Clock saves time-of-day approximately 5-10 seconds after time is entered.

Setting Electronic Timer
The timer is a timer only. Electronic timer does not control bake, broil, or self-clean function. Timer can be set up to 11 hours and 50 minutes. Up to 1 hour, timer displays minutes and seconds. After 1 hour, timer displays hours and minutes.
1. Press TIMER ON/OFF pad.
2. Press +*or* - *pad* until correct time displays.
   - Timer increased in larger increments the longer + *or* - *pad* is held.
   - Timer begins counting down automatically after time is entered.
3. Press TIMER ON/OFF pad to cancel timer signal.
   - After time elapses, timer beeps approximately once a second until TIMER ON/OFF pad is pressed.

Resetting and Canceling Timer
To reset the time when remaining time is displayed, press TIMER ON/OFF pad, then + *or* - *pad* until new time displays.

To cancel timer, press and hold TIMER ON/OFF pad for approximately 5 seconds.
Also, to cancel timer, press TIMER ON/OFF pad, then press + *or* - *pad* until timer displays “00".

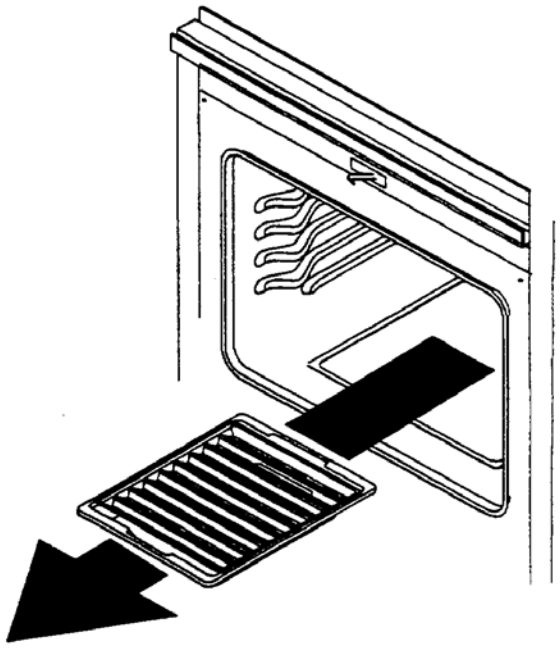
Prepare to Bake, Broil, Timed Bake, and Delayed Bake

⚠CAUTION

To reduce risk of food poisoning due to bacterial growth and production of toxins, never hold meat, milk, fish or eggs for more than 2 hours before cooking.

Remove Items Stored in Oven
Remove any pans and other cooking utensils stored in oven. Items left in oven can cause damage to the oven or item in oven.

Never store the broiler pan or place utensils directly on the oven bottom. If the broiler pan or utensils are left on the oven bottom while heating, the oven bottom can chip or be damaged.



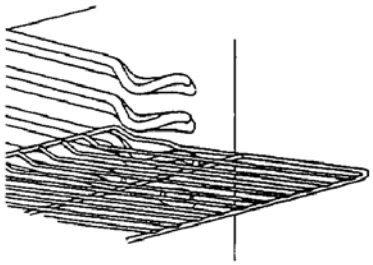
PROGRAMMING INSTRUCTIONS

Oven Rack Placement
Position oven rack before turning oven on.

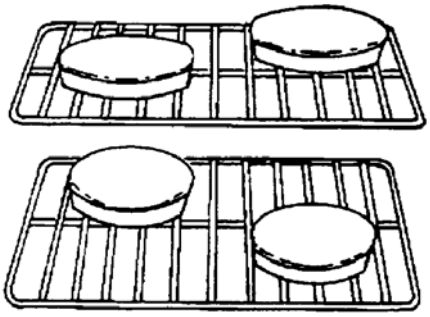
⚠WARNING

To avoid damaging oven liner or creating fire, do not line oven bottom or oven racks with foil.

1. Pull rack forward to stop position.
2. Raise front edge of rack and pull until rack is out of oven.
3. Place rack in new rack position.
   - Curved edge of rack must be toward rear of oven.



Pan Placement
- Keep pans and baking sheets 2 inches from oven walls.
- Stagger pans placed on different racks so one is not



directly over the other.

Check for Bake Burner Flame
Allow no more than 40 - 60 seconds before burner ignites and heat is felt. To check for heat, open oven door to first stop and place hand over oven door. If heat is not felt, press OFF/CANCEL. If burner repeatedly fails to ignite, contact an authorized servicer.

Baking
Open oven door to confirm nothing is stored in oven cavity and set racks to proper height before baking. Preheat approximately 10 -15 minutes before placing food inside oven.
1. Press BAKE pad.
2. Press + *or* - *pad* until desired temperature is displayed.
   - Temperature can be set from 170°F to 550°F in 5 degree increments.
   - Temperature starts at 170°F and increases in 5° increments until reaching set temperature. Some minor smoking is normal when using oven for first time.
   - When bake temperature is reached oven signal sounds for approximately 1 second.
3. Press OFF/CANCEL pad when finished.
   - Remove food from oven when baking time has elapsed. Food left in oven can overcook.

