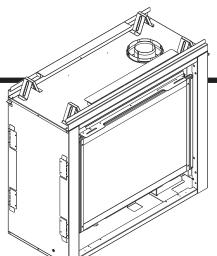
# **meatilator**

The first name in fireplaces

Models: GDST3831I



# Owner's Manual

**Installation and Operation** 

**GAS-FIRED** 





# **NOTICE**

#### DO NOT DISCARD THIS MANUAL

Important operating and maintenance instructions included.

- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation.



▲ WARNING: If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury, or death.

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

This appliance may be installed as an OEM installation in manufactured home (USA only) or mobile home and must be installed in accordance with the manufacturer's instructions and the manufactured home construction and safety standard, Title 24 CFR, Part 3280 or Standard for Installation in Mobile Homes, CAN/CSA Z240MH, in Canada.

This appliance is only for use with the type(s) of gas indicated on the rating plate.

# **A WARNING**

#### **HOT SURFACES!**

Glass and other surfaces are hot during operation AND cool down.

#### Hot glass will cause burns.

- DO NOT touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- · Alert children and adults to hazards of high temperatures.

High temperatures may ignite clothing or other flammable materials.

 Keep clothing, furniture, draperies and other flammable materials away.

This appliance has been supplied with an integral barrier to prevent direct contact with the fixed glass panel. DO NOT operate the appliance with the barrier removed.

Contact your dealer or Hearth & Home Technologies if the barrier is not present or help is needed to properly install one.

In the Commonwealth of Massachusetts installation must be performed by a licensed plumber or gas fitter.

See Table of Contents for location of additional Commonwealth of Massachusetts requirements.



Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies suggests NFI certified or factory trained professionals, or technicians supervised by an NFI certified professional.

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

## A. Congratulations

Congratulations on selecting a Heatilator gas fireplace, an elegant and clean alternative to wood burning fireplaces. The Heatilator gas fireplace you have selected is designed to provide the utmost in safety, reliability, and efficiency.

As the owner of a new fireplace, you'll want to read and carefully follow all of the instructions contained in this owner's manual. Pay special attention to all cautions and warnings.

This owner's manual should be retained for future reference. We suggest that you keep it with your other important documents and product manuals.

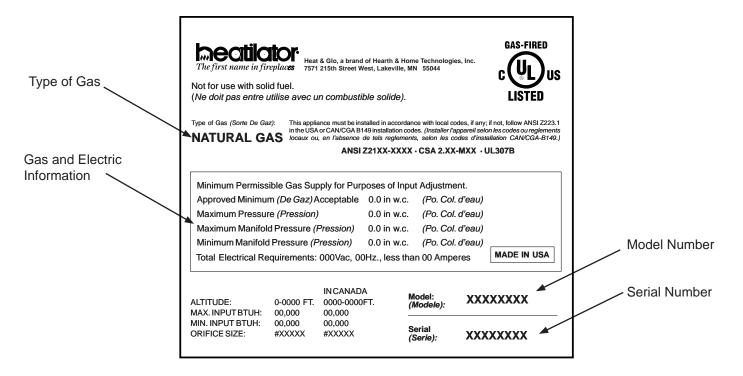
The information contained in this owner's manual, unless noted otherwise, applies to all models and gas control systems.

Your new Heatilator gas fireplace will give you years of durable use and trouble-free enjoyment. Welcome to the Heatilator family of fireplace products!

Homeowner Reference Information	We recommend that you record the following pertinent information about your fireplace.
Model Name:	Date purchased/installed:
Serial Number:	Location on fireplace:
Dealership purchased from:	Dealer Phone:
Notes:	

# **Listing Label Information/Location**

The model information regarding your specific fireplace can be found on the rating plate usually located in the control area of the fireplace.



# **▲** Safety Alert Key:

- DANGER! Indicates a hazardous situation which, if not avoided will result in death or serious injury.
- WARNING! Indicates a hazardous situation which, if not avoided could result in death or serious injury.
- CAUTION! Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- NOTICE: Used to address practices not related to personal injury.

# **Table of Contents**

A. Congratulations	6 Termination Locations
B. Limited Lifetime Warranty5	A. Vent Termination Minimum Clearances
1 Listing and Code Approvals	B. Continue Adding Vent Components
A. Appliance Certification	C. Install Support Brackets
B. Tempered Glass Specifications	7 Vent Information and Diagrams
C. BTU Specifications7	A. Approved Pipe
D. High Altitude Installations7	B. Vent Table Key
E. Non-Combustible Materials Specification	C. Use of Elbows
F. Combustible Materials Specification	D. Measuring Standards
G. Electrical Codes	E. Use of Flex Vent
11. Requirements for the Commonwealth of Massachusetts o	F. Vent Diagrams
User Guide	8 Vent Clearances and Framing
2 Operating Instructions	A. Pipe Clearances to Combustibles
A. Gas Fireplace Safety	B. Wall Penetration Framing
B. Your Fireplace	C. Install the Ceiling Firestop
C. Fan Kit (optional)	D. Install Attic Insulation Shield
D. Clear Space	9 Appliance Preparation
E. Decorative Doors and Fronts	A. Securing and Leveling the Appliance
G. Remote Controls, Wall Controls and Wall Switches 10	
H. Before Lighting Fireplace	10 Installing Vent Pipe
I. Lighting Instructions (IPI)	A. Assemble Vent Sections
J. After Fireplace is Lit	B. Assemble Slip Sections
K. Frequently Asked Questions	C. Securing the Vent Sections
3 Maintenance and Service	E. Installing Decorative Ceiling Components
A. Maintenance Tasks-Homeowner	F. Installing Metal Roof Flashing
B. Maintenance Tasks-Qualified Service Technician 14	G. Assemble and Install Storm Collar
	H. Installing Vertical Termination Cap
Installer Guide	I. Installing Decorative Wall Components
4 Getting Started	J. Heat Shield Requirements for Horizontal Termination 39
_	K. Install Horizontal Termination Cap 40
A. Typical Appliance System	11 Gas Information
C. Tools and Supplies Needed	A. Fuel Conversion41
D. Inspect Appliance and Components17	B. Gas Pressure
	C. Gas Connection
5 Framing and Clearances	D. High Altitude Installations
A. Selecting Appliance Location	
B. Constructing the Appliance Chase	
D. Mantel and Wall Projections 20	

### **12 Electrical Information**

A. Wiring Requirements  B. Intellifire Ignition System Wiring  C. Optional Accessories Requirements  D. Electrical Service and Repair  E. Junction Box Installation  F. Wall Switch Installation for Fan (Optional)	. 42 . 42 . 42 . 44
13 Finishing	
A. Mantel and Wall Projections	
B. Facing Material	
C. Splatter Guard	. 46
14 Appliance Setup	
A. Remove Fixed Glass Assembly	
B. Remove the Shipping Materials	
C. Clean the Appliance	
D. Accessories	. 48
E. Lava Rock, Mystic Embers and Glowing Ember Placement	48
F. Install the Log Assembly.	
G. Fixed Glass Assembly	
H. Install Trim Kits and Surrounds	
I. Air Shutter Setting	. 51
15 Troubleshooting	
A. Intellifire Ignition System	. 52
16 Reference Materials	
	- 4
A. Appliance Dimension Diagram  B. Vent Components Diagrams	
C. Service Parts	
D. Contact Information	

→ = Contains updated information.

### **→**B. Limited Lifetime Warranty

# Hearth & Home Technologies Inc. LIMITED LIFETIME WARRANTY

Hearth & Home Technologies Inc., on behalf of its hearth brands ("HHT"), extends the following warranty for HHT gas, wood, pellet, coal and electric hearth appliances that are purchased from an HHT authorized dealer.

#### **WARRANTY COVERAGE:**

HHT warrants to the original owner of the HHT appliance at the site of installation, and to any transferee taking ownership of the appliance at the site of installation within two years following the date of original purchase, that the HHT appliance will be free from defects in materials and workmanship at the time of manufacture. After installation, if covered components manufactured by HHT are found to be defective in materials or workmanship during the applicable warranty period, HHT will, at its option, repair or replace the covered components. HHT, at its own discretion, may fully discharge all of its obligations under such warranties by replacing the product itself or refunding the verified purchase price of the product itself. The maximum amount recoverable under this warranty is limited to the purchase price of the product. This warranty is subject to conditions, exclusions and limitations as described below.

#### **WARRANTY PERIOD:**

Warranty coverage begins on the date of original purchase. In the case of new home construction, warranty coverage begins on the date of first occupancy of the dwelling or six months after the sale of the product by an independent, authorized HHT dealer/ distributor, whichever occurs earlier. The warranty shall commence no later than 24 months following the date of product shipment from HHT, regardless of the installation or occupancy date. The warranty period for parts and labor for covered components is produced in the following table.

The term "Limited Lifetime" in the table below is defined as: 20 years from the beginning date of warranty coverage for gas appliances, and 10 years from the beginning date of warranty coverage for wood, pellet, and coal appliances. These time periods reflect the minimum expected useful lives of the designated components under normal operating conditions.

Warrant	y Period	HHT Manufactured Appliances and Venting							
Parts	Labor	Gas	Wood	Pellet	EPA Wood	Coal	Electric	Venting	Components Covered
1 Y	′ear	Х	Х	Х	Х	Х	Х	х	All parts and material except as covered by Conditions, Exclusions, and Limitations listed
									Igniters, electronic components,
2.4	oro			Х	Х	Х			and glass
∠ y€	ears	Χ	Χ	Χ	Χ	Χ			Factory-installed blowers
			Х						Molded refractory panels
3 ye	ears			Χ					Firepots and burnpots
5 years	1 year			Χ	Х				Castings and baffles
7 years	3 years		Х	Х	Х				Manifold tubes, HHT chimney and termination
10 years	1 year	Х							Burners, logs and refractory
Limited Lifetime	3 years	Х	Х	Х	Х	Х			Firebox and heat exchanger
90 [	Days	Х	Х	Х	Х	Х	Х	Х	All replacement parts beyond warranty period

See conditions, exclusions, and limitations on next page.

## → B. Limited Lifetime Warranty (continued)

#### **WARRANTY CONDITIONS:**

- This warranty only covers HHT appliances that are purchased through an HHT authorized dealer or distributor. A list of HHT authorized dealers is available on the HHT branded websites.
- This warranty is only valid while the HHT appliance remains at the site of original installation.
- Contact your installing dealer for warranty service. If the installing dealer is unable to provide necessary parts, contact the nearest HHT authorized dealer or supplier. Additional service fees may apply if you are seeking warranty service from a dealer other than the dealer from whom you originally purchased the product.
- Check with your dealer in advance for any costs to you when arranging a warranty call. Travel and shipping charges for parts are not covered by this warranty.

#### **WARRANTY EXCLUSIONS:**

This warranty does not cover the following:

- Changes in surface finishes as a result of normal use. As a heating appliance, some changes in color of interior and exterior surface finishes may occur. This is not a flaw and is not covered under warranty.
- Damage to printed, plated, or enameled surfaces caused by fingerprints, accidents, misuse, scratches, melted items, or other external sources and residues left on the plated surfaces from the use of abrasive cleaners or polishes.
- Repair or replacement of parts that are subject to normal wear and tear during the warranty period. These parts
  include: paint, wood, pellet and coal gaskets, firebricks, grates, flame guides, light bulbs, batteries and the discoloration of glass.
- Minor expansion, contraction, or movement of certain parts causing noise. These conditions are normal and complaints related to this noise are not covered by this warranty.
- Damages resulting from: (1) failure to install, operate, or maintain the appliance in accordance with the installation instructions, operating instructions, and listing agent identification label furnished with the appliance; (2) failure to install the appliance in accordance with local building codes; (3) shipping or improper handling; (4) improper operation, abuse, misuse, continued operation with damaged, corroded or failed components, accident, or improperly/incorrectly performed repairs; (5) environmental conditions, inadequate ventilation, negative pressure, or drafting caused by tightly sealed constructions, insufficient make-up air supply, or handling devices such as exhaust fans or forced air furnaces or other such causes; (6) use of fuels other than those specified in the operating instructions; (7) installation or use of components not supplied with the appliance or any other components not expressly authorized and approved by HHT; (8) modification of the appliance not expressly authorized and approved by HHT in writing; and/or (9) interruptions or fluctuations of electrical power supply to the appliance.
- Non-HHT venting components, hearth components or other accessories used in conjunction with the appliance.
- Any part of a pre-existing fireplace system in which an insert or a decorative gas appliance is installed.
- HHT's obligation under this warranty does not extend to the appliance's capability to heat the desired space. Information is provided to assist the consumer and the dealer in selecting the proper appliance for the application. Consideration must be given to appliance location and configuration, environmental conditions, insulation and air tightness of the structure.

#### This warranty is void if:

- The appliance has been over-fired or operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals. Over-firing can be identified by, but not limited to, warped plates or tubes, rust colored cast iron, bubbling, cracking and discoloration of steel or enamel finishes.
- The appliance is subjected to prolonged periods of dampness or condensation.
- There is any damage to the appliance or other components due to water or weather damage which is the result of, but not limited to, improper chimney or venting installation.

#### LIMITATIONS OF LIABILITY:

• The owner's exclusive remedy and HHT's sole obligation under this warranty, under any other warranty, express or implied, or in contract, tort or otherwise, shall be limited to replacement, repair, or refund, as specified above. In no event will HHT be liable for any incidental or consequential damages caused by defects in the appliance. Some states do not allow exclusions or limitation of incidental or consequential damages, so these limitations may not apply to you. This warranty gives you specific rights; you may also have other rights, which vary from state to state. EXCEPT TO THE EXTENT PROVIDED BY LAW, HHT MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY SPECIFIED HEREIN. THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO DURATION OF THE EXPRESSED WARRANTY SPECIFIED ABOVE.

4021-645C 12-29-10 Page 2 of 2

# **Listing and Code Approvals**

# A. Appliance Certification

MODELS: GDST3831I

LABORATORY: Underwriters Laboratories, Inc. (UL)

TYPE: Direct Vent Gas Appliance Heater

STANDARD: ANSI Z21.88-2007 • CSA 2.33a-2007

This product is listed to ANSI standards for "Vented Gas Appliance Heaters" and applicable sections of "Gas Burning Heating Appliances for Manufactured Homes and Recreational Vehicles", and "Gas Fired Appliances for Use at High Altitudes".

**NOTICE:** This installation must conform with local codes. In the absence of local codes you must comply with the National Fuel Gas Code, ANSI Z223.1-latest edition in the U.S.A. and the CAN/CGA B149 Installation Codes in Canada.

#### NOT INTENDED FOR USE AS A PRIMARY HEAT SOURCE.

This appliance is tested and approved as either supplemental room heat or as a decorative appliance. It should not be factored as primary heat in residential heating calculations.

#### **B. Tempered Glass Specifications**

Hearth & Home Technologies appliances manufactured with tempered glass may be installed in hazardous locations such as bathtub enclosures as defined by the Consumer Product Safety Commission (CPSC). The tempered glass has been tested and certified to the requirements of ANSI Z97.1 and CPSC 16 CFR 1202 (Safety Glazing Certification Council SGCC# 1595 and 1597. Architectural Testing, Inc. Reports 02-31919.01 and 02-31917.01).

This statement is in compliance with CPSC 16 CFR Section 1201.5 "Certification and labeling requirements" which refers to 15 U.S. Code (USC) 2063 stating "...Such certificate shall accompany the product or shall otherwise be furnished to any distributor or retailer to whom the product is delivered."

Some local building codes require the use of tempered glass with permanent marking in such locations. Glass meeting this requirement is available from the factory. Please contact your dealer or distributor to order.

# C. BTU Specifications

Model (U.S. or Can	Maximum Input BTU/h	Minimum Input BTU/h	Orifice Size (DMS)	
GDST3831I (NG)	US (0-2000 FT)	21,000	14,700	44
GDS136311 (NG)	CANADA (2000-4500 FT)	18,900	13,200	45
CDCT20241 (LD)	US (0-2000 FT)	20,000		55
GDST3831I (LP)	CANADA (2000-4500 FT)	18,000		56

# D. High Altitude Installations

**NOTICE:** If the heating value of the gas has been reduced, these rules do not apply. Check with your local gas utility or authorities having jurisdiction.

When installing above 2000 feet elevation:

- In the USA: Reduce input rate 4% for each 1000 feet above 2000 feet.
- In CANADA: Reduce input rate 10% for elevations between 2000 feet and 4500 feet. Above 4500 feet, consult local gas utility.

Check with your local gas utility to determine proper orifice size.

## E. Non-Combustible Materials Specification

Material which will not ignite and burn. Such materials are those consisting entirely of steel, iron, brick, tile, concrete, slate, glass or plasters, or any combination thereof.

Materials that are reported as passing ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 °C and UL763 shall be considered non-combustible materials.

# F. Combustible Materials Specification

Materials made of or surfaced with wood, compressed paper, plant fibers, plastics, or other material that can ignite and burn, whether flame proofed or not, or plastered or unplastered shall be considered combustible materials.

