

R3(N)-1, R3B(N)-1 R3 GRILL HEAD

GAS-FIRED



IMPORTANT INFORMATION

IMPORTANT

This manual should be read thoroughly by the installer and by anyone who will use or maintain the grill.

Installer - Write the model number, serial number, and date of installation in the manual. If available, attach a copy of the receipt. Leave this manual with the grill owner.

Grill Owner - Read and retain this manual. It contains instructions on using and maintaining your grill, plus information on ordering replacements parts. Attach a copy of your receipt to this manual. Your receipt established the proof of purchase required for warranty replacement parts.

A WARNING

Follow the instruction in this manual for proper installation and maintenance of the grill. Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

A DANGER: FOR YOUR SAFETY

IF YOU SMELL GAS:

- 1. Extinguish any open flame.
- 2. Shut off gas to the appliance.
- 3. Open the grill lid.
- 4. If odor continues, keep away from the appliance call your gas supplier or your fire department.

A WARNING: FOR YOUR SAFETY

- 1. Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any appliance.
- 2. Only the LP tank connected for use shall be placed in the vicinity of this grill.

A CAUTION:

Parts may have sharp edges. Wear leather work gloves and handle parts carefully during unpacking, assembly and installation.

A WARNING

F or LP grills, use propane cylinders equipped with an Overfill Protection Device (OPD). An overfilled or improperly filled propane cylinder can be dangerous.

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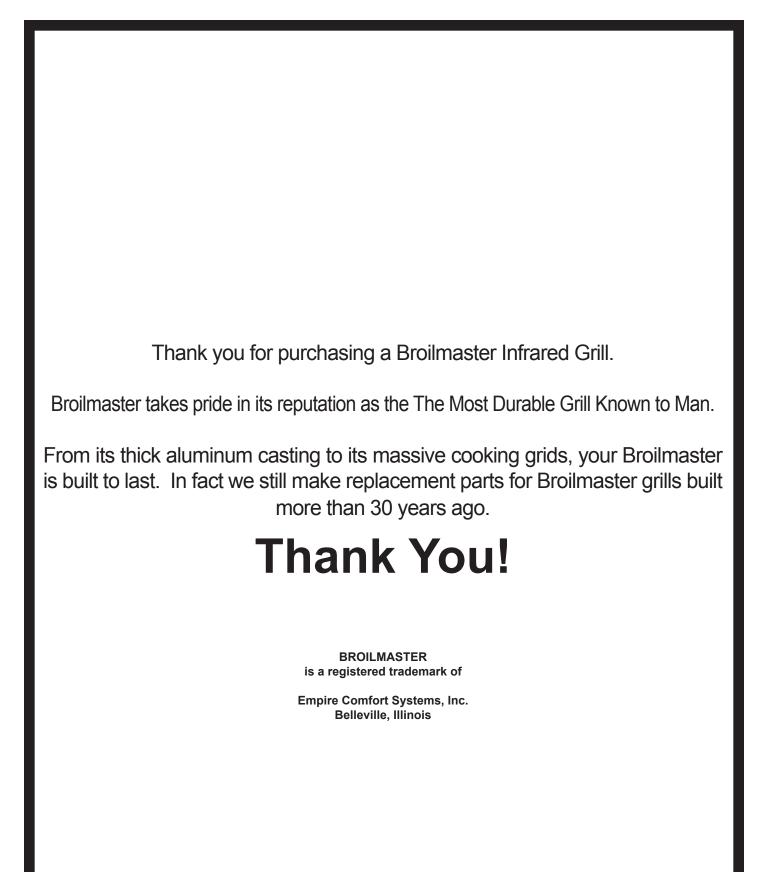


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You have chosen the finest grill for your outdoor cooking pleasure.	
Please take time to read this entire manual before assembling your Broilmaster	Infrared grill

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ASSEMBLY INSTRUCTIONS

BEFORE YOU BEGIN

This Grill Head requires Broilmaster Mounting (Cart, Post, or a Built-In Kit). See Mounting Instructions to assemble mounting before Assembling Grill Head.

Compare the parts in the box to the parts list provided in this manual. If any are missing, contact your Broilmaster dealer before beginning assembly.

All Broilmaster grills require some assembly. For the best results, follow the step-by-step instructions.

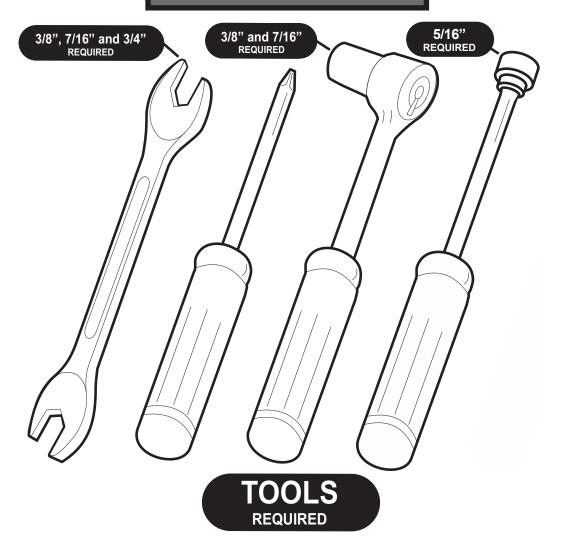
For natural gas grills and for permanently mounted LP grills, have your gas supplier run service to the desired location first.

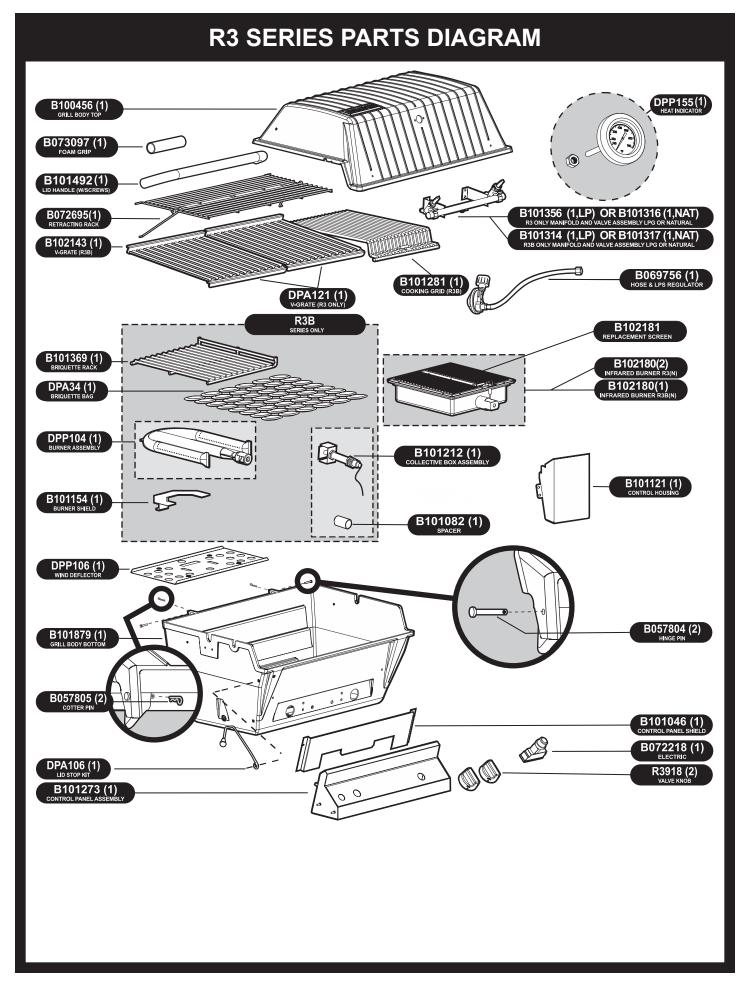
If you purchased an accessory with your Broilmaster, follow the instructions provided.



CAUTION:

Parts may have sharp edges. For your safety wear leather work gloves and handle parts carefully during unpacking and assembly.





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GRILL HEAD HARDWARE PACK - B101274



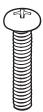




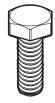








PHILLIPS PAN HEAD SCREW, SS,10-24 X 1 B073978 (2)



HEX HEAD BOLT, SS,1/4-20 X 3/4 B063096 (2)



HEX NUT, SS,1/4-20 B076331 (2)



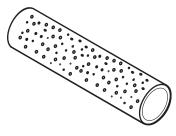
GROUND WIRE B072684 (1)



BATTERY, AA B076529 (1)



KNOB R3918 (2)



FOAM GRIP B073097 (1)

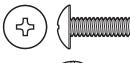


IGNITER GROUND LUG B069747 (2)



ORIFICE B101063 (2)

LID STOP HARDWARE PACK - B101097





PHILLIPS TRUSS HEAD SCREW, 10-24 X 3/4 B076522 (1)









KEPS NUT, SS,10-24 B073967 (1)

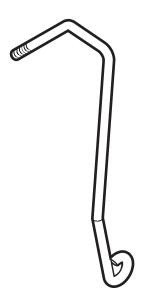




FLAT WASHER, 1/4 ID X 5/8 OD B076332 (2)



SPACER B662325 (1)

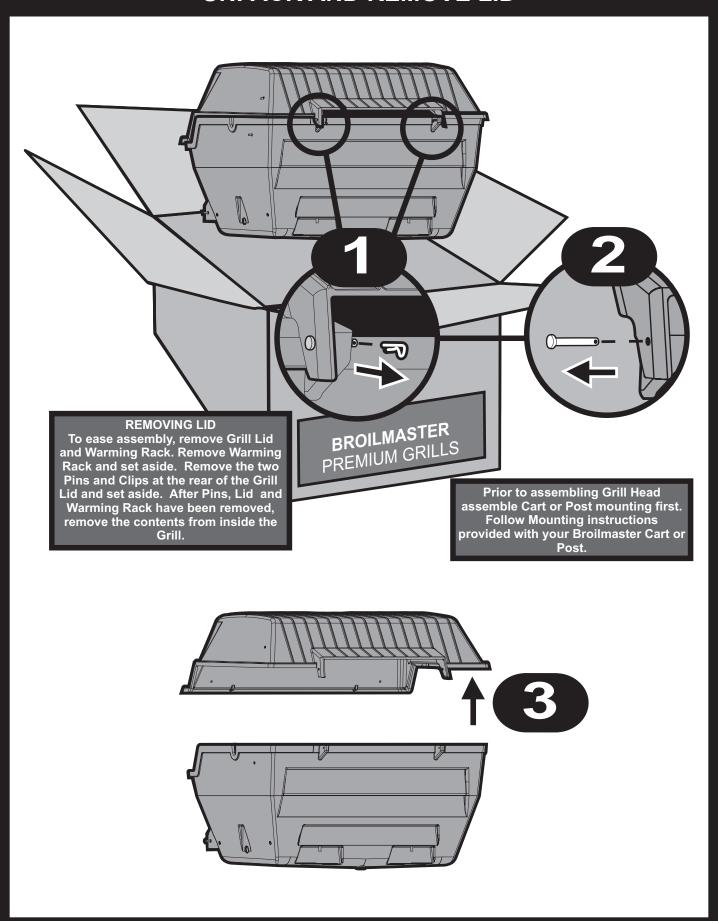


LID, STOP B076521 (1)



