



# Parlor Vent-Free Fireplace System

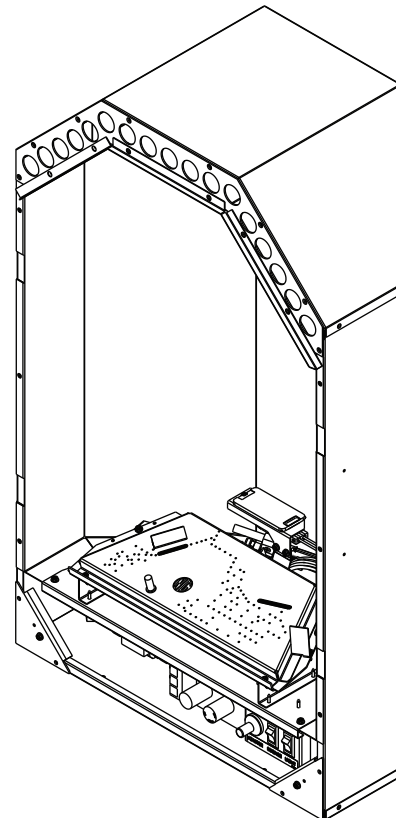
Installation & Operating Instructions  
Models: PL20

## WARNINGS

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

This is an unvented gas-fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation air must be provided. Refer to Page 7.



**INSTALLER:** Leave this manual with the appliance.  
**CONSUMER:** Retain this manual for future reference.

**Thank you and congratulations on your purchase of an  
MHSC Fireplace.**

**PLEASE READ THE INSTALLATION AND OPERATION INSTRUCTIONS BEFORE USING THE APPLIANCE!**

**IMPORTANT: Read all instructions and warnings carefully before starting installation.**

**Failure to follow these instructions may result in a possible fire hazard and will void the warranty.**

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**INSTALLER**

Please leave these instructions with the appliance.

**OWNER**

Please retain these instructions for future reference.

**WARNING**

- **Any change to this heater or its controls can be dangerous.**
- **Improper installation or use of the heater can cause serious injury or death from fire, burns, explosion or carbon monoxide poisoning.**
- **Do not allow fans to blow directly into the fireplace. Avoid any drafts that alter burner flame patterns.**
- **Do not use a blower insert, heat exchanger insert or other accessory, not approved for use with this heater where applicable.**

1. Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
2. Children and adults should be alerted to the hazard of high surface temperature and should stay away to avoid burns or clothing ignition.
3. Young children should be carefully supervised when they are in the same room with the appliance.
4. Do not place clothing or other flammable material on or near the appliance.
5. Any safety screen or guard removed for servicing an appliance, must be replaced prior to operating the heater.
6. Installation and repair should be done by a qualified service person.
7. To prevent malfunction and/or sooting, an unvented gas heater should be cleaned before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding materials, etc. It is imperative that control compartments, burners and circulating air passageways be kept clean.
8. **CARBON MONOXIDE POISONING:** Early signs of carbon monoxide poisoning are similar to the flu with headaches, dizziness and/or nausea. If you have these signs, obtain fresh air immediately. Have the heater serviced as it may not be operating properly.
9. The installation must conform with local codes or, in the absence of local codes, with the **National Fuel Gas Code, ANSI Z223.1/NFPA54**.
10. This unit complies with ANSI Z21.11.2 Unvented Heaters, latest edition.
11. Do not install the heaters in a bathroom or bedroom.
12. Correct installation of the ceramic fiber logs, proper location of the heater, and annual cleaning are necessary to avoid potential problems with sooting. Sooting, resulting from improper installation or operation, can settle on surfaces outside the fireplace. Refer to log placement instructions for proper installation.
13. Avoid any drafts that alter burner flame patterns. Do not allow fans to blow directly into fireplace. Do not place a blower inside burn area of firebox. Ceiling fans may create drafts that alter burner flame patterns. Sooting and improper burning will occur.
14. **Caution:** Candles, incense, oil lamps, etc. produce combustion byproducts including soot. Vent-free appliances will not filter or clean soot produced by these types of products. In addition, the smoke and/or aromatics (scents) may be reburnt in the vent-free appliance which can produce odors. It is recommended to minimize the use of candles, incense, etc. while the vent-free appliance is in operation.
15. This is an unvented gas-fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation air must be provided. Refer to *Page 7*.
16. This heater shall not be installed in a room or space unless the required volume of indoor combustion air is provided by the method described in the *National Fuel Gas Code, ANSI Z223.1/NFPA 54*, the *International Fuel Gas Code* or applicable local codes.
17. This heater shall not be installed in a room or space unless the required volume of indoor combustion air is provided by the method described in the *National Fuel Gas Code, ANSI Z223.1/NFPA 54*, the *International Fuel Gas Code* or applicable local codes.
18. Keep room area clear and free from combustible materials, gasoline and other flammable vapors and liquids.
19. Unvented gas heaters are a supplemental zone heater. They are not intended to be the primary heating appliance.
20. Unvented gas heaters emit moisture into the living area. In most homes of average construction, this does not pose a problem. In houses of extremely tight construction, additional mechanical ventilation is recommended.
21. During manufacturing, fabricating and shipping, various components of this appliance are treated with certain oils, films or bonding agents. These chemicals are not

harmful but may produce annoying smoke and smells as they are burned off during the initial operation of the appliance; possibly causing headaches or eye or lung irritation. This is a normal and temporary occurrence.

The initial break-in operation should last two to three hours with the burner at the highest setting. Provide maximum ventilation by opening windows or doors to allow odors to dissipate. Any odors remaining after this initial break-in period will be slight and will disappear with continued use.

22. Input ratings are shown in BTU per hour and are for elevations up to 2,000 feet. For elevations above 2,000 feet, input ratings should be reduced 4 percent for each 1,000 feet above sea level. Refer to the National Fuel Gas Code.
23. The appliance and its appliance main gas 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).
24. The appliance must be isolated from gas supply piping system by closing its equipment shutoff 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).
25. Do not use this room heater if any part has been under water. Immediately call a qualified service technician to inspect the room heater and to replace any part of the control system and any gas control which has been under water.
26. Never burn solid fuels in a fireplace where a unvented room heater is installed.

**THIS APPLIANCE MAY BE INSTALLED IN AN AFTERMARKET, PERMANENTLY LOCATED, MANUFACTURED (MOBILE) HOME, WHERE NOT PROHIBITED BY LOCAL CODES.**

**THIS APPLIANCE IS ONLY FOR USE WITH THE TYPE OF GAS INDICATED ON THE RATING PLATE. THIS APPLIANCE IS NOT CONVERTIBLE FOR USE WITH OTHER GASES.**

### **CODES**

Adhere to all local codes or, in their absence, the latest edition of THE NATIONAL FUEL GAS CODE ANSI Z223.1 or NFPA54 which can be obtained from:

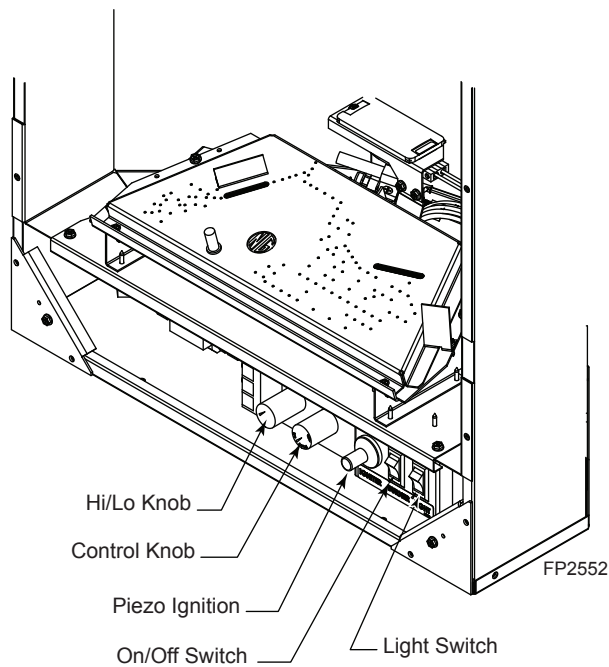
**American National Standards Institute, Inc.**

1430 Broadway  
New York, NY 10018

or

**National Fire Protection Association, Inc.**

Batterymarch Park  
Quincy, MA 02269



**Figure 1 -  
PL20 Controls  
(Control Access Door Shown Open)**

**OPERATION**

This unvented gas heater requires no outside venting and burns cleanly with high heating efficiency.

This zero-clearance unvented gas heater can be installed against (or recessed into) any wall that is accessible to a gas line.

**GAS PRESSURES**

	Natural	Propane (LP)
Inlet Minimum	5.0" w.c.	11.0" w.c.
Inlet Maximum	10.5" w.c.	13.0" w.c.
Regulator Pressure Setting	3.5" w.c.	10" w.c.
Pilot Regulator	3.5" w.c.	--

**GAS SPECIFICATIONS**

Model	Fuel	Control	Input BTU/hr	
			Max.	Min.
PL20NV	Nat.	Millivolt	20,000	14,500
PL20PV	LP	Millivolt	20,000	17,000

**NOTE:** For LP models an external regulator is required to reduce supply pressure to a maximum of 13" w.c.

**IGNITION CONTROLS**

Piezo ignitor allows ignition of the pilot without the use of matches or batteries.

