

SP - 41 - LE
SP - 41 - MV

Models #SP-41-LE & #SP-41-MV
Direct Vent Gas Fireplaces

English and French installation manuals are available through your local dealer. Visit our website www.kozyheat.com.

Les manuels d'installation en français et en anglais sont disponibles chez votre détaillant local. Visitez www.kozyheat.com.



▲ WARNING:
FIRE OR EXPLOSION HAZARD
Failure to follow safety warnings exactly could result in serious injury, death, or property damage.

- 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.
 - Leave the building immediately.
 - 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 appliance may be installed in an aftermarket, permanently located, manufactured home (USA only) or 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, unless a certified kit is used.

! DANGER



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

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.

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

CONGRATULATIONS!

We welcome you as a new owner of a Kozy Heat gas fireplace. Kozy Heat products are designed with superior components and materials, and assembled by trained craftsmen who take pride in their work. To ensure you receive a quality product, the burner and valve assembly are 100 percent test-fired, and the complete fireplace is thoroughly inspected before packaging. Our commitment to quality and customer satisfaction has remained the same for over 40 years. We offer a complete line of gas and wood fireplaces, along with stylish accessories to complement any decor. Adding a fireplace is one of the best ways to increase the value of your home, and we are proud to offer a network of dealers throughout the country to help make your experience everything you imagine. We pride ourselves in being dedicated not only to functionality and reliability, but also customer safety. We offer our continual support and guidance to help you achieve the maximum benefit and enjoyment from your Kozy Heat gas fireplace.

Jim Hussong
President



Dudley Hussong
Board Chairman



Read this manual before installing or operating this appliance.
Please retain this owner's manual for future reference.

Homeowner Reference Information

We recommend you record the following information:

Model Name: _____

Date purchased/installed: _____

Serial Number: _____

Location of fireplace: _____

Dealership Purchased from: _____

Dealer phone: _____

Notes: _____

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1.0 INTRODUCTION

1.1 Appliance Certification

Laboratory: PFS in Cottage Grove, Wisconsin

Standards:

ANSI Z21.88-2017/CSA 2.33-2017, Vented Gas Fireplace Heaters

CSA 2.17 2017, Gas-Fired Appliances for Use at High Altitudes

This installation must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1.

1.2 California Proposition 65 Warning

WARNING: This product can expose you to chemicals including Carbon Monoxide, that is an externally vented by-product of fuel combustion, which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov.

1.3 Requirements for the Commonwealth of Massachusetts

The following requirements reference various Massachusetts and national codes not contained in this manual.

For all sidewall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

1.3.1 Installation of Carbon Monoxide Detectors

At time of installation of side wall horizontally vented gas fueled equipment, the installing plumber or gas-fitter shall observe that a hard wired carbon monoxide detector with an alarm and battery back-up is installed on the floor level where the gas equipment is to be installed. In addition, the installing plumber or gas-fitter shall observe that a battery operated or hard wired carbon monoxide detector is installed on each additional level of the dwelling, building or structure served by the side wall horizontal vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors.

In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level. In the event that the requirements of this subdivision can not be met at the time of completion of installation, the owner shall have a period of thirty (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

1.3.2 Approved Carbon Monoxide Detectors

Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and be ANSI/UL 2034 listed and IAS certified.

1.3.3 Signage

A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum of eight (8) feet above grade directly in line with the exhaust vent terminal for the horizontally vented gas fueled heating appliance or equipment. The sign shall read, in print no less the one-half inch (½) in size, "GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS".

1.3.4 Inspection

The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspection, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CMR 5.08 (2) (a) 1 through 4.

1.3.5 Exemptions

The following equipment is exempt from 248 CMR 5.08 (2) (a) 1 through 4: The equipment listed in Chapter 10 entitled "Equipment Not Required To Be Vented" in the most current edition of NFPA 54 as adopted by the Board; and Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.

1.3.6 Manufacturer Requirements

1.3.6.1 Gas Equipment Venting System Provided

When the manufacturer of Product Approved side wall horizontally vented gas equipment provides a venting system design or venting system components with the equipment, the instructions provided by the manufacturer for installation of the equipment and the venting system shall include:

- Detailed instructions for the installation of the venting system design or the venting system components; and
- A complete parts list for the venting system design or venting system.

1.3.7 Gas Equipment Venting System NOT Provided

When the manufacturer of Product Approved side wall horizontally vented gas equipment does not provide the parts for venting the flue gases, but identifies "special venting systems", the following requirements shall be satisfied by the manufacturer:

- The referenced "special venting systems" instructions shall be included with the appliance or equipment installation instructions and;
- The "special venting systems" shall be Product Approved by the Board, and the instructions for that system shall include a parts list and detailed installation instructions.

A copy of all installation instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions, and/or all venting design instructions shall remain with the appliance or equipment at the completion of the installation.

2.0 SPECIFICATIONS

2.1 Heating Specifications

	Natural Gas	Propane
Maximum Input Rating	28,000 Btu/h (8.2 kW)	28,000 Btu/h (8.2 kW)
Minimum Input Rating	14,000 Btu/h (4.1 kW)	14,000 Btu/h (4.1 kW)
Manifold Pressure (High)	3.5" WC (0.87 kPa)	11" WC (2.74 kPa)
Manifold Pressure (Low)	1.6" WC (0.40 kPa)	6.4" WC (1.59 kPa)
Orifice Size (DMS)	#41	#53

2.1.1 Altitude Adjustment

This appliance may be installed at higher altitudes. Please refer to National Fuel Gas Code ANSI Z223.1/NFPA 54, CSA-B149.1 Natural Gas and Propane Installation Code, local authorities, or codes having jurisdiction in your area regarding derate guidelines.

2.1.1.1 US Installations

Refer to the American Gas Association guidelines for the gas designed appliances derating method. For elevations above 2,000' (610m), input ratings are to be reduced by 4% for each 1,000' (305m) above sea level.

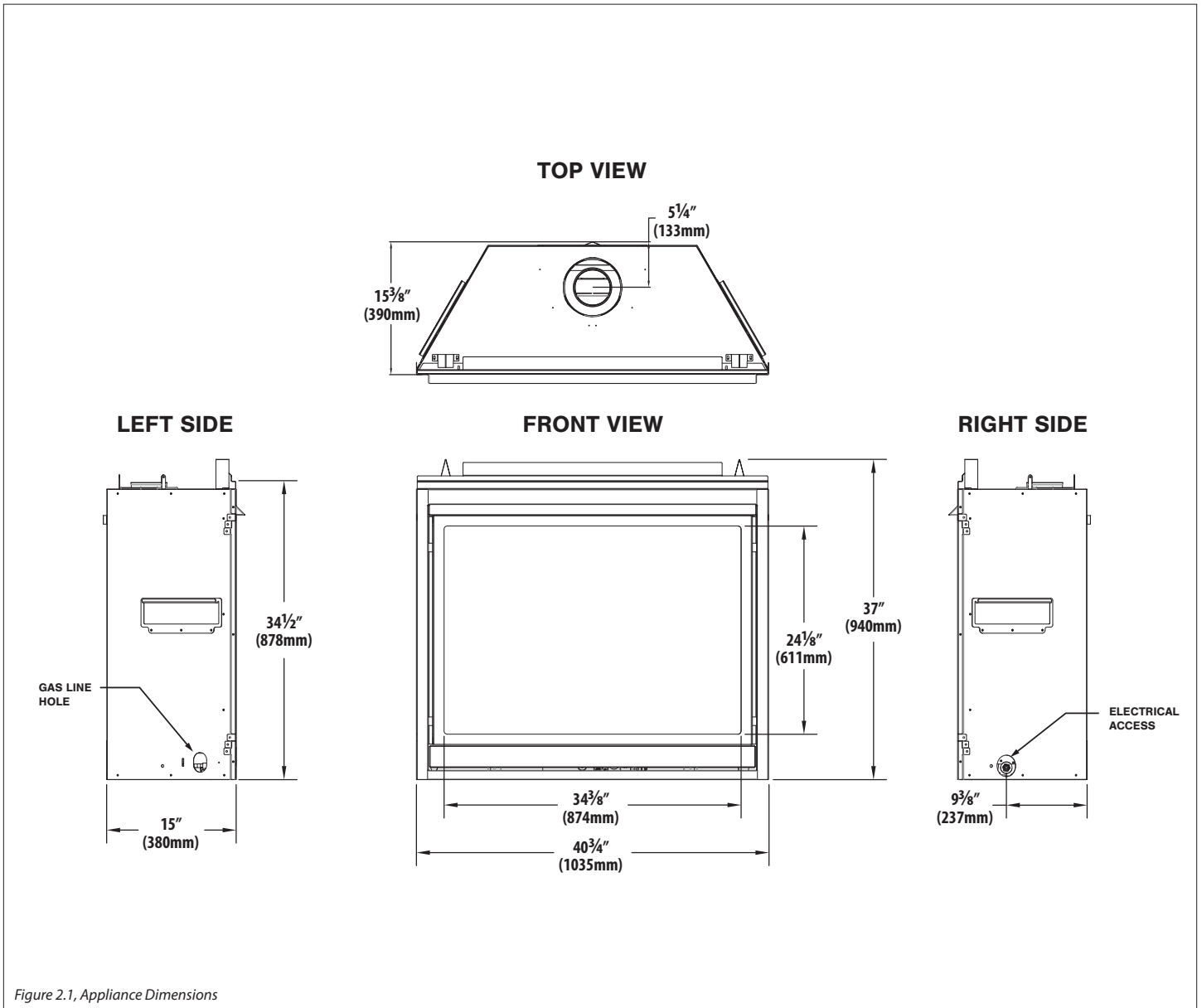
2.1.1.2 Canadian Installations

When the appliance is installed at elevations above 4,500' (1,372m), the certified high altitude rating shall be reduced at the rate of 4% for each additional 1,000' (305m).

2.2 Electrical Specifications

- The junction box in this appliance requires 120VAC, 60Hz, and 6 Amps.
- Verify the household breaker is shut off prior to working on any electrical lines.
- The AC power supply to this appliance must be hot at all times and shall not have a switch installed in it.

2.3 Appliance Dimensions



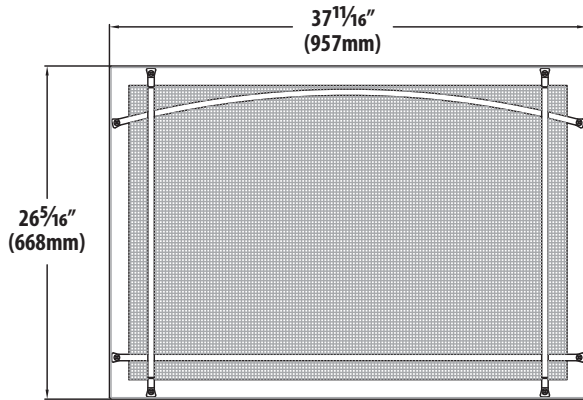
2.4 Safety Barrier Dimensions

WARNING: A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.

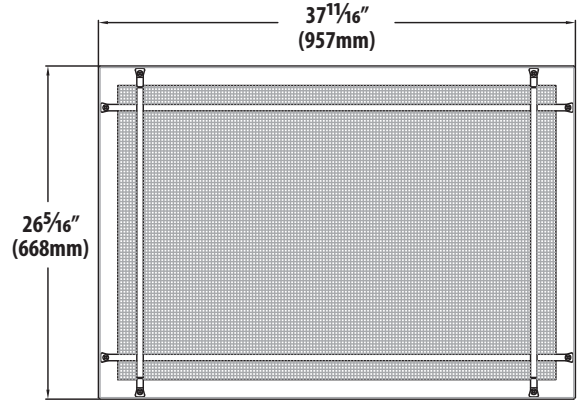
If the barrier becomes damaged, the barrier shall be replaced with Hussong Mfg.'s barriers for this appliance.

IMPORTANT: Consider the height of hearth finish material when building a fireplace platform. Proper installation of overlays require the bottom of the fireplace to be level with finished hearth.

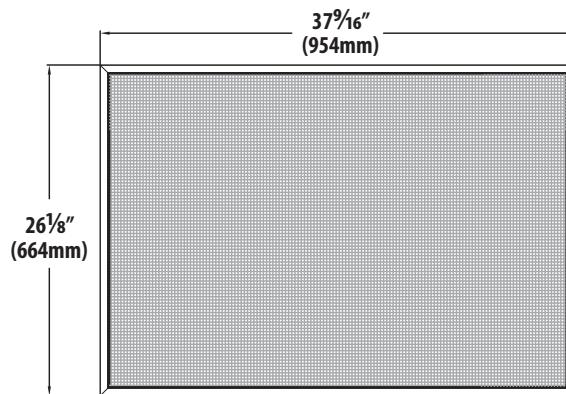
Please refer to Section 4.2 Safety Barrier Installation on page 20 for installation instructions.



SP41A-POL



SP41-POL



SP41-SCR

3.0 FRAMING

3.1 Appliance Placement Considerations

WARNING: Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

FIRE HAZARD: Do NOT install this appliance directly on carpeting, vinyl, or any other combustible material other than wood.

- This appliance must be installed on a level surface capable of supporting the fireplace and venting.
- Determine the exact position of your fireplace. Consider the hearth width, height, and depth (if applicable) for your installation.
- If possible, place the fireplace in a position where the vent terminates between two studs, eliminating the need for any additional framing.
- Please be aware of the large amount of heat this fireplace will produce when determining a location.

3.2 Floor Support and Protection

- Floor protection in front of the fireplace is not required. Combustible material may be used if installing a hearth extension. Consider the thickness of the hearth extension finishing material if building a fireplace platform. The bottom of the fireplace must be level with finished hearth extension for proper fit of an overlay (optional).
- If this appliance is to be installed directly on carpeting, tile, or other combustible material other than wood flooring, this appliance shall be installed on a metal or wood panel extending the full width and depth of the appliance.
- If the appliance is to be installed above floor level, a solid, continuous platform must be constructed below the appliance.

3.3 Stand-off Assembly and Installation

WARNING: The top stand-offs brackets provide the required minimum clearance to the header. The 1" (25mm) top stand-off flange accommodates 1/2" (12mm) combustible facing material (sheetrock). The clearance to header must be maintained.

Top stand-off brackets must be formed and attached prior to positioning fireplace into framed opening.

1. Remove and save (4) screws securing the stand-off brackets on top of the fireplace.
2. Form each stand-off bracket by bending at perforations, as shown.
3. Align the holes in the formed stand-off brackets with the holes on top of the fireplace. Secure with (4) screws previously removed.

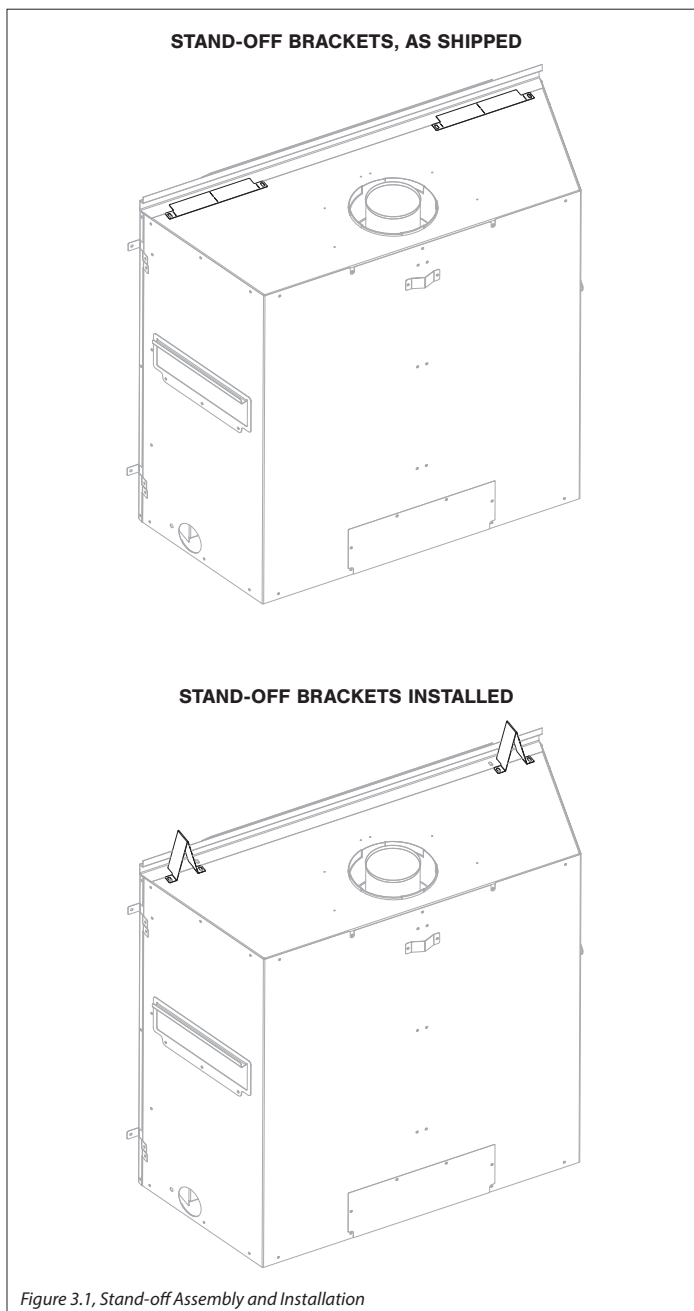


Figure 3.1, Stand-off Assembly and Installation

3.4 Nailing Tabs Installation

NOTE: The nailing tabs on both sides of the appliance allow installations for a flush mount, 1/2" (13mm) facing material, or 5/8" (16mm) facing material.

CAUTION: Never permanently remove these assemblies from the fireplace—they must be secured regardless of finish material used.

1. Locate the nailing tabs on the right and left sides of the fireplace necessary to accommodate the thickness of your facing material.
2. Bend out the (4) nailing tabs until parallel with fireplace face. Do not bend toward fireplace face.
3. When installing, center the fireplace in the rough opening to allow for the minimum 1/4" (6mm) clearance from the appliance corners.
4. Secure the appliance to the framing studs by using nails or screws through the nailing tabs.

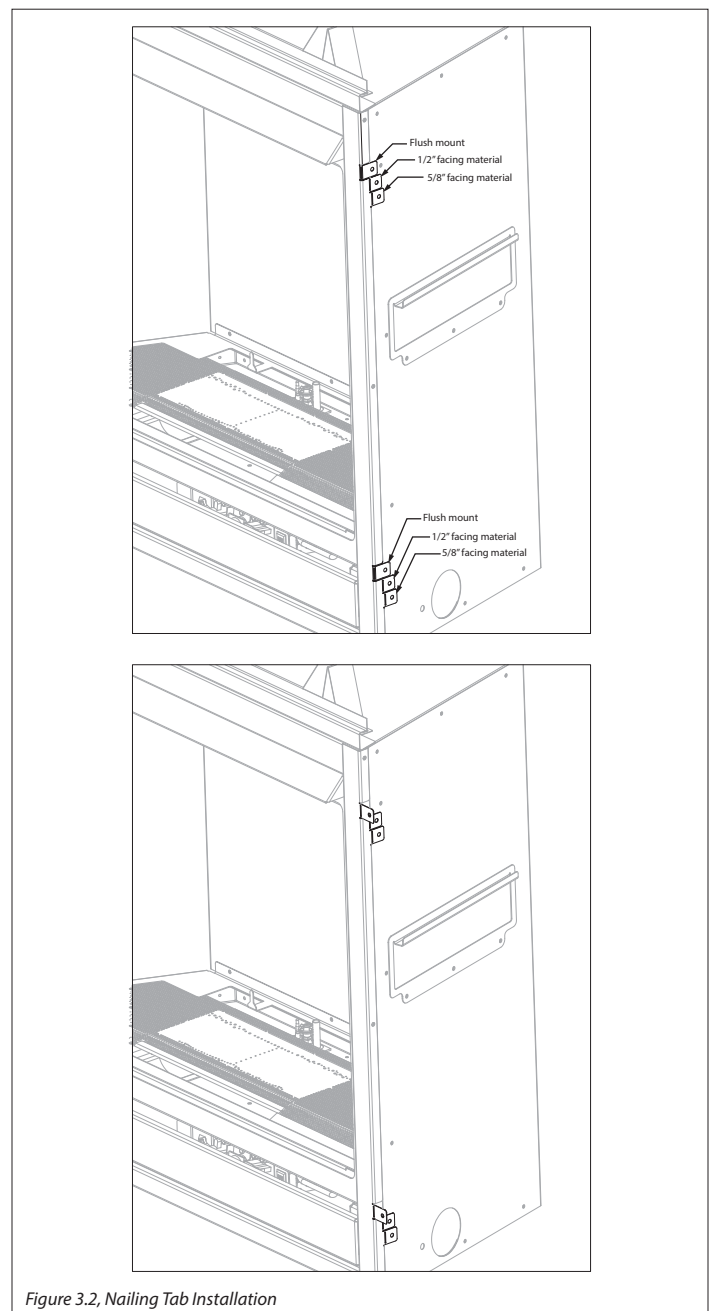


Figure 3.2, Nailing Tab Installation

3.5 Clearances to Combustibles

<i>Table 3.1, Minimum Appliance Clearances to Combustible Material</i>		
From appliance top stand-offs	0"	0mm
From facing material 1" (25mm) stand-off flange	0"	0mm
From appliance back stand-offs	0"	0mm
From appliance corners	1/4"	6mm
From appliance front	36"	914mm
From appliance top to ceiling	25"	653mm
A 45° projection from appliance sides	0"	0mm
Appliance sides to adjacent sidewall	4-1/2"	114mm
Fireplace enclosure floor to 3/4" (19mm) trim	37-1/8"	943mm
Mantel 6" (152mm) deep from fireplace enclosure floor	40-1/2"	1030mm
Minimum height of fireplace enclosure	47-1/4"	1200mm
Minimum width of fireplace enclosure	41"	1040mm
Minimum depth of fireplace enclosure	15-1/2"	393mm

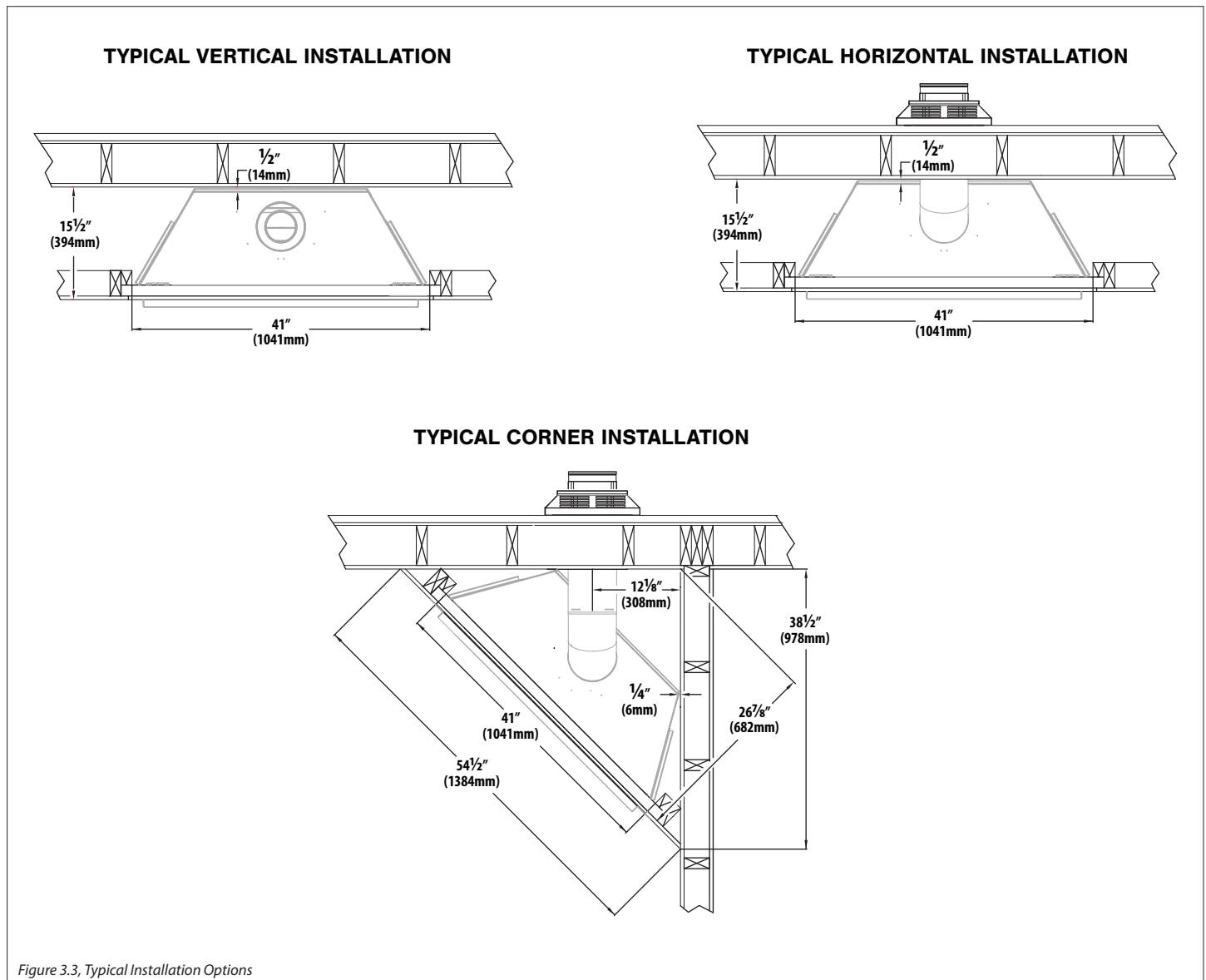


Figure 3.3, Typical Installation Options

3.6 Wall Enclosure Rough Opening

WARNING: Provide adequate clearance in front of the fireplace for barrier removal, component access, gas line installation, service access, etc.