Time Baking
Set oven to cook for desired amount of time. Oven automatically stops heating after time elapses.
1. Place food in oven.
2. Press BAKE TIME pad.
3. Press + *or* - *pad* until cooking time is displayed.
   - Cook time can be set up to 11 hours and 50 minutes.
   - 10 minutes minimum baking time.
4. Press BAKE pad.
5. Press + *or* - *pad* until desired temperature is displayed.
   - Temperature can be set from 170°F to 550°F in 5° increments.
   - Temperature display increases in 5°F increments starting 100°F until reaching set temperature. Some minor smoking is normal when using oven for first time. When bake temperature is reached oven signals.
   - To view bake time, press and hold BAKE TIME pad.
   - When baking time has elapsed, an end of cycle signal sounds, oven automatically turns off and display returns to time of day. Oven signal sounds 3 times, then once every 3 seconds for 5 minutes or until OFF/ CANCEL pad is pressed.
6. Press OFF/CANCEL pad when finished.
   - Remove food from oven when baking time has elapsed. Food left in oven can overcook.

To Cancel Remaining Baking Time
Press OFF/CANCEL pad.

PROGRAMMING INSTRUCTIONS

Delayed Baking
Set oven to begin and end baking at later time.
Range control automatically calculates starting time.
1. Place food in oven.
2. Press STOP TIME pad.
   - Current time of day appears in display.
3. Press + *or* - *pad* until desired stop time displays.
   - Stop time can be set 11 hours 50 minutes ahead of current time of day.
4. Press BAKE TIME pad.
5. Press + *or* - *pad* until desired baking time displays.
   - 10 minimum baking time.
6. Press BAKE pad.
7. Press + *or* - *pad* until desired temperature is displayed.
   - Temperature can be set from 170°F to 550°F in 5° increments.
   - Electronic range control calculates start time.
   - When start time is reached "DELAY" no longer displays and "ON" displays.
   - To view stop time, press and hold STOP TIME pad.
   - When baking time has elapsed, end of cycle signal sounds, oven automatically turns off and display returns to time of day. Oven signal sounds 3 times, then once every 3 seconds for 5 minutes or until OFF/CANCEL pad is pressed.

To Cancel Remaining Baking Time
press OFF/CANCEL pad.

Prepare for Broiling

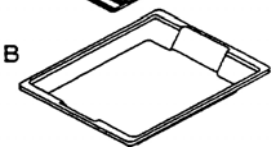
WARNING To avoid risk of fire, do not line the broiler grid with foil.
- Foil may trap grease on top of grid close to burner causing a fire.
- Never leave oven unattended while broiling. Overcooking may result in a fire.

Broiling Tips
- Remove excess fat from meat before broiling. Cut edges of meat to prevent curling.
- Place food on a cold ungreased broiling pan. If pan is hot, food sticks.
- All food except fish should be turned at least one time. Begin broiling with skin side down,
- Season meat after it has browned
- Broiling does not require preheating.
- Begin broiling using suggested rack levels in *Broil Guide* .section to test broiler results. If food is not brown enough, broil on a higher rack position. If food is too brown, broil on a lower rack position.

Infrared Broiling System
Infrared Broiling System generates immediate, intense heat using a special screen. This screen focuses heat directly on the food; searing in natural juices and providing restaurant quality, charbroiled flavor.
1. Center food on broiler grid and pan, and place on rack in oven.
   - Oven door should be closed.

A --- Broiler Grid

B --- Broiler Pan



2. Push BROIL pad.
3. Press + to set HI broil or - pad to set lower broil temperature
   - Temperature sets to HI or from 170°F to 550°F.

Broiler Setting Flame

HI	Broiling red meats
545	Broiling pork
525	Broiling poultry
475	Broiling seafood
425	Broiling fruits and vegetables
400 and below	Toasting and warming breads

4. Press OFF/CANCEL pad when finished.

Check Broiler Flame
Allow no more than 40--60 seconds before burner ignites and flame is seen. If burner does not ignite, press OFF/CANCEL pad. If burner repeatedly fails to ignite within 40--60 seconds contact an authorized servicer.

Hold
The hold feature holds the oven temperature at a low temperature for 1 hour to keep food warm.
1. Press BAKE pad.
2. Press - pad until 170°, then HLD is displayed.
3. Press OFF/CANCEL pad when finished.
   - Remove food from oven when broiling time has elapsed. Food left in oven can overcook.

PROGRAMMING INSTRUCTIONS

Prepare for Self-Clean and Delayed Self-Clean Cycle

⚠WARNING

To avoid risk of personal injury, do not touch oven vents or area around vents during self-cleaning. These areas can become hot enough to cause burns.

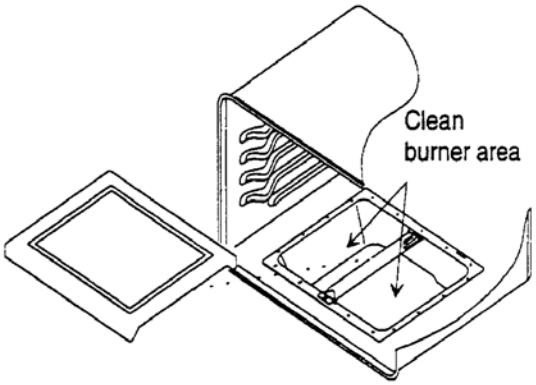
To avoid risk of smoke damage or fire, clean excess spills from oven interior.

- A small amount of smoke is normal when cleaning. Excess smoke may indicate a faulty gasket or too much food residue has been left in oven. Move birds and small animals susceptible to fumes or smoke to another room.
- Do not use cleaning cycle if oven light cover is not properly in place.
- Remove oven racks and all baking utensils from oven.

