IMPORTANT FOR FUTURE REFERENCE
Please complete this information and retain this manual for the life of the equipment:

Model #: _____

Serial #: _____

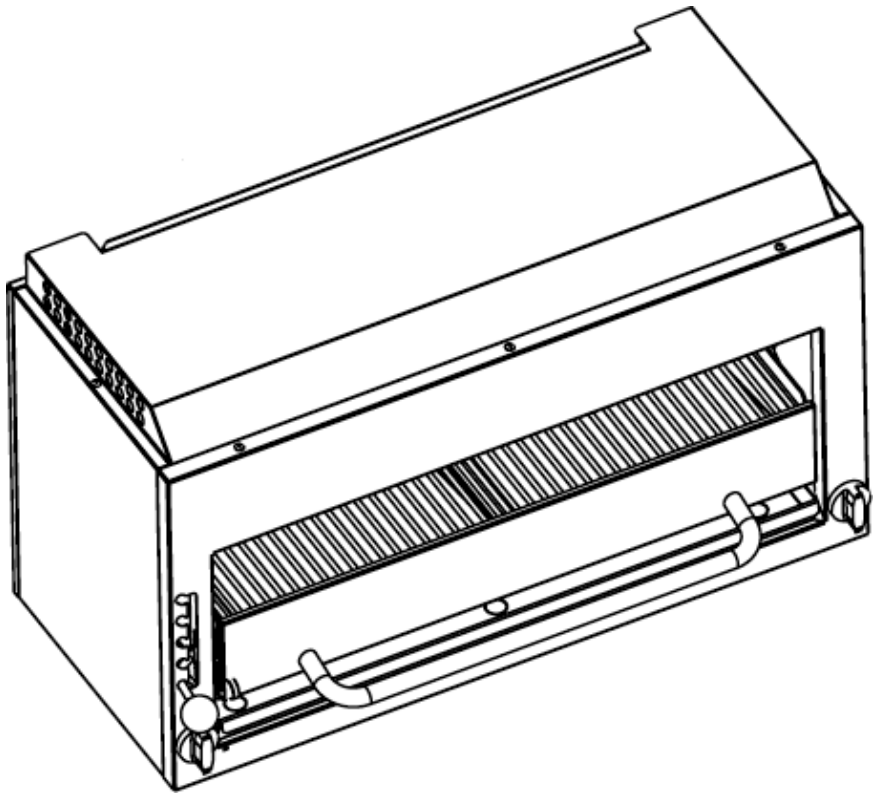
Date Purchased: _____

Engineered to Perform, Built to Last.
SOUTHBEND

Installation & Operations Manual

Infrared/Radiant Compact Broiler

P32-NFR / P36-NFR / P48-NFR
P32-RAD / P36-RAD / P48-RAD



⚠ WARNING

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

1100 Old Honeycutt Road, Fuquay-Varina, NC 27526 USA • www.southbendnc.com

MANUAL 1186527 REV 3 (12/06)
$30.00

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 to the operator, service personnel, or to the equipment.

⚠ **DANGER**	This symbol warns of immediate hazards that will result in severe injury or death.
⚠ **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.

⚠ WARNING
FIRE HAZARD
FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of cooking appliances.

Keep area around cooking 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.

⚠ WARNING
BURN HAZARD

Contact with hot surfaces will cause severe burns. Always use caution when operating cooking appliances.

⚠ WARNING
EXPLOSION AND ASPHYXIATION HAZARD

In the event a gas odor is detected, shut down equipment at the main gas shutoff valve and immediately call the emergency phone number of your gas supplier.

Improper ventilation can result in headaches, drowsiness, nausea, and could result in death. Do not obstruct the flow of combustion and ventilation air to and from cooking appliances.

⚠ WARNING
ELECTRIC SHOCK HAZARD

For appliances that use electric power, disconnect the power to the appliance before cleaning. Do not remove panels that require tools to remove.

NOTICE

Southbend appliances are intended for commercial use only. Not for household use.

Warranty will be void if service work is performed by other than a qualified technician, or if other than genuine Southbend replacement parts are installed.

Give this Owner's Manual and important papers to the proper authority to retain for future reference.

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INTRODUCTION

Congratulations! You have purchased one of the finest pieces of heavy-duty commercial cooking equipment on the market.

You will find that your new equipment, like all Southbend equipment, has been designed and manufactured to meet the toughest standards in the industry. Each piece of Southbend 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 best results, read this manual carefully.

RETAIN THIS MANUAL FOR FUTURE REFERENCE.

This manual is for the Southbend/Platinum Infrared and Radiant Compact Broiler, which may be mounted over a range or on a wall, or used as a countertop unit by attaching legs to the base. The serial plate is located under the broiler bottom grease drawer at the front, toward the left (see Figure 1 below).

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.

In the event you have questions concerning the installation, use, care, or service of the product, contact:

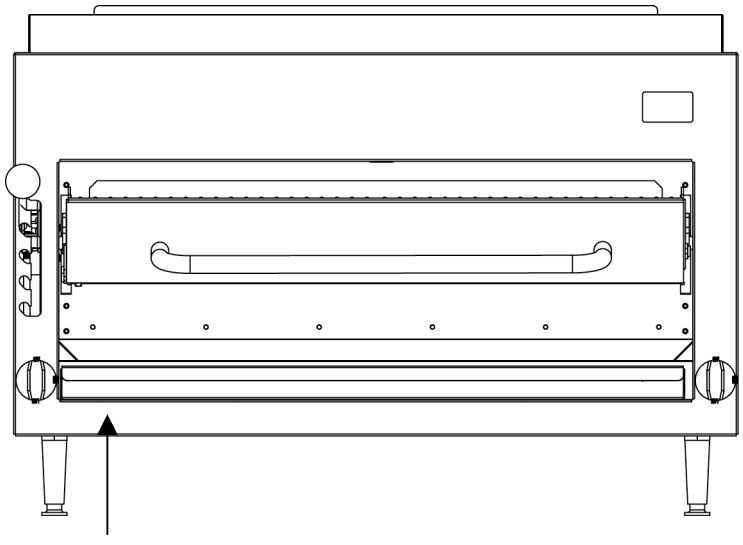
Southbend Technical Service
1100 Old Honeycutt Road
Fuquay-Varina, North Carolina 27526 USA

919-552-9161

www.southbendnc.com

Figure 1

Location of Serial Plate



Serial Plate (Hidden under grease drawer)

SPECIFICATIONS

NOTICE

Local codes regarding installation vary greatly from one area to another. The National Fire Protection Association, Inc. states in its NFPA 96 latest edition that local codes are the "authority having jurisdiction" when it comes to installation requirements for equipment. Therefore, installations must comply with all local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1, Natural Gas Installation Code, CAN/CGA-B149.1, or the Propane Installation Code CAN/CGA-B149.2, as applicable, including:

1. The appliance and its 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 1/2 psi (3.45 kPa).
2. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.45 kPa).

Southbend reserves the right to change specifications and product design without notice. Such revisions do not entitle the buyer to corresponding changes, additions, or replacements for previously purchased equipment.

This product is intended for commercial use only, not for household use.

CLEARANCES

There must be adequate clearance between the broiler and adjacent construction due to the heat generated by the broiler. Clearance must also be provided for servicing and for operation.

The minimum clearance from non-combustible construction is 1" on the sides and 3.75" on rear (to permit combustion air to enter the rear of the broiler). To service the broiler components -all models require at least 6" accessibility-clearance on the right and left side.

Adequate clearance must be provided in front of the broiler for operation and cleaning.

The high-temperature flue products from the broiler burners flow out through a vented cover on top of the broiler. Installation under a vented hood is recommended.

⚠ WARNING

MINIMUM CLEARANCES FROM COMBUSTIBLE CONSTRUCTION

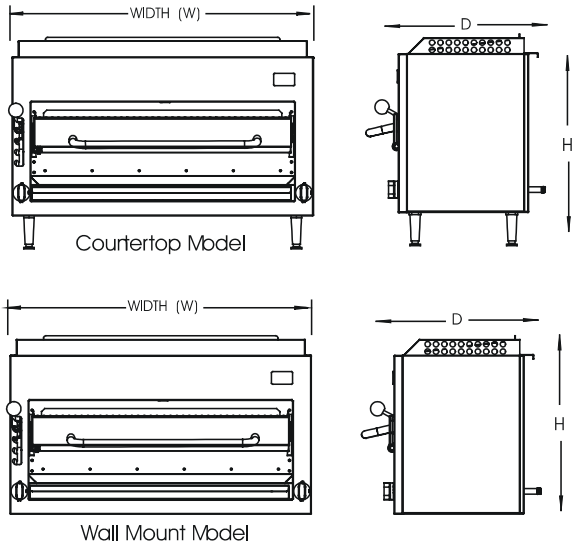
The countertop model requires a minimum clearance from combustible surfaces of 1" on the sides and 3.75" on rear.

