

OUTDOOR GAS PATIO HEATER FH-1000SS/SQ/ST

OWNER'S MANUAL + ASSEMBLY INSTRUCTIONS. READ CAREFULLY. DO NOT DISCARD!

--- NOTICE TO INSTALLER: LEAVE THESE INSTRUCTIONS WITH THE OWNER ---



WARNING! For Outdoor Use Only. Gas Leak Test must be performed before first use!

WARNING! Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death.

Read ALL installation, operating and maintenance instructions thoroughly before assembling, installing or servicing this equipment. Retain this manual for future reference.



WIND RESISTANT DESIGN



WARNING!

Do not try to light this appliance without reading the "LIGHTING" instructions section of this manual.

Do not store or use gasoline or other flammable liquids or vapors in the vicinity of this or any other appliance. Any L.P. cylinder not connected for use must not be stored in the vicinity of this or any other appliance. If the information in these instructions is not followed exactly, a fire or explosion may result, causing property damage and/or personal injury.

DANGER! IF YOU SMELL GAS:

- Shut off gas to the appliance.
- Extinguish any open flame.
- If odor continues, stay away from the appliance and call your gas supplier or fire department IMMEDIATELY.



Intertek

Tested + listed by Intertek Testing Services NA, Inc.
to standards ANSI Z83.26a-2008/CSA 2.37a-2008
Report no. GZ09120043-1 | Control no. 4000335

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WARNING! Failure to follow these instructions could result in property damage, personal injury or death. Read and follow ALL warnings and instructions PRIOR TO OPERATING this EQUIPMENT.

SAFE OPERATING PRACTICES - READ ENTIRE MANUAL PRIOR TO ASSEMBLY!

- This patio heater must always be placed on a solid level surface where it will not be knocked over as this will break the glass tube and might cause personal injury. For added stability (permanent installations) the patio heater can be bolted down using the holes located in the corners of the bottom shelf.
- This patio heater must not be installed in or on recreational vehicles, boats or any moving platform.
- Do not set up in high wind locations. High winds adversely affect the performance of the patio heater.
- Under no circumstances may this patio heater be modified.
- **Ensure proper clearance to combustibles is maintained (24" (610mm) to the top and 18" (460mm) to the sides).** The patio heater can be installed in the following enclosed areas, as long as the clearance to combustibles is maintained (also see figures on page 3):
 - a) If the patio heater is installed in an area with walls around the entire perimeter, there can be no overhead cover (no roof over the area).
 - b) If the patio heater is installed in an area with an overhead cover (roof over the area), then a minimum of either two side walls or 30% of the outside perimeter walls must be permanently open.
- Installation and repair must be performed by a qualified service technician.
- Do not obstruct the flow of combustion and ventilation air. Keep the ventilation openings of the cylinder enclosure free and clear of debris.
- Do not store items under the patio heater. Items stored under the heater, will be subjected to radiant heat and could be seriously damaged.
- Gas must be turned off at the propane cylinder or at the natural gas supply valve when the patio heater is not in use.
- Do not attempt to use a cylinder that is not equipped with a QCC1 type connection.
- When the propane cylinder is connected to the appliance, the patio heater and cylinder must be stored outdoors in a well-ventilated space.
- When the patio heater is to be stored indoors, the connection between the propane cylinder and the patio heater must be disconnected, the gas cylinder removed and stored outdoors in a well ventilated space out of reach of children. A disconnected cylinder must have dust caps tightly installed and must not be stored in a building, garage or any other enclosed area. Natural gas units must be disconnected from the supply when being stored indoors.
- Inspect the fuel supply hose before each use. If there is evidence of excessive abrasion or wear or the hose is cut, it must be replaced prior to using the gas heater with a replacement hose assembly specified by the manufacturer.
- Avoid twisting the flexible tubing while changing the cylinder or using the patio heater.
- Never replace or substitute the regulator with any regulator other than the manufacturer suggested replacement.
- The hose must be protected from damage and located out of pathways where people may trip over it.
- **Leak test the unit before initial use, annually, and whenever any gas components are replaced. (follow leak testing instructions in this manual). Never use an open flame to check for leaks.**
- Follow lighting instructions carefully when operating patio heater.
- Burner controls must be OFF when turning supply cylinder valve on.
- The patio heater is supplied with a top reflector and protective screens. Never use the heater without the reflector and screens in place.
- **Any wire guard or other protective device removed for servicing the heater must be replaced prior to operating the patio heater again.**
- Do not paint the radiant screen, control panel, or top radiant reflector.
- Do not spray aerosols in the vicinity of this appliance while it is in operation.
- **Clothing or other flammable material should not be hung from the patio heater, or placed on or near the patio heater.**
- **Adults and especially children should be alerted to the hazards of high surface temperatures. Young children and unfit persons have to be supervised near the patio heater.**
- Do not leave the patio heater unattended when operating.
- Do not move the patio heater when hot or operating.
- Propane cylinder/gas supply must be shut off and disconnected before moving the patio heater.
- Keep any electrical supply cords and fuel supply hoses away from any heated surfaces.
- Inspect burner venturi tube for spider webs and other obstructions periodically. Clean the tubes completely if you find any such obstructions.
- Do not allow cold water (rain, sprinkler, hose, etc.) to come in contact with heated unit. Any substantial temperature difference could cause the glass tube to crack or break.
- Do not clean the patio heater with cleaners that are combustible or corrosive. Instead wipe clean with soapy water on a regular basis (also see "maintenance")
- Do not use a pressure washer to clean any part of the patio heater.