Clean Burner Area

Wear hand protection to avoid injury from sharp edges.

1. Pull oven bottom forward and lift out.
2. Wipe out burner area around burner with cloth and warm soapy water.
3. Dry area thoroughly. Replace oven bottom.



Self-Cleaning

Self-clean feature uses high oven temperature to clean oven interior. Only one oven can be cleaned at a time.

1. Prepare oven for self-cleaning.
2. Press CLEAN pad.
3. Press + *or* - *pad* to adjust desired amount of cleaning time.
   - Increase or decrease cleaning time by 5 minute increments.
   - Clean can be set from 2 to 4 hours. Minimum recommended cleaning time is 3 hours.
   - "LOCK" flashes while oven door is locking and remains in display while door is locked.
   - Oven begins to clean automatically.
4. Press OFF/CANCEL pad when finished.
   - After oven has cooled to a safe temperature, "LOCK" no longer displays and door is unlocked.

Delayed Self-Clean Cycle

Self-clean feature uses high oven temperature to clean oven interior. Set oven to begin and end cleaning at later time. Control calculates back from end time to determine starting time. Only one oven can be cleaned at a time.

1. Prepare oven for self-cleaning.
2. Press CLEAN pad.
3. Press + *or* - *pad* to adjust desired amount of cleaning time.
   - Increase or decrease cleaning time by 5 minute increments.
   - Clean can be set from 2 to 4 hours. Minimum recommended cleaning time is 3 hours.
4. Press STOP TIME pad.
5. Press + *or* - *pad* until desired stopping time appears in display.
   - Starting time is automatically calculated back based on amount of cleaning time and stop time. Oven begins to clean automatically.
   - "LOCK" flashes while oven door is locking and remains in display while door is locked.
   - To view remaining cleaning time, press and hold CLEAN pad.
   - To view calculated stop time, press and hold STOP TIME pad.
6. Press OFF/CANCEL pad when finished.
   - After oven has cooled to a safe temperature, "LOCK" no longer displays and door is unlocked.

Interrupt Self-Clean Cycle

1. Press OFF/CANCEL pad.
2. After oven has cooled to a safe temperature, door can be opened.

Adjusting Oven Temperature

Oven temperature has been factory calibrated and tested. In the unlikely event that oven consistently overcooks or undercooks food, oven temperature can be adjusted.

1. Press BAKE pad.
2. Press + until an oven temperature greater than 500°F shows in display.
3. Immediately press and hold BAKE pad until “00" appears in display, approximately 5 seconds.
4. To decrease oven temperature (for cooler oven), press - until negative numbers appear. Oven can be adjusted from -05° to - 35° lower. To avoid over-adjusting oven move temperature -5° each time.
5. To increase oven temperature (for a warmer oven) press + until positive numbers appear. Oven can be set from 05° to 35° higher. To avoid over adjusting oven, move temperature 5° each time.
6. Press 0FF/CANCEL pad. Temperature adjustment will be retained even through a power failure.

Service Tones and Codes

Electronic range control has a self-diagnostic system.

Self-diagnostic system sounds a series of short, rapid beeps and shows an “F-code” in display when there is a problem. When electronic range control signals a problem, follow steps listed below.

1. Record “F-code” shown.
   - See, **DIGIT FAILURE DISPLAY** in “Warnings and Failure Codes” section.
2. Disconnect electrical supply.
   - Pressing OFF/CANCEL pad or disconnecting electrical supply may eliminate “F-code”. If failure continues, contact an authorized servicer.
3. Contact an authorized servicer to check range.

NOTES:

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

TESTING PROCEDURES

Service Information

Electronic Range Control (ERC) operates in conjunction with a transformer/relay board 1, relay board 2, and oven temperature sensor(s) to control all bake, broil, and self-clean functions.

The ERC is connected to a mylar control panel incorporating minute timer, clock, stop time, oven light, cancel, bake, bake time, broil, and clean. Slew pads are used to set times and temperatures.

The mylar control panel provides direct input to the ERC to control all functions.

The ERC display consists of two digital readouts which displays all timing functions, and all temperature functions.

The transformer/relay board for upper oven consists of oven light, bake, broil, door lock, and double line break relays controlled by the ERC, and a step down transformer with two secondary windings which convert 120 VAC input to filament voltage (3.2--4.2 VAC) to power the ERC display.

The relay board for lower oven consists of bake, broil, door lock, and double line break relays controlled by the ERC.

Oven temperature sensor 1 is mounted in the upper oven cavity and connected to the J4 connector on the rear of the ERC. Oven temperature sensor 2 is mounted in the lower oven cavity and connected to the J6 connector on the rear of the ERC. As the oven temperature increased, the sensor resistance also increases. The ERC converts this resistance to a corresponding temperature readout and cycles the relay(s) to maintain the desired temperature setting.

The ERC is also capable of sensing certain failure conditions which can occur in the oven temperature sensor(s), the self clean latch switch(es) the adaptor board or the ERC itself. If the ERC senses a failure, power will be removed from the relays, an alarm will sound and a failure code will be displayed.

Each major component of the ERC system is serviced as a separate part. However, each component and related wire harness must be tested prior to replacing an individual component.