**Millivolt control has four (4) positions:**

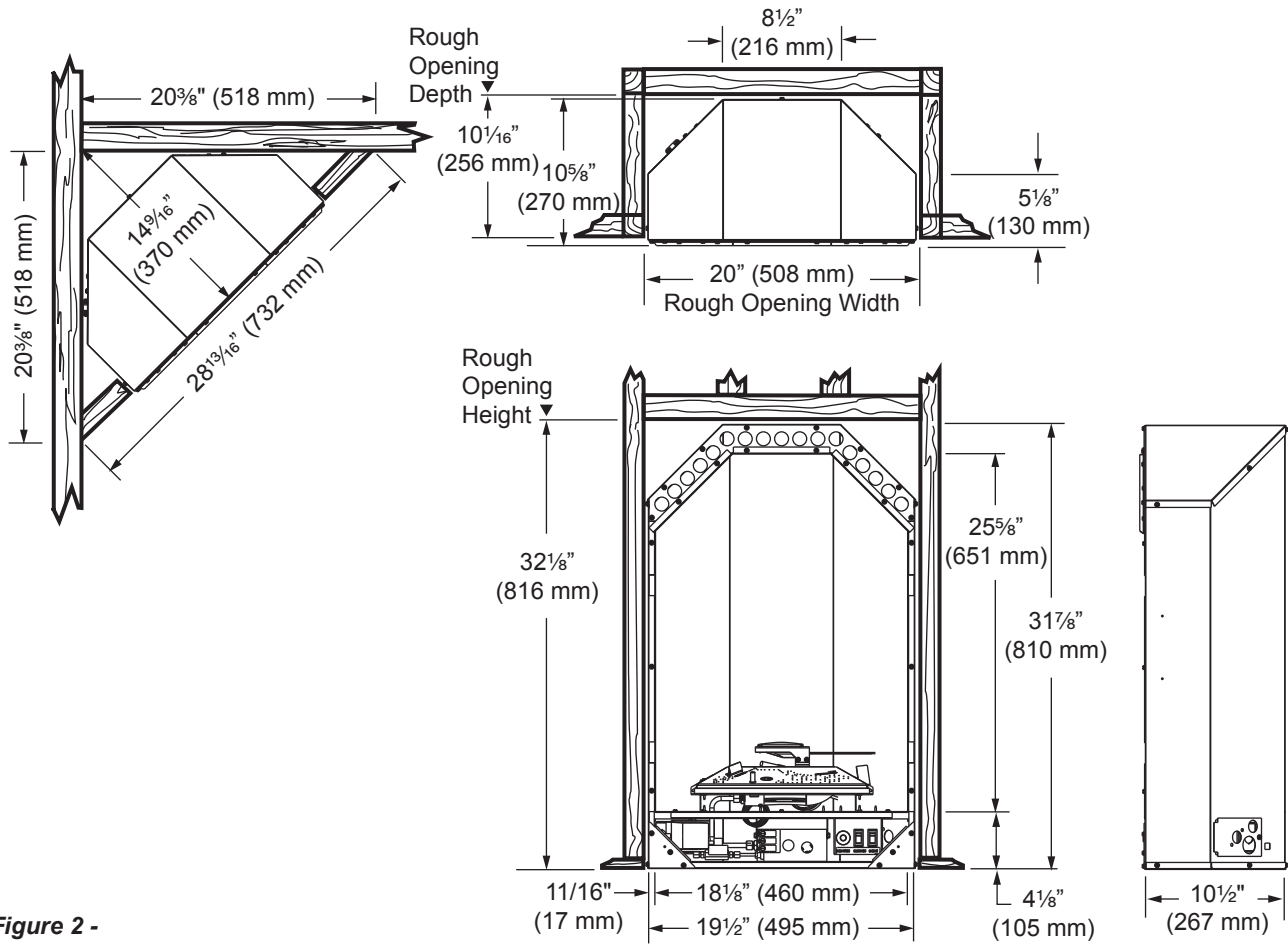
- OFF** - All gas to the gas logs is shut off at the valve.
- IGN** - Valve position to light/maintain a standing pilot.
- ON** - Valve position to turn ON/OFF log set with remote switch/thermostat.
- LOW/HI** - Variable position to control flame height (heat output). Both front and rear burners are in operation to provide realistic glow and yellow flame.

**PILOT**

The gas log heater is fitted with a specially designed safety pilot light which senses the amount of oxygen available in the room and shuts the gas log heater off if the oxygen level begins to drop below a satisfactory level. The pilot can only be relit when adequate fresh air is available.

**THERMAL GENERATOR**

The millivolt gas log pilot is fitted with a millivolt generator to provide power for remote activation.



**Figure 2 -  
Fireplace and Framing Dimensions**

**WARNING**

- Gloves are recommended when handling ceramic fiber logs to prevent skin irritation from loose fibers. Logs are fragile — handle with care.

**GETTING STARTED**

Make sure you have received all parts:

Check your packing list to verify that all listed parts have been received. You should have the following:

- Unvented gas heater
- Ceramic fiber logs
- Two (2) anchoring screws
- Installation/operating instructions

Millivolt controlled heater designed to be operated with optional devices for ON/OFF functions.

- Hand held Remote with receiver
- Wall T-stat with 20' wire
- Wall switch with 20' wire
- Hand held Thermostat Remote w/receiver

Carefully inspect the contents for shipping damage. If any parts are missing or damaged, immediately inform the dealer from whom you purchased the appliance. **Do not attempt to install any part of the appliance unless you have all parts in good condition.**

What you will need for installation:

You must have the following items available before proceeding with installation:

- External regulator (for propane/LPG only)
- Manual shutoff valve
- Piping which complies with local codes
- Sediment trap
- Phillips head screwdriver
- Tee joint.
- Pipe sealant approved for use with propane/LPG (Resistant to sulfur compounds)
- Pipe wrench

**WARNING**

**Do not install the heater:**

- Where curtains, furniture, clothing, or other flammable objects are less than 42" from the front of the heater.
- In high traffic areas.
- In windy or drafty areas.

In planning the installation for the fireplace it is necessary to determine where the unit is to be installed and whether optional accessories are desired. Gas supply piping should also be planned. The following steps represent the normal sequence of installation. Each installation is unique, however, and might require a different sequence.

1. Position fireplace in desired location. Refer to the *Location of Fireplace and Clearances and Height Requirements*, and *Fireplace and Framing Dimensions* sections found in this manual.

**NOTE:** Be sure all packing material has been removed from under the unit.

2. Install following the instructions found in this manual.
3. Field wire main power supply to light kit. Refer to the *Electrical Section* found in this manual. (Electrical connections should only be performed by an experienced, licensed certified tradesman).
4. Install optional ON/OFF kit on units with millivolt control. Refer to the installation instructions included with the kit and also refer to the *Electrical Wiring* section found in this manual.
5. Plumb gas line. Refer to the *Connecting the Gas* section found in this manual. (Gas connections should only be performed by an experienced, licensed/certified tradesman).
6. Complete finish wall material and/or surround.

**WARNING**

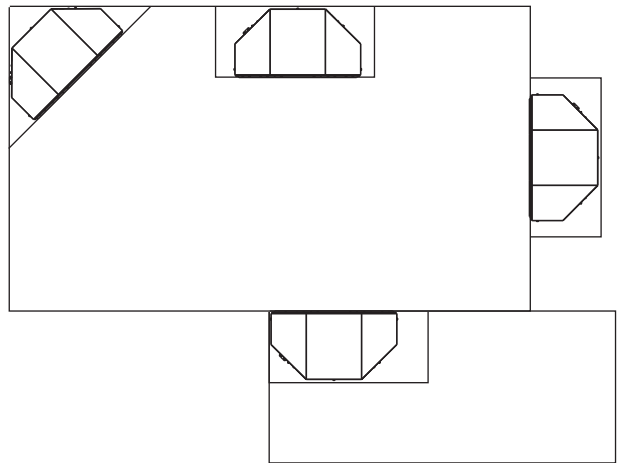
**If the area in which the heater may be operated does not meet the required volume for indoor combustion air, combustion and ventilation air shall be provided by one of the methods described in the *National Fuel Gas Code, ANSI Z223.1/NFPA 54*, the *International Fuel Gas Code* or applicable local codes.**



## FIREPLACE LOCATION

Carefully select the best location for installation of your unvented fireplace. The following factors should be taken into consideration.

- Clearance to side wall, ceiling, woodwork and window or other combustibles. Refer to “Clearances” section on *Page 9*. Minimum clearances to combustibles **must be maintained**.
- Location must not be affected by drafts caused by kitchen exhaust fans, ceiling fans, return air registers for forced air furnaces / air conditioners, windows or doors.
- Installation must provide adequate ventilation and combustion air.
- **DO NOT INSTALL THIS MODEL IN A BEDROOM OR BATHROOM.**
- Location should be out of high traffic areas and away from furniture and draperies due to heat from firebox.
- Never obstruct the front opening of the unvented fireplace or restrict the flow of combustion and ventilation air.
- Minimize modifications to existing construction. *Refer to Figure 3* below for location suggestions.
- Do not install in the vicinity where gasoline or other flammable liquids may be stored. The unvented firebox must be kept clear and free from the combustible materials.



**Figure 3 -  
Possible Fireplace Locations**

FP2553



**CLEARANCE and HEIGHT REQUIREMENTS**

Ensure that minimum clearances shown in *Figures 5 and 6* are maintained. Left and right clearances are determined when facing the front of the firebox.

Follow these instructions carefully to ensure safe installation. Failure to follow these requirements may create a fire hazard.

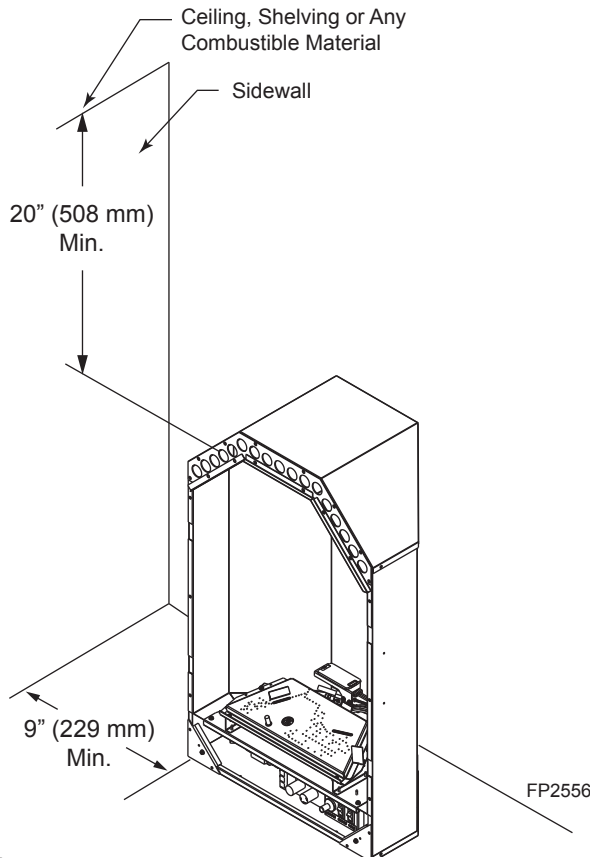
**Sidewall Clearances** — The clearance from the inside of the appliance to any combustible adjacent wall should not be less than 9". *Figure 4*

**Ceiling Clearance** — The ceiling or any other combustible material must be at least 20" from the firebrick opening. *Figure 4*

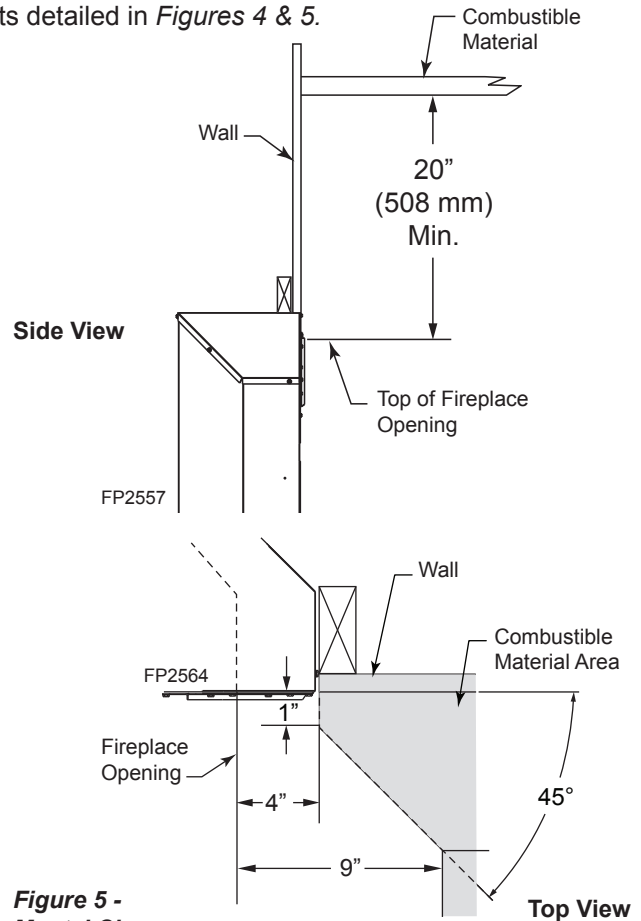
**Back Wall Clearance** — The appliance may be placed against a combustible back wall.