The wall-mount model requires a minimum clearance from combustible surfaces of 1" on the sides and 3.75" on the rear (which is provided by the wall-mounting bracket).

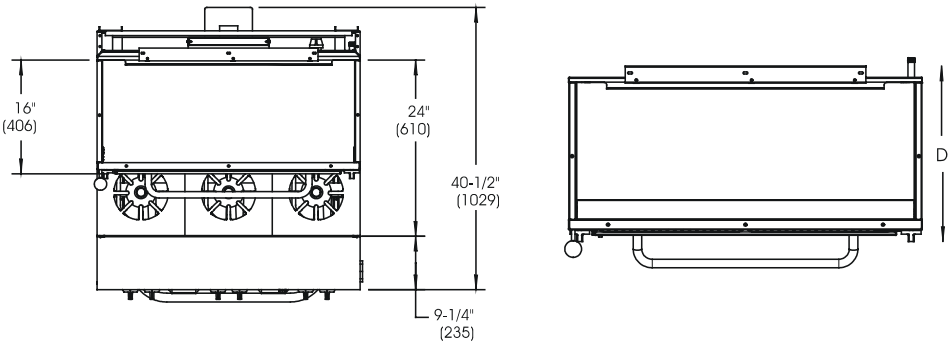
The range-mount model, to follow range minimum clearance from combustible surfaces of 6" on the sides and rear.

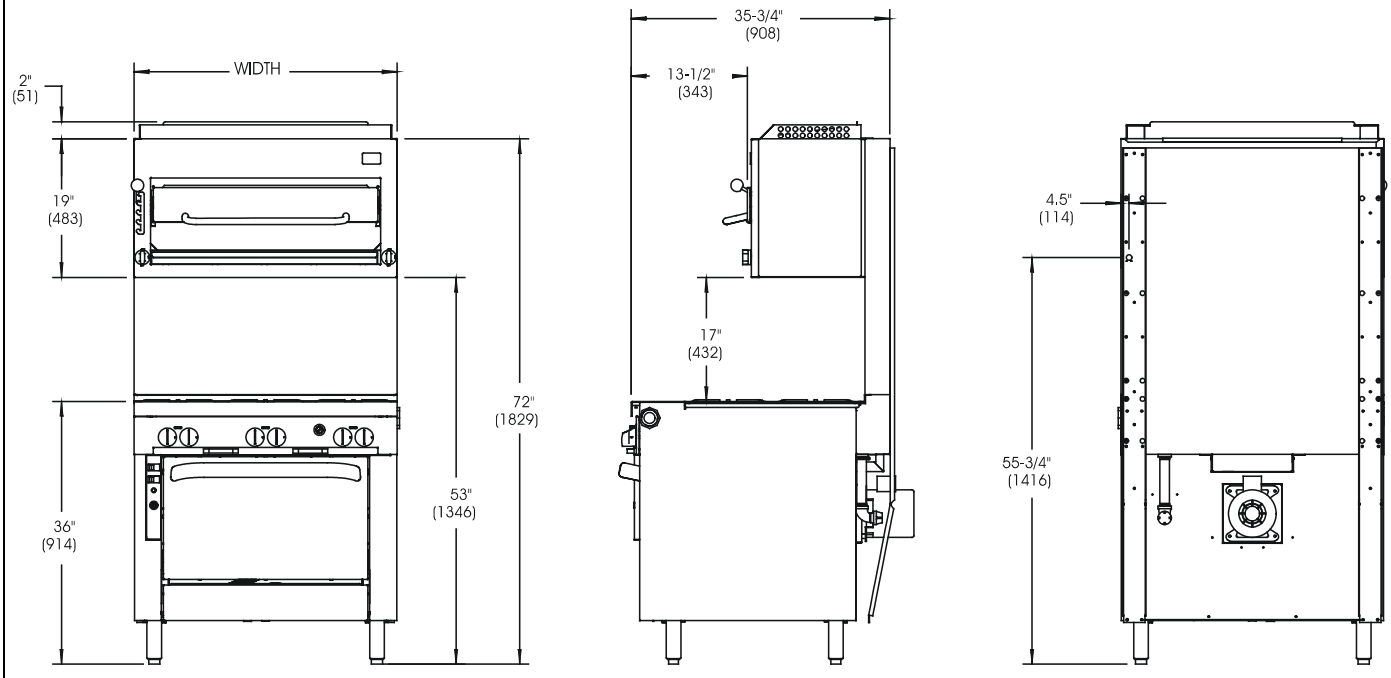
DIMENSIONS

Figure 2



Model	Width (W)	Height (H)	Depth (D)
P32-NFR P32-RAD	32” (813)	21” (533)	15-1/2” (394)
P36-NFR P36-RAD	36” (915)	21” (533)	15-1/2” (394)
P48-NFR P48-RAD	48” (1220)	21” (533)	15-1/2” (394)





VENTILATION

⚠ WARNING

Improper ventilation can result in personal injury or death. Ventilation, which fails to properly remove flue products, can cause headaches, drowsiness, nausea, or could result in death.

The flue vent, located at the top of the unit, must not be blocked or covered at any time.

All gas appliances must be installed in such a manner that the flow of combustion and ventilation air is not obstructed. Provisions for adequate air supply must be provided.

NOTICE

Proper ventilation is the owner's responsibility. Any problem due to improper ventilation will not be covered by the warranty.

Do not obstruct the front of the broiler since combustion air enters through this area. Be sure to inspect and clean the ventilation system according to the ventilation equipment manufacturer's instructions.

If a ventilation canopy is used, it is recommended that the canopy extend 6" past the broiler and that the bottom edge be located 6'6" from the floor. Filters should be installed at an angle of 45° or more from the horizontal. This position prevents dripping grease and facilitates collecting the run-off grease in a drip pan under the filter.

A strong exhaust fan tends to create a vacuum in the room and may interfere with burner performance or may extinguish pilot flames. Fresh air openings approximately equal to the fan area will relieve such a vacuum. The exhaust fan should be installed at least 2" above the vent opening on the top of the broiler.

If the broiler is connected directly to an outside flue, a CSA design-certified down draft diverter must be installed.

In case of unsatisfactory performance by any gas appliance, check the appliance with the exhaust fan turned OFF. Do this only long enough to check whether doing so corrects any problems with equipment performance. Then turn the exhaust fan back on and let it run to remove any exhaust that may have accumulated during the test.

GAS SUPPLY

The broiler is design-certified for operation on natural or propane gases. The broiler is shipped configured and adjusted for the type of gas specified by the purchaser, which is indicated on the serial plate (see Figure 1 on page 3). Connect the broiler ONLY to the type of gas for which it is configured and adjusted.

Infrared:

Gas Type	Total BTU/hour	Burner Orifice	Pilot Orifice	Min. Supply Pressure	Manifold Pressure
Natural Gas	40,000	No. 54 (P/N 1008754)	0.055 (P/N 1008754)	7" W.C.	4" W.C.
Propane	40,000	No. 64 (P/N 1008764)	0.036 (P/N 1008764)	11" W.C.	10" W.C.

Radiant:

Gas Type	Total BTU/hour	Burner Orifice	Pilot Orifice	Min. Supply Pressure	Manifold Pressure
Natural Gas	40,000	No. 52 (P/N 1008952)	0.055 (P/N 1008754)	7" W.C.	4" W.C.
Propane	40,000	No. 64 (P/N 1008764)	0.036 (P/N 1008764)	11" W.C.	10" W.C.

A model that mounts on the flue riser of a range will have a 3/8" rear gas connection (with a 3/8" male NPT connector) extending through the rear of the flue riser (see Figure 2 on page 5).

Wall-mount and countertop models will have a 3/8" rear gas connection (with a 3/8" male NPT connector). The gas connection can extend directly out the rear of the broiler (near the bottom right-rear corner).

Minimum supply pressure is 7" W.C. for natural gas, 11" W.C. for propane. An internal pressure regulator and shutoff valve are provided. If using a flexible-hose gas connection, the I.D. of the hose must not be smaller than the connector on the broiler, and must comply with ANSI Z21.69. Provide an adequate means of restraint to prevent undue strain on the gas connection. Test pressure should not exceed 14" W.C.

If applicable, the vent line from the gas appliance pressure regulator must be installed to the outdoors in accordance with local codes, or in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1, Natural Gas Installation Code, CAN/CGA-B149.1,* or the *Propane Installation Code CAN/CGA-B149.2,* as applicable.

