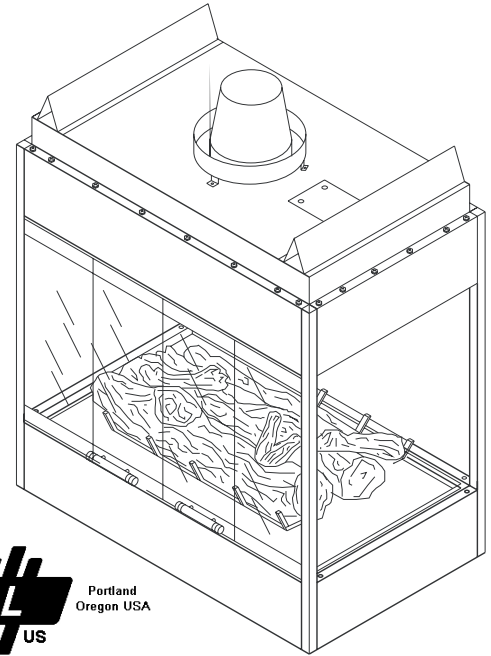




# B-Vent Specialty Series Natural Vent Gas Fireplaces Installation & Operating Instructions

**Models:**  
**BVST/BVSTE, BVPN/BVPNE,**  
**BVCL/BVCLE, BVCR/BVCRE,**  
**BVBAY/BVBAYE**



## WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS 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.

**WARNING:** Improper installation, adjustment, alteration, services or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.



**DUE TO HIGH TEMPERATURES, THE APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.**

**CHILDREN AND ADULTS SHOULD BE ALERT-ED TO THE HAZARDS OF HIGH SURFACE TEMPERATURE AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION.**

**YOUNG CHILDREN SHOULD BE SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.**

**CLOTHING OR OTHER FLAMMABLE MATERIAL SHOULD NOT BE PLACED ON OR NEAR THE APPLIANCE.**

**KEEP THE ROOM AREA CLEAR AND FREE FROM COMBUSTIBLE MATERIALS, GASOLINE AND OTHER FLAMMABLE VAPORS AND LIQUIDS.**

**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.

<b>WARNING</b>	<ul style="list-style-type: none"> <li>• <b>Read this owner’s manual carefully and completely before trying to assemble, operate, or service this fireplace.</b></li> <li>• <b>Any change to this fireplace or its controls can be dangerous.</b></li> <li>• <b>Improper installation or use of this fireplace can cause serious injury or death from fire, burns, explosions, electrical shock and carbon monoxide poisoning.</b></li> </ul>
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This fireplace is a decorative gas appliance. This fireplace must be properly installed by a qualified service person.

**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, the fireplace may not have been installed properly. Get fresh air at once! Have the fireplace inspected and serviced by a qualified service person. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

Propane/LP gas and natural gas are both odorless. An odor-making agent is added to each of these gases. The odor helps you detect a gas leak. However, the odor added to these gases can fade. Gas may be present even though no odor exists.

Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this fireplace.

1. 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 unless a certified kit is used.
2. For propane/LP fireplace, do not place propane/LP supply tank(s) inside any structure. Locate propane/LP supply tank(s) outdoors. To prevent performance problems, do not use propane/LP fuel tank of less than 100 lbs. capacity.
3. If you smell gas:
  - shut off gas supply
  - 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.

4. Never install the fireplace:
  - in a recreational vehicle
  - where curtains, furniture, clothing, or other flammable objects are less than 42” from the front, top or sides of the fireplace
  - in high traffic areas
  - in windy or drafty areas
5. This fireplace reaches high temperatures. Keep children and adults away from hot surfaces to avoid burns or clothing ignition. Fireplace will remain hot for a time after shutdown. Allow surfaces to cool before touching.
6. Carefully supervise young children when they are in the room with fireplace.
7. Do not modify fireplace under any circumstances. Any parts removed for servicing must be replaced prior to operating fireplace.
8. Turn fireplace off and allow to cool before servicing, installing or repairing. Only a qualified service person should install, service or repair the fireplace. Have burner system inspected annually by a qualified service person.
9. You must keep control compartments, burners and circulating air passages clean. More frequent cleaning may be needed due to excessive lint and dust from carpeting, bedding material, pet hair, etc. turn off the gas valve and pilot light before cleaning fireplace.
10. Have venting system inspected annually by a qualified service person. If needed, have venting system cleaned or repaired. Refer to *Cleaning and Maintenance*, Page 23.
11. Keep the area around your fireplace clear of combustible materials, gasoline and other flammable vapor and liquids. Do not run fireplace where these are used or stored. Do not place items such as clothing or decorations on or around fireplace.
12. Do not use this fireplace to cook food or burn paper or other objects.
13. Never place anything on top of fireplace.

*Continued on Page 4*

Continued on Page 4

14. Do not use any solid fuels (wood, coal, paper, cardboard, etc.) in this fireplace. Use only the gas type indicated on rating plate.
15. This appliance, when installed, must be electrically grounded in accordance with local codes or in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70* or the *Canadian Electrical Code, CSA C22.1*.
16. Do not obstruct the flow of combustion and ventilation air in any way. Provide adequate clearances around air openings into the combustion chamber along with adequate accessibility clearance for servicing and proper operation.
17. When the appliance is installed directly on carpeting, tile or other combustible material other than wood flooring, you must set appliance on a metal or wood panel or hearth pad extending the full width and depth of the appliance.
18. Do not use fireplace if any part has been exposed to or has been under water. Immediately call a qualified service person to arrange for replacement of the unit.
19. Do not operate fireplace if any log is broken.
20. Do not use a blower fireplace, heat exchanger fireplace or any other accessory not approved for use with this fireplace.
21. The fireplace is not intended for use with a thermostat.
22. This appliance must be installed with draft hood in same atmospheric pressure zone as the combustion air inlet to the appliance.
23. **For Massachusetts Residents Only:** This product must be installed by a licensed plumber or gas fitter when installed within the Commonwealth of Massachusetts. Flexline installation must not exceed 36".

**IMPORTANT:**  
**PLEASE READ THE FOLLOWING CAREFULLY**

It is normal for fireplaces fabricated of steel to give off some expansion and/or contraction noises during the start up or cool down cycle. Similar noises are found with your furnace heat exchanger or car engine.

**IMPORTANT:**  
**PLEASE READ THE FOLLOWING CAREFULLY**

It is not unusual for gas fireplace to give off some odor the first time it is burned. This is due to the manufacturing process.

**Please ensure that your room is well ventilated during burn off - open all windows.**

It is recommended that you burn your fireplace for at least en (10) hours the first time you use it.

**WARNING**

**Never connect unit to private (non-utility) gas wells. This gas is commonly known as wellhead gas.**

**WARNING**

**Proposition 65 Warning: Fuels listed in gas, wood burning or oil fired appliances, and the products of combustion of such fuels, contain chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.**

*California Health and Safety Code Sec. 25249.6*



**NATIONAL FIREPLACE INSTITUTE**  
**NFI**  
**CERTIFIED**  
[www.nficertified.org](http://www.nficertified.org)

We recommend that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

**! WARNING**



HOT GLASS WILL CAUSE BURNS.  
DO NOT TOUCH GLASS UNTIL COOLED.  
NEVER ALLOW CHILDREN TO TOUCH GLASS.

**CODE APPROVAL**

These appliances have been tested by OMNI-Test Laboratories, Inc. and found to comply with the established standards for VENTED GAS FIREPACES in the US and Canada as follows:

**LISTED VENTED GAS FIREPLACE**  
TESTED TO: ANSI Z21.50b-2009 / CSA2.22b-2009

FIREPLACE DIMENSIONS

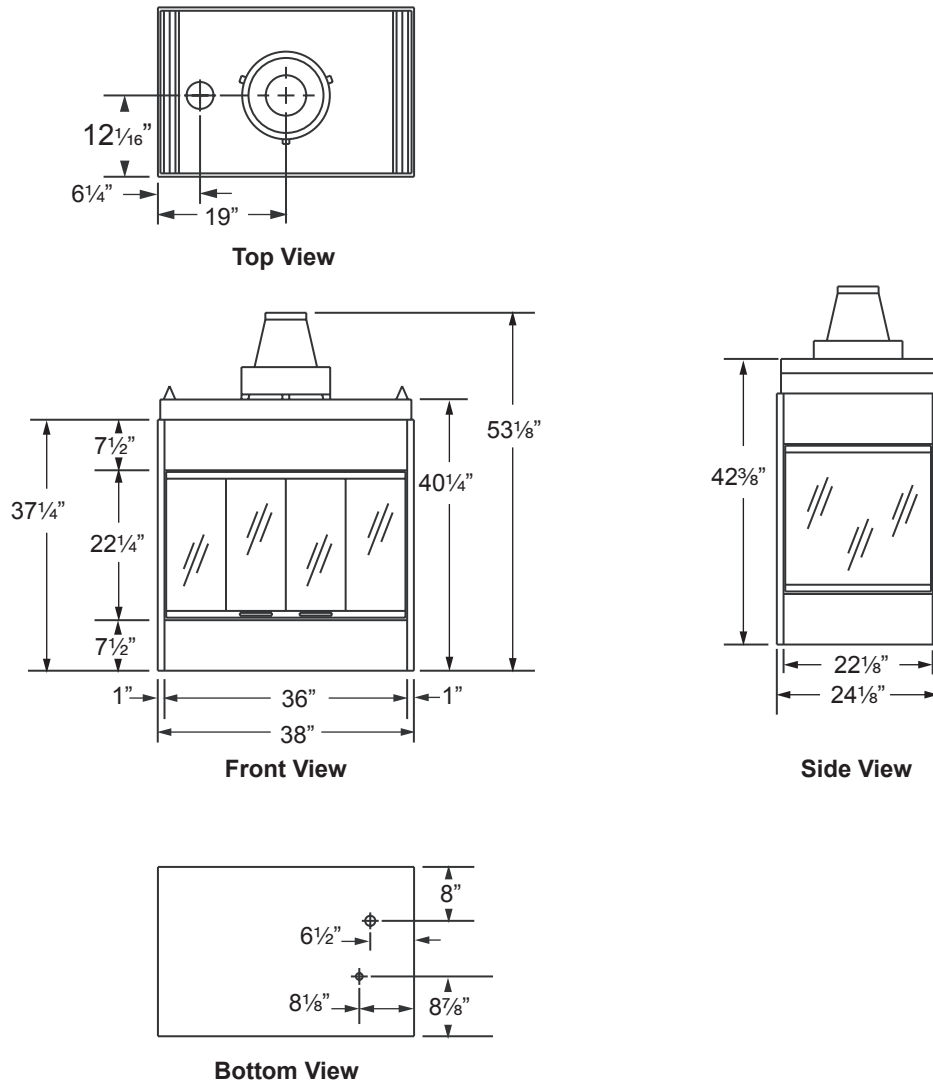


Figure 1

ACCESSORIES

Configuration Kits

Bay Kit	6BK
Corner Kit (Left and Right)	6CK
Island Kit	6IK
Peninsula Kit	6PNK
See-Thru Kit	6SK

