

OWNERS MANUAL  
INSTALLATION, OPERATION, & MAINTENANCE INSTRUCTIONS



®

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**PCVG-1, PCVDG-1, PCVG-2, PCVDG-2 & ECV-1**

All Imperial Mfg. Co. equipment is manufactured for use with the type of gas specified on the rating plate and for installation in accordance with ANSI Z223.1/NFPA 54 (latest edition) of the National Fuel Gas Code, the National Gas Installation Code, CSA/B149.1 or the Propane Installation code, CSA/B149.1, as applicable. Copies may be obtained from the American Gas Association, 1515 Wilson Blvd, Arlington, VA 22209.

**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.

**FOR YOUR SAFETY**  
DO NOT STORE OR USE GASOLINE OR OTHER  
FLAMMABLE VAPORS OR LIQUIDS IN THE  
VICINITY OF THIS OR ANY OTHER  
APPLIANCE.

Instructions to be followed in case the user smells gas are to be posted in a prominent location in the kitchen area. This information shall be obtained by contacting the local gas company or gas supplier.

**PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE**

**IMPORTANT**

Safe and satisfactory operation of your equipment depends to a great extent on its proper installation. Installation must conform to local codes, or in the absence of local codes, with the National Fuel Gas Code ANSI Z223.1/NFPA 54, the National Gas Installation Code, CSA/B149.1 or the Propane Installation code, CSA/B149.1, as applicable.

Imperial cooking appliances are restaurant grade. Ranges are free standing and available in widths from two to six feet. A large number of different range top arrangements are assembled over one or two ovens or a cabinet base. Installation is the same for any range top regardless of whether it has an oven below or not; in like manner, installation is the same for all cooking equipment regardless of the top arrangement. This unit may also be equipped with a salamander broiler, on a high shelf. A Cheesemelter may be mounted on the high shelf as long as the Cheesemelter is not wider than the range.

**IMPORTANT**

Installing, Operating and Service Personnel:

Installation of the equipment should be performed by qualified, certified, licensed and/or authorized personnel who are familiar with and experienced in state/local installation codes. Operation of the equipment should be performed by qualified or authorized personnel who have read this manual and are familiar with the function of the equipment. Service of the equipment should be performed by qualified personnel who are knowledgeable with Imperial Ranges

## **SHIPPING DAMAGE CLAIM PROCEDURE**

The equipment is inspected & crated carefully by skilled personnel before leaving factory. The transportation company assumes full responsibility for safe delivery upon acceptance of this equipment. If shipment arrives damaged:

1. Visible loss or damage: Note on freight bill or express delivery and have signed by person making delivery.
2. File claim for damages immediately: Regardless of extent of damages.
3. Concealed loss or damage: If damage is noticed after unpacking, notify transportation company immediately and file "Concealed Damage" claim with them. This should be done within fifteen (15) days from date delivery is made to you. Retain container for inspection.

### **GENERAL**

1. A manual gas shut-off valve must be installed in the gas supply service line ahead of the appliance and gas pressure regulator in the gas stream for safety and ease of future service.
2. The gas pressure regulator supplied must be installed on the appliance prior to connecting the equipment to the gas line. Failure to install a regulator will void the equipment warranty and result in a potentially hazardous condition.
3. The appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ PSI.
4. The appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ PSI.
5. Please contact the factory, the factory representative, or a local service company to perform maintenance and repairs.

### **INSTALLATION**

#### **UNPACKING**

Immediately after unpacking the oven, check for possible shipping damage. If the oven is found to be damaged, follow the shipping damage claim procedure.

Prior to installation, verify that the electrical service agrees with the specifications on the oven data plate, located in the front of the oven below the oven section.

#### **LOCATION**

The installation location must allow adequate clearances for servicing and proper operation. For solid state and digitally controlled models, there must be 18" (45cm) of clearance on the right side of the oven from any open flame.

#### **INSTALLATION CODES AND STANDARDS**

In the United States, install the oven in accordance with: 1) State and local codes; 2) National Electrical code, NFPA-70 (latest edition); 3) NFPA Standard #96, Vapor Removal from Cooking Equipment (latest edition), available from National Fire Protection Association, Bartterymarch Park, Quincy, MA 02269.

