

# INSTALLATION & OPERATION MANUAL

## VULCAN ENDURANCE / WOLF CHALLENGER Gas Restaurant Ranges

**ITW Food Equipment Group**



### MODELS:

12(F) 24S(F) 36(S,C,R)(F)  
48(S,C,R)(F) 48SS(F)  
60(S,C,R)(S,C,R)(F) 72(S,C,R)(S,C,R)(F)

[www.vulcanequipment.com](http://www.vulcanequipment.com)  
[www.wolfequipment.com](http://www.wolfequipment.com)

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Baltimore, MD 21222

**RETAIN THIS MANUAL FOR FUTURE USE**

**FORM F38201 Rev. F (01-21)**

## **IMPORTANT FOR YOUR SAFETY**

**THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.**

**POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.**

### **IMPORTANT**

**In the event a gas odor is detected, shut down units at main shutoff valve and contact the local gas supplier for service.**

### **FOR YOUR SAFETY**

**Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.**

### **WARNING**

**Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.**

**IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.**

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# INSTALLATION, OPERATION AND CARE OF VULCAN ENDURANCE / WOLF CHALLENGER GAS RESTAURANT RANGES

**PLEASE KEEP THIS MANUAL FOR FUTURE USE**

## GENERAL

Vulcan Endurance and Wolf Challenger ranges and ovens are produced with quality workmanship and material. These ranges are designed with efficiency in cooking performance, sanitation and ease of cleaning ability in mind. Proper installation, usage and maintenance of your range will result in many years of satisfactory performance.

The manufacturer suggests that you thoroughly read this entire manual and carefully follow all of the instructions provided.

Reference manual F961533 for refrigerated base setups.

## OPTIONAL FIELD INSTALLABLE ACCESSORIES

ACCESSORY CODE	DESCRIPTION
3/4QDH-4FT 1INFLEX-4FT	¾" (18.75 mm) flex hose / quick disconnect 4' (1219 mm long). 1" (25 mm) flex hose / quick disconnect, 4' (1219 mm) long.
ALTIKIT-CARN (01,03,05,07,09) ALTIKIT-CARP (02,04,06,08,10)	Altitude Kit - Available in Natural Gas or Propane (LP) for the following altitudes: 0-1999 ft, 2000-3999 ft, 4000-5999, 6000-7999, 8000-9999.
CASTERS-RR4 CASTERS-ADJRR4	Set of four (4) standard casters. Set of four (4) adjustable casters. <i>Two (2) sets required for 48", 60", and 72" ranges</i>
CONNECT-CHALL	Inter-Plumb kit for connecting for Salamander/Cheesemelter to range.
OVNRACK-XL(20,26)	1 extra oven rack. 1 pair of rack guides (set of 2).
CURBMNT-XL4	Curb mounting kit. Two (2) sets required for 48", 60", and 72" ranges.
OTB-STEPUP	Step up rear burner 4". One kit needed per burner.
RCCONRL- (24,36,48,60,72)	Condiment Rail Assembly - Replaces standard bullnose. Available for 24", 36", 48", 60", and 72" ranges. (Does not include condiment pans)
RCTWLBR- (24,36,48,60,72)	Towel Bar Assembly - Replaces standard bullnose. Available for 24", 36", 48", 60", and 72" ranges.
RSHELF-XL (24,36,48,60,72)	Reinforced High Shelf - 23" (584 mm) high stainless steel backsplash with broiler mounting brackets for Salamander/Cheesemelter.
SHIELD-FRYRH SHIELD-FRYLH	Fryer Splash Shield - Right hand or left hand side. Protects range top against grease splatter from adjacent fryer.
STUB10-XL (24,36,48,60,72)	10" Stainless steel stub riser. Available for 24", 36", 48", 60", and 72" ranges. <i>12" ranges ship standard with 10" stub riser.</i>

## INSTALLATION

### UNPACKING

This range was inspected before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the shipment. Immediately after unpacking, check for possible shipping damage. If the range is found to be damaged, save the packaging material and contact the carrier within 5 days of delivery.

Carefully unpack range(s) and place in the approximate installation position. Remove parts packed in a small cardboard box from oven cavity or shipped separately in finishing kit.

If burner has been shipped using any package strapping devices, remove these before installing the range.

Before installing, check the type of gas supply (natural or propane) to make sure they agree with the specifications on the rating plate located on the inside of the kick panel. If the supply and equipment requirements do not agree, do not proceed with the installation. Contact your dealer immediately.

### LOCATION

The equipment area must be kept free and clear of combustible substances.

Installation clearances:	<u>COMBUSTIBLE CONSTRUCTION</u>	<u>NON-COMBUSTIBLE CONSTRUCTION</u>
Back:	6" (152 mm)	0"
Right Side:	10" (254 mm)	0"
Left Side:	10" (254 mm)	0"

The installation location must allow adequate clearances for servicing and proper operation.

The ranges are suitable for installation on combustible floors when 6" (152 mm) adjustable legs or casters are used. When legs or casters are removed, use only on noncombustible floors, curb, or platform, with front appliance base projecting 3" (76 mm) beyond curb or platform.

The range(s) must be installed so that the flow of combustion and ventilation air will not be obstructed. Adequate clearance for air openings into the combustion chamber(s) must be provided. Make sure there is an adequate supply of air in the room to allow for combustion of the gas at the burners.

## INSTALLATION CODES AND STANDARDS

Your Vulcan Endurance / Wolf Challenger Range must be installed in accordance with:

### In the United States of America:

1. State and local codes.
2. National Fuel Gas Code, ANSI-Z223.1/NFPA #54 (latest edition). This shall include but not be limited to: NFPA #54 Section 10.3.5.2 for Venting. Copies may be obtained from The American Gas Association Accredited Standards Committee Z223, @ 400 N. Capital St. NW, Washington, DC 20001 or the Secretary Standards Council, NFPA, 1 Batterymarch Park Quincy, MA 02169-7471.

**NOTE:** In the Commonwealth of Massachusetts

All gas appliances vented through a ventilation hood or exhaust system equipped with a damper or with a power means of exhaust shall comply with 248 CMR.

3. NFPA Standard # 96 Vapor Removal from Cooking Equipment, latest edition, available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

### In Canada:

1. Local codes.
2. CAN/CSA-B149.1 Natural Gas Installation (latest edition)
3. CAN/CSA-B149.2 Propane Installation Code (latest edition), available from the Canadian Gas Association, 178 Rexdale Blvd., Etobicoke, Ontario, Canada M9W 1R3

The above are available from the Canadian Standard Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6.

