LOCATING GRILL/BUILT-IN CLEARANCES

Important!

Before installation, remove shipping brackets from the grill. To do so, loosen the 4 screws on the bottom sides of the grill which hold the brackets to the grill. Slide the shipping brackets off and retighten the screws.

Shipping Brackets

FIG. 01

LOCATION:

When determining a suitable location take into account concerns such as exposure to wind, proximity to traffic paths and keeping

any gas or electrical supply lines as short as possible and away from heat sources. Locate the grill only in a well ventilated area. Do not build the grill under overhead unprotected combustible construction. Never locate the grill in a building, garage, breezeway, shed or other such enclosed areas. During heavy use, the grill will produce a lot of heat and smoke. Ensure there is adequate area for it to dissipate.

If locating the grill in a windy area, try to locate the grill so the prevailing wind will blow air at the front of the grill as shown in Fig. 02a. This will assist the grill in venting hot air thru the back of the grill. In addition, this will help keep any smoke from blowing at someone who is cooking on the grill. If you have to locate the grill in a windy area where the prevailing wind is at the rear of the grill, a windbreak must be installed. The windbreak should be made such that it will block wind from entering the exhaust vent in the rear of the unit as shown in Fig. 02b. Location of the windbreak relative to rear of the grill must adhere to the clearances specified for combustible or non-combustible construction as defined in these instructions. Refer to following pages.

As high-performance gas appliance, your grill requires significant amounts of air to support the combustion process. Your grill is designed to take air in through the valve panel area, and send the exhaust products out through the exhaust gap at the rear of the hood. Using your grill in windy conditions can disrupt the proper flow of air though your grill, leading to reduced performance, or in certain severe cases, causing heat buildup in the valve panel area. This can lead to problems such as having the knobs melt, or burn hazards when the valve panel surfaces become too hot to touch.

During high wind conditions, it is best if you don't use your grill. If you live in an area that is subject to frequent high winds, or a steady directional wind, then the installation of a suitable windbreak may be advised. If you have a grilling cart, it is best to position the unit so the prevailing wind blows into the valve panel, thus supporting the proper airflow. Winds hitting the back of the grill directly are the most likely to cause problems, although wind blowing along the exhaust gap in the rear can also be problematic.

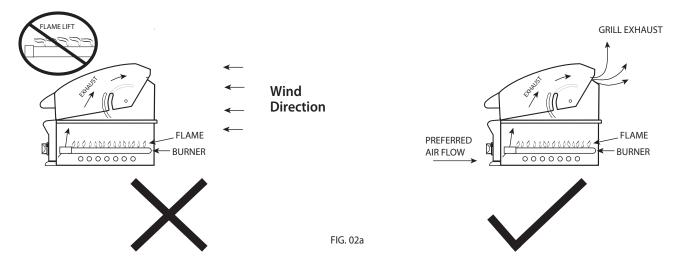
Please note that damage to your grill resulting from use in windy conditions, such as melted knobs or igniter wires, or valve panel discoloration from heat build-up, are excluded from warranty coverage.

LOCATING GRILL/BUILT-IN CLEARANCES

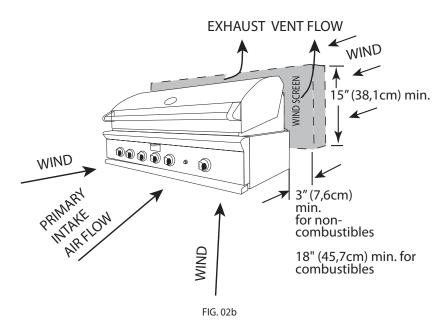
GRILL PLACEMENT

Important!

Gas fittings, regulator, and installer supplied shut-off valves must be easily accessible.