GENERAL INFORMATION

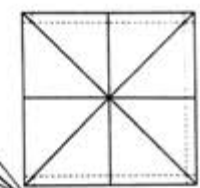
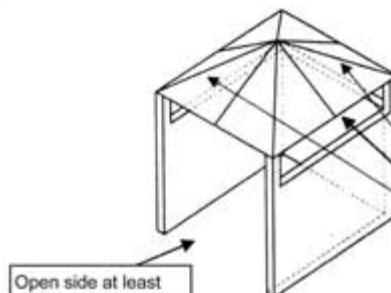
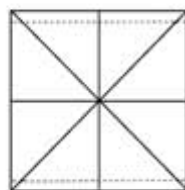
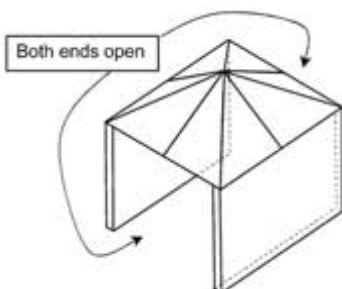
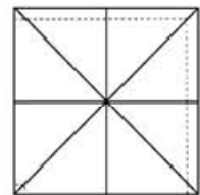
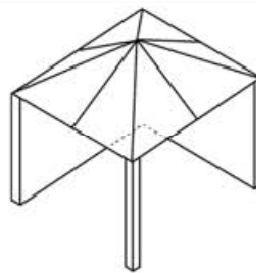
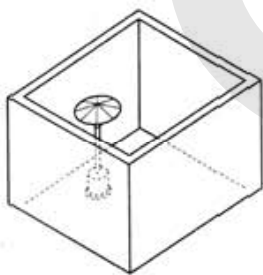
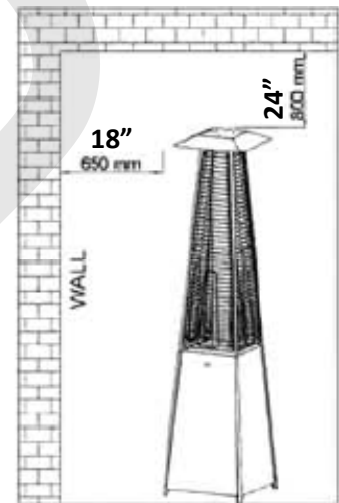
Our gas-fired outdoor patio heater models FH-1000, FH-1000SQ and FH-1000ST have been tested and certified under American and Canadian national standards, ANSI Z83.26a-2008/ CSA 2.37a-2008 Gas Fired Outdoor Patio Heaters by Intertek Testing Services Shenzhen Ltd., Guangzhou, China, on behalf of Intertek Testing Services NA Inc., Cortland, NY, p (800) 345-3851 and the manufacturer Elegant Union Industrial Co., Ltd. Taipei, Taiwan.

When an appliance is for connection to a fixed piping system, the installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, Natural Gas and Propane Installation Code, CSA B149.1, or Propane Storage and Handling Code, B149.2.

California proposition 65: The burning of gas fuel creates by-products, some of which are on the list as substances known by the State of California to cause cancer or reproductive harm. When heating with gas, always ensure adequate ventilation to the unit, to minimize exposure to such substances.

PATIO HEATER PLACEMENT AND LOCATION

- **This heater is for outdoor use only**
- Do not use indoors or in enclosed areas
- Ensure that adequate fresh air ventilation is provided
- Always maintain proper clearance from combustibles materials, i.e. top 24" (61 cm), and to the side 18" (46 cm)
- Heater must be placed on firm, level ground
- Never operate heater in areas where gasoline, explosives or other flammable/combustible materials or liquids are stored, or where flammable vapors could occur.
- **When exchanging gas cylinders and the cylinder is removed, make sure to weigh down the unit to prevent tipping it over.**



30% or more in total of remaining wall area is open and unrestricted

PROPANE CYLINDER SPECIFICATIONS



WARNING!

If these instructions are not followed exactly, a fire causing death or serious injury may occur.

A dented or rusty cylinder may be hazardous and should be checked by your propane supplier. Never use a cylinder with a damaged valve. Use only a propane supply cylinder constructed and marked in accordance with the specifications for LP-gas cylinders of the National Standard of the USA and Canada (CAN/CSA-B339, Cylinders, Spheres and Tubes for Transportation of Dangerous Goods; and Commission, as applicable or the Specifications for LP-Gas Cylinders of the U.S. Department of Transportation D.O.T.). This appliance has been designed for use with a 20 lb. (9.1 kg) or 30 lb (13.6 kg) size propane cylinder only (not supplied).

The propane cylinder must be equipped with a cylinder connection device compatible with the connection for outdoor gas appliances. The propane cylinder must be equipped with a shut-off valve terminating in a propane cylinder valve type QCC1, and a safety relief device having direct communication with the vapor space of the cylinder. The cylinder supply system must be arranged for vapor withdrawal and the cylinder shall include a collar to protect the cylinder valve. The cylinder shall incorporate a listed OPD (overfill protection device). Do not store a spare LP-gas cylinder under or near this appliance. Never fill the cylinder beyond 80 percent full.

Place the dust cap on the cylinder valve outlet whenever the cylinder is not in use. Only install the type of dust cap on the cylinder valve that is provided with the cylinder valve. Other types of caps or plugs may result in leakage of propane.

Use only the pressure regulator and hose assembly provided with this patio heater. Replacement pressure regulators and hose assemblies must be specified by the manufacturer. Do not store a spare propane cylinder on the shelf beneath the heater.

The regulator supplies a pressure of 11 inches water column to the patio heater and has a QCC1 type fitting. Cylinders to be used with this unit must be supplied with a QCC1 cylinder valve. A QCC1 cylinder has a positive seating connection, which will not allow gas flow until a positive seal has been achieved. It is also equipped with an excess flow device. In order to attain full flow to the heater, the valve must be in the off position when the cylinder valve is turned on.

GAS HOOK-UP INSTRUCTIONS



WARNING!

Installation and repair must be done by a qualified service technician. The appliance must be inspected before use and at least annually maintained by a qualified service professional. More frequent cleaning may be required as necessary. It is imperative that the control compartment, burners and circulating air passages of the heater be kept clean.

BEFORE YOU START



Caution !

During unpacking and assembling we recommend to wear work gloves and safety glasses for your protection. Although we make every effort to make the assembly process as safe as possible, it is a characteristic of fabricated steel parts that the edges and corners might be sharp and could cause cuts or injuries if handled incorrectly.

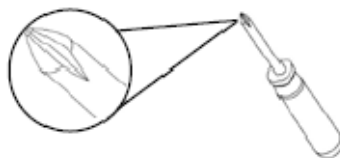


1. Remove all of the parts from the box. Use the parts list to ensure all necessary parts are included.
2. Do not discard packaging material until the patio heater has been fully assembled and operates to your satisfaction.
3. Assemble the patio heater where it is to be used, lay down cardboard or a towel to protect parts from getting lost or damaged while assembling.
4. Stainless steel parts may be supplied with a protective plastic coating that must be removed prior to using the patio heater.
5. Follow all instructions in the order that they are laid out in this manual.