## LEG/CASTER ASSEMBLY

The range is provided with 6"(152 mm) adjustable stainless steel legs (hardware included), packaged in a box located inside of the oven or in a finishing kit. A set of 6"(152 mm) casters (adjustable or non-adjustable) are available as an optional field installable accessory.

RANGE SERIES (width)	LEGS TO INSTALL	CASTERS TO INSTALL
12"	4	4
24"	4	4
36"	4	4
48"	8	8
60"	8	8
72"	8	8

Installation of Legs/Casters:

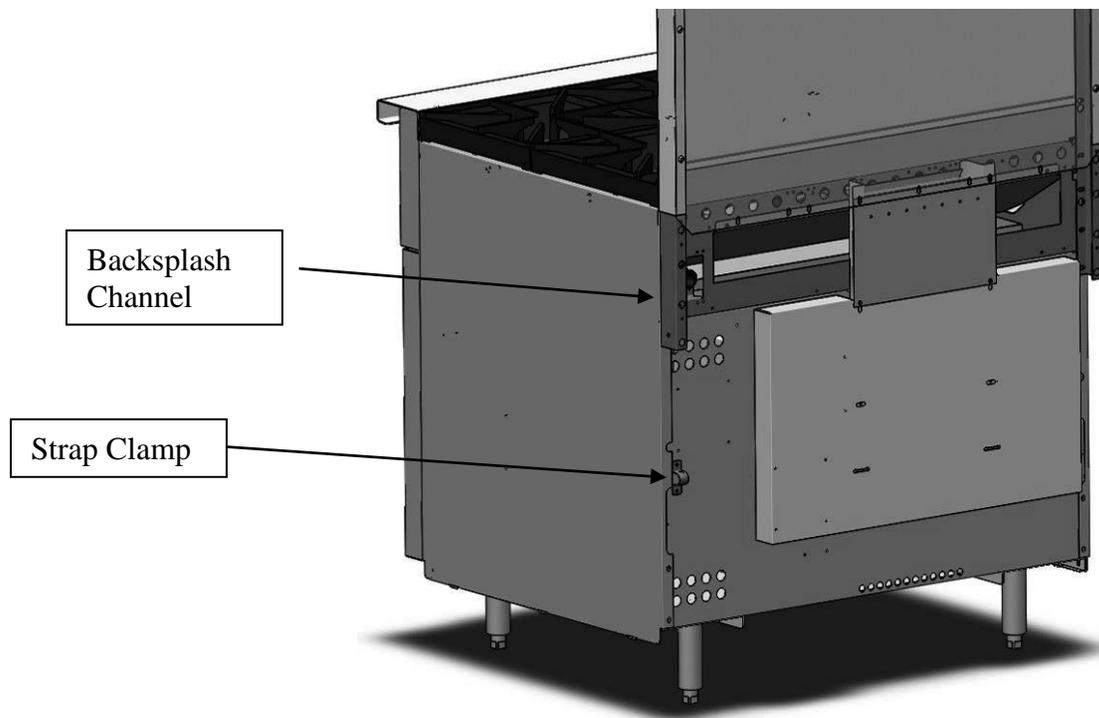
1. Carefully tip range on its side or back. Rear flue assembly can be removed to avoid damage.

2. Align holes in leg/caster mounting plate with pre-drilled holes on the bottom of range located in each of the four corners. Four additional legs/casters must be installed on the 48", 60", and 72" ranges.
3. Attach mounting plate to bottom of range using four (4) ¼ - 20 x ¾" thread cutting screws (provided). If casters are being installed, the locking casters should be mounted on the front.
4. After all legs/casters have been installed, carefully return the range to its upright position.

(For additional leg information, see "LEVELING" section of this manual).

Ranges mounted on casters must use a flexible connector (not included) that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.69•CSA 6.16 and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41•CSA 6.9.

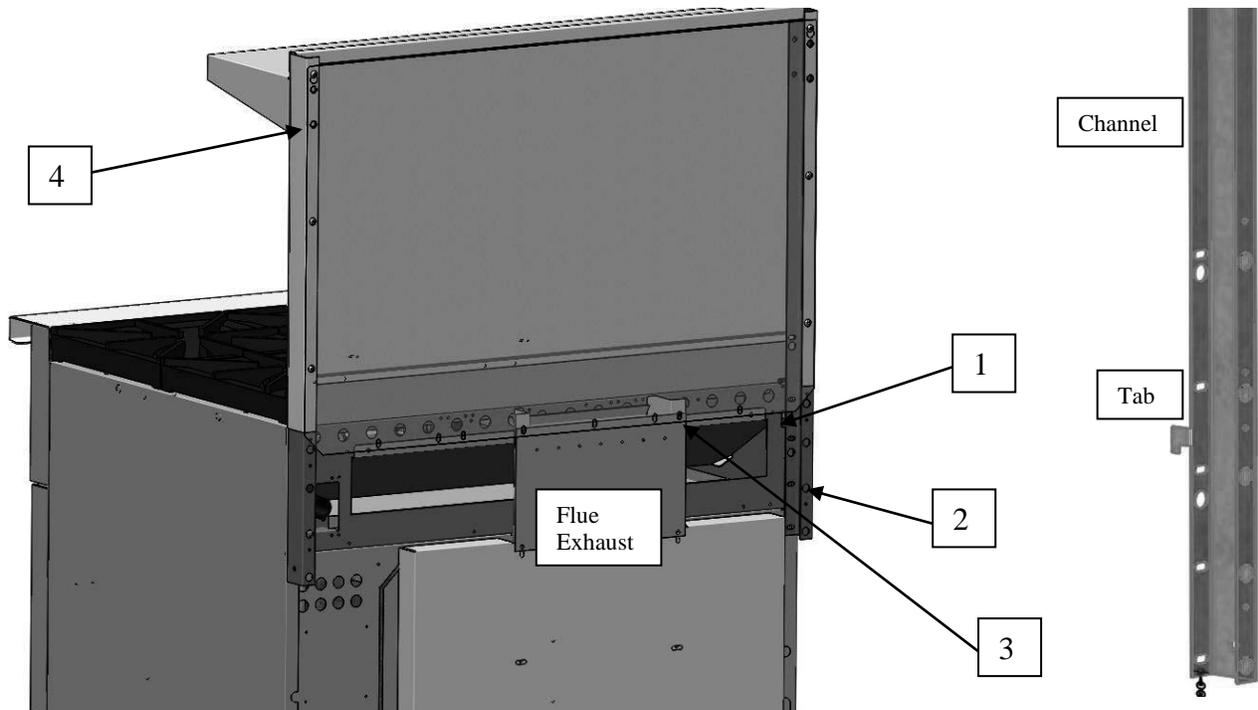
In addition, adequate means must be provided to limit movement of the appliance without depending on the connector and the quick-disconnect device or its associated piping to limit appliance movement. Attachment points are available on the rear of the range including a strap clamp (for connection of a restraint) and the backsplash channel thru holes.