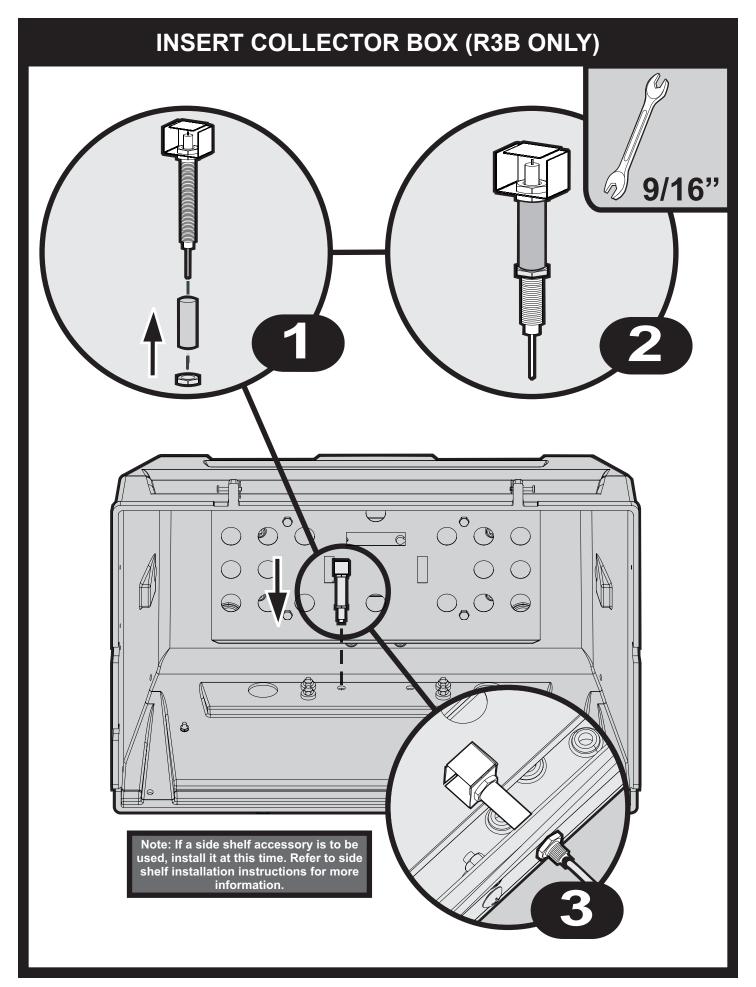
KNOB, TAPERED B100098 (1)

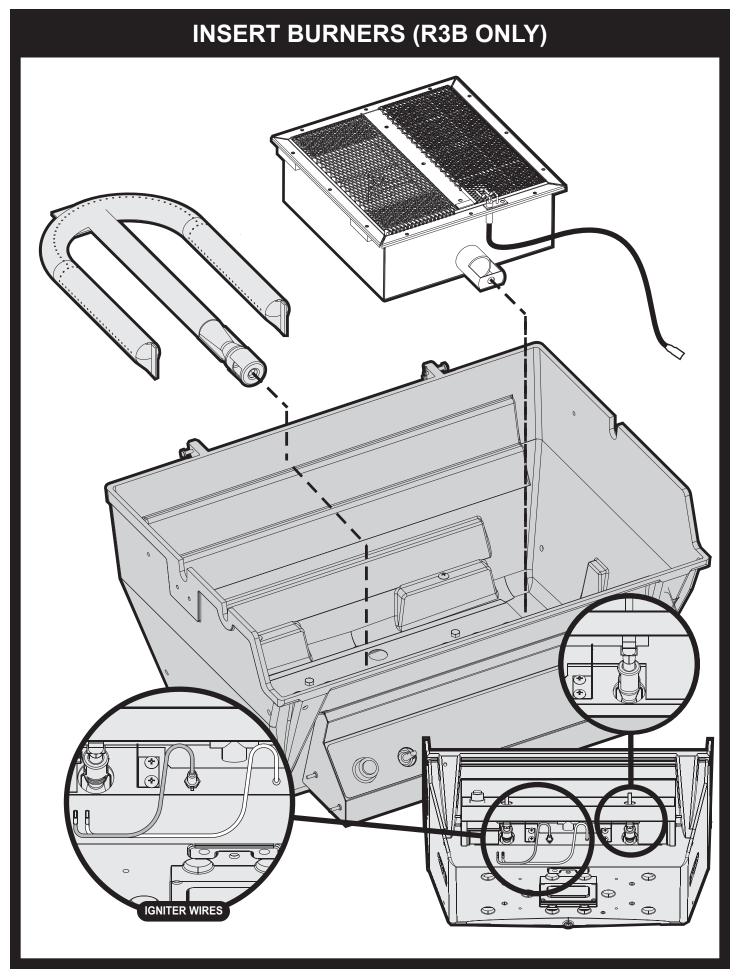
UNPACK AND REMOVE LID



WIND DEFLECTOR PLACEMENT Place the Wind Deflector in the bottom Casting.

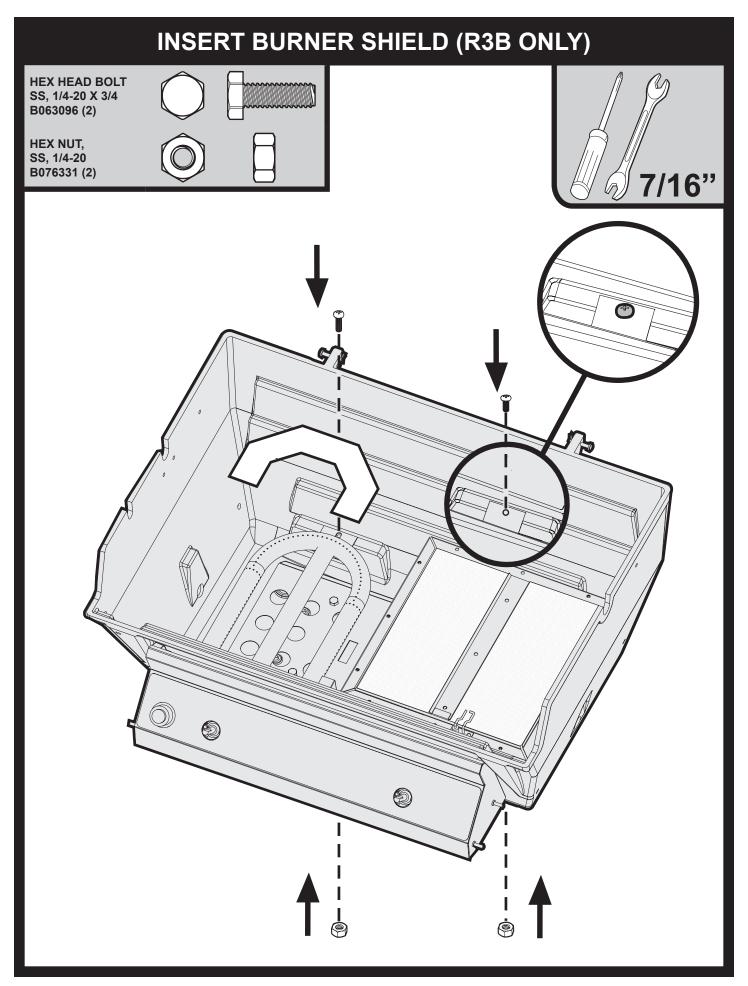
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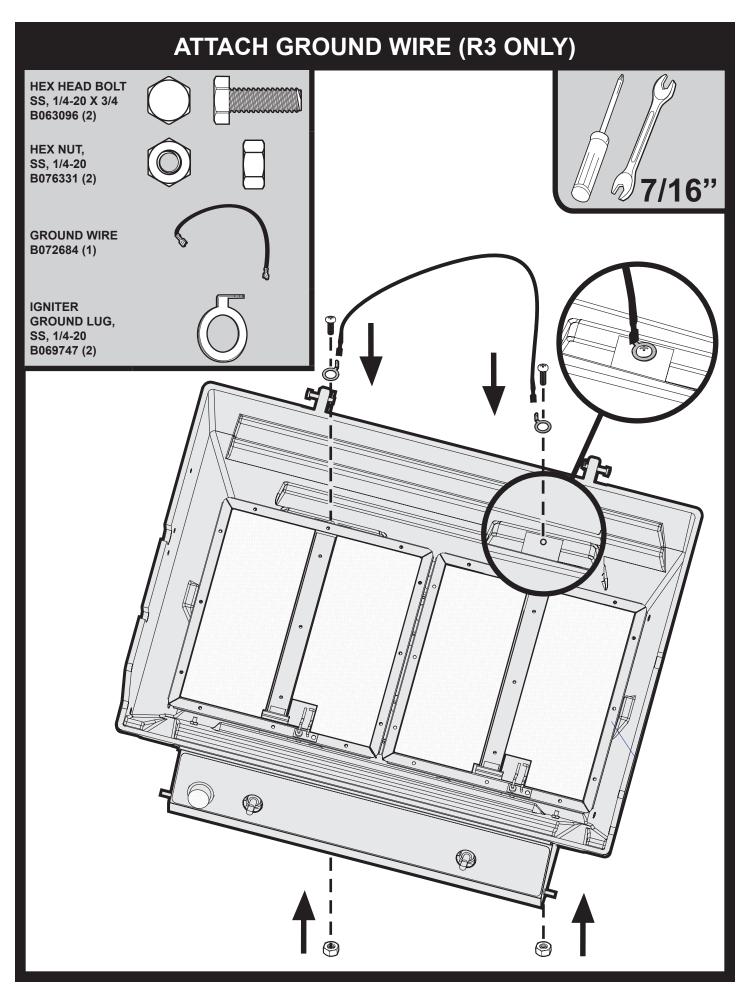


