

|  | IMPORTANT | FOR | <b>FUTURE</b> | REFERENCE |
|--|-----------|-----|---------------|-----------|
|--|-----------|-----|---------------|-----------|

Please complete this information and retain this manual for the life of the equipment:

Model #: \_\_\_\_

Serial #:

Date Purchased:

### **Owner's Manual**

# **ELECTRIC BROILER**



Model E-170



Model E-270



Model HDEB-24-316L

### 

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.

#### **SOUTHBEND**

MIDDLEBY A Middleby Company
1100 Old Honeycutt Road Fuquay-Varina, North Carolina 27526 USA

www.southbendnc.com





SAFETY PRECAUTIONS ELECTRIC BROILER

### 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.

<u></u> **∴** 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.

### IMPORTANT NOTES FOR INSTALLATION AND OPERATION

# 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 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 smalls gas. Obtain the instructions from a local gas supplier.

# WARNING BURN HAZARD

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

#### NOTICE

This appliance is intended for commercial use, and is only for professional use. It shall be used by trained, qualified people.

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.

SOUTHBEND

ELECTRIC BROILER TABLE OF CONTENTS

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

#### **Table of Contents**

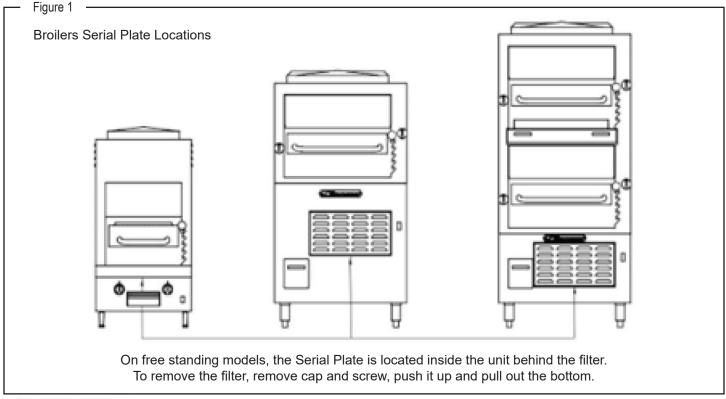
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Read these instructions carefully before attempting installation. Installation and initial startup should be performed by a qualified installer. Unless the installation instructions for this product are followed by a qualified service technician (a person experienced in and knowledgeable with the installation of commercial gas an/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 guestions concerning the installation, use, care, or service of the product, contact:

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

The serial plate is located on the interior side of the lower front panel, as shown below.



SPECIFICATIONS ELECTRIC BROILER

# **SPECIFICATIONS**

#### NOTICE

The appliance, when installed, must be electrically grounded and comply with local codes, or in the absence of local codes, with the *National Electrical Code*, *ANSI/NFPA 70*, or the *Canadian Electrical Code*, *CSA C22.2*, as applicable.

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.

### **ELECTRICITY SUPPLY**

The following table lists the electricity supply requirements PER MODEL.

| Model   | TOTAL   |      | 3-Phase Loading (kW/phase) |       |       | Nomina | L AMPERI<br>3-P | ES PER L<br>HASE | MINIMUM SUPPLY WIRE (AWG) SIZE |         |         |
|---------|---------|------|----------------------------|-------|-------|--------|-----------------|------------------|--------------------------------|---------|---------|
| IVIODEL | Voltage | κW   | L1-L2                      | L2-L3 | L1-L3 | L1     | L2              | L3               | 1-PHASE<br>TOTAL               | 3-Phase | 1-Phase |
|         | 208     | 5    | 1.667                      | 1.667 | 1.667 | 13.7   | 13.7            | 13.7             | 23.6                           | 14      | 12      |
| HDEB-24 | 240     | 6.6  | 2.2                        | 2.2   | 2.2   | 15.8   | 15.8            | 15.8             | 27.3                           | 14      | 12      |
|         | 480     | 6    | 2                          | 2     | 2     | 7.3    | 7.3             | 7.3              | 12.5                           | 14      | 14      |
|         | 208     | 9.9  | 3.3                        | 3.3   | 3.3   | 27.3   | 27.3            | 27.3             | 47.2                           | 10      | 8       |
| E-170   | 240     | 13.1 | 4.367                      | 4.367 | 4.367 | 31.5   | 31.5            | 31.5             | 54.5                           | 10      | 8       |
|         | 480     | 12   | 4                          | 4     | 4     | 14.5   | 14.5            | 14.5             | 25                             | 14      | 12      |
|         | 208     | 19.7 | 6.567                      | 6.567 | 6.567 | 54.5   | 54.5            | 54.5             | 94.4                           | 8       | 4       |
| E-270   | 240     | 26.2 | 8.733                      | 8.733 | 8.733 | 62.9   | 62.9            | 62.9             | 108.9                          | 6       | 3       |
|         | 480     | 24   | 8                          | 8     | 8     | 28.9   | 28.9            | 28.9             | 50                             | 12      | 8       |

Add 0.5 Amps for control circuits on E-270. Add 0.25 amps for all other controls.

An Electrical diagram is located inside the base of the unit behind the access panel (see drawing on page 3). Electrical diagrams can also be found in this manual beginning on page 28.

The electrical connections are mated directly to the supplied terminal block located inside the base of the unit in the rear. A circular opening sized for a strain-relief fitting is located on the back of the control carriage after the wires have been fed through the back panel, or in the case of the HDEB-24 is located in the back panel next to the access panel (see illustration on next page). The E-270 has the option of two power connections or one.

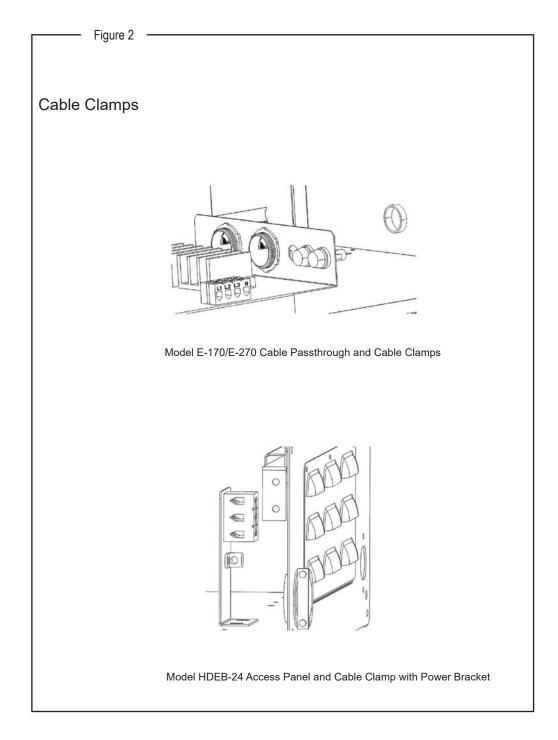
Use 167 °F (90 °C) wire for all supply lines.

Broilers are shipped wired for either single-phase or three-phase operation, depending on which was specified on the factory order.

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, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable.