In Canada, install the oven in accordance with: 1) Local codes; 2) Canadian Electrical code, CSA Standard C22.2 No. 1 (latest edition) and 3) Canadian Standard for Commercial Cooking Equipment, CSA Standard C22.2 No. 109 (latest edition)

### **INSTALLING BASIC OVEN**

The basic oven must be installed on legs or mounted on a modular stand. Installations on concrete bases or other supports restricting air circulation underneath the oven is not advisable and may void the warranty. If using the modular stand, set the oven on the stand after unpacking.

### **RATING PLATE**

The rating plate is located in front of the oven below the oven section. Information on this plate includes the model and serial numbers. When communicating with factory about a unit or requesting special parts or information, this data is essential for proper identification. Other information on this plate is the BTU/hr input of the burners, operating gas pressure in inches W.C., and whether the unit is orificed for natural or propane gas. Pilot lighting instructions are also located in the same area.

### **IMPERIAL COOKING APPLIANCES MUST BE CONNECTED ONLY TO THE TYPE OF GAS IDENTIFIED ON THE RATING PLATE**

### **CLEARANCES**

The appliance area must be kept free and clear of all combustibles. This unit is design-certified for the following installations only:

The clearances from **combustible** and **noncombustible** construction are as follows:

|       | <u>Combustible</u> | <u>Noncombustible</u> |
|-------|--------------------|-----------------------|
| Back  | 6"                 | 0                     |
| Sides | 6"                 | 0                     |

**DO NOT MOUNT** oven on a curb base. Use legs/casters provided. Adequate air space at the bottom and rear of the unit must be provided for proper venting of the blower motor.

### **ASSEMBLY**

DO NOT USE door to lift or move oven. All ovens must be installed on leg assembly or casters shipped with the unit. The leg/stand assembly pans or casters are shipped separately.

### **SINGLE OVEN ICVG-1, ICVDG-1**

Assemble the leg/stand assembly as follows:

1. Remove legs from the package.
2. Bolt legs directly to bottom of oven.

If provided with optional bottom shelf and rack support check instructions included in the shipment.

### **DOUBLE OVEN ICVG-2, ICVDG-2**

6" leg assembly is provided.

1. Match holes on the legs with oven bottom base and screw with bolts provided.
2. Set top oven on bottom oven.
3. Bolt down at rear and front. Remove top kick plate to access screwing the front bolts.

### **CASTER INSTALLATION**

If casters are provided, match holes on the caster with holes on the oven bottom base and fasten with bolts provided. **NOTE:** Front casters are locking type.

### **LEVELING**

A carpenter's level should be placed on the center across the range top and the unit leveled both front-to-back and side-to-side. If it is not level, cakes, casseroles, and any other liquid or semi-liquid batter will not bake evenly, burner combustion may be erratic and the unit will not function efficiently.

If the floor is relatively smooth and level, the unit may be further leveled with adjustment in the foot of the leg. Adjust to the high corner and level the unit with metal shims if the adjustment required exceeds the 1 ¼" adjustment available. Units with casters must be leveled with shims. A unit will probably not return to the same position after being moved, requiring re-leveling after each move.

### **AIR SUPPLY & VENTILATION**

The area in front of, around, and above the appliance must be kept clear to avoid any obstruction of the flow of combustion and ventilation air. Adequate clearance must be maintained at all times in front and at the sides of the appliances for servicing and proper operation.

Means must be provided for any commercial, heavy-duty cooking appliance to exhaust combustion waste products to the outside of the building. Usual practice is to place the unit under an exhaust hood. Filters and drip troughs should be part of any industrial hood, but consult local codes before construction and installing a hood.

Strong exhaust fans in this hood or in the overall air conditioning system can produce a slight vacuum in the room and/or cause air drafts, either of which can interfere with pilot or burner performance and can also be hard to diagnose. Air movement should be checked during installation; if pilot or burner outage problems persist, make-up air opening or baffles may have to be provided in the room.

