



INSTALLATION & OPERATION MANUAL

IRON RANGE COMPANY
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**FOR WARRANTY SERVICE PLEASE CALL:
866-359-7378**

⚠ WARNING

This manual contains important information regarding your IRON RANGE unit. Please read the manual thoroughly prior to equipment set up, operation, and maintenance. Failure to comply with regular maintenance guidelines outlined in the manual may void the warranty. Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury or death. Read this manual thoroughly before installing or servicing this equipment.

MUST READ!



WARNING:




This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information: www.P65Warnings.ca.gov

SAFETY PRECAUTIONS

Before installing and operating this equipment, be sure everyone involved in its operation is fully trained and aware of precautions. Accidents and problems can be caused by failure to follow fundamental rules and precautions.

The following symbols, found throughout this manual, alert you to potentially dangerous conditions for the operator, service personnel, or to the equipment.

| | |
|--|--|
|  WARNING | This symbol refers to a potential hazard or unsafe practice that could result in injury or death. |
|  CAUTION | This symbol refers to a potential hazard or unsafe practice that could result in injury, product damage, or property damage. |
|  NOTICE | This symbol refers to information that needs special attention or must be fully understood, even though not dangerous. |


FOR YOUR SAFETY AND TO AVOID SERIOUS PERSONAL INJURY AND PROPERTY DAMAGE:

- **ALWAYS** install equipment in a work area with adequate light and space.
- **ONLY** operate on a solid, level, nonskid surface that is nonflammable and away from sinks and water hazards.
- **NEVER** bypass, alter, or modify this equipment in any way from its original condition. Doing so may create hazards and will void the warranty.


 **WARNING**

FIRE HAZARD FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. Keep area around appliances free and clear of combustibles. Purchaser of equipment must post in a prominent location, detailed instructions to be followed in the event the operator smells gas. Obtain the instructions from the local gas supplier.

 **NOTICE**

IRON RANGE Convection Ovens are intended for commercial use only. Not for household use. Warranty will be void if service work is performed by someone other than an authorized technician, or if other than genuine IRON RANGE replacement parts are installed. Be sure this Operator's/Installer's Manual and important papers are given to the proper authority to retain for future reference.

 **WARNING**

This product contains chemicals known to the state of California to cause cancer and/or birth defects or other reproductive harm. Installation and servicing of this product could expose you to airborne particles of glass wool/ceramic fibers. Inhalation of airborne particles of glass wool/ceramic fibers is known to the state of California to cause cancer. Operation of this product could expose you to carbon monoxide if not adjusted properly. Inhalation of carbon monoxide is known to the State of California to cause birth defects or other reproductive harm.

*Keep appliance area free and clear of combustibles.
Retain this manual for future reference.*

Congratulations! You have purchased one of the finest pieces of commercial cooking equipment on the market. You will find that your new equipment, like all IRON RANGE equipment, has been designed and manufactured to meet the toughest standards in the industry. Each piece of IRON RANGE equipment is carefully engineered, and designs are verified through laboratory tests and field installations. With proper care and field maintenance, you will experience years of reliable, trouble-free operation. For the best results, read this manual carefully.

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Read these instructions carefully before attempting installation. Installation and initial startup should be performed by a qualified installer. Unless the installation instructions for this product are followed by a qualified service technician (a person experienced in and knowledgeable of the installation of commercial gas and/or electric cooking equipment) then the terms and conditions on the Manufacturer's Limited Warranty will be rendered void and no warranty of any kind shall apply. These models are designed, built, and sold for commercial use only.

SPECIFICATIONS

⚠ CAUTION This unit is factory supplied in Natural Gas. This unit can be converted to L.P. gas by a licensed and certified gas technician. Documentation will be necessary for warranty issues. Failure to comply with this instruction will void the warranty. **See the included L.P.G. conversion kit for gas conversion parts and instructions in a separate publication.**

⚠ WARNING Unit installation must conform to the National Fuel Gas Code, ANSI Z223.1/NFPA 54, the National Gas Installation Code, CSA-B149.1, or the Propane Installation Code, CSA-B149.2 as applicable and in accordance with local codes.

⚠ WARNING The appliance and its individual shutoff valve (to be supplied by the user) must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2" P.S.I. (3.45kPa).

If using a flexible hose, the I.D. (inside diameter) should not be smaller than 3/4" and must comply with ANSI Z 21.69.