TOOLS REQUIRED FOR ASSEMBLY (not included)



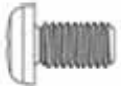
3/4" | 19 mm wrench



Phillips screwdriver

Chubby, short handle version works best

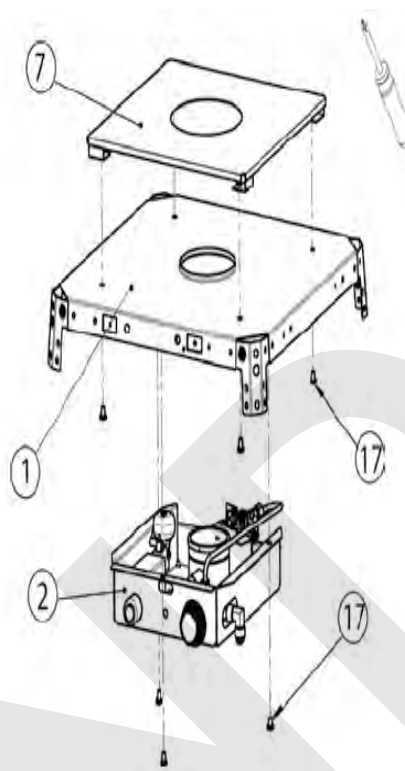
1. Getting started



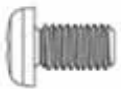
7 X (M5 X 8 mm)

Disassemble the control box (2) from the plate cover (7) and the middle plate (1) by removing the (M5 x 8mm) screws (17). These parts were assembled at the factory to protect the parts during shipping.

Put burner/control box (2) And 3 screws aside for later assembly.



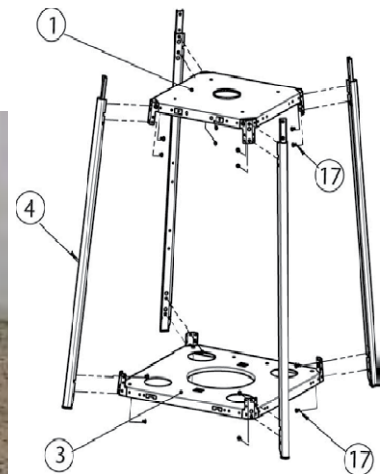
2. Assemble lower frame + middle plate



16 X (M5 x 8 mm)

Attach the four lower supports (4) to the bottom plate (3) and middle plate (1) using the (M5 x 8 mm) screws (17).

NOTE:
Make sure to align the magnet on the middle plate with the door slots at one side of the bottom plate.



3. Mount the control box

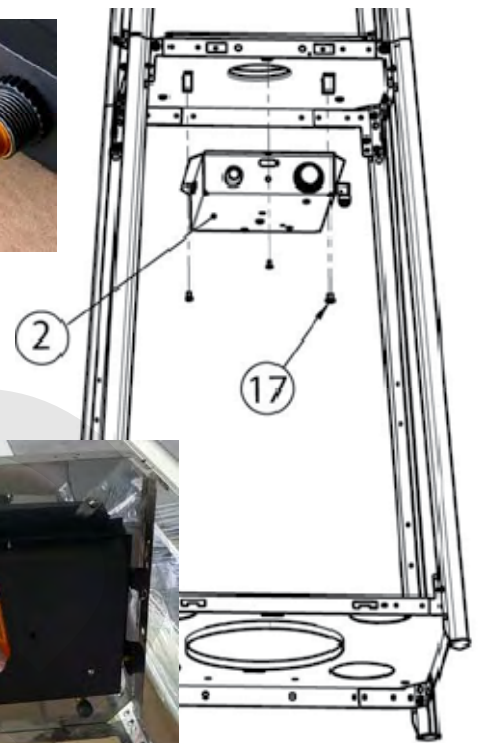


3 X (M5 x 8 mm)

Install one AA battery into the control box.
Assemble the control box (2) onto the bottom of the middle plate (1) using the (M5 x 8 mm) screws (17).

Note :

The control knob needs to face to the front of the middle plate where the magnet is located.

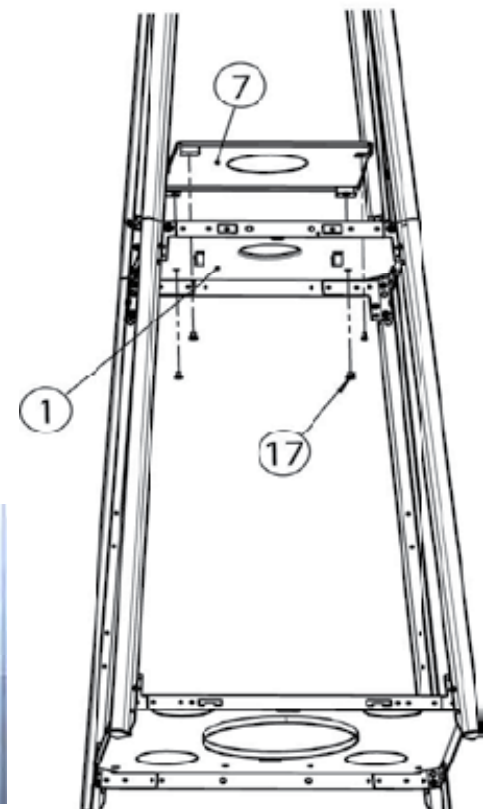


4. Mount the center cover plate



4 X (M5 x 8 mm)

Affix the plate cover (7) onto the middle plate (1) using the (M5 x 8 mm) screws (17).

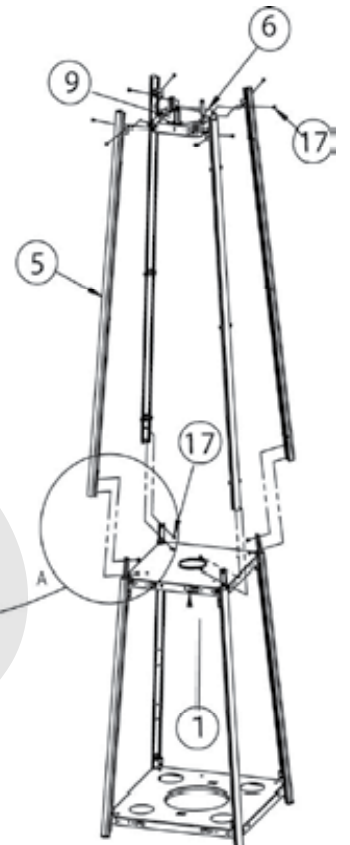
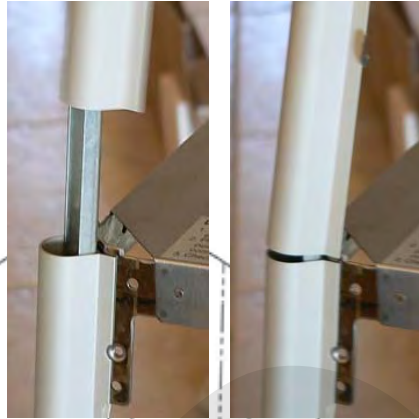


5. Assemble upper frame

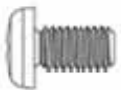


16 X (M5 x 8 mm)

Attach the four upper supports (5) to the lower supports (4) using the (M5 x 8 mm) screws (17). The upper plate (6) is then assembled to the upper supports (5) using the (M5 x 8 mm) screws (17).