**Floor Clearance** — The fireplace may be installed directly on a combustible floor or a raised platform of an appropriate height. Do not place fireplace on carpeting, vinyl, tile or other soft floor coverings. It may, however, be placed on flat wood, plywood, particle board or other hard surfaces. Be sure fireplace rests on a solid continuous floor or platform with appropriate framing for support and so that no cold air can enter from under the firebox.

**Mantel clearances** — Must meet the clearance requirements detailed in *Figures 4 & 5*.



**Figure 4 - Sidewall and Ceiling Clearances**



**Figure 5 - Mantel Clearances**

<b>WARNING</b>	<b>The dimensions shown in <i>Figures 4 and 5</i> are minimum clearances to maintain in installing this heater. Left and right clearances are determined when facing the front of the heater.</b>
	<b>Follow these instructions carefully to ensure safe installation. Failure to follow instructions exactly can create a fire hazard.</b>

If unit is to be “built in”, fireplace framing can be built before or after the appliance is set in place. **BE SURE THAT ALL PACKING MATERIAL HAS BEEN REMOVED FROM THE UNDERSIDE OF THE UNIT PRIOR TO SETTING THE FIREBOX IN PLACE.** Construct fireplace framing following *Figure 2 on Page 6*. The framing headers may rest directly on top of the firebox.

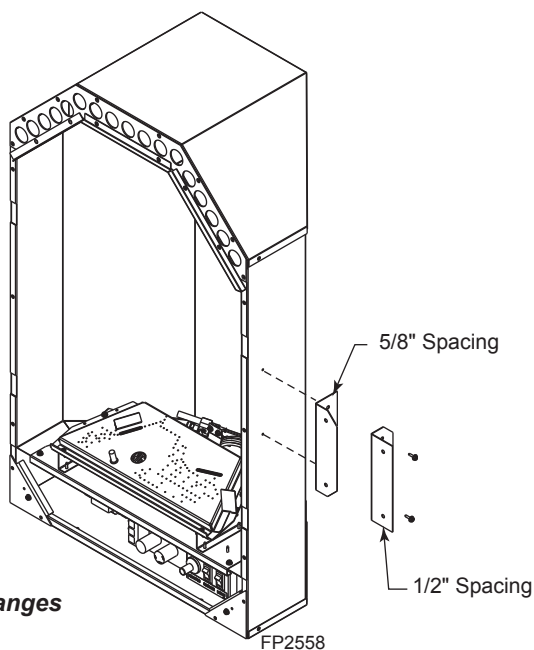
The fireplace may be installed directly on a combustible floor or a raised platform of an appropriate height. Do not place fireplace on carpeting, vinyl, tile or other soft floor coverings. It may, however, be placed on flat wood, plywood, particle board or other hard surfaces. Be sure fireplace rests on a solid continuous floor or platform with appropriate framing for support and so that no cold air can enter from under the firebox.

Anchor fireplace to the side framing members using nailing flanges.

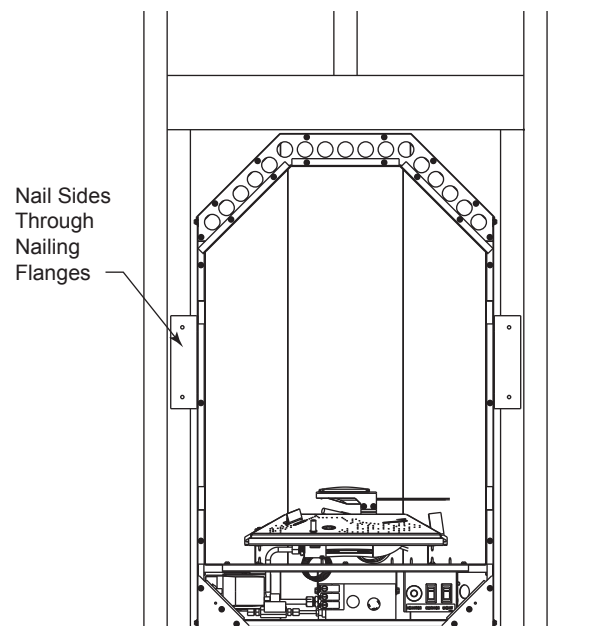
**WARNING**

**The fireplace must be installed giving full consideration to the clearance and height requirements identified in this manual.**

1. Secure nailing flanges to side of firebox. *Figure 6*
2. Slide the firebox into prepared framing or position firebox in its final position and frame later.
3. Level the firebox by checking the top edge of the firebox. Shim if necessary.
4. Anchor firebox to the side framing members using 8d nails or other suitable fasteners. *Figure 7*



**Figure 6 -  
Nailing Flanges**

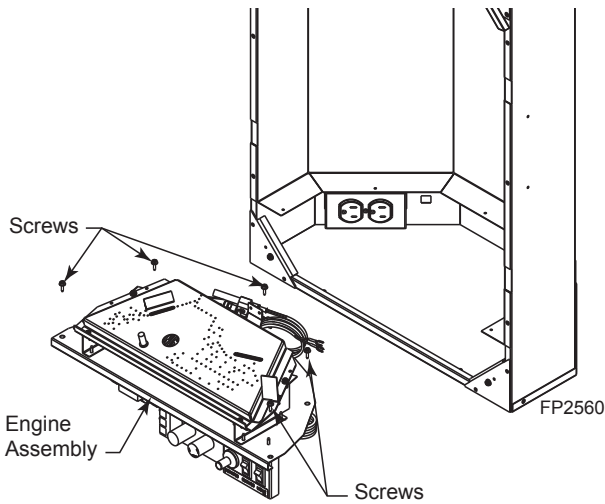


**Figure 7 -  
Nailing Flanges**

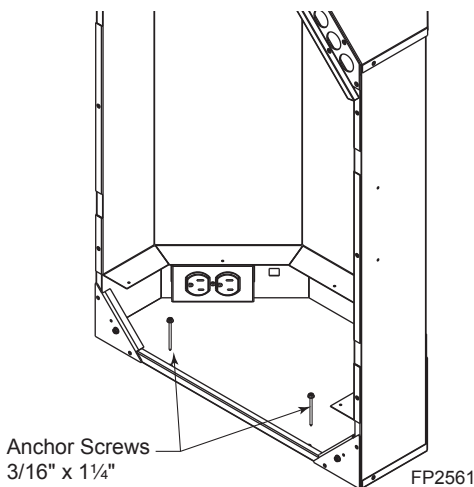
**SECURE HEATER TO FLOOR OR HEARTH**

**NOTE:** Clearance requirements as detailed in “CLEARANCES and HEIGHT REQUIREMENTS” section on Page 9 of this manual, must be met before securing the heater in place.

1. Open the control access door.
2. Remove five (5) screws holding engine base to unit.  
*Figure 8*
3. Slide engine assembly forward out of unit.
4. Secure the firebox with two (2) anchoring screws (3/16" x 1 1/4" length) supplied with fireplace. *Figure 9*



**Figure 8 - Remove Engine Assembly**



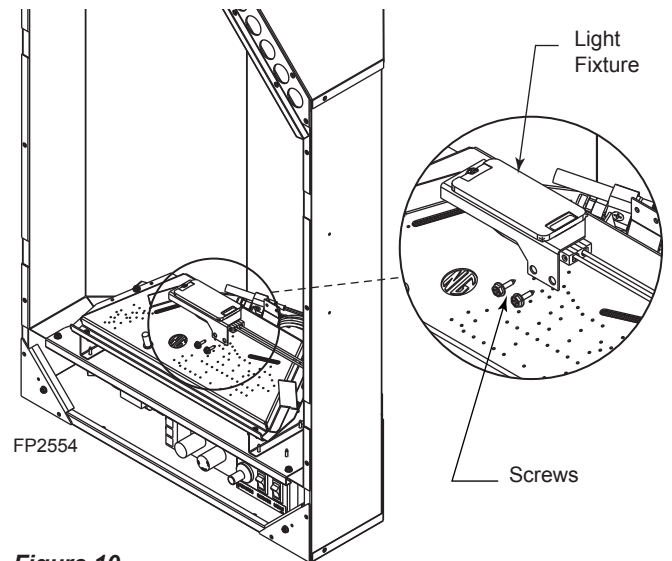
**Figure - Secure Heater to Floor or Hearth**

**INSTALL ARCHED BRICK LINER**

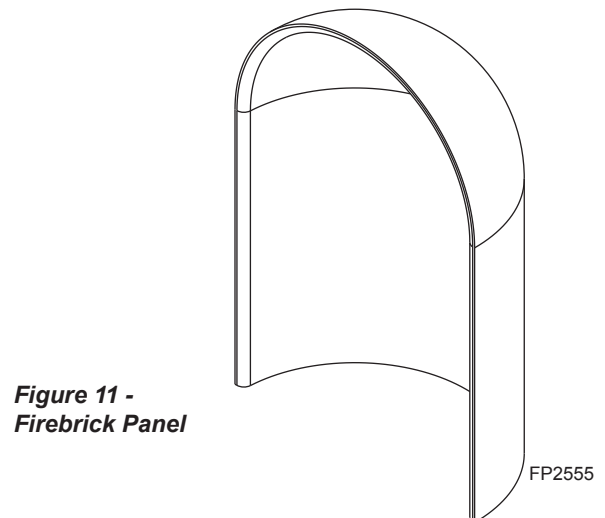
1. Remove arched brick liner from packaging.
2. Remove two (2) screws holding light fixture to bracket attached to burners. *Figure 10*
3. Carefully lay light fixture onto burner top.
4. Carefully pick up brick liner with two hands and tilt top of liner away from unit. *Figure 11*
5. Place bottom of liner into firebox behind burner and pilot assembly. Be careful not to bend or break fuel line to pilot.
6. Once bottom of liner is in place, gently push top in place.
7. Gently center liner in firebox.
8. Replace light fixture to bracket.

Installation complete.

**NOTE:** The arched brick liner should be leaning forward until decorative face is in place. Refer to Page 29.



**Figure 10 - Place Light Fixture on Burner Top**



**Figure 11 - Firebrick Panel**

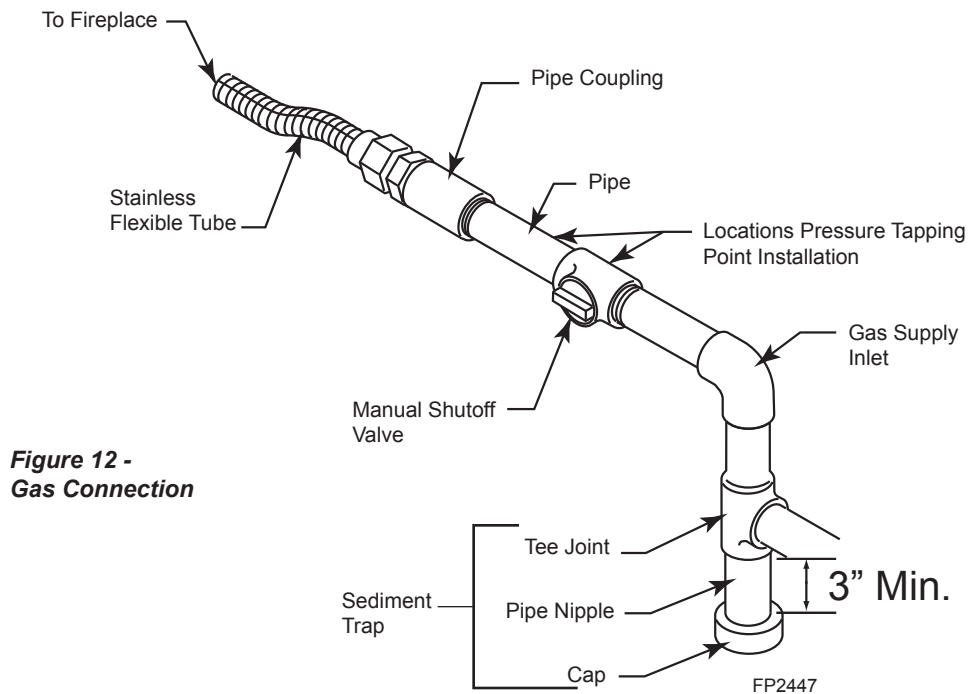
**NOTICE:** A qualified gas appliance installer must connect the heater to the gas supply. Consult all local codes.