#### G. Electrical Codes

**NOTICE:** This appliance must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with National Electric Code ANSI/NFPA 70-latest edition or the Canadian Electric Code CSA C22.1.

 A 110-120 VAC circuit for this product must be protected with ground-fault circuit-interrupter protection, in compliance with the applicable electrical codes, when it is installed in locations such as in bathrooms or near sinks. **Note:** The following requirements reference various Massachusetts and national codes not contained in this document.

# H. Requirements for the Commonwealth of Massachusetts

For all side wall 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 seven (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:

#### **Installation of Carbon Monoxide Detectors**

At the time of installation of the side wall horizontal 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 with an alarm 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 an 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.

#### **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.

#### Signage

A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height 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 size no less than one-half (1/2) inch in size, "GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS".

#### 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.

#### **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.

#### MANUFACTURER REQUIREMENTS

#### **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.

#### Gas Equipment Venting System NOT Provided

When the manufacturer of a Product Approved side wall horizontally vented gas fueled 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 system" 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.

See Gas Connection section for additional Commonwealth of Massachusetts requirements.

# 2

# **Operating Instructions**

# A. Gas Fireplace Safety

# **A** WARNING



#### **HOT SURFACES!**

Glass and other surfaces are hot during operation AND cool down.

#### Hot glass will cause burns.

- DO NOT touch glass until it is cooled
- NEVER allow children to touch glass
- Keep children away
- CAREFULLY SUPERVISE children in same room as fireplace.
- Alert children and adults to hazards of high temperatures.

High temperatures may ignite clothing or other flammable materials.

 Keep clothing, furniture, draperies and other flammable materials away.

This appliance has been supplied with an integral barrier to prevent direct contact with the fixed glass panel. DO NOT operate the appliance with the barrier removed.

Contact your dealer or Hearth & Home Technologies if the barrier is not present or help is needed to properly install one.

If you expect that small children or vulnerable adults may come into contact with this fireplace, the following precautions are recommended:

- · Install a physical barrier such as:
  - A decorative firescreen.
  - Adjustable safety gate.
- Install a switch lock or a wall/remote control with child protection lockout feature.

- · Keep remote controls out of reach of children.
- Never leave children alone near a hot fireplace, whether operating or cooling down.
- Teach children to NEVER touch the fireplace.
- Consider not using the fireplace when children will be present.

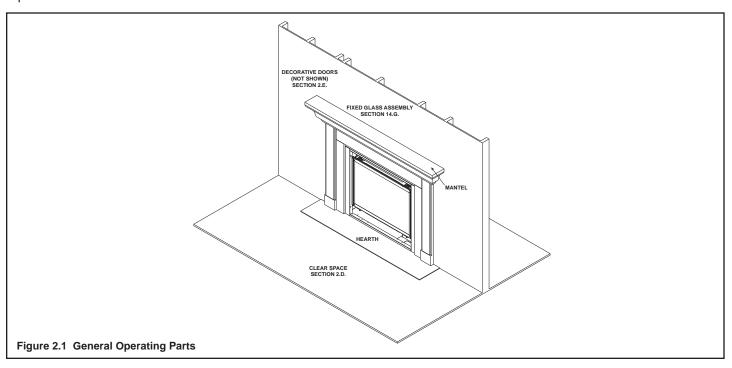
Contact your dealer for more information, or visit: <u>www.hpba.org/safety-information</u>.

To prevent unintended operation when not using your fireplace for an extended period of time (summer months, vacations, trips, etc):

- · Remove batteries from remote controls.
- Turn off wall controls.
- Unplug 3 volt adapter plug and remove batteries on IPI models.

# **B.** Your Fireplace

WARNING! DO NOT operate fireplace before reading and understanding operating instructions. Failure to operate fireplace according to operating instructions could cause fire or injury.



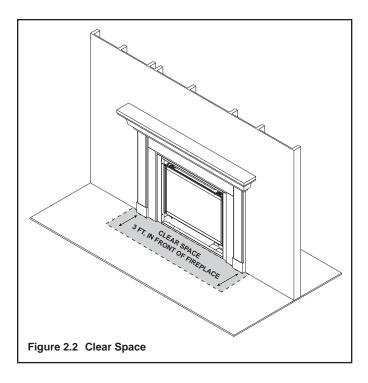
### C. Fan Kit (optional)

If desired, a fan kit may be added. Contact your dealer to order the correct fan kit.

# D. Clear Space

**WARNING! DO NOT** place combustible objects in front of the fireplace or block louvers. High temperatures may start a fire. See Figure 2.2.

Avoid placing candles and other heat-sensitive objects on mantel or hearth. Heat may damage these objects.



#### E. Decorative Doors and Fronts

**WARNING!** Risk of Fire! Install ONLY doors or fronts approved by Hearth & Home Technologies. Unapproved doors or fronts may cause fireplace to overheat.

This fireplace has been supplied with an integral barrier to prevent direct contact with the fixed glass panel. DO NOT operate the fireplace with the barrier removed.

Contact your dealer or Hearth & Home Technologies if the barrier is not present or help is needed to properly install one.

For more information refer to the instructions supplied with your decorative door or front.

### F. Fixed Glass Assembly

See Section 14.G.

# G. Remote Controls, Wall Controls and Wall Switches

Follow the instructions supplied with the control installed to operate your fireplace:

For safety:

- Install a switch lock or a wall/remote control with child protection lockout feature.
- · Keep remote controls out of reach of children.

See your dealer if you have questions.

# H. Before Lighting Fireplace

Before operating this fireplace for the first time, have a qualified service technician:

- Verify all shipping materials have been removed from inside and/or underneath the firebox.
- Review proper placement of logs, ember material and/or other decorative materials.
- · Check the wiring.
- · Check the air shutter adjustment.
- · Ensure that there are no gas leaks.
- Ensure that the glass is sealed and in the proper position and that the integral barrier is in place.

WARNING! Risk of Fire or Asphyxiation! DO NOT operate fireplace with fixed glass assembly removed.

# I. Lighting Instructions (IPI)

The IPI system may be operated with two D-cell batteries. When using batteries, unplug the transformer. To prolong battery life, remove them when using the transformer.

# 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.

- intermittent pilot ignition (IPI) device which automatically lights the burner. **DO NOT** try to light the burner by
- B. BEFORE LIGHTING, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

#### WHAT TO DO IF YOU SMELL GAS

- DO NOT try to light any appliance.
- DO NOT touch any electric switch; do not use any phone in your building.

- A. This appliance is equipped with an Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - · If you cannot reach your gas supplier, call the fire department.
  - C. 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 which has been under water.

# **WARNING:**

# DO NOT CONNECT LINE VOLT-AGE (110/120 VAC OR 220/240 VAC) TO THE CONTROL VALVE.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to the owner's information manual provided with this appliance.

This appliance needs fresh air for safe operation and must be installed so there are provisions for adequate combustion and ventilation air.

If not installed, operated, and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel or fuel combustion which are known to the State of California to cause cancer, birth defects, or other reproductive

Keep burner and control compartment clean. See installation and operating instructions accompanying appliance.

# **CAUTION:**

Hot while in operation. **DO NOT** touch. Keep children, clothing, furniture, gasoline and other liquids having flammable vapors away.

DO NOT operate the appliance with fixed glass assembly removed, cracked or broken. Replacement of the fixed glass assembly should be done by a licensed or qualified service person.

## **NOT FOR USE** WITH SOLID FUEL

For use with natural gas and propane. A conversion kit, as supplied by the manufacturer, shall be used to convert this appliance to the alternate fuel.

#### Also Certified for Installation in a Bedroom or a Bedsitting Room.

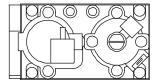
For assistance or additional information, consult a qualified installer, service agency or the gas supplier.

For additional information on operating your Hearth & Home Technologies fireplace, please refer to www.fireplaces.com.

# LIGHTING **INSTRUCTIONS (IPI)**

1. This appliance is equipped with an ignition device which automatically lights the burner. **DO NOT** try to light the burner by hand.

> **GAS VALVE**



- 2. 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 located on the left side of this label. If you do not smell gas, go to next step.
- **3.** To light the burner:

Equipped with wall switch: Turn ON/OFF switch to ON.

Equipped with remote or wall control: Press ON or FLAME button.

Equipped with thermostat: Set temperature to desired setting.

4. If the appliance does not light after three tries, call your service technician or gas supplier.

# oxdot TO TURN OFF oxdot**GAS TO APPLIANCE**

1. Equipped with wall switch: Turn ON/OFF switch to OFF.

Equipped with remote or wall control: Press OFF button.

Equipped with thermostat: Set temperature to lowest setting.

2. Service technician should turn off electric power to the control when performing service.

593-913G

# J. After Fireplace is Lit

Initial Break-in Procedure

- The fireplace should be run three to four hours continuously on high.
- Turn the fireplace off and allow it to completely cool.
- Remove fixed glass assembly. See Section 14.G.
- Clean fixed glass assembly. See Section 3.
- Replace the fixed glass assembly and run continuously on high an additional 12 hours.

This cures the materials used to manufacture the fireplace.

### NOTICE! Open windows for air circulation during fireplace break-in.

- Some people may be sensitive to smoke and odors.
- Smoke detectors may activate.

# K. Frequently Asked Questions

ISSUE	SOLUTIONS
Condensation on the glass	This is a result of gas combustion and temperature variations. As the fireplace warms, this condensation will disappear.
Blue flames	This is a result of normal operation and the flames will begin to yellow as the fireplace is allowed to burn for 20 to 40 minutes.
Odor from fireplace	When first operated, this fireplace may release an odor for the first several hours. This is caused by the curing of materials from manufacturing. Odor may also be released from finishing materials and adhesives used near the fireplace. These circumstances may require additional curing related to the installation environment.
Film on the glass	This is a normal result of the curing process of the paint and logs. Glass should be cleaned within 3 to 4 hours of initial burning. A non-abrasive cleaner such as gas fireplace glass cleaner may be necessary. See your dealer.
Metallic noise	Noise is caused by metal expanding and contracting as it heats up and cools down, similar to the sound produced by a furnace or heating duct. This noise does not affect the operation or longevity of the fireplace.

# 3

# **Maintenance and Service**

Any safety screen or guard removed for servicing must be replaced prior to operating the fireplace.

When properly maintained, your fireplace will give you many years of trouble-free service. We recommend annual service by a qualified service technician.

#### A. Maintenance Tasks-Homeowner

Installation and repair should be done by a qualified service technician only. The fireplace should be inspected before use and at least annually by a professional service person.

The following tasks may be performed annually by the homeowner. If you are uncomfortable performing any of the listed tasks, please call your dealer for a service appointment.

More frequent cleaning may be required due to lint from carpeting or other factors. Control compartment, burner and circulating air passageway of the fireplace must be kept clean.

**CAUTION!** Risk of Burns! The fireplace should be turned off and cooled before servicing.

## **Glass Cleaning**

Frequency: Seasonally

By: Homeowner

**Tools Needed**: Protective gloves, glass cleaner, drop cloth and a stable work surface.

**CAUTION!** Handle fixed glass assembly with care. Glass is breakable.

- · Avoid striking, scratching or slamming glass
- · Avoid abrasive cleaners
- DO NOT clean glass while it is hot
- Prepare a work area large enough to accommodate fixed glass assembly and door frame by placing a drop cloth on a flat, stable surface.

**Note**: Fixed glass assembly and gasketing may have residue that can stain carpeting or floor surfaces.

- Remove door or decorative front from fireplace and set aside on work surface.
- See Section 14.G for instructions to remove fixed glass assembly.
- Clean glass with a non-abrasive commercially available cleaner.
  - Light deposits: Use a soft cloth with soap and water
  - Heavy deposits: Use commercial fireplace glass cleaner (consult with your dealer)
- Carefully set fixed glass assembly in place on fireplace.
   Hold glass in place with one hand and secure glass latches with the other hand.
- · Reinstall door or decorative front.

# **Doors, Surrounds, Fronts**

**Frequency**: Annually **By**: Homeowner

Tools needed: Protective gloves, stable work surfaceAssess condition of screen and replace as necessary.

- Inspect for scratches, dents or other damage and repair as necessary.
- · Check that louvers are not blocked.
- · Vacuum and dust surfaces.

### **Remote Control**

Frequency: Seasonally

By: Homeowner

**Tools needed:** Replacement batteries and remote control instructions.

- · Locate remote control transmitter and receiver.
- Verify operation of remote. Refer to remote control operation instructions for proper calibration and setup procedure.
- Place batteries as needed in remote transmitters and battery-powered receivers.
- Place remote control out of reach of children.

If not using your fireplace for an extended period of time (summer months, vacations/trips, etc), to prevent unintended operation:

- · Remove batteries from remote controls.
- Unplug 3 volt adapter plug on IPI models.

## Venting

Frequency: Seasonally

By: Homeowner

**Tools needed:** Protective gloves and safety glasses.

- Inspect venting and termination cap for blockage or obstruction such plants, bird nests, leaves, snow, debris, etc.
- Verify termination cap clearance to subsequent construction (building additions, decks, fences, or sheds). See Section 6.
- Inspect for corrosion or separation.
- Verify weather stripping, sealing and flashing remains intact.
- Inspect draft shield to verify it is not damaged or missing.

# B. Maintenance Tasks-Qualified Service Technician

The following tasks must be performed by a qualified service technician.

# **Gasket Seal and Glass Assembly Inspection**

Frequency: Annually

By: Qualified Service Technician

**Tools needed:** Protective gloves, drop cloth and a stable work surface.

- · Inspect gasket seal and its condition.
- Inspect fixed glass assembly for scratches and nicks that can lead to breakage when exposed to heat.
- Confirm there is no damage to glass or glass frame.
   Replace as necessary.
- Verify that fixed glass assembly is properly retained and attachment components are intact and not damaged.
   Replace as necessary.

### Logs

Frequency: Annually

**By:** Qualified Service Technician **Tools needed:** Protective gloves.

- Inspect for damaged or missing logs. Replace as necessary.
   Refer to Section 14 for log placement instructions.
- Verify correct log placement and no flame impingement causing sooting. Correct as necessary.

#### **Firebox**

Frequency: Annually

By: Qualified Service Technician

**Tools needed:** Protective gloves, sandpaper, steel wool, cloths, mineral spirits, primer and touch-up paint.

- Inspect for paint condition, warped surfaces, corrosion or perforation. Sand and repaint as necessary.
- Replace fireplace if firebox has been perforated.

# **Control Compartment and Firebox Top**

Frequency: Annually

By: Qualified Service Technician

**Tools needed:** Protective gloves, vacuum cleaner, dust cloths

- Vacuum and wipe out dust, cobwebs, debris or pet hair.
   Use caution when cleaning these areas. Screw tips that have penetrated the sheet metal are sharp and should be avoided.
- · Remove all foreign objects.
- · Verify unobstructed air circulation.

# **Burner Ignition and Operation**

Frequency: Annually

By: Qualified Service Technician

**Tools needed:** Protective gloves, vacuum cleaner, whisk broom, flashlight, voltmeter, indexed drill bit set, and a manometer.

- Verify burner is properly secured and aligned with pilot or igniter.
- Clean off burner top, inspect for plugged ports, corrosion or deterioration. Replace burner if necessary.
- Replace ember materials with new dime-size pieces.
   DO NOT block ports or obstruct lighting paths. Refer to Section 14 for proper ember placement.
- Verify batteries have been removed from battery backup IPI systems to prevent premature battery failure or leaking.
- Check for smooth lighting and ignition carryover to all ports. Verify that there is no ignition delay.
- · Inspect for lifting or other flame problems.
- Verify air shutter setting is correct. See Section 14 for required air shutter setting. Verify air shutter is clear of dust and debris.
- Inspect orifice for soot, dirt and corrosion. Verify orifice size is correct. See Service Parts List for proper orifice sizing.
- Verify manifold and inlet pressures. Adjust regulator as required.
- Inspect pilot flame pattern and strength. See Figure 3.2 for proper pilot flame pattern. Clean or replace orifice spud as necessary.
- Inspect IPI flame sensing rod for soot, corrosion and deterioration. Polish with fine steel wool or replace as required.
  - Verify that there is not a short in flame sense circuit by checking continuity between pilot hood and flame sense rod. Replace pilot as necessary.