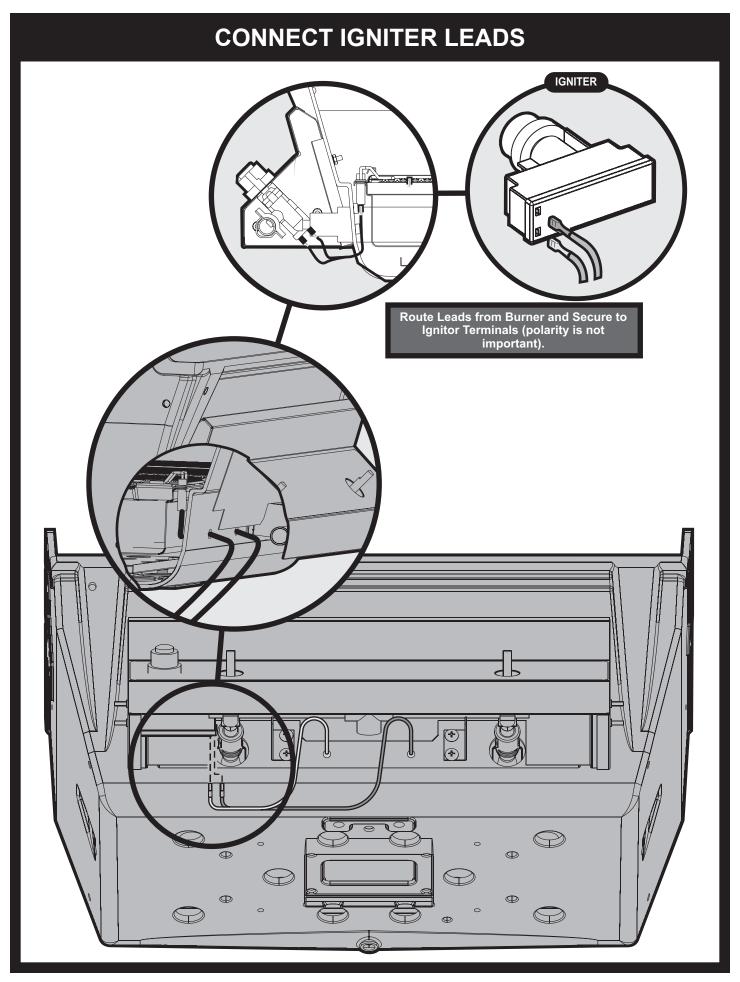
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INSERT INFRARED BURNERS (R3 ONLY) IGNITER WIRES

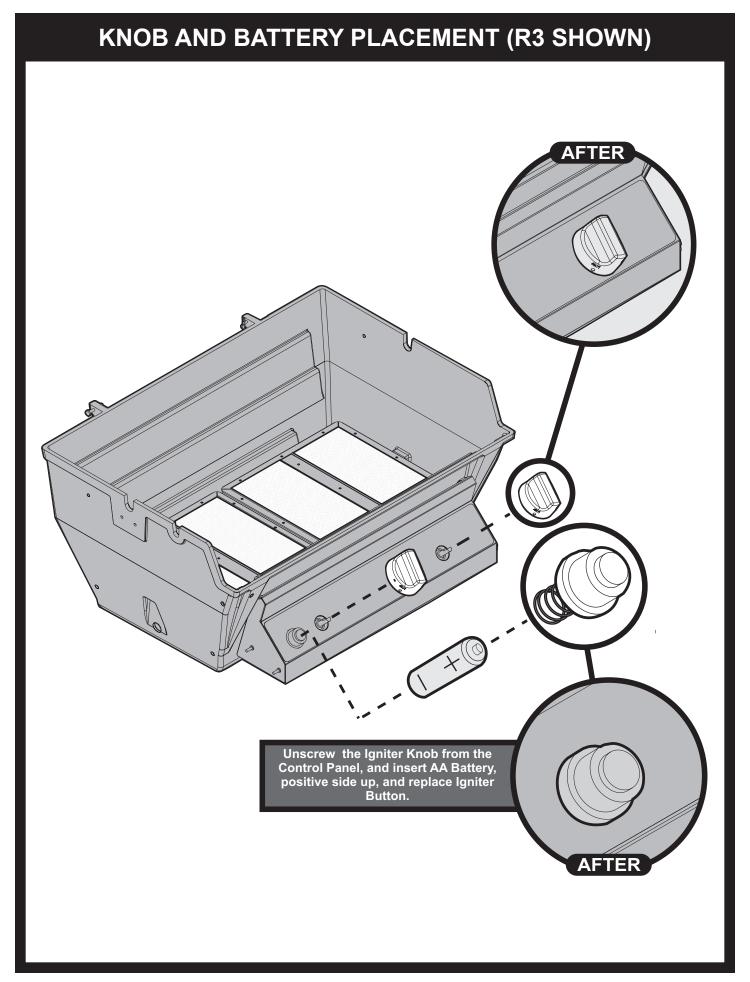


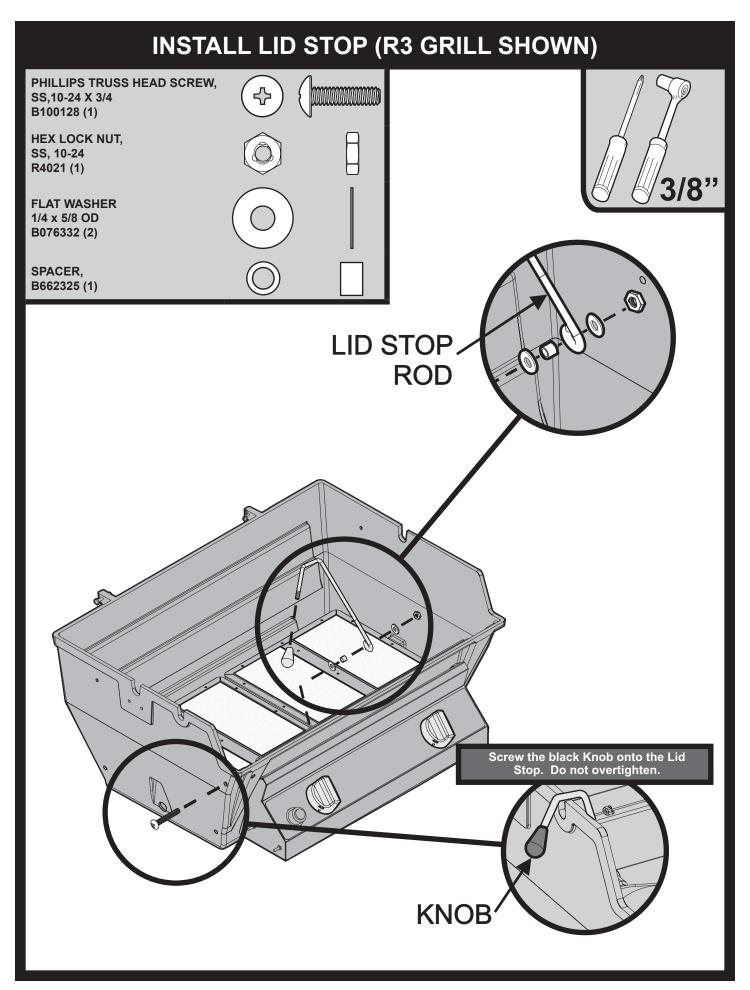
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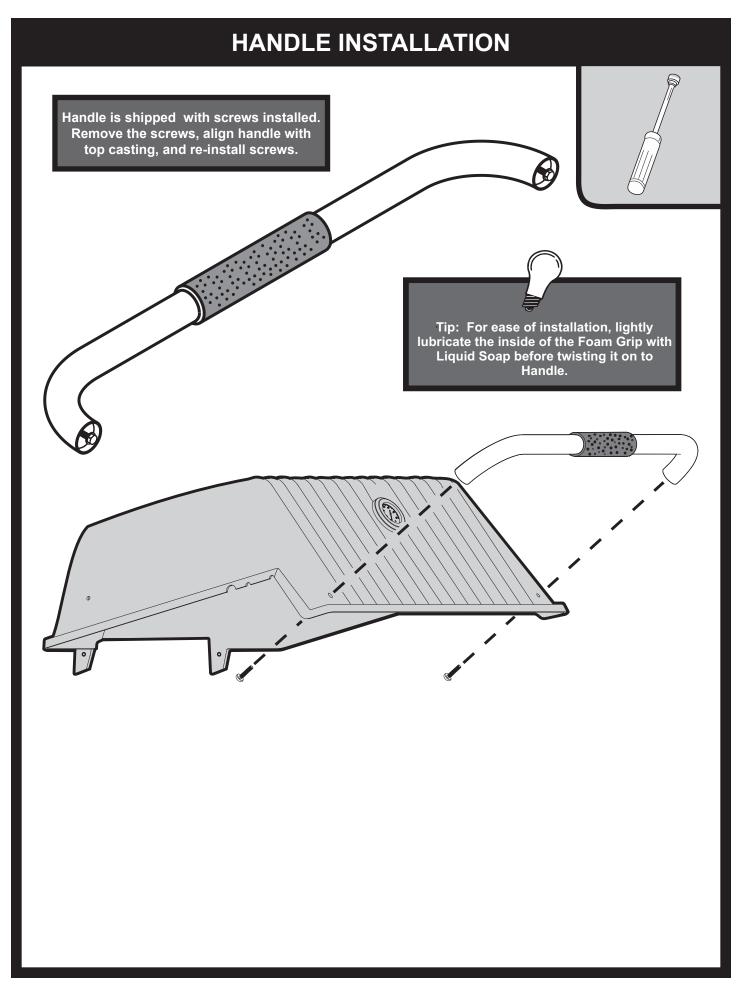