If disconnection of the restraint is necessary, turn off the gas supply before disconnection. Reconnect this restraint prior to turning the gas supply on and returning the range to its installation position.

If the range is installed on casters and is moved for any reason, it is recommended that the range be re-leveled front to back and side to side for even baking.

## BACKSPLASH RISER and SHELF INSTALLATION



1. Engage Tab on Backsplash Channels into the slots in the back of the Frame (shown) so that Backsplash freely hangs in place. The Backsplash front will lip over most, but not all, griddle configurations.
2. Install Screws to secure Channels to Frame (QTY 4 per Channel). All Screws are #10-24 x 1/2 unless noted otherwise.
3. Install Screws to secure Backsplash to Flue Exhaust (QTY 2 per Flue Exhaust).
4. Install Shelf over the top of the Back Splash; ensure the Channel on the top of the Shelf engages the top flange of the Backsplash. Secure with 1/4-20 Bolts/Nuts provided (Qty 4).

### NOTE:

- Reinforced Riser and Shelf Installation Instruction is supplied separately, 921132.
- Shelves cannot be installed over charbroilers. Intermediate shelf bracket, 922416, and installation instruction, 922417, are supplied separately.

**DO NOT** obstruct the flow of flue gases from the flue located on the rear of the range. Proper venting of flue gas is vital to the safe and efficient operation of the range. Problems arising from the intentional obstruction of the flue will result in voiding of warranty. It is recommended that the flue gases be ventilated to the outside of the building through a ventilation system installed by qualified personnel.

From the termination of the flue to the filters of the hood venting system, a minimum clearance of 18" (457 mm) must be maintained. Information on the construction and installation of ventilating hoods

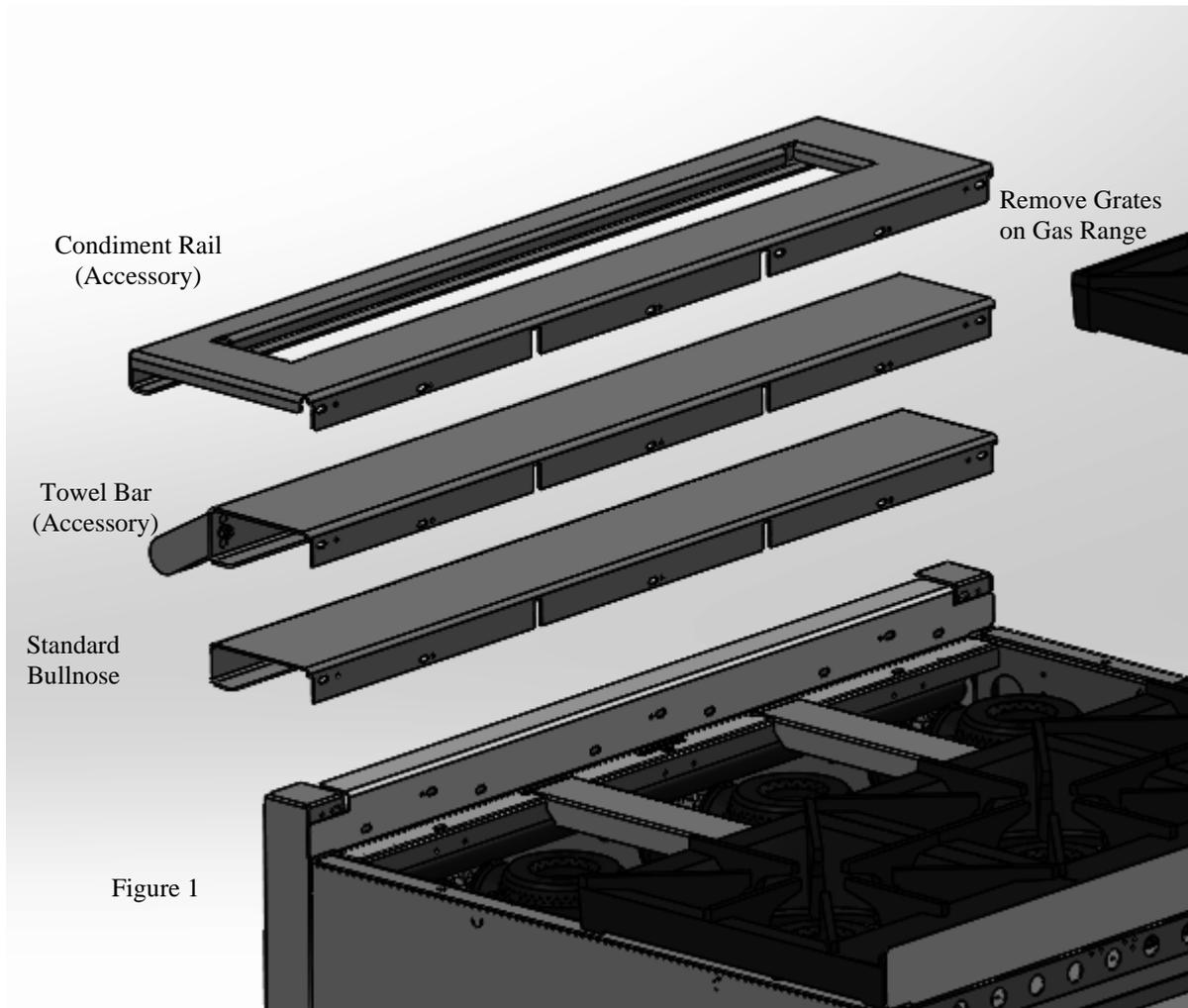
may be obtained from the standard for "Vapor Removal from Cooking Equipment," NFPA No. 96 (latest edition), available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

## LEVELING

To level the range, place a carpenter's level on the range top and check leveling of the unit side to side and front to rear. Achieve leveling by turning each foot section of the unit's leg as needed. Turning the foot in a counter clockwise direction will increase height and clockwise will decrease.