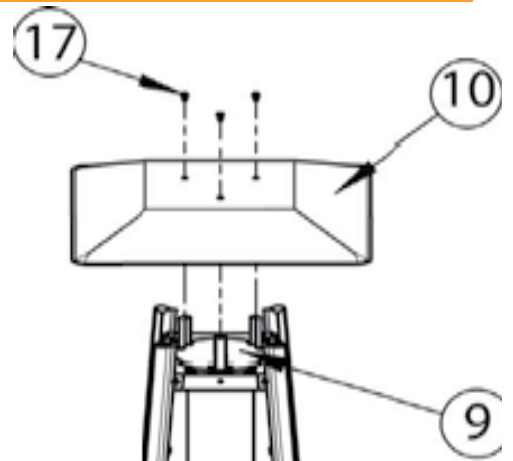


6. Mount the damper + reflector top



8 X (M5 x 8 mm)

Affix the damper (9) at the top end with 2 screws to hold in place. Then fasten remaining screws.

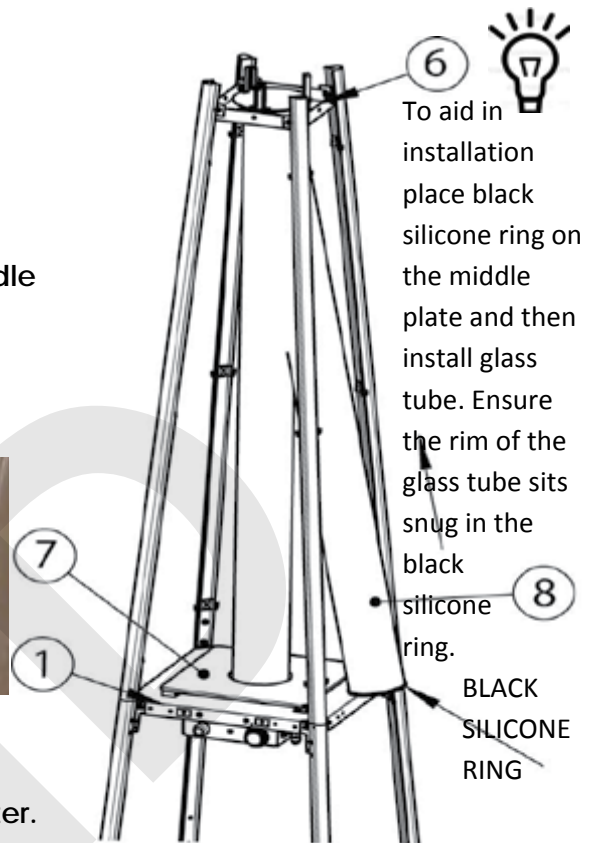


3 X (M5 x 8 mm)

Affix the reflector hood (10) onto the damper (9) using the (M5 x 8 mm) screws (17).

7. Inserting the glass tube

Carefully install the glass tube (8) by lifting it up and inserting it through the center hole in the upper plate (6). Ensure the black silicone ring is attached to the lower end of the glass tube as illustrated. Tilt and slide the glass tube into the hole of the lower plate cover (7) and center on the middle plate (1). Check and ensure that the glass tube is positioned properly and is completely covering the center hole of the middle plate.



WARNING! The black silicone ring must be properly in place prior to operating the heater.

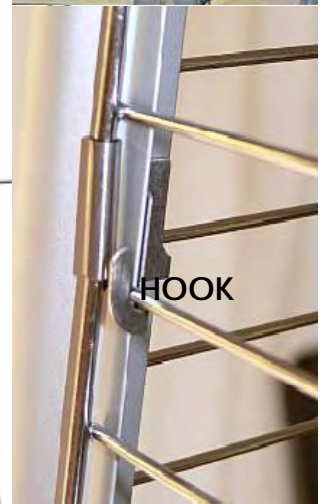
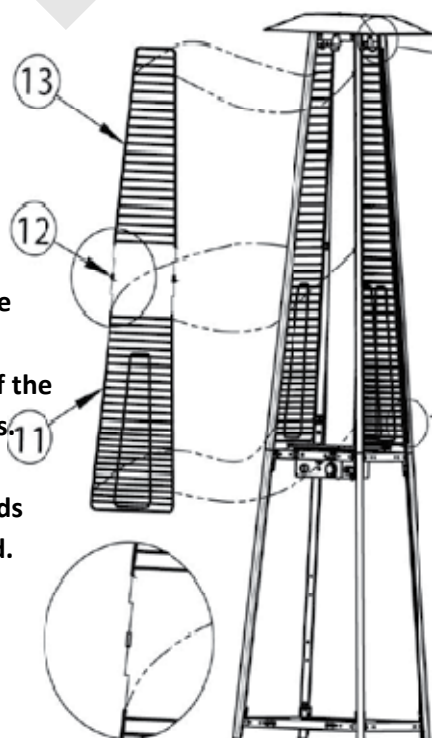
8. Attach protective wire guards



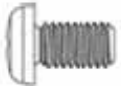
4 X (M5 X 8 mm)



Loosely affix the 4 upper wire guard brackets (14) to the top frame with the provided screws. Attach the lower, wider wire guard (11) onto the four hooks on the frame. Slide one little tube connector (12) on each of the open end wires at the top of the lower guards. Affix the upper wire guards accordingly and connect them with the lower protective guards (11 & 13). Ensure that all hooks have engaged. Using the (M5 x 8 mm) screws secure the wire guards at the top by fastening the fixing brackets (14) at the top of the upper plate over top of the guards as illustrated.