Wind hitting the grill while in use, (especially wind blowing into or across the hood gap) can cause poor performance and in some cases can cause the control panel to get dangerously hot (FIG. 02a)



If wind is an issue, a wind screen should be added. The wind screen should be higher than the top of the opening in the back of the grill, with a minimum clearance of 3" (7,6 cm) (for non-combustibles) or 18" (45,7cm) (for combustibles) from the back of the grill

LOCATING GRILL/BUILT-IN CLEARANCES

Clearances to Non-Combustible Construction*:

A minimum of 3" clearance from the back of the grill to non-combustible construction is required for the purpose of allowing the lid to open fully. It is desirable to allow at least 6" rear and side clearance to non-combustible construction above the cooking surface for counter space. If you'll be using the rotisserie option, the space is essential for motor and skewer clearance. The grill can be placed directly adjacent to non-combustible construction below the cooking surface. (Fig. 03)

Clearances to Non-Combustible Construction*

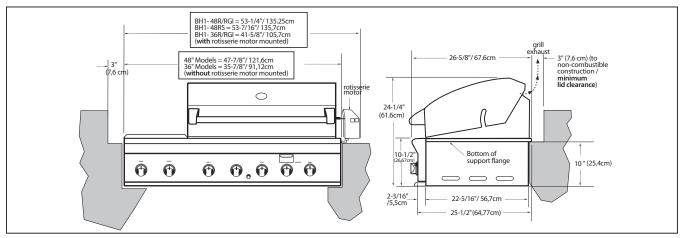


FIG. 03



WARNING!

Failure to maintain required clearances creates a fire hazard that may result in property damage or serious personal injury.



WARNING!

The BH1 Grill is designed to function in an open area. Recommended minimum clearances should be maintained to all surfaces (combustible and noncombustible) for optimum performance. Noncombustible material within the minimum clearance area could result in discoloration or deterioration.



WARNING!

If a noncombustible material such as stucco is covering a combustible material such as wood, the minimum clearance distance needs to be held to the wood. The presence of a noncombustible material inside the clearance zone does not eliminate the minimum clearance zone to combustible material.

* **DEFINITION OF NONCOMBUSTIBLE MATERIAL** - Material which is not capable of being ignited and burned, such as materials consisting entirely of, or a combination of, steel, iron, brick tile, concrete, slate, and plaster.

Clearances to Combustible Construction**:

Minimum of 18" (45,7cm) from the sides and rear of grill must be maintained to adjacent vertical combustible construction, above the counter top level. You should take in account that there is a large volume of heat, and smoke will exhaust from the rear of the grill. This may discolor or damage unprotected areas (Fig. 04). Do not install under unprotected combustible construction without using a fire safe ventilation system.

A 18" (45,7cm) minimum clearance must be maintained under the counter top to combustible construction. The clearance can be modified by a use of an insulated jacket.

LOCATING GRILL/BUILT-IN CLEARANCES

Clearances to Combustible Construction**

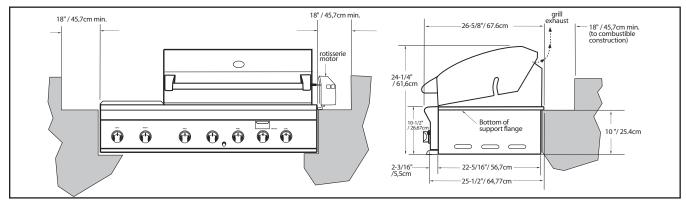


FIG. 04

** DEFINITION OF COMBUSTIBLE MATERIAL - Any materials of a building structure or decorative structure made of wood, compressed paper, plant fibers, vinyl/plastic or other materials that are capable of transferring heat or being ignited and burned. Such material shall be considered combustible even though flame-proofed, fire-retardant treated or surface-painted, or plastered.

Important!

It is required that a minimum of (3) 10 sq. inches / 64,5cm² of ventilation opening be provided for both the left and right sides, as well as the back of enclosure (Fig. 05), in order to safely dissipate unburned gas vapors in the event of a gas supply leak.



WARNING!

Note specific built-in enclosure ventilation requirements. See text and Fig. 05.

