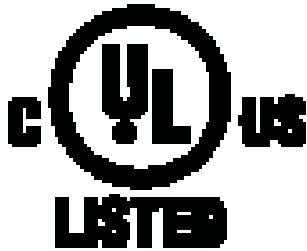


Royal

This appliance has been retired.
Service parts pages within have been removed.
For replacement parts, please refer to the individual
service parts list located on the brand websites.



R-CAST CENTENNIAL OWNER'S MANUAL

AND INSTALLATION INSTRUCTIONS

WARNING!

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

-Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

-WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

-Installation and service must be performed by a qualified installer, service agency or the gas supplier.



This wall furnace may be installed with a vertical or horizontal direct vent termination system.

WARNING!

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

This manual must be used for installation of the R-CAST, R-CAST-A, and R-CAST-G Gas-Fired Wall Furnace and retained by the homeowner for operating and maintenance instructions.

FOR YOUR SAFETY:

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

PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE.

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Safety Precautions:

- | | |
|---|--|
| <p>1. PLEASE READ THESE INSTALLATION INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION PROCEDURES. FAILURE TO FOLLOW THEM COULD CAUSE AN APPLIANCE MALFUNCTION RESULTING IN SERIOUS INJURY AND/OR PROPERTY DAMAGE.</p> <p>2. DUE TO HIGH TEMPERATURES THE APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.</p> <p>3. CHILDREN AND ADULTS SHOULD BE ALERTED TO THE HAZARDS OF HIGH SURFACE TEMPERATURES AND SHOULD STAY AWAY TO AVOID BURNS OR CLOTHING IGNITION.</p> <p>4. YOUNG CHILDREN SHOULD BE CAREFULLY SUPERVISED WHEN THEY ARE IN THE SAME ROOM AS THE APPLIANCE.</p> <p>5. CLOTHING OR OTHER FLAMMABLE MATERIAL SHOULD NOT BE PLACED ON OR NEAR THE APPLIANCE.</p> <p>6. ANY SAFETY SCREEN OR GUARD REMOVED FOR SERVICING AN APPLIANCE MUST BE REPLACED PRIOR TO OPERATING THE APPLIANCE.</p> | <p>7. WARNING! DO NOT OPERATE APPLIANCE WITH THE PANEL(S) REMOVED, CRACKED OR BROKEN. REPLACEMENT OF THE PANEL(S) SHOULD BE DONE BY A LICENSED OR QUALIFIED SERVICE PERSON.</p> <p>8. INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE APPLIANCE SHOULD BE INSPECTED BEFORE USE AND AT LEAST ANNUALLY BY A QUALIFIED SERVICE PERSON. MORE FREQUENT CLEANING MAY BE REQUIRED DUE TO EXCESSIVE LINT FROM CARPETING, BEDDING MATERIAL, ETC. IT IS IMPERATIVE THAT CONTROL COMPARTMENTS, BURNERS AND CIRCULATING AIR PASSAGEWAYS OF THE APPLIANCE BE KEPT CLEAN.</p> <p>9. ENSURE THAT THE FLOW OF COMBUSTION AND VENTILATION AIR NOT BE OBSTRUCTED.</p> <p>10. ENSURE THAT ADEQUATE COMBUSTION AND VENTILATION AIR ARE PROVIDED.</p> |
|---|--|

I. LISTINGS AND CODE APPROVALS.

U.S. Certification.

The R-Cast Series Room Heater has been tested in accordance with the ANSI standard Z21.88 1998 and UL307B and has been listed by UL for installation and operation as described in these Installation and Operating Instructions. All components are A.G.A. or UL safety certified.

Canada Certification.

The R-Cast Series Room Heater has been tested in accordance with CSA 2.33-M98 and has been listed by UL for installation and operation as described in these Installation and Operating Instructions. All components are C.G.A. or C.S.A. safety certified.

Local Codes.

Check with your local building code agency prior to installing this heater to ensure compliance with local codes, including the need for permits and follow-up inspections. This installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-latest edition, in the U.S.A. and the CANI-B149-latest edition, in Canada.

A manufactured home (mobile home) installation must conform with the *Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280*, or, when such a standard is not applicable, the Standard for *Manufacturer Home Installations, ANSI A225.1*.