Instructions must be posted in a prominent location. All safety precautions must be taken in the event the user smells gas. Safety information can be obtained from your local gas supplier.

| Model | Rack | BTU.hr | Voltage | External Dims | External Dims |
|-----------|------|--------|---------|--------------------------|-----------------------|
| IRCO-1-BD | 5 | 54,000 | 120 VAC | 38"W x 40.3" D x 57.2" H | 29"W x 26.4"W x 20" H |

*Each oven has its own electrical connection, a cord and plug are supplied, (NEMA 5-15P), with each oven. Recommended incoming gas pressure: Natural 6" W/C, LP 12" W/C. The internal pressure regulator is factory set for proper operating pressure of 4.0" W/C for Natural. The operating pressure should be checked and verified upon installation.

***Rear Wall Clearance from back of motor: TWO INCHES (2") MINIMUM,**

***Side Clearance; 6" clearance for both sides from Combustible Walls.**

SPECIFICATIONS

UNPACKING

Unpack the Gas Convection Oven immediately after receipt. Remove the Gas Convection Oven from the crate; remove all packaging on and surrounding the unit and be certain to remove all protective plastics and residues from all surfaces. Make sure that all parts provided are located. Equipment must have legs and/or casters properly installed before use. Before using this equipment, it must be cleaned and dried thoroughly.

INSTALLATION

NOTE: It is vital that the purchaser of this equipment posts this manual in a prominent location for instructions to be followed if the user smells gas. This information shall be obtained by consulting the local gas supplier.

1. Read this manual thoroughly before installation and operation. DO NOT proceed with installation and operation if you have any questions or do not understand anything in this manual. Contact your local representative or IRON RANGE first.
2. Select a location for the Gas Convection Oven that has a level, solid, non-skid surface that is nonflammable and away from water hazards or sinks and is in a well-lighted work area away from children and visitors.
3. This equipment **MUST** be installed under proper ventilation as required by local code.
***NOTICE** Local codes regarding installation and ventilation vary greatly by area. The National Fire Protection Association states in its NFPA 96 latest edition (see NFPA page at the beginning of this manual) that local codes are “authority having jurisdiction” when it comes to requirements for installation of equipment. Therefore, the installation should comply with all local codes.
4. Install casters to legs as shown into permanently fastened adapter on the leg. Attached each leg, to each corner of the oven and securely tighten. Legs must be installed to adequately provide proper ventilation to the unit.
5. The supplied gas pressure regulator is “built-in” the combination valve. **Do not install an appliance pressure regulator to the gas connection on the rear of the oven, (see diagram on next page).**
6. THESE UNITS ARE SUITABLE FOR INSTALLATION ON NON-COMBUSTIBLE SURFACE ONLY. **Zero (0) clearance from NON Combustible.**
7. Do not obstruct the flow of combustion and ventilation air under the unit by the legs or behind the unit by the flue.
8. There must be adequate clearance for removal of the front and right side panel. All major parts except the burners are removable through the front if the gas is disconnected.
9. Pipe threading compound must be resistant to the action of liquefied petroleum gas.
DO NOT USE TEFLON TAPE.

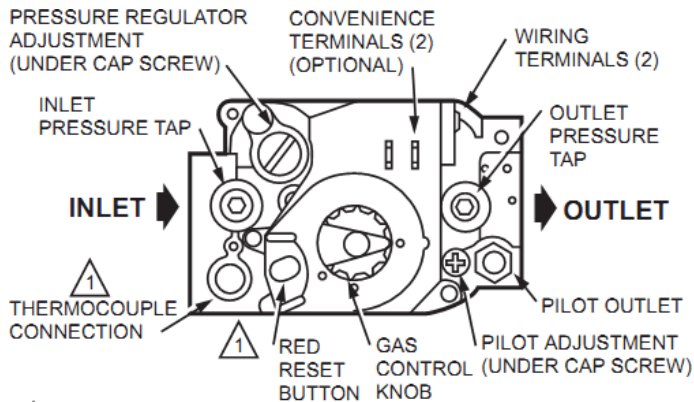


WARNING:

DO NOT use an open flame to check for leaks.
Check all gas piping for leaks with a soap and water solution before operating the unit.

- **Clearance and positioning around the appliance:** This appliance can be installed adjacent to non-combustible surfaces only with a minimum spacing of two (2”) inches from rear of convection oven motor. The appliance must have the supplied four legs installed and be placed on a non-combustible surface. Air is necessary for burner combustion. Do not locate the oven adjacent to any high heat or grease-producing piece of equipment, such as a range top, broiler, griddle, fryer, etc., that could allow radiant heat to raise the exterior temperature of the oven above 130°F (54°C).