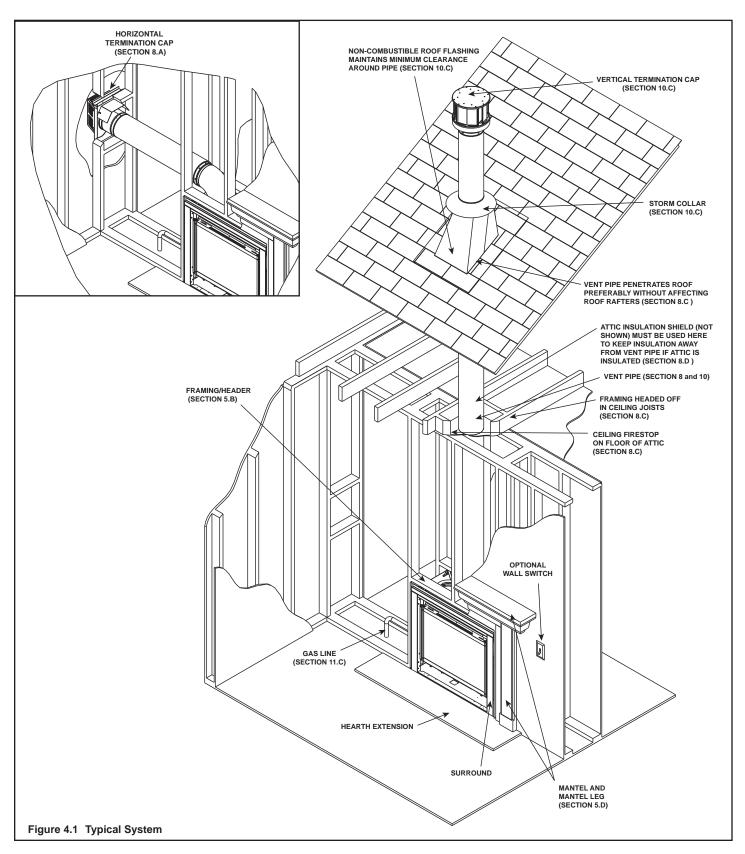
Figure 3.2 IPI Pilot Flame Patterns

# Installer Guide



# A. Typical Appliance System

**NOTICE:** Illustrations and photos reflect typical installations and are for design purposes only. Illustrations/diagrams are not drawn to scale. Actual product may vary from pictures in manual



## B. Design and Installation Considerations

Heatilator direct vent gas appliances are designed to operate with all combustion air siphoned from outside of the building and all exhaust gases expelled to the outside. No additional outside air source is required.

Installation MUST comply with local, regional, state and national codes and regulations. Consult insurance carrier, local building inspector, fire officials or authorities having jurisdiction over restrictions, installation inspection and permits.

Before installing, determine the following:

- · Where the appliance is to be installed.
- The vent system configuration to be used.
- · Gas supply piping.
- · Electrical wiring requirements.
- · Framing and finishing details.
- Whether optional accessories—devices such as a fan, wall switch, or remote control—are desired.

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. For assistance or additional information, consult a qualified service technician, service agency or your dealer.

## C. Tools and Supplies Needed

Before beginning the installation be sure that the following tools and building supplies are available.

Tape measure Framing material

Pliers Non-corrosive leak check solution

Hammer Phillips screwdriver Gloves Framing square

Voltmeter Electric drill and bits (1/4 in.)

Plumb line Safety glasses

Level Reciprocating saw

Manometer Flat blade screwdriver

1/2 - 3/4 in. length, #6 or #8 Self-drilling screws

One 1/4 in. female connection (for optional fan).

Caulking material (300°F minimum continuous exposure rating)

## D. Inspect Appliance and Components

- Carefully remove the appliance and components from the packaging.
- The vent system components and decorative doors and fronts may be shipped in separate packages.
- If packaged separately, the log set and appliance grate must be installed.
- Report to your dealer any parts damaged in shipment, particularly the condition of the glass.
- Read all of the instructions before starting the installation. Follow these instructions carefully during the installation to ensure maximum safety and benefit.

WARNING! Risk of Fire or Explosion! Damaged parts could impair safe operation. DO NOT install damaged, incomplete or substitute components. Keep appliance dry.

Hearth & Home Technologies disclaims any responsibility for, and the warranty will be voided by, the following actions:

- Installation and use of any damaged appliance or vent system component.
- · Modification of the appliance or vent system.
- Installation other than as instructed by Hearth & Home Technologies.
- Improper positioning of the gas logs or the glass door.
- Installation and/or use of any component part not approved by Hearth & Home Technologies.

Any such action may cause a fire hazard.

WARNING! Risk of Fire, Explosion or Electric Shock! DO NOT use this appliance if any part has been under water. Call a qualified service technician to inspect the appliance and to replace any part of the control system and/or gas control which has been under water.

# 5

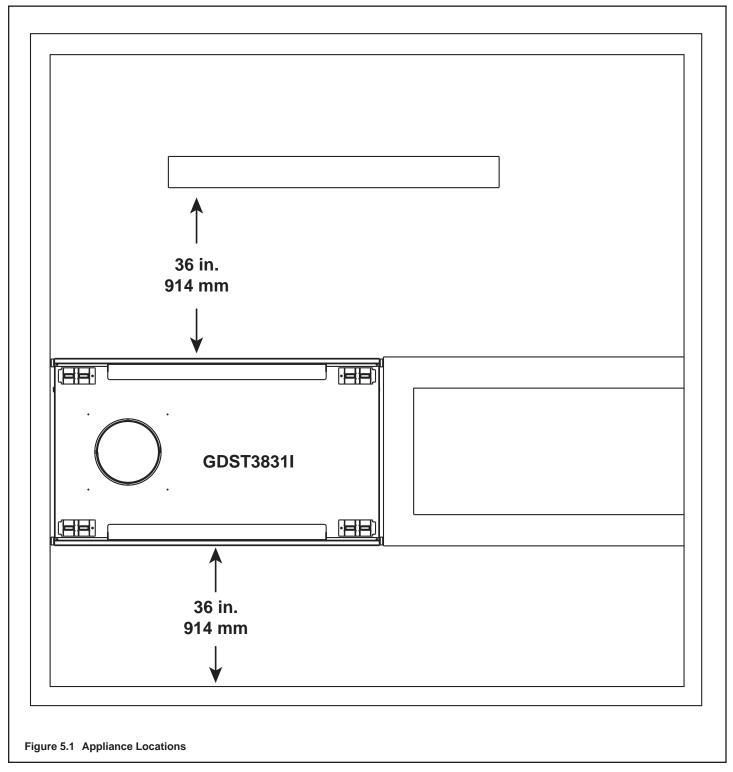
# **Framing and Clearances**

# A. Selecting Appliance Location

When selecting a location for the appliance it is important to consider the required clearances to walls (see Figure 5.1).

WARNING! Risk of Fire or Burns! Provide adequate clearance around air openings and for service access. Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

**NOTICE:** Illustrations reflect typical installations and are FOR DESIGN PURPOSES ONLY. Illustrations/diagrams are not drawn to scale. Actual installation may vary due to individual design preference.



## **B.** Constructing the Appliance Chase

A chase is a vertical box-like structure built to enclose the gas appliance and/or its vent system. In cooler climates the vent should enclosed inside the chase.

**NOTICE:** Treatment of ceiling firestops and wall shield firestops and construction of the chase may vary with the type of building. These instructions are not substitutes for the requirements of local building codes. Therefore, you MUST check local building codes to determine the requirements to these steps.

Chases should be constructed in the manner of all outside walls of the home to prevent cold air drafting problems. The chase should not break the outside building envelope in any manner.

Walls, ceiling, base plate and cantilever floor of the chase should be insulated. Vapor and air infiltration barriers should be installed in the chase as per regional codes for the rest of the home. Additionally, in regions where cold air infiltration may be an issue, the inside surfaces may be sheetrocked and taped for maximum air tightness.

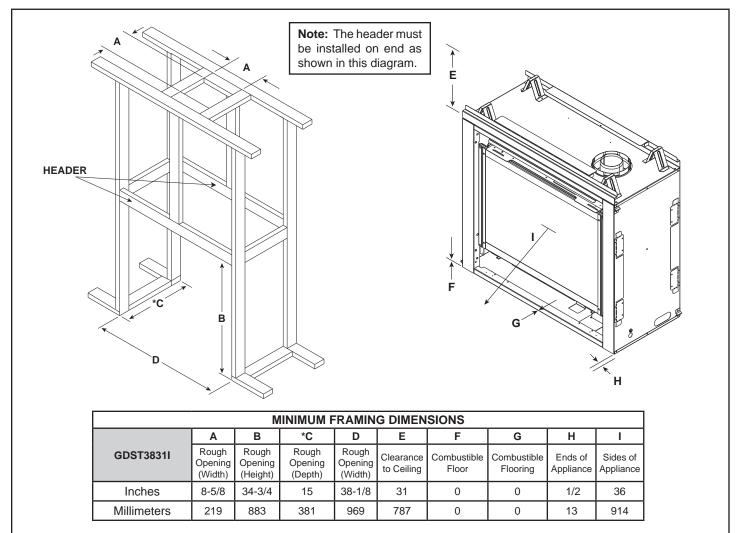
To further prevent drafts, the wall shield and ceiling firestops should be caulked with caulk with a minimum of 300°F continuous exposure rating to seal gaps. Gas line holes and other openings should be caulked with caulk with a minimum of 300°F continuous exposure rating or stuffed with unfaced insulation. If the appliance is being installed on a cement slab, a layer of plywood may be placed underneath to prevent conducting cold up into the room.

#### C. Clearances

**NOTICE:** Install appliance on hard metal or wood surfaces extending full width and depth. **DO NOT** install directly on carpeting, vinyl, tile or any combustible material other than wood.

**WARNING!** Risk of Fire! Maintain specified air space clearances to appliance and vent pipe:

- Insulation and other materials must be secured to prevent accidental contact.
- The chase must be properly blocked to prevent blown insulation or other combustibles from entering and making contact with fireplace or chimney.
- Failure to maintain airspace may cause overheating and a fire

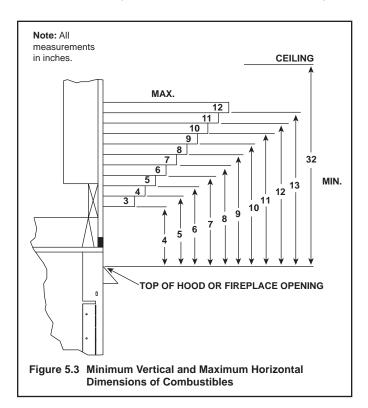


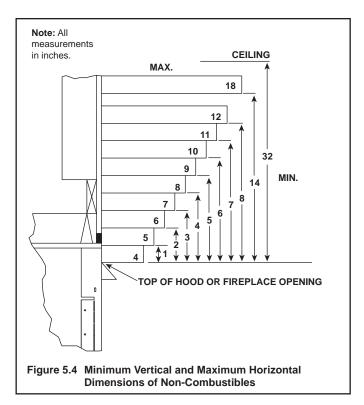
<sup>\*</sup> Adjust framing dimensions for interior sheathing (such as sheetrock)

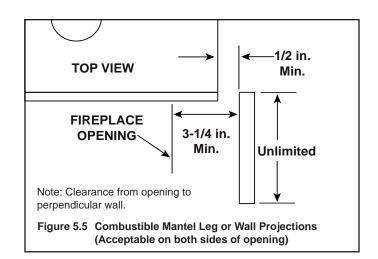
Figure 5.2 Clearances to Combustibles GDST3831I

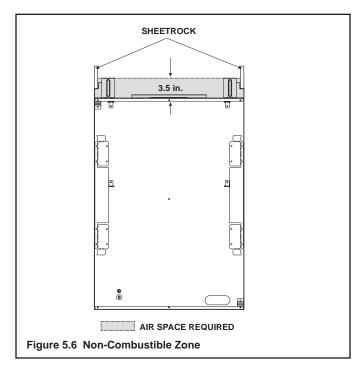
# D. Mantel and Wall Projections

**WARNING!** Risk of Fire! Comply with all minimum clearances as specified. Framing or finishing material closer than the minimums listed must be constructed entirely of noncombustible materials (i.e., steel studs, concrete board, etc).











# **Termination Locations**

### A. Vent Termination Minimum Clearances

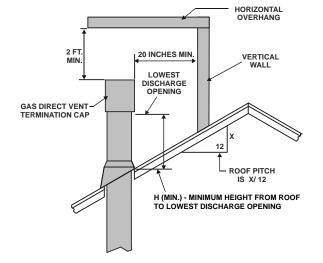
# **A** WARNING

Fire Risk.

Maintain vent clearance to combustibles as specified.

 DO NOT pack air space with insulation or other materials.

Failure to keep insulation or other materials away from vent pipe may cause overheating and fire.



Roof Pitch	H (Min.) Ft.
Flat to 6/12	1.0*
Over 6/12 to 7/12	1.25*
Over 7/12 to 8/12	1.5*
Over 8/12 to 9/12	2.0*
Over 9/12 to 10/12	2.5
Over 10/12 to 11/12	3.25
Over 11/12 to 12/12	4.0
Over 12/12 to 14/12	5.0
Over 14/12 to 16/12	6.0
Over 16/12 to 18/12	7.0
Over 18/12 to 20/12	7.5
Over 20/12 to 21/12	8.0

\* 3 foot minimum in snow regions

Figure 6.1 Minimum Height From Roof To Lowest Discharge Opening

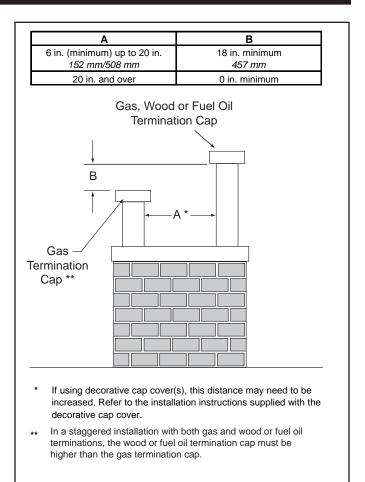
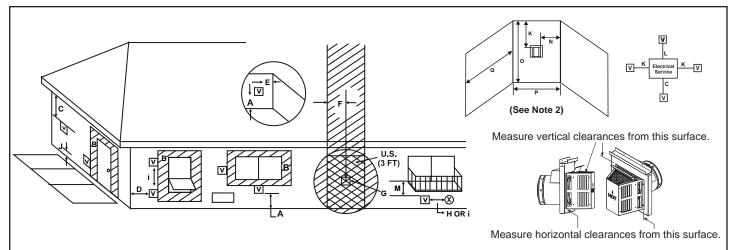


Figure 6.2 Staggered Termination Caps



# X = AIR SUPPLY INLET

# = AREA WHERE TERMINAL IS NOT PERMITTED

А	= 12 inchesclearances above grade, veranda, (See Note 1) porch, deck or balcony
В	= 12 inchesclearances to window or door that may be opened, or to permanently closed window. (Glass)
С	= 18 inchesvertical clearance to unventilated soffit or to ventilated soffit located above the terminal
	30 inchesfor vinyl clad soffits and below electrical service
D	= 9 inchesclearance to outside corner
E	= 6 inchesclearance to inside corner
F	= 3 ft. (Canada)not to be installed above a gas meter/regulator assembly within 3 feet (90 cm) horizontally from the center-line of the regulator
G	= 3 ftclearance to gas service regulator vent outlet
Н	= 9 inches (U.S.A.) 12 inches (Canada) clearance to non-mechanical (See Note 6) air supply inlet to building or the combustion air inlet to any other appliance
i	= 3 ft. (U.S.A.) 6 ft. (Canada)clearance to a mechanical (pow- (See Note 6) ered) air supply inlet

J**	=	7 ft(See Note 1)	clearance above paved sidewalk or a paved driveway located on <b>public</b> property
		42 inches	. vinyl
K	=	6 inches(See Note 5)	clearance from sides of electrical service
L	=	12 inches(See Note 5)	clearance above electrical service

#### Covered Alcove Applications

M*** =	18 inches	clearance und	der veranda,
		porch, deck, bal	cony or over-
		hang	

N = 6 inches .....non-vinyl sidewalls 12 inches .....vinyl sidewalls

O = 8 ft.

	P <sub>MIN</sub>	Q <sub>MAX</sub>		
1 cap	3 feet	2 x Q <sub>ACTUAL</sub>		
2 caps	6 feet	1 x Q <sub>ACTUAL</sub>		
3 caps	9 feet	2/3 x Q <sub>ACTUAL</sub>		
4 caps	12 feet	1/2 x Q ACTUAL		
P <sub>MIN</sub> = # termination caps x 3 Q <sub>MAX</sub> = (2 / # termination caps) x P <sub>ACTUAL</sub>				

<sup>\*\*</sup> a vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.

**Note 1**: On private property where termination is less than 7 feet above a sidewalk, driveway, deck, porch, veranda or balcony, use of a listed cap shield is suggested. (See vents components page)

**Note 2**: Termination in a covered alcove space (spaces open only on one side and with an overhang) are permitted with the dimensions specified for vinyl or non-vinyl siding and soffits.

Note 3: Local codes or regulations may require different clearances.

**Note 4:** Termination caps may be hot. Consider their proximity to doors or other traffic areas.

Figure 6.3 Minimum Clearances for Termination

**Note 6:** 1. There must be 3 feet minimum between termination caps. 2. All mechanical air intakes within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap. 3. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.

In the U.S and Canada: Vent system termination is **NOT** permitted in screened porches.