Quick Test Procedure

"Quick Test" Mode for Electronic Range Control

Follow procedure to use the quick test mode. Entries must be made within 32 seconds of each other or the control will exit the quick test mode. The quick test mode cannot be reactivated until power is disconnected from oven, and must be accessed with in 5 minutes of powering up.

NOTE: To enter Quick Test mode, this **must** be the first key pad entered after power is applied.

1. Apply power to oven **press and hold** BAKE TIME (upper oven) pad for 5 seconds.
2. Display will read the following:

Pad	Response
CLEAN	Double Line Break (DLB) on
BAKE	DLB and Bake on
BROIL	DLB and Broil on
STOP TIME	Panel light and beeper on
BAKE TIME	Displays manufacturer code and sensor readings "000" = open sensor
TIMER	Displays dashes
CLOCK	All display segments illuminated
OVEN LIGHT	Oven light on
CANCEL	Exit Quick test
SLEW	Sequences through display segments

ERC Warnings and Failure Codes

The ERC is capable of detecting certain failures within the ERC, along with oven temperature sensor and self clean door latch switch.

The warning and failure codes which may appear on the display:

ERC will flash "door", if one full door lock cycle has not been completed within 60 seconds of energizing the door lock relay.

DIGIT FAILURE DISPLAY

F1 control malfunction - **Replace ERC**

F2 oven over temperature - **Check sensor wiring, sensor, and temperature limiter**

F3 open sensor or sensor circuit - **Check sensor resistance and wiring**

F4 shorted sensor or sensor circuit - **Check sensor resistance and wiring**

F7 shorted input key - **verify control panel to p.c. board connection, test control panel continuity, replace control panel**

F9 failure of door lock switch sensing with door unlocked - **Check latch switch, door motor, check plunger switch, and wiring.**

FF - failure of door lock switch sensing with door locked **Check latch switch, door motor, check plunger switch, and wiring**

TESTING PROCEDURES

Temperature Calibration Offset
The ERC incorporates ± 35°F calibration offset capabilities for the oven. This adjustment will not effect the cleaning cycle temperature and will remain in memory if power is interrupted. Follow the procedures as listed to calibrate oven.

1. Press BAKE pad.
2. Press + until an oven temperature greater than 500°F shows in display.
3. Immediately press and hold BAKE pad until "00" appears in display, approximately 5 seconds.
4. To decrease oven temperature (for cooler oven), press - until negative numbers appear. Oven can be adjusted from -05° to -35° lower. To avoid over-adjusting oven move temperature -5° each time.
5. To increase oven temperature (for a warmer oven) press + until positive numbers appear. Oven can be set from 05° to 35° higher. To avoid over adjusting oven, move temperature 05° each time.
6. Press OFF/CANCEL pad. Temperature adjustment will be retained even through a power failure.

Function Switch Connection Check Procedure
The Quick-Test mode can be used to verify relay operation on the transformer/relay board. If the relay engages (clicks) during Quick-Test mode it is generally operative.

Transformer/Relay Board 1
The relays for door lock, oven light, bake, and broil, are controlled by approximately a 24 VDC signal from the ERC. Input voltage is 102 - 132 VAC.

Testing of the relays is with voltage applied to oven **after** attaching voltmeter leads to appropriate terminals.

Double Line Break --K6
Drive voltage (24 VDC) indicated at J1 connector Pin 1 and 3.

1. Turn off power to oven.
2. Attach voltmeter lead to E1 connector on relay board.
3. Attach voltmeter lead to E18 connector on relay module.
4. Turn on power and touch bake, broil or convection.
5. If 24 VAC is indicated, the double line break relay is closing. Otherwise, replace the transformer/ relay board.

Bake Relay --K4
Double line break relay okay. Drive voltage at J1 connector pins 3 and 5.

1. Turn off power to oven.
2. Attach voltmeter lead to E18 connector on relay board.
3. Attach voltmeter lead to E11 (BK) connector on relay module.
4. Turn on power and touch the bake pad.
5. If 24 VAC is indicated, bake relay is operating.

Broil Relay --K5
Double line break relay okay. Drive voltage at J1 connector pins 3 and 6.

1. Turn off power to oven.
2. Attach voltmeter lead to E18 connector on relay module.
3. Attach voltmeter lead to E12 (BR) connector on relay module.
4. Turn on power and touch broil pad.
5. If 24 VAC is indicated broil relay is operating.

Oven Light Relay --K10
Drive voltage at J1 connector pins 1 and 4.

1. Turn off power to oven.
2. Attach voltmeter lead to E3 (neutral) connector on relay module.
3. Attach voltmeter lead to E17 connector on relay module.
4. Turn on power and touch oven light pad.
5. If 120 VAC is indicated, oven light relay is operating.

Door Lock Relay --K3
Double line break relay okay. Drive voltage at J1 connector pins 1 and 9.

1. Turn off power to oven.
2. Attach voltmeter lead to E3 (neutral) connector on relay module.
3. Attach voltmeter lead to E8 connector on relay module.
4. Turn on power and program cleaning cycle operation.
5. Two indications will be present during this test.
   - 120 VAC will be present when the lock assembly is being engaged.
   - 0 VAC is indicated when the door is locked and cleaning cycle is operational.

Display (Filament) Voltage

1. Turn power on, turn meter to VAC scale.
2. Touch meter lead to J1-1 terminal.
3. Touch meter lead to J1-14 terminal
4. Meter should indicate 3.2 VAC.