NOTE: The construction of the fireplace wall enclosure must comply with local building codes and all clearances as outlined in this manual.

NOTE: Cold air transfer area. The fireplace wall enclosure should be constructed in a manner to prevent cold air from entering the room and outside walls should be insulated.

- Framing dimensions should allow for wall covering thickness and fireplace facing materials. If using a hearth, adjust the rough opening size as necessary to maintain minimum clearance requirements.
- For minimum horizontal vent termination framing, see Section 3.7 Vent Termination Framing on page 15.
- If masonry (optional) is to be used, prepare the foundation necessary for the full masonry load. A lintel must be used over the top of the appliance to support the added weight of the masonry construction above the fireplace.

- If installing optional fan assembly #SP-028, it is easier to install before unit installation. Please refer to Section 9.3 #SP-028 Optional Fan Kit on page 39.

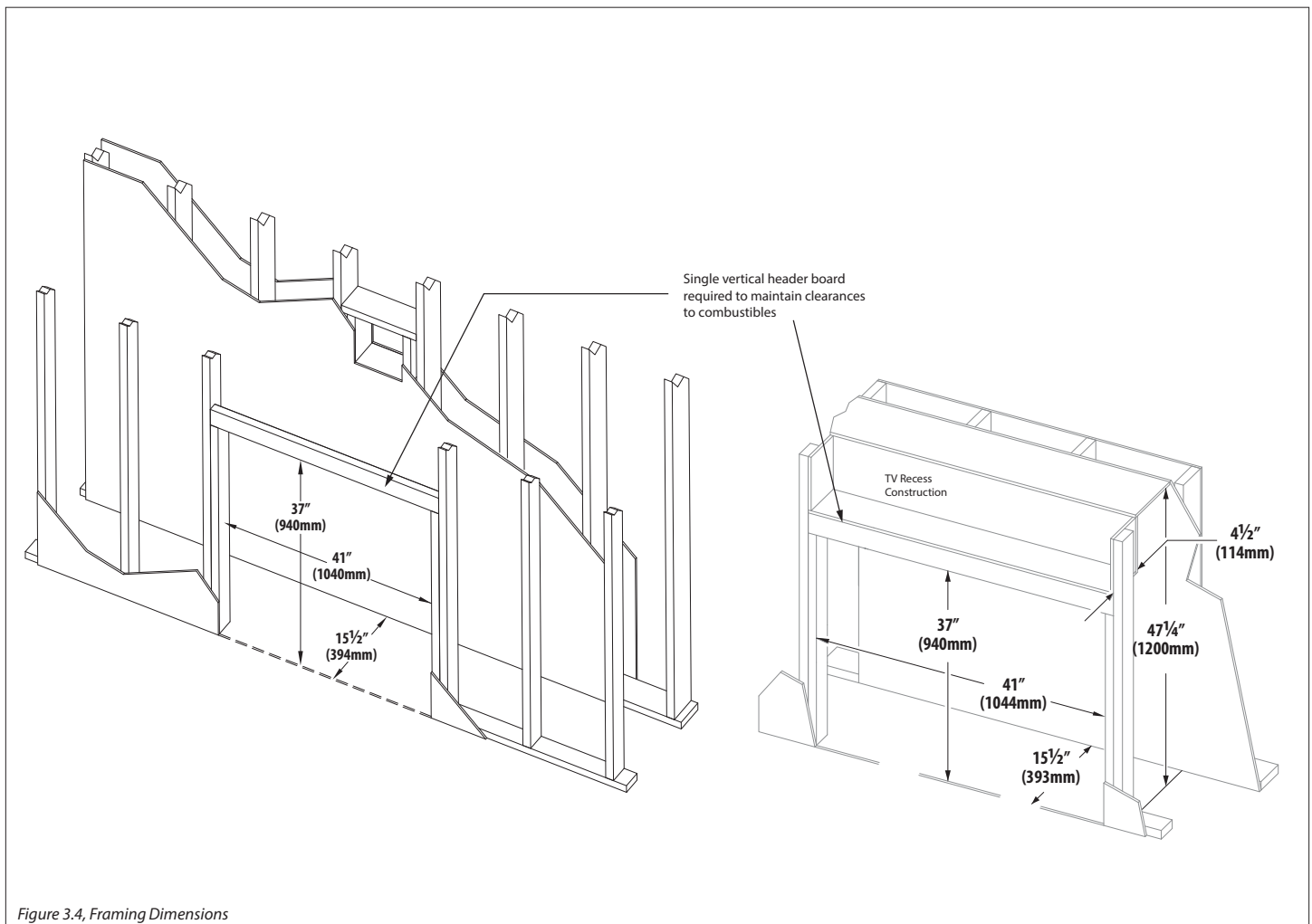
3.6.1.1 TV Recess Construction

WARNING: All clearances to venting must be maintained.

Mounting a television above a fireplace has become a common practice. Television surface temperatures are affected by mantel depth, ceiling heights, and wall and mantel construction material. Most television manufacturers specify in their instructions that a television should not be installed on, near, or above a heat source.

Television location rests solely on the homeowner. It is the homeowner's responsibility that the preferred TV mounting and mantel design will not exceed the listed maximum operation temperature of their electronic goods.

Tests performed determined that surface temperatures did not exceed 150°F (66°C) when a 4¼" (108mm) deep recess is constructed above the fireplace. See illustration below.



3.7 Vent Termination Framing

IMPORTANT: Vent cap location must be in compliance with Section 6.2 Minimum Termination Clearances on page 23.

WARNING: DO NOT RECESS THE VENT CAP INTO WALL OR SIDING.

3.7.1 Vertical Terminations

- Follow vent pipe manufacturer’s installation instructions for vertical terminations.
- A minimum of 1” (25mm) clearance on all sides of the vertical vent pipe must be maintained.
- Attic insulation shields may be insulated using unfaced insulation products listed as non-combustible per ASTM E 136.

3.7.2 Horizontal Terminations

IMPORTANT: Horizontal vent sections require 1/4” (6mm) rise for every 12” (305mm) of travel.

NOTE: Elbows listed with approved vent systems for this appliance vary in vertical length. Please consult the vent manufacturer’s instructions to determine the elbow dimension used for installation. Adjust the wall pass-through rough opening dimensions as necessary to maintain clearance requirements.

IMPORTANT - METAL FAB VENT SYSTEM: When installing Metal Fab vent pipe, adapter #4DDA must be used off the top of the appliance. This will increase the minimum height for the center of the vent pipe by 3-3/4” (95mm) when framing the wall pass through.

- A minimum of 1” (25mm) clearance on the top, sides, and bottom of the horizontal vent pipes must be maintained.

1. Measure from floor level of the fireplace to the center of where the vent pipe will penetrate the wall. Elbows listed with approved vent systems for this appliance vary in vertical length. Please consult the vent manufacturer’s instructions to determine the elbow dimension used for installation. Adjust the wall pass-through rough opening dimensions as necessary to maintain clearance requirements.
2. Cut and frame an opening in the wall to allow the vent system to run level through the wall pass-through.
3. Follow the vent pipe manufacturer’s installation instructions for vent installation.

3.7.2.1 Wall Pass Through Information and Framing

Kozy Heat’s #700-WPT, or wall thimble products that comply with the required 1” (25mm) top clearance to combustibles, must be installed for all horizontal vent runs that pass through interior or exterior walls. These wall thimble products must be insulated using unfaced insulation products listed as noncombustible per ASTM E 136. See Section 7.8.2 Insulating a Wall Pass Through on page 31.

- Rigid pipe dimensions are tested with listed Simpson DuraVent 4” x 6-5/8” coaxial pipe venting system ONLY.
- Flexible pipe framing dimensions are tested with Kozy Heat #700-2 Series Flexible Vent System. See the drawing below.

Wall Thickness..... Part Number
 4” (101mm) to 6½” (165mm)..... #700-WPT

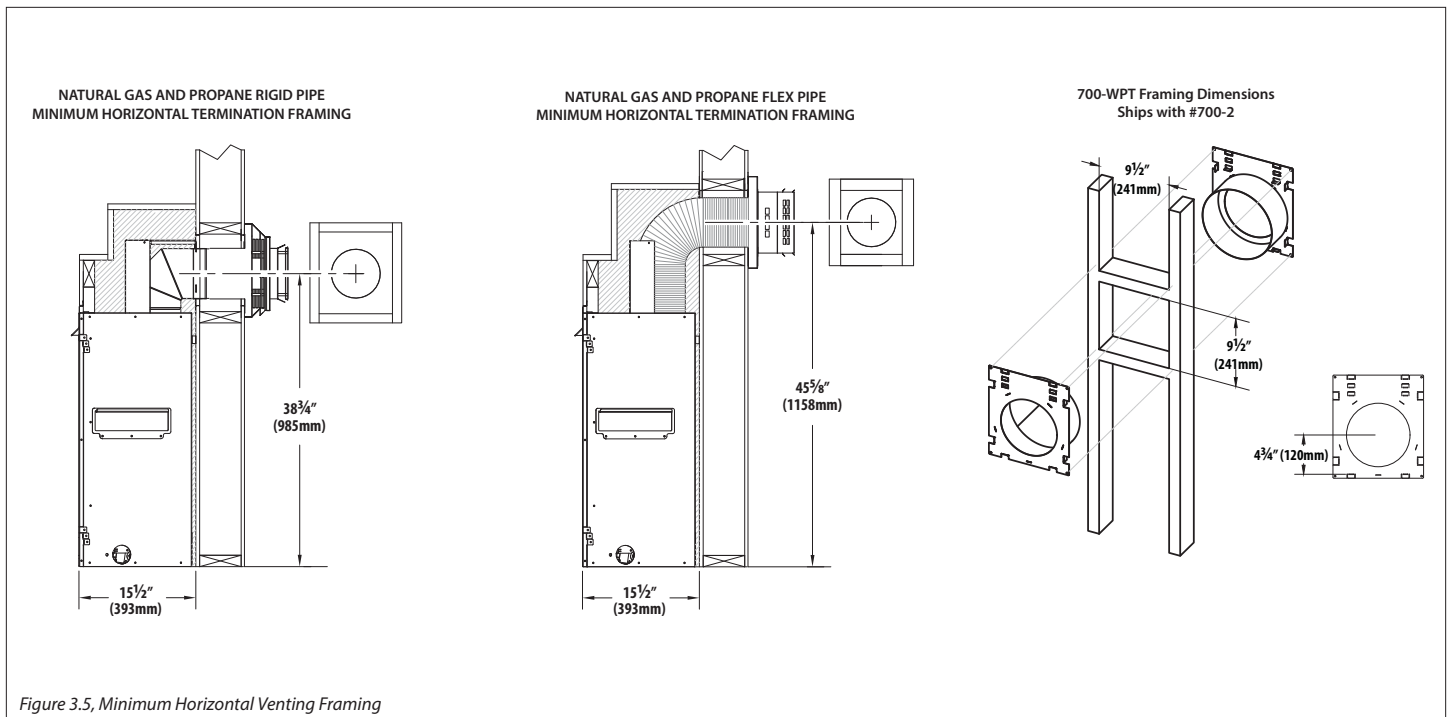


Figure 3.5, Minimum Horizontal Venting Framing

3.8 Outdoor Covered Fireplace Installation

A outdoor covered fireplace installation allows a fireplace to be installed in an outdoor covered area, where the appliance is protected from direct precipitation.

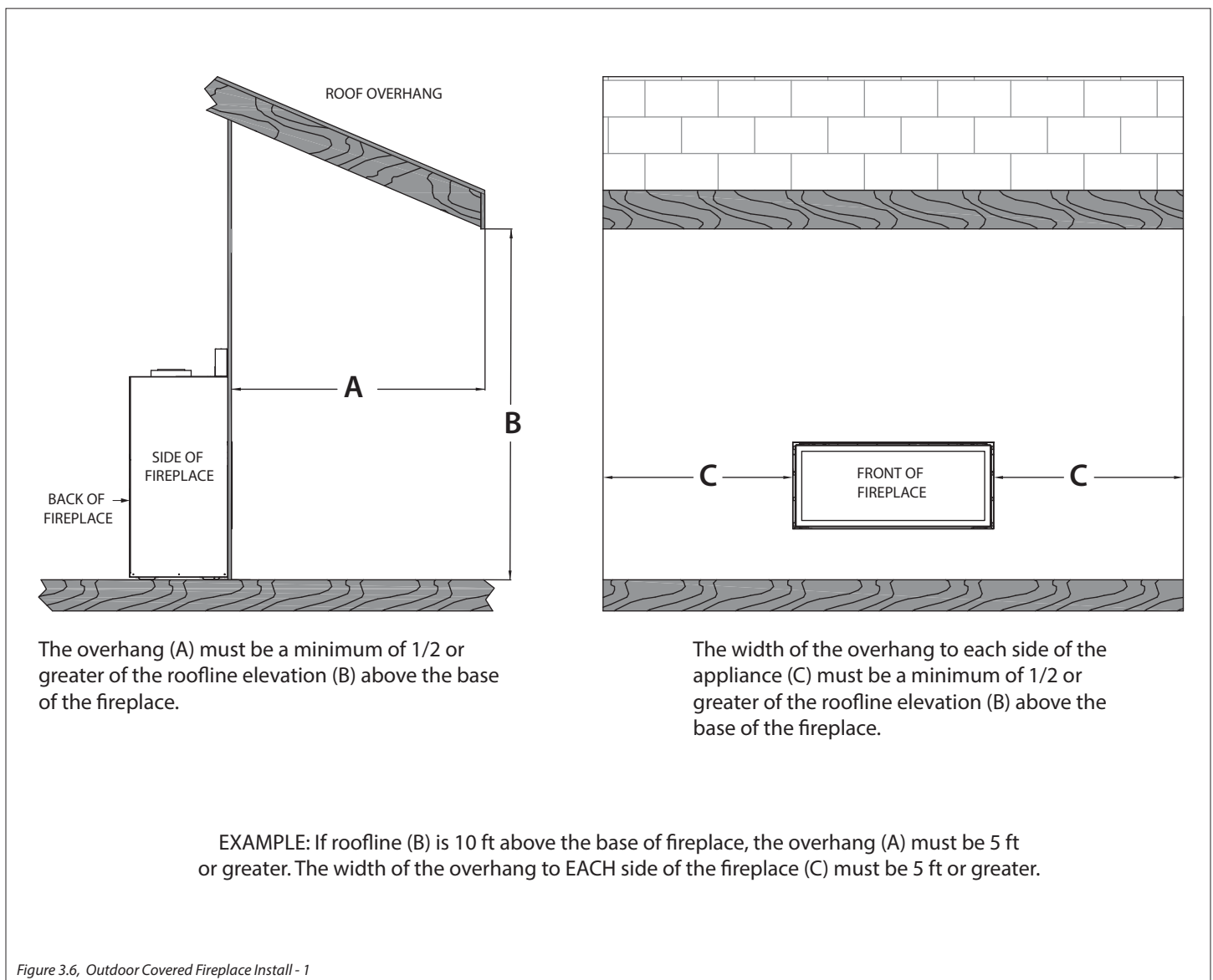
Follow the instructions and illustrations in this section for installation procedures.

3.8.1 Safety Screen Barriers

Hussong Mfg. highly recommends to use black painted safety barriers in outdoor installations. Other screen barriers that incorporate a plated or patina finish are highly susceptible to oxidation and discoloration.

3.8.2 Requirements

- The continuous insulated building envelope and weatherproof membrane are not to be interrupted by fireplace installation. See Figure 3.8 on the following page.
- Fireplace operation is approved from 40°F to 110°F.
- All wiring connections shall be in accordance with outdoor requirements of NECA NFPA 70.
- All clearances and requirements in your appliance manual must be adhered to.



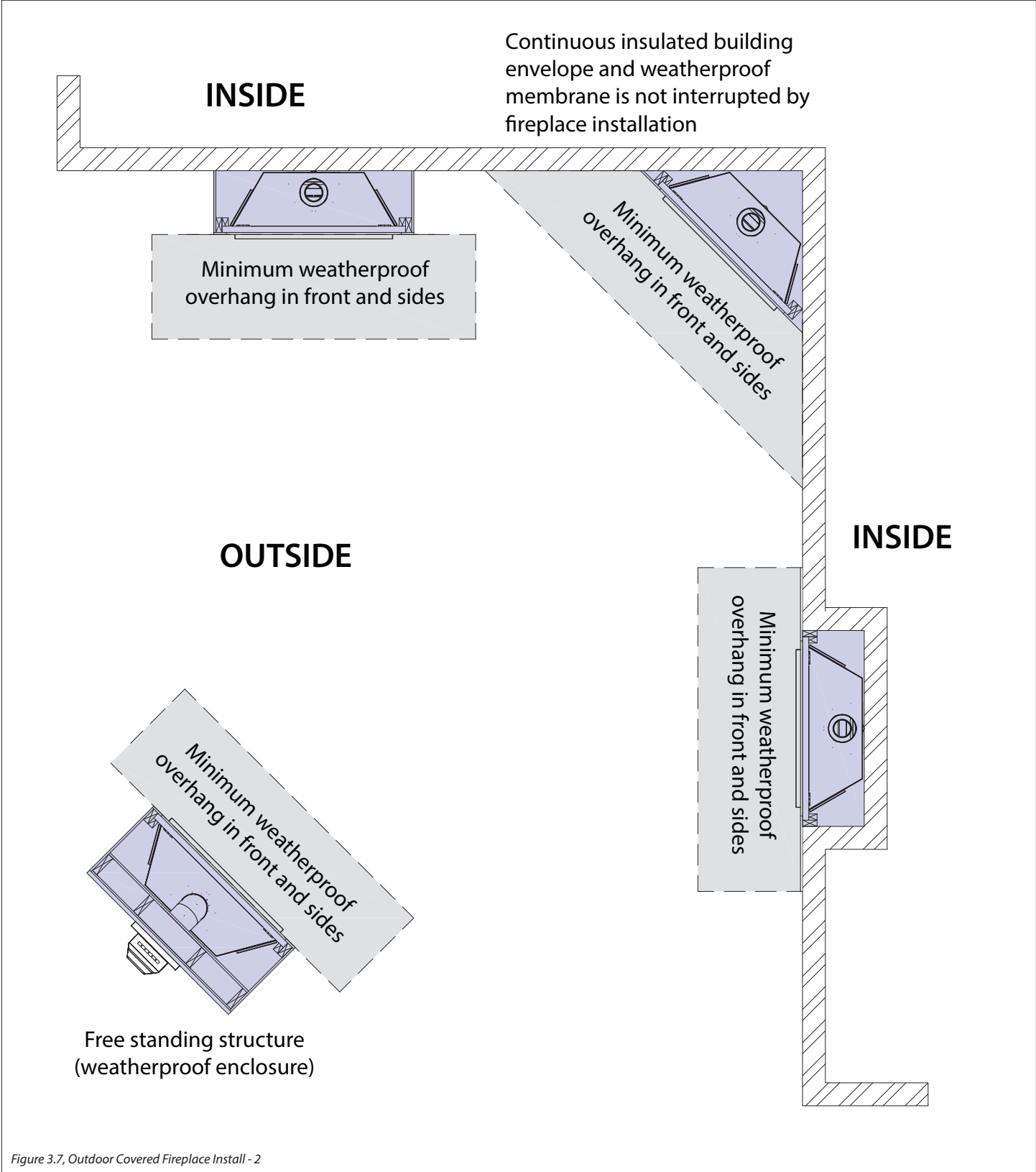


Figure 3.7, Outdoor Covered Fireplace Install - 2

4.0 FACING AND FINISHING

4.1 Facing and Finishing Requirements

4.1.1 Mantel Requirements

WARNING: All minimum clearances to combustible material **MUST** be maintained.

Combustible Mantel Projections: As referenced in Figure 4.1, the 3/4" (19mm) trim can start at 37-1/8" (943mm) above the fireplace enclosure floor with a 6" (152mm) mantel starting at 40-1/2" (1030mm) above the fireplace enclosure floor. Mantel projections can increase 1" (25mm) of depth for every 1" (25mm) of height starting at the 6" (152mm) mantel.

Non-combustible Mantel Projections: A minimum vertical clearance of 6" (152mm) above the appliance to a maximum 6" (152mm) depth of a non-combustible mantel. Follow projection 1" (25mm) up for every 1" (25mm) deeper.

4.1.2 Adjacent Sidewall Requirements

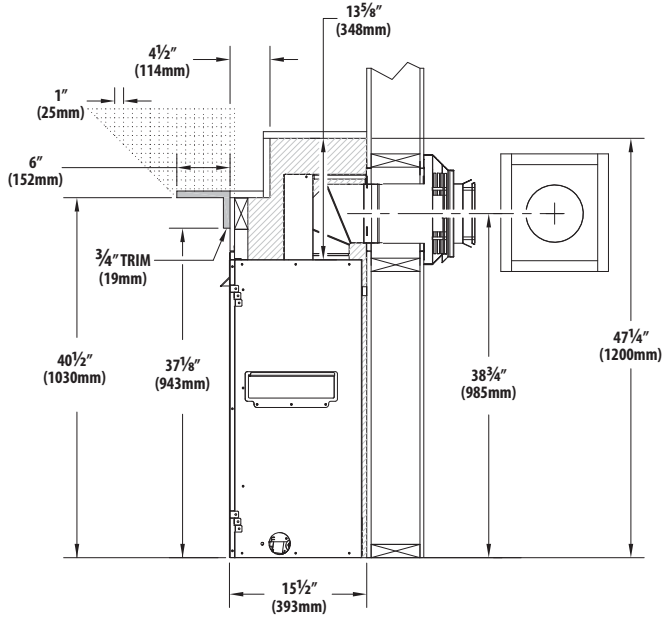
- The adjacent sidewall must be 4-1/2" (114mm) from the appliance sides.

4.1.3 Finishing Recommendations

NOTE: The surface area above the appliance may be affected by high temperatures emitted from this appliance. To help avoid or reduce the possibility of the sheetrock to crack, Hussong Mfg. recommends the following methods:

- Ensure the non-combustible material and sheetrock is dry and dust free.
- For taping and mudding seams, we recommend heat resilient tape, mesh and joint compounds, such as Durabond. Mud must be cured as per manufacturer's recommendations.
- For a painted surface, use a high quality acrylic latex primer and finish coat. Avoid flat or light-colored paints to prevent discoloring.