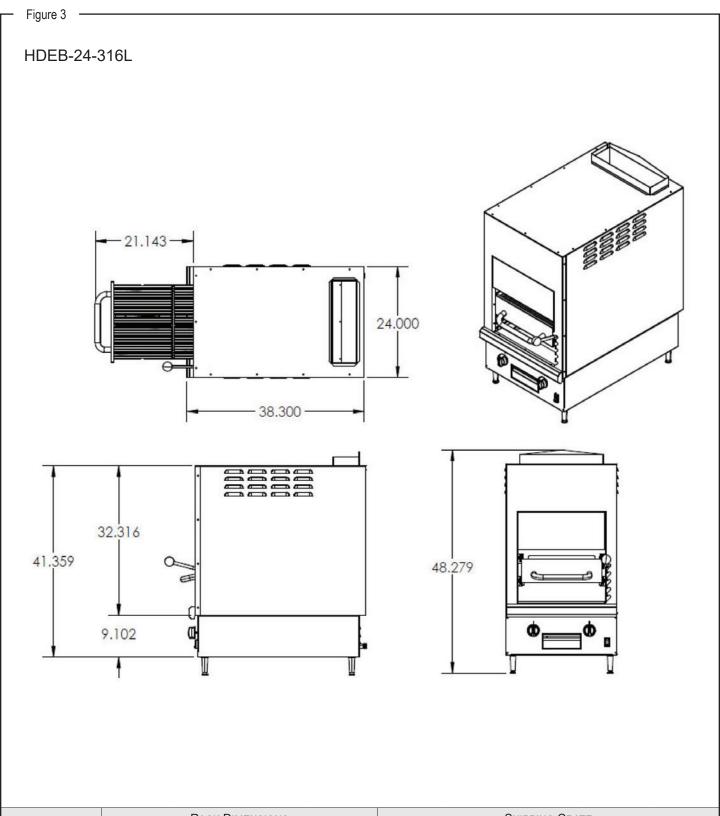
ELECTRIC BROILER SPECIFICATIONS



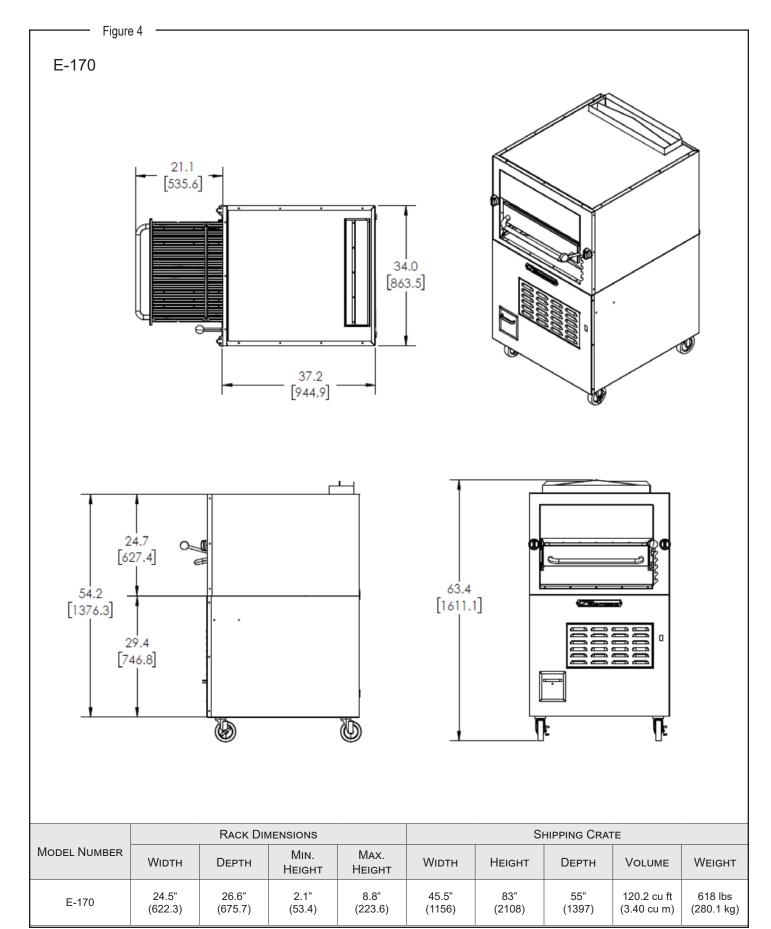


SPECIFICATIONS ELECTRIC BROILER

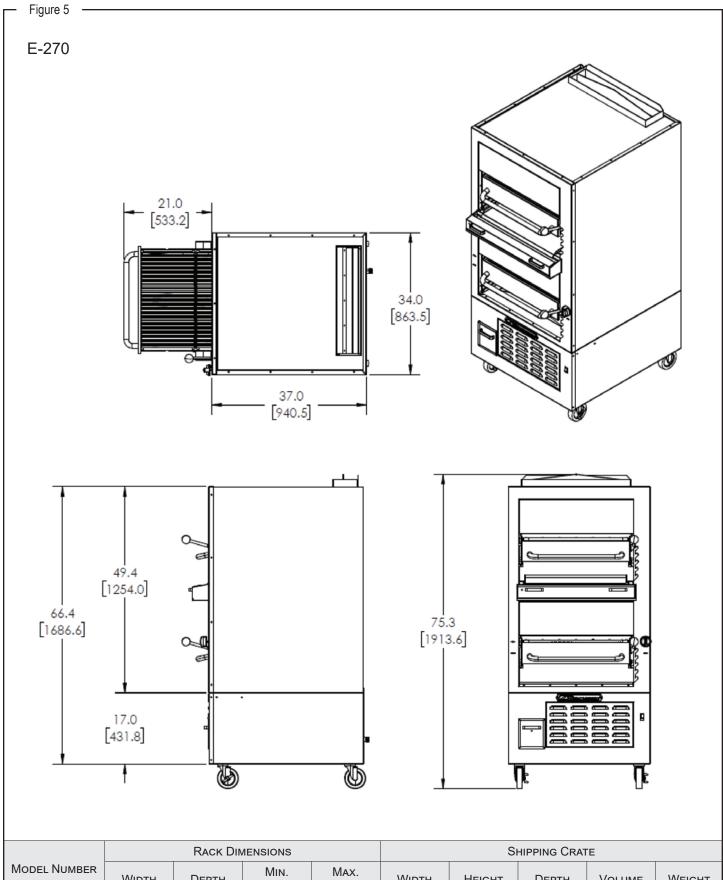
### **EXTERIOR DIMENSIONS**



|              |                  | RACK DIN         | MENSIONS       |                 |                  | SHIPPING CRATE |               |                           |                       |  |
|--------------|------------------|------------------|----------------|-----------------|------------------|----------------|---------------|---------------------------|-----------------------|--|
| MODEL NUMBER | WIDTH            | Dертн            | Min.<br>Height | Max.<br>Height  | WIDTH            | HEIGHT         | Dертн         | VOLUME                    | WEIGHT                |  |
| HDEB-24-316L | 16.2"<br>(409.5) | 26.7"<br>(678.2) | 2.1"<br>(53.4) | 8.8"<br>(223.6) | 37.5"<br>(952.5) | 60"<br>(1524)  | 55"<br>(1397) | 71.6 cu ft<br>(2.02 cu m) | 432 lbs<br>(195.9 kg) |  |



SPECIFICATIONS ELECTRIC BROILER



|              |                  | RACK DIN         | MENSIONS       |                 |                 | SHIPPING CRATE |               |                            |                       |
|--------------|------------------|------------------|----------------|-----------------|-----------------|----------------|---------------|----------------------------|-----------------------|
| MODEL NUMBER | WIDTH            | Dертн            | Min.<br>Height | Max.<br>Height  | WIDTH           | HEIGHT         | Dертн         | VOLUME                     | WEIGHT                |
| E-270        | 24.5"<br>(622.3) | 26.6"<br>(675.7) | 2.1"<br>(53.4) | 8.8"<br>(223.6) | 45.5"<br>(1156) | 83"<br>(2108)  | 55"<br>(1397) | 120.2 cu ft<br>(3.40 cu m) | 932 lbs<br>(422.7 kg) |

#### **CLEARANCES**

### **!**\ WARNING

#### MINIMUM CLEARANCES FROM COMBUSTIBLE CONSTRUCTION

There must be adequate clearance between the cooking equipment and combustible construction.