- **Air supply and ventilation:** The area in front and around the appliance must be kept clear to avoid any obstruction of the flow of combustion and ventilation air. Adequate clearance must be always maintained in front and at the sides of the appliance for servicing and proper ventilation.
- **Pressure Regulator:** All commercial cooking equipment must have a pressure regulator on the incoming service line for safe and efficient operation. The internal regulator provided for this appliance is adaptable for both Natural Gas and Liquefied Propane (LP) Gas. A conversion kit with separate instructions is included explaining this procedure in detail.
- **Regulator information:** Internal pressure regulator is factory adjusted for four (4") inch Water Column (WC) Natural Gas standard and may be converted by qualified personnel to be used for Propane at ten (10") Water Column pressure.



1 THERMOCOUPLE CONNECTION AND RED RESET BUTTON ON STANDING PILOT MODELS ONLY.

- **Gas Connection:** The serial plate is located outside on the right panel near the front top. It indicates the type of gas the unit is equipped to burn. All our equipment is adjusted at the factory. Check type of gas on serial plate. The appliance comes fitted with a 3/4" NPT (National Pipe Thread) male adapter for connection. The appliance is design-certified for operation on natural or propane gases, it should be connected only to the type of gas for which it is equipped.
- **Maintenance:** A qualified service company should check the unit for safe and efficient operation on an annual basis. Contact the factory representative or local service company to perform maintenance and repairs.
- **Gas Piping:** Gas piping shall be of such size and so installed as to provide a supply of gas sufficient to meet the full gas input of the appliance. If the appliance is to be connected to existing piping, it shall be checked to determine if it has adequate capacity. Joint compound (pipe dope) shall be used sparingly and only on the male threads of the pipe joints. Such compounds must be resistant to the action of Liquefied Propane (LPG) gases.

CAUTION

Any loose dirt or metal particles, which are allowed to enter the gas lines on this appliance, will damage the valve and affect its operation. When installing this appliance, all pipe and fittings must be free from any internal contaminates. It is recommended that a "drip leg" be installed in-line before the regulator.

Manual Shut Off Valve: A manual shut off valve should be installed upstream from the manifold, within four (4) feet, (1.2M) of the appliance and in a position where it can be reached in the event of an emergency.

Checking For Gas Leaks: Using a gas leak detector or a soapy water solution is recommended for locating gas leaks. Check the entire piping system for leaks. **DO NOT USE AN OPEN FLAME;** Matches, candle flame, or other sources of ignition shall not be used for this purpose of checking for gas leaks.

Exhaust Canopy: Cooking appliances inherently create a good deal of heat and smoke and should be installed under an efficient exhaust hood with flameproof filters. Please refer to your local codes for distances from floor to exhaust canopy for proper ventilation. **This product cannot be directly vented to a chimney flue.**

⚠️ WARNING

FIRE DEATH HAZARD If you smell gas follow the instruction provided by the gas supplier. Do not touch any electrical switch; do not try to light the burner and do not use a telephone in close proximity.

NOTE: Smoke appearing on initial use of the appliance is normal. This is a result of the oil in the manufacturing process that is burning off. This will occur for several minutes during the first use or seasoning process.

Electric Connection: Before connecting the appliance to the outlet, check the following:

- Voltage corresponds to the data written on the data plate.
- Proper ground is present.

⚠️ WARNING

The appliance, when installed, must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, NFPA 70, or the Canadian Electrical Code, CSA C22.2

COMMISSIONING or START - UP: Commissioning or Start Up of your new Convection Oven is of the utmost importance. Commissioning is the thorough check by a qualified service provider. This is to ensure that the installation and function of your new convection oven is working properly and efficiently. Please contact your IRON RANGE representative for details and information.

⚠️ WARNING FIRE, INJURY or DEATH HAZARD

This appliance is for use in non-combustible location only.

⚠️ WARNING FIRE HAZARD

Do not install or use without legs or casters.
Use of this equipment without legs can cause the appliance to overheat and cause a fire.

⚠️ 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.

⚠️ WARNING FIRE and INJURY or DEATH HAZARD

Injuries or death can occur if this equipment is not used properly. To reduce risk of injury or death:

- Keep the appliance area free and clear of combustibles.
- Do not obstruct the flow of combustion and ventilation air.
- Do not spray controls or the outside of the appliance with liquids or cleaning agents.
- Let hot appliances cool before cleaning or moving.
- The appliance should only be used in a flat, level position.
- Do not operate unattended

⚠️ WARNING

FIRE, INJURY or DEATH HAZARD

This equipment must be installed by a qualified installer in accordance with all federal, state, and local codes. Failure to install this equipment properly can result in injury or death.