## BULLNOSE INSTALLATION

- 1.) Remove Grate Castings along the front edge of the Range.
- 2.) Slide Bullnose over mounting bracket and align with Range so that it is not offset in either direction.
- 3.) Start screw at one end of the Range, do not tighten completely.
- 4.) Going across the width of the Range install the next screw, as shown in Figure 2, set the alignment and tighten screw completely.
- 5.) Install the remaining screws and tighten all screws completely.



**Note:** Align the end of the Bullnose with the Range for fit.

Install Screws, #10-24 x ½ Phillips Head, in slots on Bullnose as noted.

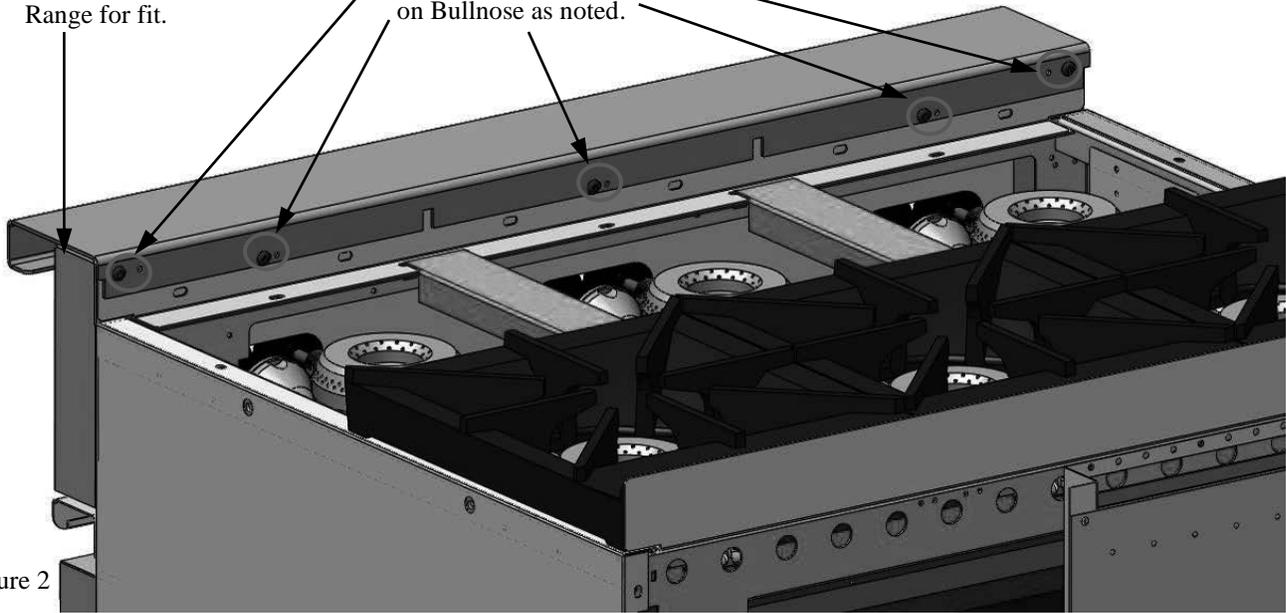
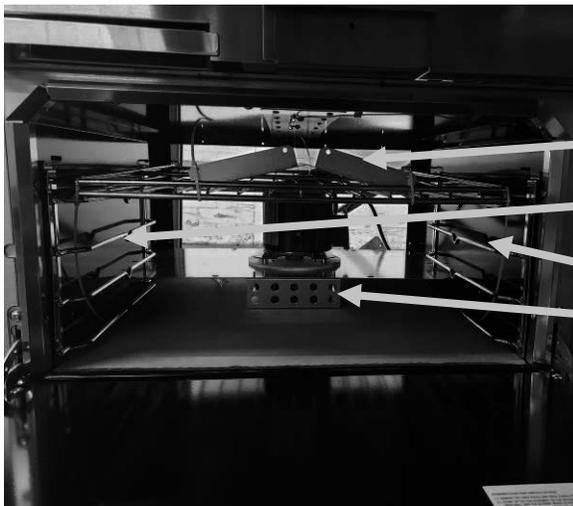


Figure 2

Re-install the Grate Castings along the front edge of the range.

### MOTOR ASSEMBLY INSTALLATION INSTRUCTIONS

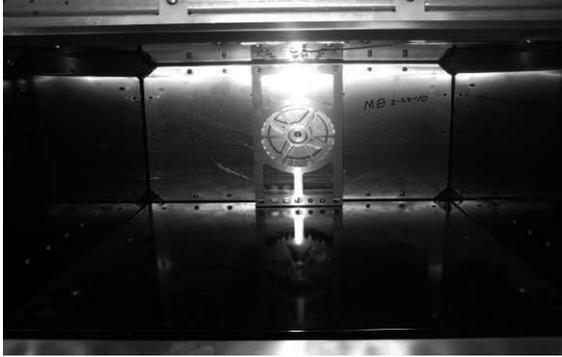
1. Remove the oven racks and the box containing legs, regulator and plumbing fittings. In some instances, the legs, regulator and plumbing fittings will be shipped in separate finishing kit. Check that all the listed components shown in figure are present.



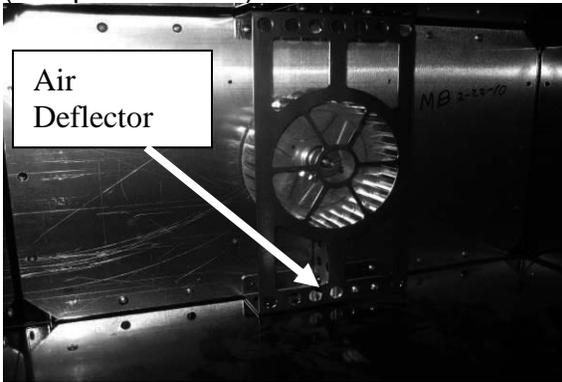
- Motor Grease Guard
- LH Rack Guide
- RH Rack
- Motor Assembly

2. Remove the packaging and motor grease guard from inside the oven and slide out the rack guides. Tip the Motor Assembly to upright position.

3. Push the motor assembly to the rear in the oven cavity, taking care not to pinch the power cord or the wiring conduit. Assemble the motor assembly **from the inside of the oven** and the blower cover with #10-24 (or #10-32) x ½ Phillips truss head screws provided in the hardware bag.