Accessories

6CEN LP Conversion Kit	GVCKDV6E
6CN LP Conversion Kit	GCK6CLP
6CLP Natural Conversion Kit	GCK6CN
Outside Air Kit	6AK
Back Refractory Look Panel	6BKB
Side Refractory Look Panel	6BKS
Hand Held Remote Control	RC2

Control Kits

Control Kit Natural Gas Standing Pilot	6CN
Control Kit Propane/LP Gas Standing Pilot	6CLP
Control Kit Natural Gas Electronic Ignition	6CEN

**HIGH ELEVATIONS**

Input ratings are shown in BTU per hour and are certified without deration for elevations up to 4,500 feet (1,370 m) above sea level.

For elevations above 4,500 feet (1,370 m) in USA, installation must be in accordance with the current ANSI Z223.1/NFPA 54 and/or local codes having jurisdiction.

In Canada, please consult provincial and/or local authorities having jurisdiction for installation at elevations above 4,500 feet (1,370 m).

**ORIFICE SIZES, PRESSURES AND BTUs****NATURAL GAS**

Manifold Press: (w.c.) 3.5"  
 Maximum Supply Pressure 7"  
 Minimum Supply Pressure 4.5"

**PROPANE GAS**

Manifold Press: (w.c.) 10"  
 Maximum Supply Pressure 13"  
 Minimum Supply Pressure 11"

Model Number	B-Vent Specialty	
	Natural	Propane
Max. BTU/hr Input	42,000	42,000

**BEFORE YOU START**

Read this homeowner manual thoroughly and follow all instructions carefully. Inspect all contents for shipping damage and immediately inform your dealer if any damage is found. Do not install any unit with damaged, incomplete, or substitute parts. Check your packing list to verify that all listed parts have been received.

**ITEMS REQUIRED FOR INSTALLATION****Tools:**

- Phillips screwdriver
- Hammer
- Saw and/or saber saw
- Level
- Measuring tape
- Electric drill and bits
- Pliers
- Square
- Pipe Wrench

**Building Supplies:**

- Framing materials
- Wall finishing materials
- Caulking material (noncombustible)
- Fireplace surround material (noncombustible)
- Piping complying with Local Codes
- Tee joint
- Pipe sealant approved for use with Propane/LP gas (resistant to sulfur compounds)

## **CONFIGURATION INSTALLATION**

### **Part 1**

- Remove front glass door by removing the cardboard fillers at the top and lifting up and away from the appliance.
- Install the handles onto the door using screws from the handle package.
- Keep front glass door off of the appliance until installation of Configuration Kit and Control Kit are completed.
- Remove carton containing logs. Retain for later installation.
- Remove and dispose of the cardboard support for log carton.
- Remove burner pan by removing two (2) screws. Replace screws in holes for later use.
- Remove the hearth pan that burner was secured to by lifting up and off of its four (4) locating pins.

### **Part 2**

The appliance is now ready for one of the following Configuration Kits:

Bay Kit	6BK
Corner Kit (left or right)	6CK
Island Kit	6IK
Peninsula Kit	6PNK
See-thru Kit	6SK

Complete installation instructions are included with each kit.

### **Part 3**

After installing the Configuration Kit, the appliance is ready for one of the following Control Kits:

Control Kit Natural Gas Standing Pilot	6CN
Control Kit Propane/LP Gas Standing Pilot	6CLP
Control Kit Natural Gas Electronic Ignition	6CEN

Complete installation instructions are included with each kit.

- Once your Configuration Kit and Control Kits have been installed, install the hearth pan by positioning it down onto the four (4) locating pins. Make sure the access panel is positioned over the controls.
- The burner may now be installed onto the hearth pan. This is done by positioning the large opening in the burner, over the pilot protruding up from the control panel. Lower the burner around the pilot down onto the firebox bottom.
- Looking through the large opening in the burner pan, position the burner tube with the air shutter onto the orifice mounted on the control panel.
- The burner may now be secured at both ends with screws removed earlier.

Proceed with installation.

**FIREPLACE FRAMING**

It is best to frame your fireplace after it is positioned and the vent system installed. Use 2 x 4's and frame to local building codes.

To install the fireplace facing flush with the finished wall, position the framework to accommodate the thickness of the finished wall.

It is not necessary to install a hearth extension with this fireplace system.

The junction box should be wired to the electrical system at the time of installation of the fireplace. Wiring must be performed by a qualified person in a manner to conform with National Electrical Code ANSI/NFPA 70 and all applicable local codes.

**CAUTION** Always check and make sure power is OFF before attempting to install or service any electrical wiring or components.

**WARNING** Do not fill spaces around firebox with insulation or other materials. This could cause a fire.

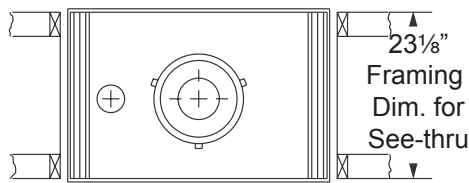
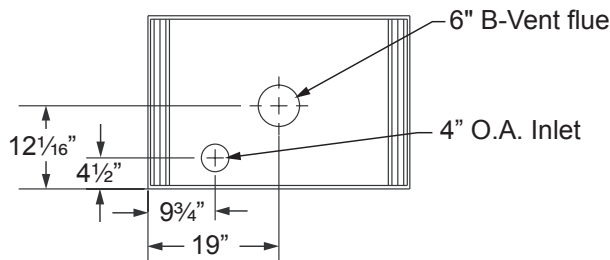
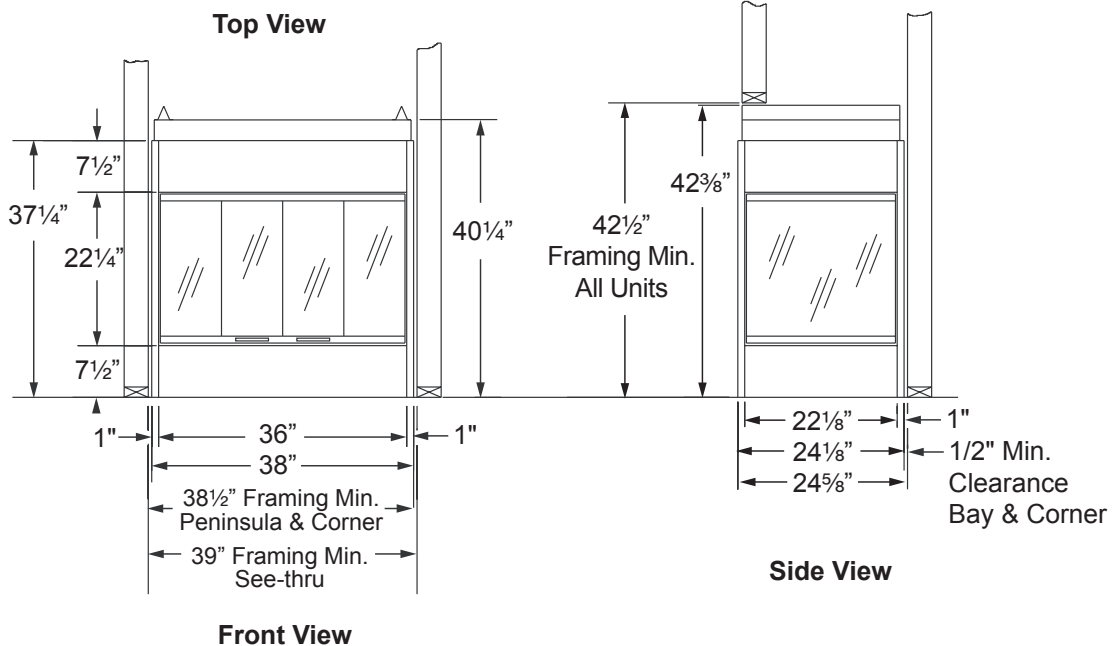


Figure 2





**CLEARANCE TO COMBUSTIBLES**

Sides .....	1/2"
Back .....	1/2"
Top .....	0"
Front.....	37"
Bottom.....	0"

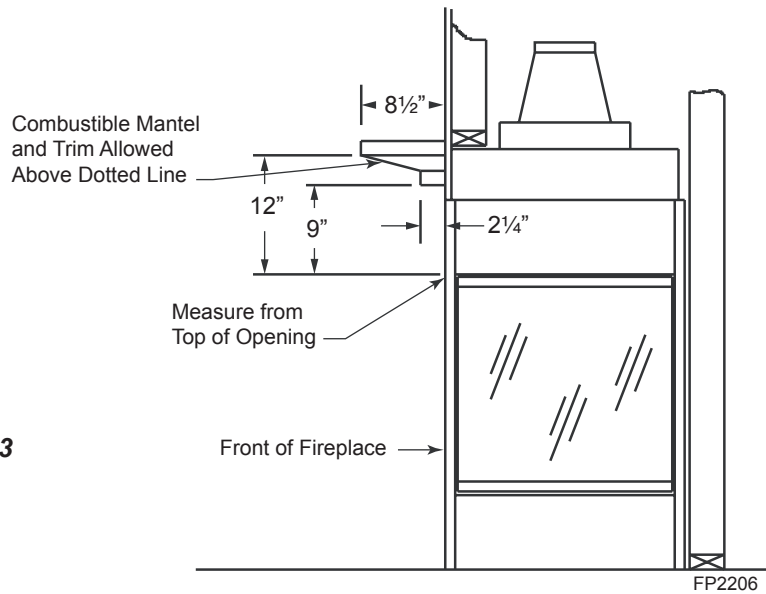
When the fireplace is installed directly on carpeting, vinyl tile or other combustible materials (other than wood flooring), it shall be installed on a metal or wood panel extending the full width and depth of the fireplace.