### **FINAL PREPARATION**

On initial installation, turn the oven to 250° and operate for about 1 hour, then reset the thermostat to its maximum and operate for another hour. This will drive off any solvents remaining in the unit. At the end of this second hour, turn the thermostat OFF, open the door and allow the unit to cool. Oven should then be thoroughly washed using hot, soapy water before being used.

### **ELECTRICAL CONNECTION**

Imperial CONVECTION OVEN requires a 120 V supply to operate the ignition system and circulating fan. The supply cord provided on the appliance is equipped with a three prong (grounding) plug for against shock hazard. The electrical service in the building must be equipped with a properly grounded three prong receptacle, in accordance with local codes, or in the absence of local codes, with the national electrical code, ANSI/NFPA 70 (latest edition). **Do not cut or remove the grounding prong from this plug.** Wiring diagram is located on the backside of the appliance. **Disconnect power supply before cleaning or servicing.**

**NOTE: THIS APPLIANCE IS NOT CAPABLE OF BEING OPERATED IN A POWER FAILURE. NO ATTEMPT SHOULD BE MADE TO OPERATE THIS APPLIANCE DURING A POWER FAILURE.**

### **GAS CONNECTION**

Single Deck oven requires one gas connection.

Double Deck oven requires two gas connections.

NOTE: The gas supply (service) line must be the same size or greater than the inlet line of the appliance. Imperial ovens use a ¾" NPT inlet. Sealant on all pipe joints must be resistive to LP gas.

### **MANUAL SHUT-OFF VALVE**

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

### **PRESSURE REGULATOR**

All commercial cooking equipment must have a pressure regulator on the incoming service line for safe and efficient operation, since service pressure may fluctuate with local demand. The manual shut-off valve is normally supplied by the installer, however, a pressure regulator is packed inside each Imperial oven.

**Failure to install a pressure regulator will void the equipment warranty.**

The regulators supplied for Imperial ovens have  $\frac{3}{4}$ " inlet/outlet openings and are adjusted at the factory for 5" W.C. (natural gas) or 10" W.C. (propane) depending on the customer's ordering instructions.

Prior to connecting the regulator, check the incoming line pressure, as these regulator can only withstand a maximum pressure of  $\frac{1}{2}$  PSI (14" W.C). If the line pressure is beyond this limit, a step-down regulator will be required. The arrow forged into the bottom of the regulator body shows gas flow direction; it should point downstream to the appliance. The air vent cap on the top regulator is part of the regulator and should not be removed.

Any adjustments to regulators must be made only by qualified service personnel with the proper test equipment.

**RIGID CONNECTIONS**

Double-check any installer-supplied intake pipes visually and/or blow them out with compressed air to clear any dirt particles, threading chips, or other foreign matter before installing a service line. Those particles will clog orifices when gas pressure is applied.

All connections must be sealed with a joint compound suitable for LP gas, and all connections must be tested with a soapy water solution before lighting any pilots.

**FLEXIBLE COUPLINGS, CONNECTORS AND CASTERS**

If the unit is to be installed with flexible couplings and /or quick-disconnect fittings, the installer must use a heavy-duty, AGA design-certified commercial flexible connector of at least  $\frac{3}{4}$ " NPT (with suitable strain reliefs). The flexible connector must comply with the standard for Connectors for Movable Gas Appliances ANSI Z223.1/NFPA 54 (latest edition) and a quick-disconnect device that complies with the standard for quick-disconnect devices for use with Gas Fuel should comply with ANSI Z223.1/NFPA 54 (latest edition). If disconnection of the restraint is necessary, make sure to reconnect restraint after the appliance has been returned to its originally installed position. Domestic gas or water connectors are not suitable.

Restraining device may be attached to the back frame/panel of the unit.

If the unit is to be installed with casters, a flexible connector must be used and the same ANSI standards apply. Locking front casters are provided to limit the movement of the appliance without depending on the connector or associated piping. A suitable strain relief must be installed with the flexible connector.

All connections must be sealed with a joint compound suitable for LP gas and all connections must be tested with a soapy water solution before lighting pilots.