GENERAL

The grill is designed for easy placement into built-in masonry enclosures. For non-combustible applications the grill drops into the opening shown in Fig. 05 and hangs from its side flanges. A deck is not required to support it from the bottom. When using the insulated jacket in a combustible enclosure application, see the bottom of Fig. 05. The insulation jacket assembly must be supported from the bottom by a ledge on each side and back or a solid deck.

A carpenter's "spirit level" should be used to assure that the unit is level both front-to-back and side-to-side. If it is not level, burner combustion may be erratic or the unit may not function efficiently for grease flow. If the floor is uneven or has a decided slope, re-leveling may be required after each moving of a freestanding unit.

INSULATED JACKET:

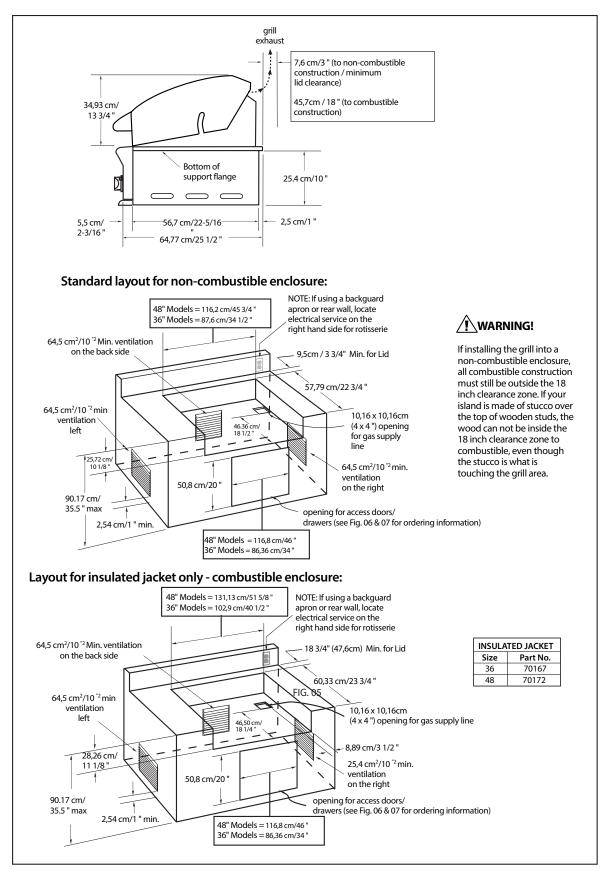


🕦 WARNING!

Installing this product into a combustible enclosure without an insulated jacket could result in fire, property damage and personal injury.

If the grill is to be placed into a combustible enclosure, an approved insulated jacket is necessary. Insulated jackets are available from your dealer. Use only the DCS insulated jacket which has specifically been designed and tested for this purpose. Review the detail drawing shown (Fig. 05) and take into account the provisions shown for gas line hook-up clearance in the right rear corner. It is required that ventilation holes are provided in the enclosure to eliminate the potential build-up of gas in the event of a gas leak. The supporting ledges or deck must be level and flat and strong enough to support the grill and insulated jacket. The counter should also be level.

BUILT-IN CONSTRUCTION DETAILS



BUILT-IN CONSTRUCTION DETAILS

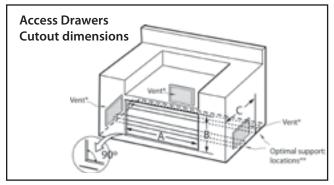


FIG. 06

NOTE: The cutout of each corner should be 90° angle in order for the access drawers to fit properly.

- * Island installation to use minimum of 3 vents, 10 square inches / 64,5cm² per vent (typical).
- ** For proper support and drawer operation, insure that support boards are installed per Installation Guide instructions.

MODEL NUMBER	A (+0,-1/8)	B (+1/8,-0)	С
ADR2-48	46"	20"	24-1/2"
ADR2-36	34"	20"	(Min,
ADR2-30	28"	20"	All
ADR2-24	22"	20"	Models)

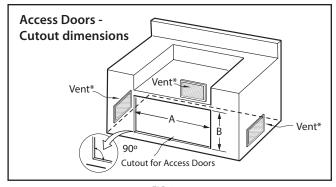


FIG. 07

NOTE: The cutout of each corner should be 90° angle in order for the access doors to fit properly.