4. Ensure that blower cover is assembled such that air deflector is to the bottom side of the oven. (See picture below).



5. Assemble rack guides by inserting the two tabs into slots on the side wall. Insert oven racks.

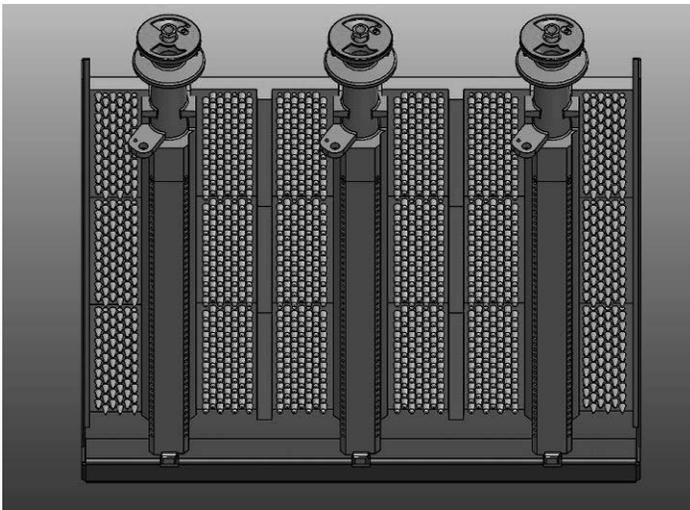


6. Assemble the motor grease guard from the rear of the unit with QTY 4 #10-24 x 1/2 screws.



### INSTALLATION OF GRIDDLE/BROILER BRICKS (For Models ending in **GBN** or **GBP**)

1. Remove six 5 1/4" x 2 1/4" (133 x 57 mm) and six 5 1/4" x 5 1/16" (133 x 129 mm) bricks from the shipping box packaged in the oven cavity.
2. Install the 5 1/4" x 2 1/4" (133 x 57 mm) bricks to the left and right hand sides of the broiler by inserting the bricks individually through the front opening in the broiler. Angle the brick sideways for easy fit between the burner edges. Set the bricks flat in place, resting on the broiler side and burner edges. Push each brick as far to the rear of the broiler as possible to ensure easy fit of the last brick.
3. Install the remaining six 5 1/4" x 5 1/16" (133 x 129 mm) bricks to the center section as described in step 2. Place the bricks on the center burner edges only.



### PLUMBING

A preset gas pressure regulator and plumbing fittings are shipped uninstalled. This regulator must be installed by an authorized service person before the unit is placed into operation. See full unit data plate located on the rear of the range, or the secondary data plate, riveted to the kick panel, for pressure regulator setting information. If a manometer is being used, utilizing one of the available pressure taps in the manifold, the manifold pressure with one burner on should be  $\pm 0.3$ " W.C. of the value indicated on the rating plate.

1. Refer to the Modular Range Field Plumbing Reference Guide (P/N 921861, 962356, or 960167) shipped with the regulator and fittings for 48", 60", and 72" ranges.
2. Cover the pipe threads with pipe joint compound resistant to propane gases.
3. For 12", 24", and 36" ranges, screw the reducer, pipe nipple, and regulator onto the pipe with the regulator flow direction arrow pointing towards the back of the unit and the regulator adjustment in the upright position.

For 48", 60", and 72" ranges, follow the assembly steps as detailed in the Modular Range Field Plumbing Reference Guide.

4. The pressure regulator must be mounted horizontally to ensure the leak limiter functions properly. A leak limiter is supplied with every regulator to allow excess gas pressure to escape. Do not obstruct the limiter or the gas regulator, as obstruction may cause the regulator to malfunction.

## **GAS CONNECTIONS**

**NOTICE** All gas supply connections and any pipe joint compound used must be resistant to the action of propane gases.

**WARNING** Prior to lighting, check all joints in the gas supply line for leaks. Use soap and water solution. Do not use an open flame.

After piping has been checked for leaks, all piping receiving gas should be fully purged to remove air.

## **TESTING THE GAS SUPPLY SYSTEM**

When test pressures exceed ½ psig (3.45 kPa), the range and its individual shutoff valve must be disconnected from the gas supply piping system.

When test pressures are ½ psig (3.45 kPa) or less, the range must be isolated from the gas supply system by closing its individual manual shutoff valve.

## **ELECTRICAL CONNECTIONS**

**WARNING** Electrical and grounding connections must comply with the applicable portions of the National Electrical Code and/or other local electrical codes.

**WARNING** Disconnect the electrical power to the machine and follow Lockout / Tagout procedures.

**WARNING** Appliances equipped with a flexible electrical supply cord are provided with a three-prong grounding plug. It is imperative that this plug be connected into a properly grounded three-prong receptacle. If the receptacle is not the proper grounding type, contact an electrician. Do not remove the grounding prong from this plug.

The convection range is designed for 120 volt power supply and is provided with a flexible electric supply cord and plug that must be plugged into the proper receptacle. Do not connect the convection

range to electrical supply until after gas connections have been made. The wiring diagram for the convection range is located on the rear of the appliance.

## OPERATION

**QUALIFIED PERSONNEL SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.**

**⚠ WARNING** The appliance and its parts are hot. Use care when operating, cleaning, or servicing the appliance.

### CONTROLS

**Open Top Burner Valve** — Allows gas to flow to the top burners. To open valve, turn knob counterclockwise. To close valve, turn knob clockwise.

**Manual Griddle & Griddle/Broiler Valve** — Allows gas to flow to the griddle burners. To open valve, turn knob counterclockwise. To close valve, turn knob clockwise. Turn the burner on full during burner ignition then turn it back down to your desired setting once lit.

**Thermostatic Griddle Control** — Regulates griddle temperature. The thermostat temperature range is from LOW at approximately 200°F (93°C) to HI at approximately 550°F (288°C). Turn the thermostat clockwise to increase temperature and counterclockwise to decrease temperature. Turn the burner on full during burner ignition then turn it back down to your desired setting once lit.

**Oven Thermostat** — Regulates oven temperature. The thermostat temperature range is from LOW at approximately 250°F (121°C) to HI at approximately 500°F (260°C). Turn the thermostat counterclockwise to increase temperature and clockwise to decrease temperature. Oven temperature regulation is the most accurate between 300°F (149°C) and 500°F (260°C).

**Safety Valve** – Monitors standing pilot. All ovens and select griddle and open top burner devices (Flame Safety models) feature a standing pilot that is monitored by a thermocouple and pilot safety valve. If the pilot goes out, the safety valve will shut-off the gas supply to the pilot and main burners.

**Fan Switch** – Turns fan on and off (Convection Ovens only). Fan turns on when door is closed. Fan turns off when door is opened. The fan will always run when the Oven is on. It is not possible to run a Convection oven with the fan off.