CLEARANCES TO COMBUSTIBLES - RIGID PIPE



CLEARANCES TO COMBUSTIBLES - FLEX PIPE

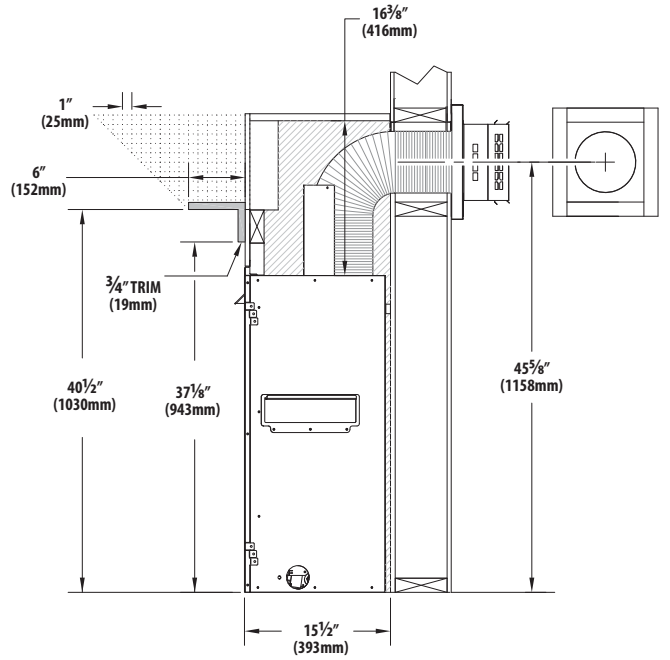


Figure 4.1, Clearances to Combustibles

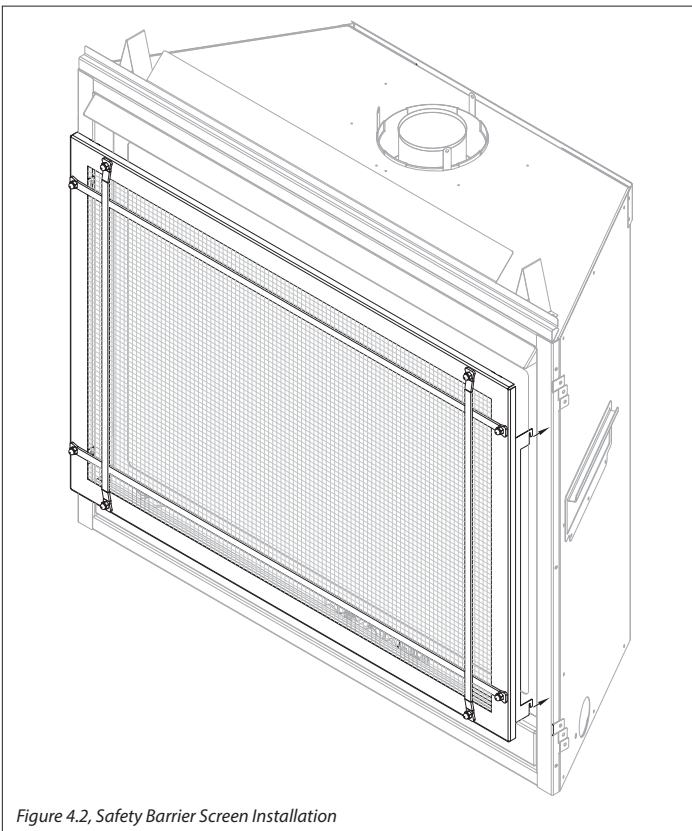
4.2 Safety Barrier Installation

4.2.1 Safety Barrier Screen (#SP41-SCR)

1. Locate the (4) slots located on each side of the fireplace frame.
 2. Align the notched tabs located on the back of the safety screen with the slots on the fireplace frame.
 3. Raise the safety screen front slightly into slots and allow the tabs to lower into position.
- To remove safety screen: lift the screen up and out of slots.

4.2.2 Overlay Designs (#SP41-POL & #SP41A-POL)

1. If installed, remove the safety barrier screen.
 2. Center the overlay over the safety screen.
 3. Locate the (4) tabs on the overlay. Hand bend tabs to secure the overlay to the safety screen front.
 4. Locate the (4) slots located on each side of the fireplace frame.
 5. Align the notched tabs located on the back of the safety screen with the slots on the fireplace frame.
 6. Raise the safety barrier slightly into slots and allow the tabs to lower into position.
- To remove safety barrier and overlay: lift the screen up and out of slots.



5.0 GAS LINE CONNECTION

5.1 Gas Conversion (sold separately)

ATTENTION: The conversion shall be carried out in accordance with the requirements of the provincial authorities having jurisdiction and in accordance with the requirements of the ANSI Z223.1 installation code.

This fireplace is manufactured for use with natural gas. Follow the instructions included with the conversion kit if converting to propane.

5.2 Gas Pressures

NOTE: The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of ½ psi (3.5 kPa). For test pressures equal to or less than ½ psi (3.5 kPa), the appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve.

- For high altitude installations, consult the local gas distributor or the authority having jurisdiction for proper rating methods.
- For pressure testing instructions, refer to Section 11.1 Gas Pressure Testing on page 44.

Gas Pressure	Natural Gas	Propane
Minimum Inlet Pressure	5" WC (1.25 kPa) 7" WC (1.74 kPa) <i>recommended</i>	12" WC (2.99 kPa) <i>recommended</i>
Maximum Inlet Pressure	10.5" WC (2.62 kPa)	13" WC (3.24 kPa)

Gas Pressure	Natural Gas	Propane
Minimum Inlet Pressure	5" WC (1.25 kPa) 7" WC (1.74 kPa) <i>recommended</i>	11" WC (2.74 kPa) <i>recommended</i>
Maximum Inlet Pressure	10.5" WC (2.62 kPa)	13" WC (3.24 kPa)

5.3 Gas Line Installation

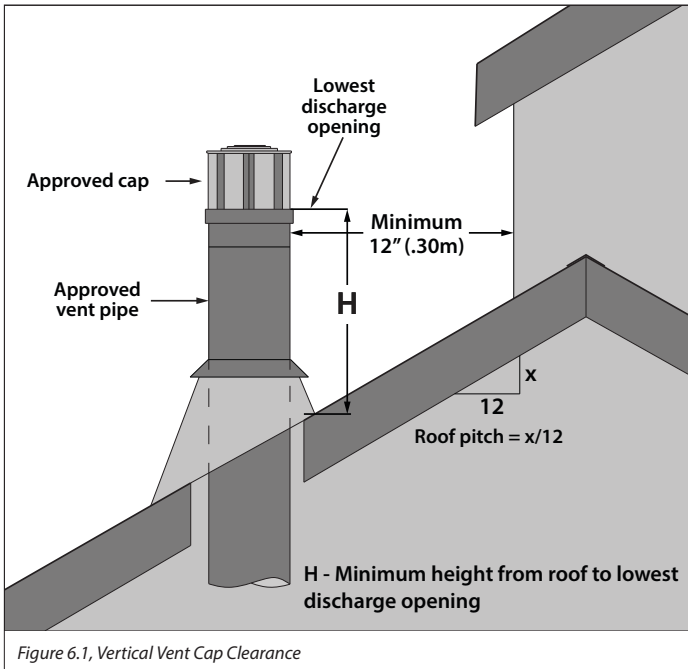
CAUTION: Installation of the gas line must only be done by a qualified person in accordance with local building codes, if any. If not, follow ANSI 223.1. Commonwealth of Massachusetts installations must be done by a licensed plumber or gas fitter.

- A listed (and Commonwealth of Massachusetts approved) ½" (13mm) tee handle manual shut-off valve and flexible gas connector are to be connected to the ½" (13mm) control valve inlet. If substituting for these components, please consult local codes for compliance.
- This fireplace is equipped with a 3/8" (10mm) x 18" (457mm) long flexible gas connector and manual shut-off valve.
- The gas line should be run to the point of connection where the shut-off valve and flexible gas line will connect. See Figure 2.1, Appliance Dimensions on page 9 for gas line access.
- Do not run gas line in a manner that would obstruct fan operation.

6.0 TERMINATION LOCATIONS

6.1 Vertical Vent Cap Termination

WARNING: This gas appliance must not be connected to a chimney serving any other appliance.



Roof Pitch	Minimum height (H) from roof	
	Feet	Meters
Flat to 6/12	1.0	0.30
Over 6/12 to 7/12	1.25	0.38
Over 7/12 to 8/12	1.5	0.46
Over 8/12 to 9/12	2.0	0.61
Over 9/12 to 10/12	2.5	0.76
Over 10/12 to 11/12	3.25	0.99
Over 11/12 to 12/12	4.0	1.22
Over 12/12 to 14/12	5.0	1.52
Over 14/12 to 16/12	6.0	1.83
Over 16/12 to 18/12	7.0	2.13
Over 18/12 to 20/12	7.5	2.27
Over 20/12 to 21/12	8.0	2.44

6.2 Minimum Termination Clearances

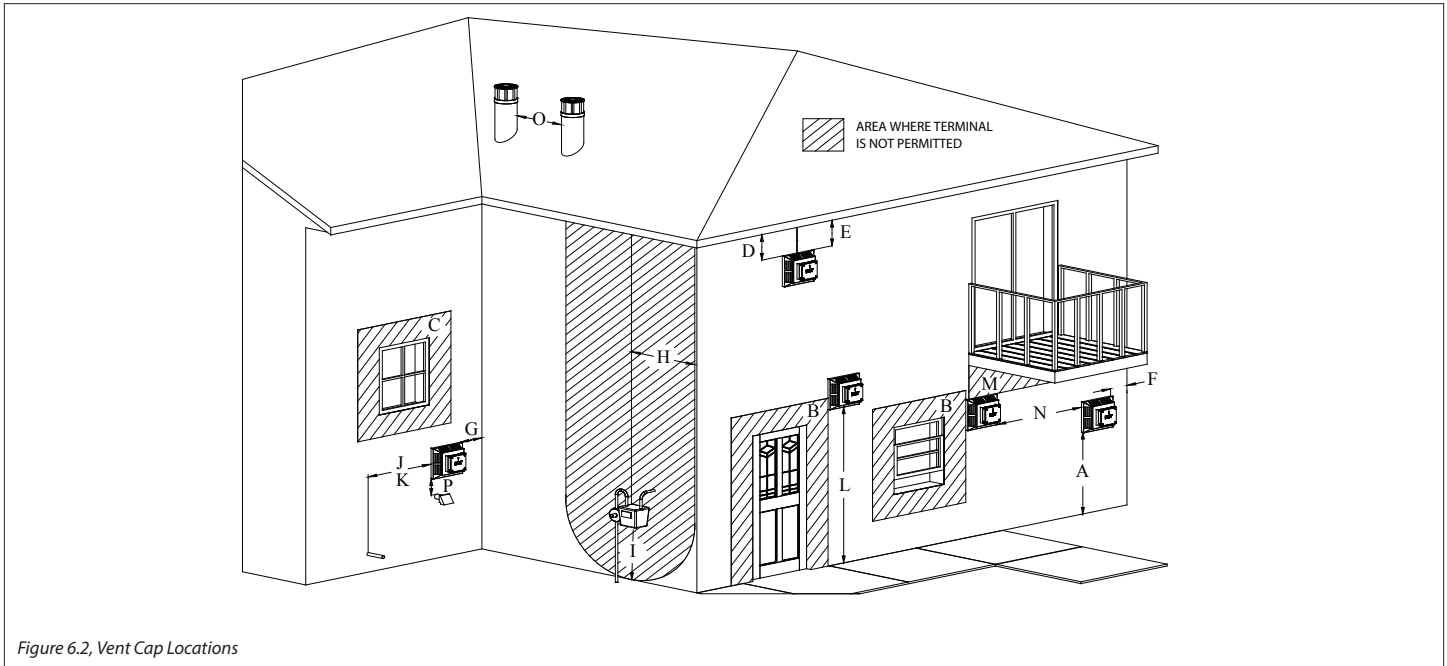


Figure 6.2, Vent Cap Locations

		Canadian installations	US installations
A	Clearance above grade, veranda, porch, deck, or balcony	12" (30cm)	12" (30cm)
B	Clearance to window or door that may be opened	12" (30cm)	9" (23cm)
C	Clearance to permanently closed window (recommended to prevent condensation on window)	12" (30cm)*	12" (30cm)*
D	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (61cm) from the cent line of the terminal	24" (61cm)*	24" (61cm)*
E	Clearance to unventilated soffit	12" (30cm)*	12" (30cm)*
F	Clearance to outside corner	0" (0cm)*	0" (0cm)*
G	Clearance to inside corner	12" (30cm)*	12" (30cm)
H	Clearance to each side of center line extended above meter/regulator assembly	3' (91cm) within a height 15' (4.5m) above the meter/regulator assembly	*
I	Clearance to service regulator vent outlet	3' (91cm)	*
J	Clearance to non mechanical air supply inlet to building or the combustion air inlet to any other appliance	12" (30cm)	9" (23cm)
K	Clearance to mechanical air supply inlet	6' (1.83m)	3' (91cm) above if within 10' (3m) horizontally Massachusetts: 10' (3m)
L	Clearance above paved sidewalk or paved driveway located on public property	7' (2.13m)†	*
M	Clearance under veranda, porch deck, or balcony	12" (30cm)‡	12" (30cm)
N	Clearance between two horizontal terminations	12" (30cm)	12" (30cm)
O	Clearance between two vertical terminations (may be same height)	12" (30cm)	12" (30cm)
P	Above furnace exhaust or inlet	12" (30cm)	12" (30cm)

* Clearance in accordance with local installation codes and the requirements of the gas supplier.

† A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

‡ Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

VINYL SOFFIT, VINYL CEILING, AND VINYL OVERHANG DISCLAIMER: Clearances to heat resistant material (i.e. wood, metal). This does not include vinyl. Hussong Manufacturing Co., Inc. will not be held responsible for heat damage caused from terminating under vinyl overhangs, vinyl ceilings, or vinyl ventilated/unventilated soffits.

7.0 VENTING

7.1 Approved Vent Systems

This appliance is equipped for use with a 4" exhaust by 6-5/8" air intake co-axial vent pipe system.

This appliance is approved for use with Kozy Heat 4" x 7" #700 Series Flexible Direct Vent system (horizontal terminations only). Refer to Section 7.9 #700-2 Series Direct Vent Termination Kit(s) on page 28 for venting components and installation instructions.

This appliance is approved for use with manufacturers (horizontal and vertical terminations): American Metal Products (Ameri-Vent), BDM, ICC, Metal Fab*, Olympia Chimney Supply, Inc., Selkirk, and Simpson DuraVent.

***WHEN INSTALLING METAL FAB VENT SYSTEM** with this appliance an adapter must be used. Use adapter part number 4DDA.

The following termination caps are not allowed: Metal Fab 4DHTE; Olympia VDV-HSC04; Simpson Duravent 46DVA-HRCS, 46DVA-HSC, 46DVA-SNK14, 46DVA-SNK36, 46DVA-H2, 46DVA-H2-SNK14, 46DVA-H2-SNK36.

This appliance can be adapted to use 4" diameter aluminum flexible pipe when used in combination with an existing minimum 7" ID Class A metal chimney. See Section 7.6 Class A Chimney/Masonry Chimney Conversion on page 28

This appliance can be adapter to use 3" x 3" flexible co-linear vent pipes when used in combination with an existing minimum 6" x 8" ID masonry or 7" ID Class A metal chimney. See Section 7.7 Coaxial to Co-Linear Chimney Conversion on page 29

Refer to the vent manufacturer's installation manual for complete installation instructions. Vent installation must conform with venting requirements and restrictions as outlined in this manual.

7.2 Venting Requirements

Consult the local and national installation codes to assure adequate combustion and ventilation air is available. Venting requirements apply to both natural gas and propane.

IMPORTANT: This fireplace horizontal vent installation requires wall pass-through products to be fully lined with unfaced insulation products listed as noncombustible per ASTM E 136. Failure to line wall pass through products for all horizontal vent runs may cause overheating and fire. Refer to Section 7.8.2 Insulating a Wall Pass Through on page 31.

NOTE: Attic insulation shields may be insulated using unfaced insulation products listed as noncombustible per ASTM E 136.

- Flame height and appearance will vary depending upon venting configuration and the type of fuel used.
- Refer to the vent manufacturer's installation manual for complete installation instructions. Vent installation must conform with venting requirements and restrictions as outlined in this manual.
- The vertical vent heat shield is required for all vent installations. The horizontal vent heat shield must be installed when incorporating minimum horizontal venting. See Section 7.10 Vent Heat Shield Assembly Installation on page 28.
- Provide a means for visually checking the vent connection to the appliance after the fireplace is installed.
- A minimum of 1" (25mm) clearance on all sides of the vertical pipe must be maintained.
- A minimum of 1" (25mm) clearance on the top, sides, and bottom of the horizontal vent pipes must be maintained.

7.3 Use of Elbows

- **MAXIMUM NUMBER OF 90° ELBOWS: 5**
- For each additional 90° elbow used after the first elbow, 3' (91.4 cm) must be subtracted from maximum venting allowed.
- For each 45° elbow used, 1½' (457mm) must be subtracted from maximum venting allowed.
- (2) 45° degree elbows may be used in place of (1) 90° elbow.

7.4 Restrictor Assembly and Installation

Burner flame appearance and characteristics are affected by altitude, fuel quality, venting configuration, and other factors. To achieve desirable flame appearance, the vent exhaust may be restricted by the restrictor plate (included in components packet).

The restrictor plate is shipped with all inner rings intact, and when installed, provides the most vent restriction. There are (2) inner rings that can be knocked out. The innermost ring knocked out will create less restriction, and the outer most ring knocked out will create the least amount of restriction.

Section 11.2.2 Vent restriction (after installation) on page 47 outlines restrictor recommendations depending on burner flame appearance, and instructions on installation after venting is completed.

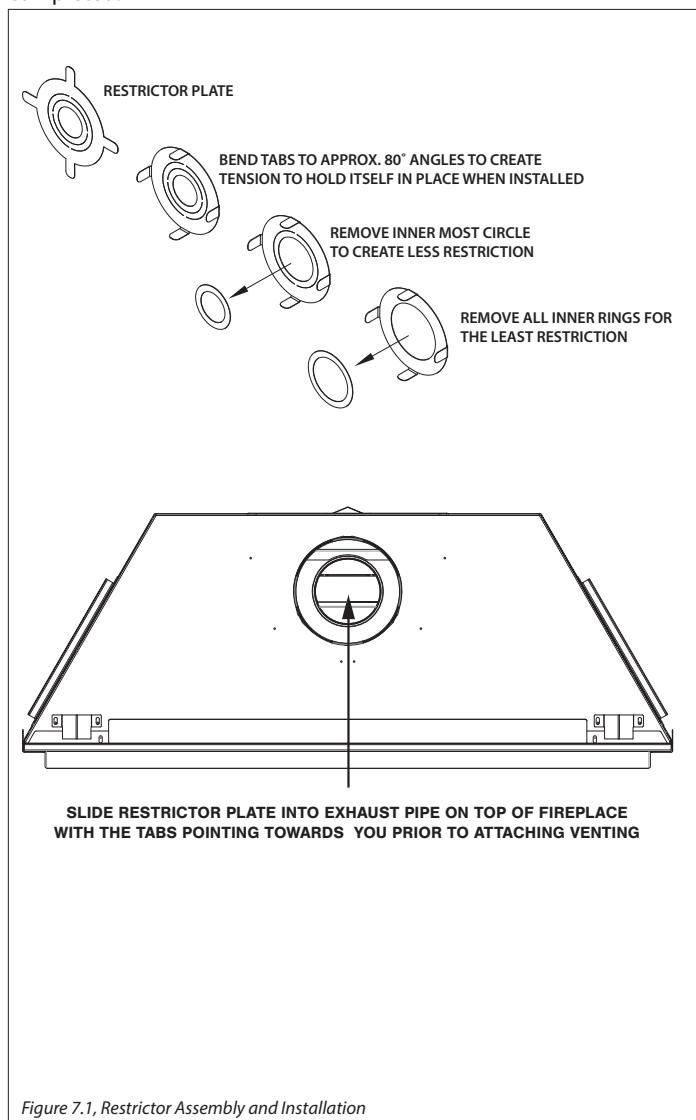


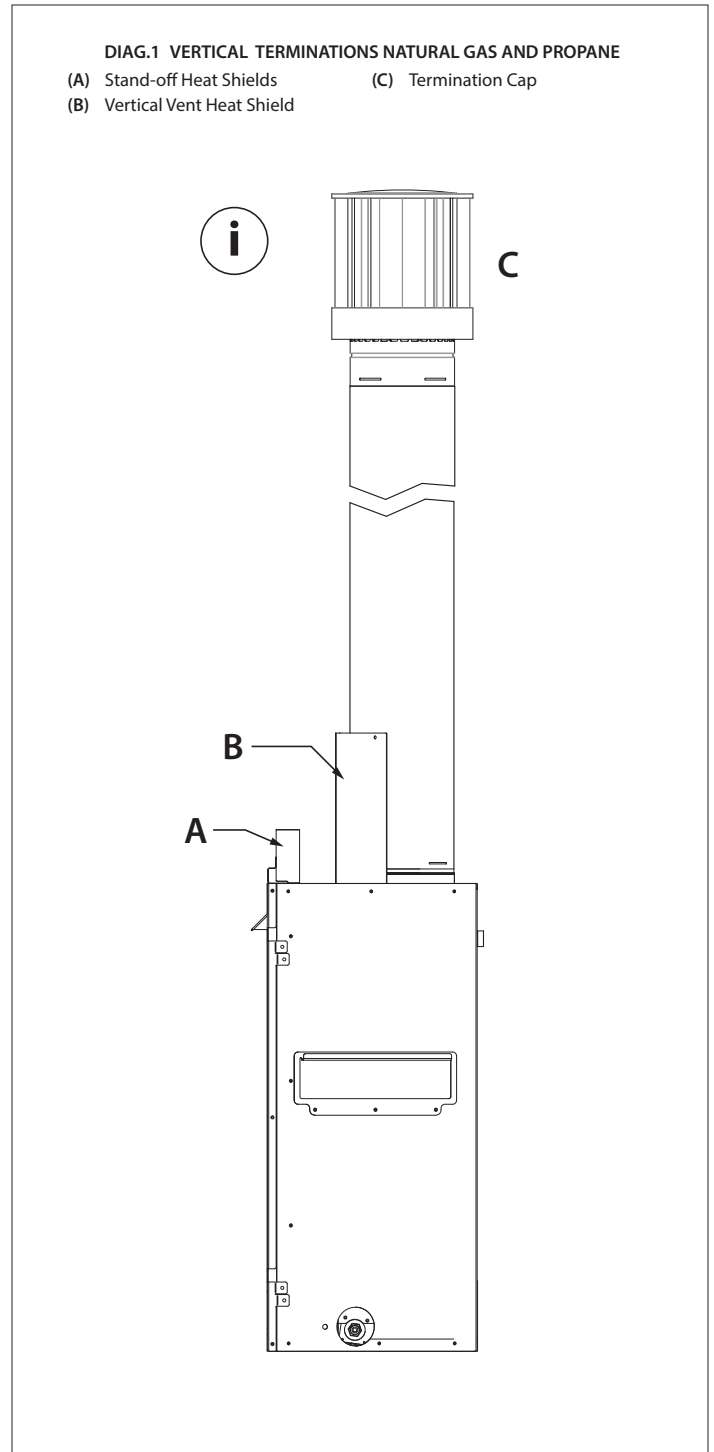
Figure 7.1, Restrictor Assembly and Installation

7.5 Vent Installation

7.5.1 Vertical Terminations

IMPORTANT: The vertical vent heat shield must be installed for every vent configuration. See Section 7.9 on page 32.

- (i) **Minimum / Maximum Vertical Venting:**
3' (914mm) minimum vertical length / 50' (15.24m) maximum vertical length + termination cap



7.5.2 Combination Venting

IMPORTANT: The vent heat shield assembly (vertical and horizontal vent heat shield) must be installed when using a 90° horizontal elbow off the top of the appliance (minimum horizontal venting). The vertical vent heat shield must be installed for every vent configuration. See Section 7.9 on page 32.

IMPORTANT: Horizontal vent sections require at least ¼" (6mm) rise for every 12" (305mm) of travel.

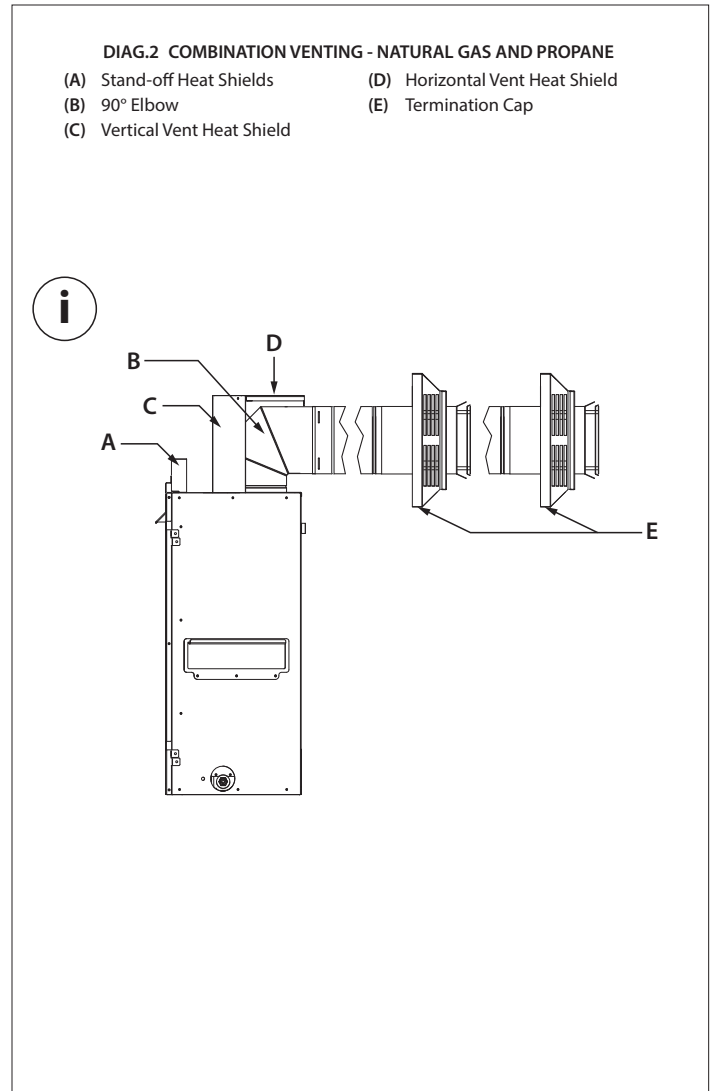
IMPORTANT: This fireplace horizontal vent installation requires wall pass-through products to be fully lined with unfaced insulation products listed as noncombustible per ASTM E 136. Refer to Section 7.8.2 on page 31.