**WARNING**

Use new black iron or steel pipe. Internally tinned copper or copper tubing can be used per National Fuel Code, section 2.6.3, providing gas meets hydrogen sulfide limits, and where permitted by local codes. Gas piping system must be sized to provide minimum inlet pressure (Listed on Data Plate) at the maximum flow rate (BTU/hr). Undue pressure loss will occur if the pipe is too small.

A manual shutoff valve must be installed upstream of the appliance. Union tee and plugged 1/8" NPT pressure tapping point should be installed upstream of the appliance. *Figure 12*

A sediment trap should be installed upstream to prevent moisture and contaminants from passing through the pipe to appliance controls and burners. Failure to do so could prevent the appliance from operating reliable. *Figure 12*



**Figure 12 -  
Gas Connection**

**IMPORTANT:** Loosen the pipe adapter on the flex tube before installing to the system piping.

Always use an external regulator for all propane/LPG heaters only, to reduce the supply tank pressure to a maximum of 13" w.c. This is in addition to the internal regulator in the heater valve.

**WARNING**

**CHECK GAS TYPE:** The gas supply must be the same as stated on the heater's rating plate. If the gas supply is different, **DO NOT INSTALL THE HEATER.** Contact your dealer for the correct model.

When tightening the joint to the valve, hold the valve securely to prevent movement.  
Test all gas joints from the gas meter to the heater valve for leaks using a gas analyzer or soap and water solution after completing connection. **DO NOT USE AN OPEN FLAME.**  
Check the gas pressure with the appliance burning and the control set to **HIGH**.  
Open control access door at bottom front of unit to find valve and regulator referred to below.

**WARNING**  
Do not use open flame to check for gas leaks.

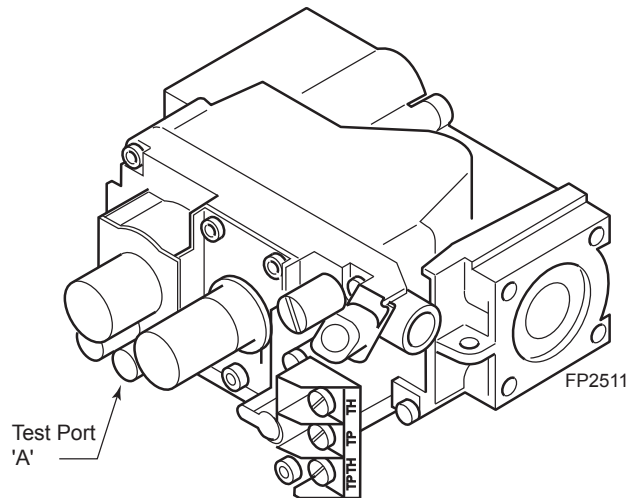
**WARNING**  
Connecting directly to an unregulated propane/LP tank can cause an explosion.

**CHECK GAS PRESSURE  
MILLIVOLT CONTROL**

*Figure 13*

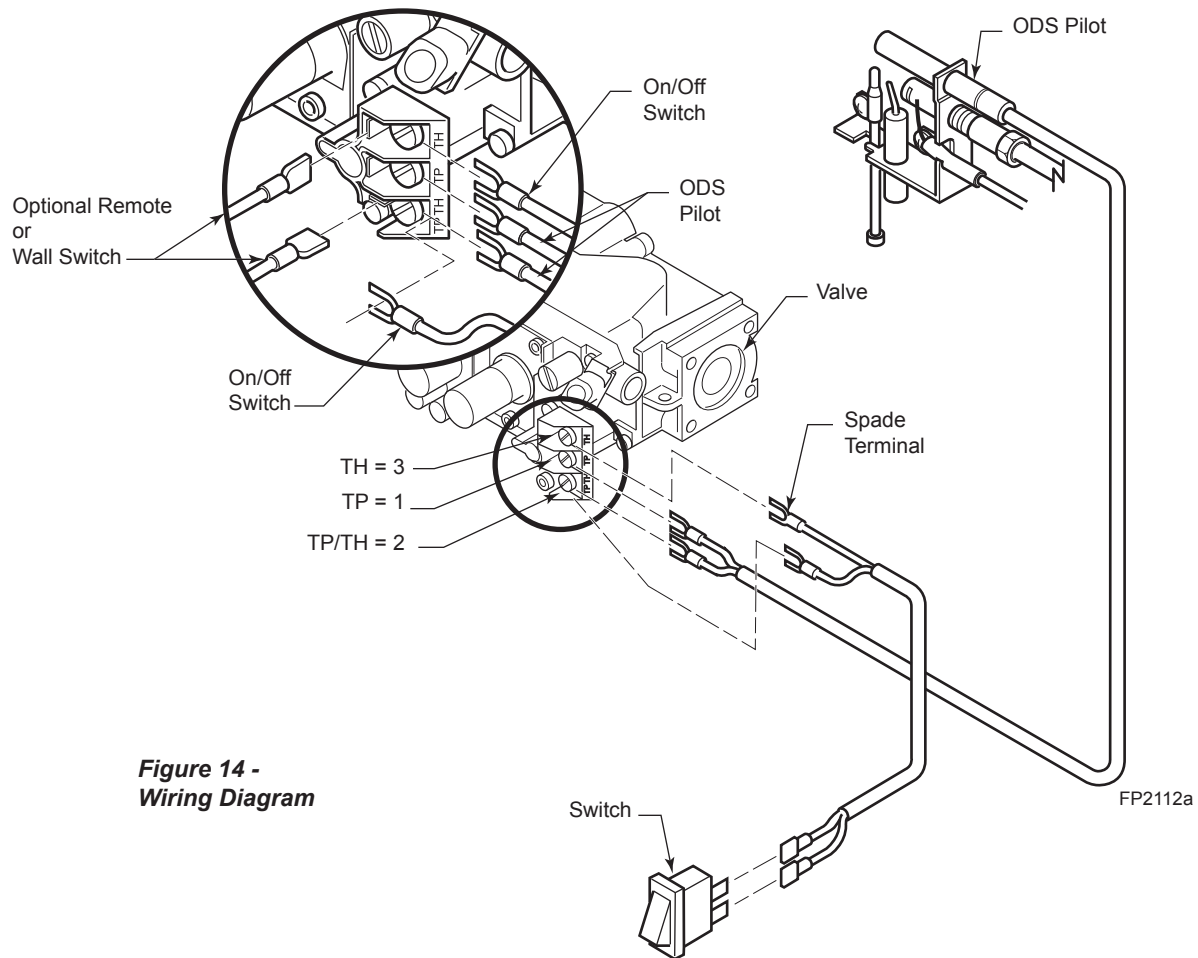
The valve regulator controls the burner pressure which should be checked at the pressure test point.

Turn captured screw counter clockwise two or three turns and then place tubing to pressure gauge over test point. (Use test point "A" closest to gas inlet). After taking pressure reading, be sure and turn captured screw clockwise firmly to reseal. Do not over torque. Check for gas leaks.



**Figure 13 -  
Pressure Test Point Location - Millivolt Valve**

The millivolt valve is a self-powered combination gas control that DOES NOT REQUIRE 110V AC to operate.



**Figure 14 -  
Wiring Diagram**

**WARNING**

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

### CONNECTING OPTIONAL WALL SWITCH

1. Use 18 awg, two-wire cable, 15 feet maximum length.
2. At one end of the cable, connect both wires to the wall switch or thermostat. At the other end, connect one wire to TP/TH and one wire to TH. The color of the wires does not matter.

### CONNECT OPTIONAL REMOTE CONTROL RECEIVER

Figure 15

1. Open bottom access door.
2. Connect the remote wire connectors to the TH, TH/TP connections on the valve.
3. Stick Velcro® pads with self-adhesive backing to bottom of remote receiver and to floor of compartment behind access panel.
4. Attach remote receiver to firebox with Velcro® pads. Control switch must face forward.

**NOTE:** Do not place remote in combustion chamber.

**CAUTION** Electrical connections should only be performed by a qualified licensed electrician. Main power supply must be turned off before connecting to the main electrical power supply or performing service.

**WARNING** Electrical Grounding Instructions: This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three prong receptacle.

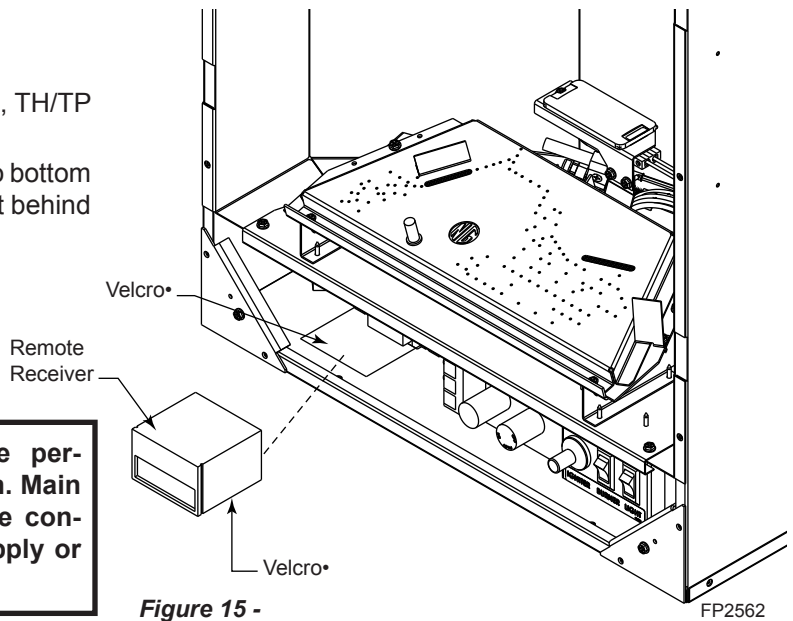


Figure 15 - Install Remote Receiver

**IMPORTANT:** Always check local building codes. This installation must comply with local regulations as well as the National Electric Code.

### Installation Instructions

#### Wiring Junction Box

1. Before installing, wire the receptacle into an electrical circuit. This should be done before framing the fireplace. Wire with minimum 60° C wire in accordance with prevailing codes.
2. Remove the external junction box cover by removing the screw from the left side of the outside firebox wall. Junction box was installed at the factory.
3. The junction box cover has a factory installed "romex" style strain relief connector. After connecting the wires, route the wire leads through this connector. Refer to the wiring diagram in Figure 16.