Provide adequate ventilation air.

Provide adequate accessibility clearance for servicing and operating the fireplace.

Never obstruct the front opening of the fireplace.

**MANTEL CLEARANCES**



**Figure 3**

**CHECK GAS TYPE**

Use proper gas type for the fireplace you are installing. If you have conflicting gas types, do not install fireplace. See dealer where you purchased the fireplace for proper fireplace for your gas type.

**INSTALLING GAS PIPING TO FIREPLACE LOCATION**

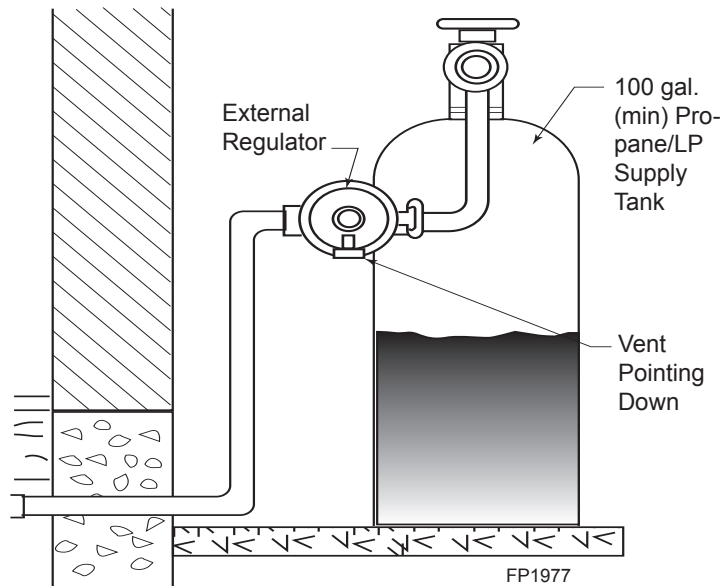
**INSTALLATION ITEMS NEEDED**

Before installing, make sure you have the items listed below:

- External regulator (supplied by installer)
- Tee Joint
- Piping (check local codes)
- Pipe wrench
- Sealant (resistant to propane/LP gas)
- Test gauge connection\*
- Sediment trap (optional but recommended)
- Approved flexible gas line with gas connector (if allowed by local codes - not provided)

\*A CSA design-certified equipment shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the CSA design-certified equipment shutoff valve from your dealer.

For propane/LP connections only, the installer must supply an external regulator. The external regulator will reduce incoming gas pressure. You must reduce incoming gas pressure to between 11 and 13 inches of water. If you do not reduce incoming gas pressure, burner system regulator damage could occur. Install external regulator with the vent pointing down as shown in *Figure 4*. Pointing the vent down protects it from freezing rain or sleet.



**Figure 4 - External Regulator with Vent Pointing Down (Propane/LP Only)**

When using copper or flex connectors use only fittings approved for gas connections. The gas control inlet is 3/8" NPT.

**WARNING**  
**A qualified installer or service person must connect appliance to gas supply. Follow all local codes.**

**CAUTION**  
**For propane/LP units, never connect fireplace directly to the propane/LP supply. This burner system requires an external regulator (not supplied). Install the external regulator between the burner system and propane/LP supply.**

**CAUTION**  
**Use only 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.**

**WARNING**  
**External regulators may be necessary for natural gas. One- or two-pound systems will damage this appliance and may cause fire hazard.**

**WARNING**

Only persons licensed to work with gas piping may make the necessary gas connections to this appliance.

**CAUTION**

A manual shut-off 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 5*

To accommodate the various configurations, access openings in the bottom of the unit are provided for gas line and wall switch wires. This may not be convenient for some installation, if so you may drill an access opening into the lower face of the unit (1" for gas line, 1/2" for the grommet).

**NOTE:** *The gas line connection may be made using 1/2" rigid tubing or an approved flex connector. Since some municipalities have additional local codes, it is always best to consult your local authorities and the current edition of the National Fuel Gas Code ANSI Z223.1/NFPA 54. In Canada CSA-B149 (1 or 2) Installation Code.*

A listed manual shut-off 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 5*

**IMPORTANT:** *Install main gas valve (equipment shut-off valve) in an accessible locations. The main gas valve is for turning on or shutting off the gas to the fireplace.*

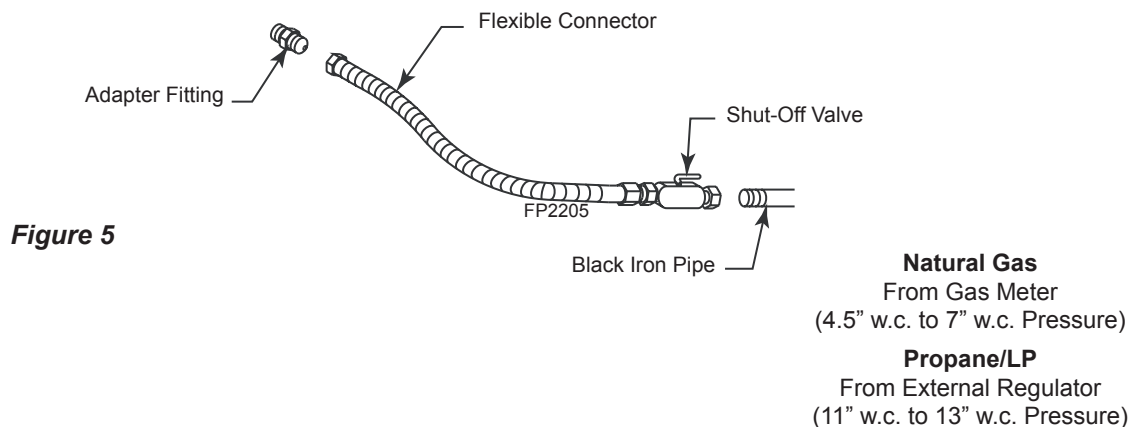
Check your building codes for any special requirements for locating equipment shut-off valve to fireplaces.

Apply pipe joint sealant lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged burner system valves.

We recommend that you install a sediment trap/drip leg in supply line as shown in *Figure 5*. Locate sediment trap/drip leg where it is within reach for cleaning. Install in piping system between fuel supply and burner system. Locate sediment trap/drip leg where trapped matter is not likely to freeze. A sediment trap traps moisture and contaminants. This keeps them from going into the burner system gas controls. If sediment trap/drip leg is not installed or is installed wrong, burner system may not run properly.

**CAUTION**

Use pipe joint sealant that is resistant to liquid petroleum (LP) gas.



**WARNING**

Read all instructions completely and thoroughly before attempting installation. Failure to do so could result in serious injury, property damage or loss of life. Operation of improperly installed and maintained venting system could result in serious injury, property damage or loss of life.

**NOTICE**

Failure to follow these instructions will void the warranty.

## INSTALLATION PRECAUTIONS

Consult local building codes before beginning the installation. The installer must make sure to select the proper vent system for installation. Before installing vent kit, the installer must read this fireplace manual and vent kit instructions.

Only a qualified installer/service person should install venting system. The installer must follow these safety rules:

- Wear gloves and safety glasses for protection.
- Use extreme caution when using ladders or when on rooftops.
- Be aware of electrical wiring locations in walls and ceilings.

The following actions will void the warranty on your venting system:

- Installation of any damaged venting component.
- Unauthorized modification of the venting system.
- Installation of any component part not manufactured or approved by MHSC.
- Installation other than permitted by these instructions.

## INSTALLATION PLANNING

### “B” VENT PIPE

See venting installation instructions provided by the B-Vent manufacturer.

**NOTE: This APPLIANCE MUST BE INSTALLED using “B” vent type pipe that has been listed by a nationally recognized testing agency.**

Refer to B-Vent Pipe Sizing chart for proper elbow offset runs.

This appliance must be installed using 6” type “B” vent.

Locate chimney center line dimension from a combustible back wall. Page 9, Figures 3 and 4

- Minimum vertical chimney height - 7’
- Minimum height with two (2) 90° elbows - 6’
- Elbow requirements allow a maximum of two (2) 90° elbows or four (4) 45° elbows per installation.

**NOTE: Two (2) 45° elbows = one (1) 90° elbow**

- Horizontal run must never exceed 50% of the height of the vent system.