Clearance must also be provided for servicing and for operation.

#### Minimum Clearances:

|            | Minimum Clearance from Combustible Construction | Minimum Clearance from Non-Combustible Construction | Minimum Clearance from heat producing appliance |
|------------|---|---|---|
| Back       | 2"  | 2"  | 6"  |
| Right Side | 4"  | 0"  | 6"  |
| Left Side  | 4"  | 0"  | 6"  |
| Floor      | 0"  | 0"  | 6"  |

Units that have 152.4 mm (6") legs or casters, and may be installed on combustible floors.

Adequate clearance must be provided in the aisle and at the side and rear to allow operation and serviceability.

Clearance should be given above the flue so as not to activate hood fire suppression systems.

#### VENTILATION

#### **NOTICE**

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

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" (152.4 mm), past the appliance and that the bottom edge be located 6'6" (1981 mm) 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, unusually installed with a filter.

If an exhaust fan is used, it should be installed at least 2" above the flue opening at the top of the unit. A strong exhaust fan tends to create a vacuum in the room. Fresh air openings approximately equal to the fan area will relieve such a vacuum. In case of unsatisfactory performance on any 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.



INSTALLATION ELECTRIC BROILER

# 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 should comply with all local codes.

This appliance when installed, must be electrically grounded in accordance with local codes, or in the absence of local codes, with the *National Electrical Code*, *ANSI/NFPA 70* or the *Canadian Electrical Code*, *CSA C22.2*, as applicable.

### 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.

For each section, do the following:

- 1. Cut the banding straps and remove the corrugated cardboard surrounding the Southbend product. Do not remove any tags or labels attached to the equipment until the unit is installed and working properly.
- 2. Cut the banding strap holding the equipment to the wooden skid.
- 3. Unbolt the shipping hold-down brackets from the skid, then remove the brackets from the appliance.
- 4. If the equipment is to be installed on 6" legs, go to Step 2a.

  If the equipment is to be installed on 6" casters, go to Step 2b.



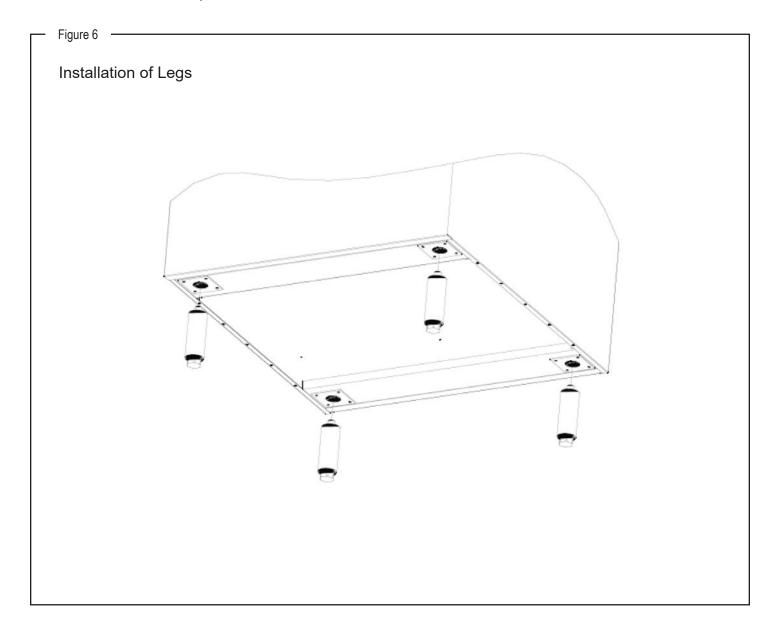
ELECTRIC BROILER INSTALLATION

### STEP 2A: ATTACH LEGS

A set of four legs is packed with equipment ordered with legs. (For units ordered with casters, go to Step 2b.)

1. Raise equipment sufficiently to allow legs to be attached. Use of a lift truck or other mechanical lifting means is recommended. For safety, "shore up" and support the equipment with an adequate blocking arrangement strong enough to support the load.

- 2. Screw the legs into the leg pad holes, located on bottom at each corner. The legs should be fully screwed into the leg pads.
- 3. Lower unit gently onto a level surface. Never drop or allow the unit to fall.
- 4. Use a level to make sure that the surface is level. The foot of each leg can be screwed in or out to lower or raise each corner of the unit.
- 5. Go on to Installation Step 3.





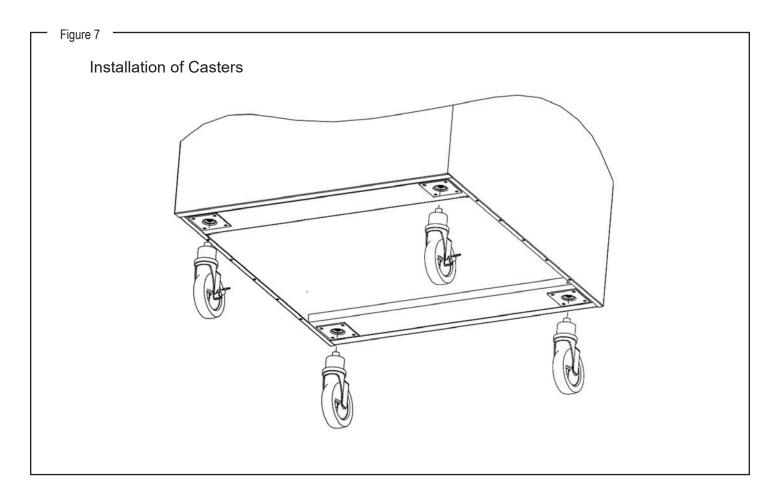
Installation Electric Broiler

### STEP 2B: ATTACH CASTERS

A set of four casters is packed with equipment ordered with casters (instead of legs).

A threaded leg pad is fastened to the base frame at each corner. Each caster has a corresponding mating thread. The casters can be adjusted to overcome a slightly uneven floor. Casters are provided with a fitting for proper lubrication when required.

- 1. Raise unit sufficiently to allow the casters to be attached. Use a lift truck or other mechanical lifting means is recommended. For safety, "shore up" and support the unit with an adequate blocking arrangement strong enough to support the load.
- 2. Screw the casters into the holes in the centers of the leg pads. Install the casters that have a locking brake under the front of the unit.
- 3. Lower the unit gently onto a level surface. Never drop or allow the unit to fall.
- 4. Use a level to make sure that the surface is level. The casters can be screwed in or out to lower or raise each corner of the unit.
- 5. Go to Installation Step 3.