This heater is approved for installation in bedrooms and mobile homes in the United States and Canada.

Efficiency.

The efficiency rating of the appliance is a product thermal efficiency rating determined under continuous operating conditions and was determined independently of any installed system.

If any assistance is required during installation please contact your local dealer.

II. DESCRIPTION OF THE HEATER SYSTEM.

The R-CAST is a direct vent wall furnace. Combustion air is supplied from outside, not from inside the house as with other types of heaters.

The installation of this R-CAST system consists of the following:

1. Appliance
2. Venting System
3. Termination

Optional components include:

1. Fan Kit

Note: Illustrations throughout these instructions reflect typical installations and are for design purposes only. Actual installation may vary slightly due to individual design preferences. However, minimum and maximum clearances must be maintained at all times.

The illustrations and diagrams used throughout these installation instructions are not drawn to scale.

Note: Operation of a direct vent heater may be sporadic in high wind situations.

III. APPLIANCE SYSTEM COMPONENTS.

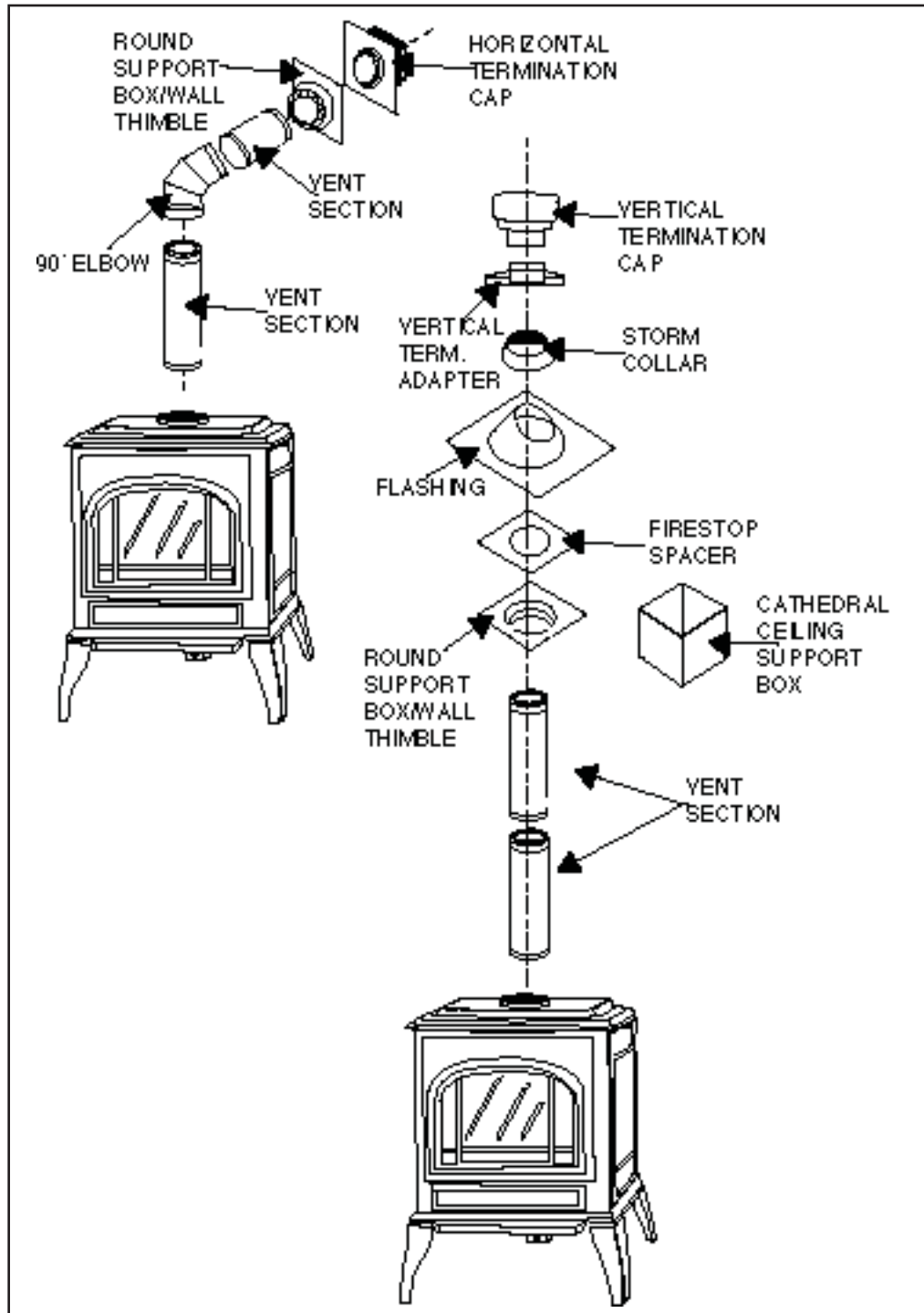
The table below is a list of only those components which may be safely used with this appliance.