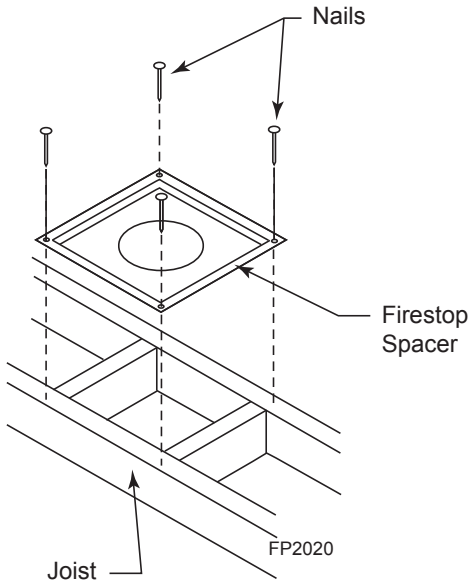
**FIRESTOP INSTALLATION**

A ceiling firestop must be installed if the vent passes through a ceiling. Refer to the instructions from the pipe manufacturer. To position firestop refer to *Figures 6 and 7*. Only one (1) firestop required per frame.

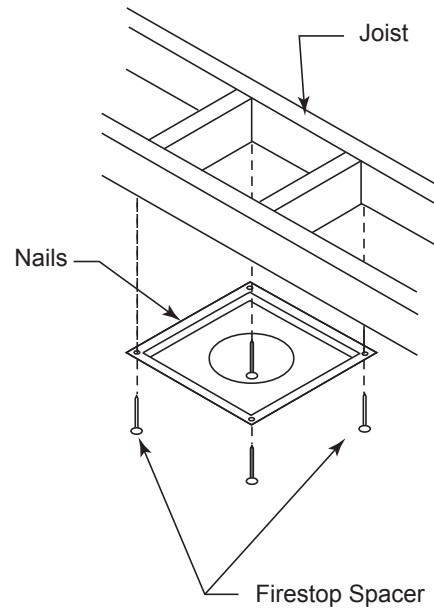
**NOTE: A firestop is not required at the roof.**

**LOCATE and INSTALL FIRESTOP**

1. For ceiling firestops, position a plumb bob over the center of the vertical pipe to spot a hole through which the pipe will penetrate.
2. Drill a hole through this center point and check for obstructions (i.e. wiring or plumbing).
3. Reposition the fireplace and vent system, if necessary, to accommodate ceiling joists or obstructions.
4. Cut an 11" x 11" hole through the ceiling, using the center point.
5. Frame the hole with framing lumber the same size as the ceiling joists. Position firestop. If attic is above, mount firestop on top of framing. *Figure 6*. If room is above, mount firestop on the bottom of framing. *Figure 7*. Secure with nails or screws.
6. Run vent through firestop.



**Figure 6 -  
Install Firestop in Attic**



**Figure 7 -  
Install Firestop in Ceiling**

**NOTICE**

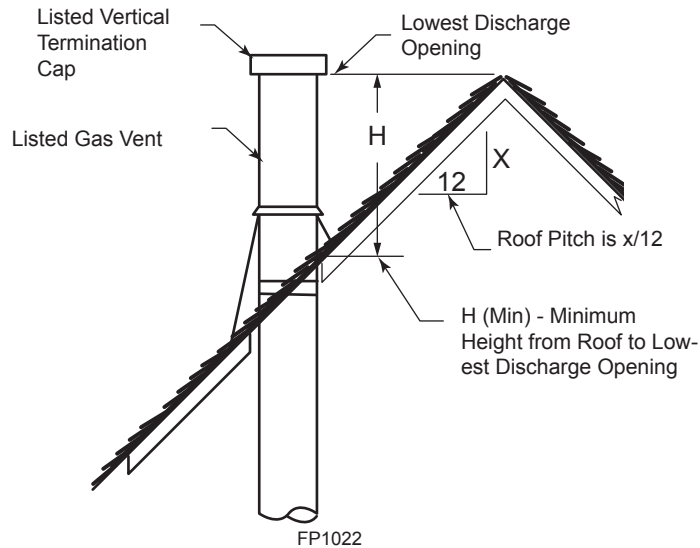
When installing in a chase, you should insulate the chase as you would the outside walls of your home. This is especially important in cold climates. Insulation should be considered a combustible material. Maintain proper clearances to all combustible materials.

**NOTICE**

Treatment of firestops and construction of the chase may vary from building type to building type. These instructions are not substitutes for the requirements of local building codes. You must follow all local building codes.

## VERTICAL TERMINATION

Major building codes specify a minimum vent height above the rooftop depending on the pitch of the roof. Refer to *Figure 8* for minimum heights, provided the termination cap is at least 8' from a vertical wall and 2' below a horizontal overhang. Trees, buildings, adjoining roof lines and adverse wind conditions may require taller chimneys than what is shown.



Roof Pitch	H Min. (ft)
Flat to 6/12	1'
6/12 to 7/12	1'3"
Over 7/12 to 8/12	1'6"
Over 8/12 to 9/12	2'
Over 9/12 to 10/12	2'6"
Over 10/12 to 11/12	3'3"
Over 11/12 to 12/12	4'
Over 12/12 to 14/12	5'
Over 14/12 to 16/12	6'
Over 16/12 to 18/12	7'
Over 18/12 to 20/12	7'6"
Over 20/12 to 21/12	8'

**NOTE:** Vertical termination must be at least 8' from vertical wall.

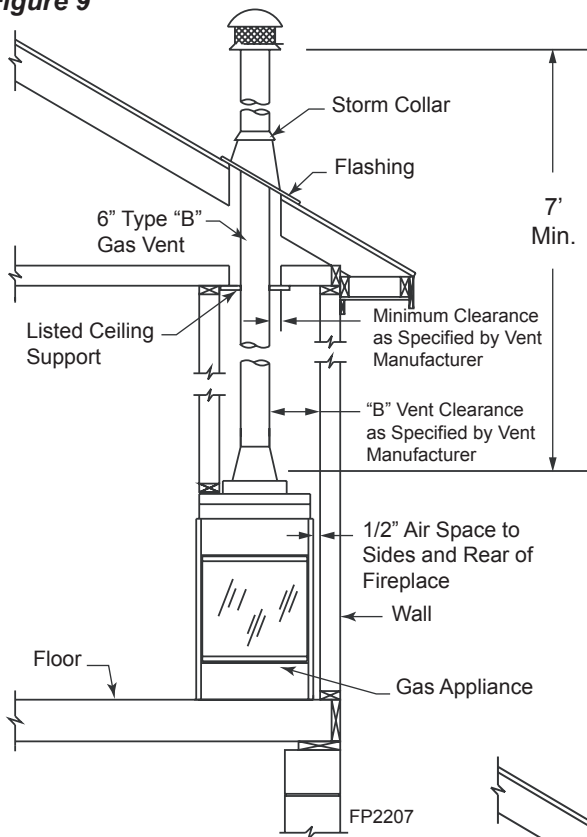
**Figure 8 -**  
**Minimum Vent Height for Various Roof Pitches**

## LOCATE AND INSTALL VERTICAL TERMINATION

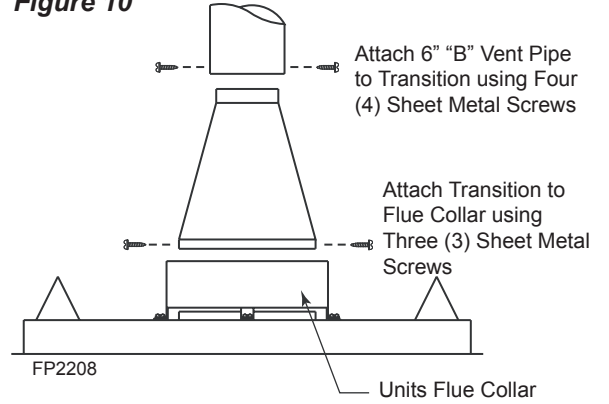
**NOTE:** When working on the floor, cover the opening of the installed vent pipe below to prevent debris falling in.

1. Locate and mark the vent center point on the underside of the roof, and drive a nail trough the center joint.
2. The size of the roof hole framing dimensions depends on the pitch of the roof.
3. Cut and frame the roof hole.
4. Continue to install vent sections through the roof hole until reaching the appropriate distance above the roof.
5. Attach a flashing to the roof using nails, and use a non-hardening mastic around the edges of the flashing base when it meets the roof.
6. Attach a storm collar over the flashing joint to form a watertight seal. Place non-hardening mastic around the joint, between the storm collar and the vertical pipe.
7. Attach termination per pipe manufacturer's instructions.