ELECTRIC BROILER INSTALLATION

### STEP 3: ATTACH RESTRAINT

#### NOTICE

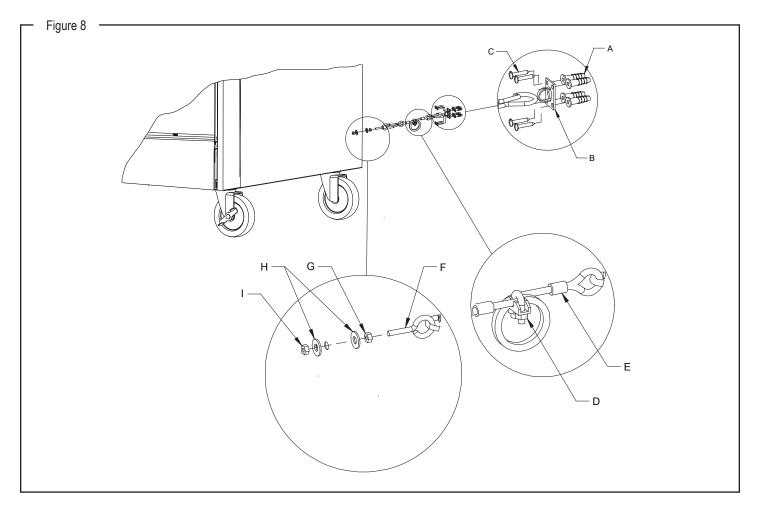
Local codes regarding installation vary from one area to another. Check with local codes regarding the need to install a restraint on electrical equipment when mounted on casters. If not stated, it is recommended that equipment be installed with a restraint to prevent damage to the equipment or injury to personnel.

Adequate means must be provided to limit the movement of the appliance without depending on the connector or its associated conduit to limit the appliance movement. Length of restraint must be shorter than cable and connector length measured together.

The restraining means should be attached to a frame member on the back of the unit.

For an example of installing the restraint cable to an appliance mounted on casters use the following:

- 1. Secure the restraining device bracket (item "B" in the following illustration) to a wall stud located as close as possible to the appliance connector inlet and outlet connections. Use four #12 screws (item "C") and plastic anchors (item "A") if necessary.
- 2. Install eye-bolt (item "F") to a frame member on the rear of the equipment. After checking carefully behind the frame member for adequate clearance, drill a 1/4" hole through the frame member.
- 3. Thread hex nut (item "G") and slide the washer (item "H") onto the eye-bolt. Insert the eye-bolt through the 1/4" drilled hole and secure with a washer (item "H") and nylon lock nut (item "I").
- 4. Using the spring-loaded snap hooks, attach the restraining device to the bracket and the eye-bolt.
- 5. Using the cable clamp (item "D"), adjust the restraining device extended length.



Installation Electric Broiler

#### STEP 4: CONNECT ELECTRICITY

Wiring diagram location will vary depending on the model:

- For HDEB-24 broilers the wiring diagram is located in the rear of the base.

Be sure that the input voltage and phase match the requirements shown on the serial plate.

Broilers are factory equipped with a three pole terminal block located in the rear of the unit. To connect the supply wires in the case of the E-170/E-270, remove the front panel, feed the supply wires and ground wire through the rear pass through holes, route through the strain relief fitting behind the terminal block, and connect using a wire terminal with a 1/4" hole. The grounding wire is inserted into a ground lug and the screw tightened down. After installation is complete, tighten the strain relief. Reapply the front panel and tighten the set screw to lock the panel in place. Failure to do so could lead to personal harm.

The HDEB-24 installation begins by removing the rear access panel and feeding the supply wires through the strain relief clamp. Feed the ends of the supply wires into the provided three pole terminal block and tighten down. Install the grounding wire into the provided ground lug and tighten as well. Tighten the strain relief clamp and reinstall the access panel.

### STEP 5: CHECK THE INSTALLATION

- 1. Check that all screws and bolts are tightened.
- Check electrical connection(s).
- Move the appliance into the final position at which it will be operated.
- 4. Check that the appliance is level. If not, adjust the legs or casters.
- 5. Check that the appropriate minimum clearances are satisfied (see page 9).
- Check that there is sufficient clearance to fully pull-out broiler grid(s) and drippings drawer(s).
- 7. Check that adequate ventilation (fresh air supply and hood exhaust) is available.
- 8. Wipe clean all cooking surfaces.

### STEP 6: CHECK BROILER OPERATION

- 1. Turn electricity supply on.
- 2. Turn electric power switch to the ON position.
- 3. Rotate the knobs to the HI position and confirm that all elements glow red.
- 4. Turn-off all burners. Allow appliance to cool.

### STEP 7: SHUT-DOWN AND WIPE-CLEAN

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



ELECTRIC BROILER OPERATION

# **OPERATION**

#### NOTICE

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

#### OPERATION OF ELECTRIC BROILER

Southbend electric broilers reach operating temperature after 30 minutes of preheating, and their intense infrared energy quickly heats the food, not the surrounding air. The broiling grid adjusts to four heights, and rolls out for easy access. As it is electric, no blower is necessary in order to continue proficient cooking and no flames mean that oil splatters do not cause flare ups on the surface of the food.

The broiler grid is 24-1/2" wide by 28" deep, and rolls out 17-1/4". The front 3" of the grid receives less heat, and so can be used as a holding area. As food cooks, drippings drain into a collection drawer that is out of the heat zone. To operate the broiler, do the following:

Each broiler has at least two control knobs (four on the E-270). The knob on the left controls the burners that heat the left side of the broiler, while the knob on the right controls the burners that heat the right side of the broiler. The E-270 knobs are set-up so that the knobs that are higher control the top deck and the ones that are lower control the lower deck.

- Turn the power rocker switch to ON. (The unit elements will not turn on if the switch is not set)
- Turn the knobs to their intended intensity.
- 3. Turn the burner control(s) to HIGH and visually check that the burners have energized. When the burners energize, the elements should begin to give off heat. After 5 minutes all of the elements should glow red.
- 4. If searing the food to mark it with grid marks is desired, before placing food on the rack move the broiler rack to its highest position and allow the burners to operate for five minutes.
- 5. Turn the burner control(s) 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.
- 7. Pull out the rack, place food on it, and slide the rack back into the broiler. Remember that the front 3" of the rack receives less heat so it can be used as a holding area. This holding area is marked by a 1/8" diameter rod.
- Cook the food for the appropriate time, turning it when appropriate. Periodically check the broiler drippings drawer(s) and empty if necessary.
- When done broiling, turn the burner controls and power switch to OFF. (To keep the broiler grid hot in order to mark food with sear marks without preheating, turn the burner controls at LOW and move the broiler rack to its highest position.)