Vent system termination is permitted in porch areas with two or more sides open. You must follow all side walls, overhang and ground clearances as stated in the instructions.

Heat & Glo assumes no responsibility for the improper performance of the appliance when the venting system does not meet these requirements.

<sup>\*\*\*</sup> only permitted if veranda, porch, deck or balcony is fully open on a minimum of 2 sides beneath the floor, or meets Note 2.

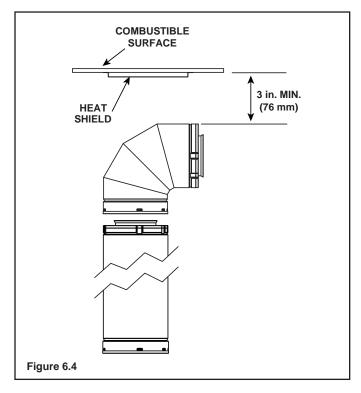
Note 5: Location of the vent termination must not interfere with access to the electrical service.

# **B. Continue Adding Vent Components**

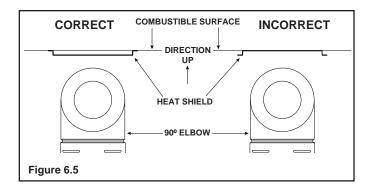
**WARNING!** Risk of Fire! Installation of this appliance may require the use of heat shield 385-290 above the first 90° elbow in the venting system.

#### To Install the Heat Shield:

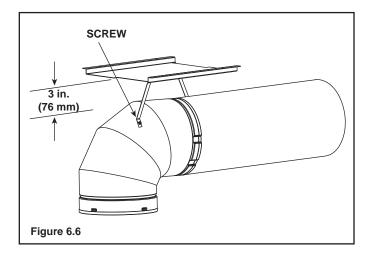
 Determine if the heat shield is required. Do so by measuring the vertical distance between the top horizontal surface of the elbow to any combustible surface above. If the distance is more than 4 inches, the heat shield is **NOT** required. If it is 4 inches or less, the heat shield **IS REQUIRED**. Install per the following steps. See Figure 6.4.



2. Fasten the shield in place using the four pilot holes provided in the part. The shield should be oriented such that the 13-1/8 inch dimension (longest dimension) is running in the same direction the elbow is pointing. The shield should be centered directly above the elbow, and positioned so that it creates a 1/2 inch airspace between the shield and the combustible surface. See Figure 6.5.



If the combustible materials are not in place at the time
of install, the elbow heat shield may be screwed to the
exhaust pipe (see Figure 6.6). Cut the tabs as shown and
bend down. Secure the heat shield to the pipe maintaining 3 inch to 4 inch between the pipe and shield.



Refer to Cinch Pipe and Termination Cap installation instructions.

- Continue adding vent components, locking each succeeding component into place.
- Ensure that each succeeding vent component is securely fitted and locked into the preceding component in the vent system.
- 90° elbows may be installed and rotated to any point around the preceding component's vertical axis. If an elbow does not end up in a locked position with the preceding component, attach with a minimum of two (2) sheet metal screws.

### C. Install Support Brackets

Refer to cinch pipe and termination cap installation instructions.

# 7

# **Vent Information and Diagrams**

# A. Approved Pipe

This appliance is approved for use with Hearth & Home Technologies a SLP venting system. Refer to Section 16B for vent component information.

**DO NOT** mix pipe, fittings or joining methods from different manufacturers.

The pipe is tested to be run inside an enclosed wall. There is no requirement for inspection openings at each joint within the wall.

**WARNING!** Risk of Fire or Asphyxiation. This appliance requires a separate vent. **DO NOT** vent to a pipe serving a separate solid fuel burning appliance.

# B. Vent Table Key

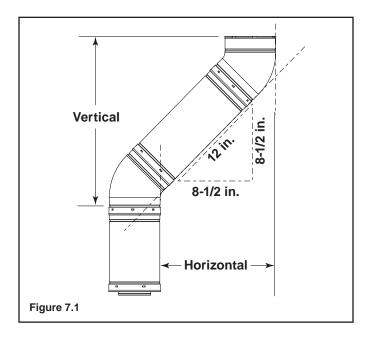
The abbreviations listed in this vent table key are used in the vent diagrams.

Symbol	Description				
<b>V</b> <sub>1</sub>	First section (closest to appliance) of vertical length				
V <sub>2</sub>	Second section of vertical length				
H <sub>1</sub>	First section (closest to appliance) of horizontal length				
H <sub>2</sub>	Subsequent sections of horizontal length				

#### C. Use of Elbows

Diagonal runs have both vertical and horizontal vent aspects when calculating the effects. Use the rise for the vertical aspect and the run for the horizontal aspect (see Figure 7.1).

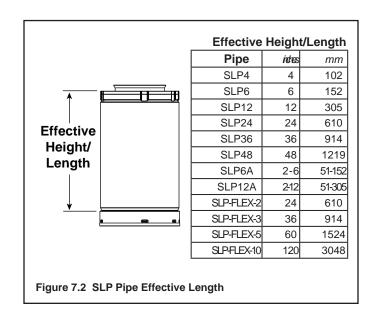
Two 45° elbows may be used in place of one 90° elbow. On 45° runs, one foot of diagonal is equal to 8-1/2 in. (216 mm) horizontal run and 8-1/2 in. (216 mm) vertical run. A length of straight pipe is allowed between two 45° elbows (see Figure 7.1).



# **D. Measuring Standards**

Vertical and horizontal measurements listed in the vent diagrams were made using the following standards.

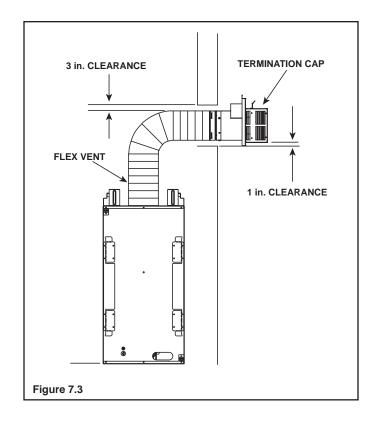
- Pipe measurements are shown using the effective length of pipe (see Figure 7.2).
- Horizontal terminations are measured to the outside mounting surface (flange of termination cap) (see Figure 6.1).
- Vertical terminations are measured to bottom of termination cap.
- Horizontal pipe installed level with no rise.



### E. Use of Flex Vent

The flex vent must be supported with the spacing between support intervals not exceeding 4 feet, with no more than 1/2 inch sag between supports.

A support is required at each change in venting direction, and in any location where it is necessary to maintain the necessary clearance to combustibles. A simple "up and out" installation (Figure 7.3) requires only enough support to maintain the necessary clearance to combustibles. However, the vent attachment point and the firestop location are considered to be supports.



# F. Vent Diagrams

#### General Rules:

- SUBTRACT 3 ft. from the total H measurement for each 90° elbow installed horizontally.
- SUBTRACT 1-1/2 ft. from the total H measurement for each 45° elbow installed horizontally.
- A maximum of three 90° elbows (or six 45° elbows) may be used in any vent configuration. Some elbows may be installed horizontally. See Figure 7.6.
- Elbows may be placed back to back anywhere in the system as long as the first 90° elbow is a starter elbow.
- When penetrating a combustible wall, a wall shield firestop must be installed.
- When penetrating a combustible ceiling, a ceiling firestop must be installed.
- Horizontal runs of vent do not require vertical rise; horizontal runs may be level.

# 1. Top Vent - Horizontal Termination

#### One Elbow



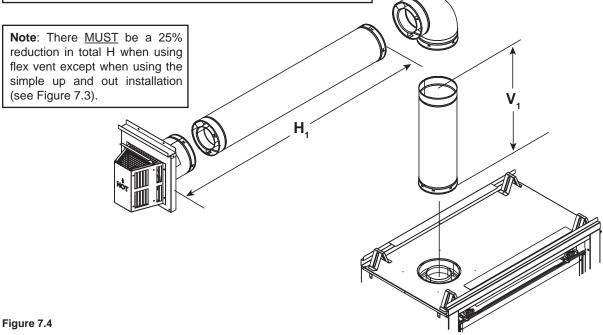
# **▲** WARNING\*\*

#### Fire Risk.

- When using SLP-HRC-SS and SLP-HRC-ZC-SS termination caps on top vented fireplaces, a one foot minimum vertical vent section is required before installing first elbow.
- When using DVP-TB1 termination cap on top vented fireplaces, a three foot minimum vertical vent section is required before installing first elbow.
- When using any other cap, a section of vertical pipe (12 inches minimum) MUST be installed prior to attaching a 90° elbow.

V₁ Mini	mum**	H₁ Maximum		
90 EI	bow**	2 ft.	610 mm	
1/2 ft.**	1/2 ft.** 152 mm		610 mm	
1-1/2 ft.**	457 mm	3 ft.	914 mm	
2-1/2 ft.**	762 mm	5 ft.	1.5 m	
3-1/2 ft.	1.1 m	7 ft.	2.1 m	
4-1/2 ft.	1.4 m	14 ft.	4.3 m	
11 May 44 (4.2 m)				

H<sub>1</sub> Max. =14 ft. (4.3 m) V + H Max. = 40 ft. (12.2 m) See Warning\*\*



# 1. Top Vent - Horizontal Termination - (continued)

#### **Two Elbows**



# **▲** WARNING\*\*

Fire Risk.

- When using SLP-HRC-SS and SLP-HRC-ZC-SS termination caps on top vented fireplaces, a one foot minimum vertical vent section is required before installing first elbow.
- When using DVP-TB1 termination cap on top vented fireplaces, a three foot minimum vertical vent section is required before installing first elbow.
- When using any other cap, a section of vertical pipe (12 inches minimum) MUST be installed prior to attaching a 90° elbow.

mum**	H <sub>1</sub> + H <sub>2</sub> Maximum		
00W**	1/2 ft.	152 mm	
152 mm	1 ft.	305 mm	
457 mm	2 ft.	610 mm	
762 mm	4 ft.	1.2 m	
1.1 m	6 ft.	1.8 m	
1.4 m	14 ft.	4.3 m	
	152 mm 457 mm 762 mm	1/2 ft. 152 mm 1 ft. 457 mm 2 ft. 762 mm 4 ft. 1.1 m 6 ft.	

 $H_1 + H_2$  Max. =14 ft. (4.3 m)  $V_1 + H_1 + H_2$  Max. = 40 ft. (12.2 m) See Warning\*\*

**Note**: There <u>MUST</u> be a 25% reduction in total H when using flex vent except when using the simple up and out installation (see Figure 7.3).

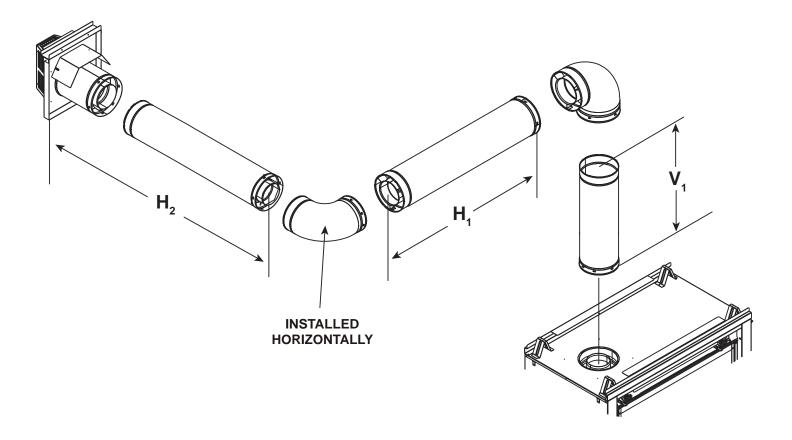


Figure 7.5

# 1. Top Vent - Horizontal Termination - (continued)

#### **Three Elbows**

V <sub>1</sub> Minimum**		H <sub>1</sub> + H <sub>2</sub> Maximum		V <sub>2</sub>	V <sub>1</sub> + V <sub>2</sub> Min.
90 Elbow**		2 ft.	610 mm	*	*
1/2 ft.**	152 mm	6 ft.	1.8 m	*	*
1-1/2 ft.**	457 mm	10 ft.	3 m	*	*
2-1/2 ft.**	762 mm	12 ft.	3.7 m	*	*
3-1/2 ft.	1.1 m	14 ft.	4.3 m	*	*

 $H_1 + H_2 Max. = 14 \text{ ft. } (4.3 \text{ m})$ 

\*No specific restrictions on this value

EXCEPT  $V_1 + V_2 + H_1 + H_2$  cannot exceed 40 ft. (12.2 m)

See Warning Below\*\*

**Note**: There <u>MUST</u> be a 25% reduction in total H when using flex vent except when using the simple up and out installation (see Figure 7.3).

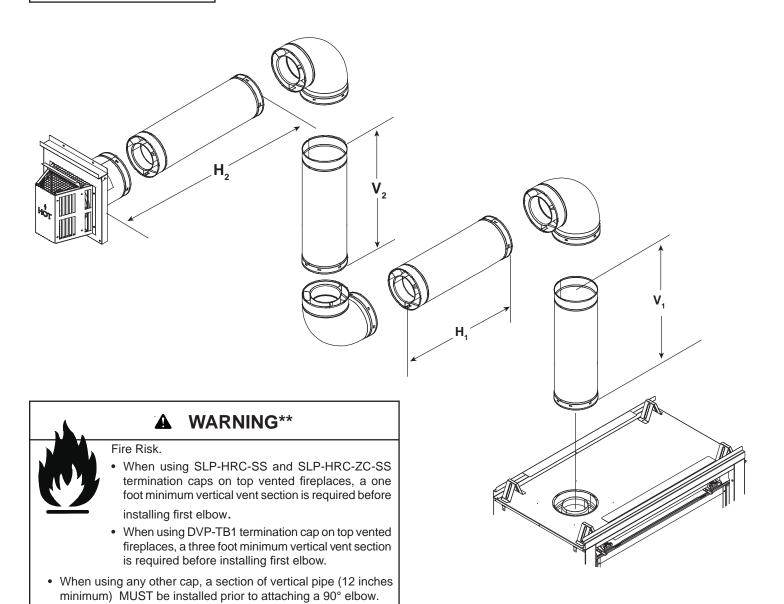


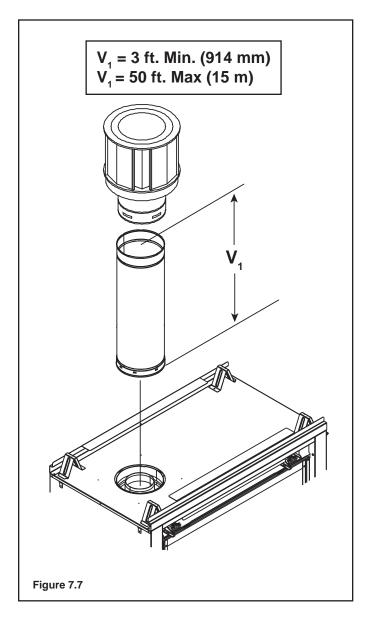
Figure 7.6

# 2. Top Vent - Vertical Termination

#### No Elbow

**Note**: Use SLP Series components only.

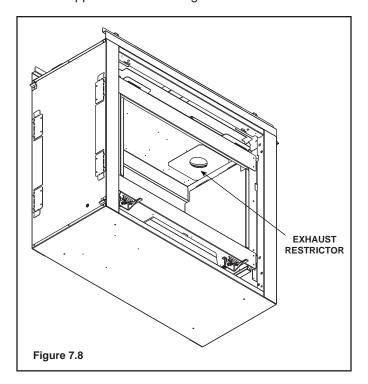
**Note:** If installing a vertical vent/termination off the top of the appliance, the exhaust restrictor may be needed.



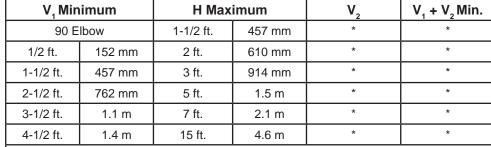
Exhaust restrictors are recommended for these vertically terminated products which have excessive draft. Exhaust restrictors will compensate for high draft, and restore visual flame height. If the vent configuration has a total vertical of 15-50 feet, an exhaust restrictor may be needed. The exhaust restrictor can be located in the appliance manual bag.

#### **Exhaust restrictor Instructions**

Center the exhaust restrictor in the open end of the exhaust outlet and secure through the slots on the exhaust restrictor with the 2-1/4 in. self tapping screws provided in the appliance manual bag.