(i) **90° elbow / Minimum Horizontal Run / Maximum Horizontal Run:**
90° horizontal elbow + 6" (152mm) minimum horizontal run / 2' (609mm) maximum horizontal run + termination cap

Minimum 9" (228mm) Vertical Rise / Maximum Horizontal Run:
9" (228mm) minimum vertical rise + 90° horizontal elbow + 8' (2.4m) maximum horizontal run + termination cap
(See Figure 7.2 on the following page)

Minimum 12" (305mm) Vertical Rise / Maximum Horizontal Run:
12" (305mm) minimum vertical rise + 90° horizontal elbow + 10' (3m) maximum horizontal run + termination cap
(See Figure 7.2 on the following page)

Minimum 24" (609mm) Vertical Rise / Maximum Horizontal Run:
24" (609mm) minimum vertical rise + 16' (4.8m) maximum horizontal run + termination cap
(See Figure 7.2 on the following page)

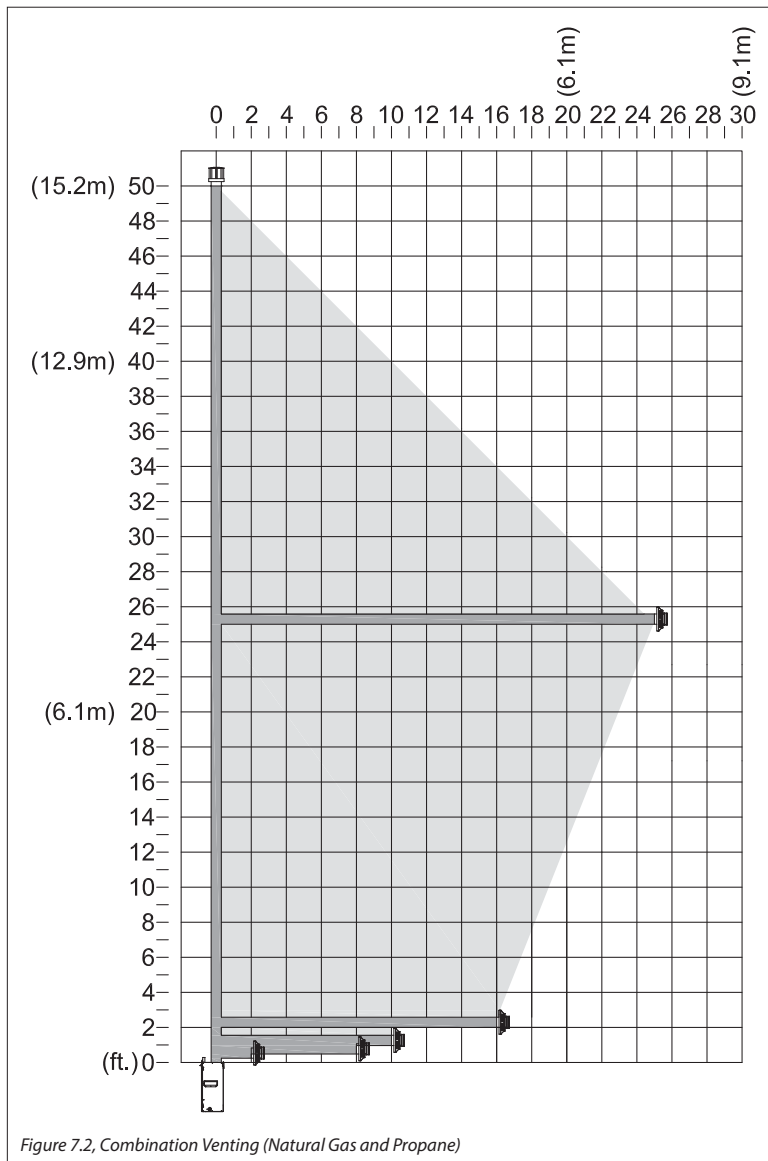


7.5.3 Natural Gas and Propane Maximum Vertical & Maximum Horizontal Combination Venting

For maximum vertical and maximum horizontal combination venting, the vent terminations must be within the shaded area in Figure 7.2.

The vertical vent heat shield must be installed for every vent configuration. See Section 7.9 on page 32.

- 25' (7.6m) maximum vertical rise + 25' (7.6m) maximum horizontal run = 50' (15.2m) of total length
- Maximum of (5) 90° elbows.



7.6 Class A Chimney/Masonry Chimney Conversion

This appliance is approved to be adapted to utilize the DuraVent Direct Vent Conversion Kits for factory-built Class A metal chimneys and masonry chimneys.

Before conversion, have the existing installation inspected by a qualified chimney sweep or professional installer. The existing chimney system must be in serviceable condition, and functionally sound. Before proceeding with following installations, check with local building jurisdiction to verify this type of installation is allowed in your area.

Follow DIAG. 3 for allowable venting configurations for installation in existing through-the-ceiling, Class A chimney or masonry chimney. Route the exhaust gases and intake air through the existing Class A chimney/masonry chimney.

Kits 46DVA-KCA, 46DVA-KCB, and 46DVA-KCC are approved for use. See instructions included with the kit for more details.

46DVA-KCA Fits	46DVA-KCB Fits	46DVA-KCC Fits
SDV 5" - 6" Duratech	SDV 6" Duraplus & 7"-8" Duratech	SDV 7"-8" Duraplus
6" Security Chimney	8" Security Chimney	7" & 8" Duraplus
6" Metalbestos	7" & 8" Metalbestos	8" American Metals
6" Jackes-Evans	7" & 8" Jackes-Evans	8" Air Jet
6" Hart & Cooley	7" & 8" Hart & Cooley	8" Metal-Fab
6" Pro Jet	7" & 8" Pro Jet	
	6" & 7" American Metals	
	6" & 7" Metal-Fab	
	6" Air-jet	

7.6.1 4" Flex Pipe Venting Configurations

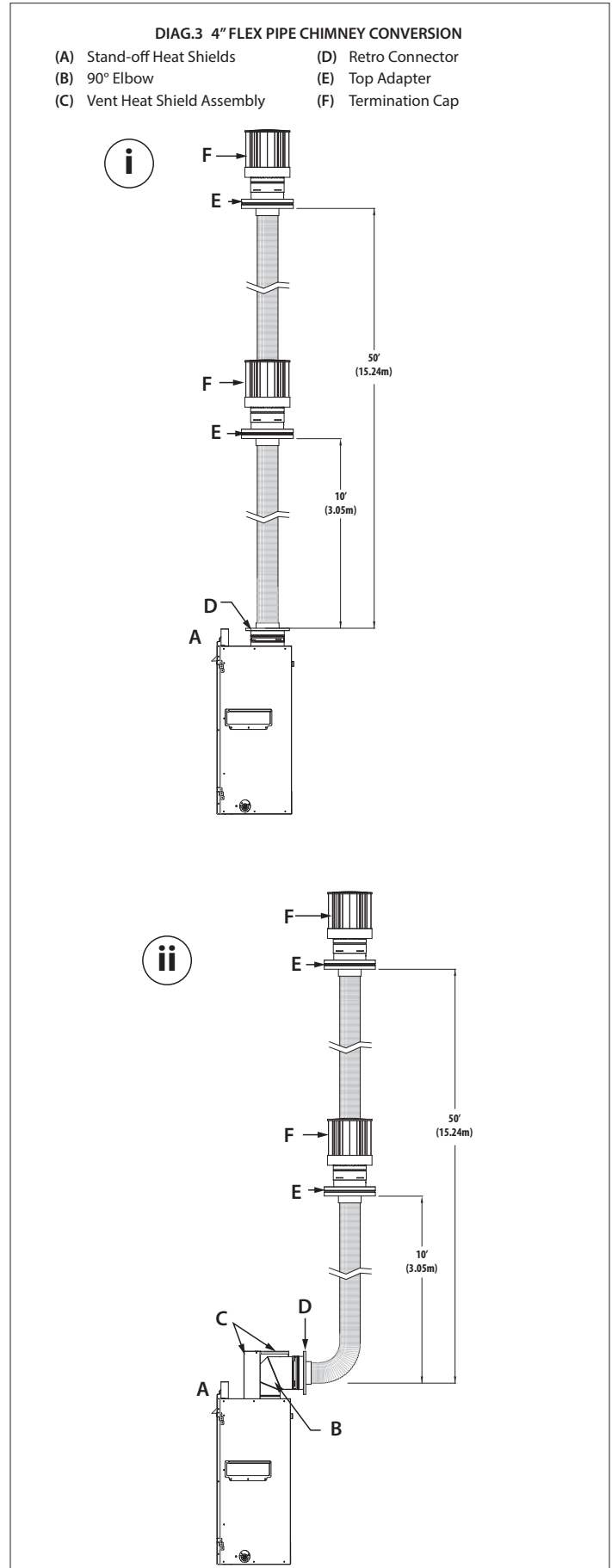
IMPORTANT: Horizontal vent sections require at least 1/4" (6mm) rise for every 12" (305mm) of travel.

IMPORTANT: The vent heat shield assembly must be installed when incorporating minimum horizontal venting off the top of the appliance.

IMPORTANT: Care should be taken when installing flexible pipe to avoid a tight bend that may cause abrasion or damage to the flexible pipe.

Vent option listed below (ii) allows for a minimum of 0" (0mm) to a maximum of 24" (610mm) horizontal run using rigid or flexible pipe.

- (i) **Minimum / Maximum Vertical Terminations:**
Retro Connector + 10' (3.05m) minimum length of 4" aluminum flexible pipe / 50' (15.24m) maximum length of 4" aluminum flexible pipe + top adapter + termination cap
- (ii) **Minimum / Maximum with Rigid Pipe Vertical Terminations:**
90° horizontal elbow + Retro Connector + 10' (3.05m) minimum length of 4" aluminum flexible pipe / 50' (15.24m) maximum length of 4" aluminum flexible pipe + top adapter + termination cap



7.7 Coaxial to Co-Linear Chimney Conversion

Before conversion, have the existing installation inspected by a qualified chimney sweep or professional installer. The existing chimney system must be in serviceable condition, and functionally sound. Before proceeding with following installations, check with local building jurisdiction to verify this type of installation is allowed in your area.

Follow DIAG.4 for allowable venting configurations for installation in existing masonry chimney. Route the exhaust gases and intake air through the existing masonry chimney.

7.7.1 Coaxial to Co-Linear Venting Configurations

IMPORTANT: Horizontal vent sections require at least 1/4" (6mm) rise for every 12" (305mm) of travel.

IMPORTANT: The vent heat shield assembly must be installed when incorporating minimum horizontal venting off the top of the appliance.

IMPORTANT: Care should be taken when installing flexible pipe to avoid a tight bend that may cause abrasion or damage to the flexible pipe.

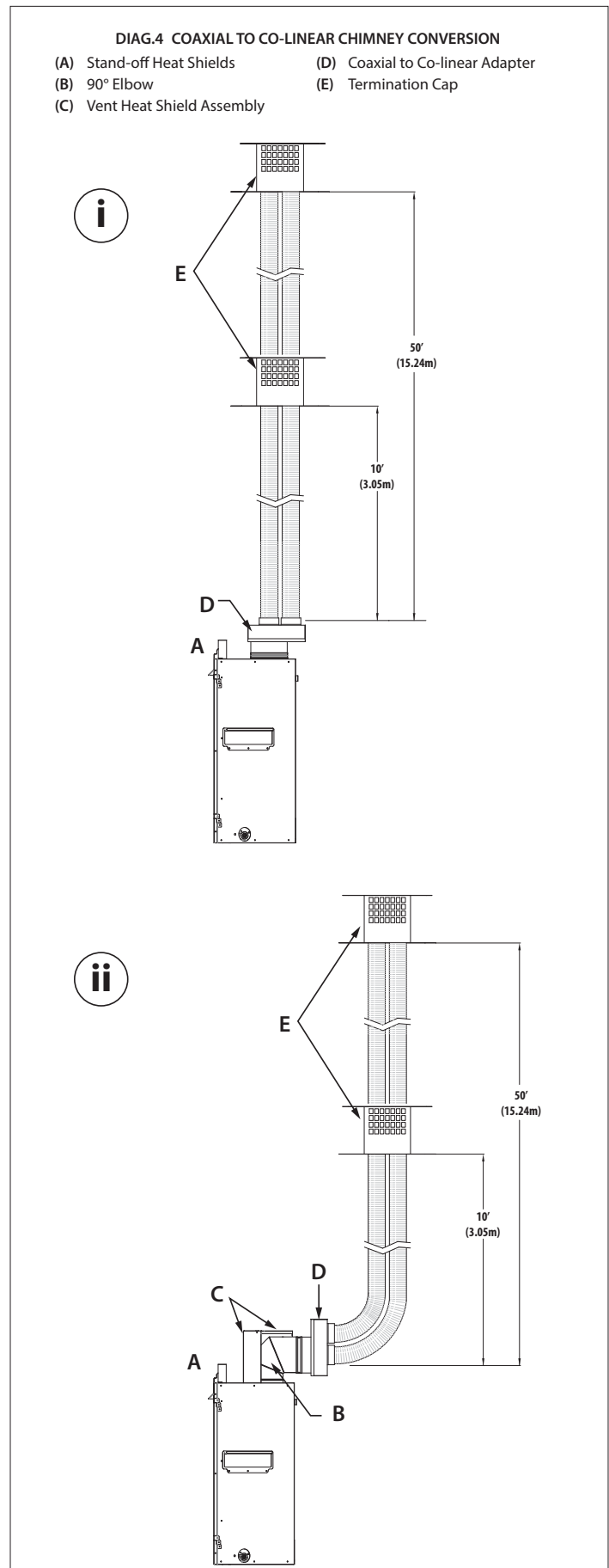
Vent option listed below (ii) allows for a minimum of 0" (0mm) to a maximum of 24" (610mm) horizontal run using rigid or flexible pipe.

(i) **Minimum / Maximum Vent Vertical Terminations:**

Coaxial to Co-linear Adapter + 10' (3.05m) minimum length of 3" x 3" aluminum flexible pipe / 50' (15.24m) maximum length of 3" x 3" aluminum flexible pipe + termination cap

(ii) **Minimum / Maximum with Rigid Pipe Vertical Terminations:**

90° horizontal elbow + coaxial to co-linear adapter + 10' (3.05m) minimum length of 3" x 3" aluminum flexible pipe / 50' (15.24m) maximum length of 3" x 3" aluminum flexible pipe + termination cap



7.8 #700-2 Series Direct Vent Termination Kit(s)

IMPORTANT: The flex pipe is permanently attached to the exterior plate. **DO NOT ATTACH** either #745-2 or #718-2 termination kit to fireplace (or extension kit) until it has passed through the wall. Install termination plates to the outside wall exterior.

IMPORTANT: Wall pass-through products (H) with the required minimum 1" (25mm) clearance on all sides of the horizontal vent pipe must be fully lined with unfaced insulation products listed as noncombustible per ASTM E 136. See the following page.

IMPORTANT: The minimum bend radius to center is 6" (152mm) required for installation of the flexible vent pipe. Care should be taken when installing to avoid a tight bend that may cause abrasion or damage to the flexible pipe.

The vertical vent heat shield must be installed. See Section 7.9 on page 32.

- If terminating against vinyl siding, a vinyl siding protector must be used (included with the #745-2 and #718-2 direct vent kits). Follow instructions included.
- Each #746-2 extension kit contains enough 4" & 7" flexible aluminum pipe to extend chimney an additional 6' (1.83m).

7.8.1 Assembly and Installation

1. Attach vinyl siding protector (G) (not shown).
2. Mount the required wall thimble (H) with 1" (25mm) top clearance and 1" (25mm) side clearance to the exterior wall, and

seal. See Section 7.8.3 #700-WPT Installation Instructions on page 31.

Insulate the wall thimble with any unfaced insulation products listed as non-combustible per ASTM E 136. See Section 7.8.2 Insulating a Wall Pass Through on page 31.

3. Apply a liberal bead of exterior sealant around outer edge of termination box (A). Place assembly through the wall-pass through in exterior wall, and secure with (4) screws through the four holes (B).
4. Form the 4" & 7" flexible aluminum pipes on termination kit (#745-2 or #718-2), and if applicable, on each extension kit.
5. Gently pull 4" & 7" pipes down to the top of the fireplace, or if applicable, the extension kit.
IMPORTANT: DO NOT stretch extension kit beyond 6' (1.83m); DO NOT stretch beyond what is required. It is very difficult to decompress flex pipes once stretched.
6. Place a bead of sealant outside 4" flex pipe collar (C) (end with EXTERNAL LIP) and sliding the collar into 4" pipe on extension kit or top of fireplace (D). Secure with 3 evenly spaced screws.
7. Place a bead of sealant inside 7" flex pipe collar (E) (end with the INTERNAL lip), sliding the collar over 7" pipe on top of fireplace (F). Secure with 3 evenly spaced screws.
8. If additional extension kits are required, repeat Steps 4 and 5, placing 4" & 7" pipes onto previous extension kit.

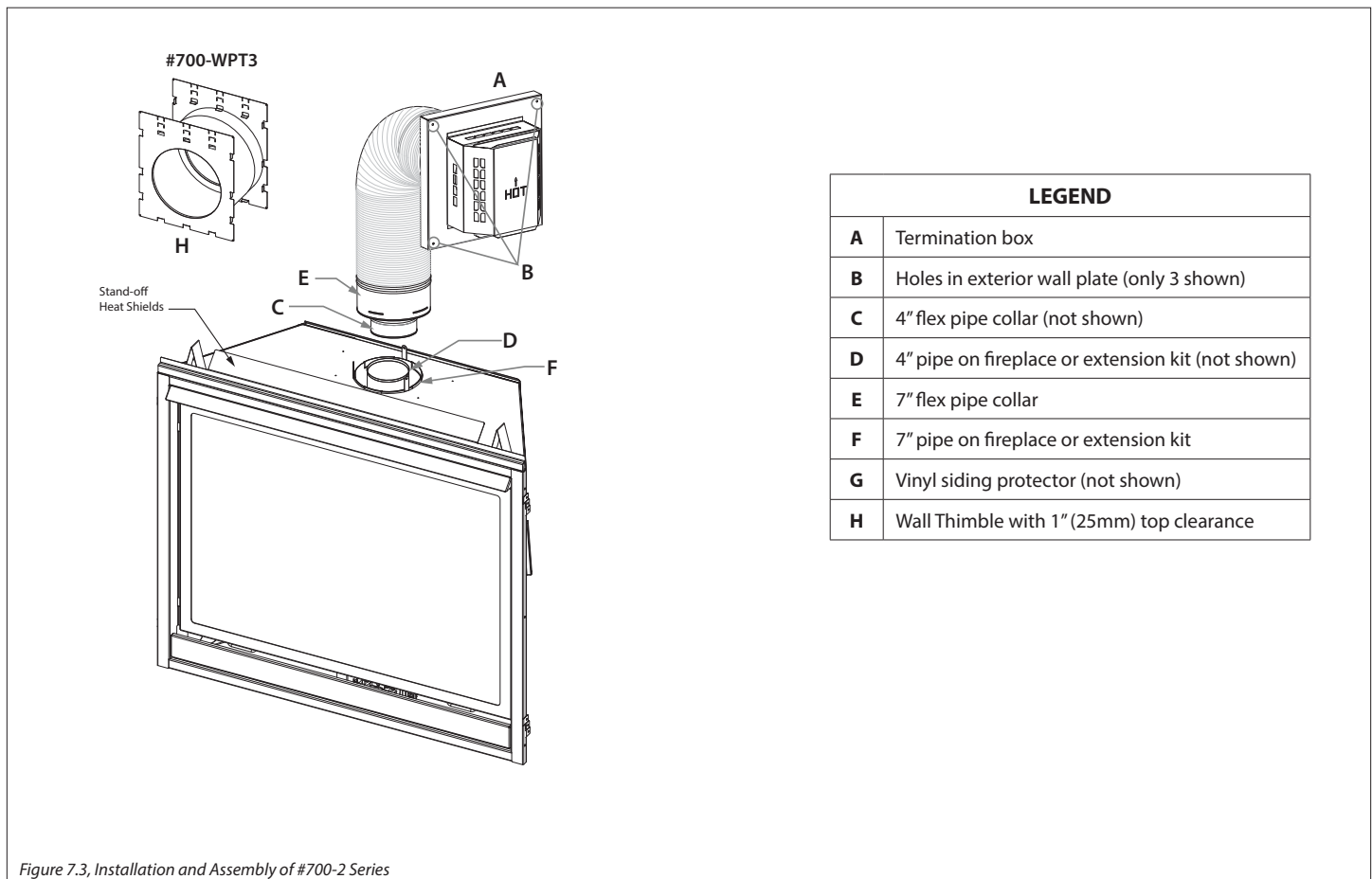


Figure 7.3, Installation and Assembly of #700-2 Series

7.8.3 #700-WPT Installation Instructions

IMPORTANT: The heat shield within the wall thimble must overlap a minimum of 1-1/2" (38mm). An extension will be needed if going through a thicker wall than 6-1/2" (165mm). Refer to BDM vent manufacturer if wall extension is necessary.

1. Hand bend the (2) tabs on the top of the wall pass through at the 1" (25mm) top required clearance. Hand bend the (6) tabs on the sides and bottom of the wall pass through. Repeat for the other section.
2. From the interior, install one section of the wall pass through. Secure with (4) screws (not provided).
3. From the exterior, install the other section of the wall pass through, overlapping the heat shields as necessary to accommodate wall thickness. The sections must overlap a minimum of 1-1/2" (38mm). Secure to exterior wall with (4) screws (not provided).
4. Follow vent manufacturer installation instructions for vent installation.

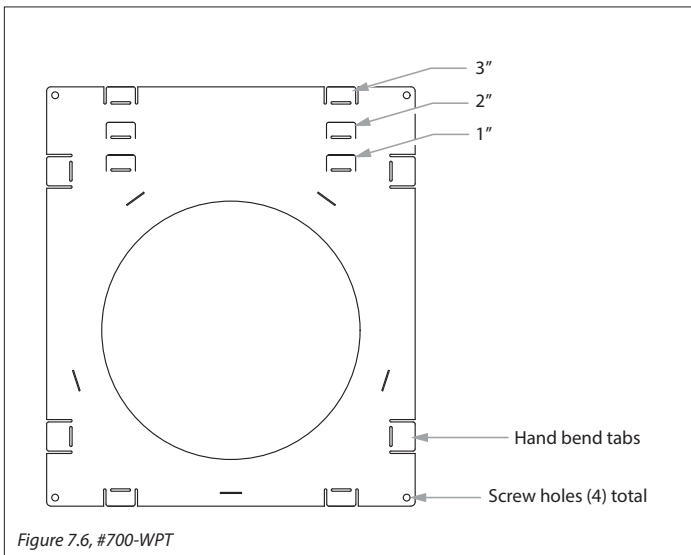


Figure 7.6, #700-WPT

7.8.2 Insulating a Wall Pass Through

CAUTION: This fireplace horizontal (rigid or flexible) vent installation requires wall pass-through products to be fully lined with insulation products listed as noncombustible per ASTM E 136. Failure to line wall pass through products for all horizontal vent runs may cause overheating and fire.

1. Install the first section of the wall pass through into framed opening. Secure with screws (not provided).
2. Insert insulation that has no paper or foil back.
3. Fill the cavity completely with insulation.
4. Install the second section of the wall pass-through. Secure with screws (not provided).