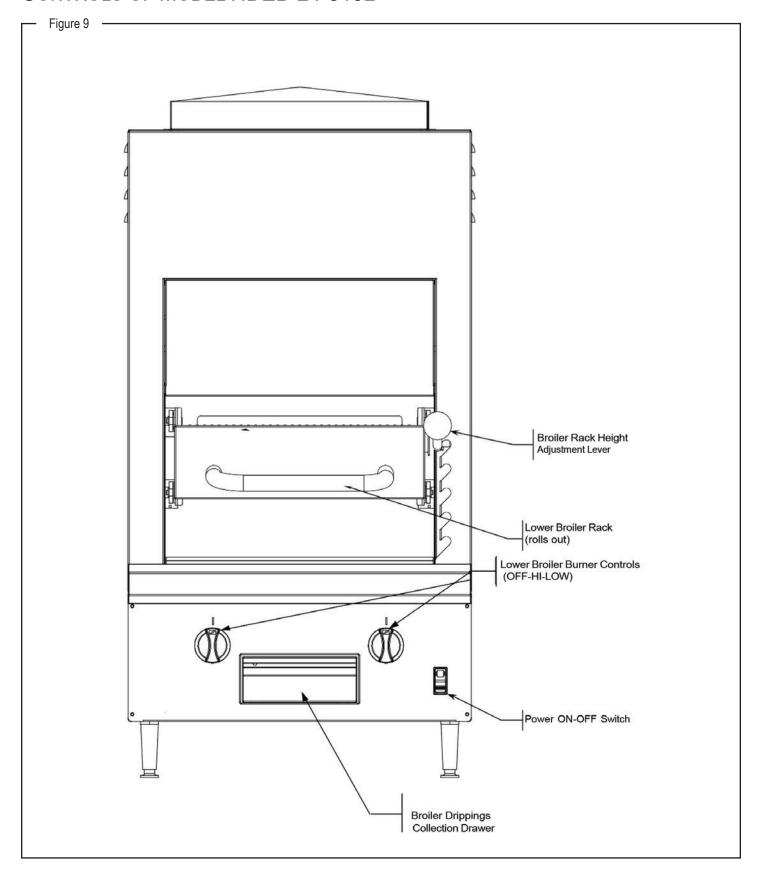
### SHUTDOWN OF BROILER

To place the broiler in a standby state (ready for use), turn all burner controls & POWER switch to OFF.



OPERATION ELECTRIC BROILER

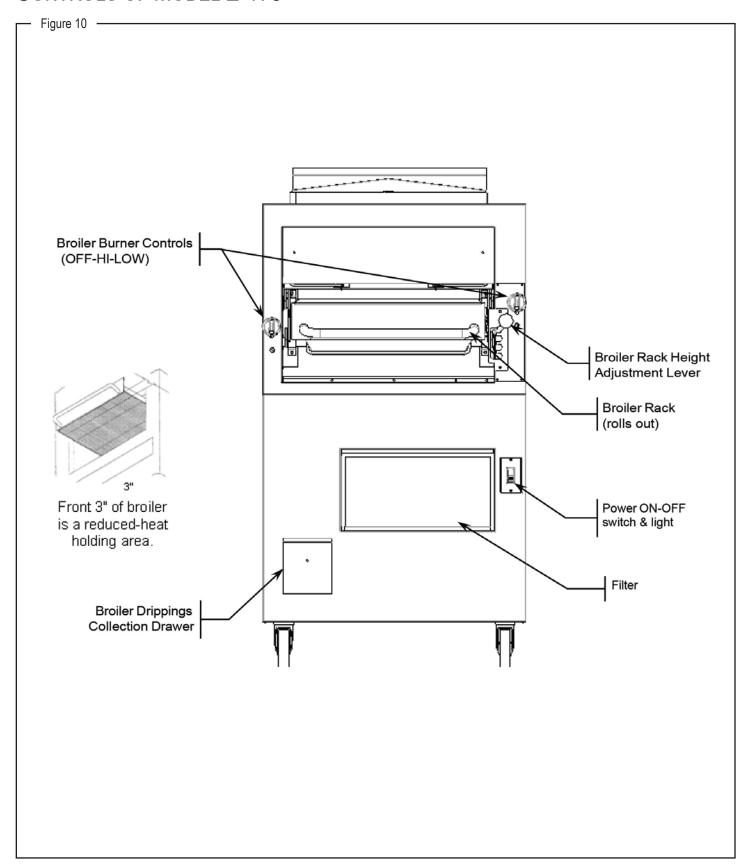
### CONTROLS OF MODEL HDEB-24-316L





ELECTRIC BROILER OPERATION

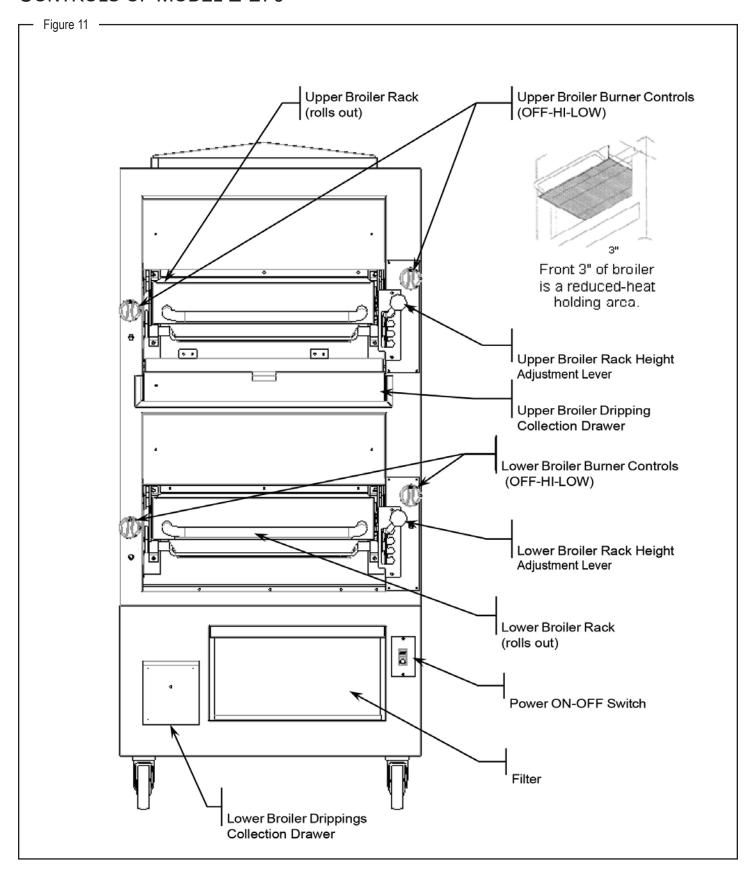
### **CONTROLS OF MODEL E-170**





OPERATION ELECTRIC BROILER

### **CONTROLS OF MODEL E-270**





ELECTRIC BROILER COOKING HINTS

# Cooking Hints

Due to the speed of the Infra-red broiler, broiling times will be reduced and cooking techniques may need some modification. For most broiling of steaks, chops, etc., the burners should be operated on "HI" and the degree of internal rareness and surface condition can be controlled by raising or lowering the rack mechanism. For products such as fish, or fowl, where the product must be broiled thoroughly, the heat may be reduced and rack position lowered to prevent charring of the skin surface.