INSTALLATION OF RESTRAINT (Only for Ovens with Casters)

NOTICE

For an appliance equipped with casters, (1) the installation shall be made with a connector that complies with the **Standard for Connectors for Movable Gas Appliances, ANSI Z21.69** or **Connectors for Moveable Gas Appliances CAN/CGA-6.16**, and a quick-disconnect device that complies with the **Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41**, or **Quick Disconnect Devices for Use with Gas Fuel, CAN1-6.9**, (2) adequate means must be provided to limit the movement of the appliance without depending on the connector and the quick disconnect device or its associated piping to limit the appliance movement and (3) the restraining means should be attached to a frame member on the back of the unit. **Do not connect restraint to any gas piping!**

WARNING

To avoid accidental gas disconnection and potential explosion. Disconnection of this restraint is necessary to move the appliance for cleaning or maintenance and/or repairs, you must reconnect it when the appliance is returned to its originally installed position.

IMPORTANT SAFEGUARDS AND SAFETY INSTRUCTIONS

CAUTION

When using gas cooking equipment, basic safety precautions should always be followed, including the following:

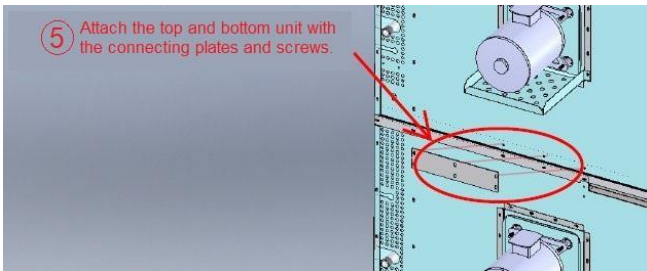
The Convection Oven outside surfaces may become HOT after use. Use caution when touching the unit.

- Never directly touch the cooking surface while the Convection Oven is on.
- Always turn off the unit when not in use, servicing or adjusting any parts or attachments, and before cleaning.
- Never leave the Convection Oven running overnight.
- Do not operate any equipment with a damaged or leaking gas line, ignitor, or valve. If the unit is dropped or damaged in any manner call for service.
- The use of attachments not recommended or sold by the manufacture may cause fire, injury or even death.
- DO NOT USE OUTDOORS.
- Do not use this equipment for any use other than the use intended by the manufacturer.
- Never use the Convection Oven as a heating source.
- The convection oven does not contain **any** user-serviceable parts. A dealer or a recommended qualified technician should carry out repairs. Do not remove any components or service panels from this product.
- Never bypass, alter, modify, or attach any unauthorized parts to this equipment. Doing so may create a hazard and will void the warranty.
- We take every care to ensure that all products are safe. Steel cutting procedures used to manufacture these items result in sharp edges. These sharp edges are removed to the best of our ability; however, we insist the operator take care when in contact with this piece of equipment.
- Always keep hands, hair, and clothing away from the heating source.