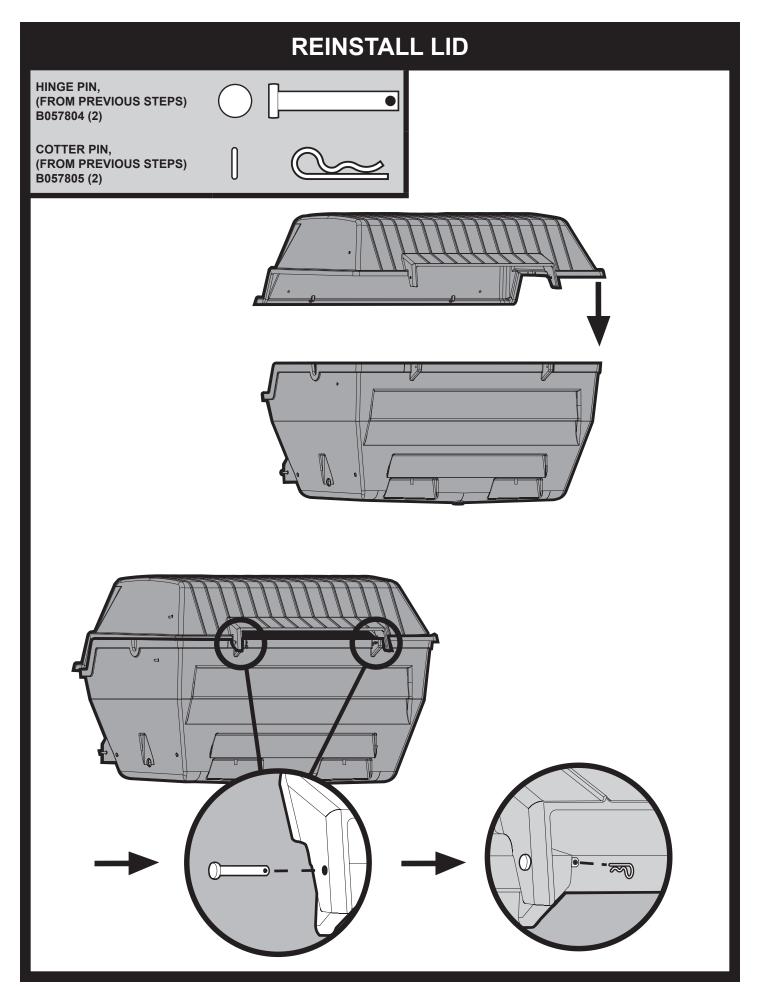
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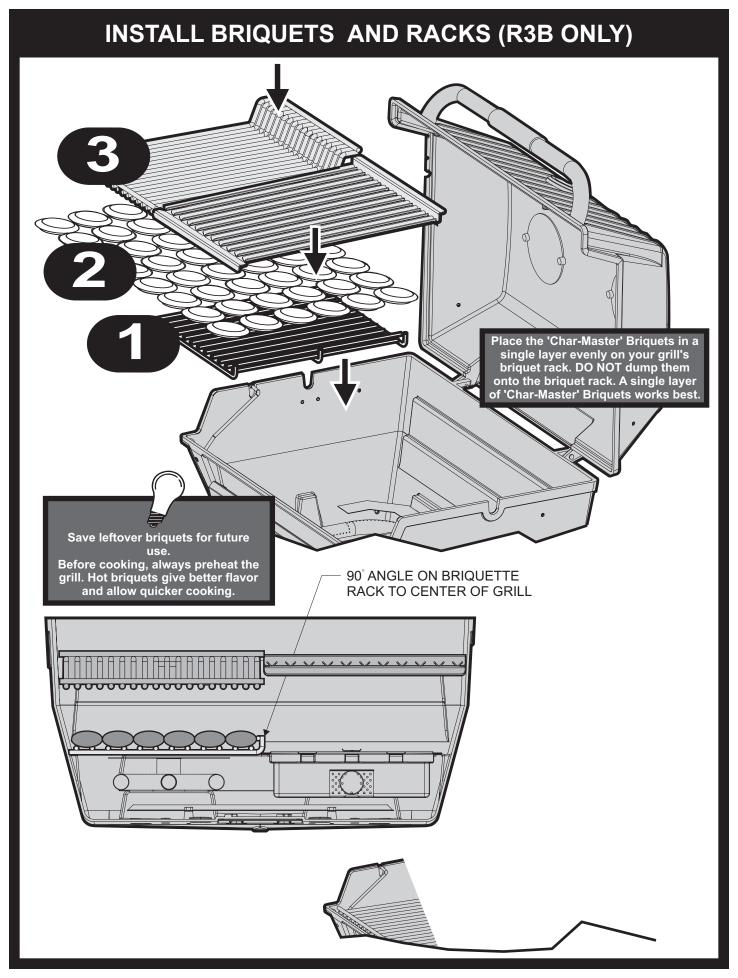


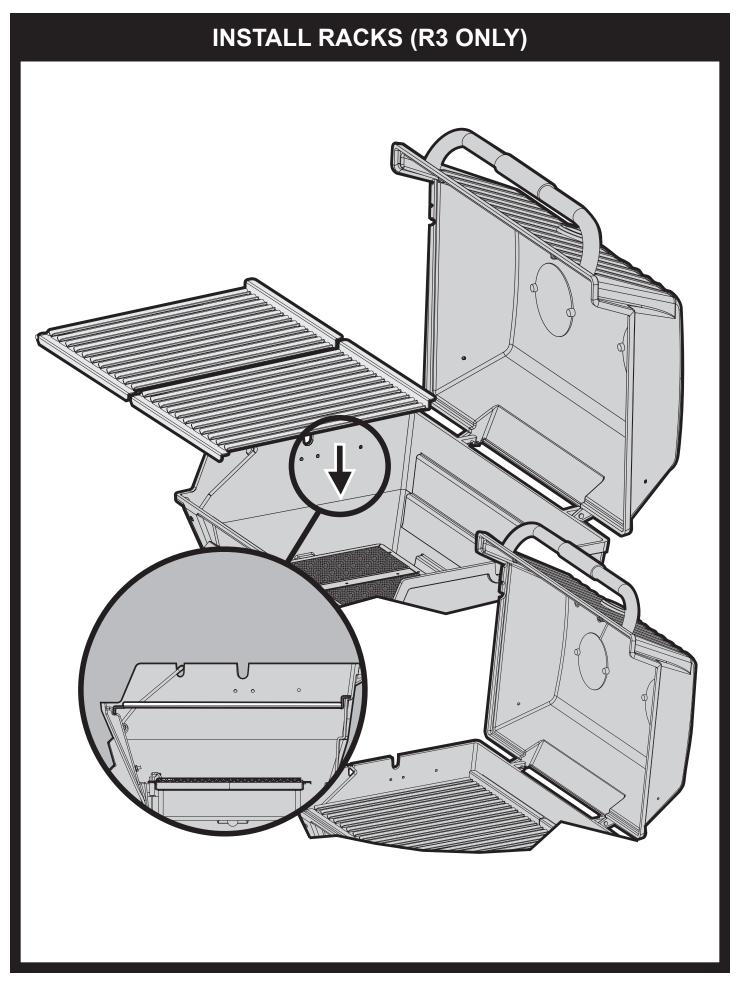
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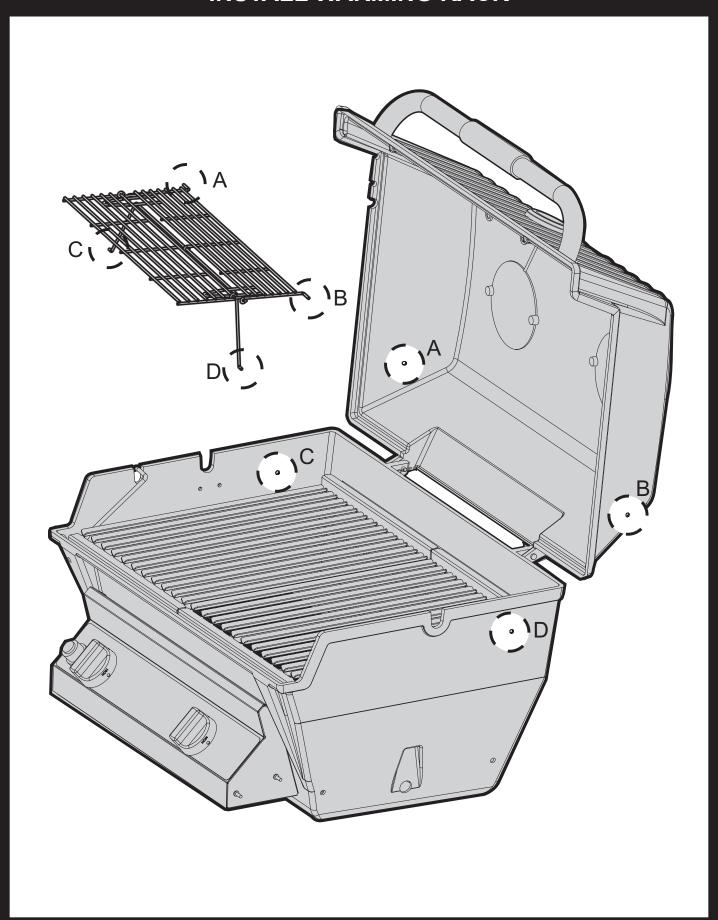
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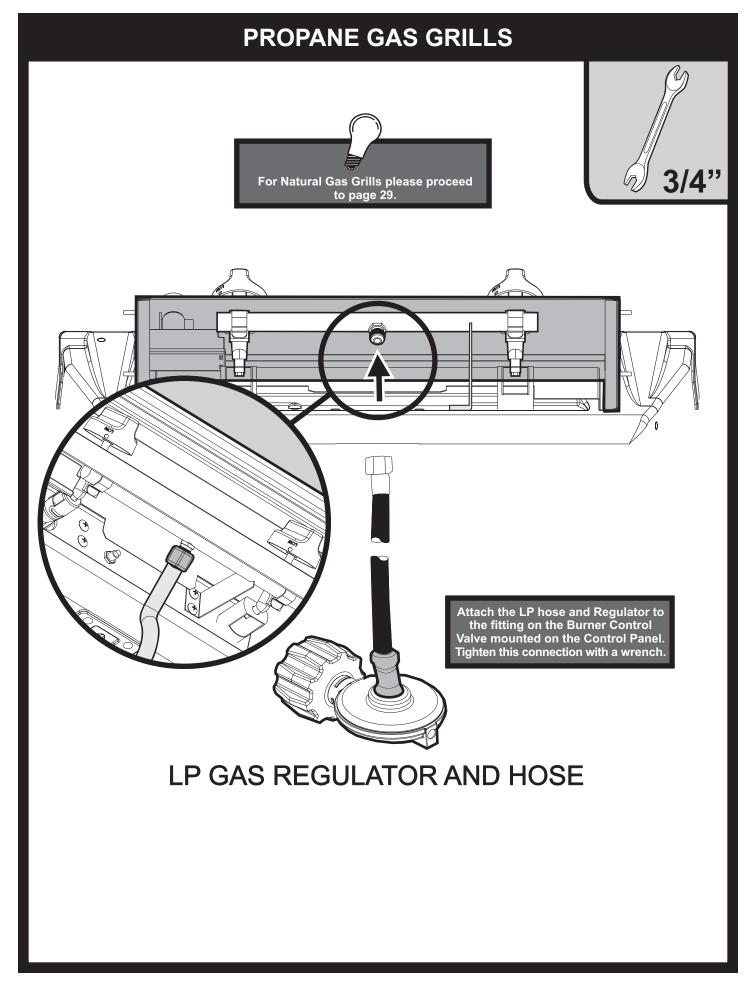




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INSTALL WARMING RACK





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PROPANE GAS GRILLS

Grill Location

This grill is designed for outdoor use only.

Never operate your grill in any building, garage, or other enclosed area. Never operate your grill in a recreational vehicle or boat. Never operate your grill under any combustible materials, such as carports, covered porches, awnings, or overhangs.

A CAUTION

Keep the sides of the grill at least 16 inches from any combustible material. Keep the back of the grill at least 18 inches from any combustible material. Placing a hot grill too close to a building or other combustible material may lead to fire, property damage, or personal injury. Combustible materials include fences, patio furniture, and your home.

Keep the area around the grill clear to ensure proper ventilation. The ventilation openings on the propane cylinder enclosure must also remain free and clear of debris.

Before lighting the grill, position it on a level surface away from direct wind.

Never move a hot grill.

A WARNING

Do not install or operate this grill where gasoline or other flammable materials are used or stored. Failure to comply with this warning could result in explosion or fire causing property damage or personal injury.

Propane Cylinder Safety

Propane vapor fuels your grill. Propane is a liquid only when it is highly compressed. Keeping it compressed requires a heavy-duty tank - the LP cylinder.