#### INFRA-RED BROILING GUIDE

| Namp<br>Number | Type of Product<br>Infrared Burners | THICKNESS    | WEIGHT | MEAT<br>TEMP | *Rack<br>Pos. | Rare  | MED RARE | MED.  | MED.<br>WELL | WELL   |
|----------------|-------------------------------------|--------------|--------|--------------|---------------|-------|----------|-------|--------------|--------|
| 180            | Strip Loin Steak (Ctr Cut)          | 1-1/2"       | 16 oz. | 40°          | 2 (d)         | 4     | 6-1/2    | 9     | 10-1/2       | 11-1/2 |
| 180            | Strip Loin Steak (Ctr Cut)          | 1-1/2"       | 16 oz. | 40°          | 3 (d)         | 4-1/2 | 7        | 9-1/2 | 11           | 12     |
| 180            | Strip Loin Steak (Ctr Cut)          | 3/4"         | 12 oz. | 40°          | 3 (d)         | 3     | 5        | 6-1/4 | 7            |        |
| 190            | Beef Tenderloin<br>(Ctr Cut)        | 2"           | 8 oz.  | 40°          | 3 (d)         | 5-1/2 | 8        | 10    | 12           | 14     |
| 412            | Pork Chop                           | 1"           | 8 oz.  | 70°          | 3 (d)         |       |          |       |              | 9      |
| 231            | Lamb Chop                           | 1-1/4"       | 7 oz.  | 70°          | 3 (d)         |       | 5-1/2    |       | 8            |        |
| 184            | Butt Steak<br>(End Cut)             | 1"           | 10 oz. | 70°          | 3 (d)         | 2-1/2 | 4-1/2    | 6     | 7            | 7-3/4  |
| 184            | Lobster Tail (Preboiled)            |              | 10 oz. | 70°          | 3 (d)         |       |          |       |              | 2-1/2  |
| 184            | Ground Chuck Steak<br>Patty         | Approx. 1/2" | 4 oz.  | 70°          | 2 (d)         |       | 5        | 7     | 8            |        |
| 184            | Ground Chuck Steak<br>Patty         | Approx. 1"   | 8 oz.  | 70°          | 2 (d)         |       | 6        | 8     | 10           |        |

### DONENESS OF PRODUCT WAS BASED ON THE FOLLOWING

STEAK - RARE - Deep Red Center MEDIUM RARE - Red Center MEDIUM - Deep Pink Center MEDIUM WELL - Light Pink Center WELL - Brown Center

**FISH** - Burners on low setting, grid in low position, place fish on a pan approximately 5 or more minutes accordingly based on type and thickness of fish.

**CHICKEN HALVES OR QUARTERS** - Burners on low setting, grid in low position, approximately 12 to 14 minutes bone side up, approxi- mately 5 minutes skin side up according to size.

THIS IS INTENDED AS A GUIDE. TEMPERATURE OF MEAT, SIZE OF PORTION, LOAD IN BROILER, DEGREE OF DONENESS, OR OTHER VARIABLES WILL DETERMINE THE BROILING PROCEDURE.



COOKING HINTS ELECTRIC BROILER

### TROUBLESHOOTING BY OPERATOR

The following table lists the possible causes and solutions of problems that may occur during operation.

| PROBLEM                      | Possible Causes and Solutions  |
|------------------------------|--------------------------------|
| A top burner will not light. | Check electric supply to unit. |
| Broiler will not heat up.    | Check electric supply to unit. |
| Burners will not remain lit. | Check electric supply to unit. |

If other appliances connected to the same source of electricity are also not operating correctly, the problem is likely not within the equipment.

If the problem only occurs for the Southbend equipment, and if the above solutions to do not solve the problem, call for repair service.



ELECTRIC BROILER CLEANING

## **CLEANING**

### **∕**!\ WARNING

FOR YOUR SAFETY, DISCONNECT THE POWER SUPPLY TO THE APPLIANCE BEFORE CLEANING.

DO NOT REMOVE PANELS THAT REQUIRE TOOLS TO REMOVE.

### 

Adjustments and service work should be performed only by a qualified technician who is experienced in, and knowledgeable with the operation of commercial gas and/or electric cooking equipment. To assure confidence, contact your authorized service agency for reliable service, advice and other assistance with your appliance. Insist upon genuine factory parts to be used for any repair or service of your appliance.

Southbend appliances are sturdily constructed of the best materials and are designed to provide durable service when treated with ordinary care. To expect 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 clean at all times.

#### Daily Cleaning and Maintenance

The daily cleaning procedure is as follows:

- 1. Remove, empty, and clean drippings collection drawer(s)
- 2. Clean drippings drain chute.
- 3. Throughly wash grease hopper below rack(s)
- 4. Throughly wash rack(s)
- 5. Remove and clean all broiler racks and broiler grease traps.
- 6. Wipe clean all exterior surfaces.
- 7. Replace the cleaned and dried drippings trays, grease drawers, and broiler components.

The following tasks should be performed monthly:

- 1. Clean burner air intake filter on front of the unit.
- 2. Clean around burners if debris has accumulated.
- Inspect and lubricate bearings as needed

#### **VENT SYSTEM**

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



Cleaning Electric Broiler

#### 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 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 equipment during slack periods.

#### **BROILER**

To prevent excess smoking, the grids, rack drip pan, 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 similar scrub pad that will leave small particles, which can get into food. The 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 grid and clean it with a wire brush or non-toxic solvent.
- 3. Remove the rack pan and clean.
- 4. With rolling rack pulled-out to its "stop," raise front handle so rack's rollers will come through the notches in the raising and lowering frame. Clean all parts where residue can collect.
- 5. Clean all parts of the raising and lowering frame.
- 6. Clean entire hopper section of all caked grease and residue.
- 7. Lubricate bearings with cooking oil.
- 8. Reserve procedure to reasemble broiling rack mechansim.



ELECTRIC BROILER ADJUSTMENTS

# **ADJUSTMENTS**

### **∕**!\ WARNING

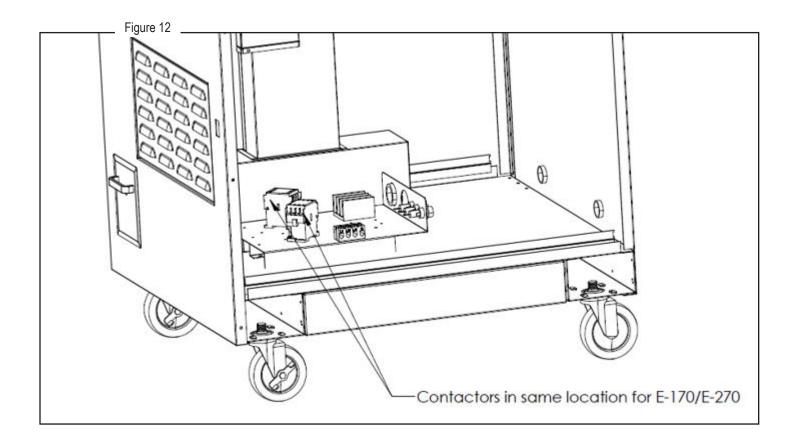
ADJUSTMENTS AND SERVICE WORK MAY BE PERFORMED ONLY BY A QUALIFIED TECHNICIAN WHO IS EXPERIENCED IN, AND KNOWLEDGEABLE WITH, THE OPERATION OF COMMERCIAL COOKING EQUIPMENT. HOWEVER, TO ASSURE YOUR CONFIDENCE, CONTACT YOUR AUTHORIZED SERVICE AGENCY FOR RELIABLE SERVICE, DEPENDABLE ADVICE OR OTHER ASSISTANCE,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

#### NOTICE

Warranty will be void and the manufacturer is relieved of all liability if service work is performed by other than a qualified technician, or if other than genuine Southbend replacement parts are installed.