An adequate gas supply is imperative. Undersized or low-pressure lines will restrict the volume of gas required for satisfactory performance. Fluctuations of more than 25% on natural gas or 10% on propane gas will create problems and affect burner-operating characteristics. A 1/8" pressure tap is located on the manifold to measure the manifold pressure. The supply line to the broiler should be no smaller than the inside diameter of the pipe on the broiler to which it is connected.

OPERATION

⚠ DANGER
EXPLOSION HAZARD

In the event a gas odor is detected, shut down equipment at the main shutoff valve. Immediately call the emergency phone number of your gas supplier.

⚠ CAUTION

If the broiler pilots should go out the flow of gas to the broiler burners is NOT interrupted. Consequently, it is the responsibility of the operator to check the ignition of the burners immediately EVERY TIME the broiler is turned on. Should ignition fail after 10 seconds, turn off burners, wait 5 minutes, and then try again.

NOTICE

Southbend infrared broilers cook food in about half the time of conventional broilers, so adjust cooking times.

Southbend infrared broilers are unique in design. They incorporate our exclusive ceramic tile burners, which generate infrared rays that provide better quality products in about one-half the usual broiling time, and with less gas input than ordinary broilers. Very little energy is wasted in heating secondary surfaces, which is necessary for conventional-type broilers.

Since the surface of the ceramic tiles becomes red hot in less than one-half minute, the broiler is ready to start broiling with a very short preheat time, thereby saving time, labor and energy. These glowing surfaces emit intense infrared rays, which are transmitted directly onto the product, thereby yielding better tasting broiled food in less time.

The broiler design supplies 100% clean primary air to the burners, ensuring efficient combustion and maintaining full production capacity and maximum recovery, even in the most severe conditions of grease vapors and smoke atmospheres, which are created during any broiling process.

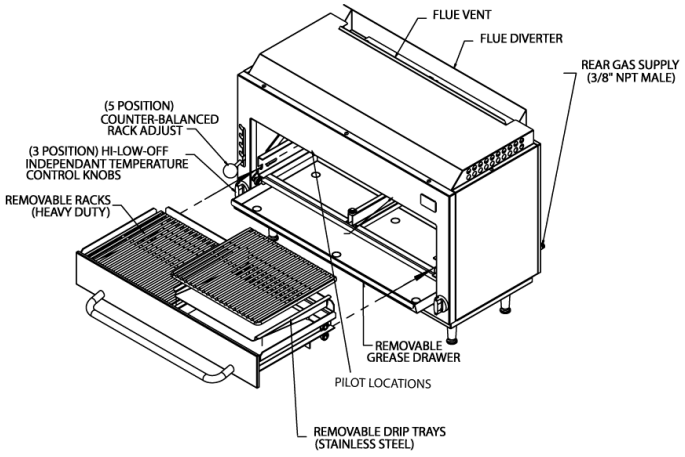
Southbend infrared broilers provide such rapid speed and recovery that broiling techniques may require some modification in order to take full advantage of their productive capabilities.

Southbend Radiant broilers offer durable stainless steel Radiants with anti corrosive steel tube burners. Flame from the burners are distributed over Radiant plates providing a penetrating heat suitable for broiling or finishing delicate dishes

The location of the broiler controls and other components are shown in Figure 3 on the following page.

Figure 3

Broiler Operation



Keep the bottom drip pan in place when broiling. Without it in place, excessive air is pulled past the burners, reducing temperature and cooking efficiency.

LIGHTING AFTER GAS HAS BEEN SHUT OFF

When turning on the main gas supply to an appliance or a group of appliances, do the following:

1. Make sure that all the control valves and power switches of all the appliances are in the OFF position.
2. Turn on the main gas supply valve.
3. Light the standing pilots of each connected appliance.

OPERATION OF INFRARED COMPACT BROILER

Southbend infrared broilers broil in half the time of ordinary broilers. The burners reach operating temperature in just 90 seconds, and their intense infrared energy quickly heats the food, not the surrounding air. The broiling rack adjusts to five heights, and rolls out for easy access.

The cooking area has removable racks and drip trays for cleaning. As food cooks, drippings drain into a collection tray on the bottom of the broiler cavity. To operate the broiler, do the following:

1. Light the constant-burning pilots located near the front of the broiler burners (unless the pilots are already lit).
2. If necessary, pull out and empty the bottom grease drawer. (Always keep the drip trays in place while broiling. Without it in place, excessive air will be pulled past the burners, reducing the cooking temperature and efficiency.)
3. **Infrared:** Turn the burner control to HIGH and visually check that the burners have ignited. When the burners ignite, a blue haze-type flame will cover the surface of the ceramics, but will gradually disappear within two minutes. When the burner control is set to HIGH, the ceramics will glow red and the flame on the surface of the ceramics should be barely visible, with little or no blue haze. When the burner control is set to LOW, the surface of the ceramics will glow very dull red and the flame will have a blue-haze color. (If the flame flutters or "pops" the broiler requires adjustment by a service technician.)

   Radiant: Turn the burner control to HIGH and visually check that the burners have ignited. Flames from the tube burner will spread over the stainless steel radiants. The stainless steel radiants will glow red within 3 minutes.
4. If searing the food to mark it with grid marks is desired, before placing food on the grid move the broiler rack to its highest position and allow the burners to operate on HIGH for five minutes.
5. Turn the burner control to HIGH or LOW (as appropriate for the food to be cooked).
6. Raise or lower the broiler rack to the height appropriate for the food to be cooked. To raise or lower the rack, move the lever arm to the right, raise or lower it, then move it to the left into a notch.

7. Pull out the rack, place food on the grid, and slide the rack back into the broiler. (It is recommended the rack be in the lowest position for loading food.)
8. Cook the food for the appropriate time, turning it when appropriate. Periodically check the broiler grease drawer and empty it when necessary.
9. When done broiling, turn the burner control to OFF. (To keep the broiler grid hot in order to mark food with sear marks without preheating, turn the burner controls to LOW and move the broiler rack to its highest position.)

LIGHTING BROILER PILOTS

The pilots should burn continuously unless the broiler is to be completely shut down. The broiler cavity has two or three pilots, each near the front of a pair of burners. If the pilots are extinguished, the pilot gas supply is NOT automatically interrupted. To light the pilots, do the following:

1. Turn the control valves on the front of the broiler to OFF.
2. Turn on the gas supply to the broiler (if not already on).
3. Light the pilots.

SHUTDOWN OF BROILER

To place the broiler in a standby state (ready for use), turn the burner control valves to OFF. The pilots will remain lit.

To completely shut down the broiler for an extended period (or prior to disconnecting the gas supply), turn OFF the manual shutoff valves of all gas supply connections. (This will extinguish all pilots.)

CLEANING & MAINTENANCE

⚠ WARNING

Shut off the gas supply to the appliance before cleaning or performing maintenance on any gas appliance.

The appliance may be equipped with a restraint device to limit its movement in order to prevent damage to the gas connection. If disconnection of this restraint is necessary to move the appliance for cleaning or maintenance, reconnect the restraint when the appliance is moved back to its original installed position.

Southbend equipment is sturdily constructed of the best materials and is designed to provide durable service when treated with ordinary care. To provide the best performance, your equipment must be maintained in good condition and cleaned daily. Naturally, the periods for this care and cleaning depend on the amount and degree of usage.

Following daily and periodic maintenance procedures will enhance long life for your equipment. Climatic conditions (such as salt air) may require more thorough and frequent cleaning or the life of the equipment could be adversely affected.

Keep exposed, cleanable areas of broiler clean at all times. (See next page for instructions on cleaning stainless steel and baked-enamel surfaces.)

DAILY CLEANING AND MAINTENANCE

To prevent excess smoking, the broiler grid, bottom grease drawer, and the other broiler components must be kept clean of food remnants. Use a wire brush or similar scraping utensil. DO NOT use steel wool or a similar scrub pad that will leave small particles, which can get into food. The daily cleaning procedure is as follows:

1. Move the broiling rack to the low position. Pull out the rolling broiler rack.
2. Lift out the broiler grids and clean them with a wire brush or non-toxic solvent.
3. Lift out the (2) drip shields and clean them with soap and water.
4. With rolling rack pulled-out to its “stop,” clean all parts where residue can collect.
5. Remove the bottom grease drawer and clean it.
6. Clean all parts of the raising and lowering frame.
7. Lubricate bearings with cooking oil (helps to extend the life of the bearings).
8. Reassemble broiling rack mechanism.
9. Check that nothing has been placed on top of the broiler (which will block the escape of combustion exhaust).
10. Check that the air-intake openings on the rear of the broiler are not obstructed.

MONTHLY CLEANING AND MAINTENANCE

The following tasks should be performed monthly:

1. Check for proper pilot operation. The flame on each pilot should be just large enough to extend along the flame carrier to the burner surface. If adjustment is necessary, call for service.
2. **Infrared:** Check for proper burner operation. When the burner control is set to HIGH, the ceramics should glow red and the flame on the surface of the ceramics should be barely visible, with little or no blue haze. When the burner control is set to LOW, the surface of the ceramics should glow very dull red and the flame should have a blue-haze color. The flame should not flutter or “pop.” If adjustment is necessary, call for service.