Figure 7.4, Pass-through with square rigid frame

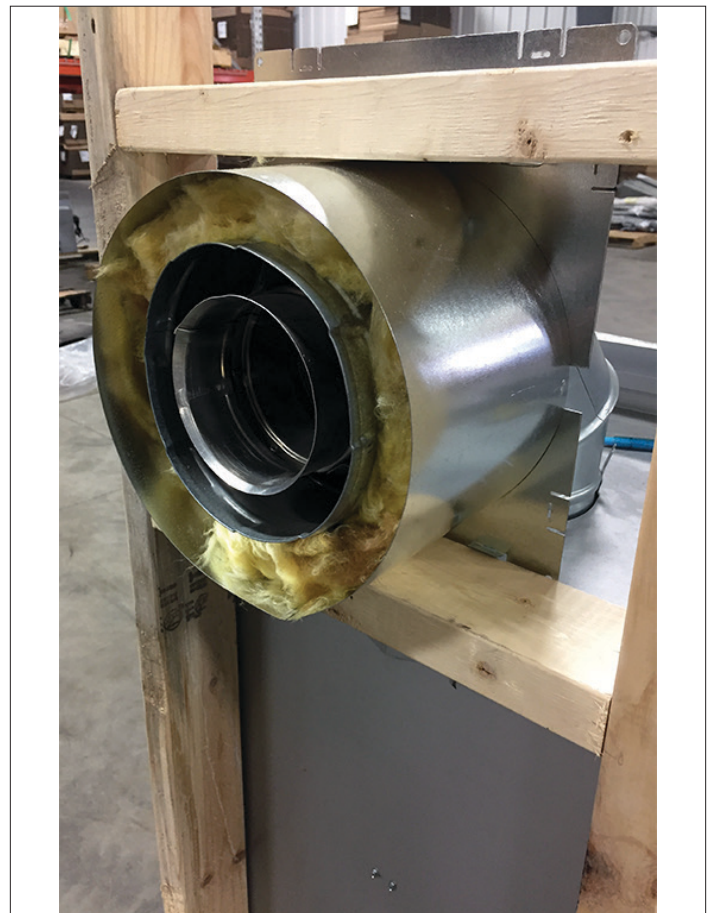


Figure 7.5, Pass-through with fold over tabs

7.9 Vent Heat Shield Assembly Installation

IMPORTANT: The vertical vent heat shield **MUST** be installed for every type venting application. The horizontal vent heat shield must be installed when installing a 90° horizontal elbow off the top (minimum horizontal venting).

NOTE: There are (6) screw holes located in front of the flue outlet to offset the vent heat shield assembly in front of the vent pipe. Align the heat shield as necessary for your venting installation.

7.9.1 Vertical Vent Heat Shield Installation

1. Position the vertical vent heat shield in front of the vent pipe, with the flanges facing towards the fireplace face as necessary for the type of installation.
2. Align the (2) slots on the vertical heat shield flanges with corresponding screw holes located in front of the flue outlet on the top of the fireplace.
3. Secure the vertical vent heat shield to the fireplace with (2) attachment screws (provided in the components package).

7.9.2 Minimum Horizontal Venting

1. Bend perforation on the (3) hand-tabs down on the horizontal vent heat shield.
2. Locate (3) screw holes on the vertical vent heat shield.
3. Align the (3) slots on horizontal vent heat shield tabs to the corresponding (3) screws holes on the vertical vent heat shield.
4. Attach the horizontal vent heat shield with screws (provided) through the screw holes on the vertical vent heat shield. The 1" (25mm) vent stand-off tab will rest on top of the vent pipe.

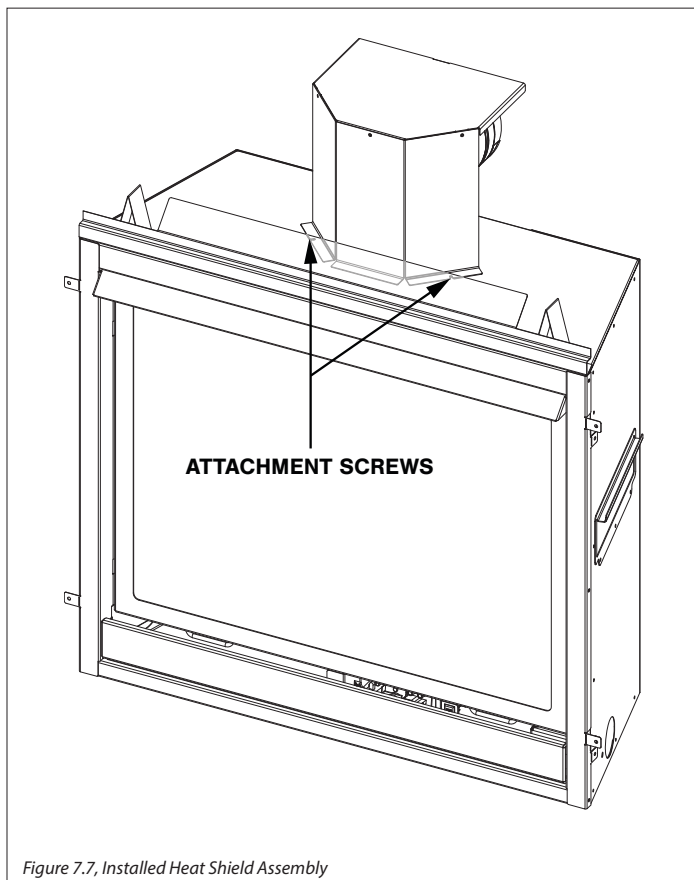


Figure 7.7, Installed Heat Shield Assembly

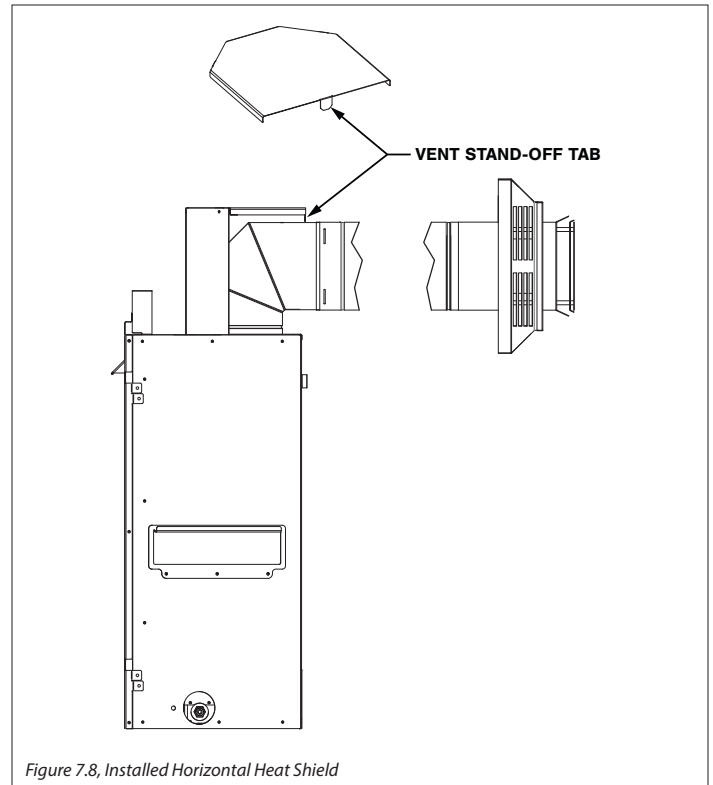


Figure 7.8, Installed Horizontal Heat Shield

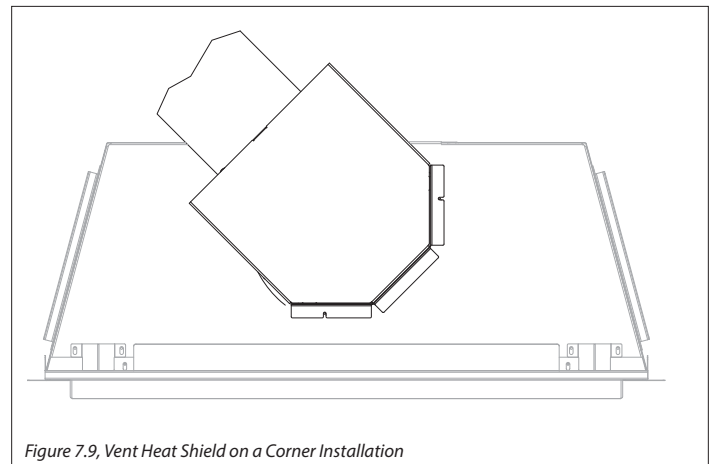


Figure 7.9, Vent Heat Shield on a Corner Installation

8.0 FIREPLACE SETUP

8.1 Glass Frame Assembly

WARNING: Do not operate this fireplace with the glass removed, cracked, or broken. Replacement of the glass assembly, should be done by a licensed or qualified service person.

8.1.1 Remove Glass Frame Assembly

WARNING: Do not remove the glass assembly when hot.

1. Remove safety barrier and open the control compartment access panel.
1. Locate (2) spring-loaded latches securing the glass assembly at the bottom of the firebox.
2. Pull the spring-loaded latches out and down to release the bottom of the glass assembly.
3. Lift glass assembly up and off of the (2) tabs located at the top of the firebox.

8.1.2 Install Glass Frame Assembly

1. Align the slots on top of the glass assembly over the tabs at the top of the firebox while lowering the bottom of the glass assembly into position.
2. Pull the spring-loaded latches out and up to secure the bottom of glass to the bottom of the fireplace.
3. Set the control compartment access panel back into position and reinstall safety barrier.

8.2 #SP41-50A Log Set Installation

CAUTION: Do not place logs directly over burner port holes. Improper log placement may affect flame appearance and cause excessive soot to build upon the logs and glass.

- If converting to propane, complete the conversion before installing the log set. Follow the conversion instructions included with the kit.
 - Log numbers are located on the bottom of each log. Refer to the following instructions and illustrations for proper log placement.
1. Place log SP41-1A on the back log plate.
 2. Place log SP41-2A on the left front log plate.
 3. Place log SP41-3A on the right front log plate.
 4. Align log SP41-4A with the notches on logs SP41-1A and SP41-2A, as shown.
 5. Align log SP41-5A with the notches on logs SP41-1A, SP41-2A, and SP41-3A, as shown.
 6. Align log SP41-6A with the notches on logs SP41-1A and SP41-3A, as shown.
 7. Distribute lava rock in front of the burner. Do not block burner ports or airspaces.
 8. Use a steel or stiff bristle nylon brush to distribute rock wool embers onto logs and burner. **DO NOT** block the area as shown below.

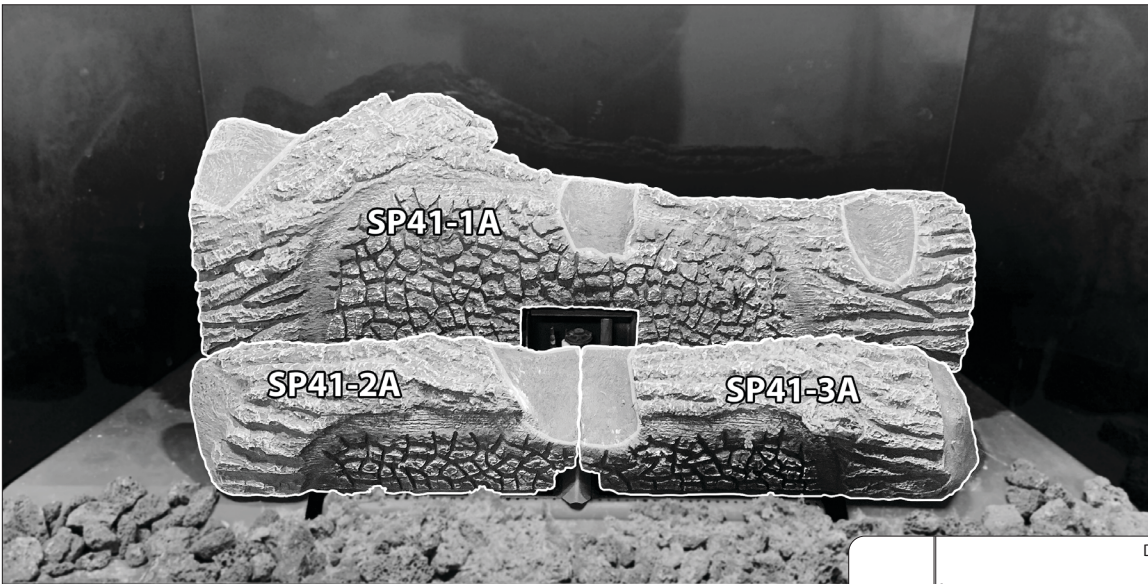


Figure 8.1, Base Logs

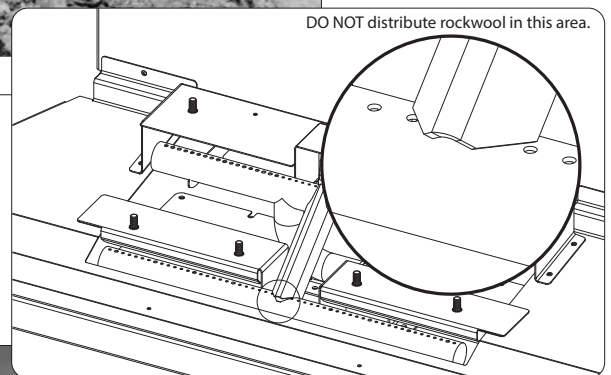


Figure 8.2, Completed Install

8.3 Control Board Removal and Installation

WARNING: If burner and/or pilot have been burning, use appropriate protection to avoid burns or damage to personal property before removing any components. DO NOT OPERATE THIS APPLIANCE WITHOUT THE SEALING GASKET (LOCATED UNDER THE CONTROL BOARD) IN PLACE. IF GASKETING IS DAMAGED, IT MUST BE REPLACED.

CAUTION: Check all connections for leaks with soapy water, whether field or factory made.

8.3.1 Control Board Removal

1. Disconnect electrical power.
2. Locate the manual valve installed by your qualified service technician. Turn the manual valve clockwise to the OFF position.
3. Open the control compartment access panel.
4. Remove the safety barrier and glass frame assembly.
5. Disconnect any optional control from the top and bottom terminals on the gas valve, OR unplug all components from receptacle and disconnect all wiring harnesses attached to the gas valve.
6. Remove log set, lava rock, and panels (if installed).
7. Remove the burner tube by sliding it to the left off of the burner orifice.
8. Remove the pilot shield.
9. Remove and save (4) screws securing the back log plate.
10. Remove and save (4) screws securing the left and right front log plates.
11. Remove and save (5) screws securing the heat shield.
12. Remove and save (10) screws securing control board to firebox floor.
13. Lift the control board out of the firebox, being careful not to damage the sealing gasket underneath.

8.3.2 Control Board Installation

1. Place control board in the firebox, aligning the holes in the control board with the holes in the firebox bottom.
VERIFY SEALING GASKET IS IN PLACE.
2. Secure the control board with screws previously removed.
3. Reinstall the heat shield using (5) screws previously removed.
4. Reinstall the front log plates. There is 'L' etched into the left log plate and 'R' etched into the right plate. Position the plates correctly into the firebox and secure with (4) screws previously removed.
5. Reinstall back log plate (4) screws previously removed.
6. Reinstall pilot shield.
7. Reinstall the burner tube by sliding it to the right and positioning the burner tube venturi over the burner orifice.
8. Reinstall log set, lava rock, and panels (if installed).
9. Reconnect any optional control wires to the top and bottom gas valve terminals, OR reconnect all wiring harnesses to the gas valve. Plug all components into an electrical outlet.
10. Reinstall the glass frame assembly and safety barrier.
11. Set control compartment access cover panel back into position.
12. Turn the manual valve counterclockwise to the ON position.
13. Reconnect electrical power.
14. Verify proper log placement, operation of fireplace, and any electrical components.

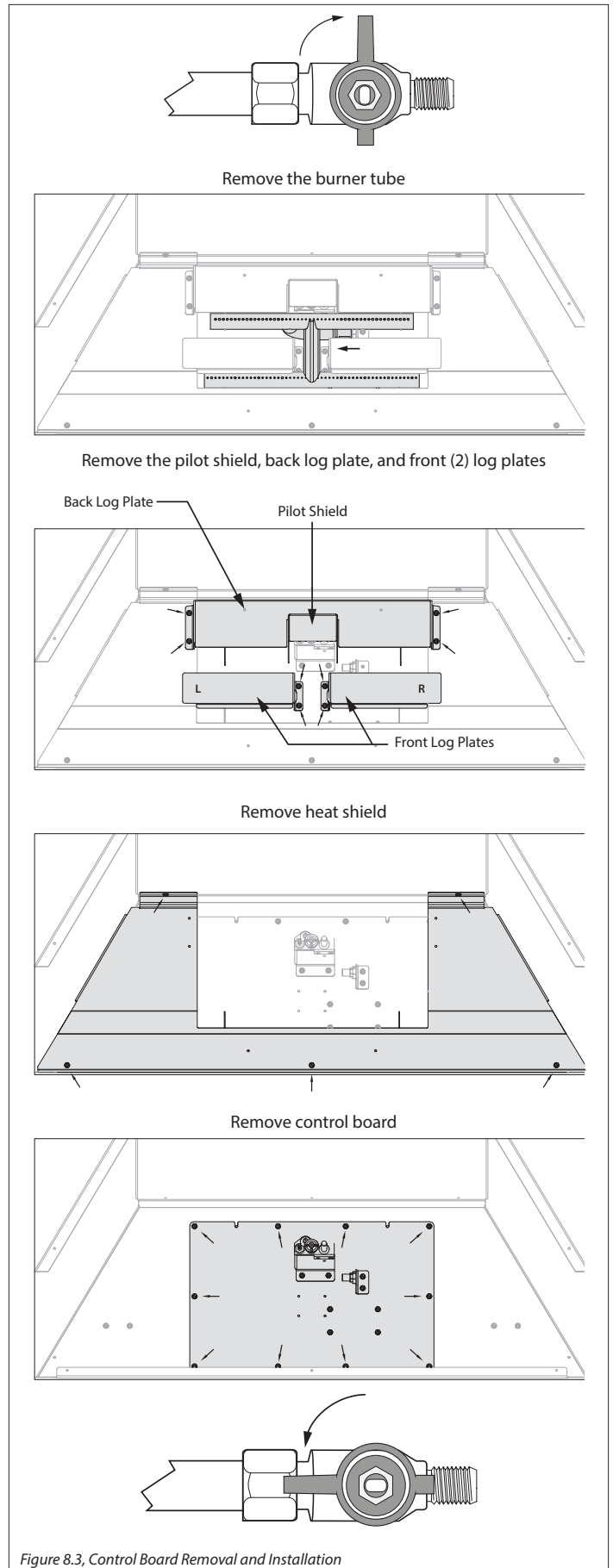


Figure 8.3, Control Board Removal and Installation

9.0 ELECTRICAL INFORMATION

WARNING: Do not use this fireplace if any part has been under water. Immediately call a qualified service technician to inspect this appliance and to replace any part of the control system and any gas control which has been under water.

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. Do not cut or remove the grounding prong from this plug.

9.1 Electrical Specifications

WARNING: AN OPTIONAL COMPONENT CONNECTION IS FOR LOW VOLTAGE BATTERY OR DIRECT CURRENT ONLY. DO NOT CONNECT TO 120 OR 240 VOLTS AC.

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.

- Determine if the appliance uses an electronic ignition system or continuous pilot ignition system (millivolt) by locating gas valve and its controls. Access the gas valve by opening removing the bottom frame piece. When finished accessing the control compartment, the bottom frame must be reinstalled to maintain clearances.
- Appliances with the standing pilot ignition system are equipped with a black piezo igniter button. Appliances with electronic ignition system will not have a button.

9.2 Wiring Requirements

9.2.1 Electronic Ignition System

- The IFC System Module requires 120VAC power supply and/or batteries to operate. Using the battery back-up will operate the burner only. Optional components will not function on battery back up power.
- If desired, a thermostat or a wall switch may be installed for main burner operational control using low-voltage wires (not included).
- It is optional to disable the main ON/OFF rocker switch operating the main burner by disconnecting the wires from the control module (Figure 9.1).
- If the rocker switch wires are not disconnected, the main ON/OFF rocker switch must be in the OFF position for proper operation of optional controls. If the main ON/OFF rocker switch is ON, the main burner will operate until it is turned OFF by the rocker switch. The thermostat/wall switch components will not turn the main burner off if the main burner has been turned on by the rocker switch.
- If a the wall-mounted ON/OFF control or thermostat is to be used, mount it in a convenient location on a wall near the fireplace. Follow instructions included with assembly.
- If an optional component is to be used, run low-voltage wires from control module to the location of component.

9.2.2 Continuous Pilot Ignition System (Millivolt)

CAUTION: Do connect high voltage (115V) wire to the gas valve.

- The millivolt gas valve system does not require 110-120 VAC supply to operate.
- If desired, a thermostat or a wall switch may be installed for main burner operational control using low-voltage wires (not included).
- It is optional to disable rocker switch operating the main burner by disconnecting the wires from the back of the gas valve (Figure 9.3).
- If the rocker switch wires are not disconnected, the ON/OFF rocker switch must be in the OFF position for proper operation of optional controls. If the ON/OFF rocker switch is ON, the main burner will operate until it is turned OFF by the rocker switch. The thermostat/wall switch components will not turn the main burner off if the main burner has been turned on by the rocker switch.
- If a the wall-mounted ON/OFF control or thermostat is to be used, mount it in a convenient location on a wall near the fireplace. Follow instructions included with assembly.
- If an optional component is to be used, run low-voltage wires from gas valve to the location of component.