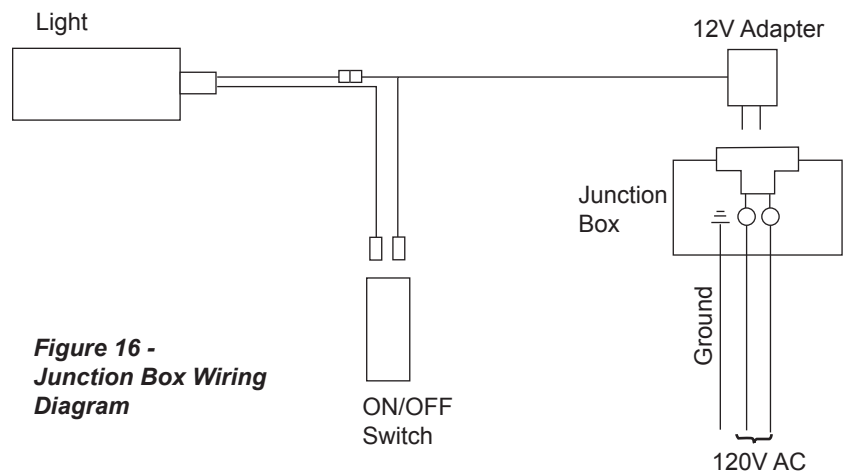


Figure 16 - Junction Box Wiring Diagram



## CHECK SYSTEM OPERATION

The millivolt system and individual components may be checked with a millivolt meter having a 0-1000 mV range. Conduct each check shown in chart below by connection meter test leads to terminals as indicated.

### A. COMPLETE MILLIVOLT SYSTEM CHECK

**(“A” Reading - Thermostat contacts CLOSED - Control Knob “ON” - Main burner should turn ON)**

- a. If the reading is more than 100 millivolts and the automatic valve still does not come on, replace the control.
- b. If the closed circuit reading (“A” reading) is less than 100 millivolts, determine cause for low reading, proceed to Section B below.

### B. Thermopile Output Reading Check

**(“B” Reading - Thermostat contacts OPEN - Main burner OFF)**

1. Check gas pressure to the unit. If gas pressure is within minimum and maximum on data plate, then check pilot voltage, 325 millivolts minimum. If the minimum millivolt reading is not obtainable, replace pilot.

Check Test	To Test	Connect Meter Leads to Terminals	Switch or Thermostat Contacts	Meter Reading Should Be
A	Complete System	2 & 3	Closed	Closed
B	Thermopile	1 & 2	Open	Open

**Before you begin** — This unit is supplied with four (4) ceramic fiber logs. Do not handle these logs with your bare hands. **Always wear gloves to prevent skin irritation from ceramic fibers.** After handling the logs, wash your hands gently with soap and water to remove any traces of fibers.

**WARNING**

The positioning of the logs is critical to the safe and clean operation of this heater. Sooting and other problems may result if the logs are not properly and firmly positioned in the appliance. Never add additional logs or embellishments such as pine cones, vermiculite or rock wool to the heater. Only use the logs and 2G-RW (rock wool) supplied with the unit.

Failure to position the parts in accordance with diagrams below or to use only parts specifically approved for this heater may result in property damage or personal injury.

**CAUTION**

**DO NOT** sprinkle volcanic rock on the logs or around the pilot or the main burner. This may cause sooting. Only place volcanic rock on the floor of the fireplace.

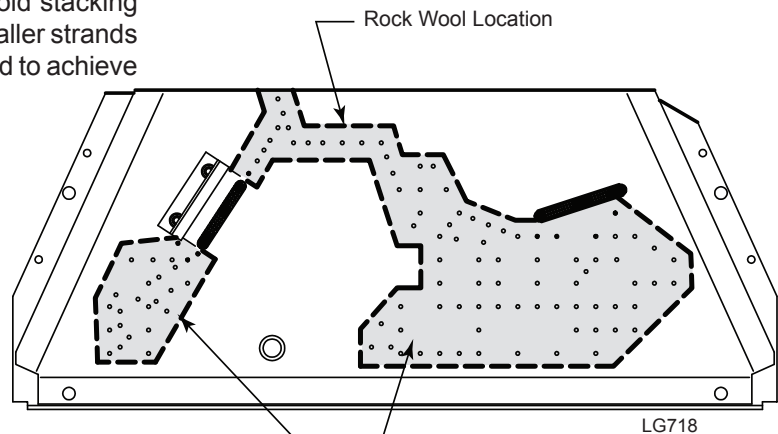
During initial operation of the new heater, burning logs will give off a paper burning smell and orange flames will be present. Simply open the windows for a few hours to vent the odor.

**ROCK WOOL AND EMBER PLACEMENT**

1. Place dime sized pieces of rock wool evenly over small burner ports starting at pilot and down each side of burner. Avoid placing rock wool on slots on either side of burner. *Figure 17.* Wash hands after placing rock wool. Skin irritation may occur.

**WARNING:** Do not cover slotted ports with embers.

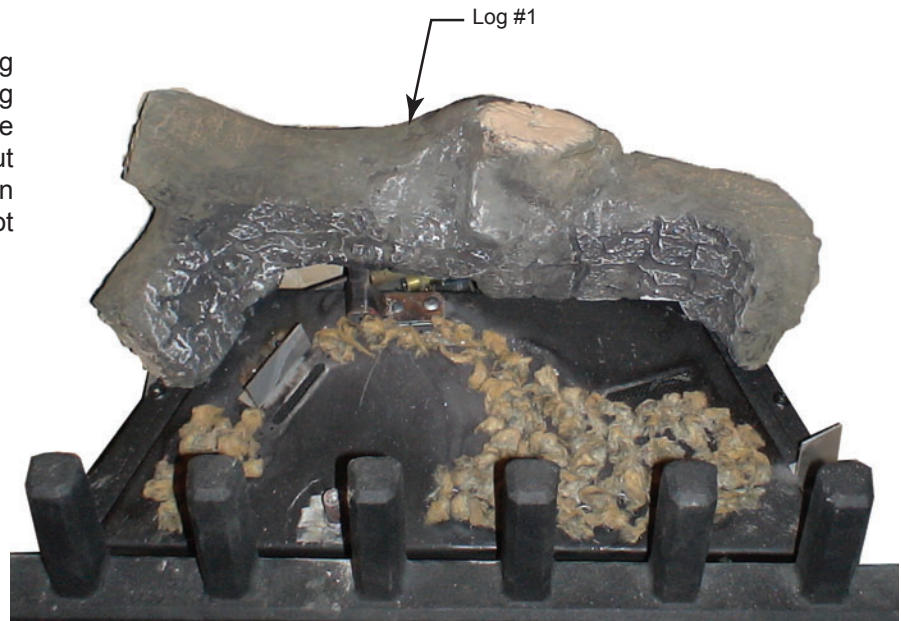
2. Place flickering bright embers (FBE-.1G) before placing logs on burner. Separate embers into small strands and place on top of existing rock wool on both sides of burner where they can be seen. Try to avoid stacking these embers on top of each other. Use smaller strands for maximum effect. Use as much as needed to achieve desired effect.



**Figure 17 -  
Rock Wool Placement**

**LOG PLACEMENT**

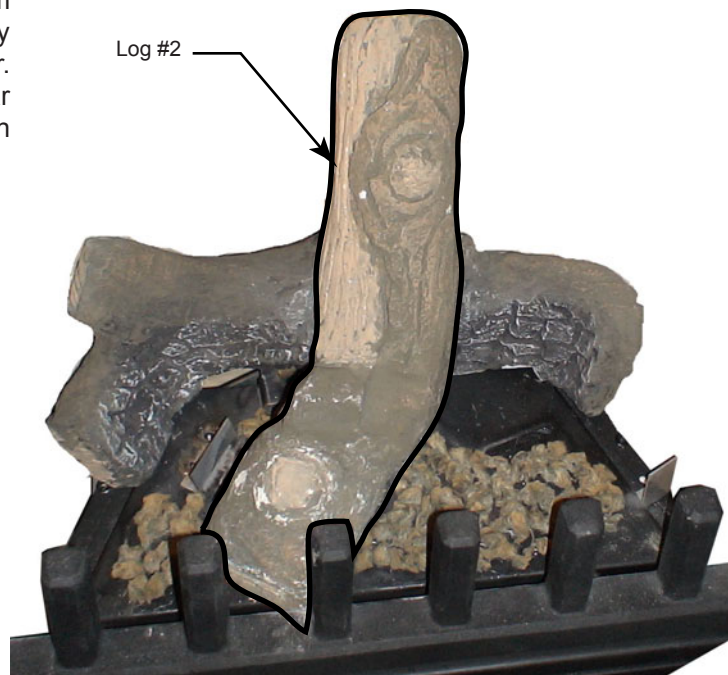
1. Place Log #1 on burner by aligning notches on bottom side of each end of log with the rear corners of the burner. The light fixture should partially set in cutout of rear log. Ensure log is sitting firmly on burner and is locked in where it cannot slide forward on the burner. *Figure 18*



**Figure 18 -  
Place Log #1**

LG719

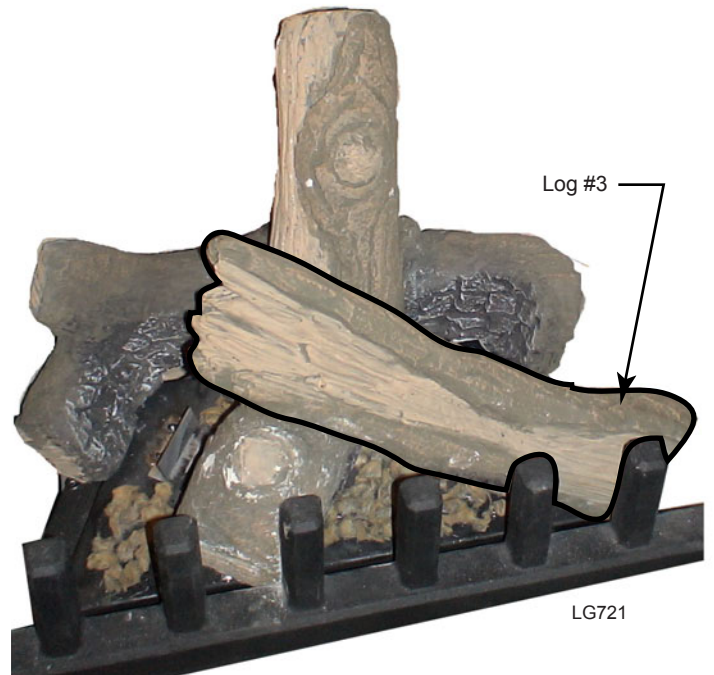
2. Place Log #2 on burner by aligning hole in bottom of log with pin located at front of burner. Gently push log down until it comes in contact with burner. Push top of log towards rear placing the rectangular notch on log #2 onto the rectangular protrusion on log #1. *Figure 19*