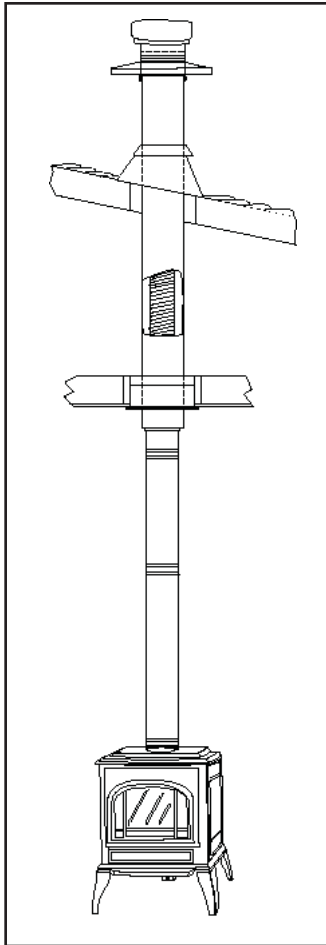
Catalog #	Description:
R-CAST	Direct Vent Wall Furnace - Black - Natural Gas, Standing Pilot.
R-CASTL	Direct Vent Wall Furnace - Black - Propane Gas, Standing Pilot.
R-CAST-A	Direct Vent Wall Furnace - Porcelain Enamel (Almond) Natural Gas, Standing Pilot.
R-CAST-AL	Direct Vent Wall Furnace - Porcelain Enamel (Almond) Propane Gas, Standing Pilot.
R-CAST-G	Direct Vent Wall Furnace - Porcelain Enamel (Green) Natural Gas, Standing Pilot.
R-CAST-GL	Direct Vent Wall Furnace - Porcelain Enamel (Green) Propane Gas, Standing Pilot.
HBK95	Fan Kit, 160 CFM, variable speed, Thermostat "ON/OFF".

SLD Series Catalog #	Venting System Components Description:
908B	6" Black Vent (4"/6 5/8")
907B	9" Black Vent (4"/6 5/8")
906B	12" Black Vent (4"/6 5/8")
SL-12D	12" Galvanized Vent (4"/6 5/8")
904B	24" Black Vent (4"/6 5/8")
SL-24D	24" Galvanized Vent(4"/6 5/8")
903B	36" Black Vent (4"/6 5/8")
SL-36D	36" Galvanized Vent (4"/6 5/8")
902B	48" Black Vent (4"/6 5/8")
SL-48D	48" Galvanized Vent(4"/6 5/8")
912B	12" (12" - 17") Adjustable Vent Black
945B	45° Elbow Black
SL-45D	45° Elbow Galvanized
990B	90° Elbow Black
SL-90D	90° Elbow Galvanized
940	Round Ceiling Support/Wall Thimble
941	Cathedral Ceiling Support Box
SL-F6D	Flashing 0/12 - 6/12
SL-F12D	Flashing 7/12 - 12/12