### BEFORE FIRST USE

#### Open Top

Remove top grates from range top to carry out initial seasoning. Do not season the grates while installed on the range top. Once grates are removed from range, apply a light coating of liquid vegetable or spray-type cooking oil to each grate (seasoning process).

After seasoning, replace grates onto the range. Turn on all open top sections to LOW and allow to burn for at least 15 minutes before using pots or pans on the range top. Failure to season grates will cause grates to rust. Upon initial use, grates may show white coloring. This will go away over time with proper seasoning care. Use of water and a wire or stiff brush on the grate, followed by immediate drying before the next seasoning will help preserve the cast iron color.

## Ovens

New ovens require a burn off period to break in the oven and eliminate unappetizing odors from penetrating the food product.

Turn on gas to unit and set the thermostat to 475°F (246°C). Allow the oven to operate at this temperature for 30 to 45 minutes.

## Griddles

Before leaving the factory the griddle is coated with food grade lubricants as a rust inhibitor. Remove this film when the griddle plate is being cleaned prior to its first cooking use. Heat the griddle to 200-300°F to loosen and melt the coating, then clean the surface with a non-corrosive, grease-dissolving commercial cleaner, following the manufacturer's directions. Rinse thoroughly and wipe dry with a soft clean cloth. Clean all accessories.

**NOTICE** The griddle plate is steel, but the surface is soft and can be scored or dented by careless use of spatulas or scrapers. Be careful not to dent, scratch or gouge the plate. Do not try to knock off loose food that may be on the spatula by tapping the corner edge of the spatula on the griddle surface.

Season the griddle to avoid possible surface corrosion before first use, and after every cleaning. Heat griddle to a low temperature (300-350°F) and apply a small amount of cooking oil – about one ounce per square foot of surface. Use a soft lint-free cloth to spread the oil over the entire griddle surface to create a thin film. Wipe off any excess oil with a cloth. Repeat the procedure until the griddle has a slick, mirror-like finish.

## Charbroilers

The top grates are shipped flat (top-side down) from the factory. Remove the cast iron grates and radiants. Inspect and remove the shipping restraints used during shipping to hold the burners. Reassemble the radiants and top grates.

Allow the charbroiler to preheat for 30 minutes. Rub grates with cooking oil before using.

## LIGHTING PILOTS AND VERIFYING BURNER OPERATION

**All burner configurations are equipped with standing pilots allowing for instant appliance use and low maintenance. Lighting should be infrequent except during initial start-up or full appliance shut-down.**

**Pilot safety monitoring is standard on all ovens and is optional for open top burner and griddle devices (Flame Safety models). Manual piezo ignition may be provided.**

### Open Top Burner, Griddle (see next section for Flame Safety models)

1. Remove front row of grates (Open Top Only).
2. Turn the main gas supply valve to range to the ON position.
3. Light all standing pilots.  
Open Top Burners - Pilot access can be reached under the grates.

Griddles – Pilot access can be reached under the griddle plate through the slotted opening in the manifold cover near the burner valve knob.

4. Turn the burner valve ON to ensure operation.
5. If burners fail to light, turn off all valves, and call an authorized installation or service person.
6. Turn the burner valve to the OFF position to shut off burner. Pilot will remain lit.
7. If complete pilot shut down is desired, turn main gas supply valve to range to OFF.

### **Open Top Burner, Griddle (Flame Safety models)**

1. Remove front row of grates (Open Top Burners Only)
2. Turn the main gas supply valve to range to the ON position.
3. Depress and hold safety valve button and light pilot either conventionally by applying a flame or using rotary piezo igniter. Repeat for each safety valve. Rotary piezo igniter operation is shown below.



4. Turn the burner valve ON to ensure operation.
5. If burners fail to light, turn off all valves, and call an authorized installation or service person.
6. Turn the burner valve to the OFF position to shut off burner. Pilot will remain lit.
7. If complete pilot shut down is desired, turn main gas supply valve to range to OFF

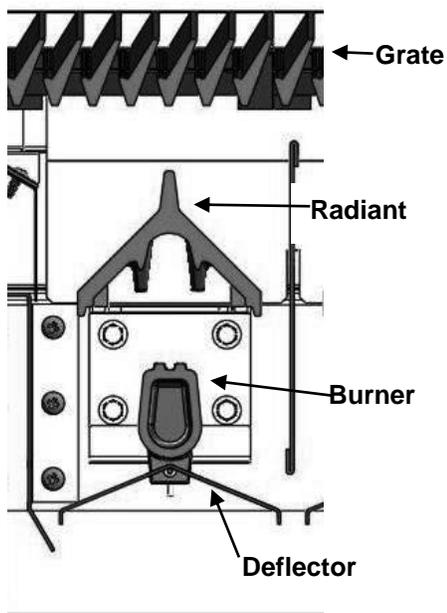
### **Griddle/Broiler**

1. Turn the main gas supply valve to range to the ON position.
2. Light all standing pilots.  
Pilot access can be reached under the griddle through the broiler opening. The pilot is on the bottom left side of the griddle/broiler burner.
3. Turn the burner valve ON to ensure operation.
4. If burners fail to light, turn off all valves, and then call an authorized installation or service person.

5. Turn the burner valve to the OFF position to shut off burner. Pilot will remain lit.
6. If complete pilot shut down is desired, turn main gas supply valve to range to OFF.

### **Charbroiler**

1. Remove the grates.
2. Turn the main gas supply valve to range to the ON position.
3. Light all standing pilots. Pilot access can be reached under the grates and radiants.
4. Turn the burner valve ON to ensure operation.
5. If burners fail to light, turn off all valves, and call an authorized installation or service person.
6. Turn the burner valve to the OFF position to shut off burner. Pilot will remain lit.
7. If complete pilot shut down is desired, turn main gas supply valve to range to OFF.



### **Oven (Standard & Convection)**

1. Turn thermostat to OFF position.
2. Turn the main gas supply valve to the range to the ON position.
3. Lift up on the kick panel and rotate down 90°.
4. Depress red button on safety valve and light pilot through opening in burner box area. NOTE: For ovens equipped with Rotary Piezo ignitor, rotary dial may be turned to create a spark for lighting.

5. Hold red button down for at least 30 seconds.
6. When button is released, pilot should remain lit.
7. Pilot flame must be high enough to heat thermocouple.
8. Return the kick panel to original position.
9. To Turn Oven On:

Standard Oven – Turn oven control dial to desired temperature and ensure operation. If ignition fails, turn the oven control dial to OFF. Wait 5 minutes and repeat the above procedure.