* Island installation to use minimum of 3 vents, 10 square inches / 64,5cm² per vent (typical).

MODEL NUMBER	Α	В
	(+0,-1/8)	(+1/8,-0)
ADN1- 20x48	46"	20"
ADN1- 20x36	34"	20"
ADN1- 20x30	28"	20"
ADN1- 20x24	22"	20"

 $To\ order\ access\ drawers\ or\ doors,\ please\ call\ DCS\ Customer\ Care\ at\ 1.888.936.7872\ for\ DCS\ Dealer\ in\ your\ area.$

GAS HOOK-UP

GAS REQUIREMENTS

Verify the type of gas supply to be used, either natural or LP, and make sure the marking on the appliance rating plate agrees with that of the supply. The rating plate is located on the underside of the drip tray. Never connect an unregulated gas line to the appliance. You must use the gas regulator provided with the unit, even if the supply is controlled.

An installer-supplied gas shut-off valve must be installed in an easily accessible location. All installer supplied parts must conform to local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70 or the Canadian Electrical Code, CSA C22.1, and the National Fuel Gas Code, ANSI Z223.1 or CSA-B149.1 Natural Gas Installation Code or CSA-B149.2 Propane Installation Code.

All pipe sealants must be an approved type and resistant to the actions of LP gases. Never use pipe sealant on flare fittings. All gas connections should be made by a qualified technician and in accordance with local codes and ordinances. In the absence of local codes, the installation must comply with the National Fuel Gas Code ANSI Z223.1. Gas conversion kits are available from Customer care. When ordering gas conversion kits, have the model number, and the type of gas (natural or LP) from your grill.

TOTAL GAS CONSUMPTION OF THE GRILL WITH ALL BURNERS ON HI:

BH1-48RS - 126,500 Btu/hr or 133.5MJ/h BH1-48R/BH1-48RGI - 121,500 Btu/hr or 128.2 MJ/h BH1-36R/BH1-36RGI - 92,500 Btu/hr or 97.5 MJ/h

The appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 PSIG (3.5 kPa.) The appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG (3.5 kPa.). The installation of this appliance must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54. Installation in Canada must be in accordance with Natural Gas and Propane Installation Code, CSA B149.1, and/or Propane Storage and Handling Code, B149.2 and local codes.

NATURAL GAS HOOK UP: (THIS TYPE OF CONNECTION SHOULD BE PERFORMED BY A CERTIFIED OR LICENSED TECHNICIAN ONLY.)

Connection: 1/2" NPT female with 3/8" flare adapter. Operating pressure: 4.0" W.C. Supply pressure: 5" to 14" water column. If in excess of 14" W.C., a step down regulator is required. Check with your local gas utility company or local codes for instructions on installing gas supply lines. Be sure to check on type and size of run, and how deep to bury the line. If the gas line is too small, the grill will not function properly. Any joint sealant used must be an approved type and be resistive to the actions of LP gases.

TO HOOK-UP THE FITTINGS SUPPLIED WITH THE GRILL:

Assemble as shown (Fig. 08). Use threading compound on male threads only. Do not use threading compound on the male end of the 1/2 NPT to 3/8 flare adapter. Use a second pipe wrench to hold the grill inlet pipe to avoid shifting any internal gas lines of the grill. Ensure that the regulator arrow points in the direction of gas flow towards the unit, away from the supply. Do not forget to place the installer-supplied gas valve in an accessible location.

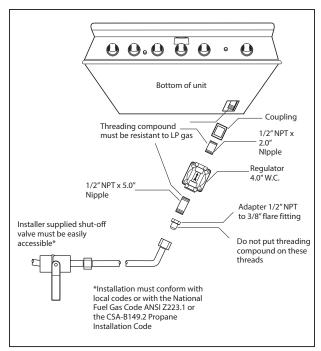


FIG. 08 Natural Gas

LP GAS HOOK UP (TYPE 1 OR QCC1 REGULATOR):

Grills orificed for use with LP gas come equipped with a high capacity hose/regulator assembly for connection to a standard 20 lb. LP cylinder (Type 1). The LP tank is not included.