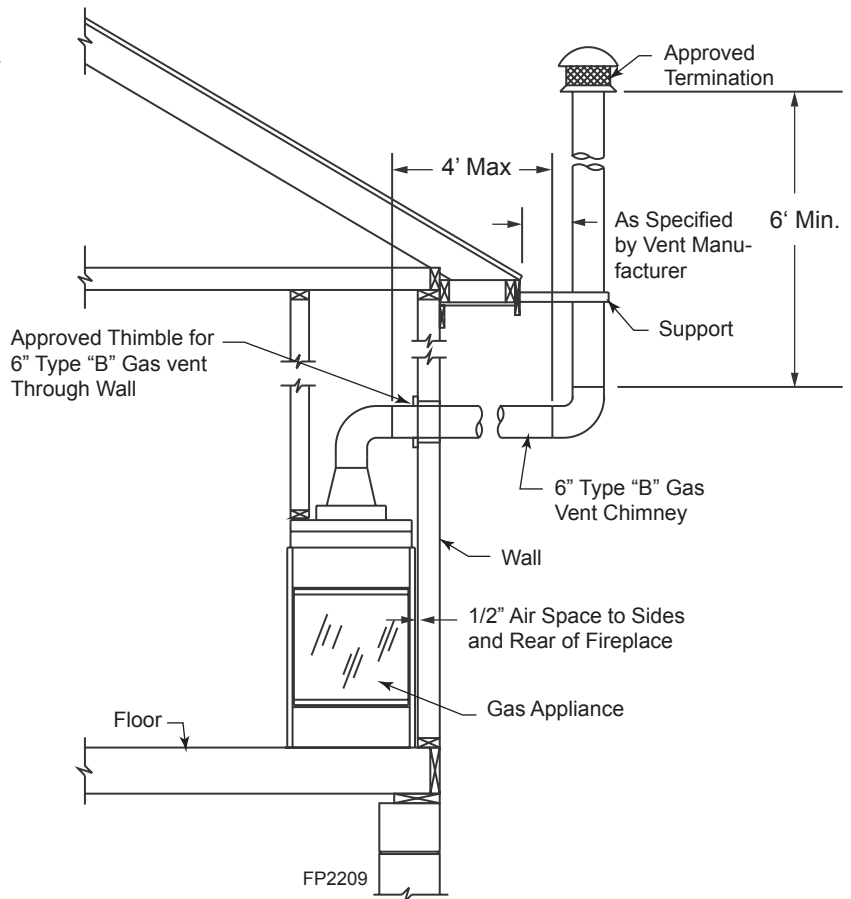
**Figure 9**



**Figure 10**



**Figure 11**



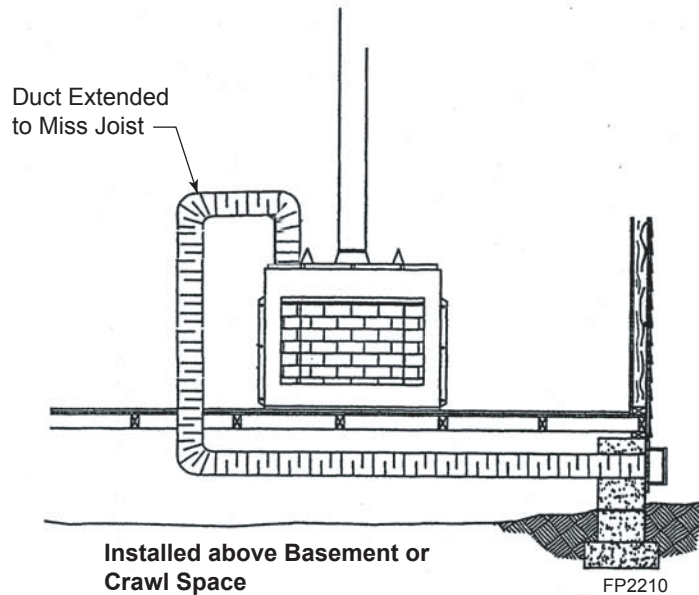
## OUTSIDE COMBUSTION AIR PRECAUTIONS and RECOMMENDATIONS

**NOTE:** The use of outside air for combustion is optional unless required by building codes. It is only necessary to supply outside combustion air to one side of fireplace. Use model OAC4 combustion air kit (refer to Page 17).

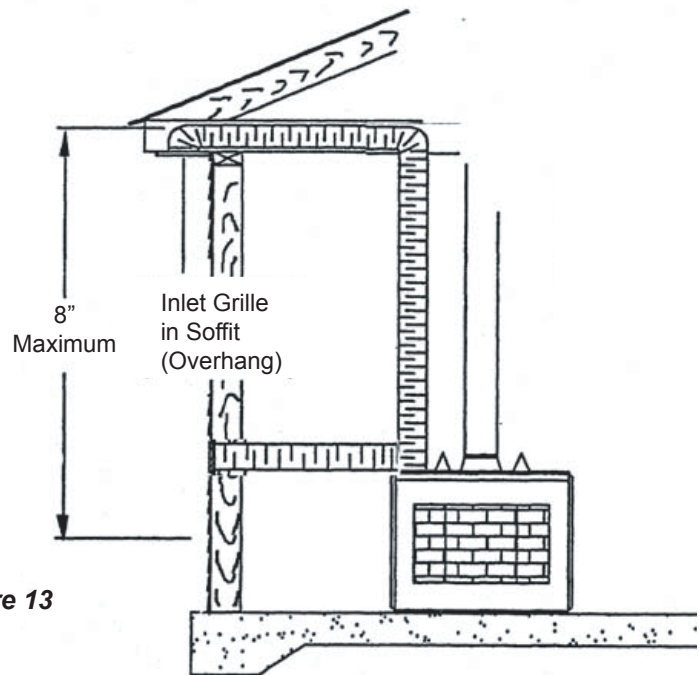
1. Avoid extremely long runs and numerous turns in duct leading from fireplace to combustion air assembly. These conditions increase the resistance to free flow of air through duct. *Figures 12 and 13*
2. Locate combustion air assembly at an exterior location. Make sure the location cannot be accidentally blocked. Locate assembly above snow line to prevent snow from blocking assembly.
3. Never mount combustion air inlet assembly in garage or storage area where combustible fumes (gasoline) might be drawn into fireplace.
4. Combustion air may be drawn from crawl space under house when adequate supply of air is provided by open ventilation. *Figure 12*

**NOTE:** Never take combustion air from attic space or garage space.

**NOTE:** Install outside combustion air ONLY ON LEFT-HAND SIDE of fireplace.



**Figure 12**



**Figure 13**

Installed on Concrete Slab

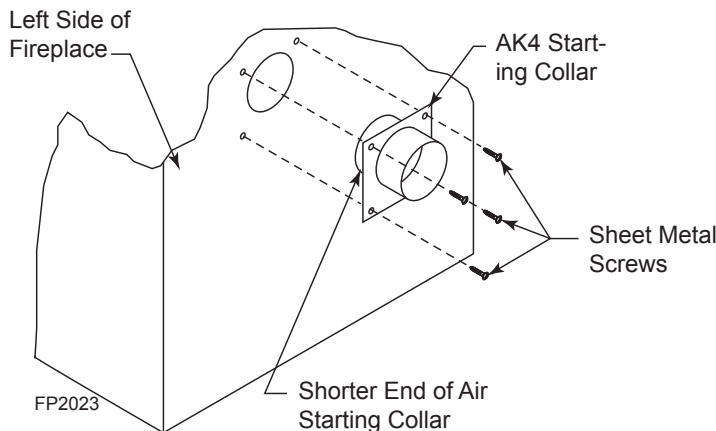


**MODEL AK4 COMBUSTION AIR ASSEMBLY**

1. Remove the cover plate from the 4" outlet opening location on the left outside of the fireplace.
2. Place starting collar (4") into hole on left side of fireplace. Fasten starting collar in place with four (4) sheet metal screws provided. *Figure 14*

**NOTE: The air starting collar extends through the fireplace outer wrap. When the air starting collar is securely attached, it will form a seal against the fireplace wall.**

3. Cut a 6" diameter opening for model AK4 in the outside wall covering where the outside vent is to be located. *Figure 16*
4. Select and cut a piece of duct long enough to attach to the fireplace and stick out at least 3" beyond the face of the wall to which the AK4 inlet air vent will be attached. Cut duct with a standard pocket knife. *Figure 15*
5. If using insulating duct, push the insulation back from one end of the duct approximately 2". *Figure 16*

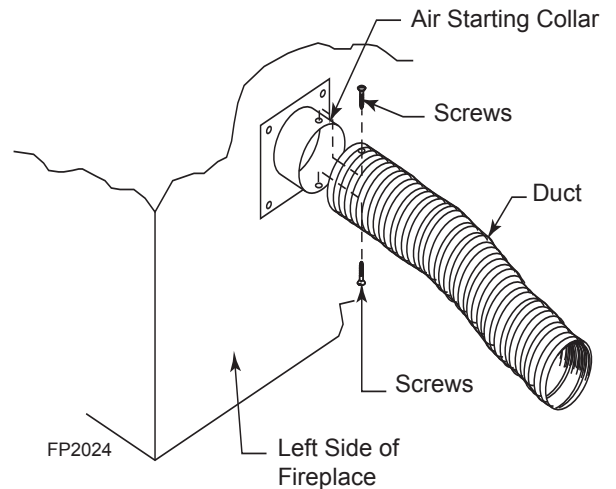


**Figure 14**

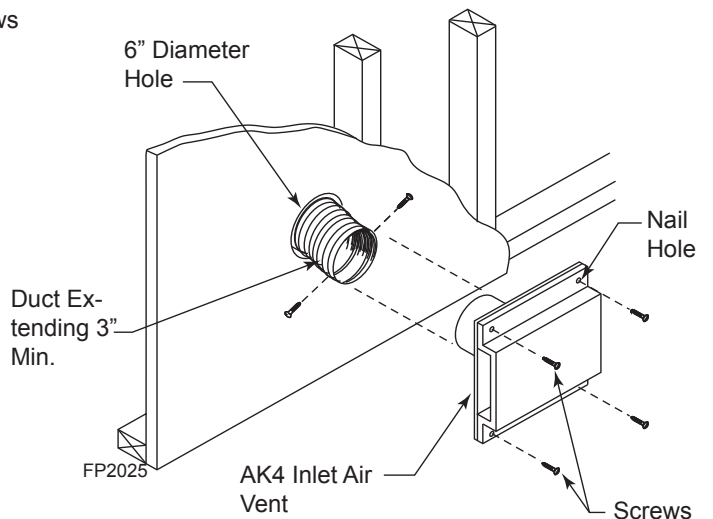
6. Slip the exposed end of the duct over the starting collar on the fireplace.
7. Using the sheet metal screws provided, secure the duct end to the collar attached to the fireplace.
8. Nail or screw the combustion air assembly to the surface of the wall.

**WARNING** DO NOT remove the cover if the outside air will not be connected.

**WARNING** Do not use a combustible duct. Always use UL Listed Class 0 or 1 duct material. If necessary to splice duct, use Model 403 duct connector to splice duct sections.