   Radiant: Check for proper burner operation. When burner control is set to HIGH, blue flames should emit from the tube burner, and spread over the stainless steel radiant causing the radiant to glow.

SEMIANNUAL CLEANING AND MAINTENANCE

At least twice a year the venting system should be examined and cleaned.

STAINLESS-STEEL SURFACES

To remove normal dirt, grease and product residue from stainless steel surfaces that operate at LOW temperature, use ordinary soap and water (with or without detergent) applied with a sponge or cloth. Dry thoroughly with a clean cloth.

To remove BAKED-ON grease and food splatter, or condensed vapors; apply cleanser to a damp cloth or sponge and rub cleanser on the metal in the direction of the polishing lines on the metal. Rubbing cleanser, as gently as possible, in the direction of the polished lines will not mar the finish of the stainless steel. NEVER RUB WITH A CIRCULAR MOTION. Soil and burnt deposits, which do not respond to the above procedure, can usually be removed by rubbing the surface with SCOTCH-BRITE scouring pads or STAINLESS scouring pads. DO NOT USE ORDINARY STEEL WOOL as any particles left on the surface will rust and further spoil the appearance of the finish. NEVER USE A WIRE BRUSH, STEEL SCOURING PADS (EXCEPT STAINLESS), SCRAPER, FILE OR OTHER STEEL TOOLS. Surfaces, which are marred, collect dirt more rapidly and become more difficult to clean. Marring also increases the possibility of corrosive attack. Refinishing may then be required.

“Heat tint” is darkened areas that sometimes appear on stainless steel surfaces where the area has been subjected to excessive heat. These darkened areas are caused by thickening of the protective surface of the stainless steel and are not harmful. Heat tint can normally be removed by the foregoing, but tint which does not respond to this procedure calls for a vigorous scouring in the direction of the polish lines using SCOTCH-BRITE scouring pads or a STAINLESS scouring pad in combination with a powered cleanser. Heat tint may be lessened by reducing heat to the equipment during slack periods.

INSTALLATION

NOTICE

These installation procedures must be followed by qualified personnel or warranty will be void.

Local codes regarding installation vary greatly from one area to another. The National Fire Protection Association, Inc. states in its NFPA 96 latest edition that local codes are the "authority having jurisdiction" when it comes to installation requirements for equipment. Therefore, installations must comply with all local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1, Natural Gas Installation Code, CAN/CGA-B149.1, or the Propane Installation Code CAN/CGA-B149.2, as applicable, including:

1. The appliance and its 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 1/2 psi (3.45 kPa).

2. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.45 kPa).

STEP 1: UNPACKING

IMMEDIATELY INSPECT FOR SHIPPING DAMAGE

All containers should be examined for damage before and during unloading. The freight carrier has assumed responsibility for its safe transit and delivery. If damaged equipment is received, either apparent or concealed, a claim must be made with the delivering carrier.

Apparent damage or loss must be noted on the freight bill at the time of delivery. The freight bill must then be signed by the carrier representative (Driver). If the bill is not signed, the carrier may refuse the claim. The carrier can supply the necessary forms.

A request for inspection must be made to the carrier within 15 days if there is concealed damage or loss that is not apparent until after the equipment is uncrated. The carrier should arrange an inspection. Be certain to hold all contents plus all packing material.

1. Cut the banding straps and remove the corrugated cardboard surrounding the broiler. Do not remove any of the attached tags or labels until the broiler is installed and working properly.
2. Cut the banding strap holding the broiler to the wooden skid.
3. If installing Infrared Compact Broiler which mounts over a range, go to Step 2a.
   If installing Infrared Compact Broiler which mounts on a wall, go to Step 2b.
   If installing Infrared Compact Broiler which has legs for countertop use, go to Step 2c.

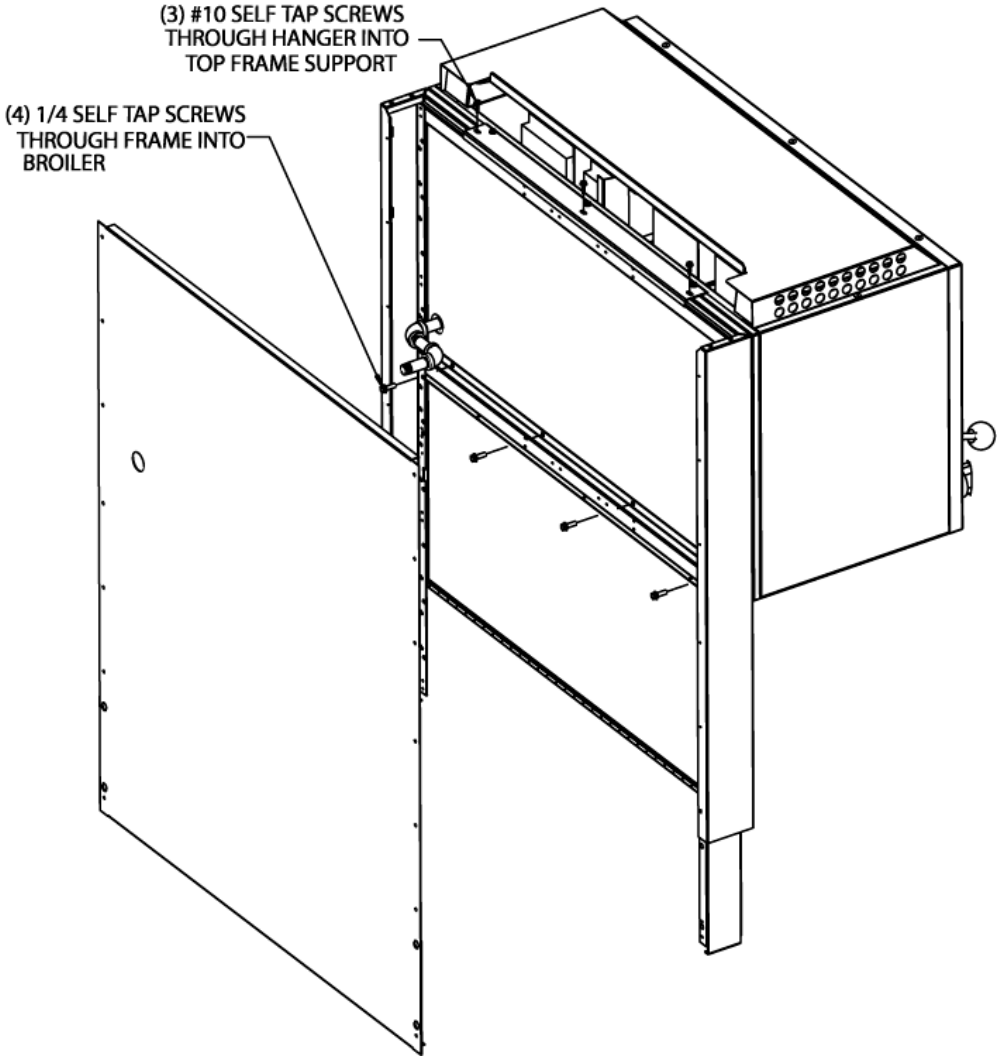
STEP 2A: MOUNT ON FLUE RISER OF RANGE

The Infrared/Radiant Compact Broiler mounts over a range. A special flue riser is shipped with the broiler and range. Depending on the shipping requirements, the broiler, flue-riser, and range base may already be partially or completely assembled.

1. Attach the flue riser to the rear of the range using the installation procedure included in the range manual, but do not attach the wall shield (the back of the flue riser) yet.
2. Lift the broiler (using two people is recommended) and hook the broiler-hook over the top-front edge of the flue riser. If necessary, move the broiler left or right so that the holes in the top of the broiler hook line-up with the holes in the top of the flue riser, then secure the broiler-hook to the flue riser using three #10 self tapping screws - provided.
3. Secure the bottom of the broiler to the flue riser with the four ¼" self-tapping screws provided. The holes are accessible from the rear of the unit behind the wall shield.
4. If the optional internal piping from the broiler to the range was ordered, connect the gas line now (as described in Step 3), before attaching the wall shield.
5. Attach the wall shield, which forms the rear of the flue riser. The gas supply inlet extending out from the rear of the broiler should be accessible through the corresponding hole on the back of the flue riser.
6. Go on to Step 3.