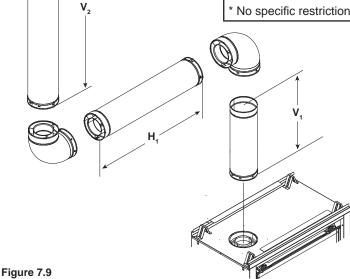


# **Two Elbows**

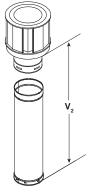


H Max. =15 ft. (4.6 m)

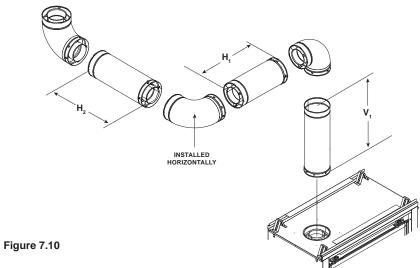
No specific restrictions on this value EXCEPT  $V_1 + V_2 + H_1$  cannot exceed 40 ft. (12.2 m)



# **Three Elbows**



V₁ Minimum		H <sub>1</sub> + H <sub>2</sub> Maximum		V <sub>2</sub>	V <sub>1</sub> + V <sub>2</sub> Min.
90 Elbow		1/2 ft.	152 mm	*	*
1/2 ft.	152 mm	1 ft.	305 mm	*	*
1-1/2 ft.	457 mm	2 ft.	610 mm	*	*
2-1/2 ft.	762 mm	4 ft.	1.2 m	*	*
3-1/2 ft.	1.1 m	6 ft.	1.8 m	*	*
4-1/2 ft.	1.4 m	14 ft.	4.3 m	*	*



 $H_1 + H_2 \, \text{MAX.} = 14 \, \text{ft.} \, (4.6 \, \text{m})$  \* No specific restrictions on this value EXCEPT V $_1 + V_2 + H_1 + H_2 \, \text{cannot exceed 40 ft.} \, (12.2 \, \text{m})$ 



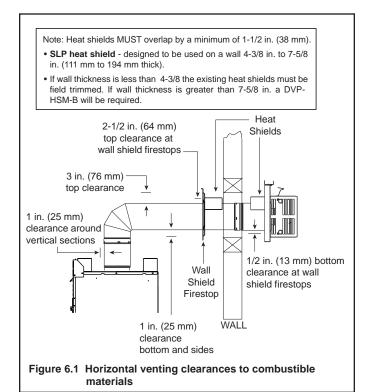
# **Vent Clearances and Framing**

# A. Pipe Clearances to Combustibles

**WARNING!** Risk of Fire! Maintain air space clearance to vent. **DO NOT** pack insulation or other combustibles:

- · Between ceiling firestops
- · Between wall shield firestops
- · Around vent system

Failure to keep insulation or other material away from vent pipe may cause over heating and fire.



# **B. Wall Penetration Framing**

#### **Combustible Wall Penetration**

Whenever a combustible wall is penetrated, you must frame a hole for the wall shield firestop. The wall shield firestop maintains minimum clearances and prevents cold air infiltration.

- The opening must be framed on all four sides using the same size framing materials as those used in the wall construction.
- SLP pipe A wall shield firestop must be placed on each side of an interior wall. A minimum 1-1/2 in. (38 mm) overlap of attached heat shields must be maintained.
- See Section 10.L. for information for regarding the installation of a horizontal termination cap.

#### Non-Combustible Wall Penetration

If the hole being penetrated is surrounded by noncombustible materials such as concrete, a hole with diameter one in. greater than the pipe is acceptable.

Whenever a non-combustible wall is penetrated, the wall shield firestop is only required on one side and no heat shield is necessary.

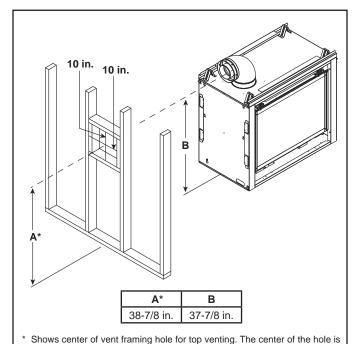


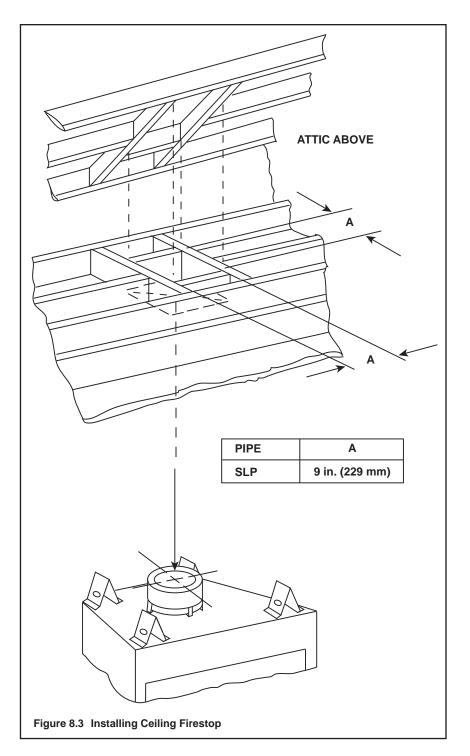
Figure 8.2 Wall Penetration

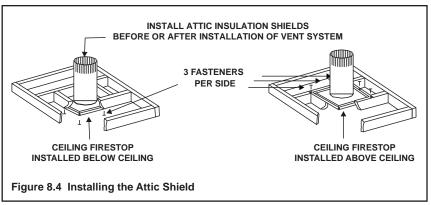
# C. Install the Ceiling Firestop

A ceiling firestop **MUST** be used between floors and attics.

- Frame opening 9 in. x 9 in. (229 mm x 229 mm) whenever the vent penetrates a ceiling/ floor (see Figure 8.3).
- Frame the area with the same sized lumber as used in ceiling/floor joist.
- The ceiling firestop may be installed above or below the ceiling joists when installed with a attic insulation shield. It must be under joists between floors that are not insulated. Refer to Figure 8.4.
- Secure with three fasteners on each side.

**WARNING!** Risk of Fire! DO NOT pack insulation around the vent. Insulation must be kept back from the pipe to prevent overheating.





#### D. Install Attic Insulation Shield

**WARNING!** Fire Risk. DO NOT allow loose materials or insulation to touch vent. Hearth & Home Technologies Inc. requires the use of an attic shield.

The National Fuel Gas Code ANSI Z223.1 and NFPA 54 requires an attic shield constructed of 26 gauge minimum metal that extends at least 2 in. (51 mm) above insulation.

Attic shields must meet specified clearance and be secured in place.

#### Flat Ceiling Installation

· Remove one shield from box.

**NOTICE:** Cut previously installed batt insulation to make room for the attic insulation shield.

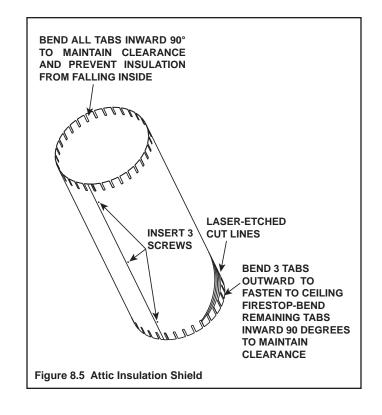
- Wrap shield around pipe if pipe is already installed in area to be insulated.
- Match the three holes in each side and fasten with three screws to form a tube.
- Bend three tabs on the bottom of the shield outward to allow attachment to the ceiling firestop.
- Bend the remaining bottom tabs inward 90° to maintain the air space between the pipe and the shield. Set the shield on the ceiling firestop and attach to the firestop.
- Bend all tabs inward 90° around the top of the shield.
   These tabs must be used to prevent blown insulation from getting between the shield and vent pipe, and to maintain air space clearance.

## Vaulted Ceiling Installation

- The attic insulation shield has been laser-etched with cut lines and ceiling pitches to make field trimming easier.
- · Remove one shield from box.

**NOTICE:** Cut previously installed batt insulation to make room for the attic insulation shield.

- Cut the attic insulation shield (if application is for vaulted ceiling) using a laser-etched cut line, to fit your ceiling pitch. Snip cut edge to recreate 1 in. bend tabs all the way around the bottom.
- Wrap shield around pipe if pipe is already installed in area to be insulated.
- Match the three holes in each side and fasten with three screws to form a tube.
- Bend three tabs on the bottom of the shield outward to allow attachment to the ceiling firestop.
- Bend the remaining bottom tabs inward 90° to maintain the air space between the pipe and the shield. Set the shield on the ceiling firestop and attach to the firestop.
- Bend all tabs inward 90° around the top of the shield.
   These tabs must be used to prevent blown insulation from getting between the shield and vent pipe, and to maintain air space clearance.



# 9

# **Appliance Preparation**

# A. Securing and Leveling the Appliance

WARNING! Risk of Fire! Prevent contact with:

- Sagging or loose insulation
- Insulation backing or plastic
- Framing and other combustible materials

Block openings into the chase to prevent entry of blownin insulation. Make sure insulation and other materials are secured.

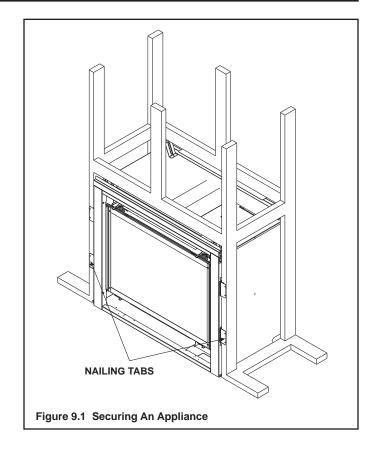
**DO NOT** notch the framing around the appliance standoffs.

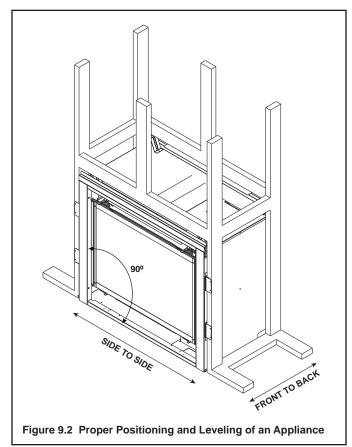
Failure to maintain air space clearance may cause overheating and fire.

**NOTICE:** Failure to ensure that the fireplace opening is square may result in the decorative front not fitting properly.

The diagram shows how to properly position, level, and secure the appliance (see Figure 9.1). Nailing tabs are provided to secure the appliance to the framing members.

- Venting refer to Vent Clearances and Framing (Section 8) for hole location.
- 2. Place the appliance into position, making sure to maintain proper clearance to combustibles.
- Level the appliance from side to side and front to back. It is acceptable to use wood shims under the appliance.
- 4. Fasten the appliance to the floor using the pilot holes located at the bottom of the appliance.
- 5. Bend out nailing tabs on each side making sure to keep the nailing tabs flush with the framing.
- Using a framing square, make sure that the sides of the appliance are square to the bottom as shown in Figure 9.2.
- 7. Secure the appliance to the framing by using nails or screws through the nailing tabs. It is acceptable to use plumber strap to secure the unit to the framing if necessary. Be sure to maintain all clearances to combustible material.





# 10 Installing Vent Pipe

#### A. Assemble Vent Sections

To attach the first vent component to the starting collars of the appliance:

- Lock the vent components into place by sliding the pipe section onto the collar.
- Align the seam of the pipe and seam of collar to allow engagement. Rotate the vent component to lock into place. Use this procedure for all vent components. See Figure 10.1.
- Slide the gasket over the first vent section and place it flush to the appliance. This will prevent cold air infiltration.
   Caulk with a minimum of 300°F continuous exposure rating may be used to hold the part in place.
- Continue adding vent components, locking each succeeding component into place.
- Ensure that each succeeding vent component is securely fitted and locked into the preceding component.

# Commercial, Multi-family (Multi-level exceeding two stories), or High-Rise Applications

For Installation into a commercial, multi-family (multi-level exceeding two stories) or high-rise applications: All outer pipe joints must be sealed with high temperature silicone, including the slip section that connects directly to the horizontal termination cap.

- Apply a bead of silicone sealant inside the female outer pipe joint prior to joining sections. See Figure 10.2
- Only outer pipes need to be sealed. All unit collar, pipe, slip section, elbow and cap outer flues shall be sealed in this manner, unless otherwise stated.

**WARNING!** Risk of Fire or Explosion! DO NOT break silicone seals on slip sections. Use care when removing termination cap from slip pipe. If slip section seals are broken during removal of the termination cap, vent may leak.

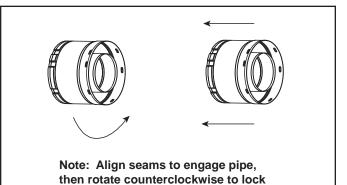


Figure 10.1 Adding Venting Components



Figure 10.2 High Temperature Silicone Sealant

#### **B.** Assemble Slip Sections

- Slide the inner flue of the slip section into the inner flue of the pipe section and the outer flue of the slip section over the outer flue of the pipe section. See Figure 10.3.
- Slide together to the desired length.

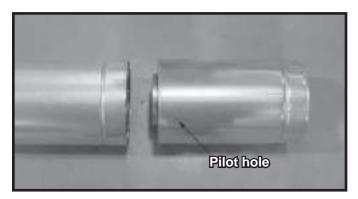


Figure 10.3 Slip Section Pilot Holes

- Maintain a 1-1/2 in. (38 mm) overlap between the slip section and the pipe section.
- Secure the pipe and slip section with two screws no longer than 1/2 in. (13 mm), using the pilot holes in the slip section. See Figure 10.4.

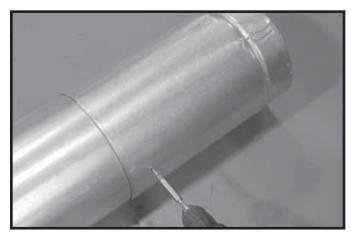


Figure 10.4 Screws into Slip Section

 Continue adding pipe as necessary following instructions in "Assembling Pipe Sections."

**NOTICE:** If slip section is too long, the inner and outer flues of the slip section can be cut to the desired length.

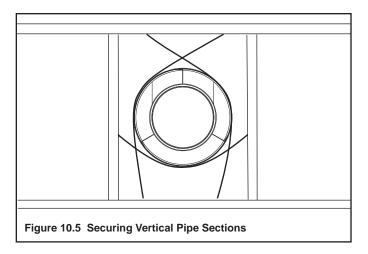
**NOTICE:** When installing a vent system with an HRC termination cap, all pipe system joints shall be sealed using a high temperature silicone sealant.

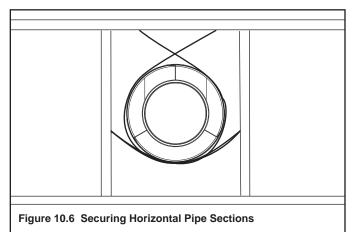
- Apply a bead of silicone sealant inside the female outer pipe joint prior to joining sections.
- Only outer pipes are sealed, sealing the inner flue is not required.
- All unit collar, pipe, slip section, elbow and cap outer flues shall be sealed.

## C. Securing the Vent Sections

- Vertical runs of pipe must be supported every 8 ft. (2.44 m).
- Horizontal sections must be supported every 5 feet (1.52 m).
- Vent supports or plumbers strap (spaced 120° apart) may be used to support. See figures 10.5 and 10.6.
- Wall shield firestops may be used to provide horizontal support.
- Ceiling firestops have tabs that may be used to provide vertical support.

WARNING! Risk of Fire, Explosion or Asphyxiation! Improper support may allow vent to sag and separate. Use vent run supports and connect vent sections per installation instructions. DO NOT allow vent to sag below connection point to appliance.





#### D. Disassemble Vent Sections

- Rotate either section (see Figure 10.7) so the seams on both pipe sections are aligned as shown in Figure 10.8.
- Pull carefully to separate the pieces of pipe.

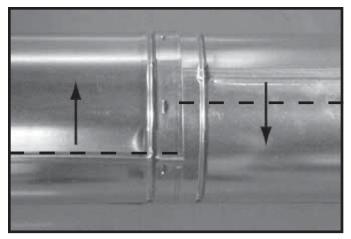


Figure 10.7 Rotate Seams for Disassembly

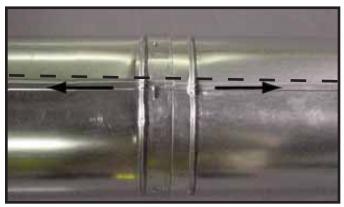


Figure 10.8 Align and Disassemble Vent Sections

#### **E. Installing Decorative Ceiling Components**

A decorative ceiling thimble can be installed on a flat ceiling through which the vent passes. The decorative ceiling thimble is used to cover the firestop.

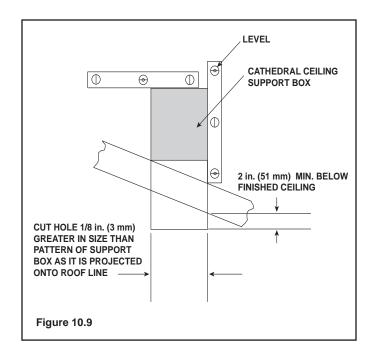
- Seal the gap between the vent pipe and firestop using high temperature silicone to prevent cold air infiltration.
- Install the decorative ceiling thimble by sliding it up to the ceiling and attaching it using the provided screws.