**Figure 15**



**Figure 16**

**ELECTRICAL WIRING**

**WARNING**

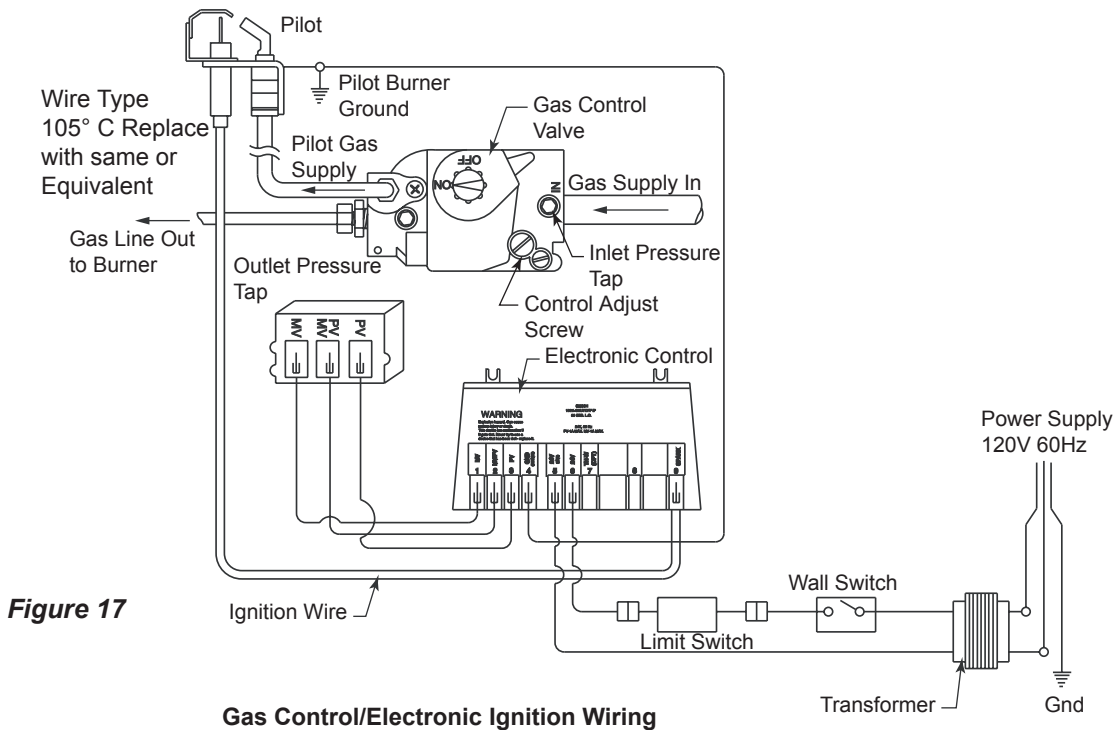
Electrical connections should only be performed by a qualified, licensed electrician. Main power must be off when connecting to main electrical power supply or performing service. All wiring shall be in compliance with all local, city and state codes. The appliance, when installed, just be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code ANSI/NFPA 70 (latest edition) and Canadian Electrical Code, CSA C22.1.

**CAUTION**

Label all wires before disconnecting when servicing controls. Wiring errors can cause improper and dangerous operation.

**UNITS WITH 6CEN CONTROLS**

1. Determine a convenient location within 20' and cut a hole large enough to accommodate the wall switch yet be covered with a wall plate. It is not necessary to use a wall box, but one may be used.
2. Route the wire provided through the 1/2" black plastic grommet in the unit.
3. Route the wire into the wall box, connect it to the switch, mount the switch and cover.
4. Set the wall switch to "OFF".
5. Light the pilot according to instructions.



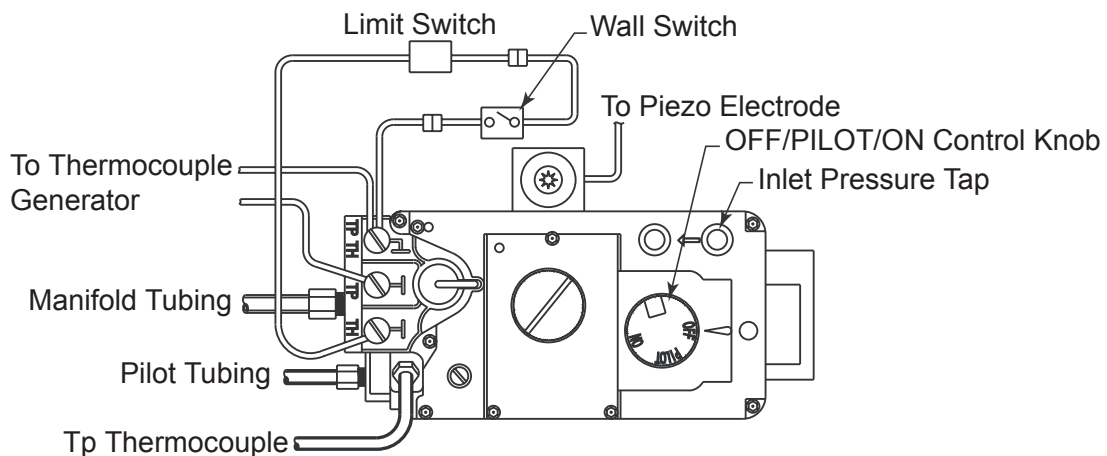
**Figure 17**

**Gas Control/Electronic Ignition Wiring**

**UNITS WITH 6CN and 6CLP CONTROLS**

The control system on this fireplace is powered by the thermocouple and operates on approximately 500m V (one-half volt). All connections in the wiring must be clean and tight. The wall switch should be located as near the fireplace as practical. Do not locate the wall switch so that more than 25' of wire provided must be used. Additional wire and splices will cause a voltage drop and may cause the control system to not operate.

1. Determine a conventional location within 20' and cut a hole large enough to accommodate the wall switch yet be covered with a wall plate. It is not necessary to use a wall box, but one may be used.
2. Route the wire provided through the 1/2" black plastic grommet in the unit.
3. Route the wire into the wall box, connect it to the switch, mount the switch and cover.
4. Set the wall switch to "OFF".
5. Light the pilot according to instructions.

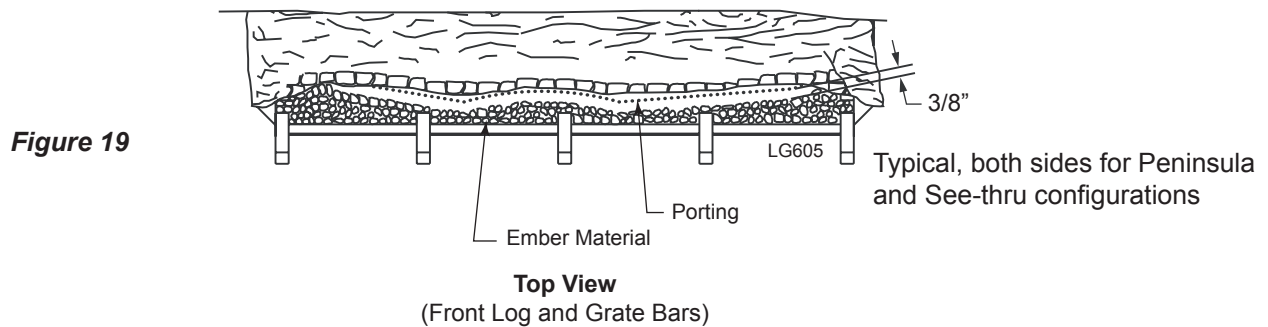


**SIT 820 NOVA Control**

*Figure 18*

## EMBER MATERIAL PLACEMENT

Special ember material provided may be placed between front porting and grate bars with a recommended 3/8" space free of ember material directly in front of the front burner ports for best performance and effect. *Figure 19*. Blockage of the burner ports may create increased soot and carbon buildup.

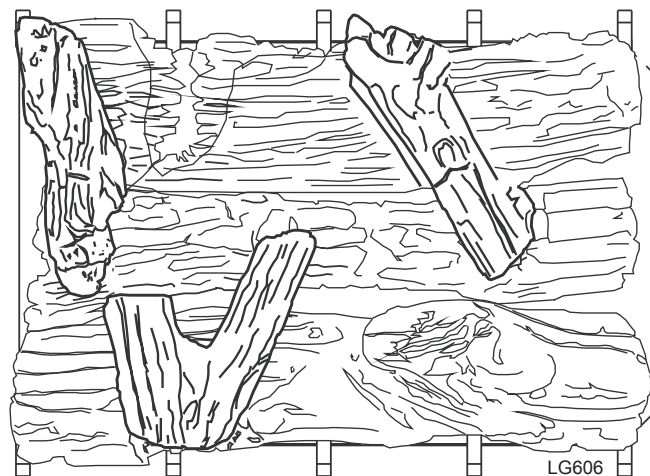


## LOG PLACEMENT

Position logs and twigs onto burner as shown in *Figure 20*.

## LAVA ROCK PLACEMENT

To further enhance the hearth, lava rock may be placed on the hearth pan area to simulate ashes. Sprinkle lava rock on the floor of the inner combustion chamber. Evenly distribute the rock. Do not pile the lava rock up in front of grate. Do not place lava rock on the burner.



**Figure 20**

**WARNING**

Do not sprinkle the lava rock or ember chunks on top of the burner. This may cause potential sooting, glass breakage and a fire hazard.

## CURING INSTRUCTIONS

When lit for the first time, the fireplace may emit a slight odor for several hours. This is due to the curing and "burn in" of external parts and lubricants used in the manufacturing process. This condition is temporary. Open doors and windows to ventilate the room(s) sufficiently.

**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 an ignition device which automatically light the pilot.
- 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:**

- Turn off all gas to the appliance.
  - Open windows.
  - 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.

**LIGHTING PILOT FOR THE FIRST TIME****INITIAL LIGHTING**

Purge air from the supply line as follows:

- Open main shut-off valve.
- Unscrew main pressure test point.
- Leave inlet test screw open until gas comes in.
- When gas is flowing, tighten inlet screw immediately.