Inside a full cylinder, the liquid propane makes top up the bottom 80 percent; while propane vapor makes up the 20 percent. As you draw this vapor from the top of the tank, the liquid below expands and turns to vapor. Once all of the liquid turns to vapor, pressure inside the cylinder drops and gas flow stops.

Liquid Propane (LP) gas has a long history of safe use when the safety precautions provided in this manual are followed.

Failure to follow these safety precautions could result in a fire or explosion causing property damage or personal injury.

Use extreme caution when handling propane gas cylinders.

Keep the cylinder upright while carrying.

While transporting in a vehicle, keep the cylinder upright and secured to prevent movement. Never place a propane gas cylinder in the passenger area of a vehicle.

Replace any cylinder that has been dropped, dented, has a malfunctioning valve, or is visibly damaged. Never attempt to use or repair a damaged propane gas cylinder.

When refilling your cylinder, always insist on a reputable, qualified gas dealer. Your propane gas cylinder is filled by weight, and should never exceed eighty percent (80%) of its weight limit. If the cylinder is not completely empty, the gas dealer must make adjustments to ensure it is not overfilled. Never use an overfilled Propane gas cylinder.

When you finish grilling, turn off the grill's burners and turn off the gas at the cylinder. If the grill will not be used for an extend period, remove the cylinder from the grill for storage.

Cylinder Storage

Store your grill outdoors in a well-ventilated area when the LP cylinder is attached to it.

Store Propane cylinders in a secured upright position.

Keep children away from LP cylinders.

Store cylinders out of direct sunlight and well away from heat sources. Do not store cylinders in a building, garage, or other enclosed area.

Disconnected cylinders must have a threaded valve plug tightly installed.

Do not store flammable materials near LP cylinders - including gasoline, paper, grill covers, etc.

PROPANE GAS GRILLS

Propane Cylinder Requirements

Your Broilmaster Infrared Grill requires a standard 20-lb propane gas cylinder, which is available from your grill dealer, your LP supplier, and at most hardware and home stores.

A CAUTION

Do not use a propane gas cylinder which has a capacity greater than twenty pounds with this grill.

The propane gas cylinder used must be:

- Constructed and marked in accordance with the specifications for LP gas cylinder of the U.S. Department of Transportation (D.O.T.) or the National Standard of Canada, CAN/CSA-B339, Cylinders, Spheres, and Tubes for Transportation of Dangerous Goods, and Commission as applicable.
- 2. Provided with a listed overfilling protection device (OPD).
- Provided with a listed safety device having direct access with the vapor space of the cylinder and the cylinder supply system must be arranged for vapor removal. (Which means the valve assembly is located at top of the LP cylinder and the cylinder must remain upright for the propane to come out of the valve as vapor.)
- Provided with a shutoff valve terminating in a valve outlet as specified in the Standard for Compressed Gas Cylinder Outlet and Inlet Connections, ANSICGA-V-1.
- 5. Provided with a plug to effectively seal off the cylinder outlet when the cylinder is being stored or transported.
- 6. Provided with a collar to protect the cylinder valve.

Connection Requirements

Installation must conform to local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1. In Canada, installation shall be in accordance with CAN/CGA-B149.2 Propane Installation Code, or CAN/CGA-B149.1 Natural Gas Installation Code, and local codes where applicable. Consult your local gas supplier or propane gas dealer for code regulations and recommended procedures.

A CAUTION

Never use Liquid Propane (LP) gas in a grill designed for Natural gas, or use Natural gas in a grill designed for Liquid Propane gas. Questions regarding different types of gases should be directed to your local gas supplier.

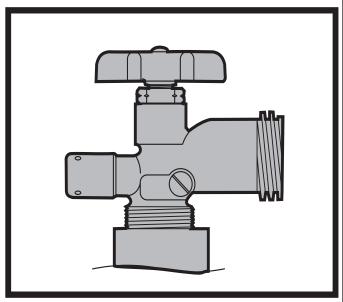
▲ WARNING

Use Propane gas cylinders equipped with an Overfill Protection Device (OPD). An overfilled or improperly filled propane cylinder can cause a fire or explosion.

ATTENTION: Propane gas cylinders must comply with Cylinder Requirements and Connection Requirements above.

Note: Not all valve and cylinder combinations are compatible. Check warning tag on valve and cylinder as well as external fitting threads.

All Broilmaster pressure regulators and hose assemblies require Propane cylinders with a Type 1 connection device as illustrated. **See Figure Below.**



TYPE 1 LP CONNECTION

Inspect the threaded outlet on the tank and the threaded inlet on the grill's pressure regulator for dirt, nicks, or corrosion that might interfere with a gas-tight connection. If the tank outlet shows damage, return the tank to the supplier for a replacement. If the grill's pressure regulator shows nicks or other damage, contact your dealer for genuine Broilmaster replacement parts.

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PROPANE GAS GRILLS

Pressure Regulator and Hose Assembly

The pressure regulator has an outlet pressure of not more than eleven inches water column. It must be connected to the Propane gas cylinder's female valve outlet before the grill can be operated.

A CAUTION

Operating a Propane gas grill without the pressure regulator and hose assembly will cause gas leaks which could lead to fire or explosion, resulting in property damage or personal injury.

Inspect the threaded outlet on the tank and the threaded inlet on the grill's pressure regulator for dirt, nicks, or corrosion that might interfere with a gas-tight connection. If the tank outlet shows damage, return the tank to the supplier for a replacement. If the grill's pressure regulator shows nicks or other damage, contact your dealer for genuine Broilmaster replacement parts.

CONNECTING PROPANE GAS GRILL

Pressure Regulator and Hose Assembly

The pressure regulator has an outlet pressure of not more than eleven inches water column. It must be connected to the Propane gas cylinder's female valve outlet before the grill can be operated.



Make sure the grill's burner controls are off. Open the valve on the top of the LP cylinder, while listening for leaks. If you hear a leak or smell gas, turn off the valve and retighten the connection. If the problem persists contact your Broilmaster dealer.

A WARNING

Operating a Propane gas grill without the pressure regulator and hose assembly will cause gas leaks which could lead to fire or explosion, resulting in property damage or personal injury.



Inspect the threaded outlet on the tank and the threaded inlet on the grill's pressure regulator for dirt, nicks, or corrosion that might interfere with a gas-tight connection. If the tank outlet shows damage, return the tank to the supplier for a replacement. If the grill's pressure regulator shows nicks or other damage, contact your dealer for genuine Broilmaster replacement parts.



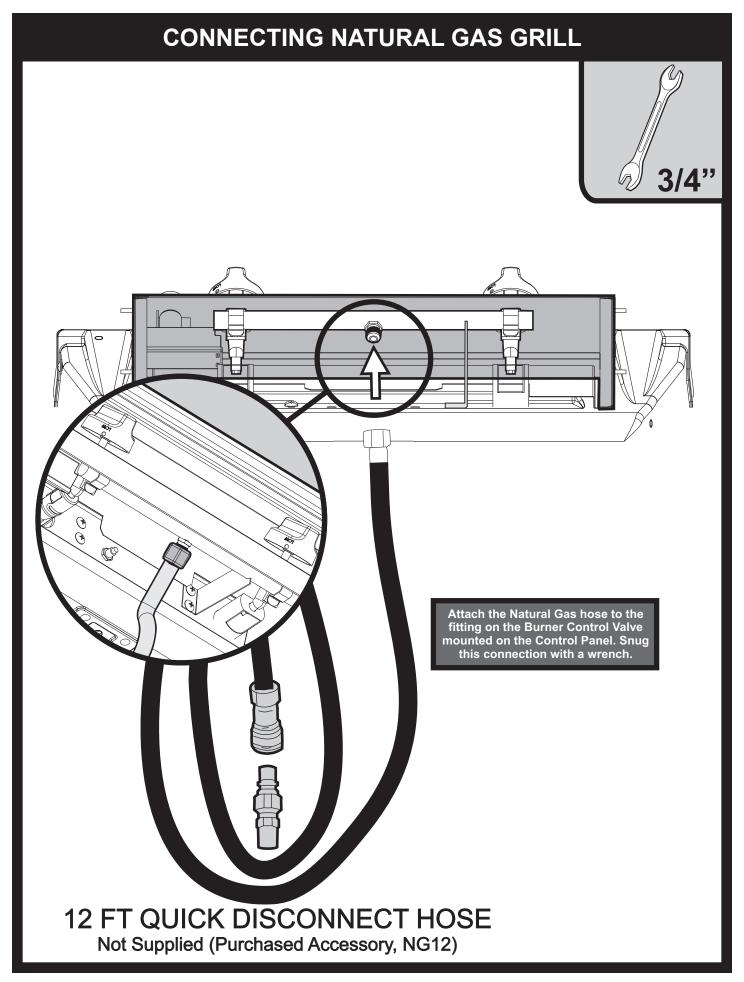
To disconnect the Propane gas cylinder, turn OFF the cylinder's valve and the grill's control valve. Remove the regulator by turning the plastic handwheel counterclockwise.



Ensure that hose does not touch the grill or rub any mounting components. (Rotating the LP cylinder slightly will usually change the position of the hose.)

Caution: Do not use a wrench or any other tool to tighten. A wrench or other tool will damage the plastic handwheel.

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NATURAL GAS GRILLS

Grill Location

This grill is designed for outdoor use only.

Never operate your grill in any building, garage, or other enclosed area. Never operate your grill in a recreational vehicle or boat. Never operate your grill under any combustible materials, such as carports, covered porches, awnings, or overhangs.

A CAUTION

Keep the sides of the grill at least 16 inches from any combustible material. Keep the back of the grill at least 18 inches from any combustible material. Placing a hot grill too close to a building or other combustible material may lead to fire, property damage, or personal injury. Combustible materials include fences, patio furniture, and your home.

Keep the area around the grill clear to ensure proper ventilation.

WARNING

Do not install or operate this grill where gasoline or other flammable materials are used or stored. Failure to comply with this warning could result in explosion or fire causing property damage or personal injury.

Gas Type

The type gas required for your grill can be determined from the product identification label located on the grill's control panel. Questions regarding different types of gases should be directed to your local gas supplier.

A CAUTION

Never use Liquid Propane (LP) gas in a grill designed for Natural gas, or Natural gas in a grill designed for Liquid Propane gas. Questions regarding different types of gases should be directed to your local gas company.

Connection Requirements

Broilmaster natural gas grills are not equipped with pressure regulators. Your gas grill operates at a manifold pressure of seven inches water column. (Your natural gas technician will understand what this means.)

For a cart-mounted Natural gas grill have a trained technician from your gas supplier or your grill dealer run the gas line to a convenient location, terminating in a gas valve and a quickconnect gas fitting.

Connect your grill to this coupling using the twelve-foot flexible hose with a quick disconnect fitting (available for purchase from your Broilmaster dealer.)

A CAUTION

The grill and its individual shutoff valve must be disconnected from the gas supply piping system during any system pressure testing at test pressures in excess of 1/2 PSIG.