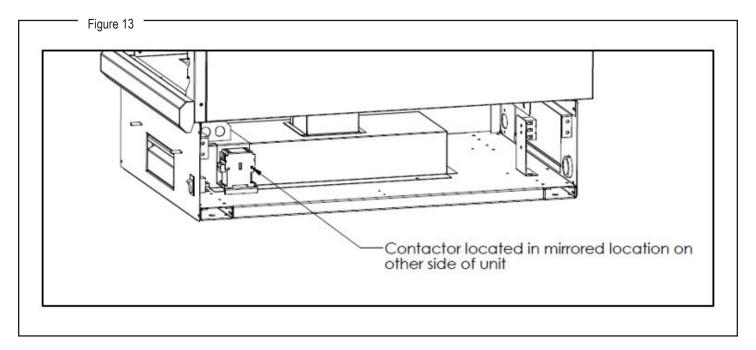
#### Conversion from single-phase to three-phase power (or vice versa)

Broilers are shipped wired for either single-phase or three-phase power according to the original factory order. If the broiler installation requires changing the type of power used by the broiler, follow the procedure below. The following drawing shows the locations of items referred to in the procedure.

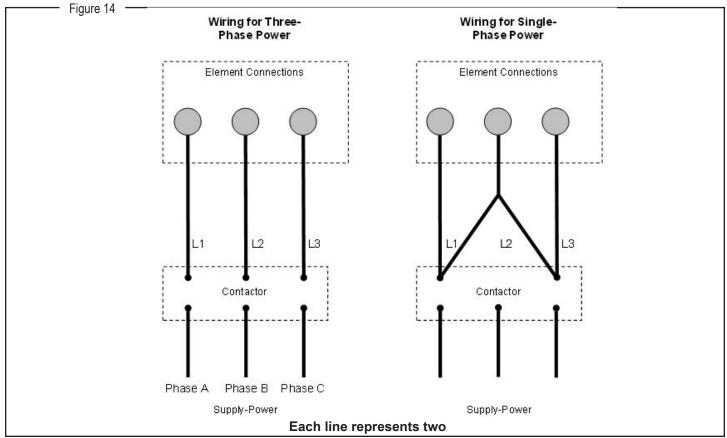




ADJUSTMENTS ELECTRIC BROILER



- 1. If the broiler is connected to a power supply, DISCONNECT BROILER FROM POWER SUPPLY.
- 2. Locate the front louvered panel if operating a E-170/E-270, or the front control panel on a HDEB-24.
- 3. For the front louvered panel, remove the cap in the center left to expose the set screw and then remove the screw. Pull hard to remove the panel. This will allow access into the base cavity. For the HDEB-24 front control panel, remove the four screws around the corners to free the control panel. To work on the contactors, remove the two 1/4-20 bolts that fasten the controls carriage in place.



ELECTRIC BROILER ADJUSTMENTS

4. Locate the wires running from the contactor to the elements. If converting from three-phase to single-phase power, remove the wires from L2 (as shown in the above drawing) and go on to the next step. If converting from single-phase to three-phase power, use the wire with a white band found in the previous step to make the connection (L2) shown in the above drawin

- 5. If converting from three-phase to single-phase, there will be a wire in the L2 position with white and red bands and another with white and black bands. These wires will then be moved to the L1 and L3 positions with the wires with like bands.
- 6. Carefully compare the new wiring connections at the contactor. Verify that all connections are tight.
- 7. Reattach the louvered front panel or front control panel to the respective units.
- 8. Connect the broiler to the power supply according to the procedure on page 14. **Note that the supply-power connections** depend on whether the supply power is three-phase or single phase, and so will be different than they were prior to the conversion.



Troubleshooting Electric Broiler

# **TROUBLESHOOTING**

### **!** WARNING

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

#### NOTICE

Warranty will be void and the manufacturer is relieved of all liability if service work is performed by other than a qualified technician, or if other than genuine Southbend replacement parts are installed.

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.

In case of problems in operation at initial installation, check type of electric service and compare with information listed on the serial plate.

### TROUBLESHOOTING FLOWCHARTS, PROCEDURES, AND WIRING DIAGRAMS

Find the symptom below that corresponds to the malfunction, then turn to the corresponding page. Follow the flowchart on that page until the problem is solved.

#### **NOTICE**

This section contains troubleshooting flowcharts, procedures, and electric schematics to assist a qualified service technician in the servicing of Southbend cooking equipment. Information in the troubleshooting section is intended only as a guideline to isolate and test components. Before performing repair or ordering parts contact a Southbend Technical Service representative at 919-762-1000 option 2.

| TROUBLESHOOTING FLOWCHART, PROCEDURE, OR WIRING DIAGRAM | Page |
|---|------|
| Troubleshooting Broiler                                 | 27   |
| Wiring Diagram for 208/240V HDEB-24-316L                | 28   |
| Wiring Diagram for 480V HDEB-24-316L                    | 29   |
| Wiring Diagram for 208/240V E-170/E-270                 | 30   |
| Wiring Diagram for 480V E-170/E-270                     | 31   |



ELECTRIC BROILER TROUBLESHOOTING

### TROUBLESHOOTING BROILER

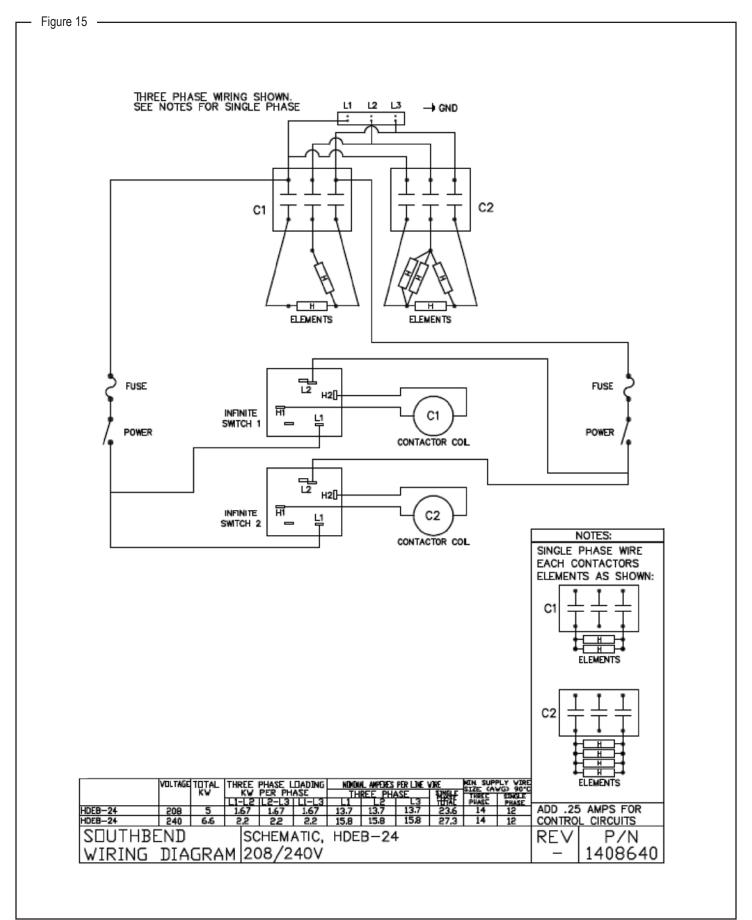
The following table lists the possible causes of oven-related problems that may occur.

| Problem                | Look for - 1                        |
|------------------------|-------------------------------------|
| No heat                | Power supply tripped                |
|                        | Fuse blown                          |
|                        | Power switch disconnected           |
|                        | Control switch disconnected         |
|                        | Contactor relay disconnected        |
|                        | Faulty contactor                    |
|                        | Faulty control switch               |
| Element not turning on | Disconnected contactor wire         |
|                        | Disconnected wire into element tray |
|                        | Disconnected element lead           |
|                        | Faulty element                      |