**Figure 19 -  
Place Log #2**

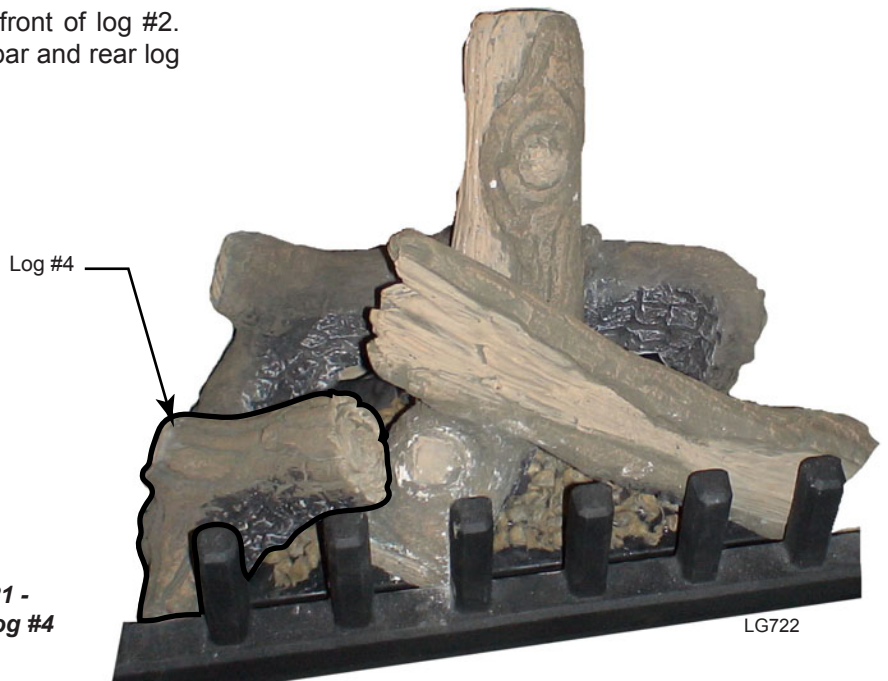
LG720

- 3. Place Log #3 by placing rectangular notch on bottom of log onto the rectangular protrusion on top of log #2. Place the other end of log #3 between the front grate and the small 'L' shaped bracket located on the right side of the burner. Allow the end of the log to rest on the burner. *Figure 20*



**Figure 20 - Place Log #3**

- 4. Place Log #4 by placing rectangular notch on bottom of log onto rectangular protrusion on front of log #2. Place other end of log between grate bar and rear log #1 resting log #4 on burner. *Figure 21*



**Figure 21 - Place Log #4**

Flames from the pilot, front and rear burner should be visually checked as soon as the heater is installed. In addition, periodically check the flames visually during operation.

### CHECK THE PILOT FLAME

The pilot flame must always be present when the heater is in operation. It should just touch the top of the thermocouple tip for natural. Refer to Figure 22 for correct pilot flame.

If the pilot flame does not touch the thermocouple, then the main burner cannot function reliably. Refer to Figure 22 for incorrect shape of pilot flame.

### MILLIVOLT CONTROL

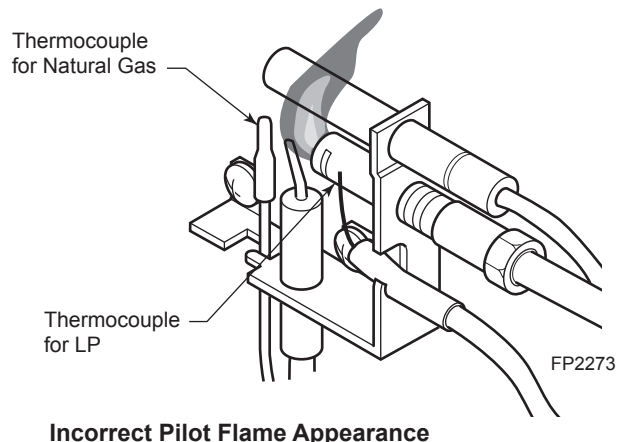
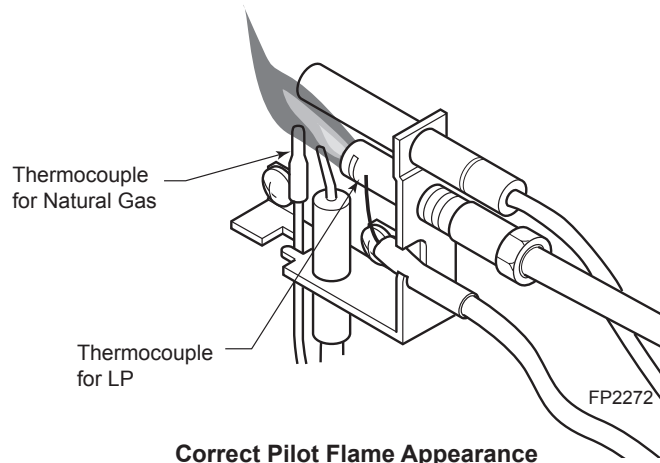


Figure 22 -  
Millivolt Control Pilot Flame Appearance

### CHECK BURNER FLAME APPEARANCE

In normal operation, at full rate after 15 minutes, the flames should appear as shown in Figure 23.

The flames should be yellow and extend 3-4" above the log top surfaces. The yellow flames should not impinge on the logs.

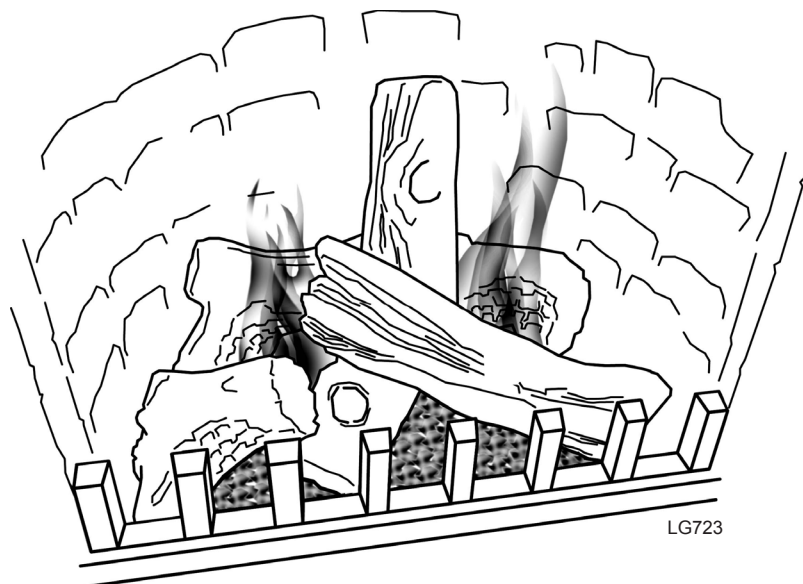


Figure 23 -  
Correct Burner Flame Appearance

**OPERATING INSTRUCTIONS**

**Avoid any drafts that alter burner flame patterns.** Do not allow fans to blow directly into the fireplace. Do not place a blower inside the burn area of the firebox. Ceiling fans may create drafts that alter flame patterns. Sooting and improper burning will result.

During manufacturing, fabricating and shipping, various components of this appliance are treated with certain oils, films or bonding agents. These chemicals are not harmful, but may produce annoying smoke and smells as they are burned off during the initial operation of the appliance, possibly causing headaches or eye or lung irritation. *This is a normal and temporary occurrence.*

The initial break-in operation should last two to three hours with the burner at the highest setting. Provide maximum ventilation by opening windows or doors to allow odors to dissipate. Any odors remaining after this initial break-in will be slight and will disappear with continued use.

This appliance must not be used with glass doors in the closed position. This can lead to pilot outages and severe sooting outside the fireplace.



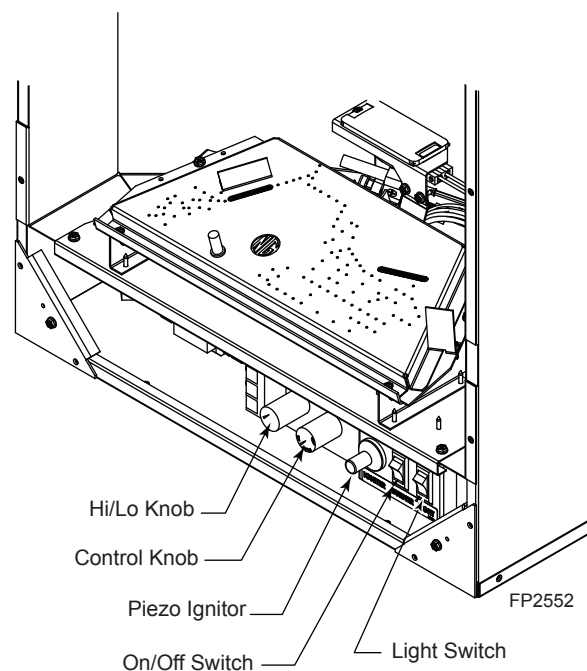
**FOR YOUR SAFETY READ BEFORE LIGHTING****WARNING**

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A.** This appliance is equipped with a piezo ignition device which automatically lights the pilot. If piezo is not working properly, refer to *Match Lighting Instructions, Page 24*.
- B.** BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

**WHAT TO DO IF YOU SMELL GAS:**

- Do not attempt to light any appliance.
  - Do not touch any electric switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- C.** Use only your hand to push in, or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it. Call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D.** Do not use this appliance if any part of it has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control that has been under water.



**Figure 24 -  
PL20 Controls**



## MILLIVOLT CONTROL LIGHTING INSTRUCTIONS

1. **STOP!** Read the safety information label.
2. Make sure the manual shutoff valve is fully open.
3. This gas log set is equipped with an ignition device (piezo) which automatically lights the pilot. If piezo ignitor does not light the pilot, refer to instructions for *Match Lighting Instructions, Page 24*.
4. Turn gas control knob clockwise ↻ to the OFF position, set thermostat to lowest setting and turn ON/OFF switch to OFF position.
5. Wait (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow *What to Do if You Smell Gas, Page 22*. If you don't smell gas, go to next step.
6. From OFF position, turn the gas control knob counterclockwise ↺ to IGN position. Push in control knob for 5 seconds. **NOTE: If you are running the heater for the first time, it will be necessary to press in the control knob for 30 seconds to allow air to bleed out of the gas piping.**
7. With the control knob pushed in, push in and release the piezo ignitor button to light the pilot.
8. Continue pushing the control knob in for a further 60 seconds to prevent the flame detector from shutting off the gas while the probe is warming up. Release the control knob.
9. Turn gas control knob counterclockwise ↺ to the ON position.
10. After the pilot has been lit for one minute, the burners can be turned on. Turn the ON/OFF switch to ON position or adjust thermostat to desired setting.
11. If the gas logs will not operate, follow the instructions *To Turn Off Gas To Heater* below and call your service technician or gas supplier.

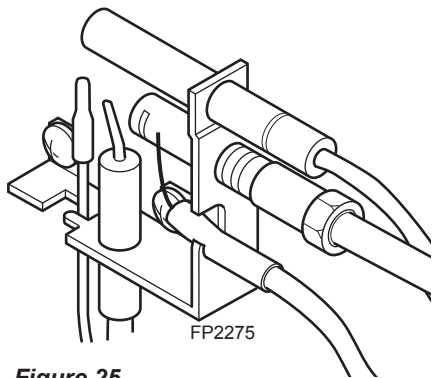


Figure 25 -  
Pilot

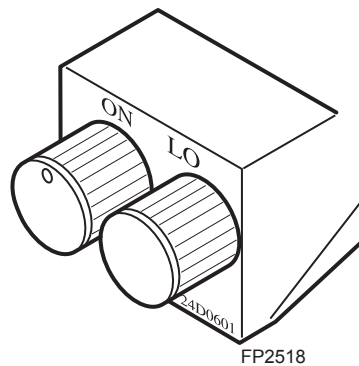


Figure 26 -  
Control Knobs

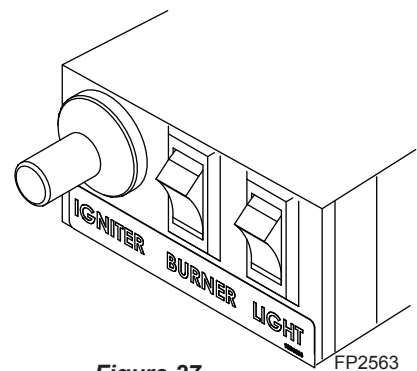


Figure 27 -  
Piezo

## TO TURN OFF GAS TO HEATER

1. Turn control knob clockwise ↻ to OFF position to completely shut off the heater.
2. If applicable: Turn ON/OFF switch to OFF position and/or set thermostat (if present) to lowest setting.
3. If applicable: Turn off all electric power to the heater.