GAS HOOK-UP

Connection: LP Hose with a Type 1 quick disconnect and regulator is included. **Operating pressure:** 11.0" W.C. Note: All gas piping and connectors must conform to the Standard for Connectors for Outdoor Gas Appliances and Manufactured Homes, ANSI Z21.75/CSA 6.27.

CAUTION!

Before connecting LP tank to regulator, check that all grill burners and side burners, smokers, and rotisserie valves are in the OFF position and open grill lid.

To connect the LP regulator/hose assembly to the tank/valve assembly, first make sure the main valve on the tank is completely closed. Although the flow of gas is stopped when the Type 1 system is disconnected as part of of its safety feature, you should always turn off the LP tank main valve (Fig. 09) after each use and during transport of the tank or unit. Insert the regulator inlet into the tank valve and turn to the black coupler clockwise until the coupler tightens up. **Do not overtighten the coupler.** Turn the main tank valve on and turn the burner control valves on the unit to the "HI" position for about 20 seconds to allow the air in the system to purge. Turn valves off and wait 5 minutes before attempting to light the burners.

To disconnect the coupler, first make sure the main tank valve is turned off. Grasp the coupler and turn counter clockwise. The inlet will then disengage. Remove the inlet from the tank valve opening if it has not already done so when it disengaged. Your local LP filling station should be equipped with the proper equipment to fill your tank.

LP TANK REQUIREMENTS:

A dented or rusty LP tank may be hazardous and should be checked by your LP supplier. The cylinder that is used must have a collar to protect the cylinder valve. Never use a cylinder with a damaged valve. Always check for leaks after every LP tank change. The LP gas cylinder must be constructed and marked in accordance with the specifications for LP gas cylinders of the U.S. Department of Transportation (DOT or CAN/CSA-B339) and designed for use with a Type 1 system only. Do not change the regulator/hose assembly from that supplied with the unit or attempt to use a Type 1 equipped regulator/hose assembly with a standard 510 POL tank/valve assembly. The cylinder must be provided with a shut-off valve terminating in an LP gas supply cylinder valve outlet specified, as applicable, for connection Type 1. If the appliance is stored indoors, the cylinder must be disconnected and removed from the appliance. Cylinders must be stored outdoors in a well-ventilated area out of the reach of children.

Note:

When an LP unit is being directly connected to an LP house system, you must follow the natural gas hook up guidelines. The installer must provide the proper gas regulator to reduce the gas pressure to 11" W.C.

The Grill comes with the LP Gas Regulator/Hose assembly installed at the factory. The assembly, along with the entire Grill system, is leak tested. Do not remove the Regulator/Hose assembly from the Grill during installation.



WARNING!:

- 1. Do not remove the Grill from the pallet until you are ready to install.
- 2. Do not place the Grill directly on the ground or any other flat surface without support. This will prevent damaging the regulator/hose assembly by the weight of the grill.
- 3. Check the hose, regulator and connectors for damage. Look for cracks, abrasions, brittleness, holes, dents and nicks.
- 4. Do not attempt to remove, repair, or replace the Regulator/Hose assembly by yourself. It must be done by a qualified licensed technician only.

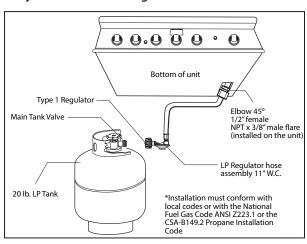


FIG. 09 LP Gas

GAS HOOK-UP

LP TANK RESTRAINT FOR BUILT-IN INSTALLATION

If the grill is to be installed in a Built-in application, then the grill must be installed in accordance with the Built-in installation guidelines.

The gas connector must comply with the Standard for Connectors for Outdoor Gas Appliances & Manufactured Homes, ANSI Z21.75/ CSA 6.27. The connection must be no longer than 6' (1820mm) in length and be suitable for outdoor installation.