Convection Oven – Turn on fan switch located between oven control dial and pilot safety valve. This switch must be flipped to ON, otherwise the oven will not operate.

Turn oven control dial to desired temperature and ensure operation  
If ignition fails, turn the fan switch and oven control dial to OFF. Wait 5 minutes and repeat the above procedure.

**DO NOT** attempt to relight pilot without waiting 5 minutes.

10. To turn Oven Off:

Standard Oven – Turn oven control dial to OFF position. Pilot will remain lit.

Convection Oven – Turn oven control dial AND Fan switch to OFF position. Pilot will remain lit.

11. If complete pilot shut down is desired, turn main gas supply valve to range to OFF.

## **SHUTTING DOWN**

All burners are equipped with standing pilots that remain lit when control valves are turned OFF. Convection ovens will additionally need the fan switch turned OFF.

For complete range shutdown, and to extinguish all pilots, turn off main gas supply valve to range.

## **OPERATING SUGGESTIONS**

### **Open-Top Burners**

Open-top burners are quickly lit and require no preheating time. Open top burners have a wide low to high burner flame adjustment range. This allows for better simmering performance at the lowest possible stabilized setting. When simmering, turn the burner valve knob down until you reach the optimum lowest burner flame setting to maintain the desired simmer point.

### **Manual Griddle**

Pre-heat the griddle top for approximately 15 - 20 minutes before cooking. The top can be kept hot with burners turned partially down. During off periods, turn the burners down or heat using only one burner.

**NOTICE** Leaving burners at a high setting without a load for long periods of time may lead to undesired plate appearance.

### Thermostatic Griddle

Pre-heat the griddle top for approximately 15 - 20 minutes before cooking. The griddle thermostats regulate temperatures for each 12" section of the griddle from a low setting at approximately 200°F (93°C) to high setting at approximately 550°F (288°C).

**NOTICE** Leaving burners at a high setting without a load for long periods of time may lead to undesired plate appearance.

### Charbroiler

Allow the charbroiler to preheat for 30 minutes. Rub grates with cooking oil before using.

### Standard Oven Cooking

Allow time to preheat ovens before using (25 minutes to 400°F [204°C]). The oven thermostat regulates temperature from a low setting at approximately 250°F (121°C) to high setting at approximately 500°F (260°C). If properly used, the automatic temperature control is an efficient system. Turn thermostat down to LOW when oven is idling, or turn the oven control to OFF when not in use.

### Convection Oven Cooking

Cooking time and temperature in convection oven may vary slightly from normal time and temperature.

## LOADING AND UNLOADING THE OVEN

NOTE: It is the operator's responsibility to protect skin surfaces before accessing the oven. Open the door and load the oven as quickly as practical to conserve heat. Take care to avoid spilling liquids while loading. Close the door and refer to recipe for cooking time.

Provide adequate space for product unloading. Rapid unloading will conserve heat and ensure proper reheating conditions for the next load, if applicable.

## CLEANING

**⚠ WARNING** Disconnect the electrical power to the machine and follow Lockout / Tagout procedures.

**⚠ WARNING** Shut off the gas before cleaning the appliance.

**⚠ WARNING** The appliance and its parts are hot. Be very careful when operating, cleaning, or servicing the appliance.

Exterior surfaces may be cleaned using soft cloth and mild detergent. Do not use highly chlorinated or alkaline detergents to clean the exterior or interior components of the range, as these types of solutions can lead to early degradation of the component.

Do not use scouring powder. It is extremely difficult to remove completely. It can build up accumulations that will damage the oven.

Vulcan / Wolf equipment is strongly constructed and is designed to give you long, satisfactory service at low cost, provided you give it proper care. Frequent cleaning and occasional adjusting should reward you with low operating and maintenance costs and faster, better service.

## **DAILY CLEANING**

### **Open Top**

Clean cast iron open top grates with a mild soap and water solution. Rinse thoroughly and dry with a clean, water-absorbent towel. Immediately after drying (with grates still removed from the range top), season grates lightly with liquid vegetable or spray-type cooking oil.

After seasoning, replace grates onto the range. Turn on all open top sections to LOW and allow them to burn for at least 15 minutes before using pots or pans on the range top. Season the open top grates after each cleaning. Failure to season grates will cause grates to rust.

### **Griddle Top**

Clean the griddle regularly. A clean griddle looks better, lasts longer and performs better. To produce evenly cooked griddle products, keep the griddle plate clean and free of carbonized grease. Carbonized grease on the surface hinders the transfer of heat from the griddle surface to the food, resulting in spotty browning and loss of cooking efficiency. Carbonized grease tends to cling to griddle foods, giving them a highly unsatisfactory and unappetizing appearance.

After each use, clean the griddle with a scouring pad or flexible spatula.

Once a day, thoroughly clean the griddle back splash, sides and front.

### **Griddle Grease Can**

Empty grease can as needed throughout the day and regularly clean **at least once daily**. The grease can has a weep hole to indicate that grease tray is full. Remove, empty and wash grease can in the same manner as an ordinary cooking utensil.

In addition to grease can cleaning, inspect and clean grease can cavity weekly, or as needed. Once the unit is cool, use an appropriate brush, towel, or cleaning device to ensure all visible surfaces are wiped clean and that any buildup is removed from the cavity. This includes the cavity top and around the griddle chute.

Service calls resulting from failure to properly empty the grease can or from maintaining a clean grease can cavity will not be covered under warranty.

## **Charbroiler**

Scrape top grates during broiling with a wire brush to keep the grates clean. Do not allow debris to accumulate on the grates. Top grates may be immersed in strong commercial cleaning compound overnight. In the morning, rinse with hot water to remove any residues of cleaning compound. Thoroughly dry and apply cooking oil to prevent rusting. Places where fat, grease, or food can accumulate must be cleaned regularly.

**NOTICE** Never cover surface of unit with pans or other objects in attempt to “burn off” or clean debris from unit. This will cause a buildup of heat that can damage and warp components of the charbroiler.

## **Oven**

Remove chrome-plated racks and clean in a sink. While still warm, wipe top with a soft cloth or other grease absorbing material to remove spillovers, grease, etc., before they burn in. Clean oven and oven door daily, especially if fruit pies or tomato sauces were baked, meats roasted, and if there have been spillovers. After processing some foods at low temperatures, odors may linger in the oven. These odors may be cleared by setting the thermostat at 500°F (260°C) and allowing the oven to operate unloaded for 30 to 45 minutes.