DOUBLE DECK STACKING INSTRUCTIONS

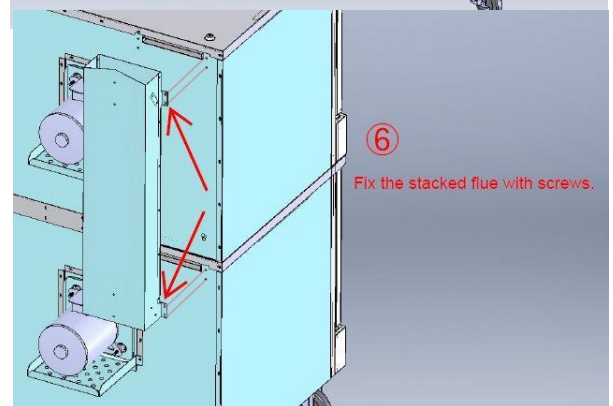
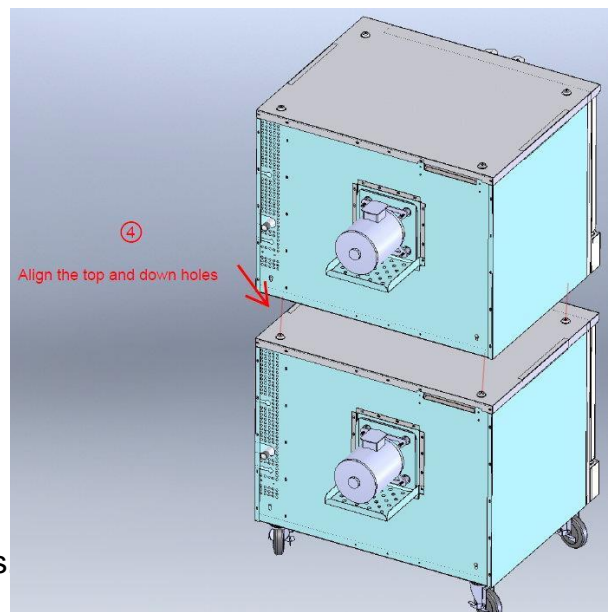
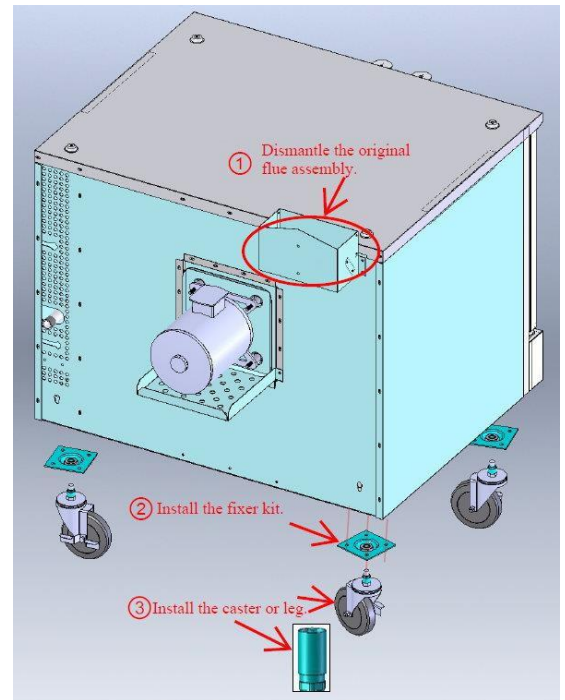
Double-deck ovens are shipped as single deck ovens and must be assembled on site by the installer. Ovens shipped as single deck oven can be stacked in the field (additional parts are required.) This installation step describes the procedure for stacking two single-deck ovens to form a double-deck oven.

- Uncrate both ovens in the area to be stacked. Identify which of the ovens will be on the bottom. Attached either the legs or casters that are in the Stacking Kit to the bottom oven as shown on the right.
- Remove flue assembly from both top and bottom oven.
- Carefully lift the top oven onto the bottom aligning the top and bottom locator holes.
- Install stacking bracket as shown. This will prevent the top oven from moving on the bottom oven.



Install the stacked flue riser onto both ovens
*Note: If not installed correctly or the stacked flue is not installed, (the upper motor will over heat and fail), warranty will be void.