9. Attach the side panels

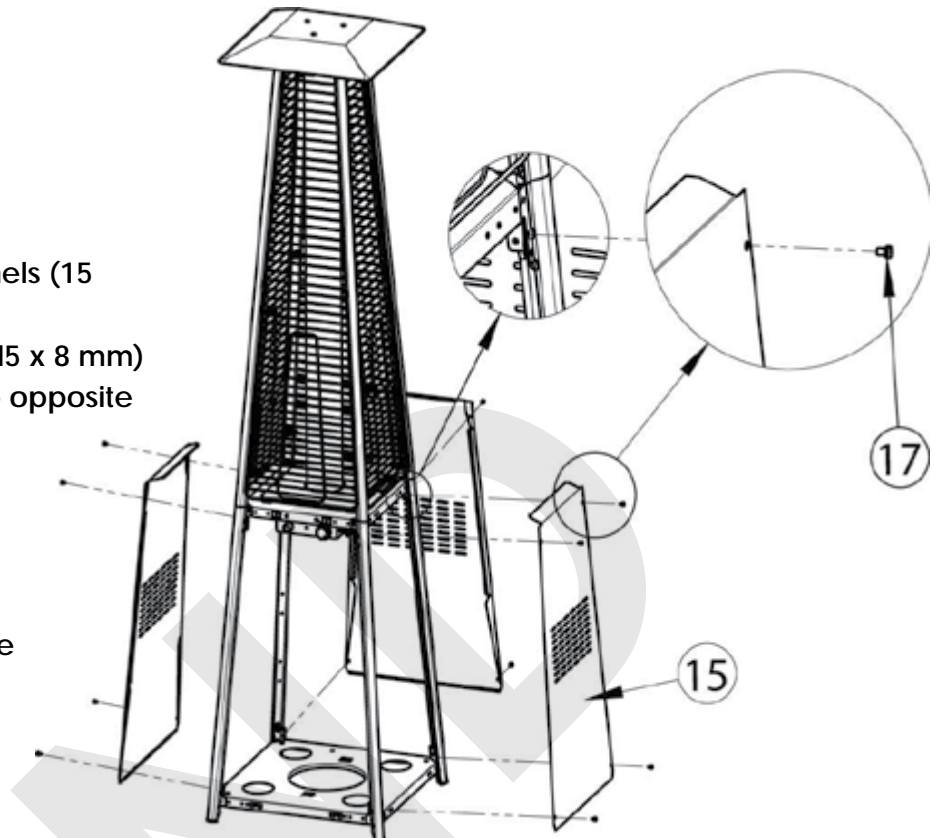


12 X (M5 X 8 mm)

Attach the three side panels (15 with vent openings) to the heater using the (M5 x 8 mm) screws (17). Best affix two opposite sides first, fastening the screws diagonally.

Note :

Do not cover the front side where the control are.

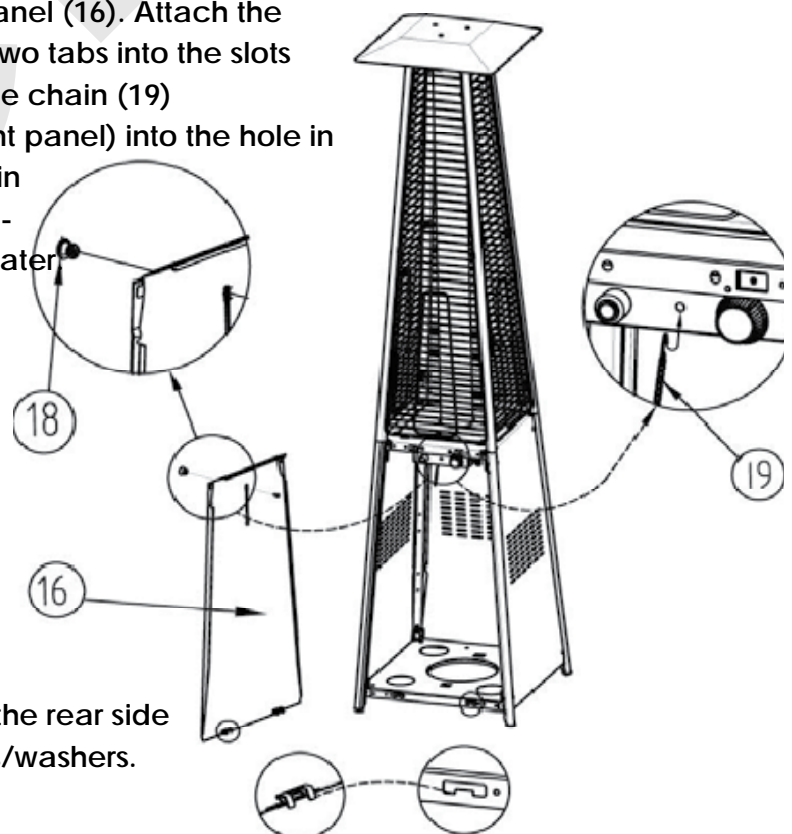


10. Attach the front panel + optional wheel kit

Screw the knob (18) onto the front panel (16). Attach the panel to the heater by inserting the two tabs into the slots at the front bottom plate (3). Hook the chain (19) (which is preassembled onto the front panel) into the hole in the front of the control box. The chain will prevent the panel from falling forward while lighting/operating the heater.



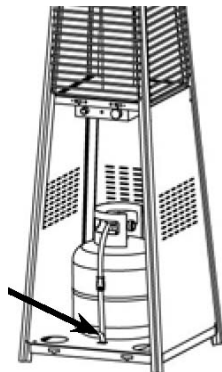
Optional: affix the wheel bracket to the rear side of the unit using the provided screws/washers.



PROPANE CYLINDER HOOK UP

Place gas cylinder into hole in bottom shelf. Tighten strap over cylinder to secure it in place.

Loop strapping through slots in bottom shelf and secure over top of propane tank as illustrated.



Cylinder Connection: Ensure the gas regulator hose is kink free. Take cap off the gas hose. Connect regulator hose to propane burner hook-up. Use plumbing tape (Teflon) to make an airtight connection.

Remove the cap from the cylinder fuel valve. Insert the black QCC1 regulator nipple onto the QCC1 fuel valve. Hand-tighten clockwise. Do not use tools. **IMPORTANT NOTE: A LEAK TEST OF ALL CONNECTIONS MUST BE PERFORMED prior to operating the patio heater for the first time (see p. 13).** A leak test must be performed at least annually and/or each time a new cylinder is hooked up or if a part of the gas system is replaced. If this heater is to be connected directly to a house propane gas supply line, follow the instructions for the natural gas hook-up. Ensure that the supply pressure is 11 inches water column.