## MATCH LIGHTING INSTRUCTIONS

1. Remove any items necessary for easy access to the pilot (for example: logs, screens, etc.).
2. Follow appropriate lighting instructions found previously. Instead of pushing and releasing the piezo button, light a match and hold the flame to the end of the pilot and ignite the pilot.
3. After control knob has been released and pilot stays lit, reinstall any items that were removed for pilot access.
4. Call a qualified service technician for repair or replacement of the piezo ignitor.

### WARNING

- Turn off heater and allow to cool before cleaning.
- Disconnect electrical power before cleaning or servicing.

## CLEANING AND SERVICING

Annual inspection and cleaning by your dealer or qualified service technician is recommended to prevent malfunction and/or sooting.

Remove logs, handling carefully by holding gently at each end. Gloves are recommended to prevent skin irritation from ceramic fibers. If skin becomes irritated, wash gently with soap and water. See manual for correct log placement.

**PERIODIC CLEANING - Refer to the parts diagram for location of items discussed below.**

- Do not use cleaning fluid to clean logs or any part of heater.
- Brush logs with soft bristle brush or vacuum with brush attachment.
- Vacuum loose particles and dust from the front and rear burner, control and piezo covers and grate weldment.
- Inspect and clean burner. Remove lint or particles with vacuum, brush or pipe cleaners.
- External case should be dusted and wiped with a wet soapy cloth.

**ANNUAL CLEANING/INSPECTION - Refer to the parts diagram for location of items discussed below.**

- Inspect and clean all burner ports.
- Inspect ODS pilot for operation and accumulation of lint at air intake holes.
- Verify flame pattern and log placement for proper operation.
- Verify smooth and responsive ignition of burner.

**WARNING**

- Turn appliance OFF and allow to cool before servicing.
- Only a qualified service person should service and repair the heater.

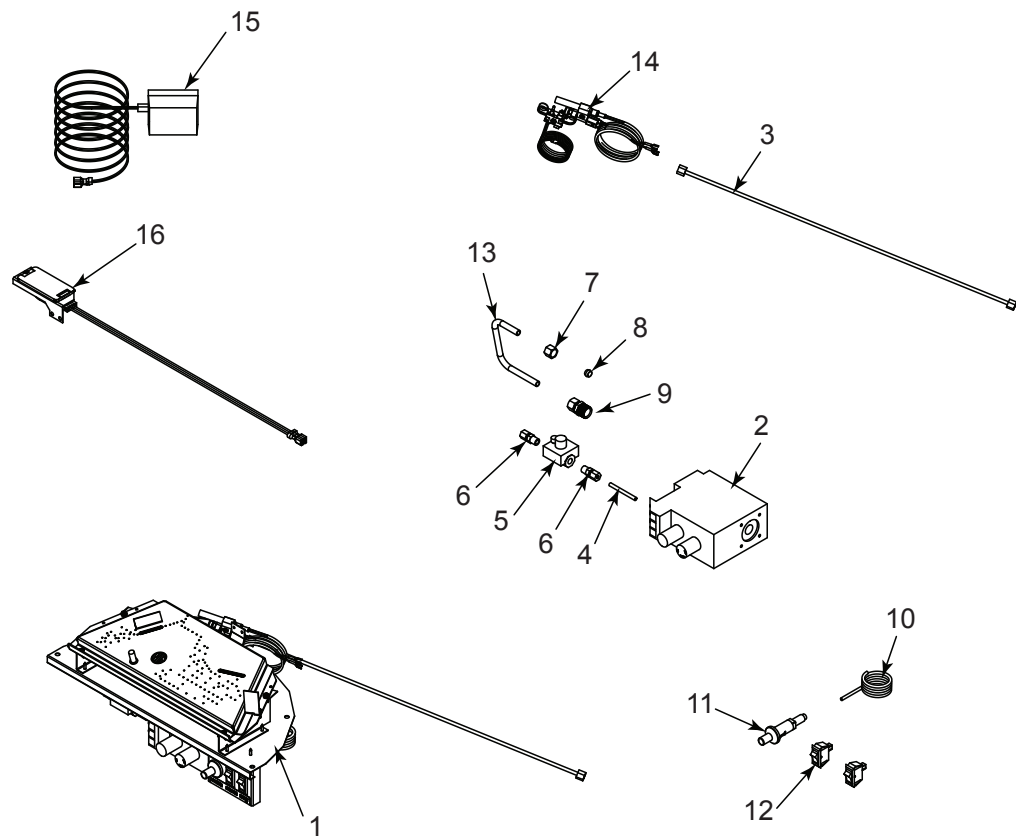
**NOTE:** All troubleshooting items are listed in order of operation.

<b>OBSERVED PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
When ignitor button is pressed, there is no spark at ODS/pilot.	<ol style="list-style-type: none"> <li>1. Ignitor electrode positioned wrong.</li> <li>2. Ignitor electrode is broken.</li> <li>3. Ignitor electrode not connected to ignitor cable.</li> <li>4. Ignitor cable pinched or wet. Keep ignitor cable dry.</li> <li>5. Broken ignitor cable.</li> <li>6. Bad piezo ignitor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace ignitor.</li> <li>2. Replace ignitor.</li> <li>3. Reconnect ignitor cable.</li> <li>4. Free ignitor cable if pinched by any metal or tubing.</li> <li>5. Replace ignitor cable.</li> <li>6. Replace piezo ignitor.</li> </ol>
Appliance produces unwanted odors.	<ol style="list-style-type: none"> <li>1. Appliance burning vapors from paint, hair spray, glues, etc.</li> <li>2. Gas leak.</li> <li>3. Initial burn off.</li> </ol>	<ol style="list-style-type: none"> <li>1. Ventilate room. Stop using odor causing products while heater is running.</li> <li>2. Locate and correct all leaks.</li> <li>3. Ventilate room and turn unit on high until odor is gone. Odor should be gone after 6 hours of continuous use.</li> </ol>
Appliance shuts off during use.	<ol style="list-style-type: none"> <li>1. Not enough fresh air is available for ODS/ pilot to operate.</li> <li>2. Low line pressure.</li> <li>3. ODS/pilot is partially clogged.</li> <li>4. Defective Thermopile.</li> <li>5. Restrictions in incoming air flow.</li> </ol>	<ol style="list-style-type: none"> <li>1. Open window and/or door for ventilation.</li> <li>2. Contact local gas company.</li> <li>3. Clean ODS/pilot.</li> <li>4. Check pilot flame, check wire connections, check output, should be 325 milli-volts across TH/TP and TP Terminals with ON/OFF switches off.</li> <li>5. Check for bottom riser on glass door, sunken fireplace, excessive lava rock/cinders densely packed against grate.</li> </ol>
Gas odor even when control knob is in OFF position.	<ol style="list-style-type: none"> <li>1. Gas leak.</li> <li>2. Control valve defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Locate and correct all leaks.</li> <li>2. Replace control valve.</li> </ol>
When ignitor button is pressed, there is spark at ODS pilot, but no ignition.	<ol style="list-style-type: none"> <li>1. Gas supply turned off or manual shutoff valve closed.</li> <li>2. Control knob not in PILOT position.</li> <li>3. Control knob not pressed in while in PILOT position.</li> <li>4. Air in gas lines when installed.</li> <li>5. ODS/pilot is clogged.</li> <li>6. Gas regulator setting is not correct.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn on gas supply or open manual shutoff valve.</li> <li>2. Turn control knob to PILOT position.</li> <li>3. Press in control knob while in PILOT position.</li> <li>4. Continue holding down control knob. Repeat igniting operation until air is removed.</li> <li>5. Replace ODS/pilot assembly or get it serviced.</li> <li>6. Replace gas regulator.</li> </ol>

**WARNING**

If the gas quality is bad, your pilot may not stay lit, the burners may produce soot and the heater may backfire when lit. If the gas quality or pressure is low, contact your local gas supplier immediately.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
ODS/pilot lights, but flame goes out when control knob is released.	<ol style="list-style-type: none"> <li>Control knob not fully pressed in.</li> <li>Control knob not pressed in long enough.</li> <li>Manual shutoff valve not fully open.</li> <li>Thermocouple connection loose at control valve.</li> <li>Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. This problem could be caused by either low gas pressure, or a dirty or partially clogged ODS/pilot.</li> <li>Thermocouple damaged.</li> <li>Control valve damaged.</li> </ol>	<ol style="list-style-type: none"> <li>Press in control knob fully.</li> <li>After ODS/pilot lights, keep control knob pressed in for 30 seconds.</li> <li>Fully open manual shutoff valve.</li> <li>Hand tighten thermocouple connection until snug, then tighten 1/4 turn more.</li> <li>5a. Contact local gas company.</li> <li>5b. Clean pilot with vacuum cleaner.</li> <li>6. Replace thermocouple.</li> <li>7. Replace control valve.</li> </ol>
Burner does not light after ODS/pilot is lit.	<ol style="list-style-type: none"> <li>Burner orifice is clogged.</li> <li>Burner orifice diameter is too small.</li> <li>Inlet gas pressure is too low.</li> </ol>	<ol style="list-style-type: none"> <li>Clean orifice.</li> <li>Replace burner orifice.</li> <li>Contact qualified service person.</li> </ol>
Burner backfires during combustion.	<ol style="list-style-type: none"> <li>Manifold pressure is too low.</li> <li>Burner orifice is clogged.</li> </ol>	<ol style="list-style-type: none"> <li>Contact local gas company.</li> <li>Clean burner or replace burner orifice.</li> </ol>
Slight smoke or odor during initial operation.	<ol style="list-style-type: none"> <li>Burner orifice is clogged or damaged.</li> <li>Burner is damaged.</li> <li>Gas regulator defective.</li> </ol>	<ol style="list-style-type: none"> <li>Clean burner or replace burner orifice.</li> <li>Replace burner.</li> <li>Replace gas regulator.</li> </ol>
Logs appear to smoke after initial operation.	<ol style="list-style-type: none"> <li>Vapors from paint or curing process of logs.</li> <li>Vapors or smoke continue after heater has run with damper or window open for several hours.</li> </ol>	<ol style="list-style-type: none"> <li>Problem will stop after a few hours of operation. Run the heater with the damper open if you have one, or open a window for the first few hours.</li> <li>Log heater is intended to be smokeless. Turn OFF heater and call qualified service person.</li> </ol>
Heater produces a whistling noise when burner is lit.	<ol style="list-style-type: none"> <li>Turning control knob to HIGH position when burner is cold.</li> <li>Air in gas line.</li> <li>Dirty or partially clogged burner orifices.</li> </ol>	<ol style="list-style-type: none"> <li>Turn control knob to LOW position and let warm up for a minute.</li> <li>Operate burner until air is removed from line. Have gas line checked by local gas company.</li> <li>Clean burner or replace burner orifice.</li> </ol>
No gas to pilot.	<ol style="list-style-type: none"> <li>LP-regulator shut down due to inlet pressure too high.</li> </ol>	<ol style="list-style-type: none"> <li>Verify LP tank regulator is installed and set at 11" to 13" w.c.</li> <li>Replace regulator on heater.</li> </ol>