A CAUTION

The grill 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 PSIG.

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COMPLETED ASSEMBLY

Thank you for purchasing a Broilmaster Infrared Grill and we hope you enjoy years of great meals prepared on your Broilmaster.

Please feel free to visit the Broilmaster Facebook page and share photos of your Broilmaster grill.



INFRARED COOKING

General Overview

Broilmaster Infrared gas grills make it possible for you to enjoy cooking outdoors quickly and effortlessly. In minutes, you can enjoy steaks, hamburgers, poultry, pork chops, fish and other foods. You can also cook more slowly if you wish. Broilmaster's optional accessories are designed to enhance your grill's versatility.

Infrared Searing Method

Searing is a process that seals juices in food by cooking with intense heat for a short period of time. The juices stay in the food where they belong and the outside gets coated with flavorful smoke. For best results, follow these procedures when cooking.

Searing Method

- 1. Follow the Burner Ignition procedures and operate the grill for 5 minutes or until the burners glow uniformly.
- Set the Burner Output Knob to HIGH and place the food on the cooking grid for 1 - 2 minutes, or until food lifts without sticking.
- 3. Turn the food and repeat Step 2.
- 4. Depending upon your taste, continue cooking on HIGH, turning the food frequently, or adjust the Burner Output Knob to a setting between LOW and "medium" and continue cooking until the food is cooked to your satisfaction. Turn as necessary (generally every one to three minutes).

During the searing period, flashing might occur when juices vaporize on contact with the cooking grid and burner surfaces. The flashes and smoke greatly enhance the flavor of food.

The intense infrared energy generated by your Broilmaster Grill has other advantages. For example, food is evenly cooked throughout. Also, upon contact with the cooking grids and burners, drippings vaporize into flavorful smoke that cooks back into the food.

Flare-Up Control

NOTICE: NEVER DOUSE A FLARE-UP WITH LIQUID. IT WILL DAMAGE THE BURNER AND VOID THE WARRANTY!

To minimize flame flare-ups:

- · Trim excess fat from meat.
- Reduce heat and reposition foods away from flare-ups when the occur.
- Prevent excess grease build up by periodically cleaning cooking grids.

Helpful Hints

- Use the proper tools. Long handled tongs, spatula, knife, and mitts or a hot pad for handling hot items. When turning or moving foods, use tongs or a spatula, instead of a fork. Piercing the food with a fork allows the natural juices and flavor to escape.
- Monitor meat temperature. Bring large cuts of meat, roasts, or fowl to room temperature before cooking. Smaller meat cuts such as hamburgers, hot dogs, or small steaks may be cooked directly from the refrigerator.
 - Note: Broilmaster does not recommend cooking portion meats from a frozen state.
- 3. Start slowly. Infrared grilling is unlike other outdoor cooking methods. It may take time to get used to the fast cooking process. As a benchmark, foods which generally cook in 20 minutes or less on conventional grills cook in about one-half the conventional time on a Broilmaster infrared grill. Please refer to the Infrared Cooking Sample Times on page 33.

Indirect Cooking with a Broilmaster Infrared Grill

Indirect cooking is a slower process used to prepare large main dishes - roasts, hams, turkeys, etc. Foods are placed on one side of the grill and the other side is lighted to produce heat. To protect the infrared burner from damage, place a heavy-duty disposable aluminum pan over the burner to catch drippings.

Note: Make sure the aluminum pan is the same size or larger than the infrared burner. Any liquids that land on the burner while it is not burning may cause it to break when ignited.

The pan may be filled part-way with liquid (water, marinade, etc.) to enhance the moisture content of the meat, but take special care not to spill anything onto the burner when adding liquids or when removing the pan after cooking.

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INFRARED COOKING SAMPLE TIMES

FOOD	FOOD "DONENESS"	APPROXIMATE COOKING TIME WITH INFRARED
Steak Pieces - 1" Thick	Medium/Medium Rare	4 Minutes, 2 minutes per side
	Medium Rare	6 Minutes, Turn every 2 minutes
	Medium Well	8 Minutes, Turn every 2 minutes
	Well	10 Minutes, Turn every 2 minutes
Steak - 1" Thick	Medium Rare	4 Minutes, 2 minutes per side
	Medium Well	8 Minutes, Turn every 2 minutes
	Well	10 Minutes, Turn every 2 minutes
Pork Chops	Medium Well	6 Minutes per side
	Well	7 Minutes per side
Hot Dogs	Done	4 Minutes, Turn as needed
Shrimp - 20 to 30 count	Done	4 Minutes, Turn as needed
Beef Kabob - 1 1/2" Meat Cubes	Done	12 Minutes, 1/3 Turn every 2 minutes
Hamburger - 1" Thick	Done	14 Minutes, Turn every 2 minutes
Hamburger - 1/2" Thick	Medium/Medium Well	7 Minutes, Turn every 2 minutes
	Well	9 Minutes, Turn every 2 minutes
Boneless Chicken Breast - 3/4" Thick	Rare - NOT RECOMMENDED	14 Minutes, Turn over every 2 minutes
	Done	16 Minutes, Turn over every 2 minutes
	Well Done - NOT RECOMMENDED	18 Minutes, Turn over every 2 minutes
Chicken Breast - Bone In	Done	40 Minutes (Low), Turn as needed
Chicken Legs - Bone In	Done	15 Minutes (Low), Turn as needed
Chicken Wings - Bone In	Done	15 Minutes (Low), Turn as needed
Spare Ribs	Done	8 Minutes per Side (High), Turn every 4 minutes

Cooking temperature setting is on HI unless otherwise specified.

Marinades and rubs will cause flare-ups. Use caution with cooking foods seasoned in this manner.

Caution: Under-cooked and raw meat can cause serious illness.

Cooking times are provided as guideline only.

NOTICE: NEVER DOUSE A FLARE-UP WITH LIQUID. IT WILL DAMAGE THE BURNER AND VOID THE WARRANTY!

OPERATION - PROPANE AND NATURAL GAS GRILLS

Check for Gas Leaks

Check for gas leaks every time you connect your Broilmaster propane gas grill to a Propane gas cylinder, when a connected cylinder has not been used recently, or when either a natural or propane grill is being used for the first time.

WARNING

Do not use an open flame to check for leaks. Checking for leaks with an open flame may lead to a fire or explosion, resulting in property damage or personal injury.

To check for gas leaks:

- Use water dish and a little dish washing liquid to make a soapy solution.
- 2. Turn OFF the knob on the control panel.
- 3. Turn ON the gas at the supply or cylinder. A hissing sound indicates a leak. Turn OFF the gas and repair the leak.
- 4. Apply the soapy water solution to all gas connections.
- 5. Look for bubbles. Bubbles indicate a leak.
- 6. If you see bubbles turn OFF the gas and repair the leak.
- Turn the gas back ON and repeat the above procedures until all leaks are repaired.

Air Shutter Adjustment (R3B Series Only)

The venturi air shutter(s) are preset at the factory so that after five minutes the burner flames are blue with well defined cones. If, after five minutes the flame is yellow, or there is a gap between the burner and the flame, adjust the venturi air shutter as follows:

- 1. Turn gas OFF and let the burner cool.
- 2. Beneath the control panel you can access the air shutter(s) which are located on the end of the burner tubes.
- 3. Loosen shutter set screw.
- 4. Close the air shutter to the minimum opening.
- 5. Light the burner, wait five minutes and then carefully open the air shutter until the flame is blue and well-defined.
- 6. Retighten the set screw.

Operating Instructions Lighting with the Electric Igniter

A CAUTION

If a burner fails to light after 5 seconds, turn the burner OFF for 5 minutes, to allow the gas to clear, then try again.

- 1. Open the grill lid.
- 2. Turn burner knob CLOCKWISE to the OFF position.
- 3. Turn ON the gas at the source.
- With the grill lid open, push and turn the burner control knob COUNTERCLOCKWISE to Hi.
- Push and hold the igniter button until the burner lights (approximately 5 seconds).

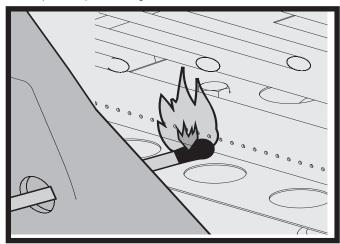
- 6. If a burner does not light, turn OFF all gas and refer to the Troubleshooting section of this manual.
- 7. Repeat steps 3 through 5 for other burner.

Lighting with a Match

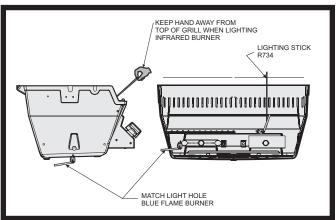
A CAUTION

If a burner fails to light after 5 seconds, turn the burner OFF for 5 minutes, to allow the gas to clear, then try again.

- 1. Open the grill lid.
- 2. Turn the burner knob CLOCKWISE to the OFF position.
- 3. Turn ON gas at the source.
- 4. For Blue Flame grills, insert a burning long wooden match through the lighter hole on the left side of the grill. See Figure Below. For Infrared grills, inserting the lighting stick with a long wooden match attached through the cooking grid to ignite the infrared burner from the top.
- With the grill lid open, push and turn the burner control knob COUNTERCLOCKWISE to HI.
- If a burner does not light, turn OFF all gas and refer to the Troubleshooting section of this manual.
- 7. Repeat steps 3 through 6 for other burner.



LIGHTING A MATCH BLUE FLAME BURNER



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OPERATION - PROPANE AND NATURAL GAS GRILLS

Before Cooking

from the manufacturing process.

- Open the arill lid.
- 2. Light grill burner.
- 3. Burn on HI for ten minutes.
- 4. Close the lid and burn on LOW for an additional ten minutes.
- 5. Turn OFF gas. The grill is now ready for use.

Note: NEVER close the lid with the infrared burner on HI.

A AVOID

AVOID WATER DAMAGE TO BURNER! NEVER ALLOW WATER TO CONTACT THE BURNER AS DAMAGE WILL RESULT. WATER DAMAGE IS NOT COVERED BY YOUR BROILMASTER WARRANTY.

Preheating

Before cooking on a grill for the first time, burn off any oil residue Before cooking on a infrared grill, allow the grill to preheat on HI for 5 minutes with the lid open.

> Preheating uses very little fuel, provides better flavor, and provides more consistent cooking times.

WARNING

HOOD MUST BE OPEN WHEN LIGHTING GRILL BURNERS. WARMING UP THE GRILL, AND WHILE GRILLING ON HIGH OR MEDIUM.3

HOOD MAY ONLY BE CLOSED WHILE INFRARED IS IN USE AND BOTH KNOBS ARE SET ON "LOW," OR WHILE BLUE FLAME BURNER IS IN USE ONLY, OR WHEN THE GRILL IS NOT IN USE. LID STOP MAY ONLY BE USED WITH ONE OR BOTH KNOBS SET TO LOW. OR WHILE BLUE FLAME **BURNER IS IN USE ONLY.**

COOKING TIPS

Cook Food To Proper Temperatures

Cooking food safely requires that you raise the internal temperature of the meat high enough and for a long enough period of time to kill any food-borne bacteria that may cause illnesses.