⚠WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

TESTING PROCEDURES

Relay Board 2
The relays for oven light, bake, broil, convection element, convection fan and double line break are controlled by approximately 24 VAC signal from ERC. Input voltage is 102 -- 132 VAC.

Testing of the relays is with voltage applied to oven **after** attaching voltmeter leads to appropriate terminals

NOTE: If bake, broil, or convection do not work, the first test would be the relay for double line break.

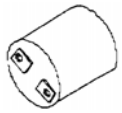
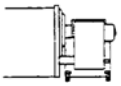
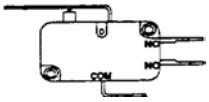
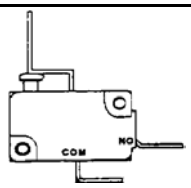
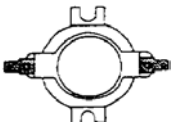
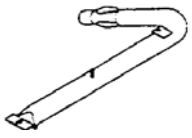
Bake Relay --K2
Double line break relay okay. Drive voltage at J1 connector pins 4 and 5.
1. Turn off power to oven.
2. Attach voltmeter lead to gray wire connection on double line break relay.
3. Attach voltmeter lead to E3 (BA) connector on relay.
4. Turn on power and touch the bake pad.
5. If 24 VAC is indicated bake relay is operating.

Broil Relay --K3
Double line break relay okay. Drive voltage at J1 connector pins 3 and 5.
1. Turn off power to oven.
2. Attach voltmeter lead to gray wire connection on double line break relay.
3. Attach voltmeter lead to E6 (BR) connector on relay module.
4. Turn on power and touch broil pad.
5. If 24 VAC is indicated broil relay is operating.

Door Lock Relay --K4
Double line break relay okay. Drive voltage at J1 connector pins 1 and 7.
1. Turn off power to oven.
2. Attach voltmeter lead to E3 (neutral) connector on transformer/relay board 1.
3. Attach voltmeter lead to E2 connector on relay module.
4. Turn on power and program cleaning cycle operation.
5. Two indications will be present during this test.
   - 120 VAC will be present during the lock assembly is being engaged.
   - 0 VAC is indicated when the door is locked and cleaning cycle is operational.

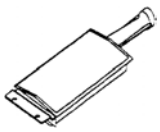
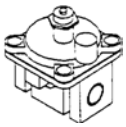
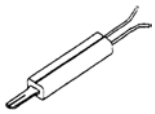
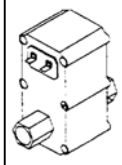
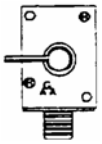
WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

COMPONENT TESTING INFORMATION

Illustration	Component	Test procedure	Results
	Oven light socket	Test continuity of receptacle terminals. Measure voltage at oven light check wiring.	Indicates continuity with bulb screwed in. 120 VAC, see wiring diagram for terminal identification If no voltage is present at oven light
	Hinge	Carefully open the hinge fully, & insert a wooden dowel or screw-driver bit into opening. Remove top and bottom screws securing hinge. Slide hinge top toward rear of unit and guide hinge out through frame opening or storage drawer	w **CAUTION** Do not place hands in hinge area when oven door is removed. Hinge can snap and pinch hands or fingers.
	Blower motor	Verify supply voltage. Disconnect and check continuity of motor at the terminals, and verify terminals, and are not shorted to chassis.	120VAC Continuity
	Heraeus sensor	Measure resistance	Approximately 1100Ω at room temperature.
	Door lock switch or light switch	Switch connections in following positions: Unlocked Locked	Normally open Com-NO=Open, Com-NC=Closed Com-NO=Closed, Com-NC-Open
	Sail switch	Switch connections in following positions: Not engaged Engaged	Normally open Com-NO=Open, ComNC=Closed Com-NO=Closed, ComNC=Open
	Controls	Verify proper operation. 31833001 Control limi 042056 Fan switch 1-2 (NO) 1-3 (NC)	Normally open Opens at 145°F, Closes at 185°F Opens at 120°F, Closes at 150°F Opens at 150°F, Closes at 120°F
	Bake Burner	Verify gas is supplied. Orifice adjusted for Natural or LP. Check for obstructions or contamination in ports.	

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

COMPONENT TESTING INFORMATION

Illustration	Component	Teat Procedure	Result
	Broil Burner	Verify gas is supplied. Proper orifice installed for Natural or LP. Check for damage to screen.	Replace if punctured or torn.
	Pressure regulator	Verify gas pressure (WPC). If on LP service verify gas supply conversion.	5" Natural 10" LP/Propane
	Norton Ignitor	Test for voltage at terminals. Test for the amount of amperage in the circuit (Ignitor may glow but not have sufficient amperage to open valve).	120 VAC 3.2 --3.6 Amps
	Gas valve	Disconnect wiring to valve Measure resistance on bake circuit. Measure resistance on broil circuit	**WARNING** Do not attempt to open valve with 120 VAC Continuity Continuity
	Shut off valve	Check to verify gas supply is turned on.	