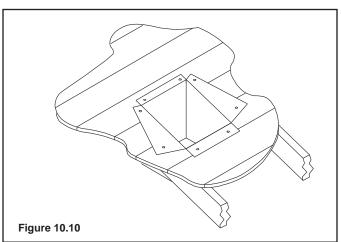
A decorative cathedral ceiling support box can be installed on a cathedral ceiling through which the vent passes.

- Use a plumb-bob to mark the center line of the venting system on the ceiling and drill a small hole through the ceiling and roof at this point. Locate the hole and mark the outline of the cathedral ceiling support box on the outside roof.
- Remove shingles or other roof covering as necessary to cut the rectangular hole for the support box. Cut the hole 1/8 in. (3 mm) larger than the support box outline.

- Lower the support box through the hole in the roof until its bottom is at least 2 in. (51 mm) below the ceiling (Figure 10.9).
- Level the support box both vertically and horizontally and temporarily tack it in place through the inside walls into the roof sheathing.
- Use tin snips to cut the support box from the top corners down to the roof line and fold the resulting flaps to the roof. See Figure 10.10.
- Nail the flaps to the roof AFTER running a bead of non hardening sealant between the flaps and the roof.

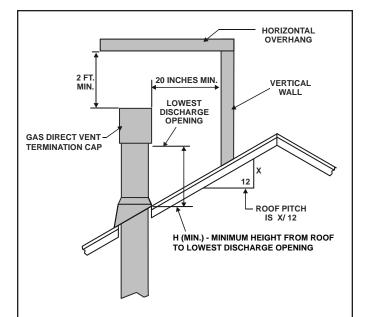
**WARNING!** Risk of Fire! Clean out ALL materials from inside the support box and complete the vertical vent run and termination.





#### F. Installing Metal Roof Flashing

- See minimum vent heights for various pitched roofs (Figure 10.11) to determine the length of pipe to extend through the roof.
- Slide the roof flashing over the pipe sections extending through the roof as shown in Figure 10.12.



Roof Pitch	<u>H (Min.) Ft.</u>
Flat to 6/12	1.0*
Over 6/12 to 7/12	1.25*
Over 7/12 to 8/12	1.5*
Over 8/12 to 9/12	2.0*
Over 9/12 to 10/12	2.5
Over 10/12 to 11/12	3.25
Over 11/12 to 12/12	4.0
Over 12/12 to 14/12	5.0
Over 14/12 to 16/12	6.0
Over 16/12 to 18/12	7.0
Over 18/12 to 20/12	7.5
Over 20/12 to 21/12	8.0

\* 3 foot minimum in snow regions

Figure 10.11 Minimum Height From Roof To Lowest Discharge Opening

**NOTICE:** Failure to properly caulk the roof flashing and pipe seams may permit entry of water.

- Caulk the gap between the roof flashing and the outside diameter of the pipe.
- Caulk the perimeter of the flashing where it contacts the roof surface. See Figure 10.12.
- Caulk the overlap seam of any exposed pipe sections that are located above the roof line.

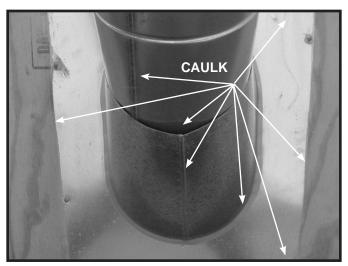
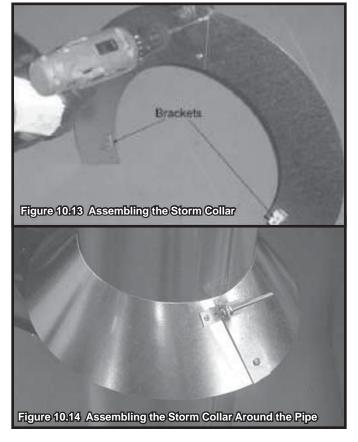


Figure 10.12

#### G. Assemble and Install Storm Collar

**CAUTION!** Risk of Cuts, Abrasions or Flying Debris. Wear protective gloves and safety glasses during installation. Sheet metal edges are sharp.

- Connect both halves of the storm collar with two screws (see Figure 10.13).
- Wrap the storm collar around the exposed pipe section closest to the roof and align brackets. Insert a bolt (provided) through the brackets and tighten the nut to complete the storm collar assembly. Make sure the collar is tight against the pipe section.
- Slide the assembled storm collar down the pipe section until it rests on the roof flashing (see Figure 10.14).
- Caulk around the top of the storm collar (see Figure 10.15).



#### H. Installing Vertical Termination Cap

- Attach the vertical termination cap by sliding the inner collar of the cap into the inner flue of the pipe section while placing the outer collar of the cap over the outer flue of the pipe section.
- Secure the cap by driving three self-tapping screws (supplied) through the pilot holes in the outer collar of the cap into the outer flue of the pipe (see Figure 10.15).

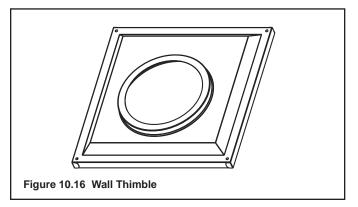


**Figure 10.15** 

### I. Installing Decorative Wall Components

A decorative wall thimble can be installed on wall through which the vent passes. The decorative wall thimble is used to cover the firestop.

- Slide the decorative wall thimble over the last section of horizontal pipe before connecting the termination cap to the pipe.
- Once the pipe section and the termination cap have been connected, slide the wall thimble up to the interior wall surface and attach with screws provided. See Figure 10.16.



# J. Heat Shield Requirements for Horizontal Termination

**WARNING!** Risk of Fire! To prevent overheating and fire, heat shields must extend through the entire wall thickness.

- **DO NOT** remove the heat shields attached to the wall shield firestop and the horizontal termination cap (shown in Figure 10.17).
- Heat shields must overlap 1-1/2 in. (38 mm) minimum

There are two sections of the heat shield. One section is factory-attached to the wall shield firestop. The other section is factory-attached to the cap. See Figure 10.17.

If the wall thickness does not allow the required 1-1/2 in. (38 mm) heat shield overlap when installed, an extended heat shield must be used.

- If the wall thickness is less than 4 in./102 mm (DVP) or 4-3/8 in./ 111 mm (SLP), the heat shields on the cap and wall shield firestop must to be trimmed. A minimum 1-1/2 in. (38 mm) overlap MUST be maintained.
- Use an extended heat shield if the finished wall thickness is greater than 7-1/4 in. (184 mm).
- The extended heat shield may need to be cut to length maintaining sufficient length for a 1-1/2 in. (38 mm) overlap between heat shields.
- Attach the extended heat shield to either of the existing heat shields using the screws supplied with the extended heat shield. Refer to vent components diagrams in the back of this manual.
- Rest the small leg on the extended heat shield on top of the pipe section to properly space it from the pipe section.

**Important Notice:** Heat shields may <u>not</u> be field constructed.

#### K. Install Horizontal Termination Cap

**WARNING!** Risk of Fire! The telescoping flue section of the termination cap MUST be used when connecting vent.

 1-1/2 (38 mm) minimum overlap of flue telescoping section is required.

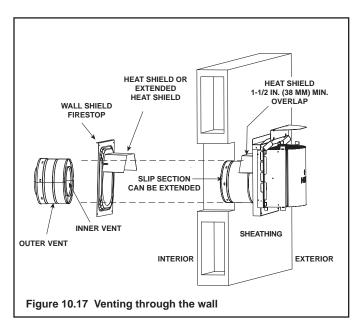
Failure to maintain overlap may cause overheating and fire.

- Vent termination must not be recessed in the wall. Siding may be brought to the edge of the cap base.
- Flash and seal as appropriate for siding material at outside edges of cap.
- When installing a horizontal termination cap, follow the cap location guidelines as prescribed by current ANSI Z223.1 and CAN/CGA-B149 installation codes and refer to Section 6 of this manual.

**CAUTION!** Risk of Burns! Local codes may require installation of a cap shield to prevent anything or anyone from touching the hot cap.

**NOTICE:** For certain exposures which require superior resistance to wind-driven rain penetration, a flashing kit and HRC caps are available. When penetrating a brick wall, a brick extension kit is available for framing the brick.

**Note:** When using termination caps with factory-supplied heat shield attached, no additional wall shield firestop is required on the exterior side of a combustible wall.



#### A. Fuel Conversion

- Make sure the appliance is compatible with available gas types.
- Conversions must be made by a qualified service technician using Hearth & Home Technologies specified and approved parts.

#### **B.** Gas Pressure

- Optimum appliance performance requires proper input pressures.
- Gas line sizing requirements will be determined in ANSI Z223.1 National Fuel Gas Code in the USA and CAN/ CGA B149 in Canada.
- Pressure requirements are:

Gas Pressure	Natural Gas	Propane
Minimum inlet pressure	5.0 in. w.c.	11.0 in. w.c.
Maximum inlet pressure	14.0 in. w.c.	14.0 in. w.c.
Manifold pressure	3.5 in. w.c.	10.0 in. w.c.

**WARNING!** Risk of Fire/Explosion! High pressure will damage valve. Low pressure may cause explosion.

- Verify inlet pressures. Verify minimum pressures when other household gas appliances are operating.
- Install regulator upstream of valve if line pressure is greater than 1/2 psig.

#### **A** WARNING



Fire Risk.

Explosion Hazard.

High pressure will damage valve.



- Disconnect gas supply piping BEFORE pressure testing gas line at test pressures above 1/2 psig.
- Close the manual shutoff valve BEFORE pressure testing gas line at test pressures equal to or less than 1/2 psig.

**Note:** Have the gas supply line installed in accordance with local codes, if any. If not, follow ANSI 223.1. Installation should be done by a qualified installer approved and/or licensed as required by the locality. (In the Commonwealth of Massachusetts installation must be performed by a licensed plumber or gas fitter).

**Note:** A listed (and Commonwealth of Massachusetts approved) 1/2 in. (13 mm) T-handle manual shut-off valve and flexible gas connector are connected to the 1/2 inch (13 mm) control valve inlet.

 If substituting for these components, please consult local codes for compliance.

#### C. Gas Connection

- Refer to Reference Section 16 for location of gas line access in appliance.
- Gas line may be run through knockout(s) provided.
- The gap between supply piping and gas access hole may be caulked with caulk with a minimum of 300°F continuous exposure rating or stuffed with noncombustible, unfaced insulation to prevent cold air infiltration.
- Ensure that gas line does not come in contact with outer wrap of the appliance. Follow local codes.
- Pipe incoming gas line into valve compartment.
- Connect incoming gas line to the 1/2 in. (13 mm) connection on manual shutoff valve.

**WARNING!** Risk of Fire or Explosion! Support control when attaching pipe to prevent bending gas line.

• A small amount of air will be in the gas supply lines.

**WARNING!** Risk of Fire or Explosion! Gas build-up during line purge could ignite.

- Purge should be performed by qualified service technician.
- Ensure adequate ventilation.
- Ensure there are no ignition sources such as sparks or open flames.

Light the appliance. It will take a short time for air to purge from lines. When purging is complete the appliance will light and operate normally.

WARNING! Risk of Fire, Explosion or Asphyxiation! Check all fittings and connections with a non-corrosive commercially available leak-check solution. DO NOT use open flame. Fittings and connections could have loosened during shipping and handling.

**WARNING!** Risk of Fire! DO NOT change valve settings. This valve has been preset at the factory.

#### D. High Altitude Installations

**NOTICE:** If the heating value of the gas has been reduced, these rules do not apply. Check with your local gas utility or authorities having jurisdiction.

When installing above 2000 feet elevation:

- In the USA: Reduce burner orifice 4% for each 1000 feet above 2000 feet.
- In the CANADA: Reduce burner orifice 10% for elevations between 2000 feet and 4500 feet. Above 4500 feet, consult local gas utility.

# 12 Electrical Information

#### A. Wiring Requirements

**NOTICE:** This appliance must be electrically wired and grounded in accordance with local codes or, in the absence of local codes, with **National Electric Code ANSI/NFPA 70-latest edition** or the **Canadian Electric Code CSA C22.1.** 

- Wire the appliance junction box to 110-120 VAC. This
  is required for use of optional accessories and proper
  operation of the appliance (Intellifire ignition).
- A 110-120 VAC circuit for this product must be protected with ground-fault circuit-interrupter protection, in compliance with the applicable electrical codes, when it is installed in locations such as in bathrooms or near sinks.
- Low voltage and 110 VAC voltage cannot be shared within the same wall box.

**WARNING!** Risk of Shock or Explosion! DO NOT wire 110V to the valve or to the appliance wall switch. Incorrect wiring will damage controls.

#### **B. Intellifire Ignition System Wiring**

 Wire the appliance junction box to 110 VAC for proper operation of the appliance.

**WARNING!** Risk of Shock or Explosion! DO NOT wire IPI controlled appliance junction box to a switched circuit. Incorrect wiring will override IPI safety lockout.

- Refer to Figure 12.2, Intellifire Pilot Ignition (IPI) Wiring Diagram.
- This appliance is equipped with an Intellifire control valve which operates on a 3 volt system.
- Plug the 3-volt AC transformer into the appliance junction box to supply power to the unit OR install two D cell batteries (not included) into the battery pack before use.

**NOTICE:** Batteries should not be placed in the battery pack while using the transformer. Remove batteries before using the transformer, and unplug the transformer before installing the batteries. Battery polarity must be correct or module damage will occur.

#### C. Optional Accessories Requirements

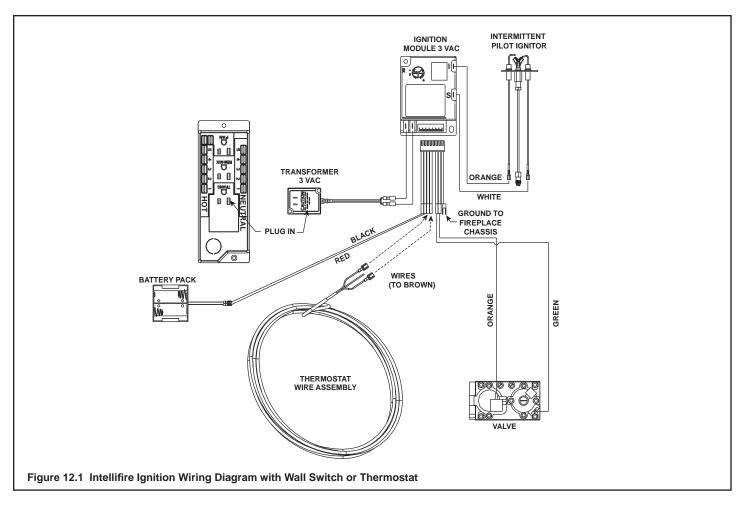
 This appliance may be used with a wall switch, wall mounted thermostat and/or a remote control.

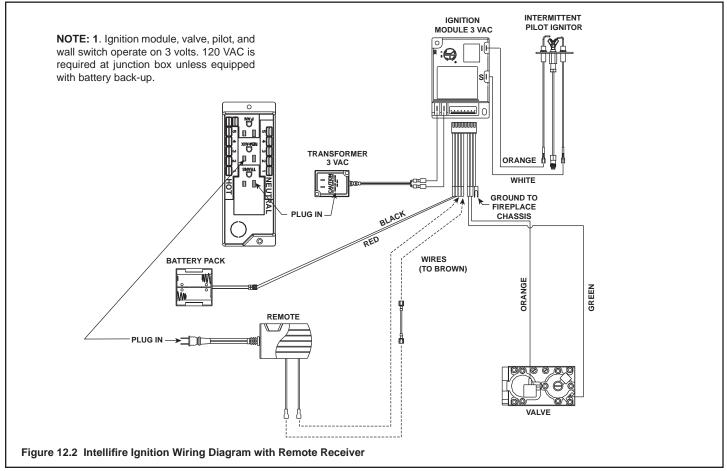
Wiring for optional Hearth & Home Technologies approved accessories should be done now to avoid reconstruction. Follow instructions that come with those accessories.

#### D. Electrical Service and Repair

**WARNING!** Risk of Shock! Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

**WARNING!** Risk of Shock! Replace damaged wire with type 105° C rated wire. Wire must have high temperature insulation.