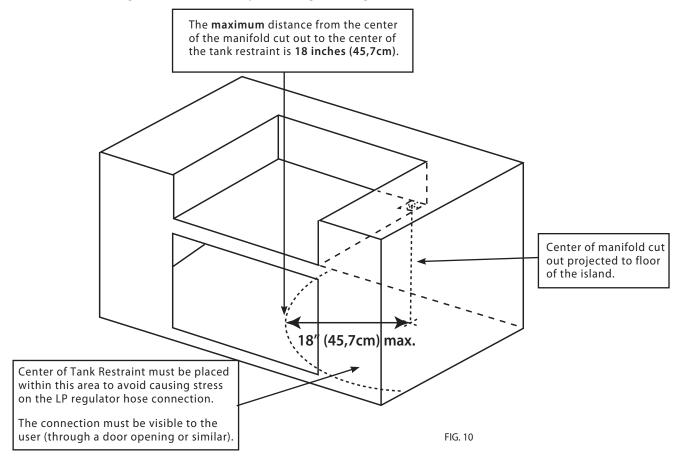
If you intend to operate your Built-in grill on LP gas utilizing a 20v lb Type 1 cylinder, then the Built-in LP tank restraint must be installed prior to initial use of the grill. If you do not have one please contact DCS Customer Care at (888) 936-7872 for information on obtaining one.

The following steps will illustrate how to properly locate and install the LP tank restraint within the Built-in enclosure.

NOTE:

The grill comes with the LP Regulator/Hose assembly installed at the factory. The assembly, along with the entire grill system, is leak tested.

Do not remove the Regulator/Hose assembly from the grill during installation.



Note:

Gas piping and connectors must be clamped within the the enclosure to avoid contact with moving parts and hot surfaces. Where the gas piping passes through an opening in the enclosure, the piping must be protected for a distance of at least 2" (50 mm) either side of the opening.

GAS HOOK-UP

STEP 1

Place the tank restraint in the island (Fig. 11).

STEP 2

Locate the tank restraint in the island within the recommended area (Fig. 10 and 12).

STEP 3

Once located, secure to the bottom of the island using all eight hole locations provided on the restraint. Wood screws can be used for wooden floors or 1/4 inch diameter anchor screws or bolts may be used if the floor is concrete or masonry (Fig. 13).

STEP 4

When secure, place the LP cylinder into the tank restraint making sure to seat the tank all the way down, securely affixing the tank in the restraint (Fig. 14).

STEP 5

Attach the regulator hose assembly and operate the grill normally as described in the manual (Fig. 15).

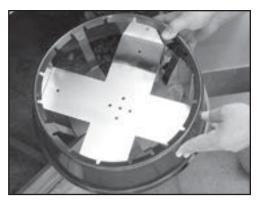


FIG. 11



FIG. 12



FIG. 13



FIG. 14



FIG. 15

LEAK TESTING

IMPORTANT!

GAS LEAK TESTING MUST BE CARRIED OUT BY AN QUALIFIED TECHNICIAN.

GENERAL:

Although all gas connections on the grill are leak tested at the factory prior to shipment, a complete gas tightness check must be performed at the installation site due to possible mishandling in shipment, or excessive pressure unknowingly being applied to the unit. Periodically check the whole system for leaks, or immediately check if the smell of gas is detected.

Before Testing:

Do not smoke while leak testing. Extinguish all open flames. Never leak test with an open flame. Make a soap solution of one part liquid detergent and one part water. You will need a spray bottle, brush, or rag to apply the solution to the fittings. For LP units, check with a full cylinder. The valve panel must be removed to check the valves and fittings. Remove the knobs and the safety valve knob, then remove the 2 screws which fasten the valve panel to the unit (you will need a Philips screw driver for this). Pull the valve panel outward and unplug the wires from the ignition module. In the back of the unit remove the screws which hold the service panel in place. Remove the service panel.