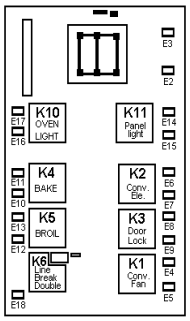
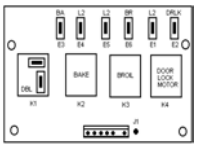
COMPONENT TESTING INFORMATION

ECR mylar touch system

Illustration	Component	Test Procedure	Results
See Illustrations above	Mylar touch system	F1 - Control malfunction. F2 - Oven over temperature. F3 - Open sensor or sensor circuit F4 - Shorted sensor or sensor circuit F7 - Shorted input key. F9 - Door lock or door lock circuitry malfunction (door unlocked) FF - Door lock or door lock circuitry malfunction (door locked) Door - Lock status is not sensed within 90 seconds of energizing door lock relay.	Test mylar touch pad. Check sensor wiring, sensor, and temperature limiter. Check sensor resistance and wiring. Check sensor resistance and wiring. Verify mylar switch connections, replace mylar touch switch. Check latch switch. Check latch switch Verify operation of door latch switches.
ERC control	Oven temperature adjustment	Press *Bake* Press + slew pad until an oven temperature greater than 500° shows on display. Immediately press and hold *BAKE* until "00" appears in display, approximately 5 seconds. To decrease oven temperature (for a cooler oven), press - slew pad until negative numbers appear. Oven can be adjusted from -5° to -35° lower. To avoid over adjusting oven move temperature -5° each time. To increase oven temperature (for warmer oven), press + slew pad until positive numbers appear. Oven can be adjusted 5° to 35° higher. To avoid overadjusting oven move temperature 5° each time. Press *OFF / CANCEL*. Temperature adjustment will be retained even though power failure.	While increasing or decreasing oven temperature, this does not affect self-cleaning temperature.
ERC control	Twelve hour off	Control will automatically cancel any baking operation and remove all relay drives 12 hours after the last pad touch.	
ERC control	Child lock out	This is a safety feature that can be used to prevent children from accidentally programming the oven. If disables the electronic oven control. Press and hold *BAKE* and *BAKE TIME* for approx-Imately 5 seconds. "Off" will display where the temperature normally appears. To reactivate the control, press and hold *BAKE* and *BAKE TIME* for 5 seconds. Child lockout features must be reset after a power failure.	

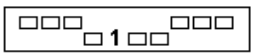
WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

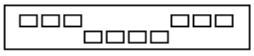
COMPONENT TESTING INFORMATION

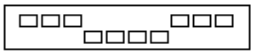
Illustration	Component	Teat Procedure	Results
ERC Controlled	Quick test mode	Press and hold *Bake Time* pad for 5 seconds within the first 5 minutes of power up. (This must be the first pad touhed.) Pressing each pad will force a response from control, releasing the pad ends the response. Entries on control pad must be within 32 seconds of each other or control will exit mode. Mode can exited by pressing *Off/Cancel.* See Quick Test Mode Display below.	Clean: Double line break (DLB) on Bake: DLB and Bake on Broil: DLB and Broil on Stop Time: Panel light and beeper on Bake Time: Displays checks and sensor readings Timer: Displays dashes Clock: Display on full Oven Light: Oven light on Slew pads: Sequences thru display segments Cancel: Exits quick test mode
	Relay Board to	Listen for relay to actuate. Verify input and output power.	If relay does not actuate, verify power relay board (120 VAC)
	Relay Board to	Listen for relay to actuate. Verify input and output power	If relay does not actuate, verify power relay board (120 VAC).

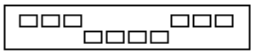
Quick Test Mode Display;

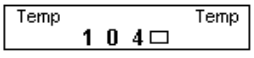
Upper oven

Clean Pad 

Bake Pad 

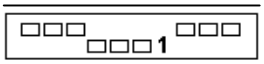
Broil Pad 

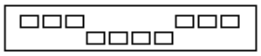
Timer Pad 

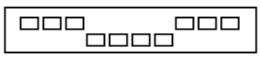
Stop Time Pad 

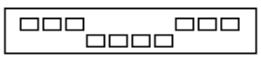
Oven Light Pad: Turn ON both oven Lights