NATURAL GAS HOOK UP

Natural Gas Hook-up must be performed by a licensed gas fitter. The patio heater is designed to operate at an **inlet pressure of 7 inches water column**. Piping and valves upstream of the quick disconnect are not supplied. The installation must comply with CAN B149.1 Natural Gas and Propane installation code in Canada, or to the National Fuel Gas Code, ANSI Z223.1 in the United States. The gas supply pipe must be sufficient to supply this 31,000 BTU/hr patio heater.

The quick disconnect must not be installed in an upward direction and a readily accessible manual shut-off valve must be installed upstream of, and as close to, the quick disconnect as is feasible. The flared end of the hose must be connected to the fitting on the end of the control valve as illustrated in the Natural Gas Hose Attachment diagram. Tighten using two wrenches. (Do not use thread sealer/pipe dope.) Leak test all joints prior to operating the gas heater.



WARNING!

- The installation must be performed by a licensed gas fitter, and all connections must be leak tested before operating the patio heater.
- Ensure all hose connections are tightened using two wrenches. Do not use Teflon tape or pipe dope on any hose connection.
- Ensure the hose does not contact any high temperature surfaces or it may melt and leak causing a fire.
- Leak test all the connections using a soap and water solution as per the leak testing instructions found in the manual.
- The outdoor cooking gas appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 0.5 psi (3.5 kPa).
- The outdoor gas appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).

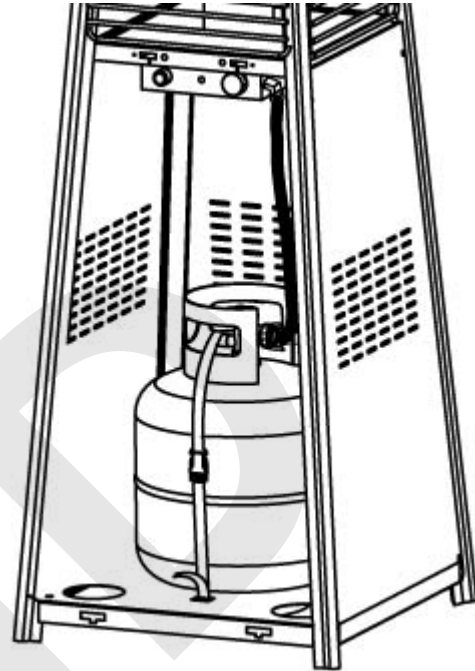
PROPANE VERSION

Proper Hose Connection



WARNING ! Ensure the hose does not contact any high temperature surfaces, or it may melt and leak causing a fire.

ALL CONNECTIONS MUST BE LEAK TESTED before operating the patio heater.

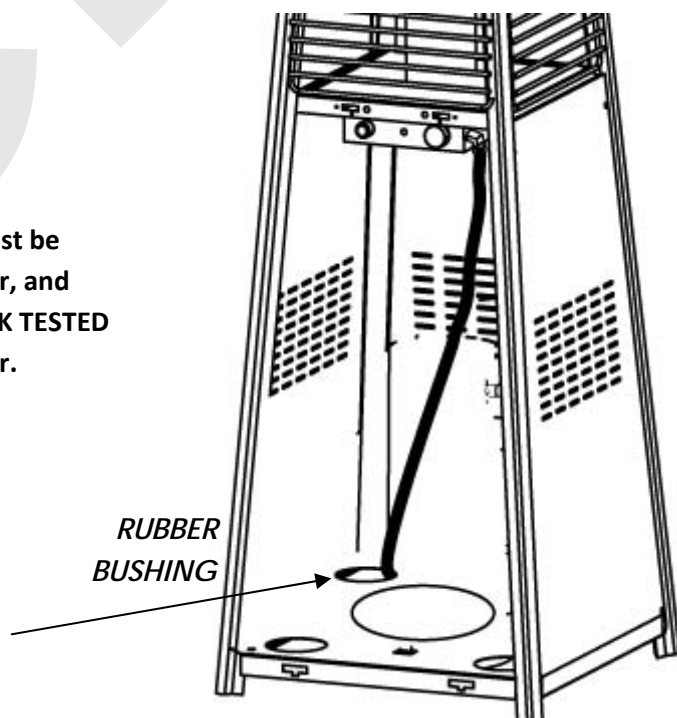


NATURAL GAS VERSION

Proper Hose Connection



WARNING ! The installation must be performed by a licensed gas fitter, and **ALL CONNECTIONS MUST BE LEAK TESTED** before operating the patio heater.



LEAK TEST INSTRUCTIONS



WARNING ! A leak test must be performed at least annually and each time a cylinder/gas supply line is hooked up, components are replaced or serviced.



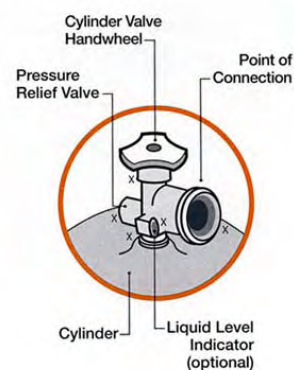
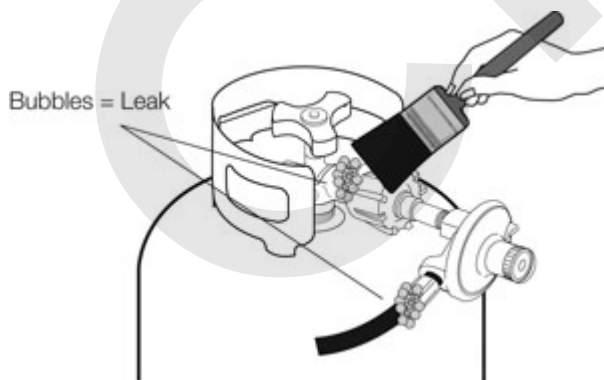
WARNING ! Never use an open flame to check for gas leaks. Be certain no sparks or open flames are in the area while you check for leaks. Sparks or open flames will result in a fire or explosion, damage to property, serious bodily injury, or death.



- Do not smoke while checking for gas leaks or anytime you are in the vicinity of the appliance.
- Never test for gas leaks with a lit match or open flame.
- Always test for gas leaks outdoors in a well-ventilated area.