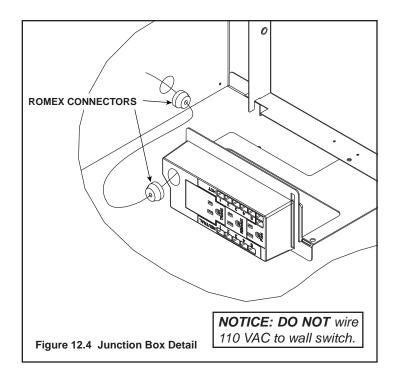




#### E. Junction Box Installation

The junction box must be wired from the **INSIDE** of the appliance:

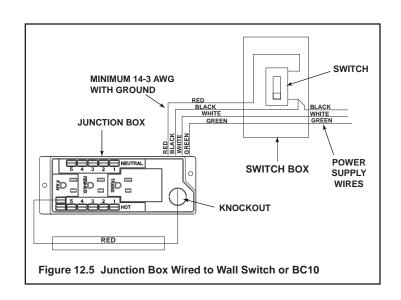
- Determine which side of the appliance the junction box is located on.
- Pull the electrical wires from outside the appliance through the knockout making sure to use a Romex connector to fasten the electrical wires to the unit.
- Pull enough wire into the valve compartment to easily reach the junction box location.
- Remove the screw attaching the junction box to the junction box bracket and set it aside.
- Route the wire through the knockout in the junction box bracket
- Wire the junction box and reattach it to the bracket by inserting the tab in the slot and attaching with screw previously removed. Ensure that a Romex connector is used to attach the electrical wires to the junction box.



#### F. Wall Switch Installation for Fan (Optional)

If the box is being wired to a wall mounted switch for use with a fan (See Figure 12.5):

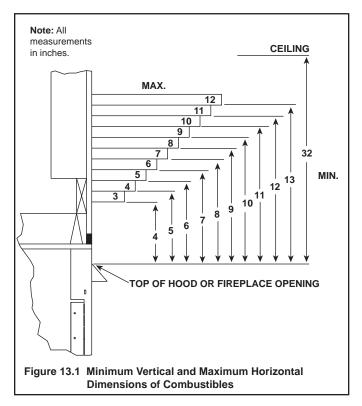
- The power supply for the appliance must be brought into a switch box.
- The power can then be supplied from the switch box to the appliance using a minimum of 14-3 with ground wire.
- At the switch box connect the black (hot) wire and red (switch leg) wire to the wall switch as shown.
- At the appliance connect the black (hot), white (neutral) and green (ground) wires to the junction box as shown.
- Add a 1/4 in. insulated female connector to the red (switch leg) wire, route it through the knockout in the face of the junction box, and connect to the top fan switch connector (1/4 in. male) as shown.

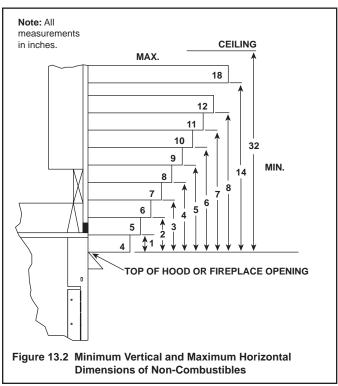


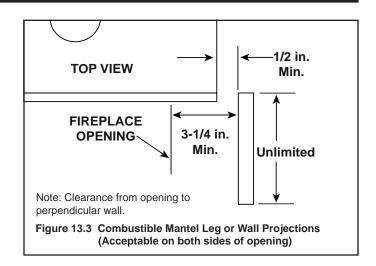
# 13 Finishing

#### A. Mantel and Wall Projections

**WARNING!** Risk of Fire! Comply with all minimum clearances as specified. Framing closer than the minimums listed must be constructed entirely of noncombustible materials (i.e., steel studs, concrete board, etc.) Failure to comply could cause fire.



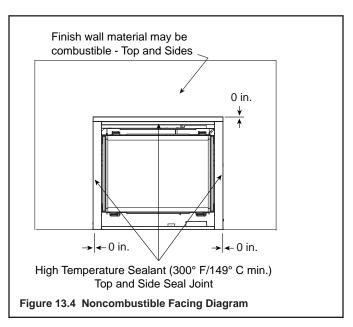




#### **B.** Facing Material

- Metal front faces may be covered with non-combustible materials only.
- Facing and/or finishing materials must not interfere with air flow through louvers, operation of louvers or doors, or access for service.
- Facing and/or finishing materials must never overhang into the glass opening.
- Observe all clearances when applying combustible materials.
- Seal joints between the finished wall and appliance top and sides using a 300 °F minimum sealant. Refer to Figure 13.3.

WARNING! Risk of Fire! DO NOT apply combustible materials beyond the minimum clearances. Comply with all minimum clearances to combustibles as specified in this manual. Overlapping materials could ignite and will interfere with proper operation of doors and louvers.



#### C. Splatter Guard

The splatter guard is a piece of corrugated material used to protect the appliance during the installation process before finishing work on the whole hearth is complete.

Splatter guards must be removed before appliance is fired.



#### **A** WARNING

Risk of Fire

- Splatter guard must be removed before lighting appliance.
- Before splatter guard is installed:
   Close ball valve to prevent accidental lighting.

Step 1. Turn off gas to valve. Red gas shutoff knob is located on ball valve. Disconnect the 3 volt transformer from the junction box. See Figure 13.5.



Figure 13.5 Preparation to Install Splatter Guard

#### To install the Splatter Guard:

Step 2. Crease flap on top side of splatter guard using the scored line as the guide. See Figure 13.5.



Figure 13.6 Folding Top Flap

Step 3. Crease flaps on left and right sides of splatter guard using the scored line as the guide. See Figure 13.6.



Figure 13.7 Folding of Right and Left Sides of Splatter Guard

Step 4. Center the splatter guard in front of the unit as shown in Figure 13.8. Place the splatter guard in the unit by guiding the top flap into proper position and then continuing to guide the tabs on the side flaps into the top slot on the left and right sides of the appliance. The top slot is indicated in Figure 13.9 Take care not to bend or break off the tabs.



Figure 13.8 Installation of Splatter Guard

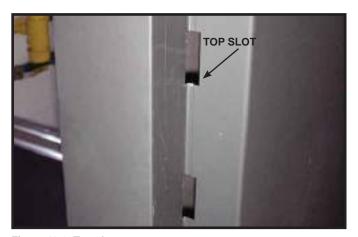


Figure 13.9 Top slot

Step 5. Fold bottom flap along score line as indicated in Figure 13.10 and tuck into valve access area of appliance. Splatter guard should fit securely on front of unit.

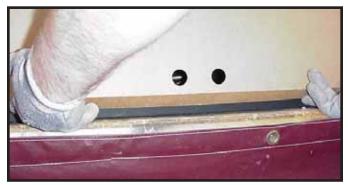


Figure 13.10 Folding Bottom Flap



Figure 13.11 Prepare to Open Lower Access Panel

Step 6. To open lower access panel of splatter guard, place one hand above score line and place two fingers from other hand in the round holes on the front of the splatter guard. See Figure 13.11. Pull out and fold up the panel as shown in Figure 13.12. Disengage the tabs on left and right bottom of splatter guard and fit them into the square holes. The tabs are now inside the front of the splatter guard; carefully bend them down. See Figure 13.12.



Figure 13.12 Opening Lower Access Panel



Figure 13.13 Securing Tabs Inside Front of Splatter Guard

Once plumbing and wiring are complete on the fireplace, the lower access panel may be closed until the time that the splatter guard must be removed for firing the appliance.



Figure 13.14 Splatter Guard with Lower Access Panel Open

#### To Close the Lower Access Panel:

Carefully disengage the tabs from the square holes and bend the access panel to its original position. Bend the center bottom flap and insert it into the bottom of the appliance.



Figure 13.15 Splatter Guard with Lower Access Panel Closed

#### To Remove the Splatter Guard:

Carefully grab splatter guard on or near the vertical center on the left and right sides. Pull outward gently, but firmly, taking care not to tear or remove the inserted tabs.

#### A. Remove Fixed Glass Assembly

See Section 14G.

#### B. Remove the Shipping Materials

Remove shipping materials from inside or underneath the firebox.

#### C. Clean the Appliance

Clean/vacuum any sawdust that may have accumulated inside the firebox or underneath in the control cavity.

#### D. Accessories

Install approved accessories per instructions included with accessories. Contact your dealer for a list of approved accessories.

WARNING! Risk of Fire and Electric Shock! Use ONLY Hearth & Home Technologies-approved optional accessories with this appliance. Using non-listed accessories could result in a safety hazard and will void the warranty.

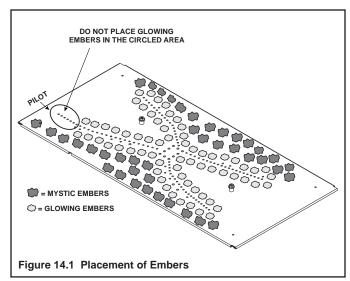
#### E. Lava Rock, Mystic Embers and Glowing Ember Placement

**WARNING!** Risk of Explosion! Follow ember placement instructions in manual. DO NOT place embers directly over burner ports. Replace ember material annually. Improperly placed embers interfere with proper burner operation.

#### **Placing the Ember Material**

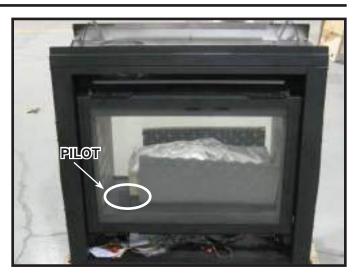
Ember material is shipped with this gas appliance. To place the ember material:

- Embers CANNOT be placed directly over ports. Care should be taken not to cover the lighting trail of ports (from back to front).
- When placing Glowing Embers® onto the burner care should be taken so that the ports are not covered. Place the dime-size ember pieces just in front of the port trail, but not on or in between the ports (see Figure 14.1). Failure to follow this procedure will likely cause lighting and sooting problems.

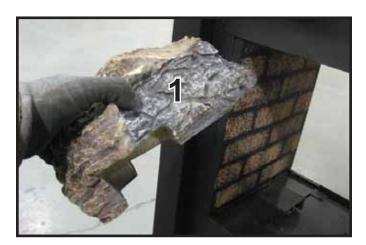


- Place Lava Rock on areas of base pan away from the burner. Use this material to give the appliance a realistic ash bed.
- Save the remaining ember materials for use during appliance servicing. The embers provided should be enough for 3 to 5 applications.
- Place Mystic Embers on burner and away from the flames to give the appliance a realistic ash bed.





**STEP 1.** *CAUTION!* Logs are fragile! Carefully remove the microfoam and packaged logs from the inside of the fireplace. See Figure 2. Remove the Mystic Embers and mineral wool and set aside. Remove the packaging from the logs and inspect the logs for damage. To ensure that you are working on the correct side of the appliance, verify that the pilot is on the left side. See Figure 2.





**STEP 2.** Log #1 (SRV2126-700): Place Log #1 so that the large cutout on the bottom of the log fits over the pilot shield as shown in Figure 4. The hole in the bottom of Log #1 interlocks with the head of the shoulder screw on the burner.

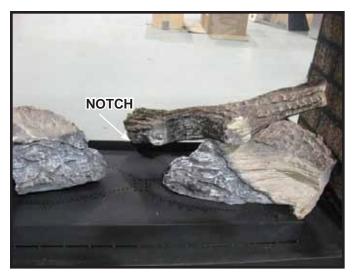




STEP 3. Log #2 (SRV2126-701): Place Log #2 as shown in Figure 6 using the shoulder bolt as a guide to align the log in the proper orientation to the port pattern on the burner.

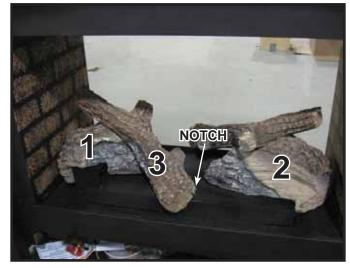
2126-935





**STEP 4.** Log #3 (SRV2126-702): Place Log #3 (1 of 2 identical logs) as shown in Figure 7. Align the "Y" of Log #3 with the cutout on Log #2. Rest the bottom of Log #3 in the notch on the ledge on the back side of the basepan.





**STEP 5.** Log #3 (SRV2126-702): Place the remaining Log #3 (2 of 2 identical logs) into the fireplace so that the bottom of the log rests in the notch on the ledge on the front side of the basepan. Then place the top of Log #3 on top of Log #1 so that the flat spot is hidden. The complete log set assembly is shown in Figure 11. See the fireplace Owner's Manual for instructions on how to place the Mystic Embers and Mineral Wool.



#### G. Fixed Glass Assembly

### **Removing Fixed Glass Assembly**

**WARNING!** Risk of Asphyxiation! Handle fixed glass assembly with care. Inspect the gasket to ensure it is undamaged and inspect the glass for cracks, chips or scratches.

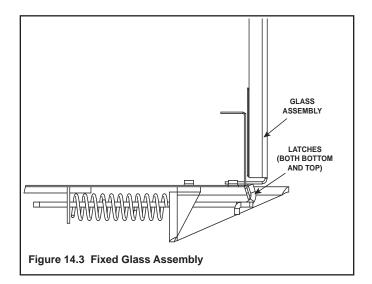
- DO NOT strike, slam or scratch glass.
- DO NOT operate fireplace with glass removed, cracked, broken or scratched.
- · Replace as a complete assembly.

#### **Removing Fixed Glass Assembly**

- Pull the two glass assembly latches out of the groove on the glass frame (see Figure 14.3).
- Remove glass door from the bracket on the top of the firebox.

#### **Replacing Fixed Glass Assembly**

- Replace the glass door on the appliance.
- Pull out and latch the two glass assembly latches into the groove on the glass frame.
- · Make sure both sides are replaced properly.



#### H. Install Trim Kits and Surrounds

- Install optional trim kits and/or surrounds using the instructions included with the accessory.
- Use non-combustible materials to cover the gap between the sheet rock and the appliance (if desired).

#### I. Air Shutter Setting

This appliance has an adjustable air shutter (which controls the primary air) factory set for the minimum vertical vent run (see Figure 12.15). If your installation has more than the minimum required vertical vent length, adjustment of the air shutter may be necessary to obtain optimal flame appearance. This should be adjusted by a qualified installer at the time of installation.

#### **Air Shutter Settings**

	NG	LP
Burner	1/8 in.	3/8 in.

# 15 Troubleshooting

With proper installation, operation, and maintenance your gas appliance will provide years of trouble-free service. If you do experience a problem, this troubleshooting guide will assist a qualified technician in the diagnosis of a problem and the corrective action to be taken. This troubleshooting guide can only be used by a qualified technician. Contact your dealer to arrange a service call by a qualified technician.

## A. Intellifire Ignition System

Symptom	Possible Cause	Corrective Action
Pilot won't light.     The ignitor/module makes noise, but no	a. Incorrect wiring.	Verify "S" wire (white) for sensor and "I" wire (orange) for ignitor are connected to correct terminals on module and pilot assembly.
spark.	b. Loose connections or electrical shorts in the wiring.	Verify no loose connections or electrical shorts in wiring from module to pilot assembly. Verify connections underneath pilot assembly are tight; also verify connections are not grounding out to metal chassis, pilot burner, pilot enclosure, mesh screen if present, or any other metal object.
	c. Ignitor gap is too large.	Verify gap of igniter to right side of pilot hood. The gap should be approximately .17 in. or 1/8 in. (3 mm).
	d. Module.	Turn ON/OFF rocker switch or wall switch to OFF position. Remove ignitor wire "I" from module. Place a grounded wire about 3/16 in. (5 mm) away from "I" terminal on module. Place ON/OFF rocker switch or wall switch in ON position. If there is no spark at "I" terminal module must be replaced. If there is a spark at "I" terminal, module is fine. Inspect pilot assembly for shorted sparker wire or cracked insulator around electrode. Replace pilot if necessary.
2. Pilot won't light, there is no noise or spark.	a. No power or transformer installed incorrectly.	Verify that transformer is installed and plugged into module. Check voltage of transformer under load at spade connection on module with ON/OFF switch in ON position. Acceptable readings of a good transformer are between 3.2 and 2.8 volts AC.
	b. A shorted or loose connection in wiring configuration or wiring harness.	Remove and reinstall the wiring harness that plugs into module. Verify there is a tight fit. Verify pilot assembly wiring to module. Remove and verify continuity of each wire in wiring harness. Replace any damaged components.
	c. Improper wall switch wiring.	Verify that 110/VAC power is "ON" to junction box.
	d. Module not grounded.	Verify black ground wire from module wire harness is grounded to metal chassis of appliance.
	e. Module.	Turn ON/OFF rocker switch or wall switch to OFF position. Remove ignitor wire "I" from module. Place ON/OFF rocker switch or wall switch in ON position. If there is no spark at "I" terminal module must be replaced. If there is a spark at "I" terminal, module is fine. Inspect pilot assembly for shorted sparker wire or cracked insulator around electrode.
3. Pilot sparks, but Pilot will not light.	a. Gas supply.	Verify that incoming gas line ball valve is "open". Verify that inlet pressure reading is within acceptable limits, inlet pressure must not exceed 14 in. W.C.
	b. Ignitor gap is incorrect.	Verify that spark gap from ignitor to pilot hood is .17 in. or 1/8 in (3 mm).
	c. Module is not grounded.	Verify module is securely grounded to metal chassis of appliance.
	d. Module voltage output / Valve/Pilot solenoid ohms readings.	Verify battery voltage is at least 2.7 volts. Replace batteries if voltage is below 2.7.