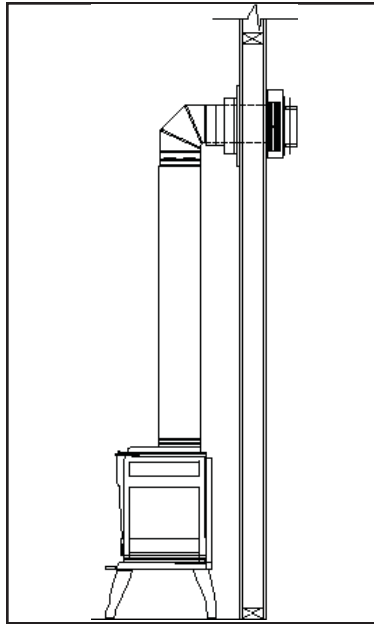
SLD Series Catalog #	Venting System Components Description:
SL-SCD	Storm Collar
SL-FWD	Wall Firestop (1 pair)
SL-FCD	Ceiling Firestop
SL-WBD	Wall Strap
982	Snorkel Termination (14")
971	Horizontal Kit (Horizontal Termination Cap, One 90° Black Elbow, Wall Thimble, 24" Black Pipe, 11" - 14 5/8" Adjustable Vent
984	Horizontal Termination Cap

TYPICAL ASSEMBLY

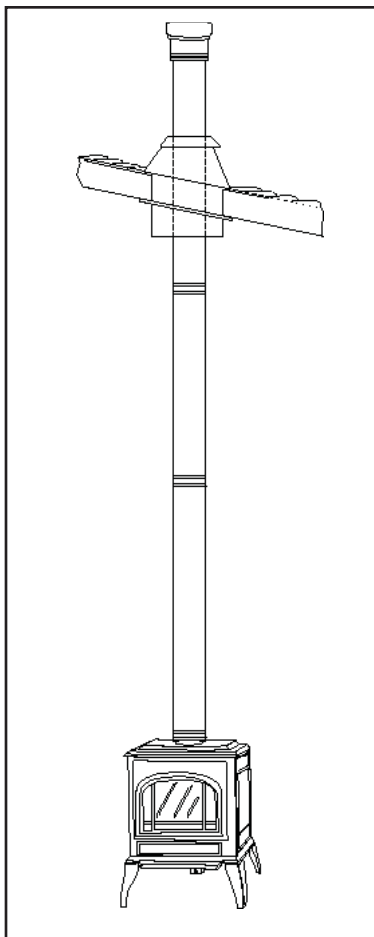




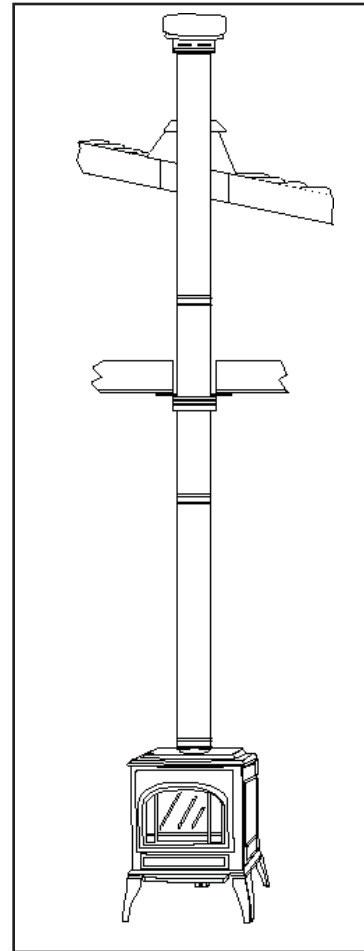
Retro-Fit Installation



Horizontal Termination



Vertical Flat Ceiling



Cathedral Ceiling

**COMMON
INSTALLATIONS**

IV. PRE-INSTALLATION PREPARATION.

WARNING!

THIS APPLIANCE MAY ONLY USE THE APPROVED VENTING SYSTEMS SHOWN IN THIS INSTALLATION. IT MUST NOT BE CONNECTED TO A CHIMNEY FLUE SERVICING A SEPARATE SOLID FUEL OR GAS FUEL BURNING APPLIANCE.



A. GAS PRESSURE

For natural gas, the minimum inlet gas supply pressure is 4.5 inches water column, and the maximum inlet gas pressure is 7.0 inches water column, for the purpose of input adjustment. Input rate is 30,000 Btu/hr. For propane gas, the inlet gas supply pressure must be at least 11.0 inches water column and a maximum 14.0 inches water column. Input rate is 30,000 Btu/hr.