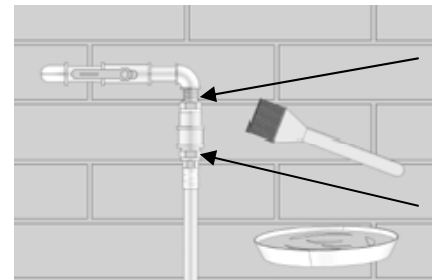
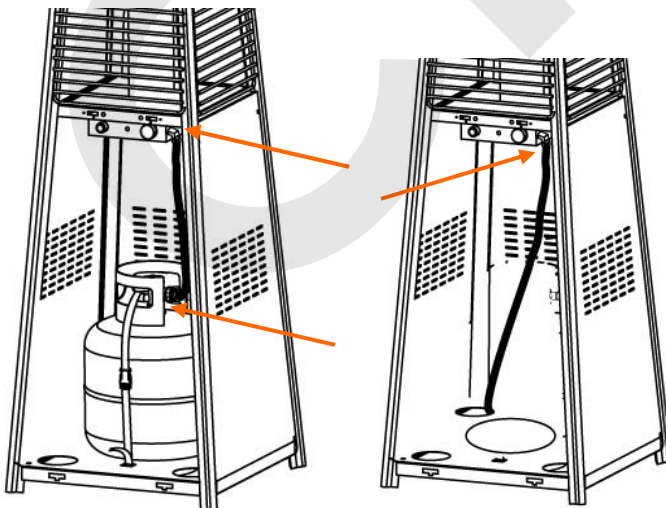
Even if this appliance was assembled for you by someone else, be sure to check for gas leaks as follows:

1. Extinguish any open flame or cigarettes in the area.
2. Be sure that the propane cylinder (or natural gas service valve) and all burner control knobs are closed ("OFF").
3. Connect a full propane cylinder to the appliance (or ensure the unit is connected to an active natural gas service valve).
4. In a bowl, create a soap solution of 1 part water with 1 part liquid detergent.
5. Open the propane cylinder (or natural gas service valve) slowly.
6. Brush a generous amount of the soap solution over each connection point using a new paint brush.
7. A gas leak can be identified by bubbles forming at the point of the leak. See figure below.



8. If a gas leak is detected at any connection, CLOSE the propane cylinder valve (or natural gas service valve) and tighten the leaky connection(s) further.
9. Repeat the leak test (steps 5 - 8).
10. If the gas leak persists, do not operate the appliance. Contact your local gas dealer for assistance.

- alt. 10. Remove the hose from the connection. Apply “plumber/teflon tape” (available at any hardware store) and reconnect the hose. Again, you MUST REPEAT THE LEAK TEST.



If gas leaking persists, **IMMEDIATELY CLOSE PROPANE VALVE** (or natural gas service valve) and have the patio heater inspected by a certified gas installer or dealer. Do not operate the patio heater until the leak has been corrected.

OPERATING THE PATIO HEATER

Initial Lighting

When lit for the first time, the patio heater emits a slight odor. This is a normal temporary condition caused by the “burn-in” of internal paints and lubricants used in the manufacturing process and does not occur again. Simply run the main burner on high for approximately one-half hour.



WARNING!

- Children and adults should be alerted to the hazards of high surface temperatures and should stay away from the patio heater to avoid burns or clothing ignition.
- Children should be carefully supervised when they are in the area of the patio heater.
- Clothing or other flammable materials should not be hung from the patio heater, or placed on or near the patio heater. The area above the post may be extremely hot. Direct contact with these metal surfaces should be avoided in order to prevent burns or clothing ignition.
- Any guard or protective device removed for servicing the patio heater must be replaced prior to operating the patio heater.
- Installation and repair should be done by a qualified service person. The patio heater should be inspected before each use and at least annually by a qualified service person. More frequent cleaning may be required as necessary. It is imperative that the control compartment, burners and circulating air passageways of the patio heater be kept clean.



WARNING!

- Never use the patio heater while it is raining, the glass tube could break when exposed to water.
- Always turn the patio heater off when raining.
- Never splash any liquid on the glass tube when the patio heater is operating.
- The glass tube will be extremely hot while operating, never try to touch it.
- Always ensure the patio heater stands firmly on level ground, the glass tube will break if the patio heater is knocked over.
- Never use the patio heater if the glass tube is cracked or broken.

Note! This patio heater has been designed with several safety features, which include a tip over switch. If the appliance is accidentally knocked over the switch will be activated and gas to the appliance will be automatically shut off.



WARNING!

Any modification to the patio heater may compromise the safety of this appliance.

Of special concern are:

- Do not bypass thermocouple safety.
- Do not operate patio heater without a reflector.



NOTE: Test the pilot spark by pushing the red ignition button. If you don't see any spark, check the battery. You might need to exchange it for a different brand in case of no proper plus-pole contact.

OFF	
LIGHT	
LOW	
HIGH	

1. Turn burner control to 'LIGHT' position.

2. Press and hold igniter button until pilot light ignites, or light by match. (check for pilot light through glass tube)

3. Once pilot is lit, keep control knob depressed for 15 seconds and then turn control knob to 'LOW'.

4. If ignition is not immediate, turn burner control off. Wait 5 minutes. Repeat.

5. For maximum heat turn control knob to 'HIGH'

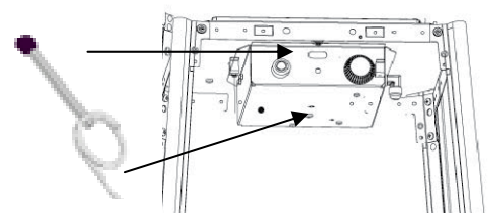
6. To turn off the patio heater, turn the control knob to the 'OFF' position and then turn the gas supply off at the source.



WARNING! The propane cylinder is equipped with an excess flow device. Unless burners are turned off prior to turning the cylinder on, only small flames and low heat will be generated.



WARNING! If lighting the unit with a match, clip the match into the supplied lighting rod. Hold the lit match through the hole in the bottom or from the control box while turning the burner valve to high.



MAINTENANCE + CLEANING INSTRUCTIONS



WARNING! Always wear protective gloves and safety glasses when cleaning your patio heater



WARNING! To avoid the possibility of burns, maintenance should be done only when the patio heater is cool. Avoid unprotected contact with hot surfaces. Ensure burner is turned off. Turn gas off at source and disconnect the patio heater before servicing.



Do not touch or move the patio heater for at least 45 minutes after use.



Clean the patio heater in an area where cleaning solutions will not harm decks, lawns, or patios. Do not use flammable, corrosive or abrasive cleaners.

Note: Stainless steel tends to oxidize or stain in the presence of chlorides and sulfides, particularly in coastal areas and other harsh environments, such as the warm, highly humid atmosphere around pools and hot tubs. These stains could be perceived as rust, but can be easily removed or prevented. To provide stain prevention and removal, wash all stainless steel surfaces regularly or as often as required with soapy fresh water and/or stainless steel cleaner.