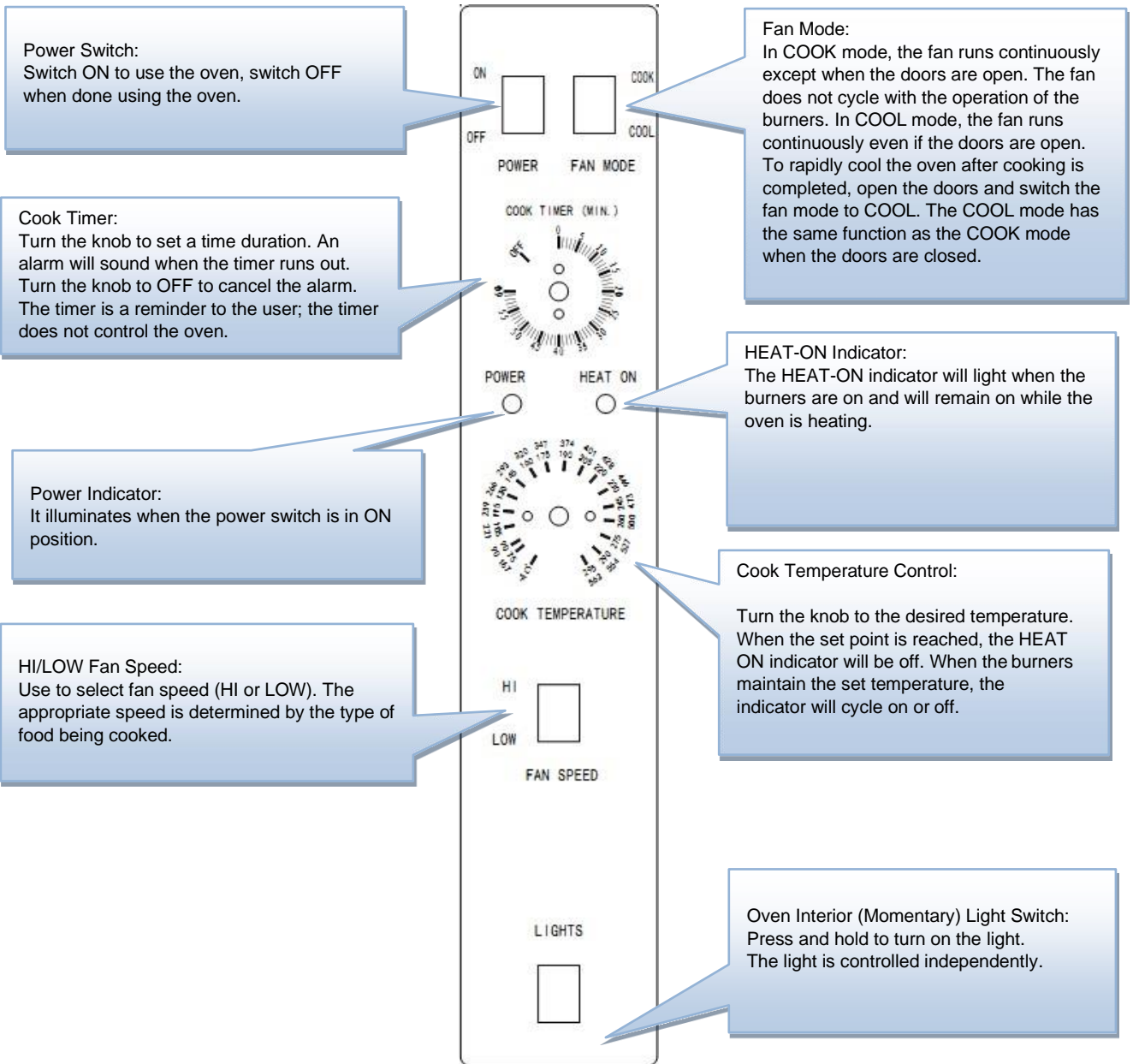
- If you choose to make one gas connection, it is recommended that a minimum of two (2) - 3/4" NPT connections will be required.



OPERATING INSTRUCTIONS

Lighting, Relighting, and Shutdown Instructions

- To light the oven, just switch the power switch at the top left corner of the control panel to the “ON” position. (The oven is equipped with a direct hot surface ignition system. There is no standing pilot to light.)
- If the burners fail to ignite within four seconds, the oven will automatically shut off the gas, wait five minutes to allow the gas that was released to dissipate, and try to light the burners again. If the burners still fail to ignite after three such attempts, the oven will stop trying, even though the power switch is in the “ON” position. To continue to attempt to light the burners, turn the power switch “OFF” and then “ON” again.
- To shut down the oven, switch the power switch to the “OFF” position. For a complete shutdown, also open the control panel and turn the manual shut-off valve to the “OFF” position.



Operating the Controls

A convection oven is a different type of oven that offers many features and advantages to the food service operation. The additional capabilities and features of the oven require some learning. However, the operation of the oven is not difficult to understand or control once you have some practice. See the controls in the following feature:

Operations

Turn the oven ON and select the cooking temperature. Two additional controls are used to control the fan (as described below). The timer is a reminder to you of when to remove food from the oven. The timer does not control the temperature of the oven.

To COOK:

1. Turn the oven ON using the Power Switch at the top of the control panel.
2. Select the desired fan speed using the Fan Speed switch. The appropriate fan speed (HI or LOW) depends on the type of food being cooked.
3. Switch the Fan Mode switch to COOK. The fan will run continuously when the oven doors are closed (the fan does not cycle on and off with the burners). (If this switch is set to COOL, the only difference is that the fan will continue to run when the oven doors are open.)
4. Set the cooking temperature by turning the Cook Temperature Control until the indicator mark on the knob is pointed to desired cooking temperature. The HEAT ON indicator will light when the burners are on and will remain on while the oven preheats.
5. Wait until the HEAT ON indicator has come on and gone out three times. At that time the oven will have reached the set cooking temperature.
6. Open the oven doors, load the product into the oven, and close the doors.
7. You can use the Cook Timer as a reminder of when to remove the load from the oven. If so desired, turn the Cook Timer knob until the indicator mark points to the desired cooking time (up to 55 minutes). The timer knob will rotate counterclockwise as the timer runs down, indicating how much time remains. You can turn the knob while cooking to increase or decrease the remaining time. When the timer runs out, a buzzer will sound for a short time, then turn itself off. (To immediately silence the buzzer, turn the Cook Timer knob to the OFF position.) The timer is a reminder to you; the timer does not control the oven. If you open the oven doors, the burners and fan will shut off until the doors are closed. However, the timer will continue running even if the doors are open.
For ovens that are equipped with an oven interior light, to turn on the light, press and hold the switch located at the bottom of the control panel.