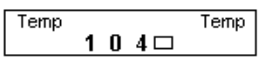
Lower oven

Clean Pad 

Bake Pad 

Broil Pad 

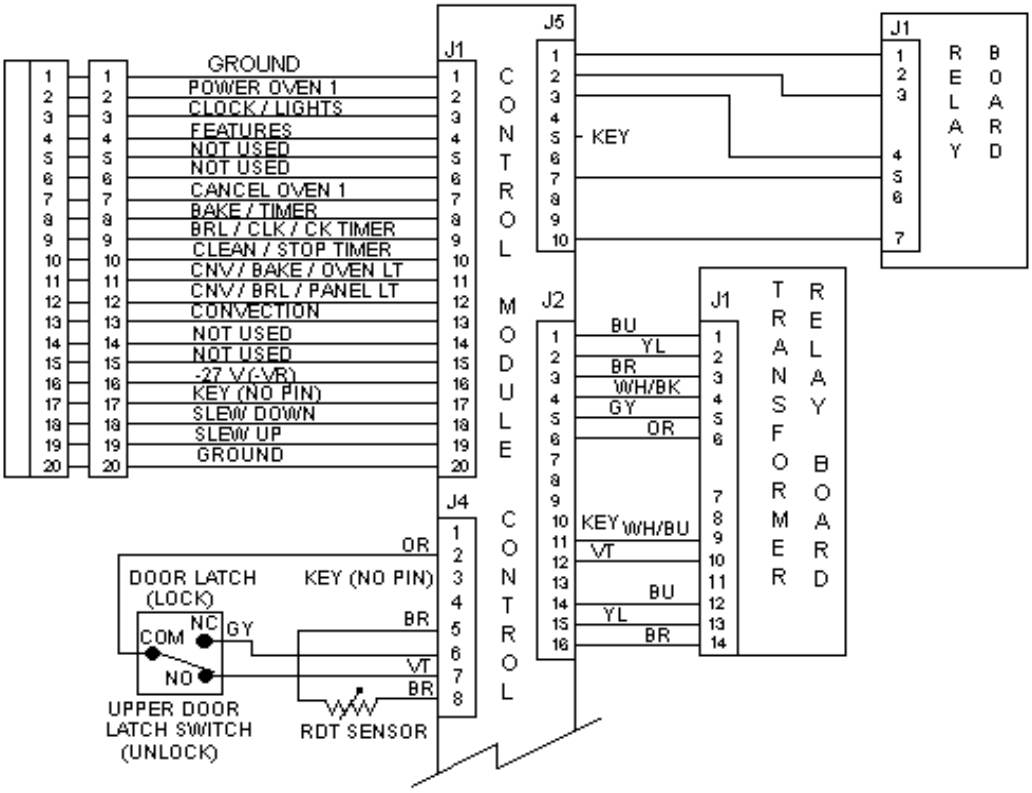
Timer Pad 

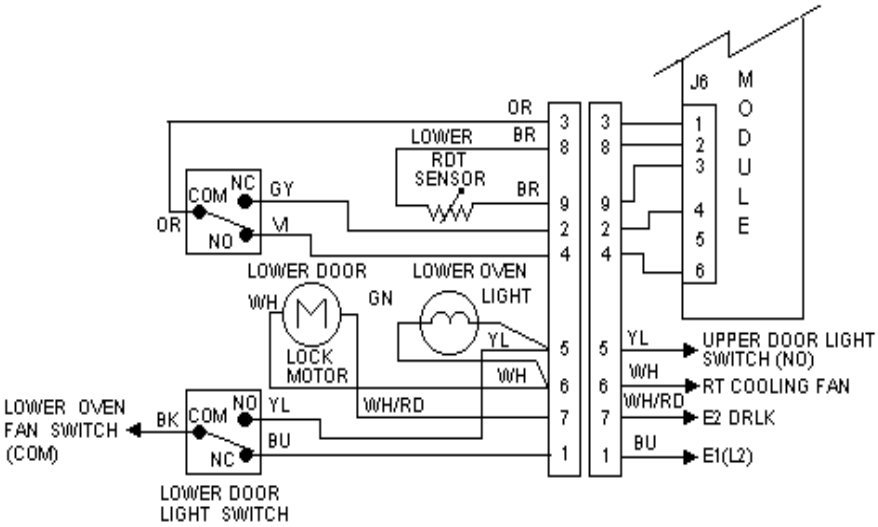
Stop Time Pad 

Oven Light Pad: Turn ON both oven Lights

WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

COMPONENT TESTING INFORMATION



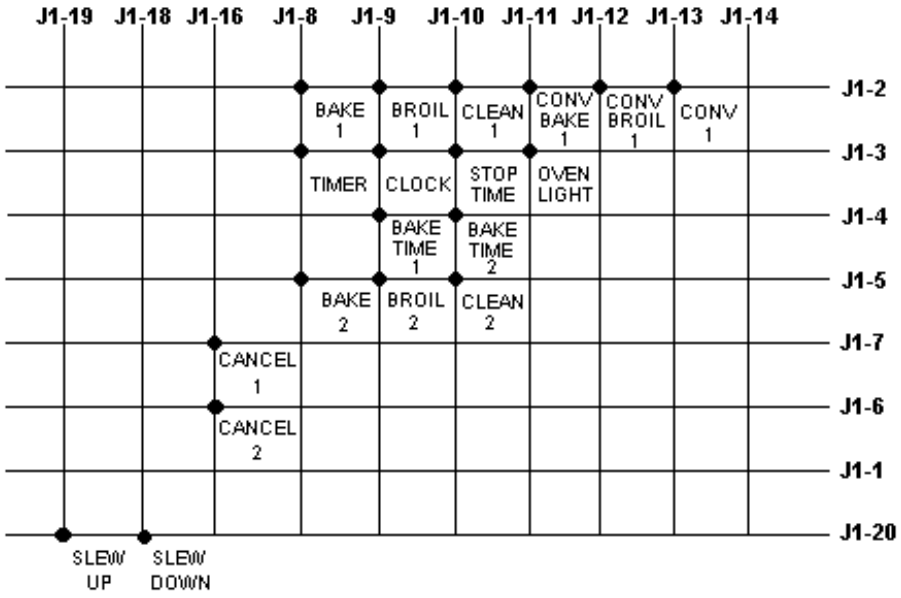


COLOR	COLOR SYMBOL
RED	RD
ORANGE	OR
YELLOW	YL
GREEN	GN
BLUE	BU
VIOLET	VT
BLACK	BK
BROWN	BR
GRAY	GY
WHITE	WH

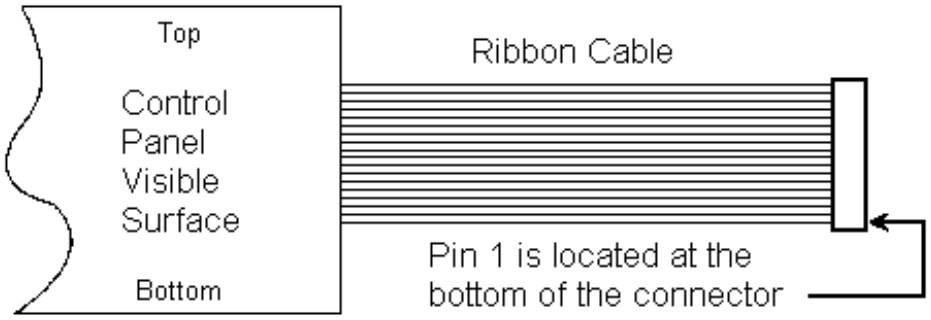
WARNING To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