Color is not the best indicator that food is safe to eat. Use a high-quality probe thermometer to be sure your food is properly cooked. Place the tip of an instant-read thermometer into the center of the thickest part of the food but at least 1/2 inch deep. Read the temperature after about 10 seconds. Follow the temperature guidelines for the type of food you're cooking. The following guidelines are from the U.S. Food and Drug Administration Center for Food Safety and Applied Nutrition.

	Cook to Internal Temp		
Meat & Poultry	Medium Rare	Medium	Well Done
Fresh Beef - Medium Rare	145°F	160°F	170°F
Ground turkey, chicken	165°F		
Ground veal, beef, lamb, pork	145°F with 3 minutes of rest and then turn		
Fresh Pork - Medium		160°F	170°F
Chicken - whole		165°F	
Turkey - whole	165°F		
Poultry breasts, roast	165°F		
Poultry thighs, wings	165°F		
Stuffing (cooked alone or in bird)	165°F		
Duck and goose	180°F		
Fresh Veal - Medium Rare		160°F	
Fresh Lamb - Medium Rare	145°F	160°F	170°F
Ham - fresh (raw)	145°F	160°F	170°F
Ham - pre-cooked (reheat)	140°F		
Seafood			
Fish	Cook until flesh turns opaque and flakes easily with a fork.		
Shrimp, lobster, crab	Cook until shells turn red and flesh becomes pearly opaque.		
Scallops	Should turn milky white or opaque and firm.		
Clams, mussels, oysters	Cook until shells open.		

^{*}The above temperature settings are a guide, the temperatures may vary due to wind and outside ambient temperatures.

BLUE FLAME BURNER MAINTENANCE

Cleaning the Grill

A CAUTION

 ${\sf T}$ o prevent injury, use care when cleaning a hot grill.

Buy a good grill brush. Inexpensive grill brushes tend to lose their metal bristles, which can stick to your cooking grids and become embedded in foods.

A grill builds up a patina of smoke residue. The "seasoning" is normal and actually enhances the flavor of your foods. If the build-up grows too think, it can flake off and fall onto your food. To remove excess build-up, let the grill cool completely and then brush thoroughly with a high-quality grill brush.

Note: Do not use a commercial cleaner on the cooking grid. For baked on residue use grill brush on the cooking grid and other components.

Burn Off

This process is much like that used in self-cleaning ovens and is most efficient when completed after each use of the grill.

A CAUTION

Burn off process must be performed on low. Do not open the grill during the burn off process. Opening the grill during the burn off process may cause a sudden grease fire flare up that could burn your face and arms. Wait until the grill has cooled before opening.

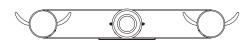
- 1. Turn gas knob to LOW. Close lid and allow the grill to burn for ten minutes, or until no smoke is present. Do not allow the grill to burn for more than 30 minutes.
- 2. Turn gas knob and supply to OFF and allow the grill to cool.
- 3. Wipe COOL grill with a damp cloth to remove soot.

Grill Bottom

Periodically remove cooking grids and Char-Master Briquets or flavor screen to clean the interior of the grill. Scrape off baked on residue with a putty knife or brush and rinse with water. Clean the bottom air holes with a small knife.

Blue Flame Burner Maintenance

Visually inspect the burner flames with each use. Five minutes after lighting, the flames should be blue and have well defined cones. **See Figure Below.** See the troubleshooting section if the flames are yellow or lift off the burner.



Correct Flame Pattern

Stainless steel burners often turn reddish brown after use. This does not effect the performance of the grill. When cleaning the interior of the grill, remove the burners and clean with a brush. Wash with water and a mild detergent.

Grease Tray

Empty periodically. Replacement tray liners can be purchased at most supermarkets where disposable aluminum baking pans are displayed.

Venturi Tubes

The burner (venturi) tubes allow air and gas to mix prior to burning, thus ensuring an efficient flame. Spiders or other small insects may build webs or nests inside the tubes obstructing air flow. Fire, or flashback, can occur, in and/or around obstructed burner (venturi) tubes and can cause damage to components beneath the grill or an unsafe condition. To reduce risk, inspections and cleaning should be performed at least twice per year and more often if spiders are active. If the grill has been unused for an extended period of time inspect the tubes before using the grill.

Cleaning Venturi Tubes

- 1. Remove the cooking grids and briquet rack (R3B only).
- 2. Remove the burner from the grill.
- 3. Use a small flexible brush to remove any debris from the burner (venturi) tube.
- 4. Flush with water.
- 5. Allow the burner (venturi) tube to dry before reinstalling.
- Reinstall the burner, briquet rack and briquets and cooking grids.

Exterior Cleaning

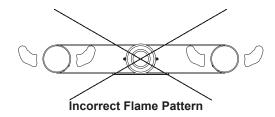
Turn off the grill and allow it to cool before cleaning. Never use aerosol sprays or flammable cleaners on or near a hot grill.

Do note use abrasive pads or cleansers on stainless or painted components. Clean the grill exterior regularly with a solution of mild detergent and hot water. Touch-up paint is available from your dealer.

Broilmaster protective covers are recommended. Clean stainless steel components with a stainless steel cleaner available in most hardware stores.

Char-Master Briquettes

If the briquettes did not come clean during burn off, wait for the grill to cool and then turn them over. The residue will burn off during the next warm-up.



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INFRARED BURNER MAINTENANCE

General Overview

Proper care, maintenance and cleaning will help ensure a long life for your grill. Periodic cleaning will help avoid accumulations of flammable grease and other debris.

Exterior

Clean regularly with a solution of mild detergent and hot water. Touch-up paint is available from your dealer. Broilmaster protective covers are recommended. Stainless steel components can be easily cleaned with a spray-on stainless steel cleaner found in most hardware stores.

Protection of Burners

The burners of your grill are designed to provide a long life of satisfactory performance. However, there are steps you must take to prevent cracking of their ceramic surfaces, which will cause the burners to malfunction. Following are the most common causes of cracks and the steps you must take to avoid them. Damage caused by failure to follow these steps is not covered by your grill warranty.

IMPACT WITH HARD OBJECTS - Never allow hard objects to strike the ceramic. Take particular care when inserting or removing the cooking grids and accessories into or from the grill. If objects such as these fall onto the ceramic, it is likely to crack the ceramic.

IMPAIRED VENTILATION OF HOT AIR FROM THE GRILL - In order for the burners to function properly, hot air created by the burners must have a way to escape the grill. If the hot air is not allowed to escape, the burners may become deprived of oxygen, causing them to backfire, especially if the burner output is set at HIGH. If this occurs repeatedly, the burners may crack. Never operate your grill with very little or no open space at the cooking surface (the cooking grids provide sufficient open space.

Examples:

- DO NOT operate the grill on "HIGH" with the hood closed.
- DO NOT use accessories in combinations that cover more than 75% of the cooking surface with solid metal.
- DO NOT cover the entire surface with aluminum foil, a large pan, etc.

WATER AND OTHER LIQUIDS - When the burners are in operation, their intense heat is normally sufficient to vaporize any drippings, marinates or sauces that contact the surface as a byproduct of grilling. This does not include water thrown into the grill to douse a flame. Cold liquid contacting a hot surface in substantial amounts can cause the surface to break. Also, if the ceramic or interior of a burner becomes wet while not in use, later operation of the burner can create steam, which may produce enough pressure to crack the ceramic. In addition, repeated soaking of the ceramic will cause it to swell and expand. This expansion will create pressure on the ceramic and cause it to crack and crumble.

To prevent burner damage caused by liquids, please do the following:

- Never throw liquid into the grill to control a flare-up.
- Never expose the burners to the risk of soaking by rainfall, sprinklers or otherwise. We recommend that the grill be covered with a heavy duty vinyl cover at all times when it is not in use. Do not attempt to operate your grill in the open air while it is raining.

- Finally, using the grill, close the hood as soon as the burners are off so that, if it rains, the burners will not be exposed to direct rainfall while the grill is cooling.
- If standing water is in the grill (because of exposure to rainfall, etc.) examine the ceramic burner surfaces for evidence of possible water soaking. If the ceramic appears to be wet, remove the burners from the grill and turn them upside down to empty any water from the burner box. After draining all the water, place the burners indoors and allow to dry thoroughly. Also, empty any water standing in the grill's drip tray. Then, reinstall the burners. After testing for gas leaks around all fittings, resume normal use of the grill.

A CAUTION

Always allow the grill to cool before cleaning. Do not let liquids come in contact with the burner surface at any time.

Grease Tray

Empty periodically. Replacement tray liners can be purchased at most supermarkets where disposable aluminum baking pans are displayed.

Cooking Grids Burn Off

This process is much like that used in self-cleaning ovens and is most efficient when completed after each use of the grill.

Because of the high intensity of the Infrared burner, any drippings and food particles that fall onto the burner surface are immediately incinerated. However, some debris and residue may remain. To remove this residue after cooking, turn the grill on HIGH for 5-10 minutes with the lid OPEN.

The cooking grids may also be removed and cleaned with a grill brush and soapy solution. Standard oven cleaners may be used for further cleaning. Rinse the cooking grids thoroughly with clean water before using.

Maintenance

The Broilmaster requires very little maintenance. However, a periodic inspection of orifice openings and venturi inlets to clear obstructions to gas flow is recommended.

Burner Head

To maintain the performance of the Infrared burner it is important to operate the grill on HIGH for at least 5 minutes after each use. This procedure will leave some ash on the surface of the burner head. If it accumulates in excessive amounts, it will clog the small ports in the ceramic surface. To prevent this blockage, remove the cooking grid and the burner screen, and vacuum the burner surface with a low-suction vacuum cleaner every six months, or as necessary. When completing this procedure be careful not to scrape or strike the ceramic with the suction device, which may damage the ceramic.

Heat Indicator

Clean any build-up from indicator probe once a season to prevent loss of accuracy.

TROUBLESHOOTING

Although we have attempted to ensure that your grill will operate properly and satisfactorily, sometimes problems do arise. The following troubleshooting guide lists several possible problems and their probable cause and solution. Do not repair or replace any part of the grill unless specifically recommended in this manual. All other service should be referred to a qualified technician.