**PL20 Firebox Parts**

Ref.	Description	Qty.	PL20NV	PL20PV
1.	Complete Burner Assembly	1	90D0076	90D0095
2.	Valve	1	14D0467	14D0468
3.	3/16" Tubing Assy.	1	49D0050	49D0050
4.	1/4" Tubing (2")	1	0125302	0125302
5.	Pilot Regulator	1	14D0469	14D0469
6.	Fitting for Regulator	2	20H0109	20H0109
7.	5/16" Fitting	1	00K0917	00K0917
8.	5/16" Ferrule	1	00K0918	00K0918
9.	Valve Fitting	1	11V0313	11V0313
10.	Piezo Wire Assy.	1	00K0632	00K0632
11.	Piezo	1	14D0503	14D0503
12.	On/Off Switch	2	32D0232	32D0232
13.	5/16" Aluminum Tubing	1	90D0062	90D0062
14.	Pilot	1	81D3052	81D3053
15.	AC Wall Plug	1	90D0082	90D0082
16.	Light Assy.	1	90D0083	90D0083

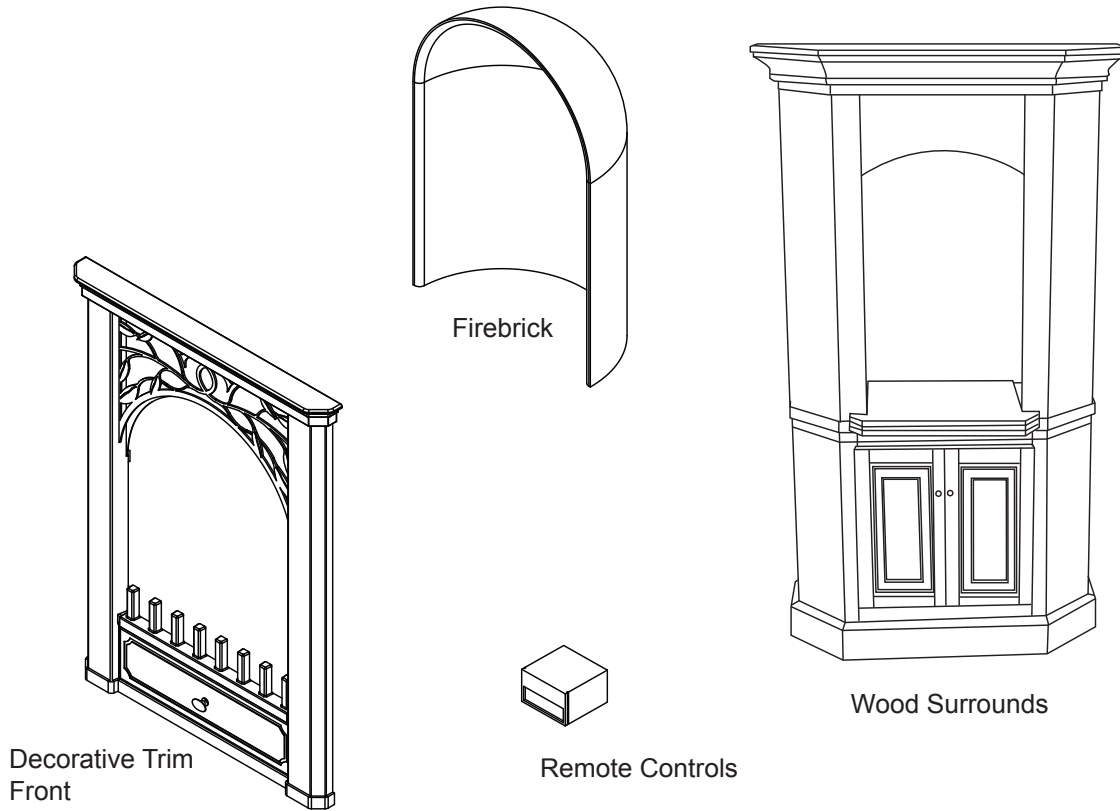
**WARNING**

Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this appliance may result in property damage or personal injury.



**PL20 LOGS**

Ref.	Description	Qty.	PL20
1.	Log #1	1	90D0086
2.	Log #2	1	90D0087
3.	Log #3	1	90D0088
4.	Log #4	1	90D0089



**FIREBRICKS**

Optional firebrick kits can be installed. Refer to installation instructions provided with kit or *Page 12*.

- |                                 |         |
|---------------------------------|---------|
| Adobe Arched Firebrick          | PLAAFBA |
| Tuscany Arched Firebrick        | PLTAFBA |
| Cobbled Fieldstone Arched Brick | PLCAFBA |

**REMOTE CONTROLS**

- |                      |                        |
|----------------------|------------------------|
| ON/OFF Hand Held     | RCB, RCMT, RCBE, WMTD  |
| Thermostat Hand Held | RCST, RCSTE, RCT, WWTD |
| Wall Switch          | MVWS                   |
| Thermostat           | WT                     |

**DECORATIVE TRIM FRONTS**

- |                              |           |
|------------------------------|-----------|
| Colonial Arch Textured Black | PLCOLAFTB |
| Colonial Arch Iron Age       | PLCOLAFIA |

**WOOD SURROUNDS**

- |                               |          |
|-------------------------------|----------|
| Wall Surround Black Walnut    | WSPL20BW |
| Wall Surround Dark Walnut     | WSPL20DW |
| Wall Surround Painted White   | WSPL20W  |
| Corner Surround Black Walnut  | CSPL20BW |
| Corner Surround Dark Walnut   | CSPL20DW |
| Corner Surround Painted White | CSPL20W  |

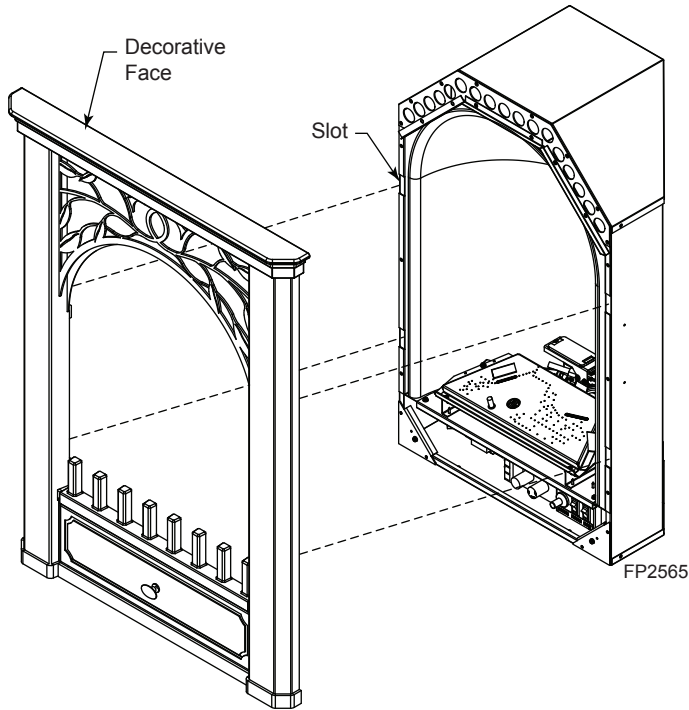
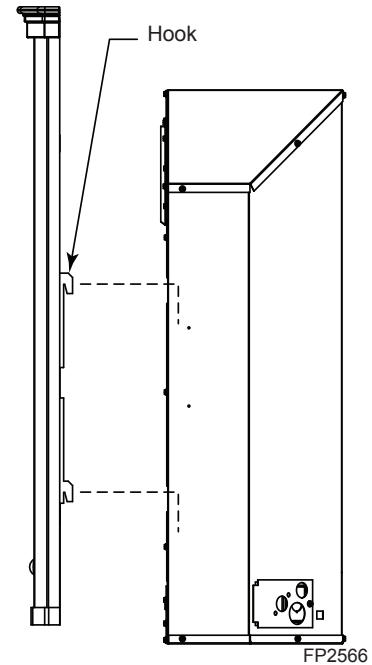
**CAUTION**

Electrical connections should only be performed by a qualified, licensed electrician, main power must be off when connecting to main electrical power supply or performing service.



**INSTALLATION INSTRUCTIONS**

1. Remove face from packaging.
2. Hold face securely on each side.
3. Place the four (4) hooked protrusions on the back of the face into the four (4) rectangular slots on the front of the unit. Two on each side. *Figure 27*
4. Firmly push down on top of face until the hooks bottom out with the slots on the unit. *Figure 28*

**Figure 27****Figure 28**

# LIMITED LIFETIME WARRANTY POLICY

## LIFETIME WARRANTY

The following components are warranted for life to the original owner, subject to proof of purchase: Firebox, Combustion Chamber, Heat Exchanger, Grate and Stainless Steel Burners.

## FIVE YEAR WARRANTY

The following components are warranted for 5 years to the original owner, subject of proof of purchase: Ceramic Fiber Logs, Catalytic Filter and Aluminized Burners.

## BASIC WARRANTY

MHSC warrants the components and materials in your gas appliance to be free from manufacturing and material defects for a period of one year from date of installation. After installation, if any of the components manufactured by MHSC in the appliance are found to be defective in materials or workmanship, MHSC will, at its option, replace or repair the defective components at no charge to the original owner. MHSC will also pay for reasonable labor costs incurred in replacing or repairing such components for a period of one year from the date of installation. Any products presented for warranty repair must be accompanied by a dated proof of purchase.

This Limited Warranty will be void if the appliance is not installed by a qualified installer in accordance with the installation instructions. The Limited Lifetime Warranty will also be void if the appliance is not operated and maintained according to the operating instructions supplied with the appliance, and does not extend to (1) firebox/burner assembly damage by accident, neglect, misuse, abuse, alteration, negligence of others, including the installation thereof by unqualified installers, (2) the costs of removal, reinstallation or transportation of defective parts on the appliance, or (3) incidental or consequential damage. All service work must be performed by an authorized service representative.

This warranty is expressly in lieu of other warranties, express or implied, including the warranty of merchantability of fitness for purpose and of all other obligations or liabilities. MHSC does not assume for it any other obligations or liability in connection with the sale or use of the appliance. In states that do not allow limitations on how long an implied warranty lasts, or do not allow exclusion of indirect damages, those limitations of exclusions may not apply to you. You may also have additional rights not covered in this Limited Warranty.

MHSC reserves the right to investigate any and all claims against the Limited Warranty and decide upon method of settlement.

## IF WARRANTY SERVICE IS NEEDED...

1. Contact your supplier. Make sure you have your warranty, your sales receipt and the model/serial number of your MHSC product.
2. DO NOT ATTEMPT TO DO ANY SERVICE WORK YOURSELF.

**MHSC**

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149 Cleveland Drive • Paris, Kentucky 40361  
[www.mhsc.com](http://www.mhsc.com)