## **EXTERIOR CLEANING**

### **Daily**

Clean exterior finish with a mild solution of soap or grease-dissolving cleaner. To remove discoloration, use a nonabrasive cleaner. Always rub with the grain of the metal. Stainless steel areas of the range can be polished by using a soft dry cloth. If needed, add stainless steel polish to the soft cloth.

### **Stainless Steel**

Here are a few simple cleaning procedures that have been found effective for keeping stainless steel equipment clean, sparkling and bright.

### **General Cleaning**

Use ordinary soap or detergent and water for routine cleaning of stainless steel. To prevent water spots and streaks, rinse thoroughly with warm water and wipe dry with a soft clean cloth. The addition of a rinsing agent will also help prevent spotting. Do not pressure wash any portion of the range.

### **Fingerprints**

Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner that will leave a thin oily or waxy film. To use these cleaners, simply wipe on and remove excess with a soft dry cloth. After using, subsequent fingerprints will usually disappear when wiped lightly with a soft cloth or with a cloth containing a little of the cleaner. If the surface is especially dirty to start, wash first with soap or detergent and water.

## Heat Tint

Straw-colored or slightly darkened areas may appear on stainless steel in and around ovens and ranges where temperatures reach 500°F (260°C) or more. This "heat tint" is caused by a slight oxidation of the stainless steel and is not harmful. To control or minimize this condition, never use more heat than is absolutely necessary.

# MAINTENANCE & ADJUSTMENTS

**⚠ WARNING** Disconnect the electrical power to the machine and follow Lockout / Tagout procedures.

## LUBRICATION

All moving parts must be checked for wear and lubricated. Contact your local authorized servicer. Motors in Vulcan Endurance / Wolf Challenger convection ranges are permanently lubricated and require no additional maintenance.

## FLUE

Check the flue when it is cool to be sure it is free of obstructions.

## SERVICE AND PARTS INFORMATION

To obtain service and parts information, contact an authorized service agency in your area (refer to our website, [www.vulcanequipment.com](http://www.vulcanequipment.com) or [www.wolfequipment.com](http://www.wolfequipment.com) for a complete listing of authorized service and parts depots). When calling for service, the following information must be available: model number, serial number, and gas type. This information can be found on the main data plate, located on the rear of the unit, or on the secondary plate located inside the lower front kick panel. Lift up and lower the front kick panel to view the secondary data plate.

## PRECAUTIONS

When scraping off heavy deposits of grease or oil from stainless steel equipment, never use ordinary steel scrapers. Particles of ordinary steel may become embedded in, or lodge on, the surface of the stainless steel. These will rust, causing unsightly stains and possible contamination of food. If it is necessary to scrape, use stainless steel, wood, plastic or rubber tools.

# TROUBLESHOOTING

## OVEN

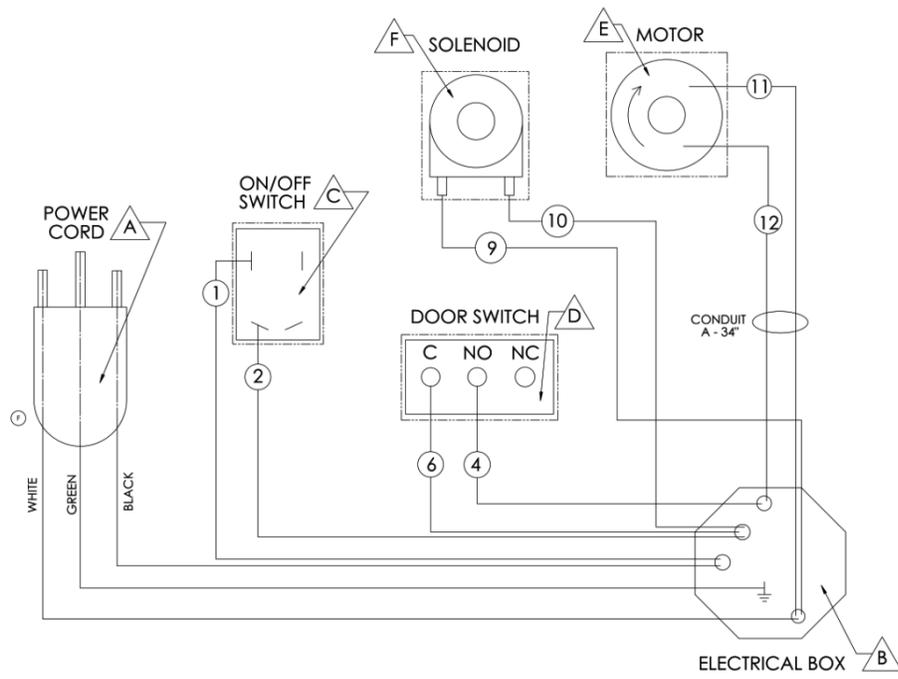
PROBLEM	CAUSES / CORRECTIONS
<b>Uneven Baking Side to Side</b>	Range not level side to side. Oven burner or bottom improperly installed. Wrong temperature setting for product. Warped pans. Flue not venting properly. Improper regulator setting. Contact service provider.
<b>Uneven Baking Front to Rear</b>	Range not level front to back. Door not closing properly. Flue not venting properly. Improper regulator setting. Contact service provider.
<b>Too Much Top / Bottom Heat</b>	Build-up on side liners obstructing vent holes. Flue not venting properly.
<b>Dried Out Products</b>	Too high temperature (Overcooking). Too long baking time. Thermostat calibration (Call for service).
<b>Excessive Meat Shrinkage</b>	Roasting Temperature too high. Not enough moisture (Add pan of water).
<b>Pilot Outage</b>	Call for service.

## TOP BURNER OPERATION

PROBLEM	CAUSES / CORRECTIONS
<b>Excessive Valve Handle Temperatures / Sticking Top Burner Valves</b>	Verify that oven door is closed. If door is closed properly, call for service. Improper ventilation.
<b>Poor Ignition</b>	Call for service.
<b>Pilot and Burners Will Not Light</b>	Verify that main gas supply is turned on. Verify that burner assembly is properly installed. Verify that parts are clean. Call for service.

## GRIDDLE GREASE

PROBLEM	CAUSES / CORRECTIONS
<b>Grease Pooling / Emigration</b>	Verify grease can is routinely emptied/cleaned. Verify grease can cavity is thoroughly cleaned. Remove/clean cavity liner, if installed, and all visible surfaces. Dislodge/remove debris from griddle chute and inside grease can cavity. <i>Debris buildup leads to continued spread of grease along all adjacent surfaces.</i>



**Convection Oven  
Wiring Diagram  
Ref. 921531**

# NOTES