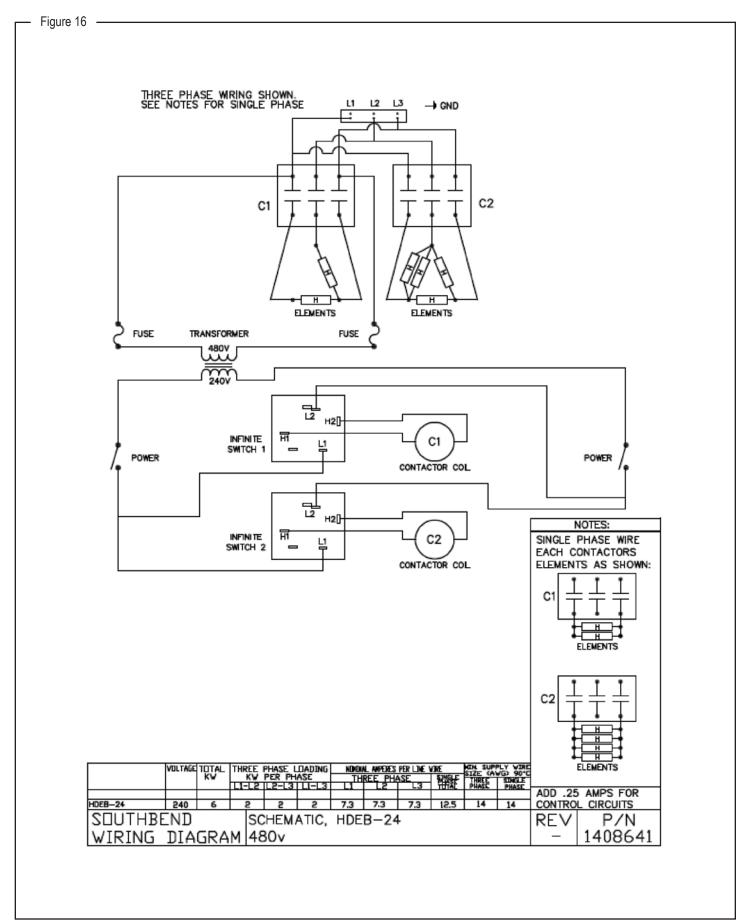
TROUBLESHOOTING ELECTRIC BROILER

### DIAGRAM FOR 208/240V HDEB-24-316L



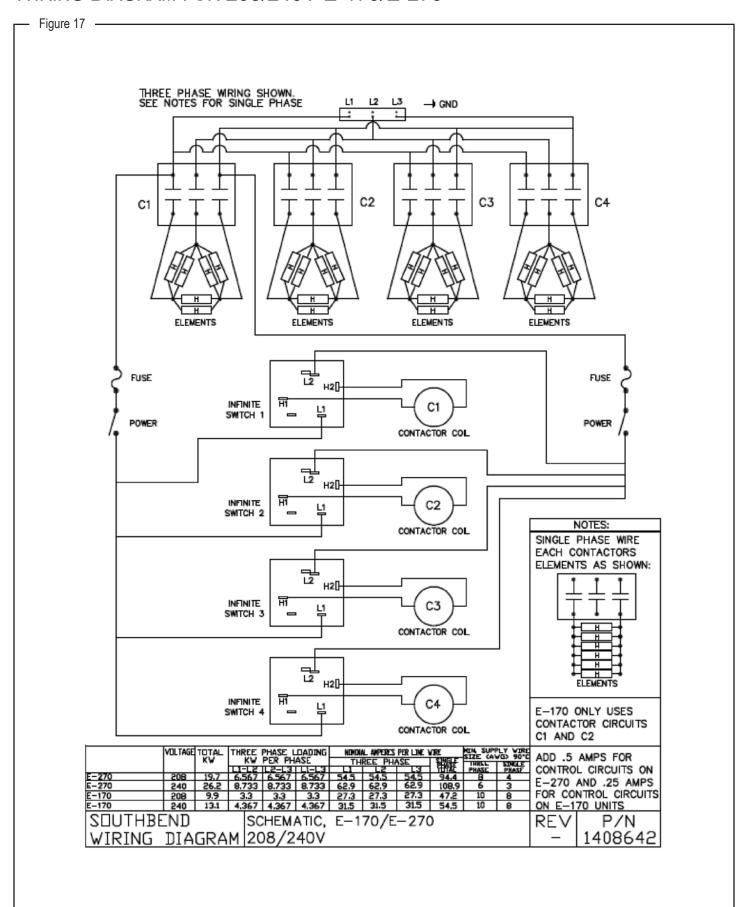
ELECTRIC BROILER TROUBLESHOOTING

### WIRING DIAGRAM FOR 480V HDEB-24-316L



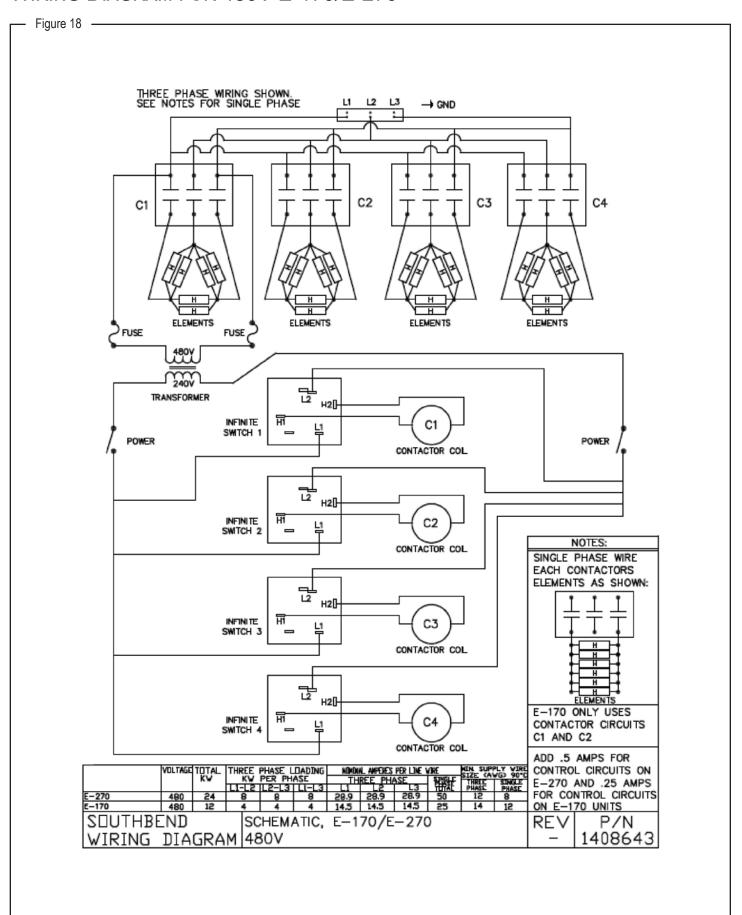
TROUBLESHOOTING ELECTRIC BROILER

### WIRING DIAGRAM FOR 208/240V E-170/E-270



ELECTRIC BROILER TROUBLESHOOTING

### WIRING DIAGRAM FOR 480V E-170/E-270



### **Notes**



**Notes** 



# **ELECTRIC BROILER**





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.





#### **SOUTHBEND**

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