To Test:

Make sure all control valves are in the "OFF" position. Turn the gas supply "ON". Check all connections from the supply line, or LP cylinder up to and including the manifold pipe assembly. Apply the soap solution around the connection, valve, tubing and end of the manifold. Avoid getting the soap solution on or in the valve switches. Soap bubbles will appear where a leak is present. If a leak is present, immediately turn off gas supply, tighten any leaking connections, turn gas on, and recheck. Check all the gas connections at the base of the control valves where they screw into the manifold pipe.

To check rotisserie burner and safety valve the burner must be lit, then leak test the connections located behind the service panel. If you cannot stop a gas leak turn off the gas supply and call your local gas utility, or the dealer you purchased the appliance from. Only those parts recommended by the manufacturer should be used on the grill. Substitution can void the warranty.

WARNING!

Do not use the grill until all connections have been checked and do not leak.

Check all gas supply fittings for leaks before each use. Keep a spray bottle of soapy water near the gas supply shut-off valve. Spray all the fittings. Bubbles indicate leaks (Fig. 16 & 17).

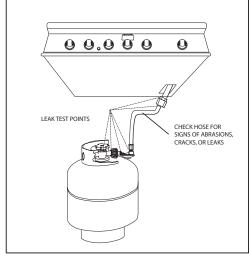


FIG. 16 LP Gas

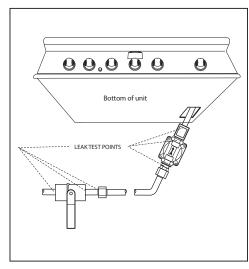


FIG. 17 Nat. Gas

BURNER ADJUSTMENT

GRILL BURNER AIR ADJUSTMENT:

Each grill burner is tested and adjusted at the factory prior to shipment; however, variations in the local gas supply or a conversion from one gas to another may make it necessary to adjust the burners. The flames of the burners (except the rotisserie burner) should be visually checked and compared to that of the drawing in Fig.18. Flames should be blue and stable with no yellow tips (LP units may have some yellow tipping), excessive noise or lifting. If any of these conditions exist, check if the air shutter or burner ports are blocked by dirt, debris, spider webs, etc. Proceed with air shutter adjustment. The amount of air which enters a burner is governed by a metal cup at the inlet of the burner called an air shutter. It is locked in place by a screw which must be loosened prior to lighting the burner for adjustment.

GRILL BURNER FLAME HEIGHT:

Before beginning, ensure the grill is OFF and cool. To access the grill burner air shutters, first remove the grates and radiants from the firebox, then remove the grill burner using instructions shown on page 31, Fig. 46. With a screw driver, loosen the lock screw on the face of the air shutter slightly so that the air shutter can be adjusted.

To Adjust:

- 1. Be careful as the burner may be very hot.
- 2. If the flame is yellow, indicating insufficient air, turn the air shutter counterclockwise to allow more air to the burner.
- 3. If the flame is noisy and tends to lift away from the burner, indicating too much air, turn the air shutter clockwise. Reinstall the U-burner, ensuring the burner is level. Light the burner and check the flame. If all is okay, remove the burner (CAUTION - burner may be hot, allow time to cool) and tighten the air shutter screw. If not repeat the above procedure to readjust the air shutter.

LOW FLAME SETTING ADJUSTMENT:

The valves on the grill feature an adjustable low setting. Due to fluctuations in gas pressure, heating value or gas conversion, you may feel it necessary to increase or decrease gas flow in the low position. We do not recommend adjusting the infrared rotisserie burner.

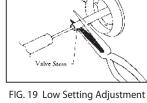
To Adjust:

- 1. Light the burner.
- 2. Turn the control knob to the lowest setting (all the way counter-clockwise).
- 3. Remove the knob.
- 4. While holding the valve shaft with pliers, insert a thin, flat tipped screwdriver into the shaft and while viewing the burner adjust to a minimum stable flame (Fig. 19).

SIDE BURNER FLAME HEIGHT:

The correct height of the flame mainly depends on the size of the bottom of the cooking utensil, the material of the cooking utensil, the amount and type of food and the amount of liquid in the utensil. Following are some basic rules for selecting flame height.