Cause	Solution
Spider webs in venturi tubes	Clean venturi tubes. See Maintenance Section.
Out of gas	Refill LP gas cylinder. If natural model, turn on gas at source.
Gas injector not inserted in venturi tube	Realign/engage gas injector with the venturi tube.
Clogged gas injector	Remove gas injector from gas control assembly and clean.
Obstruction in gas line	For propane models, ensure gas valve on cylinder is OFF. Remove flexible hose and blow out any debris.
Misalignment of collector box and burner	Position electrode properly. Clean collector box.
Dead battery	Replace with AA Alkaline battery.
Poor combustion	Adjust air shutter.
Misalignment of venturi tube and gas injector	Realign/engage gas injector with the venturi tube.
Inadequate gas pressure	Contact gas supplier for assistance.
Cold grill	Preheat grill at least 5 minutes on HI with the grill lid open.
Misalignment of burner tube and gas injector	Realign/engage gas injector with the burner tube.
Poor combustion	Adjust air shutter.
Extreme wind	Turn or shield grill.
Air shutter improperly set	Open air shutter.
Spider webs in venturi tubes	Clean venturi tubes. See Maintenance Section.
Seasoning salts on burner	Clean by washing burner with mild detergent.
Oil film on burner	Allow burner to operate on HI for 10-15 minutes.
	Check for proper gas supply and pressure.
	Pre-heat grill for a full 15 minutes.
	If using L.P. gas, check for empty tank.
	Check for kinks in supply line.
	If only one burner appears low, clean burner, clearing ports of any obstructions.
<u> </u>	Check the burner inlet for obstructions.
	Grill may be in a dusty area. Move to a less dusty area if possible.
	Spider webs in venturi tubes Out of gas Gas injector not inserted in venturi tube Clogged gas injector Obstruction in gas line Misalignment of collector box and burner Dead battery Poor combustion Misalignment of venturi tube and gas injector Inadequate gas pressure Cold grill Misalignment of burner tube and gas injector Poor combustion Extreme wind Air shutter improperly set Spider webs in venturi tubes Seasoning salts on burner

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IMPORTANT SAFETY INFORMATION

WARNING

Spiders and insects can nest in gas grill burners causing the gas ignite under the control panel. This is very dangerous and can damage the grill, making it unsafe to operate. Inspect the grill at least twice per year and more often if spiders are active.

Be sure all grill controls are turned off and the grill is cool before using any type of aerosol cleaner on or around the grill. Some chemicals, in the presence of heat, may ignite or cause metal parts to corrode. Do not operate the grill under unprotected combustible construction. Use only in well ventilated areas. Do not use in buildings, garages, sheds, breezeways or any enclosed areas.

Keep the area around the grill free from combustible materials, trash, or volatile fluids and vapors such as gasoline or charcoal lighter fluid. Do not obstruct the flow of combustion and ventilation air.

If the grill is stored indoors ensure that it is cool. Remove the propane cylinder and store it outside in a well-ventilated area, out of reach of children.

Never use the grill in windy conditions. If located in a consistently windy area (oceanfront, mountain top, etc.) a windbreak will be required.

Always adhere to the specified clearance.

Keep electrical cords always from the heated areas of the grill.

Do not use the grill for cooking excessively fatty meats or products, which promote flare-ups.

Keep Children Away from the Grill at All Times

Never leave children unattended near the grill. Teach them to stay away even when you are not cooking, as the grill can remain hot after it is turned off.

Never allow children to sit, stand or play on or around the grill at any time. Do not store items of interest to children around or below the grill.

IMPORTANT SAFETY INFORMATION

Practice Safe Grilling

Do not wear loose fitting clothing or flammable clothing (such as synthetics) around the grill. Never let clothing, pot holders, or other flammable materials come in contact with or too close to any grate, burner or hot surface. Fabric may ignite and result in personal injury.

Use only dry pot holders. Using a damp pot holder on a hot surface may cause burns from steam. Do not use towels or bulky cloth in place of pot holders. Do not let pot holders touch hot cooking grids. Never use a sponge on a hot surface, as it may cause steam burns.

Protect your hand with an oven mitt or pot holder when opening the grill lid. Never lean over an open grill.

Use heat-proof cookware and tools specifically designed for grilling. Other types of material may shatter with sudden temperature changes or melt from extreme heat. Use tools with insulated handles and keep them away from the grill to avoid heat build-up.

Do not spray aerosol oil or butter or pour liquid oil into the grill. Doing so will cause a flash fire that can burn you.

Grease is flammable. Let grease cool before attempting to handle it. Avoid letting grease deposits collect in the bottom of the grill. Clean your grill often.

Do not use aluminum foil to line the cooking grids or grill bottom. This can disrupt combustion air flow or trap excess heat in the control area. Excess heat can melt knobs or igniters, and increase the chance of personal injury. The drip tray accessory may be lined with aluminum foil.

Do not heat unopened food containers - such as cans, jars, and sealed pans. Pressure build-up may cause the container to burst.

When lighting a grill, always open the lid first and pay close attention to what you are doing. Turn one burner knob to HI, press the igniter button and count to five.

For proper lighting and performance of the burners keep the ports clean.

Clean the grill with caution. Avoid steam burns; do not use a wet sponge or cloth to clean the grill while it is hot. Some cleaners produce noxious fumes or can ignite if applied to a hot surface.

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WARRANTY TERMS

Empire Comfort Systems Inc. warranties this Broilmaster premium gas grill to be free from defects at the time of purchase and for the periods specified below. Broilmaster Premium Gas Grills must be installed by a qualified technician and must be maintained and operated safely, in accordance with the instructions in the owner's manual. This warranty applies to the original purchaser only and is not transferable. All warranty repairs must be accomplished by a qualified gas appliance technician.

Limited Lifetime Parts Warranty - Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option. The limited lifetime warranty provides one-time replacement of a covered component.

- Aluminum Grill Housing (except paint)
- •Stainless Steel Cooking Grids and Stainless Steel Griddles
- •Select Stainless Steel Components Cart, Mounting, Bowtie Burner, Side Burner (DPSBSS), Side Burner Housing, and Warming Rack
- •Stainless Steel Built-In Components Built-In Kits for 3-Series Grill Heads, Door Kit, Tilt-Out LP Tank Door, and Vent Register Kit

Limited Ten-Year Parts Warranty - Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- •Stainless Steel Burners for H-Series, Q-Series, and R3B
- Stainless Steel Drip Pan for Q-Series
- •Side Burner (DPASBC), Side Burner Housing (BSA)

Limited Five-Year Parts Warranty - Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- •Infrared Burners on R3 or R3B
- •Flare Buster™ Ceramic Flavor Enhancers
- •Painted Electro-Galvanized Steel Components
- Stainless Steel Smoker Shutter

Limited Two-Year Parts Warranty - Against Rust-Through

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

- •Porcelain Coated Steel Briquette Racks
- Chrome-Plated Warming Rack
- •Stainless Steel Heat Shield

Limited One-Year Parts Warranty

If the items listed below fail because of defective workmanship or material, Empire will repair or replace at Empire's option.

•Valves, knobs, igniters, labels, hoses, fittings, grease cups, drip buckets, and all other parts and accessories – including those made from stainless steel – unless specified above

•Paint on Aluminum Grill Head

Duties of the Owner

The appliance must be installed by a qualified installer and operated in accordance with the instructions furnished with the appliance. A bill of sale, cancelled check, or payment record should be kept to verify purchase date and establish warranty period. Ready access to the appliance for service.

What Is Not Covered

Damages that might result from the use, misuse, or improper installation or storage of this appliance.

Travel, diagnostic costs and freight charges on warranted parts to and from the factory.

Claims that do not involve defective workmanship or materials.

Unauthorized service or parts replacements.

Removal and reinstallation cost.

Inoperable due to improper or lack of maintenance.

The costs of a service call to diagnose a problem and labor for replacement or repairs.

How To Get Service

To make a claim under this warranty, please have your receipt available and contact your installing dealer. Provide the dealer with the model number, serial number, type of gas, and purchase verification. The installing dealer is responsible for providing service and will contact the factory to initiate any warranted parts replacements. Empire will make replacement parts available at the factory. Shipping expenses are not covered.

If, after contacting your Empire dealer, service received has not been satisfactory, contact:

Consumer Relations Department, Empire Comfort Systems Inc.,
PO Box 529, Belleville, Illinois 62222,
or send an e-mail to info@empirecomfort.com with "Consumer Relations" in the subject line.

Your Rights Under State Law

This warranty gives your specific legal rights, and you may also have other rights, which vary from state to state.

	GRILL MAINTENANCE HISTORY
Date	Maintenance Performed
I	

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MASTER PARTS DISTRIBUTOR LIST

To order parts under warranty, please contact your local Broilmaster dealer. See the dealer locator at www.broilmaster.com.

To provide warranty service, your dealer will need your name and address, purchase date and serial number, and the nature of the problem. Please keep your receipt to establish ownership and date of purchase.

To order parts after the warranty period, please contact your dealer or one of the Master Parts Distributors listed below.

The Master Parts Distributor list changes from time to time. For the current list go to www.broilmaster.com and click on the Parts button.

NOTE: Master Parts Distributors are independent businesses that stock the most commonly ordered repair parts.

Dev Distributing

1401 Willow Lake Boulevard Vadnais Heights, MN 55101

Phone: 651-490-9191 **Toll Free:** 800-397-1339

Website: www.deydistributing.com Parts: Heater, Hearth and Grills

F. W. Webb Company

200 Locust Street Hartford, CT 06114

Phone: 860-722-2433 Toll Free: 800-243-9360 Fax: 860-293-0479

Toll Free Fax: 800-274-2004

Websites: www.fwwebb.com & www.victormfg.com

Parts: Heater, Hearth and Grills

East Coast Energy Products

10 East Route 36

West Long Branch, NJ 07764

Phone: 732-870-8809 Toll Free: 800-755-8809 Fax: 732-870-8811

Website: www.eastcoastenergy.com Parts: Heater, Hearth and Grills

HOW TO ORDER REPAIR PARTS

Parts Not Under Warranty

Parts can be ordered through your Service Person, Dealer, or a Master Parts Distributor. See this page for the Master Parts Distributors list. For best results, the **service person or dealer** should order parts through the distributor. Parts can be shipped directly to the **service person/dealer**.

Warranty Parts

Warranty parts will need a proof of purchase and can be ordered by your Service Person or Dealer. Proof of purchase is **required** for warranty parts.

All parts listed in the Parts List have a Part Number. When ordering parts, first obtain the Model Number and Serial Number from the name plate on your equipment. Then determine the Part Number (**not** the Index Number) and the Description of each part from the following illustration and part list. Be sure to give all this information . . .

Model Number / Dealer	Part Description
Serial Number / Dealer Phone Number	Part Number
Type of Gas (Propane or Natural)	

Do not order bolts, screws, washers or nuts. They are standard hardware items and can be purchased at any local hardware store.

Shipments contingent upon strikes, fires and all causes beyond our control.

Your Broilmaster Infrared Grill is identified by model number, serial number, and gas type. This information is provided on a product identification label located on the grill's control panel. For your convenience, complete this section for future reference when contacting your dealer.



BROILMASTER

A Division of Empire Comfort Systems, Inc. Belleville, Illinois

VISIT OUR WEB SITE AT WWW.broilmaster.com

If you have a general question about our products, please e-mail us at info@empirecomfort.com.

If you have a service or repair question, please contact your dealer.