Figure 4

Mounting of Infrared/Radianr Compact Broiler on Flue-Riser



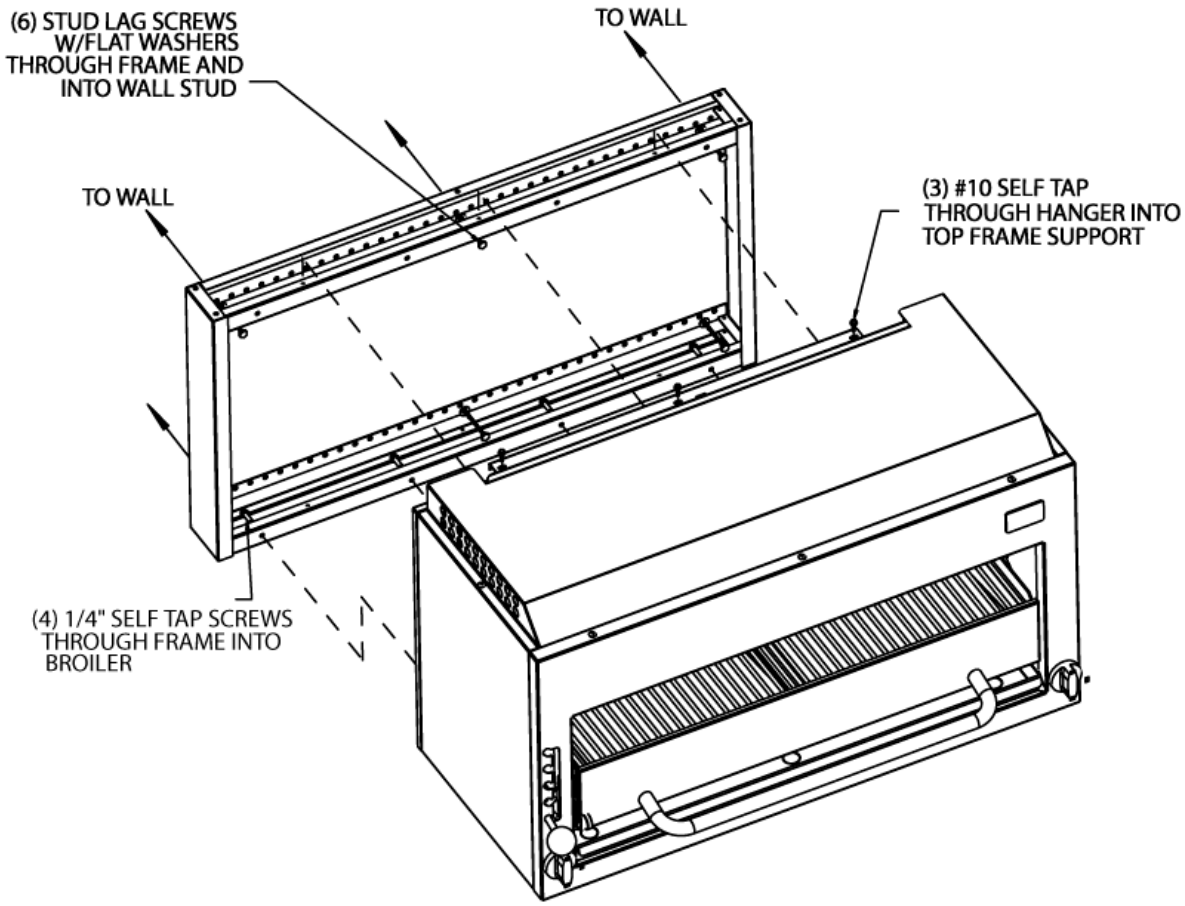
STEP 2B: MOUNT ON WALL

The Infrared/Radiant Compact Broiler is installed by first attaching a mounting bracket to the wall, then attaching the broiler to the bracket.

1. Attach the wall-mount assembly to the wall using the six ¼" x 2" lag screws and six washers provided (see Figure 5). Screw through frame and into wall studs since the broiler weighs about 175 pounds (77 kilograms).
2. Check that the wall-mount is level (both side-to-side and front-to-back).

Figure 5

Installation of Wall Bracket for Infrared/Radiant Compact Broiler



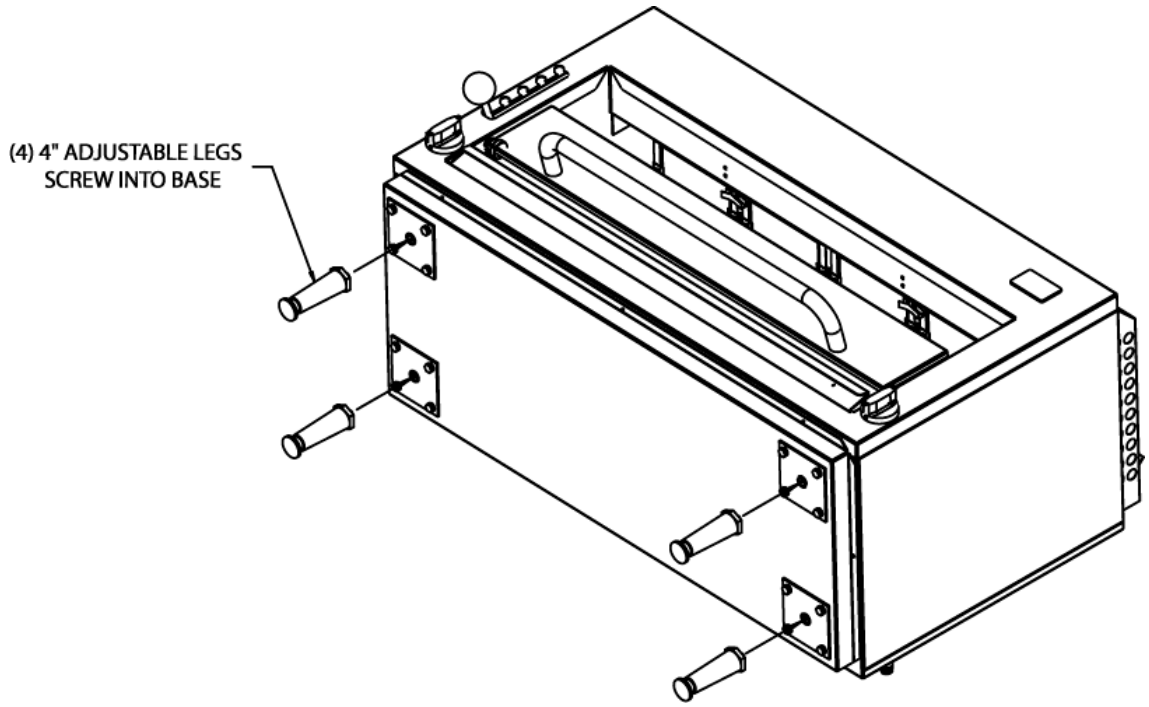
3. It may be more convenient to prepare the gas supply line before the broiler is mounted on the wall bracket. If so, install the supply line and connector now (but do not yet attach it to the broiler).
4. Lift the broiler (using two people is recommended) and hook the broiler-hook over the top of the front of the wall bracket. If necessary, move the broiler left or right so that the holes in the top of the broiler hook line-up with the holes in the wall bracket, then secure the broiler-hook to the wall-mount bracket using three sheet-metal screws.
5. Secure the bottom of the broiler to the wall-mount bracket with the four provided ¼" self tap screws. The holes are accessible from the opening in the bottom of the wall-mount unit.
6. Go on to Step 3.

STEP 2C: ATTACH COUNTERTOP LEGS

1. Install each leg by screwing them into the threaded holes in the bottom of the base.
2. Stand the broiler on its legs and position to minimum clearances specified on serial tag.

Figure 6

Attaching Legs for Countertop Infrared/Radiant Compact Broiler



STEP 3: CONNECT GAS SUPPLY

If this equipment is being installed at over 2,000 feet altitude and that information was not specified when ordered, contact the appropriate authorized Southbend Service Representative or the Southbend Service Department. Failure to install with proper orifice sizing will result in poor performance and may void the warranty.

The broiler is design-certified for operation on natural or propane gases. The broiler is shipped configured and adjusted for the type of gas specified by the purchaser, which is indicated on the serial plate (see Figure 1 on page 3). Connect the broiler ONLY to the type of gas for which it is configured and adjusted.

The Infrared/Radiant Compact Broiler mounts on the flue riser of a range, and either will have a 3/8" rear gas connection (with a 3/8" male NPT connector) extending through the rear of the flue riser (see Figure 2 on page 5), or will have the optional internal-piping to the front-manifold of the range.

For wall-mount and countertop models, the gas connection (3/8 NPT) extends directly out the rear of the broiler (near the bottom-right-rear corner), or (using an elbow) out the top of the broiler near the top-right-rear corner.