COMPONENT TESTING INFORMATION

Continuity is indicated as 100Ω and below. Each pad must be pressed to perform the following test.



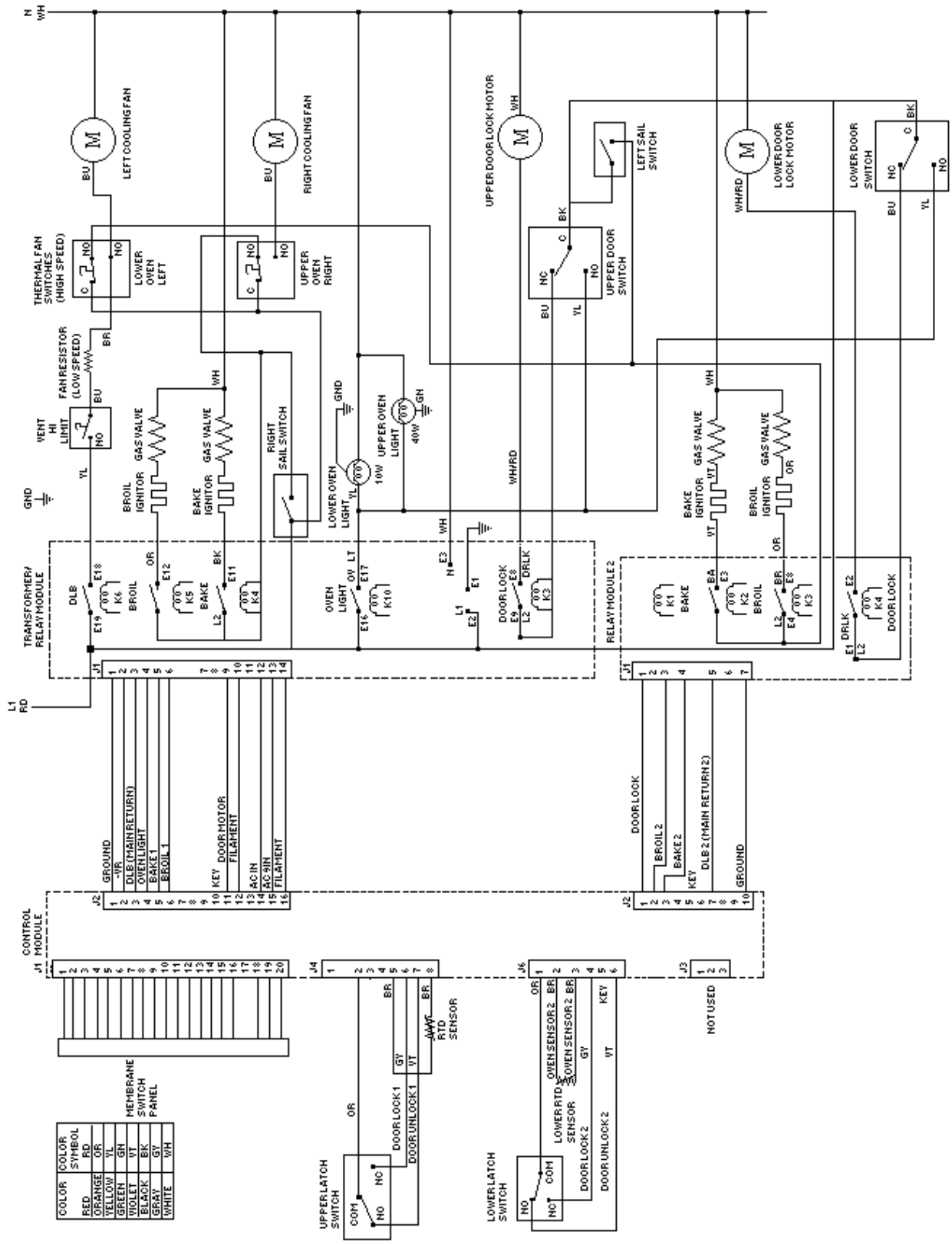
Switch Matrix



Relay Drive Requirements
Relay drive requirements are defined as a percentage of on time based on a 60 second cycle.

Bake	100% bake
Broil	100% broil
Clean	Stage 1 - 100% broil, 0% bake, for 30 minutes
	Stage 2 - 0% broil, 100% bake

SCHEMATIC WIRING DIAGRAM
VGDO 271 BUILT-IN GAS 27" W. DOUBLE WALL OVEN



VGDO271 WIRING DIAGRAM BUILT-IN GAS 27" W. DOUBLE OVEN