Manifold pressure for this heater is 1.7 - 3.5 inches water column for natural gas and 5.4 - 11.0 inches water column for propane gas. This heater has a variable adjust manifold.

A 1/8" NPT plugged tapping is provided on the gas control valve, near the outlet to the main burner immediately upstream of the gas supply connection to the heater, accessible for a test gage connection. Pressure taps are located on top of the valve for both inlet and outlet pressure.

B. HIGH ALTITUDE INSTALLATION

For U.S. installation, units are tested and approved for elevations from 0-2000 feet.

When installing this unit at an elevation above 2000 feet, it may be necessary to decrease the input rating by changing the existing burner orifice to a smaller size. Input should be reduced 4 percent for each 1000 feet above sea level. Check with the local gas utility for proper orifice size identification. This unit is shipped with a .106 in./2.67 mm. orifice size on natural gas versions and a .063 in./1.60 mm. orifice size on propane gas versions.

For Canadian installation, units are certified for elevations from 0-4500 feet. When installing this unit at an elevation between 0-4500 feet in Canada, the input rating does not need to be reduced.

When installing this unit at an elevation above 4500 feet in Canada, check with local authorities.

Consult your local gas company for assistance in determining the proper orifice for your location or refer to ANSI Z223.1-latest edition, Appendix F.

C. CLEARANCES

The following clearances to combustibles must be maintained: Minimum clearances to the floor - 0", back of unit to wall - 4", sides of unit to wall - 6", base of the unit to ceiling - 72".

Floor Protection: See page 9, the section entitled "Positioning the appliance."

Minimum clearances to venting are as follows: Horizontal runs require a 1/2" minimum air space on the top and a 1/2" minimum air space on the sides and bottom of the outer vent section. If an elbow is being used in an enclosed wall, floor or ceiling, a top air space clearance of 3" must be maintained. Vertical rise sections require a 1" minimum air space completely around the vent section. These clearances must be maintained at all times.

This appliance is certified for installation in a bedroom or bed/sitting room in the U.S. and Canada.

Mobile Home Installations. Appliances installed in mobile homes must be secured to the floor in a minimum of two locations.

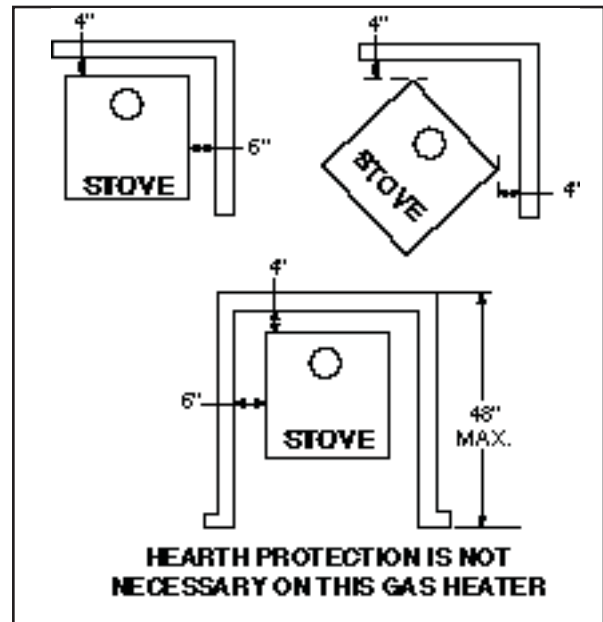


Figure 1
Minimum Clearances To Combustibles

Note: ALCOVE MINIMUM CEILING HEIGHT - 72" to combustible ceiling; 48" to non-combustible ceiling.

V. STEP-BY-STEP INSTALLATION OF THE R-CAST SYSTEM.

INSTALLATION AND REPAIR SHOULD BE DONE BY A QUALIFIED SERVICE PERSON. THE HEATER SHOULD BE INSPECTED BEFORE USE AND AT LEAST ANNUALLY BY A QUALIFIED SERVICE PERSON. MORE FREQUENT CLEANING MAY BE REQUIRED DUE TO EXCESSIVE LINT FROM CARPETING, BEDDING MATERIAL, ETC. IT IS IMPERATIVE THAT CONTROL COMPARTMENTS, BURNERS AND CIRCULATING AIR PASSAGEWAYS OF THE HEATER BE KEPT CLEAN.