Minimum supply pressure is 7" W.C. for natural gas, 11" W.C. for propane. An internal pressure regulator and shutoff valve are provided. If using a flexible-hose gas connection, the I.D. of the hose must not be smaller than the connector on the broiler, and must comply with ANSI Z21.69. Provide an adequate means of restraint to prevent undue strain on the gas connection.

If applicable, the vent line from the gas appliance pressure regulator must be installed to the outdoors in accordance with local codes, or in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1, Natural Gas Installation Code, CAN/CGA-B149.1,* or the *Propane Installation Code CAN/CGA-B149.2,* as applicable.

An adequate gas supply is imperative. Undersized or low-pressure lines will restrict the volume of gas required for satisfactory performance. Fluctuations of more than 25% on natural gas or 10% on propane gas will create problems and affect burner-operating characteristics. A 1/8" pressure tap is located on the manifold to measure the manifold pressure. The supply line to the broiler should be no smaller than the inside diameter of the pipe on the broiler to which it is connected.

⚠ CAUTION

ALL PIPE JOINTS AND CONNECTIONS MUST BE TESTED THOROUGHLY FOR GAS LEAKS. USE ONLY SOAPY WATER FOR TESTING ON ALL GASES. NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS. ALL CONNECTIONS MUST BE CHECKED FOR LEAKS AFTER THE APPLIANCE HAS BEEN PUT INTO OPERATION. TEST PRESSURE SHOULD NOT EXCEED 14" W.C.

1. Check that the control valves on the broiler are in the OFF position.
2. Purge the gas supply line to clean out dust, dirt, or other foreign matter before connecting the line to the broiler.
3. For wall-mount and countertop models, connect the gas supply to the inlet at right rear corner.

⚠ CAUTION

HOLD THE INLET SUPPLY PIPE WITH A WRENCH WHEN TIGHTENING ADDED FITTINGS TO AVOID DAMAGE TO THE REGULATOR, VALVE, AND OTHER COMPONENTS.

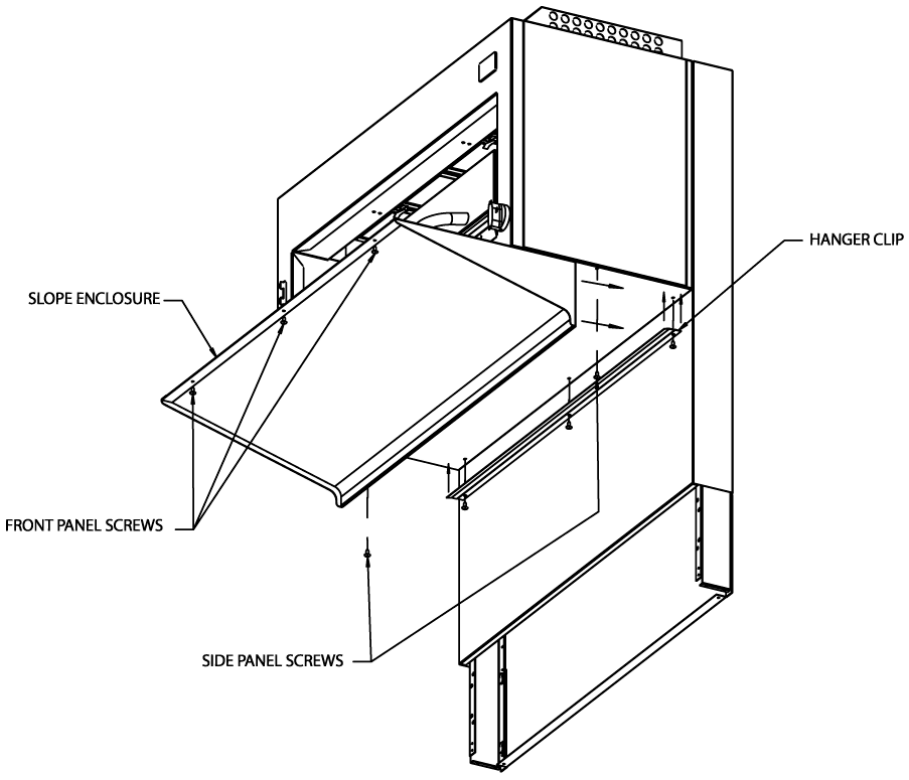
4. For the flue-riser-mounted model, either attach the gas supply to the gas pipe extending out of a hole on the rear of the flue riser; or (if the optional internal piping was ordered) connect the gas pipe extending from the rear of the broiler to the corresponding gas pipe extending from the rear of the range below the broiler, then attach the wall-shield (the rear of the flue riser).
5. Turn on the gas and check for leaks using soapy water.

STEP 4: INSTALL SLOPED ENCLOSURE (OPTIONAL ACCESSORY)

To install a sloped enclosure, remove the body-side screws and discard. Remove screws (3) on the bottom, toward the rear of the unit. Position the hanger clip and fasten with screws (3). Remove screws (3) in the bottom of the face plate. Slide the enclosure so that the bracket inserts into the hanger clip. Align the holes in the front of the enclosure with the holes in the bottom of the face plate. Fasten with screws (3).

Figure 7

Installation of Sloped Enclosure (If Ordered)



STEP 5: CHECK THE INSTALLATION

1. Check that all screws and bolts are tightened.
2. Check that gas connection has been made correctly.
3. Move the broiler into the final position at which it will be operated.
4. Check that the broiler is level.
5. Check that the appropriate minimum clearances are satisfied (see page 4), including adequate clearance for combustion air to enter the rear of the broiler.
6. Check that there is sufficient clearance to pull out the broiler rack and bottom drip pan.
7. Check that adequate ventilation (fresh air supply and hood exhaust) is available to the room in which the appliance will operate.
8. Wipe clean all surfaces.

STEP 6: CHECK BROILER OPERATION

1. Turn gas supply on. Immediately check all gas connections for leaks using soapy water.
2. Light the pilots (see the appropriate Operation section elsewhere in this manual). Check that the pilot flames are large enough to extend along the flame carrier to the burner surface. If not, adjust the pilots (see page 20).
3. **Infrared:** Turn on the broiler burners and check for correct flame appearance and height at both the HIGH and LOW settings. When the burners ignite, a blue haze-type flame will cover the surface of the ceramics, but will gradually disappear within two minutes. When the burner control is set to HIGH, the ceramics should glow red and the flame on the surface of the ceramics should be barely visible, with little or no blue haze. When the burner control is set to LOW, the surface of the ceramics should glow very dull red and the flame should have a blue-haze color. The flame should not flutter or "pop." If necessary, adjust the burners (see page 21) and/or LOW setting (see page 20).

   Radiant: Turn the burner control to HIGH and visually check that the burners have ignited. Flames from the tube burner will spread over the stainless steel radiants. The stainless steel radiants will glow red within 3 minutes.
4. Check that gas supply is adequate by simultaneously turning on all burners of all appliances connected to the same gas supply to their highest setting, then again checking that the broiler's pilot and burner flames have correct appearance and height.
5. Turn off all burners and allow the broiler to cool.

STEP 7: WIPE-CLEAN AND SHUT-DOWN APPLIANCE

1. Wipe clean all surfaces.
2. Unless the broiler is to be placed in service immediately, shut off the gas supply.
3. Make sure that a copy of this manual is available to the people who will operate and maintain the broiler.

SERVICE

⚠ WARNING

ADJUSTMENTS AND SERVICE WORK MAY BE PERFORMED ONLY BY A QUALIFIED TECHNICIAN WHO IS EXPERIENCED IN, AND KNOWLEDGEABLE OF, THE OPERATION OF COMMERCIAL COOKING EQUIPMENT. TO ASSURE YOUR CONFIDENCE, CONTACT YOUR AUTHORIZED SERVICE AGENCY FOR RELIABLE SERVICE, DEPENDABLE ADVICE OR OTHER ASSISTANCE, AND FOR GENUINE FACTORY PARTS.

NOTICE

INSTALLATION OF OTHER THAN GENUINE SOUTHBEND RANGE PARTS WILL VOID THE WARRANTY ON THIS EQUIPMENT.

The serial plate is located under the broiler bottom drip pan at the front, toward the left (see Figure 1 on page 3).

Replacement parts (including parts not listed in this manual) may be ordered either through a Southbend Authorized Parts Distributor or a Southbend Authorized Service Agency.

When ordering parts, please supply the Model Number, Serial Number, Part Number, and Part Description.