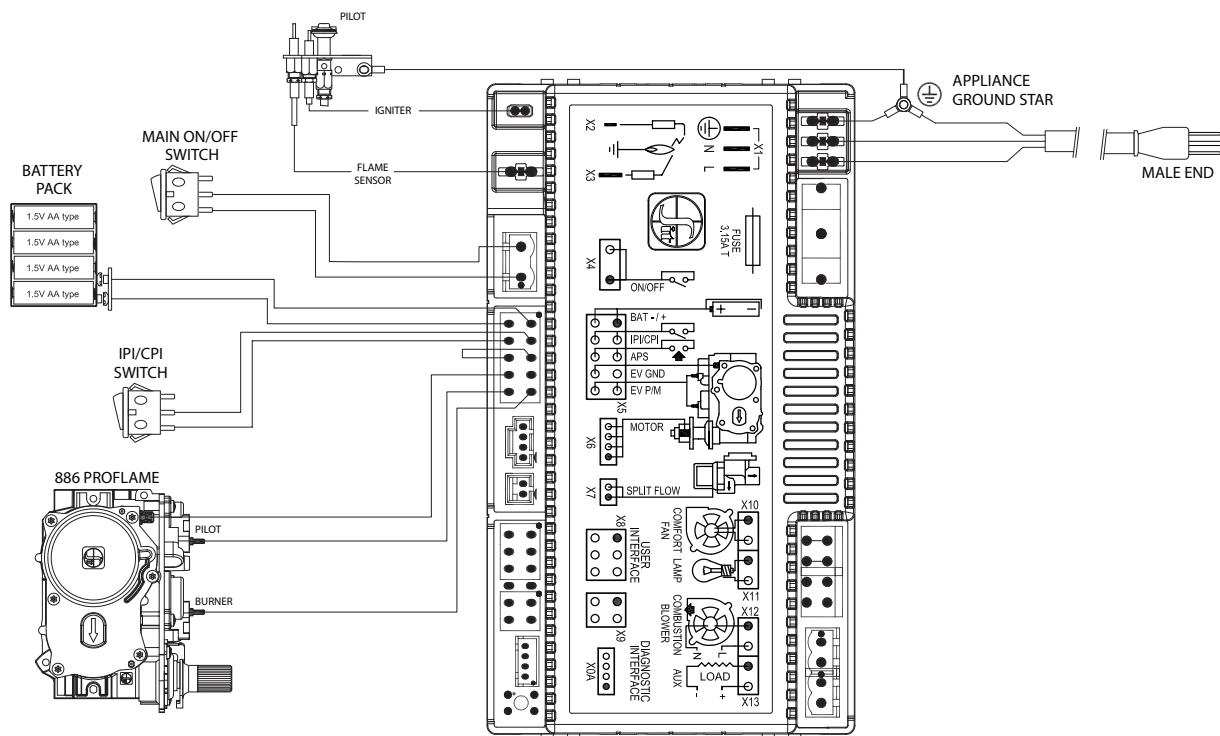


Figure 9.1, Electronic Gas Valve Wiring Schematic with ON/OFF Rocker Switch

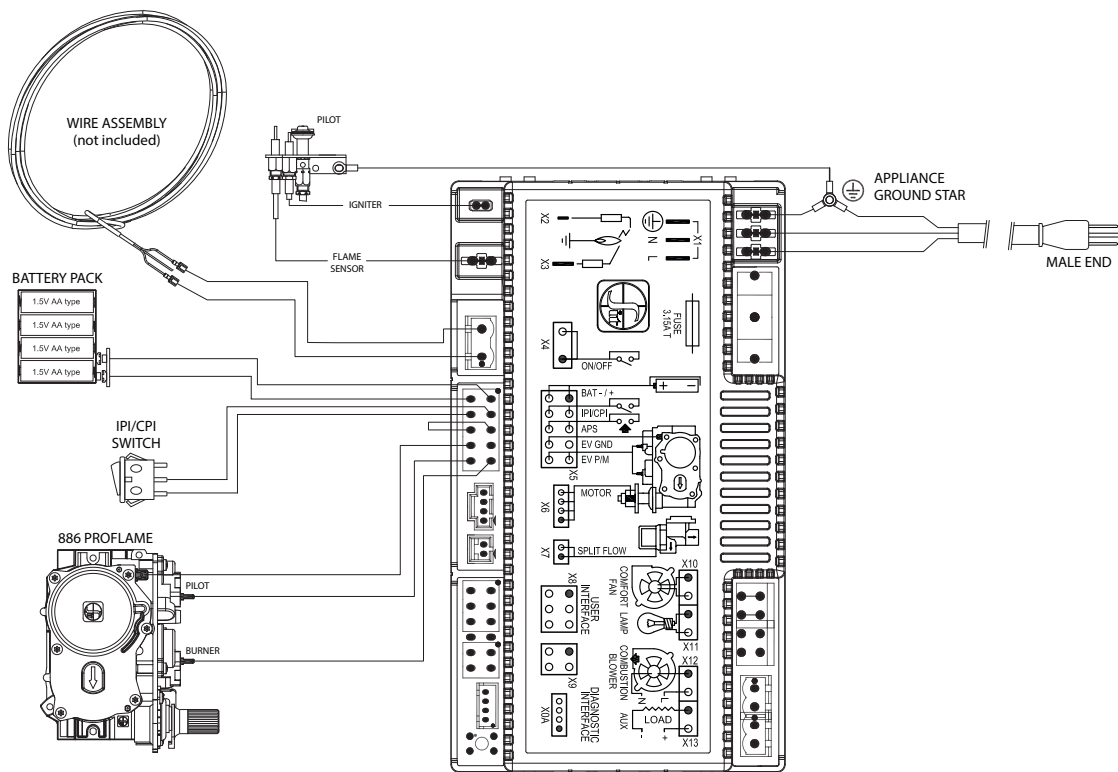
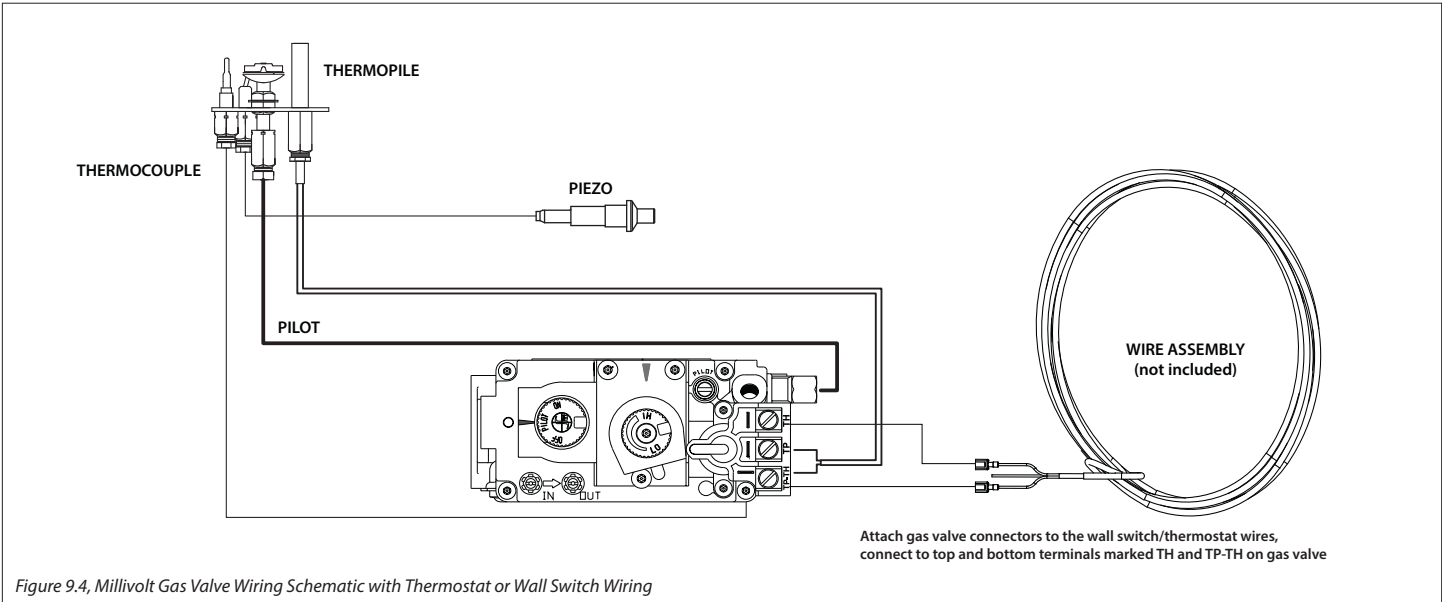
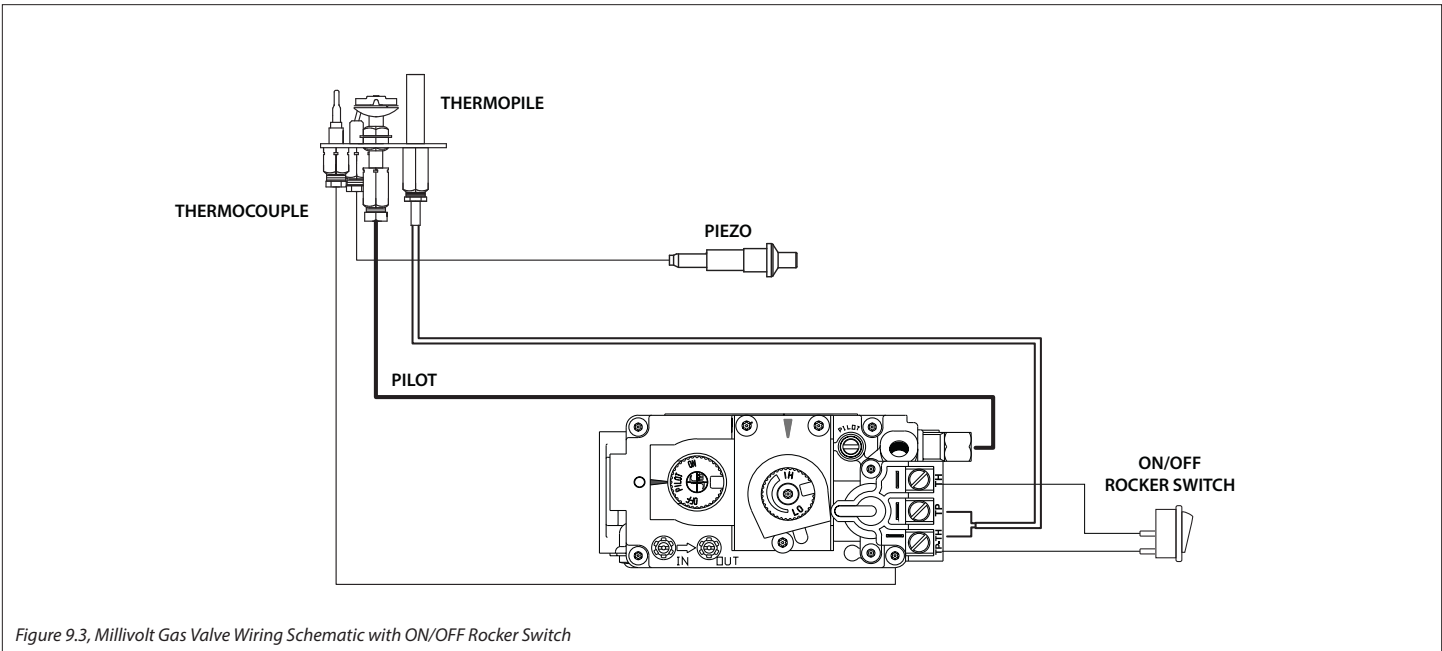


Figure 9.2, Electronic Gas Valve Wiring Schematic with Thermostat or Wall Switch Wiring



9.3 #SP-028 Optional Fan Kit

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. Do not cut or remove the grounding prong from this plug.

WARNING: Installation of this fan kit should be done by a qualified installer. Verify household breaker is shut off prior to working on any electrical lines.

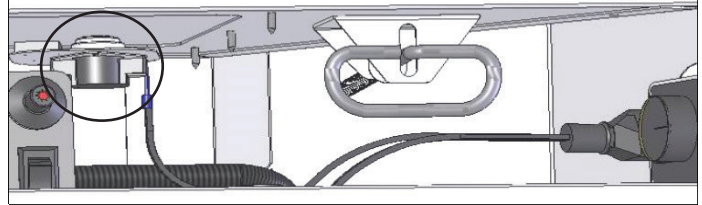
NOTE: It easier to install the fan kit before connecting the gas line to the control board.

- 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.
- Code-approved line voltage wiring, 14 gauge or better, must be used when wiring this assembly. Refer to your local electrical codes for specific requirements.
- A pre-installed electrical box is included with the appliance, along with a receptacle/box cover assembly in the fireplace components packet.
- If installing this optional fan kit after appliance installation, remove the control board to access the control compartment and follow instructions below. Refer to Section 8.3 Control Board Removal and Installation on page 35.

This kit includes:

- | | |
|---|---------------------------------|
| (1) Fan assembly | (2) Philips head screws (black) |
| (1) Temperature control switch with magnet attached | (1) Speed control box with cord |

1. Before unit installation, remove the back access panel (4) screws.
2. With the motor end facing to the right, slide the fan underneath the firebox. The fan assembly has magnetic tape located on the bottom and does not require mounting.
3. Mount the speed control box onto the lower right side frame. Align the slots in the speed control box to the holes in bracket. Secure with (2) black philips head screws (included).
4. Place the temperature control switch (magnet attached) onto the firebox floor on the right.
5. Plug fan cord into the speed control assembly.
6. Plug the speed control box cord into the electrical box receptacle.
7. Reinstall all components previously removed.
8. Turn speed control counter-clockwise until it 'clicks'. This is the OFF position.
Turn speed control ON by turning knob clockwise past the 'click' - this is the highest setting.



TEMPERATURE CONTROL SWITCH POSITION

Before adjusting temperature control switch, unplug 3-prong plug on fan cord from receptacle.

Adjust position of temperature control switch to a warmer location under firebox to turn fan ON sooner or move it to a cooler location under firebox to turn fan ON later. The fan will turn on when sensor in temperature control switch reaches 110° F and will turn OFF when sensor reaches 90° F. After adjustment, plug 3-prong plug on fan cord into receptacle.

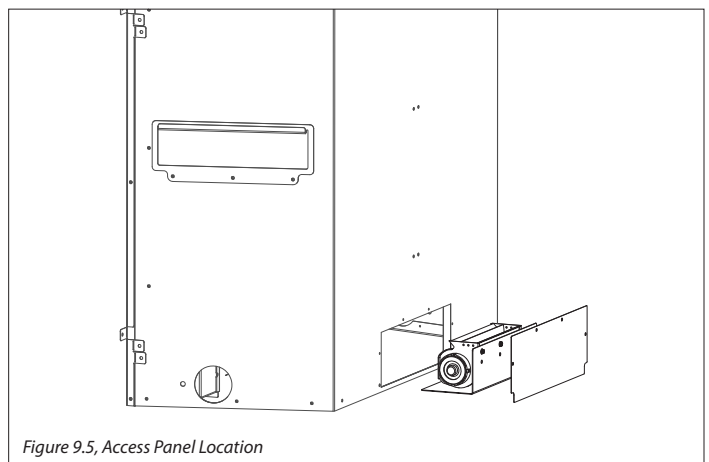


Figure 9.5, Access Panel Location

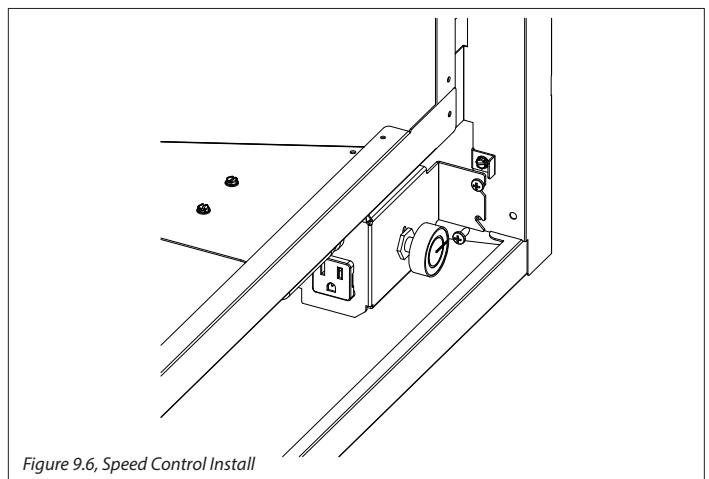


Figure 9.6, Speed Control Install

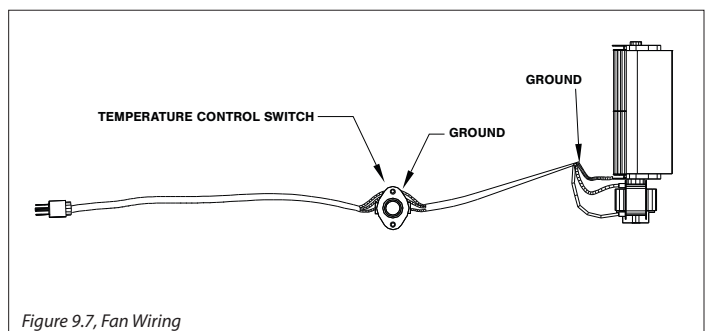


Figure 9.7, Fan Wiring

10.0 OPERATING INSTRUCTIONS

10.1 Lighting Instructions (#SP-41-LE)

- When this fireplace is initially lit, condensation will appear on the glass. This is normal in all gas fireplaces and will disappear after several minutes.
- A paint smell will occur during the first few hours of burning. It

is recommended to leave the fan off during this period to help speed the paint curing process.

- This fireplace may produce noises of varying degree as it heats and cools due to metal expansion and contraction. This is normal, and does not affect the performance or longevity of the fireplace.

FOR YOUR SAFETY READ BEFORE OPERATING

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 lights the pilot. Do not try to light the pilot by hand.
- B. BEFORE OPERATING smell 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 try 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.
- C. Use only your hand to turn the gas control manual valve. Never use tools. If the valve will not turn by hand, do not 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 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.
- Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

WARNING

Do not operate appliance with the glass front removed, cracked, or broken. Replacement of the glass should be done by a licensed or qualified service person.

Under no circumstances should any solid fuel (wood, coal, paper, cardboard, etc.) be used in this appliance.

Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.



CAUTION

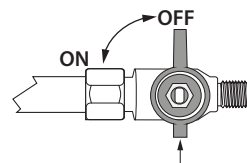
Clothing or other flammable material should not be placed on or near the appliance.

Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces.


OPERATING INSTRUCTIONS

STOP! Read all the safety information above on this page.

1. Set thermostat to lowest setting (if applicable).
2. Turn off all electric power to the appliance.
3. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
1. To access gas controls under the fireplace, open the control compartment access panel.
4. Locate the ON/OFF rocker switch. Press the ON/OFF rocker switch to "OFF".
5. Locate the manual valve installed by your qualified service technician.
6. Turn the manual valve clockwise  to the OFF position.
7. Wait five (5) minutes to clear out any gas. Then, smell for gas, including near the floor. If you smell gas, STOP! Follow 'B' in the safety information above. If you do not smell gas, go to the next step.
8. Turn the manual valve counterclockwise  to the ON position.
9. Press the ON/OFF rocker switch to "ON".
10. Turn on all electric power to the appliance.
11. Set control compartment access panel back into position.
12. Set thermostat to desired setting (if applicable).
13. If the appliance will not operate, follow the instructions, "To Turn Off Gas To Appliance" and call your service technician or gas supplier.



TO TURN OFF GAS TO APPLIANCE

1. Set thermostat to lowest setting (if applicable).
2. Turn off all electric power to the appliance if service is to be performed.
3. To access gas controls under the fireplace, open the control compartment access panel.
4. Press the ON/OFF rocker switch to "OFF".
5. Locate the manual valve installed by your qualified service technician.
6. Turn the manual valve clockwise  to OFF position.
7. Set control compartment access panel back into position.

10.1.1 Pilot Ignition Selection (IPI/CPI)

Model #SP-41-LE (electronic ignition system) has the option of a continuous (standing) pilot. This feature allows the system to change from a intermittent pilot ignition (IPI) system to a continuous pilot ignition (CPI) system. The standing (or continuous) pilot will keep the firebox warm and establish a draft in the vent, which allows the main burner to ignite with less air-flow disruption. For installations that require a seven day time-out, see information about pilot ignition in section 10.1.1 below.

There are (2) rocker switches located on the gas valve housing in the control compartment. You will need to remove the bottom frame to access this. The main burner rocker switch is marked 'B' and the IPI/CPI pilot rocker switch is marked 'P'. See section Figure 10.1.

- **For intermittent pilot mode (IPI)**, set the IPI/CPI rocker switch to OFF. The pilot and main burner will ignite and turn off automatically when this IPI/CPI rocker switch is set to OFF.
- **For continuous pilot mode (CPI)**, set the IPI/CPI rocker switch to ON. This will ignite the pilot only. The pilot will remain lit when the main burner ON/OFF rocker switch is pressed to OFF.
- When finished, the bottom frame must be reinstalled to maintain clearances.

10.1.1.1 7 Day Time-out installations (LE)

For regions that require installation of a 7 day time-out counter (refer to your local dealer to see if this applicable to your installation), model #SP-41-LE is fitted with a control system equipped with a time-out counter set for **7 consecutive days** once the pilot has been ignited.

- If you have your Proflame 2 system set to CPI (continuous pilot ignition) with **7 consecutive days** without ignition of the main burner, the pilot will turn off, *but the pilot (marked 'P') rocker switch will still be set to ON.*
- You must manually cycle the pilot rocker switch to put the system back to CPI mode. First, turn the 'P' rocker switch OFF, then ON, to re-activate the CPI mode.
NOTE: Figure 10.1 shows the CPI/IPI mode control switch (pilot rocker switch, marked 'P') is already in the ON position. It has first to be turned OFF, then back ON, to re-activate the CPI mode together with the the 7 day Time-out counter.
- This a standard safety feature of the SIT Proflame 2 system.
- Once you turn CPI on, the **7** day timer will start. If at any time during the following **7** days your main burner ignites, it will reset the timer back to **7** days.
- See section 10.1.1 Pilot Ignition Selection (IPI/CPI) above to select your preferred pilot ignition feature. To operate the appliance, see the operating instructions and safety information on the previous page.

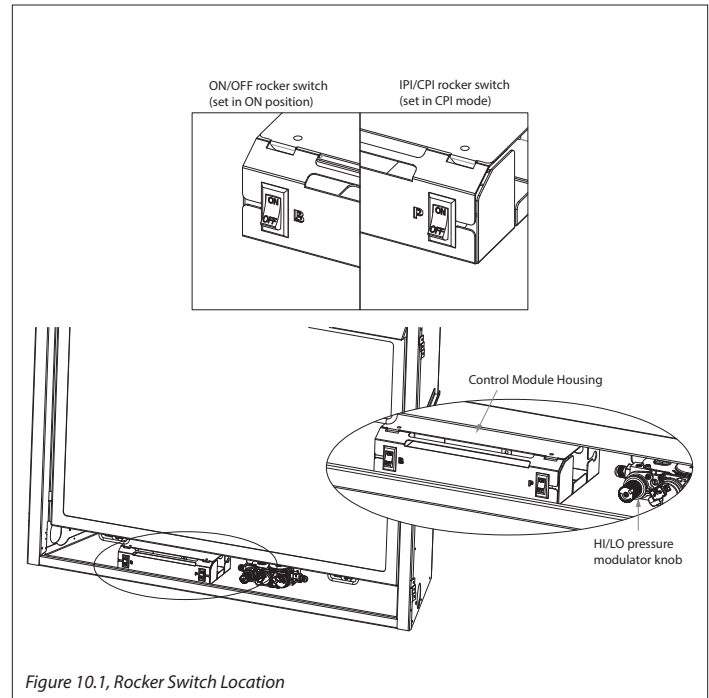


Figure 10.1, Rocker Switch Location

10.1.2 Flame Height and Heat Output Adjustment

Model #SP-41-LE (electronic ignition system) is equipped with a manual HI/LO pressure modulator knob for adjusting main burner flame height and the heat output of the fireplace.

- Open the control compartment access panel to access the gas valve and the HI/LO pressure regulator knob.
- To adjust, turn the HI/LO knob counterclockwise to LO position or clockwise to HI position, until desired flame appearance and heat output is achieved.

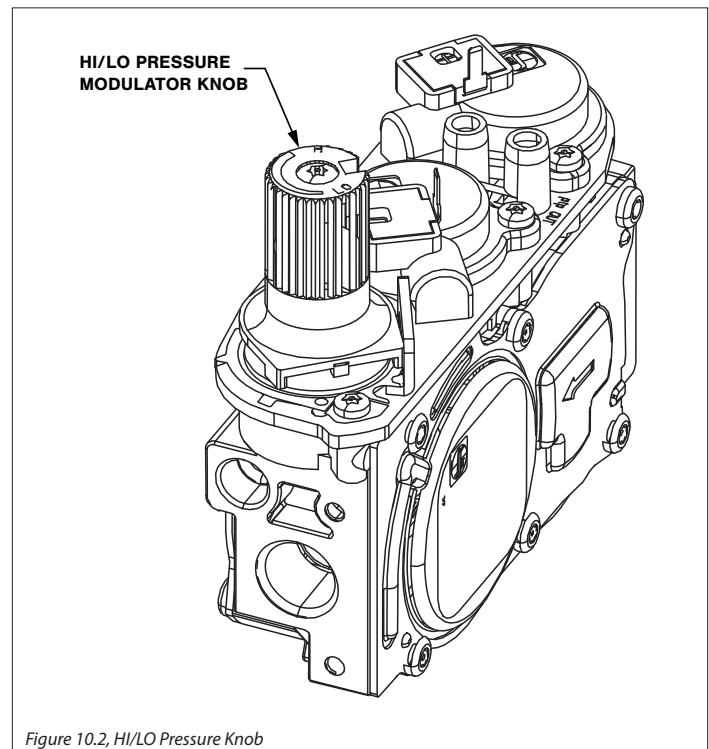


Figure 10.2, HI/LO Pressure Knob

10.2 Lighting Instructions (#SP-41-MV)

- When this fireplace is initially lit, condensation will appear on the glass. This is normal in all gas fireplaces and will disappear after several minutes.
- A paint smell will occur during the first few hours of burning. It

is recommended to leave the fan off during this period to help speed the paint curing process.

- This fireplace may produce noises of varying degree as it heats and cools due to metal expansion and contraction. This is normal, and does not affect the performance or longevity of 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.

- | | |
|---|--|
| <p>A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.</p> <p>B. BEFORE LIGHTING smell 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.</p> <p>WHAT TO DO IF YOU SMELL GAS</p> <ul style="list-style-type: none"> • Do not try 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. | <p>Follow the gas supplier's instructions.</p> <ul style="list-style-type: none"> • If you cannot reach your gas supplier, call the fire department. <p>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.</p> <p>D. Do not 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 that has been under water.</p> |
|---|--|

WARNING

Do not operate appliance with the glass front removed, cracked, or broken. Replacement of the glass should be done by a licensed or qualified service person.

Under no circumstances should any solid fuel (wood, coal, paper, cardboard, etcetera) be used in this appliance.



Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.

CAUTION

Clothing or other flammable material should not be placed on or near the appliance.


Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep toddlers, young children and other at risk individuals out of the room and away from hot surfaces.

LIGHTING INSTRUCTIONS

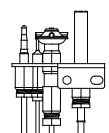
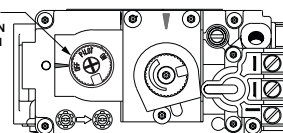
1. STOP! Read all the safety information above on this page.
2. Set thermostat to lowest setting (if applicable).
3. Turn off all electric power to the appliance.
4. Open the control compartment access panel.
5. Push in gas control knob slightly and turn clockwise  to "OFF".
NOTE: Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. Do not force.
6. Wait five (5) minutes to clear out any gas. Then, smell for gas, including near the floor. If you smell gas, STOP! Follow 'B' in the safety information above. If you do not smell gas, go to the next step.
7. Locate pilot - follow metal tube from gas control. The pilot is located inside the combustion chamber.
8. Push in gas control knob slightly and turn counterclockwise  to "PILOT".
9. Push in control knob all the way and hold. Press the piezo igniter button repeatedly until the pilot is lit and continue to hold in the gas control knob.
10. Hold the gas control knob in for one (1) minute after pilot is lit.