WARNING!

BEFORE STARTING, DO THE FOLLOWING:

1. WEAR GLOVES AND SAFETY GLASSES FOR PROTECTION.
2. KEEP HAND TOOLS IN GOOD CONDITION. SHARPEN CUTTING EDGES AND MAKE SURE TOOL HANDLES ARE SECURE.
3. ALWAYS MAINTAIN THE MINIMUM AIR SPACE REQUIRED TO THE ENCLOSURE TO PREVENT FIRE.

Tools and building supplies normally required for installation.

Tools:
 Saw
 Pliers
 Phillips Screwdriver
 Tape Measure
 Plumb Line
 Level
 Electric Drill and Bits
 Framing Square
 High Temperature Sealant Material*

***High Temperature Sealant Material.** Sealants that will withstand high temperatures; General Electric RTV103 (Black), or equivalent. Rutland, Inc. Fireplace Mortar #63, or equivalent; Dow Corning 732 or equivalent.

STEP 1 - Positioning the appliance.

This appliance may be placed on a combustible or non-combustible continuous, flat surface. When the appliance is installed directly on carpeting, tile or other combustible material other than wood flooring, the appliance shall be installed on a metal or wood panel extending the full width and depth of the appliance. Slide the heater into position and level the heater from side-to-side and front-to-back. Shim as necessary.

STEP 2 - Termination.

Four types of termination are possible for this heater, horizontal, vertical, existing masonry chimney, and existing Class A metal chimney.

A. Horizontal Termination.

Note: A horizontal run of vent must have a 1/4" rise for every 2 ft. of run towards the termination. Never allow the vent to run downward. This could cause high temperatures and the possibility of a fire.

If a vertical-to-horizontal elbow is enclosed within a wall, floor or ceiling, an air space clearance of 3" must be maintained.

Due to the many different combinations that can be used when constructing venting, the number of vent sections required can only be determined by the installer.

Note: Horizontal runs will require the use of one Vent Support for every 3' of vent.

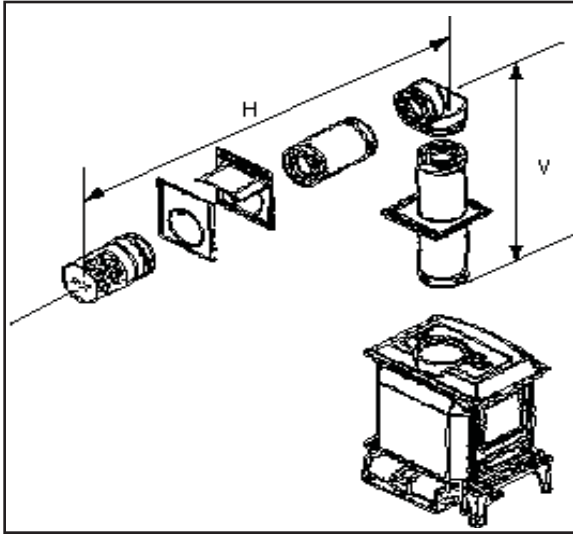


Figure 2
Horizontal Length

VENTING WITH ONE (1) 90° ELBOW	
V (FT.)	H (FT.)
2' MIN. (.6 m)	4' MAX. (1.2 m)
3' MIN. (.9 m)	6' MAX. (1.8 m)
4' MIN. (1.2 m)	8' MAX. (2.4 m)
thru	
18' MAX. (5.4 m)	8' MAX. (2.4 m)

Vent termination must not be recessed into the wall or siding. Figure 3 illustrates termination cap locations and minimum dimensions for each termination application. Or, follow ANSI Z223.1, latest edition.