TROUBLESHOOTING

Problem	Look for -
Not enough heat	– Low pressure in gas supply – Restriction in gas piping and/or valves – Misalignment of burner orifice tube – Clogged burner orifice – Incorrect burner orifice
Too much heat	– Incorrect orifices – Defective or incorrectly set pressure regulator
Burner flame has excessive blue haze	– Obstruction of combustion-air intake on rear of broiler – Exhaust gases blocked by objects sitting on top of broiler – Low pressure in gas supply – Misalignment of orifice tube
Burner flame fluttering	– LOW setting of burner valve out of adjustment
Burner flame popping (Infrared)	– Cracked or loose ceramic
Slow burner ignition	– Pilot flame out of adjustment – Pilot alignment out of adjustment
Pilot outage	– Pilot flame out of adjustment – Draft condition – Pilot orifice clogged – Incorrect pilot orifice

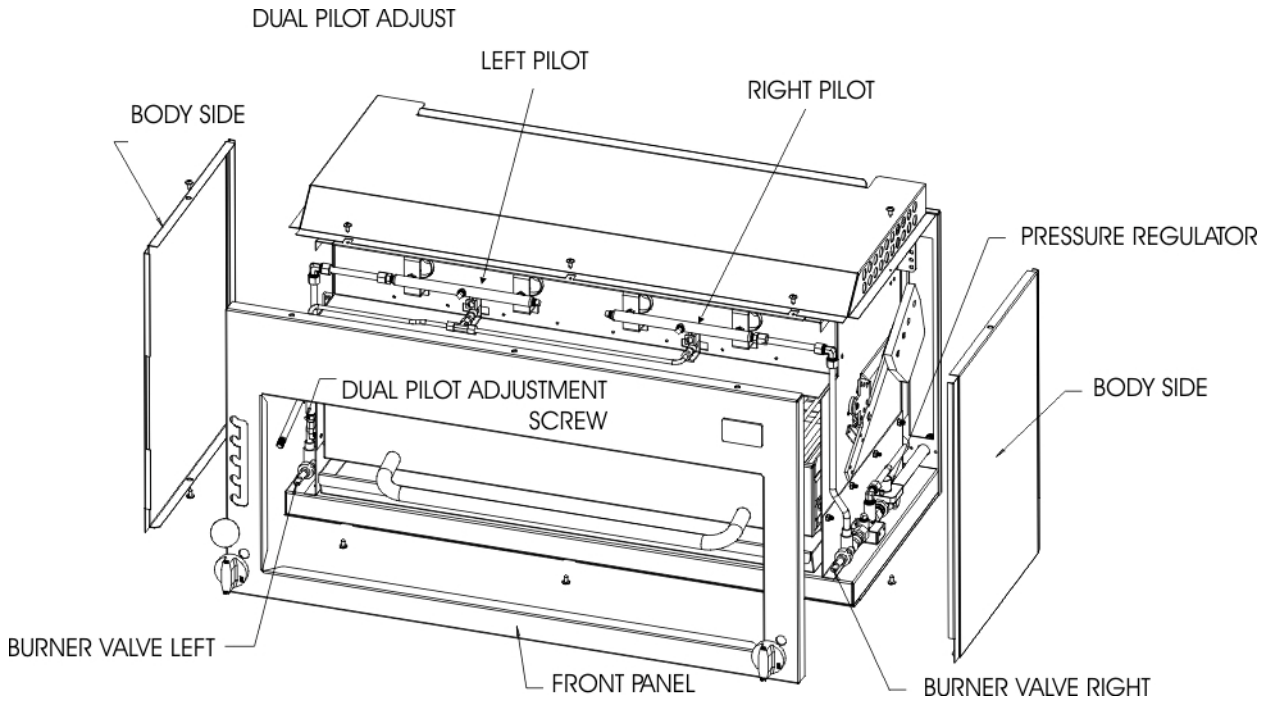
ACCESS TO SERVICEABLE PARTS

Some serviceable parts are only accessible by removing body side panels and the front panel.

The main front panel is fastened with six sheet-metal screws. To remove the front panel, remove these screws, as well as the burner-control-valve knob and the rack-height-position-lever knob. The main front panel can then be pulled forward and removed. Each body side panel is fastened with two sheet-metal screws. Remove body-side screws and slide the body side forward and away from the unit.

Figure 8

Access to Serviceable Parts



If necessary (or convenient), wall-mounted and flue-riser-mounted models can be un-mounted for servicing or repairs. Use two people since the broiler weighs about 175 pounds (77 kilograms). Refer to the installation procedure in the previous section of this manual for guidance.

ADJUSTMENT OF BROILER PILOTS

The pilots are adjusted at the factory. If later the pilots are over-adjusted to the point where the flame is leaving its port, or “blowing off,” the result is an unstable condition in which the pilot may extinguish. If necessary, adjust the pilots using the following procedure:

1. If necessary, light the pilots.
2. Locate the pilot adjustment screw (which adjusts both pilots). It is a small slotted screw located on the pilot valve, and is accessed though the slot in the front panel above the control-valve knob.
3. Turn the pilot adjustment screw to adjust the size of the pilot flames. The flame on each pilot should be large enough to extend along the flame carrier to the burner surface.

ADJUSTMENT OF LOW SETTING

The minimum gas flow to the burners is controlled by the burner valves. It provides an infinite variable adjustment from low to high. Turn the knob to the desired position so that when the Cheese Melter control knob is in the LOW position, the burner flames do not flutter or “pop,” but rather burn with a dull red or a blue haze.

ADJUSTMENT OF BROILER BURNERS

The burners require no air adjustment after they have left the factory. If a major change in burner operation is noticed, check for obstruction of airflow, around the orifice. Burner performance is affected by (a) orifice size, (b) pressure, (c) injection, and (d) primary airflow. The burner orifice must be centered within the air mixer opening.

ADJUSTMENT OF GAS PRESSURE REGULATOR

The pressure regulator is located in the right-hand and left-hand interior compartment of the broiler. Accessing it will require removing the front panel and the side panels of the broiler. The regulator is preset for 4" W.C. for natural gas, or 10" W.C. for propane gas. If adjustment is necessary, do the following:

1. Turn broiler control knob to OFF.
2. Attach a pressure-measuring device to the 1/8" NPT connector located on the front of each burner manifold.
3. Turn the broiler control knob to HIGH and, with the burners lit, check the manifold pressure. The pressure should be 4" W.C. (for natural gas) or 10" W.C. (for propane gas).
4. If necessary, adjust the pressure by unscrewing the top of the pressure regulator (use a screwdriver) to expose the adjustment screw underneath. Rotating the adjustment screw clockwise increases the manifold pressure.
5. After the pressure has been adjusted, turn the broiler control knob to OFF, replace the top of the pressure regulator, and disconnect the pressure-measuring device (replacing the plug into the connector on the manifold).

PARTS

The following table describes the serviceable parts. For parts not listed, contact a Southbend Authorized Parts Distributor or a Southbend Authorized Service Agency.

PARTS LIST				PARTS LIST			
Part Number	**DESCRIPTION**	**P32-NFR**	**P32-RAD**	**Part Number**	**DESCRIPTION**	**P32-NFR**	**P32-RAD**
1183202	Body Side, Left	1	1	1186527	Infrared/ Radiant Compact Broiler Manual	1	1
1183323	Body Side, Right	1	1	1183281	W/A Bracket, Swing BRG	2	2
1183273	Bracket, Bearing Lock	2	2	1183293	W/A, Arm Swing	1	1
1183278	Bracket, Spring Adjust	2	2	1183306	W/A, Arm, Connector	2	2
1183304	Plate, Cover	2	2	1183319	W/A, Rack Adjust (Left)	1	1
1183308	Bracket, Arm Adjust	1	1	1183320	W/A, Rack Adjust (Right)	1	1
1183269	Clip, Retainer	1	1	1183330	ASM, Manifold Burner	2	2
1183332	Bracket, Orifice	4	4	1183117	W/A, Rack Cradle-32	1	1
1183123	Front, Body, 32	1	1	1183127	W/A, Rack Carriage-32	1	1
1183135	Base, 32, SS	1	1	1183131	ASM, Inner LINING, SS, 32	1	1
1183107	Grease Drawer, BA	1	1	1183120	W/A, Shaft 32”	1	1
1183104	Body, Bottom/Back, 32	1	1	1183248	Tube, Burner Supply (V)	2	2
1183133	Stiffener, Cavity, SS, 32	1	1	1183264	Tube, Pilot Adjust	1	1
1183124	Cover, 32	1	1	1183310	Tube, Flex, ¼ X 16” LG.	2	2
1183122	Plate, Heat Deflector, 32	1	1	1183315	Nipple, Pipe,BLK. 3/8” X 8”	1	1
1183118	Rack, Mount Angle, 32	1	1	1183259	Tube, Burner Supply (H)	2	2
1183109	Plate, Face, BA	1	1	1183295	Spring, Pivot Arm	1	1
1188961	Radiant, SS	-	8	1183311	Spring, Rack	2	2
1183113	Drip Pan, 32	2	2	1160484	Roller Bearing	9	9
1183134	Mount, Burner, 32	1	1	1184227	Handle, Chrome	1	1
1183132	Deflector, Flue, 32	1	1	1184192	Knob, Cast Aluminum	2	2
1188958	Burner, Radiant	-	4	1060475	Knob, Ball	1	1
1183246	ASM, Burner, Infrared	4	-	1183279	Weight, Counter Balance	2	2
1183277	W/A, Bracket Bearing	2	1	1183287	Spacer, Bearing	2	2
1183271	W/A, Bearing Pivot	2	1	1164085	Valve ASM, Pilot	1	1