All Imperial Mfg. Co. appliances are adjusted and tested before leaving the factory effectively matching them to sea level conditions. Adjustments and calibrations to assure proper operation may be necessary on installation to meet local conditions, low gas characteristics, to correct possible problems caused by rough handling or vibration during shipment, and are to be performed only by qualified service personnel. These adjustments are the responsibility of the customer and/or dealer and are not covered by our warranty.

Check all gas connections for leaks with a soapy water solution before lighting any pilots.

**DO NOT USE AN OPEN FLAME TO CHECK FOR LEAKS.** Putting an open flame beside a new gas connection is extremely dangerous.

- a. Turn the thermostat dial to the “OFF” position. Place the power switch to the “OFF” position.
- b. Wait 5 minutes.
- c. Place power switch to the “ON” position. Turn the oven thermostat to the desired temperature.
- d. For a complete shutdown, place the thermostat and power switch in the “OFF” position.

### **TO CHECK FOR LEAKS**

1. Remove the kick plate and right side front panel.
2. Turn the power switch “ON”.
3. Turn the thermostat to any setting and the pilot automatically lights the main burner.
4. Check the burner orifice elbow connection downstream of the solenoid valve with a soapy water solution.
5. Check the burner visually for blue flame. There should be no yellow tips or soot. If yellow tipping occurs, call an authorized service person to adjust the burner air shutter.

### **CLEANING AND MAINTENANCE**

Any piece of equipment works better and lasts longer when maintained properly. Cooking equipment is no exception. You Imperial range and oven must be kept clean during the working day and thoroughly cleaned at the end of the day.

#### **CAUTION**

**NEVER USE AMMONIA IN AN OVEN THAT IS WARMER THAN  
ROOM TEMPERATURE AND ALWAYS HAVE DIRECT VENTILATION!**

### **DAILY:**

#### **OVENS**

1. Remove the baking racks. Wash in hot soapy water and replace after the rest of the oven is cleaned.
2. Scrape off any food particles with a nylon griddle scraper. Be very careful about scratching the porcelain finish on the oven liner panels.
3. Wash all the above with hot soapy water, then reassemble.
4. Baked on spills may be loosened and stubborn stains removed with ordinary household ammonia and scrubbing with a nylon pad in a cold oven only.
5. Do not allow spray type oven cleaners to come into contact with the temperature probe in the oven.
6. After cleaning the oven, rinse well with ¼ cup of vinegar to one quart of clear water solution to neutralize any caustic residue of the cleaning compound. Wipe dry.
7. To increase the life of the motor, follow these instructions:
  - a. Never run oven with motor off.
  - b. After you finish cooling and the oven is not to be used for more than ½ hour, place the toggle switch to the “COOL DOWN” position and open the door. When oven temperature is equal to room temperature turn unit off.

### **PERIODIC CLEANING:**

Check the ventilation system periodically to see that nothing has fallen down into the exhaust vents.

Lubricate the pivot pins of the oven door hinge where the right and left arms connect to the door. Use a multipurpose lubricating oil sparingly so as to not drip oil needlessly.

Your Imperial range should be checked for safe and efficient operation at least yearly by a qualified service company.

### **STAINLESS STEEL:**

All stainless steel body parts should be wiped regularly with hot soapy water during the day and with a liquid cleaner designed for this material at the end of each day. DO NOT USE steel wool. Abrasive cloths, cleansers or powders to clean stainless surface! If it is necessary to scrape stainless steel to remove encrusted materials, soak in hot water to loosen the material, then use a wood or nylon scraper. DO NOT USE a metal knife, spatula, or any other metal tool to scrape stainless steel! Scratches are almost impossible to remove.

### **TIPS ON USING IMPERIAL CONVECTION OVEN**

1. In general, reduce temperature 50° from conventional recipe.
  - a. Bakery products, reduce temperature 50° and time 25 to 33% less.
  - b. Casserole cookery, reduce temperature about 50° and time 25 to 50%
  - c. Meat roasting, reduce temperature to 275° - 300°. Use meat thermometer. Cooking time may be reduced up to 50%.
2. Use fan for preheating and baking.
3. Check product at ½ stated time of regular recipe.
4. Level pans bake more evenly: warped pans will give uneven baking results.