To COOL DOWN the oven:

When the load has finish cooking, you can rapidly cool down the oven by following the directions below:

1. Turn the thermostat to minimum temperature setting.
2. Open both doors, then set the FAN MODE switch to COOL. The fan will run to cool down the oven. (For the most rapid cooling, switch the Fan Speed Switch to HI)
3. When the oven has cooled sufficiently, turn the switch to COOK Mode for the next cooking cycle, or if finished cooking for the day, allow the oven to cool down for at least 30 minutes before shutting down. (This will prolong the life of the convection oven fan motor.)
4. Once cool, set the Cook Temperature Control to the lowest setting (fully counterclockwise) and turn the Power Switch to OFF.

CAUTION: Please follow the COOL DOWN instruction noted above to avoid any burns as the oven will be hot.

CLEANING & MAINTENANCE INSTRUCTIONS

WARNING

WHEN CLEANING THE CONVECTION OVEN BLOWER WHEEL, BE SURE THE POWER SWITCH IS IN THE OFF POSITION. FOR YOUR SAFETY, DISCONNECT THE ELECTRICAL POWER SUPPLY TO THE APPLIANCE BEFORE CLEANING.

1. Before cleaning, be sure the oven is cool, and the power switch is in the off position.
2. Carefully clean the appliance daily to guarantee its proper operation and long life. Remove the oven-interior racks and rack slide frames. (The rack slide frames are readily removable by merely raising to disengage them from their sockets.) Wash the racks and rack slides in a sink with mild detergent and warm water. Dry them thoroughly with a clean cloth.
3. Look to see if any foreign matter has accumulated in the blades of the blower wheel, (particles of aluminum foil is very common of this.) The debris in the blower wheel will reduce the air flow circulation inside the oven and as a result will be poor bake performance. Use a stiff brush to remove debris and baked-on matter from the blade of the blower wheel. Then wash with soap and water.
4. Wash the interior surfaces with mild detergent and warm water. Rinse thoroughly with clean water. For stubborn/baked on debris, a commercial oven cleaner may be used. Do not use steel wool in the interior of the oven, particles of the steel wool could be left behind and may contaminate food products. Scotch-Brite® pads, or similar ones that are non-metallic, may be used.