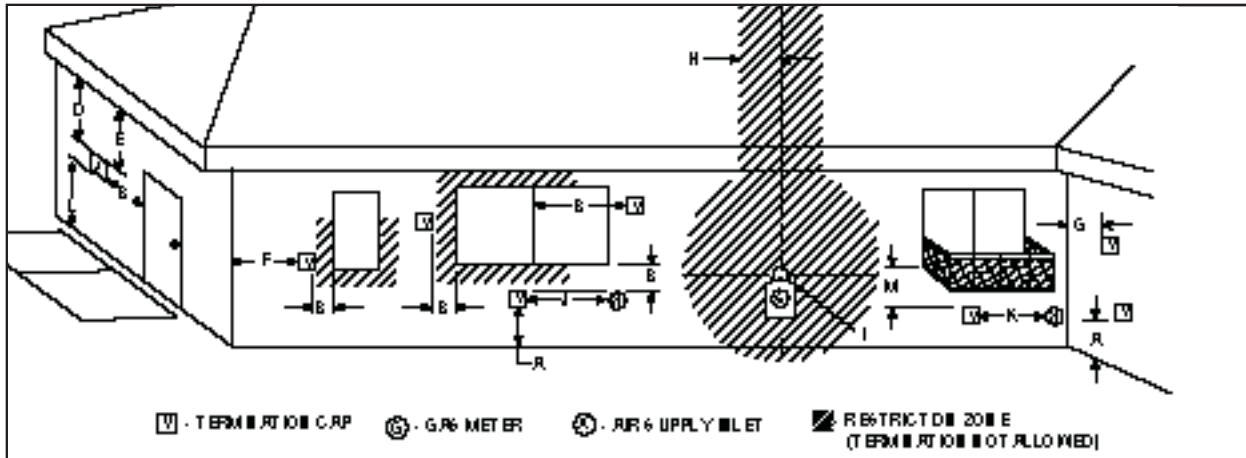


Figure 3
Termination Cap Locations

- A = Clearance above the ground, a veranda, porch, deck, or balcony - **12 inches (30 cm) minimum.**
- B = Clearance to window or door that may be opened - **9 inches (23 cm) minimum.**
- D* = Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (60 cm) from the center-line of the terminal - **18 inches (46 cm) minimum.**
- E* = Clearance to unventilated soffit - **12 inches (30 cm) minimum.**
- F = Clearance to outside corner - **9 inches (23 cm) as tested.**
- G = Clearance to inside corner - **9 inches (23 cm) as tested.**
- H = Not to be installed above a meter/regulator assembly **within 3 feet (90 cm) horizontally** from the center-line of the regulator.
- I = Clearance to service regulator vent outlet - **3 feet (90 cm) minimum-United States; 6 feet (1.8 m) min.-Canada.**
- J = Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance - **12 inches (30 cm) minimum.**
- K = Clearance to mechanical air supply inlet - **6 feet (1.8 m) minimum.**
- L+ = Clearance above a paved sidewalk or paved driveway located on public property - **7 feet (2.1 m) minimum. Use of a DCS200 will reduce this dimension to as low as 12 inches (30 cm).**
- M# = Clearance under veranda, porch deck, or balcony - **12 inches (30cm) minimum.**
- + = A vent must not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.
- # = Only permitted if veranda, porch deck, or balcony is fully open on a minimum of 2 sides beneath the floor.
- = As specified in Installation Codes. **Note: Local codes or regulations may require different clearances.**
- * = **30 inches (76cm) minimum** distance required for vinyl soffit materials.

1. Preparing the Wall for Horizontal Termination.

When using the SLD-Series system, a hole measuring 10" wide and 10" high must be cut and framed in the exterior wall where venting will be terminated.

The height of the hole must be located to meet all local and national codes and not be easily blocked or obstructed. The minimum height to the center of the horizontal vent is 57 1/2" from the base of the unit. This figure will increase by the length of each vertically positioned vent section added to the venting system. See Figure 4.

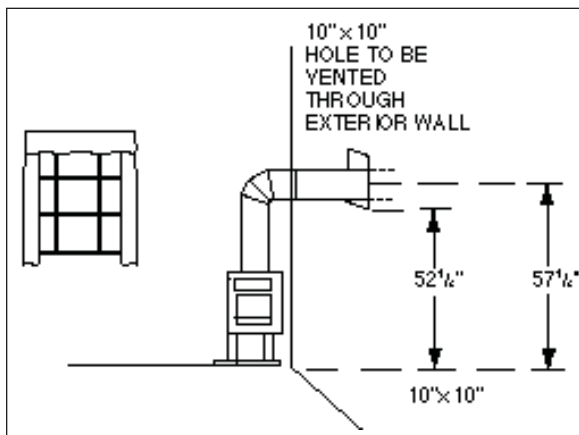


Figure 4
Exterior Wall Hole

The horizontal run of vent must have 1/4" of rise per 2' of run and be perpendicular to the wall.