Release knob and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 5 through 10.


- If the knob does not pop out when released, stop and immediately call your service technician or gas supplier.
- If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.

11. Turn the gas control knob counterclockwise  to "ON".
12. If you desire only the pilot flame to be lit and not ignite the main burner, push the gas control knob in slightly and turn clockwise to 'PILOT'.
13. Set control compartment access panel back into position.
14. Turn on all electric power to the appliance.
15. Set thermostat to desired setting (if applicable).

GAS CONTROL KNOB SHOWN IN "OFF" POSITION



TO TURN GAS OFF TO APPLIANCE

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Set thermostat to lowest setting (if applicable). 2. Turn off all electric power to the appliance if service is to be performed. 3. Open the control compartment access panel. | <ol style="list-style-type: none"> 4. Push in gas control knob slightly and turn clockwise  to "OFF". 5. Set control compartment access panel back into position. |
|---|--|

10.2.1 Flame Height and Heat Output Adjustment

Model #SP-41-MV (millivolt system) is equipped with a manual HI/LO pressure modulator knob, located on the gas valve, for adjusting main burner flame height and the heat output of the fireplace.

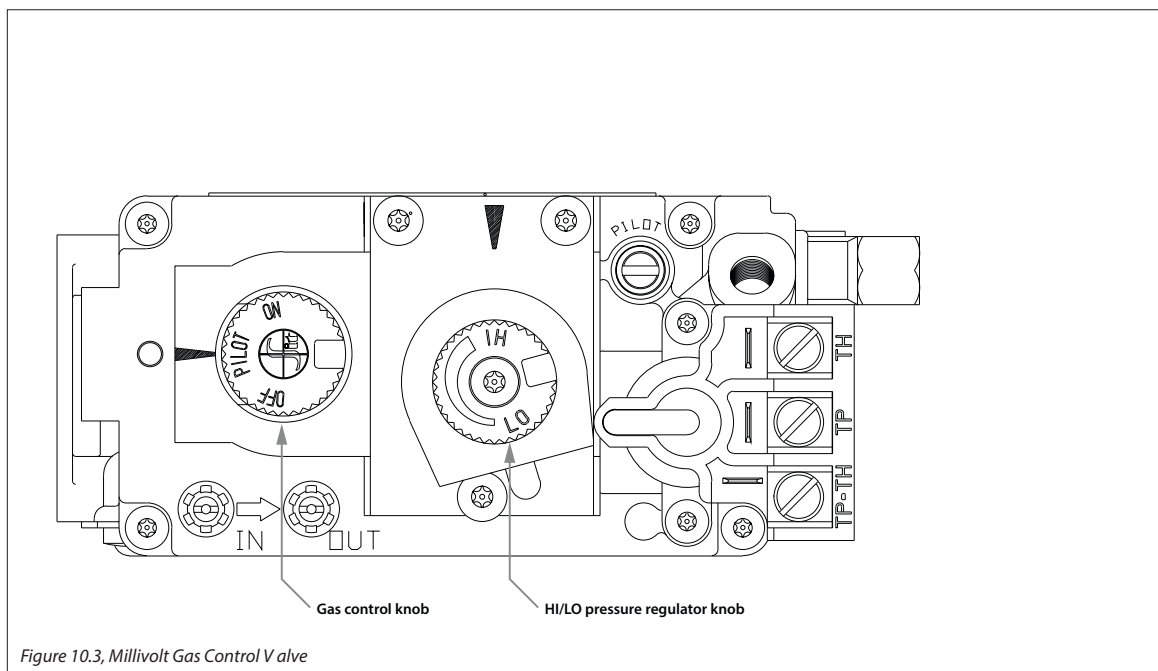
- Open the control compartment access panel to access the gas valve and the HI/LO pressure regulator knob.
- To adjust, turn the HI/LO knob counterclockwise to LO position or clockwise to HI position, until desired flame appearance and heat output is achieved.

10.2.2 7 Day Time-out Pilot-on-Demand Installations

For regions that require installations a 7 day time-out (refer to your local dealer to see if this applicable to your installation), model #SP-41-MV is fitted with a millivolt Pilot-on-Demand gas control valve equipped with a timer set for **7 consecutive days** once the pilot has been ignited. If there is no appliance operation within the **7 days**, the main burner and/or the pilot will turn off, *but the gas control knob will still be set in its original position ('PILOT' or 'ON')*.

- You must manually cycle the system to reignite operation.
- This a standard safety feature of the SIT Millivolt Pilot-on-Demand control system.
- Once you turn the pilot on, the **7 day** timer will start. If at any time during the following **7 days** your main burner ignites, it will reset the timer back to **7 days**.

To operate your millivolt pilot-on-demand system, open the control compartment access panel to access the gas valve and gas control knob. Refer to the lighting instructions on the previous page for lighting procedures and safety information.



11.0 ADJUSTMENT

11.1 Gas Pressure Testing

NOTE: The appliance and its appliance main gas valve must be disconnected from the gas supply piping system during any pressure testing of the system at test pressures in excess of ½ psi (3.5 kPa).

IMPORTANT: Pressure check taps for manifold (outgoing) and inlet (incoming) pressure have been incorporated into the valve. The pressure tap marked OUT measures outgoing pressure. The pressure tap marked IN measures incoming pressure.

11.1.1 Electronic Gas Valve Pressure Testing

11.1.1.1 Inlet Pressure Test

NOTE: Make sure to apply these incoming pressure test with all other gas appliances on, or at full capacity in the house for proper pressure reading.

IMPORTANT: If the inlet pressure reading is too high or too low, contact the gas company. Only a qualified gas service technician should adjust incoming gas pressure.

1. Loosen the inlet (IN) pressure tap by turning screw counter-clockwise. See (A) in Figure 11.1.
2. Attach manometer using a ¼" (6mm) I.D. hose.
3. Set IPI/CPI rocker switch to CPI (ON).
4. Light pilot. Check manometer reading.
5. Press the main ON/OFF rocker switch to ON. Burner should light. Check pressure to ensure it is between the minimum and maximum recommended pressure settings.
6. Set IPI/CPI rocker switch to IPI (OFF). Press the main ON/OFF rocker switch to OFF. Pilot and burner should turn off.
7. Disconnect hose and tighten the inlet (IN) pressure tap by

turning screw clockwise. Screw should be snug. Do not over tighten.

8. Relight pilot and burner. Then reattach manometer to the inlet pressure tap (A) to verify the tap is completely sealed. Manometer should read no pressure.

11.1.1.2 Manifold Pressure Test

1. Light pilot.
2. Loosen manifold (OUT) pressure tap by turning screw counter-clockwise. See (B) in Figure 11.1.
3. Attach manometer to pressure tap using a ¼" (6mm) I.D. hose.
4. Set IPI/CPI rocker switch to CPI (ON).
5. Press the main ON/OFF rocker switch to ON. Burner should light. Check manometer reading.
6. Set IPI/CPI rocker switch to IPI (OFF). Press the main ON/OFF rocker switch to OFF. Pilot and burner should turn off.
7. Disconnect manometer hose and tighten the manifold (OUT) pressure tap by turning screw clockwise. Screw should be snug. Do not over tighten.
8. Attach the manometer to the manifold pressure tap (B) to verify it is completely sealed. The manometer should read no pressure when pilot and burner are on.

Table 11.1, Pressure Requirements - SP-41-LE (Electronic)

Gas Pressure	Natural Gas	Propane
Inlet Pressure Tap (A)	5" - 10.5" WC (1.25 - 2.62 kPa)	12" - 13" WC (2.99 - 3.24 kPa)
Manifold Pressure Tap (B)	1.6" - 3.5" WC (0.41 - 0.87 kPa)	6.4" - 10" WC (1.59 - 2.48 kPa)

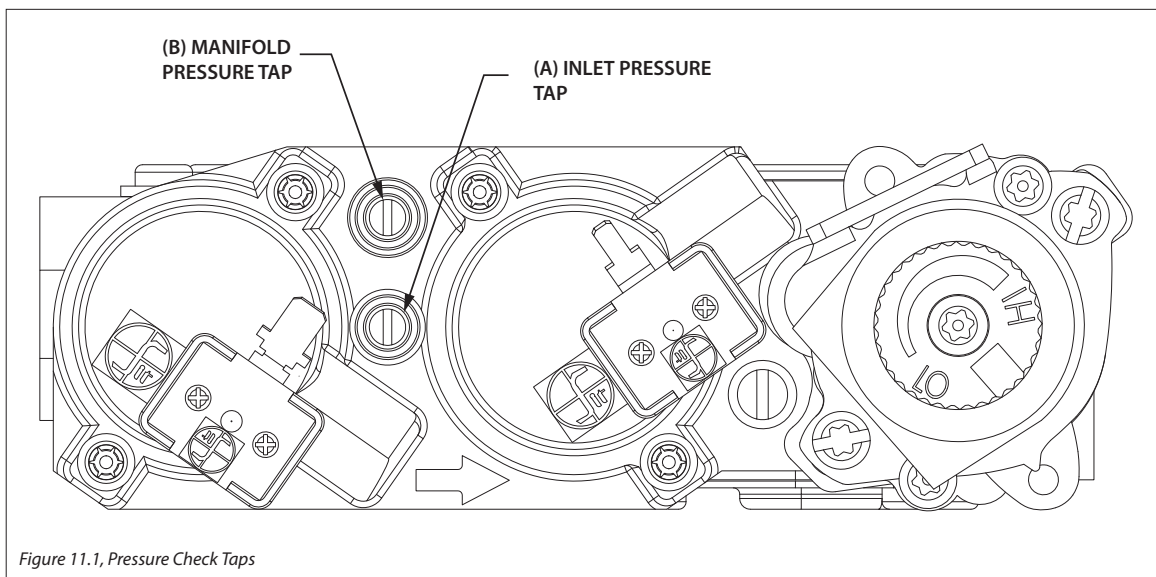


Figure 11.1, Pressure Check Taps

11.1.2 Millivolt Gas Pressure Testing

IMPORTANT: Pressure check taps for manifold (outgoing) and inlet (incoming) pressure have been incorporated into the valve. The pressure tap marked OUT measures outgoing pressure. The pressure tap marked IN measures incoming pressure.

11.1.2.1 Inlet Pressure Test

NOTE: Make sure to apply the incoming pressure test with all other gas appliances on, or at full capacity in the house for a proper pressure reading. If the inlet pressure reading is too high or too low, contact the gas company. Only a qualified gas service technician should adjust incoming gas pressure. A low pressure can cause a delayed ignition.

1. Loosen the inlet (IN) pressure tap by turning screw counterclockwise. See (A) in Figure 11.2.
2. Attach manometer using a ¼" (6mm) I.D. hose.
3. Light pilot.
4. Turn the gas control knob to ON. Burner should not light. Note manometer reading.
5. Press the ON/OFF rocker switch to ON. Check pressure to ensure it is near maximum inlet pressure.
6. Press the ON/OFF rocker switch to OFF.
7. Turn the gas control knob to OFF.
8. Disconnect hose and tighten the inlet (IN) pressure tap by turning screw clockwise. Screw should be snug. Do not over tighten.

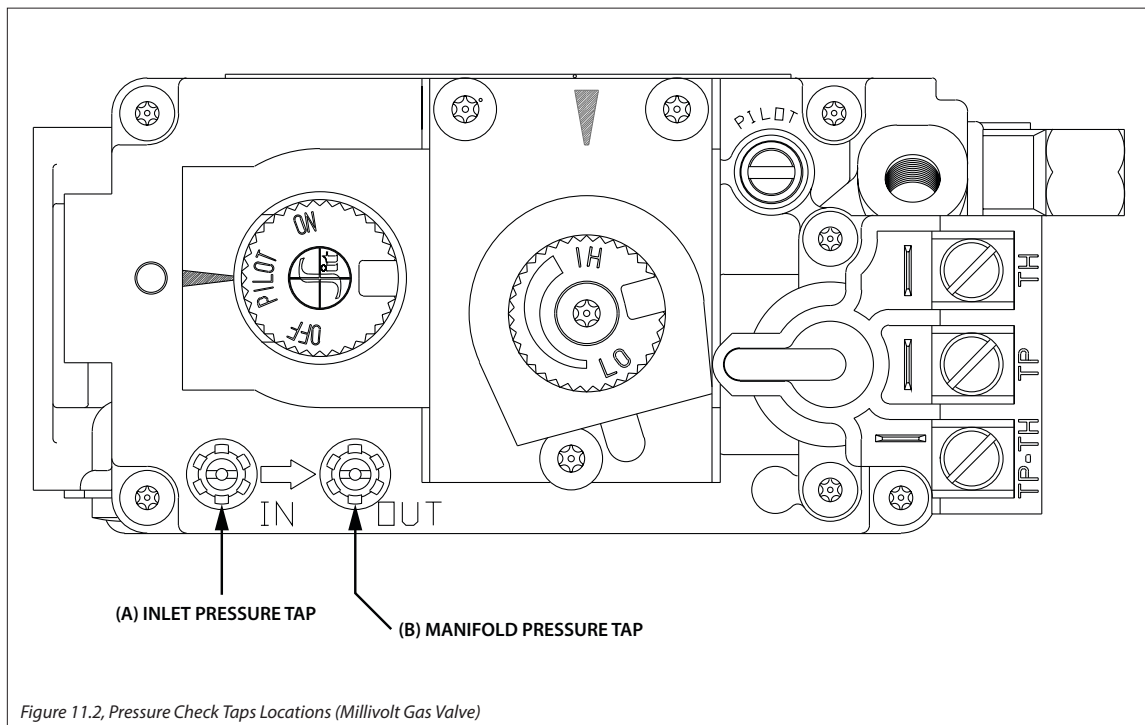
9. Relight pilot and turn the gas control knob to ON. Reattach manometer to the inlet pressure tap (A) to verify the tap is completely sealed. Manometer should read no pressure.

11.1.2.2 Manifold Pressure Test

1. Light pilot.
2. Loosen manifold (OUT) pressure tap by turning screw counterclockwise. See (B) in Figure 11.2.
3. Attach manometer to pressure tap using a ¼" (6mm) I.D. hose.
4. Turn gas control knob to ON.
5. Press the rocker switch to ON and note manometer reading.
6. Disconnect manometer hose and tighten the manifold (OUT) pressure tap by turning screw clockwise. Screw should be snug. Do not over tighten.
7. Attach the manometer to the manifold pressure tap (B) to verify it is completely sealed. The manometer should read no pressure when the ON/OFF rocker switch is pressed to ON.

Table 11.2, Pressure Requirements -SP-41-MV (Millivolt)

Gas Pressure	Natural Gas	Propane
Inlet Pressure Tap (A)	5" - 10.5" WC (1.25 - 2.62 kPa)	11" - 13" WC (2.74 - 3.24 kPa)
Manifold Pressure Tap (B)	1.6" - 3.5" WC (0.41 - 0.87 kPa)	6.4" - 10" WC (1.59 - 2.48 kPa)



11.2 Burner Flame Adjustments

WARNING: To avoid property damage or personal injury, allow the fireplace ample time to cool before making any adjustments.

Burner flame appearance and characteristics are affected by altitude, fuel quality, venting configuration, and other factors. After installation, this appliance may need additional adjustments to achieve optimum flame appearance and visual aesthetics.

11.2.1 Burner Venturi

WARNING: VENTURI ADJUSTMENT MUST BE DONE BY A QUALIFIED SERVICE TECHNICIAN.

NOTE: Burner venturi air shutter settings have been factory set. Refer to Table 11.3.

When this appliance is first lit, the burner flames will appear blue. During the first 15 minutes of operation, flame appearance will gradually turn to the desired yellow appearance. If the flames remain blue, or become dark orange with evidence of sooting (black tips), adjustment of the air shutter opening may be necessary.

Regardless of venturi orientation, closing the air shutter will achieve a desired yellow flame, but may produce soot on the glass. Opening the air shutter will cause a short, blue flame that may lift off the burner.

Fuel	Air Shutter Opening
Natural Gas	3/16" (4.7mm) OPEN
Propane	1/2" (13mm) OPEN

11.2.1.1 Venturi Adjustment

NOTE: If soot is present on the glass, check log positioning before adjusting the venturi. Logs must not block burner ports.

1. Open control compartment access panel.
2. Remove the safety barrier and glass frame assembly.
3. Remove the log set and lava rock.
4. Remove rear log plate (3) screws.
5. Remove the pilot shield.
6. Remove (2) screws securing burner. Release the burner tube venturi off the burner orifice.
7. Loosen screw on venturi and adjust as necessary. Re-tighten screw.
8. Reinstall all components previously removed.
9. Set control compartment access panel back into position.

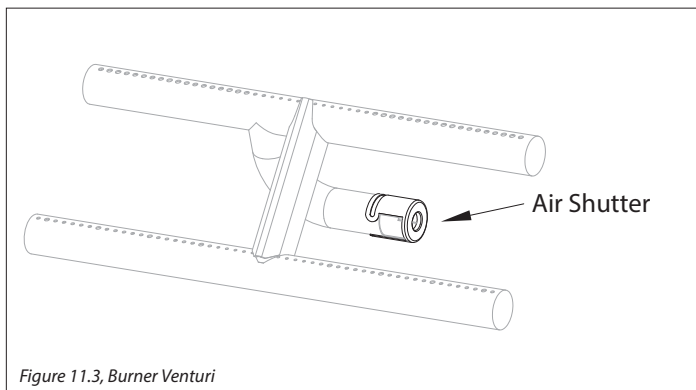


Figure 11.3, Burner Venturi

IMPORTANT: Slight adjustments to the venturi opening will create dramatic results. Adjust at slight increments until desired look is achieved. Always burn the fireplace for at least 15 minutes, and allow the appliance ample time to cool before making any further adjustments.

Flame Characteristic	Cause	Solution
Dark, orange flame with black tips	Venturi closed too far	Open venturi slightly
Short, blue flames	Venturi open too far	Close setting slightly
Lifting (ghosting) flames	Gas pressure too high Venturi closed too far	Check manometer settings Open venturi setting slightly

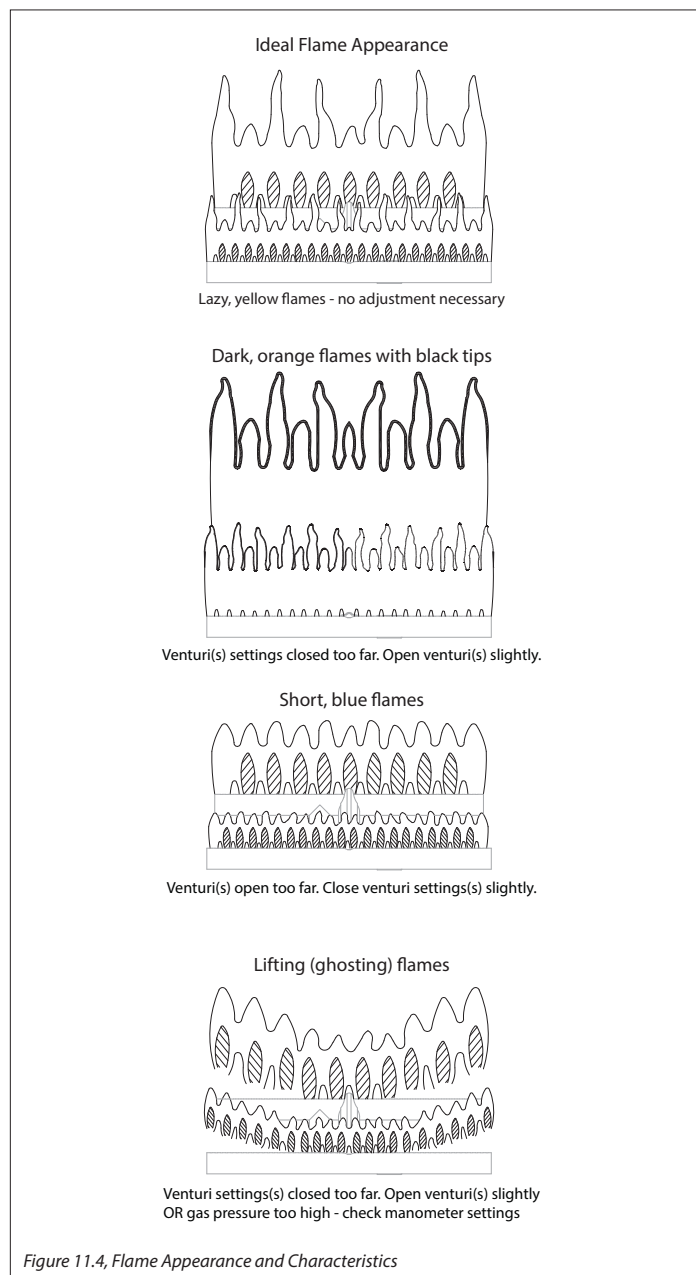


Figure 11.4, Flame Appearance and Characteristics

11.2.2 Vent restriction (after installation)

WARNING: To avoid property damage or personal injury, allow the fireplace ample time to cool before making any adjustments.

WARNING: Improper vent installation may cause the burner flames to lift or “ghost.” Perform a visual check on flame appearance after restrictor adjustment to ensure proper performance.

Vertical terminations may display an active, compact flame. If this appearance is not desirable, a restrictor may need to be installed or modified after vent termination installation. Access to the vent exit for restriction can be reached through the fireplace baffle. Allow the fireplace to burn for 15 minutes before making any adjustments.

Flame Appearance	Draft Problem	Solution
Short, flickering	Excessive draft Not enough restriction	Add restrictor
Lifting or ghosting*	Insufficient draft	Remove inner ring(s) on restrictor, or Remove restrictor
*If flames continue to lift or ghost after opening the restrictor and verifying correct vent installation, shut off the gas supply and call a qualified service technician.		

11.2.2.1 Restrictor Installation

1. Open the control compartment access panel
2. Remove the safety barrier and glass frame assembly.
3. Remove (3) screws at the firebox ceiling securing the baffle. Lift the baffle out of slots on the firebox back wall.
4. Bend the tabs on the restrictor plate (included in components packet) to approximately 80° angles. This will create tension when the restrictor plate is inserted into the exhaust pipe.
5. Insert restrictor plate into the 4" (102mm) exhaust pipe with the tabs pointing towards you.
6. Reinstall baffle by inserting the tabs on the baffle into the slots on the firebox back wall. Secure the baffle to the firebox ceiling with (3) screws.
7. Reinstall all other components previously removed.
8. Set control compartment back into position.

11.2.2.2 Restrictor Modification

1. Open the control compartment access panel.
2. Remove the safety barrier and glass frame assembly.
3. Remove (3) screws at the firebox ceiling securing the baffle. Lift the baffle out of slots on the firebox back wall.
4. Remove the restrictor plate by pulling it down and out of the 4" (102mm) exhaust pipe. Make necessary modifications to achieve desired flame appearance.
5. Insert restrictor plate into the 4" (102mm) exhaust pipe with the tabs pointing towards you.
6. Reinstall baffle by inserting the tabs on the baffle into the slots on the firebox back wall. Secure the baffle to the firebox ceiling with (3) screws.
7. Reinstall all other components previously removed.
8. Set control compartment back into position.