# Intellifire Ignition System - (continued)

Symptom	Possible Cause	Corrective Action
4. Pilot lights but continues to spark, and main burner will not ignite.  (If the pilot continues	A shorted or loose connection in flame sensing rod.	Verify all connections to wiring diagram in manual. Verify connections underneath pilot assembly are tight. Verify connections are not grounding out to metal chassis, pilot burner, pilot enclosure or screen if present, or any other metal object.
to spark after the pilot flame has been lit, flame rectification has not occurred.)	b. Poor flame rectification or contaminated flame sensing rod.	With fixed glass assembly in place, verify that flame is engulfing flame sensing rod on left side of pilot hood. Flame sensing rod should glow shortly after ignition. Verify correct pilot orifice is installed and gas inlet is set to pressure specifications. Clean flame sensing rod with emery cloth to remove any contaminants that may have accumulated on flame sensing rod.
	c. Module is not grounded.	Verify module is securely grounded to metal chassis of appliance. Verify that wire harness is firmly connected to the module.
	d. Damaged pilot assembly or contaminated flame sensing rod.	Verify that ceramic insulator around the flame sensing rod is not cracked, damaged, or loose. Verify connection from flame sensing rod to white sensor wire. Clean flame sensing rod with emery cloth to remove any contaminants that may have accumulated on flame sensing rod. Verify continuity with a multimeter with ohms set at lowest range. Replace pilot if any damage is detected.
	e. Module.	Turn ON/OFF rocker switch or wall switch to OFF position. Remove ignitor wire "I" from module. Place ON/OFF rocker switch or wall switch in ON position. If there is no spark at "I" terminal module must be replaced. If there is a spark at "I" terminal, module is fine.

# **16** Reference Materials

### A. Appliance Dimension Diagram

Dimensions are actual appliance dimensions. Use for reference only. For framing dimensions and clearances refer to Section 5.

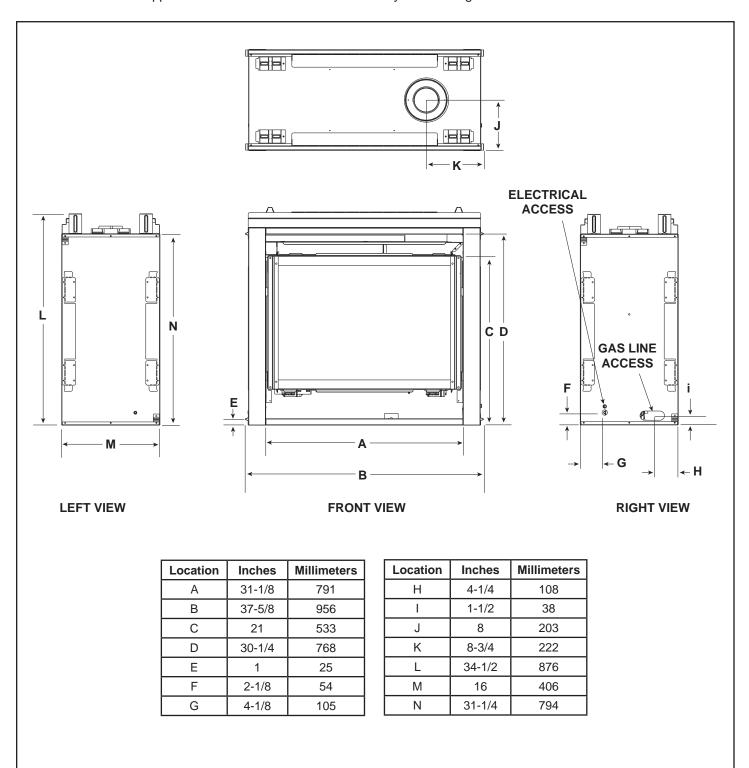
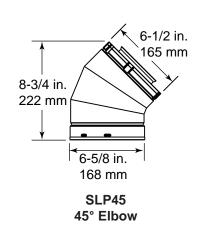
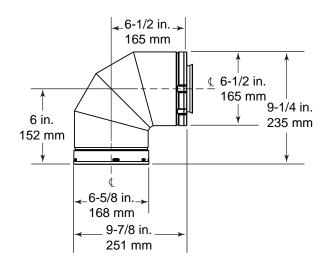


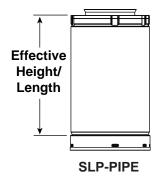
Figure 16.1 See-Through Dimensions

## **B. Vent Components Diagrams**



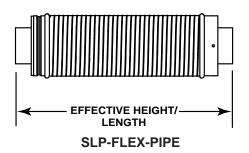


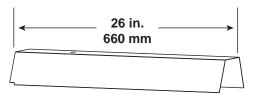
SLP90 90° Elbow



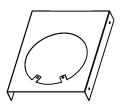
Effective Height/Length

Pipe	inches	mm
SLP4	4	102
SLP6	6	152
SLP12	12	305
SLP24	24	610
SLP36	36	914
SLP48	48	1219
SLP6A	2 - 6	51-152
SLP12A	2 - 12	51-305
SLP-FLEX-2	24	610
SLP-FLEX-3	36	914
SLP-FLEX-5	60	1524
SLP-FLEX-10	120	3048





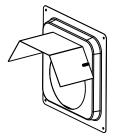
DVP-HSM-B Extended Heat Shield



SLP-HVS Horizontal Pipe Support



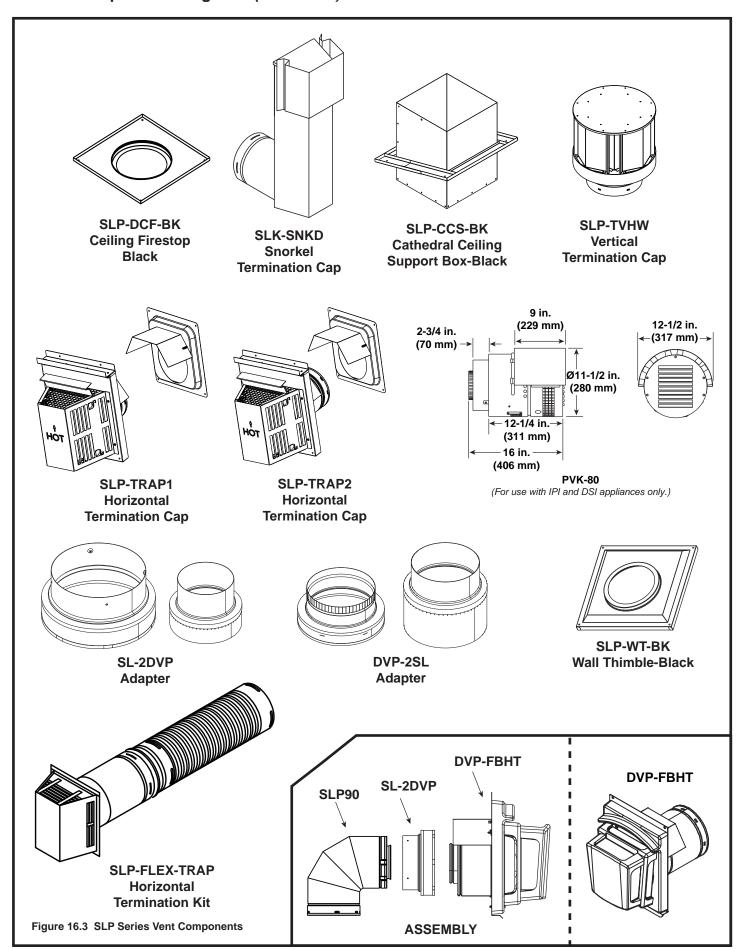
SLP-FS Ceiling Firestop



SLP-WS Wall Shield Firestop

Figure 16.2 SLP Series Vent Components

## B. Vent Components Diagrams (continued)



# B. Vent Components Diagrams (continued)

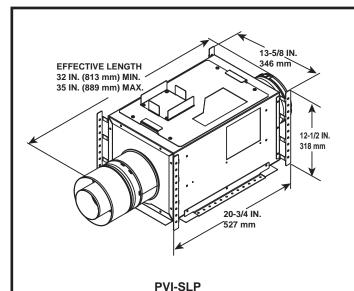
# **A** WARNING Fire Risk. When using SLP-HRC-SS and SLP-HRC-ZC-SS termination caps on top vented fireplaces, a one foot minimum vertical vent section is required before installing first elbow. · When using DVP-TB1 termination cap on top vented fireplaces, a three foot minimum vertical vent section is required before installing first elbow. 8-1/8 in. 13 in. Effective Length (206 mm) (330 mm) 5-3/4 to 8-3/8 in. 5-1/2 in. 8-3/8 in. 146 to 213 mm 140 mm 213 mm 15 in. 10-1/2 in. (381 mm) 267 mm 10-7/8 in. 276 mm **SLP-HRC-SS** SLP-HRC-ZC-SS **HORIZONTAL TERMINATION CAP DVP-TB1** DVP-TB1 SL-2DVP SLP90

DVP-TB1
HORIZONTAL TERMINATION CAP

**ASSEMBLY** 

Figure 16.4 SLP Series Vent Components

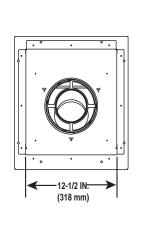
# B. Vent Components Diagrams (continued)

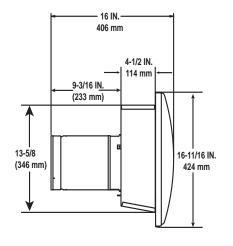


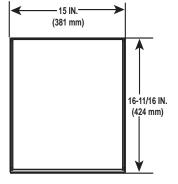
**Power Vent Inline** 

Optional Wire Harness			
DESCRIPTION	PART NUMBER		
10 ft. PV Wire Harness	PVI-WH10		
20 ft. PV Wire Harness	PVI-WH20		
40 ft. PV Wire Harness	PVI-WH40		
60 ft. PV Wire Harness	PVI-WH60		
80 ft. PV Wire Harness	PVI-WH80		
100 ft. PV Wire Harness	PVI-WH100		

**Note:** Wire harnesses required to power the PVI-SLP connect to the appliance and are ordered separately from PVI-SLP. Contact your dealer to order.







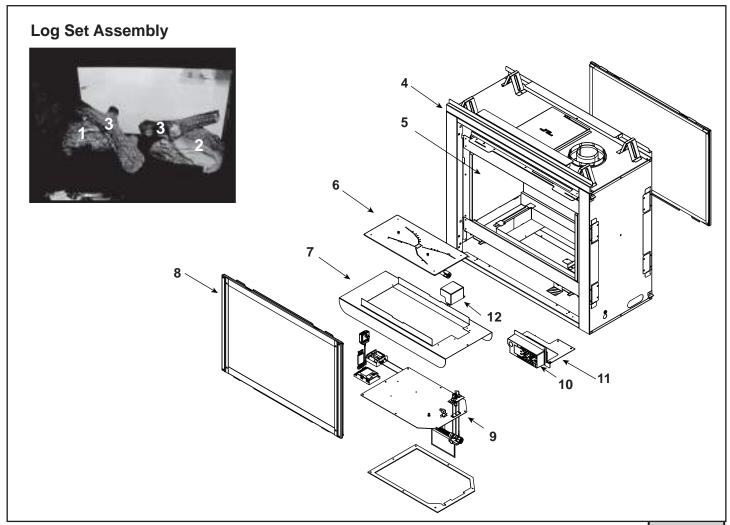
SLP-LPC SLP Low Profile Cap

Figure 16.5 Vent Components



31" See Thru Direct Vent Fireplace

Beginning Manufacturing Date: Mar 2008 Ending Manufacturing Date: \_\_\_\_\_



IMPORTANT: THIS IS DATED INFORMATION. When requesting service or replacement parts for your appliance please provide model number and serial number. All parts listed in this manual may be ordered from an authorized dealer.

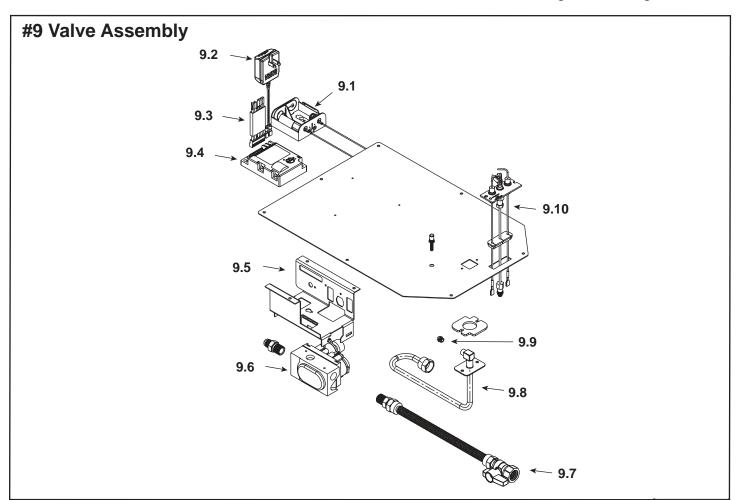

Stocked at Depot

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	
	Log Set Assembly		LOGS-2126	Υ
1	Log 1		SRV2126-700	
2	Log 2		SRV2126-701	
3	Log 3	Qty 2 req	SRV2126-702	
4	Sheetrock Ledge		2126-118	
5	Refractory	Qty 2 req	2127-017	
6	Burner NG, LP		2126-007	Υ
7	Base Pan		2126-115	
8	Glass Door Assembly		GLA-550TR	Υ
9	Valve Assembly		Refer to valve page	
10	Junction Box		4021-013	Υ
11	Junction Box Bracket		2128-128	
12	Pilot Shield		2126-124	

Additional service part numbers appear on following page.



Beginning Manufacturing Date: Mar 2008 Ending Manufacturing Date: \_\_\_\_\_



IMPORTANT: THIS IS DATED INFORMATION. When requesting service or replacement parts for your appliance please provide model number and serial number. All parts listed in this manual may be ordered from an authorized dealer.

in this manual may be ordered from an authorized dealer.				at Depot
ITEM	DESCRIPTION	COMMENTS	PART NUMBER	
9.1	Battery Pack		593-594A	Υ
9.2	3 Volt Transformer		593-593A	Υ
9.3	Module Wire Assembly		593-590A	Υ
9.4	Module		593-592	Υ
9.5	Valve Bracket		2118-104	
9.6	Valve NG		750-500	Υ
9.6	Valve LP		593-501	Υ
9.7	Flex Ball Valve Assembly		302-320A	Υ
9.8	Flexible Gas Connector		530-302A	Υ
9.9	Orifice NG (#44C)		582-844	Υ
9.9	Orifice LP (#55C)		582-855	Υ
0.10	Pilot Assembly NG		2090-012	Υ
9.10	Pilot Assembly LP		2090-013	Υ
	2 in Jumper Wires		2012-206	Υ

Additional service part numbers appear on following page.

C. Service Parts List GDST3831I

IMPORTANT: THIS IS DATED INFORMATION. When requesting service or replacement parts for your appliance please provide model number and serial number. All parts listed in this manual may be ordered from an authorized dealer.

	~	
--	---	--

Stocked at Depot

n this m	nanual may be ordered from an authorized dealer.			at Depor
ITEM	DESCRIPTION	COMMENTS	PART NUMBER	1 '
	Exhaust Restrictor		530-299	
	Fiberglass Rope Ring		045-455	
	Gasket Assembly			
	Contains Vent, Seal Cap, Burner Neck, Shutter Bracket and Valve Plate Gaskets		2128-081	
	Glass Latch Assembly	Pkg of 2	33858/2	Y
	Lava Rock		2005-790	
	Mineral Wool		050-721	
	Thermostat Wire		2118-170	Y
	Surround Overlay (contains overlay for top, bottom and significant	des)	SRV2126-FACE	
	Touch Up Paint		TUP-GBK-12	
	Conversion Kit NG		NGK-MS32	Υ
	Conversion Kit LP		LPK-MS32	Y
	Pilot Orifice NG		593-528	Υ
Ì	Pilot Orifice LP		593-527	Υ
	Regulator NG		NGK-DXV	Υ
Ì	Regulator LP		LPK-DXF	Υ

#### **D.** Contact Information



Heatilator, a brand of Hearth & Home Technologies Inc. 7571 215th Street West, Lakeville, MN 55044 www.heatilator.com

Please contact your Heatilator dealer with any questions or concerns.

For the location of your nearest Heatilator dealer,

please visit www.heatilator.com.

- NOTES -

	NOTES			

#### NOTICE

#### DO NOT DISCARD THIS MANUAL

- Important operating and maintenance instructions included.
- Read, understand and follow these instructions for safe installation and operation.
- Leave this manual with party responsible for use and operation.



This product may be covered by one or more of the following patents: (United States) 5328356, 5601073, 5613487, 5647340, 5890485, 5941237, 5947112, 5996575, 6006743, 6019099, 6053165, 6145502, 6170481, 6374822, 6484712, 6601579, 6769426, 6863064, 7077122, 7098269, 7258116, 7470729 or other U.S. and foreign patents pending.