MONTHLY CLEANING

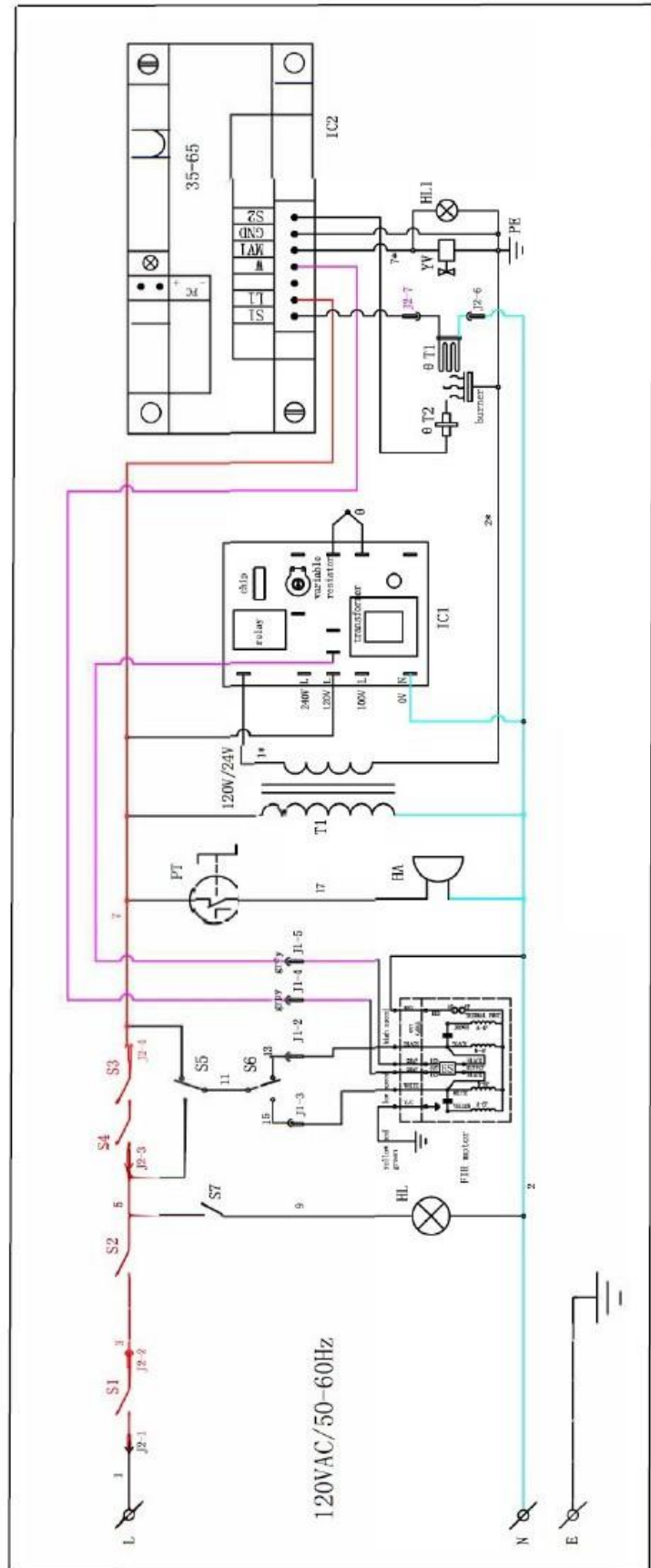
- Clean around the rear of the oven, especially the rear of the motor. Be sure the cooling vents are not blocked with lint or debris. If so, use a stiff bristle brush to clean.

CLEANING STAINLESS STEEL SURFACES

- On the stainless front or interiors, deposits of baked on splatter may be removed with any non-toxic industrial stainless steel cleaner.
- Apply cleaners when the oven is cold. Always rub with the grain of the metal. Never in a circular direction.
- Using Scotch-Brite® pads in combination with powdered cleanser to remove tint and darkened areas. Always scrub in the direction of the stainless steel grain.

Electrical Wire Diagram:

| No. | Symbol | Description | Part # | No. | Symbol | Description | Part # |
|-----|--------|---------------------|----------|-----|--------|-------------------------|------------|
| 1 | S1 | PROTECTION SWITCHCH | FGC10030 | 9 | M1 | CONVECTION MOTOR | FGC10061 |
| 2 | S2 | POWER SWITCH | FGC10011 | 10 | PT | TIMER (N.C.) | FGC10012 |
| 3 | S3/S4 | DOOR SWITCH | FGC10019 | 11 | HA | BUZZER | FGC10024 |
| 4 | 0 | TEMPERATURE SENSOR | FGC10059 | 12 | T1 | TRANSFORMER | FGC10020 |
| 5 | S5 | COOK/COOL SWITCH | FGC10011 | 13 | IC1 | THREMOSTAT | FGC10014 |
| 6 | S6 | HI/LO SWITCH | FGC10011 | 14 | HL1 | INDICATOR LAMP (YELLOW) | FGC10047 |
| 7 | S7 | LAMP SWITCH | FGC10011 | 15 | J1 | CONNECTOR (9 PIN) | FGC10018 |
| 8 | HL | INTERIOR LIGHT | FGC10067 | 16 | J2 | CONNECTOR (4 PIN) | FGC10018-1 |



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**IRON RANGE COMPANY
801-A TECHNOLOGY WAY
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**FOR WARRANTY SERVICE PLEASE CALL:
866-359-7378**

A product with the IRON RANGE name incorporates the best in durability and low maintenance. We all recognize, however, that replacement parts and occasional professional service may be necessary to extend the useful life of this unit. When service is needed, contact an IRON RANGE Authorized Service Agency, or your dealer. To avoid confusion, always refer to the Model Number, Serial Number, and the Gas Type of your unit.



ANSI Z83.11 - CSA 1.8 (2014) Food Service Equip
Conforms to ANSI STD Z83.11 Certified to CSA
STD 1.8 Food Service Equip



Conforms to
NSF/ANSI Std. 4