Cleaning The Outer Patio Heater Surface: Do not use abrasive cleaners or steel wool on any painted, porcelain or stainless steel parts of your Patio Heater. Doing so will scratch the finish. Exterior heater surfaces should be cleaned with warm soapy water. To clean stainless surfaces, use a stainless steel or a non-abrasive cleaner. Always wipe in the direction of the grain. Over time, stainless steel parts discolor when heated, usually to a golden or brown hue. This discoloration is normal and does not affect the performance of the patio heater. Porcelain enamel components must be handled with additional care. The baked-on enamel finish is glass-like, and will chip if struck.



WARNING! The patio heater area must be clear and free from combustible materials, gasoline and other flammable vapors and/or liquids. Do not obstruct the flow of combustion and ventilation air. Keep the ventilation opening of the cylinder enclosure free and clear of debris.

CAUTION!

Cleaning Inside the Patio Heater: While washing your patio heater, be sure to keep the area around the burner and pilot assembly dry at all times.



WARNING! If the gas control is exposed to water in any way, **DO NOT** try to use the heater. It must be replaced.



WARNING! Carbon deposits may create a fire hazard. Clean the reflector and the glass tube with warm soapy water if any carbon deposits develop. Always use great caution when cleaning the glass tube.






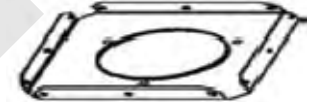

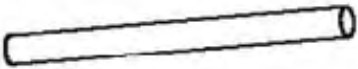
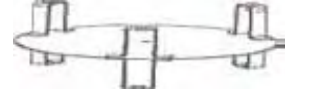
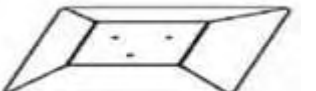
CAUTION! Beware of Spiders

Spiders and insects are attracted to the smell of propane and natural gas. A nest or web will cause the burner to burn with a soft yellow or orange flame or cause a fire (flashback). The ceramic burner ports do not require cleaning. The burner venturi can be cleaned with a pipe cleaner or venturi brush if debris has accumulated.
















WARNING! Hose: Check for abrasions, melting, cuts, and cracks in the hose. If any of these conditions exist, do not use the patio heater. Have the part replaced by your dealer or qualified gas installer.

COMPONENTS/PARTS LIST

Item #	Description/Part #	Qty	Picture	Comments
1	Middle Plate - LH230-1-3-0	1		
2	Control Box Assy - LH200-30 Includes: Burner LP - LH100-3-8-0 Burner NAT - LH200-3A-8-0 Pilot LP - LH100-3-7A-0 Pilot NAT - LH200-3A-7-0 Valve Assy LP - LH200-3-2-0 Valve Assy NAT - LH200-3A-2-0 Pilot Tube - LH200-3-4-0 Igniter - LH100-3-10 Control Knob - LH100-3-1Y Tip Switch - LH100-3-9	1		Preassembled in the Middle Plate
3	Bottom Plate - LH230-1-1A-0	1		
4	Lower Support - LH230-1-2-0	4		
5	Upper Support - LH230-1-4-0	4		
6	Upper Plate - LH200-1-5-0	1		
7	Plate Cover - LH200-2-0	1		
8	Quartz Glass Tube - LH100-4-2 with Black Silicone Ring - LH100-4-1	1		
9	Damper - LH100-5-0	1		
10	Reflector - LH200-6	1		

COMPONENTS/PARTS LIST continued

Item #	Description/Part #	Qty	Picture	Comments
11	Lower Protective Guard LH230-9	4		
12	Tube Connectors - LH200-8 to connect protective guards	8		
13	Upper Protective Guards LH230-7	4		
14	Fixing Brackets - LH100-10 for upper protective guards	4		
15	Side Panel - LH230-11A	3		
16	Front Panel - LH230-12-3-0	1		A chain is preassembled in this panel
17	Screw M5 x 8mm	58		Preassembled in relative parts
18	Front panel Knob - LH100-12-1	1		
19	Chain - LH100-12-2-0	1		Preassembled in the front panel
20	Propane Regulator Hose with connector N530-0003	1		
21	Propane Tank Strap N640-0002	1		
22	Rubber Bushing Natural Gas LH230-1-1A-2	1		
23	Wheel kit	1		

TROUBLESHOOTING

Problem	Possible Causes	Solution
Low heat / Low flame when valve turned to high.	For propane - improper lighting procedure.	Ensure lighting procedure is followed carefully. The valve must be in the off position when the tank valve is turned on. Turn tank on slowly to allow pressure to equalize. See lighting instructions.
	For natural gas - undersized supply line.	Pipe must be sized according to installation code.
Burners burn with yellow flame, accompanied by the smell of gas.	Possible spider web or other debris.	Thoroughly clean burner venturi. See general maintenance instructions.
Burner will not light with the igniter, but will light with a match.	Dead battery / or installed incorrectly. Loose electrode wire or switch terminal wires.	Replace with heavy duty battery. Check that electrode wire is firmly pushed onto the terminal on the back of the igniter. Check that the lead wires from the module to the ignition switch (if equipped) are firmly pushed onto their respective terminals.
	Improper gap at electrode tip.	The gap can be adjusted by bending the tip in or out until a spark is achieved.
Humming regulator.	Normal occurrence on hot days.	This is not a defect. It is caused by internal vibrations in the regulator and does not affect the performance or safety of the gas heater. Humming regulators will not be replaced.
Burner output on "high" setting is too low. (Rumbling noise and fluttering blue flame at burner surface.)	Lack of gas.	Check gas level in propane cylinder.
	Supply hose is pinched. Dirty or clogged orifice. Spider webs or other matter in venturi tube. Propane regulator in "low flow" state.	Reposition supply hose as necessary. Clean burner orifice. Clean out venturi tube. Ensure lighting procedure is followed carefully. All valves must be in the off position when the tank valve is turned on. Turn tank on slowly to allow pressure to equalize. See lighting instructions.
Pilot will not light. (if equipped)	Lack of gas	After turning pilot knob to high, wait approximately 20-30 seconds for air to purge the gas supply line while pressing igniter.
	Obstruction in pilot orifice Dirty pilot electrode	Clean pilot orifice. Clean pilot electrode.
	Bad battery contact	Exchange battery for different brand and try to achieve contact.