PARTS LIST			
Part Number	DESCRIPTION	P32-NFR	P32-RAD
1164085	Valve ASM, Pilot	1	1
1188253	Nameplate, Southbend	1	1
1183121	Tube, Valve Support, 32	1	1
1183125	Rack, 32 (Chrome)	2	2
1183128	Rack, 32 (CRS)	2	2
	(NAT) Gas Components		
1133301	Regulator, WC @ 4" NAT	2	2
1176014	Valve, Burner, NAT	2	2
1008754	Orifice Hood, Drill #54	4	-

PARTS LIST			
Part Number	DESCRIPTION	P32-NFR	P32-RAD
1008752	Orifice Hood, Drill #52	-	4
1172715	Nameplate, Southbend	1	1
1182628	Pilot Assy SGS	2	2
	(PROP) Gas Components		
1165704	Regulator, WC @ 10", PROP	2	2
1176015	Valve, Burner, PROP	2	2
1008764	Hood, Orifice, Drill #64	4	4
1182628	Pilot Assy SGS	2	2

PARTS LIST			
Part Number	DESCRIPTION	P36-NFR	P36-RAD
1183202	Body Side, Left	1	1
1183323	Body Side, Right	1	1
1183273	Bracket, Bearing Lock	2	2
1183278	Bracket, Spring Adjust	2	2
1183304	Plate, Cover	2	2
1183308	Bracket, Arm Adjust	1	1
1183269	Clip, Retainer	1	1
1183332	Bracket, Orifice	4	4
1183201	Front, Body, 36	1	1
1183187	Base, 36, SS	1	1
1183209	Grease Drawer, BA	1	1
1183210	Body, Bottom/Back, 36	1	1
1183222	Stiffener, Cavity, SS, 36	1	1
1183262	Cover, 36	1	1
1183263	Plate, Heat Deflector, 36	1	1
1183272	Rack, Mount Angle, 36	1	1
1183284	Plate, Face, BA	1	1
1183313	Drip Pan, 36	2	2
1183257	Mount, Burner, 36	1	1
1183220	Deflector, Flue, 36	1	1
1188958	Burner, Radiant	-	4
1183246	ASM, Burner, Infrared	4	-
1183277	W/A, Bracket Bearing	2	2
1183271	W/A, Bearing Pivot	2	2
1183281	W/A Bracket, Bearing	2	2
1183293	W/A, Arm Swing	1	1
1183306	W/A, Arm, Connector	2	2
1183319	W/A, Rack Adjust (Left)	1	1
1183320	W/A, Rack Adjust (Right)	1	1
1183330	ASM, Manifold Burner	2	2
1188961	Radiant, SS	-	8
1183229	W/A, Rack Cradle-36	1	1
1183275	W/A, Rack Carriage-36	1	1
1183237	ASM, Inner Lining, SS, 36	1	1

PARTS LIST			
Part Number	DESCRIPTION	P36-NFR	P36-RAD
1183318	W/A, Shaft-36"	1	1
1183248	Tube, Burner Supply (V)	2	2
1183264	Tube, Pilot Adjust	1	1
1183310	Tube, Flex, ¼ X 16" LG.	2	2
1183315	Nipple, Pipe,BLK. 3/8" X 8"	1	1
1183259	Tube, Burner Supply (H)	2	2
1183295	Spring, Pivot Arm	1	1
1183311	Spring, Rack	2	2
1160484	Roller Bearing	9	9
1184990	Handle, Chrome	1	1
1184192	Knob, Cast Aluminum	2	2
1060475	Knob, Ball	1	1
1183279	Weight, Counter Balance	2	2
1183287	Spacer, Bearing	2	2
1164085	Valve ASM, Pilot	1	1
1188253	Nameplate, Southbend	1	1
1183256	Tube, Valve Supply, 36	1	1
1183296	Rack, 36 (Chrome)	2	2
1183297	Rack, 36 (CRS)	2	2
	(NAT) Gas Components		
1133301	Regulator, WC @ 4" NAT	2	2
1176014	Valve, Burner, NAT	2	2
1008754	Orifice Hood, Drill #54	4	-
1008752	Orifice Hood, Drill #52	-	4
1182628	Pilot Assy SGS	2	2
	(PROP) Gas Components		
1165704	Regulator, WC @ 10", PROP	2	2
1176015	Valve, Burner, PROP	2	2
1008764	Hood, Orifice, Drill #64	4	4
1182628	Pilot Assy SGS	2	2
1186527	Infrared/Radiant Compact Broiler Manual	1	1

PARTS LIST				PARTS LIST			
Part Number	**DESCRIPTION**	**P48-NFR**	**P48-RAD**	**Part Number**	**DESCRIPTION**	**P48--NFR**	**P48-RAD**
1183202	Body Side, Left	1	1	1183127	W/A, Shaft-48”	1	1
1183323	Body Side, Right	1	1	1183248	Tube, Burner Supply (V)	2	2
1183273	Bracket, Bearing Lock	2	2	1183264	Tube, Pilot Adjust	1	1
1183278	Bracket, Spring Adjust	2	2	1183310	Tube, Flex, ¼ X 16” LG.	2	2
1183304	Plate, Cover	2	2	1183315	Nipple, Pipe, BLK. 3/8” X 8”	1	1
1183308	Bracket, Arm Adjust	1	1	1183259	Tube, Burner Supply (H)	2	2
1183269	Clip, Retainer	1	1	1183295	Spring, Pivot Arm	1	1
1183332	Bracket, Orifice	4	4	1183311	Spring, Rack	2	2
1183160	Front, Body, 48	1	1	1160484	Roller Bearing	9	9
1183173	Base, 48, SS	1	1	1184227	Handle, Chrome	1	1
1183144	Grease Drawer, BA	2	2	1184192	Knob, Cast Aluminum	2	2
1183141	Body, Bottom/Back, 48	1	1	1060475	Knob, Ball	1	1
1183170	Stiffener, Cavity, SS, 48	1	1	1183279	Weight, Counter Balance	2	2
1183161	Cover, 48	1	1	1183287	Spacer, Bearing	2	2
1183159	Plate, Heat Deflector, 48	1	1	1164085	Valve ASM, Pilot	1	1
1183155	Rack, Mount Angle, 48	1	1	1188253	Nameplate, Southbend	1	1
1183146	Plate, Face, BA	1	1	1183158	Tube, Valve Supply, 48	1	1
1183150	Drip Pan, 48	2	2	1183162	Rack, 48 (Chrome)	2	2
1183171	Mount, Burner, 48	1	1	1183165	Rack, 48 (CRS)	2	2
1183169	Deflector, Flue, 48	1	1				
1188958	Burner, Radiant	-	6		**(NAT) Gas Components**		
1183246	ASM, Burner Infrared	6	-	1133301	Regulator, WC @ 4” NAT	1	1
1183277	W/A, Bracket Bearing	2	2	1176014	Valve, Burner, NAT	2	2
1183271	W/A, Bearing Pivot	2	2	1008754	Orifice Hood, Drill #54	4	-
1183281	W/A, Bracket, Bearing	2	2	1008752	Orifice Hood, Drill #52	-	6
1183293	W/A, Arm Swing	1	1	1182628	Pilot Assy SGS	2	2
1183306	W/A, Arm, Connector	2	2				
1183319	W/A, Rack Adjust (Left)	1	1		**(PROP) Gas Components**		
1183320	W/A, Rack Adjust (Right)	1	1	1165704	Regulator, WC @ 10”, PROP	1	1
1183331	ASM, Manifold Burner	2	2	1176015	Valve, Burner, Prop	2	2
1188961	Radiant, SS	-	12	1008764	Hood, Orifice, Drill #64	4	4
1183117	W/A, Rack Cradle-48	1	1	1182628	Pilot Assy SGS	2	2
1183120	W/A, Rack Carriage-48	1	1				
1183168	ASM, Inner Lining, SS, 48	1	1	1186527	Infrared/Radiant Compact Broiler Manual	1	1

INFRARED COMPACT BROILER

Flue-Riser Mount, Wall Mount, or Countertop

Commercial Food Equipment Service Association

Genuine Parts Protect *YOU* All-Ways !

A product with the Southbend 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 appliance. When service is needed, contact a Southbend Authorized Service Agency, or your dealer. To avoid confusion, always refer to the model number, serial number, and type of your appliance.

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