- For safety reasons the flame must never extend beyond the bottom of the cooking utensil. Never allow flames to curl up the side of the pan (see Fig. 20).
- Utensils which conduct heat slowly (such as glass-ceramic) should be used with medium to low flames. If you are cooking with a large amount of liquid, a slightly larger flame can be used.

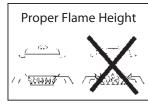


1-1/2" (3,81cm)

3/8" (0,95cm)

FIG. 18 Burner Flame

Height





WARNING: IMPORTANT!

Before lighting, inspect the gas supply piping or hose prior to turning the gas "on". If there is evidence of cuts, wear, or abrasion, it must be replaced prior to use.

RADIANT ASSEMBLY

Before assembling the Radiant assembly check that the radiant trays have not moved during transit. They should sit securely on their locating pins in the base of the grill.

RADIANT ASSSEMBLY INSTALLATION:

- 1. Unpack ceramic rods and remove radiant (Fig. 21) from the unit.
- 2. Unlock radiant end cap by pushing it up with two fingers (Fig. 22).
- 3. Place 18 ceramic rods on the radiant (Fig. 23).
- 4. Lock radiant end cap (Fig. 24).
- **5.** Place the assembled radiant in the unit (Fig. 25).



FIG. 22



FIG. 24

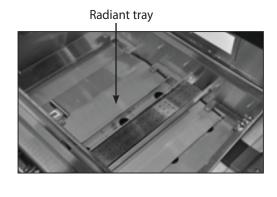




FIG. 21



FIG. 23



FIG. 25

Note:

In case a ceramic rod breaks:

- a) Unlock radiant end cap by pushing it up with two fingers (Fig. 22) or pliers may be used.
- b) Replace broken ceramic rod.
- c) Lock radiant end cap.

Note:

For BH1-48RGI and BH1-36RGI models see the Quick Start Guide for information on installing the griddle and Infrared Hybrid Burner

INSTALLER CHECKLIST

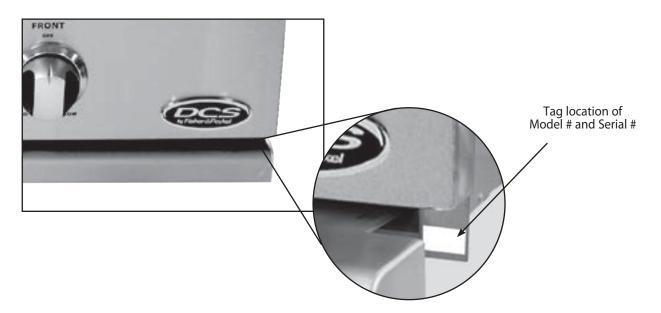
- ☐ Specified clearances maintained to combustibles.
- ☐ Verified proper enclosure ventilation.
- ☐ All internal packaging and any adhesive residue removed. To remove stubborn residue, use rubbing alcohol or a commercially available adhesive remover.
- ☐ Removed shipping brackets
- ☐ Knobs turn freely, bezels centered.

- ☐ Each burner lights satisfactorily, individually or with adjacent burner lit.
- ☐ Air shutters adjusted.
- ☐ Low flame setting satisfactory.
- ☐ Drip pan in place properly and sliding freely.
- □ Pressure regulator connected and set for 4.0"
 W.C. Natural, 11.0" W.C. LP gas.
- ☐ Manual shut-off valve installed and accessible.

- ☐ Unit tested and free of leaks.
- ☐ User informed of gas supply shut-off valve location.
- ☐ All radiants are assembled and put in place.
- Check match lighting.
- PLEASE LEAVE THESE INSTRUCTIONS WITH THE USER.
- USER, PLEASE RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.

NOTE:

If any of the listed items are missing, contact DCS at (888) 936-7872. Please be prepared with your Model #, Serial # and description of item(s) that are missing.



Read all installation instructions in this manual to see if the unit has been properly installed. If not done or done correctly, correct before using the unit.