**WARNING**

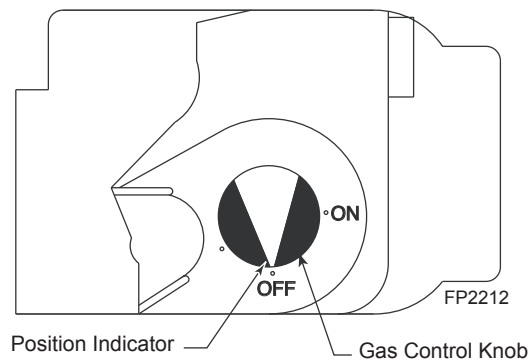
Never use an open flame to check for gas leaks.


**LEAK TESTING**

1. Follow the pipe from the gas supply line connection to the gas valve. Check connection for leaks with soap and water mixture.
2. Next check for gas leaks at the burner with soap and water mixture.
3. Check the pilot for gas leaks with soap and water mixture.

**OPERATING INSTRUCTIONS FOR UNITS WITH 6CEN CONTROLS**





1. **STOP!** Read the safety information on Page 19.
2. Turn rocker switch to OFF.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
5. Remove control access panel.
6. Turn gas control knob clockwise  to OFF.
7. Wait 5 minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas **STOP!** Follow "B" - *What to Do if You Smell Gas*. If you do not smell gas, go to the next step.
8. Turn gas control knob counterclockwise  to ON.
9. Replace control access panel.
10. Turn on all electric power to the appliance.
11. Turn rocker switch to "ON".
12. If the appliance will not operate, follow the instructions *To Turn Off Gas* below, and call your service technician or gas supplier.

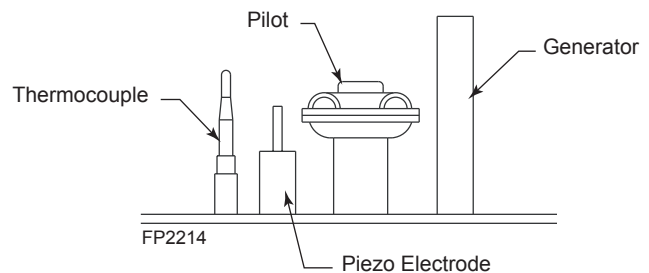
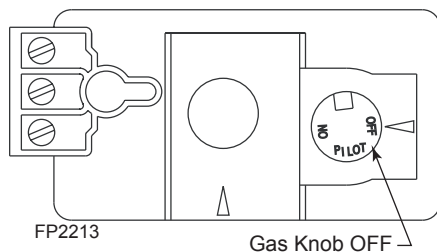
**TO TURN OFF GAS**

1. Turn rocker switch or wall switch to OFF.
2. Remove control access panel.
3. Depress the control knob inward slightly and turn clockwise  to OFF.
4. Replace control access panel.
5. If the appliance is equipped with an automatic ignition device or optional blower, turn off all electrical power to the appliance if service is to be performed.


## OPERATING INSTRUCTIONS FOR UNITS WITH 6CN/6CLP CONTROLS

When lighting and relighting, the gas knob cannot be turned from pilot to OFF unless the knob is depressed.

1. **STOP!** Read the safety information on Page 19.
2. Turn off all electric power to the appliance.
3. Turn gas control knob clockwise  to OFF.
4. Wait 5 minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas **STOP!** Follow "B" - *What to Do if You Smell Gas*. If you do not smell gas, go to the next step.
5. If appliance is equipped with HI-LO adjustment valve, turn counterclockwise  to HIGH.
6. Find pilot located in front of the middle log.
7. Turn gas knob counterclockwise  to PILOT.
8. Depress and hold gas knob while lighting the pilot with the push button ignitor. Keep knob fully depressed for one minute, then release. If pilot does not continue to burn, repeat steps 3 thru 7.
9. With pilot lit, turn gas knob counterclockwise  to ON.
10. If equipped with remote ON/OFF switch, main burner may not come on when you turn the valve to ON or HIGH. Remote switch must be in the ON position to ignite burner.
11. Turn on all electrical power to the appliance.



## TO TURN OFF GAS

1. Turn off all electrical power to the appliance if service is to be performed.
2. Push in the gas control knob slightly and turn clockwise  to OFF. Do not force.

### Pilot Adjustment

1. Adjust the pilot screw to provide a properly sized flame.
2. Do not adjust the pilot screw all the way counterclockwise because it will leak gas.

### Flame Switch

#### Units with 6CN and 6CLP Controls

Your fireplace has been equipped with a thermocouple which senses the flame and shuts off the gas flow to the pilot and main burner in the event the pilot flame is unstable or becomes extinguished.

Do not alter wiring of the control. Replace the thermocouple only with components approved by MHSC.

Figure 21

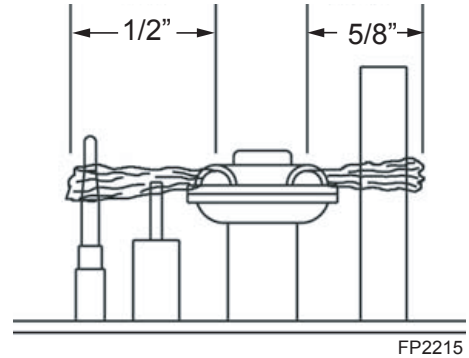


Figure 22

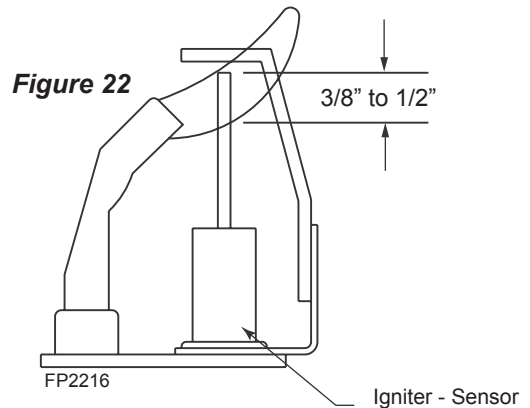
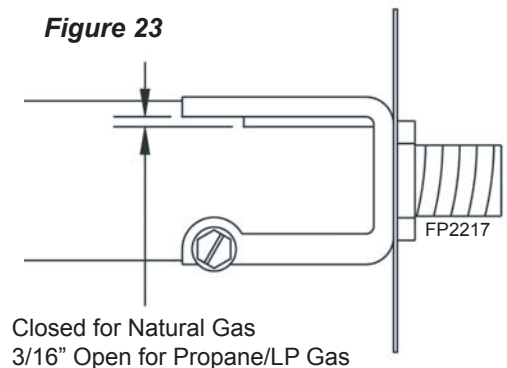


Figure 23



Closed for Natural Gas  
3/16" Open for Propane/LP Gas

**DANGER** Bypassing the thermocouple may lead to an explosion which could result in personal injury.

#### Units with 6CEN Controls

This fireplace has been equipped with a thermocouple which senses the flame and shuts off the gas flow to the pilot and main burner in the event the pilot flame is unstable or becomes extinguished.

Do not alter wiring of the control. Replace the thermocouple only with components approved by MHSC.

**DANGER** Bypassing the thermocouple may lead to an explosion which could result in personal injury.

### Venturi Adjustment

Natural gas models have a closed shutter. Opening the air shutter will cause a more blue flame, but can cause flame lifting from the burner ports. Propane gas models have an air shutter set at 3/16" (.188 mm) open. The same conditions as above apply for propane gas.

**NOTE** Air shutter adjustment must only be done by a qualified gas installer.



**WARNING**

**Turn off gas before servicing fireplace. It is recommended that a qualified service technician perform these check-ups at the beginning of each heating season.**

Air flowing through the appliance will cause dust and lint to collect on the grate, burner and logs. Excessive build-up of dust and lint can cause the pilot and burner to operate improperly and produce hazardous levels of carbon monoxide, a poisonous gas. The appliance may produce carbon (soot) during operation. This carbon (soot) may collect on some logs, some areas of the grate and on the fireplace and vent. Slight carbon build-up is acceptable.

The following is a recommended monthly maintenance program:

1. Turn the gas OFF at the line shut-off valve and allow the appliance to cool.
2. Blow or vacuum all dust and lint out of the appliance, paying particular attention to the pilot, air shutter end of the burner, air passage into and through the appliance and control.
3. Vacuum or brush away all dust, carbon or lint on the logs and grate.
4. Turn the gas ON at the line shut-off valve and light the appliance according to the lighting instructions.
5. Check all piping, pilot tubing and manifold connections for leaks with a soap and water or liquid leak detecting solution. If any leaks are observed, turn the gas OFF immediately and make the necessary repairs.
6. Light the pilot and visually inspect the flame appearance. **NOTE:** Any maintenance of the appliance that requires disconnection of the appliance from the gas line or removal of the control, burner or pilot should only be performed by a qualified person.