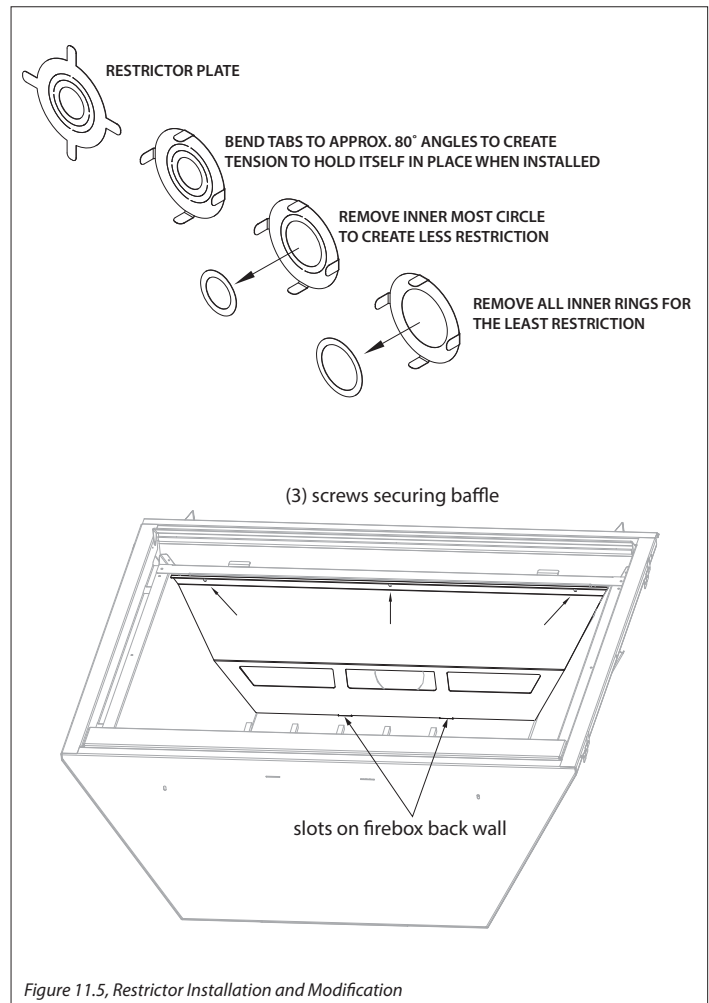


Figure 11.5, Restrictor Installation and Modification

12.0 TROUBLESHOOTING

12.1 Electronic Ignition System

ATTENTION: Troubleshooting must be performed by a qualified technician.

Before proceeding with the steps in the following troubleshooting guide,

- Verify proper 120VAC power supply to the control module.
- Verify the control module battery pack are fresh and installed

with correct polarity.

- Verify all connections between the wire harnesses and the system components are proper and positive.
- Verify inlet pressure meets the recommended inlet pressure. If necessary, adjust line pressure regulator.

Issue	Cause	Solution
Pilot will not light	Electrical power interrupted or disconnected	Restore electrical power to appliance or use battery back-up.
	Wiring disconnection	Ensure batteries are fully charged if using battery back-up as power source. Use wiring schematic in this manual to determine that all wiring connections are secure and correct.
	Gas supply turned off	Check remote shut-off valves from the appliance. Usually there is a valve near the main gas line. There may be more than (1) valve between the appliance and main gas line.
Pilot will not stay lit	No propane in tank	Check propane tank. Refill if necessary.
	Low gas pressure	Consult a plumber or a gas supplier. Can be caused by situations such as a bent line, too narrow diameter or pipe, or a low line pressure.
	Pilot flame not making contact with the flame rectification sensor on the pilot assembly	Verify the pilot flame envelopes the top of the flame sensor and extends far enough onto burner for ignition. To adjust pilot flame, turn pilot adjustment screw on the gas valve clockwise to decrease flame, and counterclockwise to increase flame.
	Pilot adjustment screw not sealed	Seal pilot adjustment screw. Do not over-tighten.
Pilot flame always on, or will not extinguish	Control system set to CPI mode	Set control system to IPI mode.
Main burner flame will not light	ON/OFF rocker switch in OFF position	Switch rocker switch to ON position.
	Gas supply turned off	Check for multiple shut-offs in the supply line. Verify gas supply is turned on.
	Low gas supply	Consult with plumber or gas supplier. Check propane tank. Refill if necessary.
	Wiring disconnection or improper wiring	Check for faulty or incorrect wiring.
	Plugged main burner orifice	Remove blockage.
	Pilot flame	Verify the pilot flame is properly directed to ignite burner. See pilot flame troubleshooting above.

Issue	Cause	Solution
Pilot and burner extinguish while in operation	No propane in tank	Check propane tank. Refill if necessary.
	Incorrect glass assembly installation	Refer to Section 8.1 Glass Frame Assembly on page 33.
	Incorrect vent cap installation	Adjust if necessary.
	Vent cap blockage	Remove debris if necessary.
	Improper pitch on horizontal venting	¼" (6mm) rise per foot (30cm) is required on horizontal venting
	Exhaust vent pipe leaking exhaust gases back into firebox	Check for leaks and repair if necessary.
	Excessive draft	A restrictor plate may need to be installed or modified. Refer to Section 11.2.2 Vent restriction (after installation) on page 47.
Soot appears on glass	Improper log placement	Refer to Section 8.2 #SP41-50A Log Set Installation on page 34.
	Improper venturi setting	Venturi air shutter may need to be opened slightly to allow more air into the gas mix. Refer to Section 11.2.1 Burner Venturi on page 46.
	Incorrect vent cap installation	Adjust if necessary.
	Vent cap blockage	Remove debris if necessary.
Flame burns blue and lifts off burner	Improper venturi setting	Venturi air shutter may need to be opened slightly to allow more air into the gas mix. Refer to Section 11.2.1 Burner Venturi on page 46.
	Incorrect vent cap installation	Adjust if necessary.
	Blockage or leakage of the vent system	Check the vent pipes for leaks, and the vent cap for debris. Repair the vent pipes or remove debris from vent cap, if necessary.
No reaction to command	Battery back up batteries low	Replace batteries.

12.2 Continuous Pilot Ignition (Millivolt) System

ATTENTION: Troubleshooting must be performed by a qualified technician.

Issue	Cause	Solution
No spark from electrode to pilot when piezo button is triggered	Piezo igniter wiring disconnection	Verify piezo igniter is properly grounded. Tighten mounting fastener, if required.
		Check and repair, if necessary, the wire connections between the piezo igniter and igniter electrode.
	Check wiring disconnection	Check wiring at back of electrode igniter for proper connection.
	Incorrect electrode position	Verify there is a 1/8" (3mm) gap between the electrode and pilot. Readjust if necessary. Direct metal contact may cause an arc below the electrode and along the electrode wire.
Spark igniter will not light after repeated triggering of piezo button	No gas	Check for multiple shut-off valves in the supply line.
		Check propane tank for gas supply. Refill if necessary.
Pilot will not stay lit after carefully following lighting instructions	Pilot flame does not impinge on thermocouple	Clean pilot hood
		Adjust pilot flame at gas valve for proper flame impingement.
	Loose thermocouple connection	Ensure thermocouple connection at gas valve is full inserted and tight - hand tight plus 1/4 turn.
	Thermocouple reading below 15 millivolts	Disconnect the thermocouple from valve. Place one millivolt meter lead wire on the end of the thermocouple, and the other millivolt meter lead wire on the thermocouple's copper wire. Start the pilot while holding the gas valve control knob in. If the millivolt reading is less than 15 millivolts, replace thermocouple.
	Thermopile not generating sufficient millivolts	Adjust, if necessary, the pilot flame to envelope thermopile.
Check thermopile connections are properly wired to the gas control valve. Tighten if necessary.		
Measure millivolt production with a millivolt meter. Turn remote/ thermostat/wall switch, or ON/OFF rocker switch to OFF. Turn the gas valve control to the PILOT position (pilot should remain lit). Take millivolt reading at TH-TP and TP terminals on gas valve. Reading should be 350 millivolts, minimum. If reading is less than 350 millivolts, replace thermopile.		
Frequent pilot outages	Pilot shield not installed	Install pilot shield.
	Pilot safety dropout	Pilot flame is too high or too low. Clean pilot hood and adjust pilot flame for maximum flame impingement on thermopile.

Issue	Cause	Solution
Burner will not light	Lighting instructions not followed	Turn gas control knob to ON position. Turn the ON/OFF rocker switch to ON position. Put wall switch, remote control, or thermostat in heat demand position.
	Plugged main burner orifice	Remove blockage as necessary.
	Switching device is defective	Check remote, thermostat, or wall switch wires for proper connection. Place jumper wires across terminals at switch. If the burner lights, replace the defective switch, thermostat, or batteries in remote control as necessary. If switching device checks out as described above, place jumper wires across switches on the gas valve. If the burner lights, the switching wires are faulty or connections are bad. Replace as necessary.
Burner will not stay lit	Thermopile wires loose at valve terminals	Tighten if necessary.
	Thermopile wires ground out due to pinched wires	Free pinched wires if necessary.
Pilot and burner extinguish while in operation	No propane in tank	Check propane tank. Refill if necessary.
	Incorrect glass frame assembly installation	Refer to Section 8.1 Glass Frame Assembly on page 54.
	Improper pitch on horizontal venting	¼" (6mm) per 12" (30cm) is required on horizontal venting
	Defective thermopile or thermocouple	Check thermopile and thermocouple for proper millivolts
	Inner vent pipe leaking exhaust gases back into firebox	Check for leaks and repair if necessary.
	Vent cap blockage	Remove debris if necessary.
Glass sooting	Improper log placement	Refer to Section 8.2 #SP41-50A Log Set Installation on page 34.
	Improper venturi setting	Venturi air shutter may need to be opened slightly to allow more air into the gas mix. Refer to Section 11.2.1 Burner Venturi on page 46.
	Incorrect vent cap installation	Adjust if necessary.
	Vent cap blockage	Remove debris if necessary.
Flame burns blue and lifts off burner	Improper venturi setting	Venturi air shutter may need to be opened slightly to allow more air into the gas mix. Refer to Section 11.2.1 Burner Venturi on page 46.
	Incorrect vent cap installation	Adjust if necessary.
	Blockage or leakage of the vent system	Check the vent pipe for leaks, and the vent cap for debris. Repair vent pipe or remove debris from vent cap if necessary.

13.0 MAINTENANCE

ATTENTION: Installation and repair should only be done by a qualified service person. The appliance should be inspected before use and at least annually by a professional service person. More frequent cleaning might be required due to excessive lint from carpeting, bedding material, et cetera. It is imperative that control compartments, burners, and circulating air passageways of the appliance be kept clean. Use a vacuum to clean all components.

WARNING: The appliance area must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.

13.1 Firebox

Performed by: Qualified Service Person

Frequency: Annually

Action:

- Vacuum and clean any debris in the firebox that is not supposed to be there.
- Inspect and operate the bottom latch assembly. Verify the assembly is free from obstruction to operate. The handles must have spring tension but be able to move forward freely.

13.2 Fan (optional)

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

Performed by: Qualified Service Person

Frequency: Every 6 months

Action:

- Disconnect the fan from electrical current and vacuum.
- The bearings are sealed and require no oiling.

13.3 Vent System

NOTE: If the vent-air intake system is disassembled for any reason, reinstall per instructions provided with installation. Refer to Section 7.0 Venting on page 24.

Performed by: Qualified Service Person

Frequency: Annually

Action:

- Examination of the vent system is required.
- The flow of combustion and ventilation air must not be obstructed.

13.4 Glass Assembly

CAUTION: Do not operate appliance with the glass assembly removed, cracked, or broken. Use protective gloves to handle any broken or damaged glass assembly components.

WARNING: Do not use substitute materials.

WARNING: Avoid striking or slamming glass assembly. Avoid abrasive cleaner. DO NOT clean glass while it is hot.

IMPORTANT: Any safety screen, guard, or barrier removed for servicing the appliance must be replaced prior to operating the appliance.

Performed by: Homeowner

Frequency: Annually

Action:

- Prepare a work area large enough to accommodate the glass assembly on a flat, stable surface.
- Remove safety screen and glass frame assembly.
- Clean glass window with a suitable fireplace glass cleaner using a soft cloth. Abrasive cleaners must not be used. Be careful not to scratch the glass when cleaning.
- Reinstall glass assembly and safety screen.
- Any safety screen, guard, or barrier removed for servicing the appliance must be replaced prior to operating the appliance.

Performed by: Qualified Service Person

Frequency: Annually

Action:

- Clean glass window with a suitable fireplace glass cleaner using a soft cloth. Abrasive cleaners must not be used. Be careful not to scratch the glass when cleaning.
- Inspect the glass for cracks, scratches, and nicks.
- Verify the glass assembly is properly intact and not damaged.
- Replace the glass and the assembly #701-017T as necessary.
- Only Hussong Mfg. Co., Inc. will supply the replacement of glass assembly as a complete unit.

13.5 Burner and Pilot System

The burner assembly may be removed for easier access to the control compartment. Refer to 8.3 Control Board Removal and Installation on page 35. Verify gas supply is turned on and filled. Consult with plumber or gas supplier as necessary.

Performed by: Qualified Service Person

Frequency: Annually

Action:

- Vacuum all components of the burner system.
- Check all accessible gas-carrying tubes, connections, pipes and other components for leaks.
- Inspect the operation of the flame safety system Pilot or Flame rectification device. Visually check pilot light when in operation.
- Continuous Pilot Ignition System (Millivolt): Ensure pilot flame impinges on thermocouple. Clean pilot hold and adjust pilot flame at gas valve for proper flame impingement. Verify thermocouple connections and millivolt production.
- Inspect and ensure the lighting of the main burner occurs within (4) seconds of the main gas valve opening. Check for faulty or incorrect wiring and correct or replace as necessary. Inspect primary air openings (burner ports) for blockage, especially near the pilot.
- Visually check burner flame pattern when in operation. Flames should be steady, not lifting or floating.
- Test and measure the flame failure response time of the flame safety system. It must de-energize the safety shutoff in no more than (30) seconds.

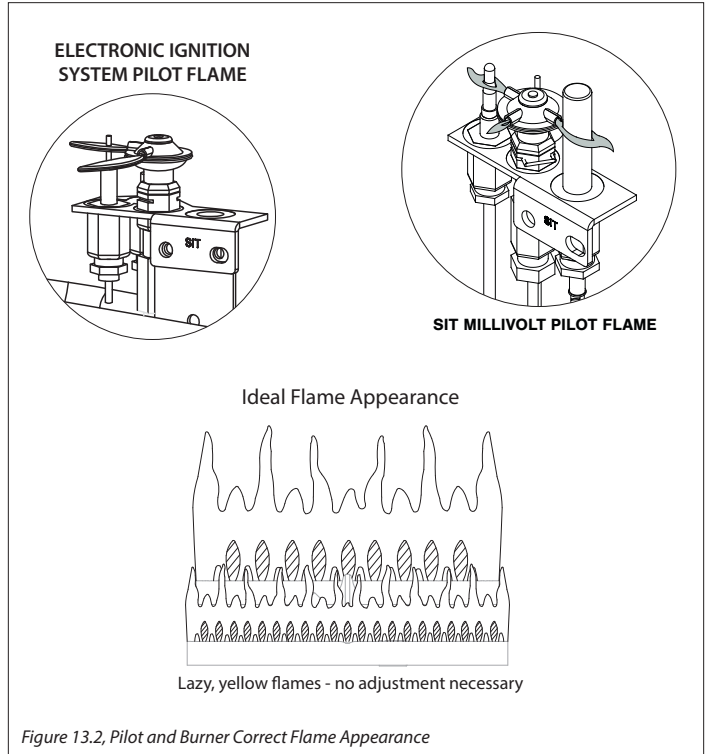


Figure 13.2, Pilot and Burner Correct Flame Appearance

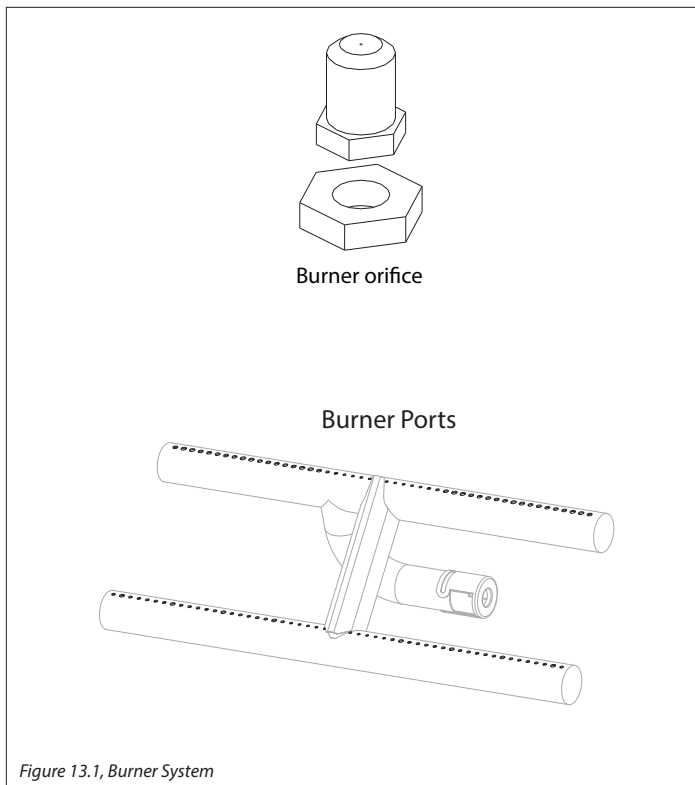



Figure 13.1, Burner System

14.0 REPLACEMENT PARTS LIST

Replacement parts are available through your local dealer. Contact your local dealer for availability and pricing.

The following warning is for replacement parts for this appliance.

 **WARNING:** This product can expose you to chemicals including Lead, which is [are] known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information, visit www.P65Warnings.ca.gov.

SP-41-LE CONTROL BOARD AND PARTS			
Control Board - Natural Gas	SP41-140A	Pilot Assembly - Propane	700-551-1
Control Board - Natural Gas (7 day time-out)	SP41-140A-7	Pilot Orifice - Natural Gas #62	700-166
Control Board - Propane	SP41-141A	Pilot Orifice - Propane #35	700-168
Control Board - Propane (7 day time-out)	SP41-141A-7	SIT IPI Pilot Hood	700-598
SIT IPI Gas Valve - Natural Gas	700-600	18" Flexible Gas Line - Black	700-213B
SIT IPI Gas Valve - Propane	700-600-1	Flexible Gas Line - Valve to Burner Connection	700-226F
Proflame 2 IFC Board	700-758	Natural Gas Burner Orifice #41	700-241
Proflame 2 IFC Board (7 day time-out)	700-758-7	Propane Burner Orifice #53	700-253
IFC Wire Harness Assembly	700-602	Conversion Kit - Natural Gas	NCK-SP41LE-S
On/Off Rocker Switch	700-023	Conversion Kit - Propane	LCK-SP41LE-S
Proflame 2 On/Off Wire Harness	700-656	Burner Tube	SP41-351A
Pilot Assembly - Natural Gas	700-551	Pilot Shield	SP41-043A

SP-41-MV CONTROL BOARD AND PARTS			
Control Board - Natural Gas	SP41-770A	Thermocouple	700-093
Control Board - Natural Gas (7 day time-out)	SP41-770A-7	Pilot Orifice - Natural Gas	700-165
Control Board - Propane	SP41-771A	Pilot Orifice - Propane	700-095
Control Board - Propane (7 day time-out)	SP41-771A-7	SIT Millivolt Pilot Hood	700-098
SIT Gas Valve - Natural Gas	700-086N	SIT Millivolt Quick Change Screw	900-QCS
SIT Gas Valve - Natural Gas (7 day time-out)	700-086N-7	18" Flexible Gas Line - Black	700-213B
SIT Gas Valve - Propane	700-087A	Flexible Gas Line - Valve to Burner Connection	700-226F
SIT Gas Valve - Propane (7 day time-out)	700-087A-7	Natural Gas Burner Orifice #41	700-241
On/Off Rocker Switch	700-023	Propane Burner Orifice #53	700-253
Pilot/Generator/Thermocouple - Natural Gas	700-088	Conversion Kit - Natural Gas	OCK-S41A
Pilot/Generator/Thermocouple - Propane	700-089	Conversion Kit - Propane	OCK-S53A
Piezo Igniter with nut (no wire)	700-090	Burner Tube	SP41-351A
Flexible Pilot Tubing (valve to pilot)	700-091	Pilot Shield	SP41-043A
Millivolt Generator	700-092		

Hussong Manufacturing Co., Inc.
P.O. Box 577
204 Industrial Park Drive
Lakefield, MN 56150-0577
USA
SP-41-MV and SP-41-LE

GLASS AND GLASS GASKET

36-1/2" x 26-1/8" Glass with Gasket	701-017T
1-1/8" Glass Gasket	900-006
Valance	SP41-005

SAFETY BARRIERS

Safety Barrier Screen (only)	SP41-SCR
Prairie Design Overlay	SP41-POL
Arched Prairie Design Overlay	SP41A-POL

TRADITIONAL LOG SET

6 Piece Log Set	SP41-50A
#SP41 1A Log	SP41-1A
#SP41 2A Log	SP41-2A
#SP41 3A Log	SP41-3A
#SP41 4A Log	SP41-4A
#SP41 5A Log	SP41-5A
#SP41 6A Log	SP41-6A
1/2" Lava Rock	600-702
Rock Wool Embers	900-REMB

ADDITIONAL COMPONENTS

4" Restrictor Plate	900-085
Manual Gas Shut-off Valve	700-203
Lower Access Cover	SP41-201
Vent Heat Shield Assembly	SP41-HHS

FAN KIT

Fan Kit	SP-028
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Hussong Manufacturing Co., Inc.
P.O. Box 577
204 Industrial Park Drive
Lakefield, MN 56150-0577
USA
SP-41-MV and SP-41-LE

LIMITED LIFETIME WARRANTY

Warranty Coverage

Hussong Manufacturing Company, Inc. (Hussong Mfg.) warrants this Kozy Heat gas appliance from the date of purchase to the original purchaser, that it is free of defects in materials and workmanship at the time of manufacture. Registering your fireplace warranty does not require any documents to be sent in to Hussong Mfg. Please retain your proof of purchase reflecting the date of purchase along with the serial number and model of your fireplace for any future warranty claims.

If a defect is noted within the warranty period, the customer should contact their authorized dealer for service within 30 days.

30 Days: Parts & Labor*

- Paint
- Light bulbs
- Gasket material
- Glass media and media dam

Year 1: Parts & Labor*

- All parts and material except the items listed in the 30 day warranty and any exclusions or limitations that may apply.
**Hussong Mfg. will issue labor reimbursement to an authorized dealer only. Hussong Mfg. will not be liable for charges occurred as a result of any service performed by a non-authorized service provider, without pre-authorization.*

Years 2 through Lifetime: Parts Only

- Firebox
- Heat Exchanger
- Logs
- Burner tube or pan
- Outer shell
- Heat shield(s)
- Front Viewing Glass (thermal shock only)
- Refractory Firebox liner (excluding enamel and glass panels)

EXCLUSIONS AND LIMITATIONS

1. This appliance must be installed by a licensed, authorized service technician or contractor. It must be installed, operated and maintained at all times in accordance with the instructions in the owner's manual or the warranty is void.
2. This warranty is nontransferable and is made to the original purchaser only.
3. This warranty excludes standard wear and tear of the appliance which is considered normal usage over time.
4. Discoloration and some minor expansion, contraction or movement of certain parts, resulting in noise, is normal and not a defect.
5. Warranty is automatically voided if the appliance's serial number and/or testing label is removed or if the appliance is altered or tampered with in any way.
6. Warranty is void if the appliance is subject to submersion in water or prolonged periods of dampness or condensation. Any damage to any part of the appliance due to water or weather damage which is the result of, but not limited to, improper chimney/venting installation will also render this warranty void.
7. This warranty does not cover installation and operational related problems such as environmental conditions, nearby trees, buildings, hilltops, mountains, inadequate venting or ventilation, excessive offsets, negative air pressures caused by any mechanical systems.
8. Chimney components and other Non-Hussong Mfg. accessories used in conjunction with the installation of this appliance are not covered under this warranty.
9. Damage to plated surfaces or accessories, if applicable, caused by scratches, fingerprints, melted items or other external sources left on the surfaces from the use of cleaners is not covered under this warranty.
10. It is expressly agreed and understood that this warranty is Hussong Mfg.'s sole obligation and purchaser's exclusive remedy for defective fireplace equipment. Hussong Mfg. is free of liability for any damages caused by this appliance, as well as inconvenience expenses and materials. Incidental or consequential damages are not covered by this warranty. In some states, the exclusion of incidental or consequential damage may not apply. Hussong Mfg. shall not be held to implied warranties and this warranty shall replace all previous warranties.
11. This limited lifetime warranty is the only warranty supplied by Hussong Mfg. Any warranties extended to the purchaser by the dealer/distributor, whether expressed or implied, are hereby disclaimed and the purchaser's recourse is expressly limited to the warranties set forth herein.
12. Any part repaired or replaced during the limited warranty period will be warranted under the terms of the limited warranty for a period not to exceed the remaining term of the original limited warranty.
13. Any replacement part repaired after the warranty period will include a 90 day parts coverage
14. Hussong Mfg. may require the defective part to be returned using a pre-authorized RGA number or a photo of the defective component. Failure to provide either can result in a denied claim.
15. This warranty does not cover the appliances ability to heat a desired space, as there are many factors that can impact the heating performance in each home. Consideration should be implied to the appliance's location, room size, home design, environmental conditions, insulation, and tightness of the home.
16. Hussong Mfg. reserves the right to make changes at any time, without notice, in design, material, specifications, and prices. Hussong Mfg. reserves the right to discontinue models and products.