Correct installation and safe operation of this appliance require, but are not limited to the following:

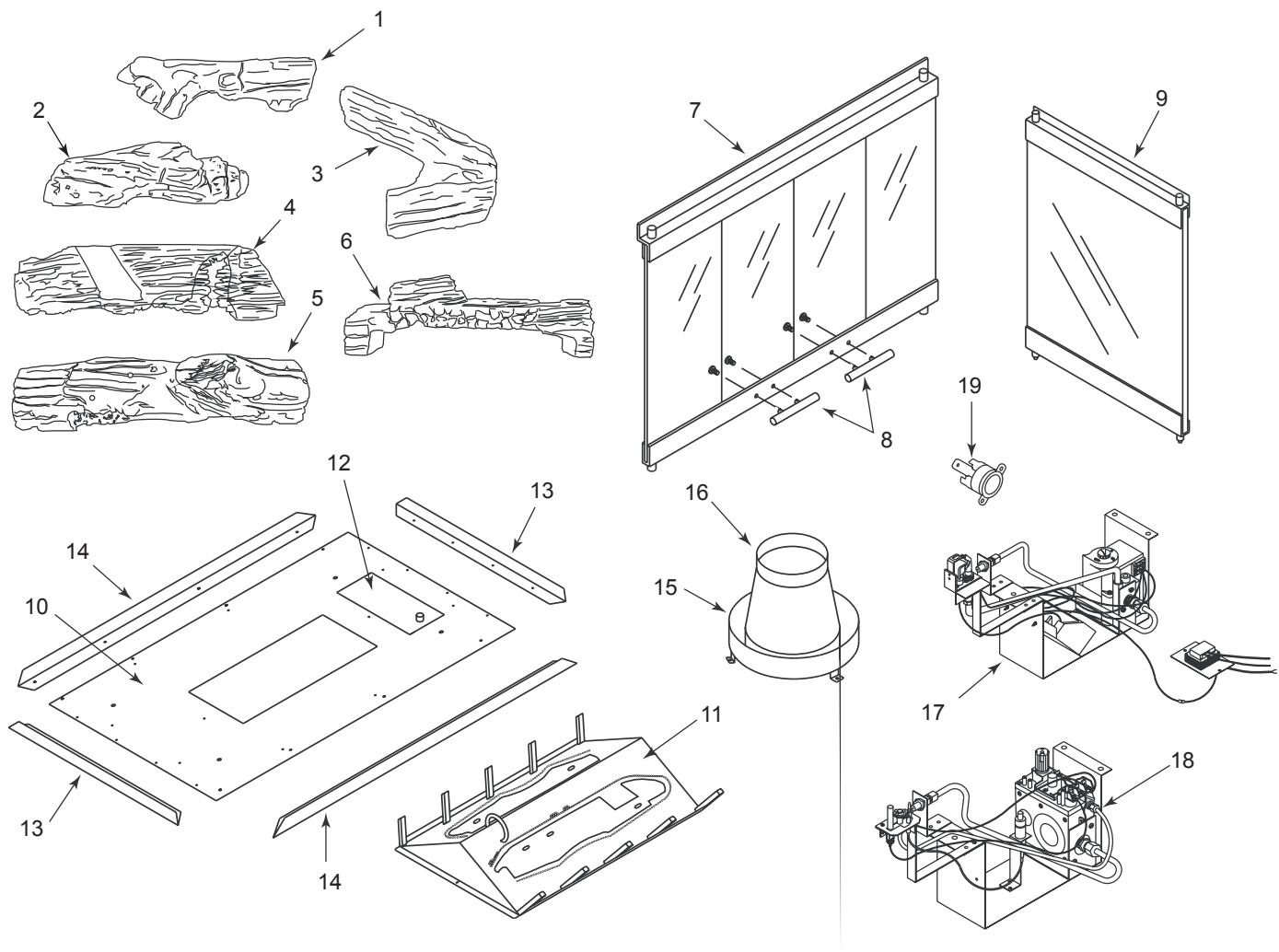
**DO'S**

1. Do use this appliance only on type of gas it is designed, certified and equipped.
2. Do install this appliance and all gas piping according to local codes, or in the absence of local codes, according to the current National Fuel Gas Code, ANSI Z223.1 latest edition.
3. Do disconnect or isolate the appliance during supply line pressure testing.
4. Do locate the appliance out of traffic patterns as much as possible.
5. Do keep in mind that some furniture materials such as vinyl or plastic may deform at the temperatures near this appliance and must be kept at greater distances.
6. Do use joint compound (pipe dope) on threaded joints of gas piping that is resistant to the action of liquefied petroleum gas.
7. Do include a manual shutoff valve and union ahead of the controls so the controls and appliance may be removed for servicing if necessary.
8. Do use only ground joint unions in gas piping.
9. Do include a drip leg in the gas supply connection to the appliance.
10. Do use only soap-water solution or liquid gas leak solution when checking for leaks in the gas plumbing. Never use matches, candles or other ignition sources when checking for leaks.
11. Do connect the appliance only to an agency listed vent system.
12. Do adjust the air shutter as required to produce the proper flame as described in this manual.
13. Do keep the area around the appliance clear and free from combustible materials, gasoline and other flammable vapors and liquids.
14. Do follow the lighting and operation procedures given in this manual.
15. Do periodically inspect the pilot and burner flame as described in the maintenance section of this manual.
16. Do clean the appliance as specified in the maintenance section of this manual.
17. Do provide electrical grounding of appliance in accordance with local codes and/or the National Electric Code ANSI NFPA 70 latest edition.
18. Do inspect the entire venting system at least once a year and replace all parts that show evidence of damage or deterioration.

**DONT'S**

1. Don't modify or alter the appliance cabinet (jacket) in any way.
2. Don't use this appliance on any gas other than the type for which it is equipped. The type of gas for which the appliance was equipped at the factory is stamped on the rating plate located on the bottom of the appliance.
3. Don't install the appliance in areas where gasoline or any flammable liquefied or any explosive materials may be used or stored.
4. Don't obstruct the flow of air for combustion and ventilation into or away from the appliance at any time.
5. Don't use this appliance if any part 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 which has been under water.
6. Don't operate this appliance without proper electrical grounding according to local codes or the National Electric Code ANSI NFPA 70 latest edition.
7. Don't operate this appliance without a proper vent.
8. Don't connect this appliance to a chimney flue serving a solid fuel burning appliance.
9. Don't use thermostat or automatic burner cycling devices.

# REPLACEMENT PARTS



Ref.	Description	Qty.	Part No.
1.	Twig, Top	1	074270
2.	Twig, End	1	074269
3.	Twig, Front Y	1	074268
4.	Log, Back	1	074266
5.	Log, Front	1	074265
6.	Log, Middle	1	074267
7.	Front Door Assy	2	069484
8.	Handle Package	1	037438
9.	End Door Assy	2	069485
10.	Hearth Pan Ptd.	1	071584
11.	Burner Assy	1	071459
12.	Access Panel Ptd.	1	071585
13.	Hearth Pan Edge Short Ptd.	2	071567
14.	Hearth Pan Edge Long Ptd.	2	071568
15.	Radiation Shield Assy	1	070945
16.	Transition Section	1	070989
17.	Gas Control Assy EI	1	0776220
18.	Gas Control Assy Nat.	1	076673
19.	Limit Switch	1	071589

While MHSC has made every reasonable effort to ensure this appliance operates properly and satisfactorily, sometimes problems do arise. The following troubleshooting chart lists several problems with their probable cause and remedy. Any adjustments and/or replacements must be by a qualified person. Do not replace any component with a different type. Use only components supplied by the manufacturer for this appliance.

<b>Problem</b>	<b>Probable Cause</b>	<b>Remedy</b>
Flame too large	<ol style="list-style-type: none"> <li>1. Pressure regulator set too high</li> <li>2. Defective regulator</li> <li>3. Burner orifice too large</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset, using manometer</li> <li>2. Replace</li> <li>3. Replace with correct size</li> </ol>
Noisy flame	<ol style="list-style-type: none"> <li>1. Too much primary air</li> <li>2. Noisy pilot</li> <li>3. Burr in orifice</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust air shutters</li> <li>2. Reduce pilot gas</li> <li>3. Remove burr or replace</li> </ol>
Yellow or excessive flame	<ol style="list-style-type: none"> <li>1. Too little primary air</li> <li>2. Clogged burner ports</li> <li>3. Misaligned orifices</li> <li>4. Clogged vent system</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust air shutter</li> <li>2. Clean ports</li> <li>3. Realign or replace burner</li> <li>4. Clean</li> </ol>
Floating flame	<ol style="list-style-type: none"> <li>1. Blocked venting</li> <li>2. Insufficient primary air</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean</li> <li>2. Adjust air shutter</li> </ol>
Delayed ignition	<ol style="list-style-type: none"> <li>1. Improper pilot location</li> <li>2. Pilot flame too small</li> <li>3. Burner ports clogged</li> <li>4. Low pressure</li> </ol>	<ol style="list-style-type: none"> <li>1. Reposition pilot</li> <li>2. Check orifice, increase gas</li> <li>3. Clean ports</li> <li>4. Adjust pressure regulator</li> </ol>
Failure to ignite	<ol style="list-style-type: none"> <li>1. Main gas off</li> <li>2. Defect in gas valve</li> </ol>	<ol style="list-style-type: none"> <li>1. Open manual valve</li> <li>2. Replace</li> </ol>
Burner won't turn off	<ol style="list-style-type: none"> <li>1. Defective auto valve</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean or replace</li> </ol>
Burner won't turn on	<ol style="list-style-type: none"> <li>1. Defective auto valve</li> <li>2. Defective thermocouple</li> <li>3. Defective switch</li> <li>4. Defective auto pilot valve</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace</li> <li>2. Replace</li> <li>3. Repair or replace</li> <li>4. Replace</li> </ol>
Burner & pilot flame go out	<ol style="list-style-type: none"> <li>1. Poorly functioning vent system</li> <li>2. Gas supply interrupted</li> <li>3. Defective thermocouple or control</li> </ol>	<ol style="list-style-type: none"> <li>1. If pilot can be relit but main burner &amp; pilot go off after ignition, have vent system checked and corrected immediately</li> <li>2. Try relighting pilot and main burner. If pilot won't relight, check thermocouple and control</li> <li>3. Replace</li> </ol>

# 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 five (5) years to the original owner, subject to proof of purchase; Ceramic Fiber Logs.

## BASIC WARRANTY

MHSC warrants the components and materials in your gas appliance to be free from manufacturing and material defects for a period of two (2) years 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 two (2) years from date of installation. Any products presented for warranty repair must be accompanied by a dated proof of purchase.

This Limited Lifetime 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, alterations, negligence of others, including the installation thereof by unqualified installers, (2) the cost 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 liabilities in connection with 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 damage, those limitations of exclusions may not apply to you. You may also have additional rights not covered in the Limited Lifetime Warranty.

MHSC reserves the right to investigate any and all claims against the Limited Lifetime 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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