If the wall being penetrated is constructed of non-combustible material, i.e., masonry block or concrete, a 7" diameter hole is acceptable.

2. Assembling the Venting Sections. Use only vent supplied and listed for use with this heater. To attach a straight section to the top of the heater, female end down, slide pipe over the outer collar on the heater while the inner flue will slip over the flue inner. **MAINTAIN MINIMUM CLEARANCES OR GREATER AROUND THE VENT SYSTEM.** Do not pack air spaces with insulation or other material.

The SLD-Series Direct Vent Pipe is unitized and twist-locks together. For the twist-lock procedure, consult Figure 5 and do the following:

a. Four [4] indentations, located on the female ends of pipes and fittings, are designed to slide straight onto the male ends of adjacent pipes and fittings. By orienting the four [4] pipe indentations so they match and slide into the four [4] entry slots on the male ends. See Figure 5. Push the pipe sections completely together, then twist-lock one section clockwise approximately one-quarter turn, until the two sections are fully locked. The female locking lugs will not be visible from the outside, on the Black Pipe or fittings. They may be located by examining the inside of the female ends.

b. Horizontal runs of vent must be supported every three feet. Wall Straps are available for this purpose.

Before connecting the horizontal run of vent pipe to the vent termination, slide the black decorative wall thimble cover over the vent pipe.

When using the adjustable section, maintain a 1" overlap on pipe sections and secure. It is also important that the vent pipe extends a minimum of 1 1/2" into the vent cap.

3. Termination Cap. Position the horizontal vent termination so that 1 1/2" clearance is maintained on top of the vent sections and 1 1/2" on sides.

Before attaching the Vent Termination to the exterior wall, run a bead of non-hardening mastic around the outside edges to make a seal between the Cap and the wall.

Attach the Cap to the exterior wall with eight [8] wood screws, making sure that the arrow on the Cap is pointing upward. After the Cap is attached, make sure that a 1 1/2" clearance is maintained from the top of the vent to combustibles.

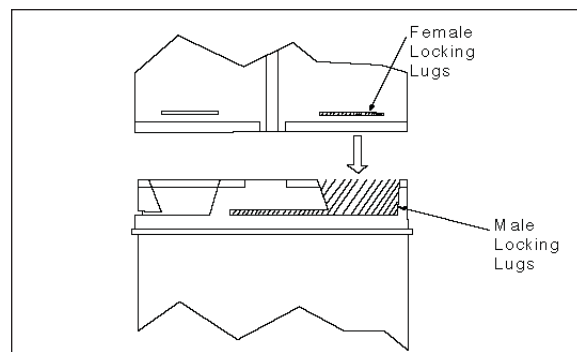


Figure 5
Twist-lock Procedure

Note: For buildings with vinyl siding, a Vinyl Siding Standoff should be installed between the vent cap and the exterior wall. Attach the Vinyl Siding Standoff to the Horizontal Vent Termination. The Vinyl Siding Standoff prevents excessive heat from possible melting the vinyl siding material.

Secure the connection between the vent pipe and the vent cap by attaching the two sheet metal strips extending from the vent cap assembly into the outer wall of the vent pipe. Use the two sheet metal screws provided to connect the strips to the Pipe Section. Bend any remaining portion of the sheet metal strip back towards the vent cap, so it will be concealed by the decorative wall thimble cover. See Figure 6.

Slide the decorative wall thimble up the wall surface and attach with screws provided. Apply decorative brass or chrome trim if desired. See Figure 7.

4. Vertical Rise on the Exterior.

For installations requiring a vertical rise on the exterior of the building, 14-inch and 36-inch tall Snorkel Terminations are available. Follow the same installation procedures that are used for standard horizontal termination found in Step 4. See Figure 8.

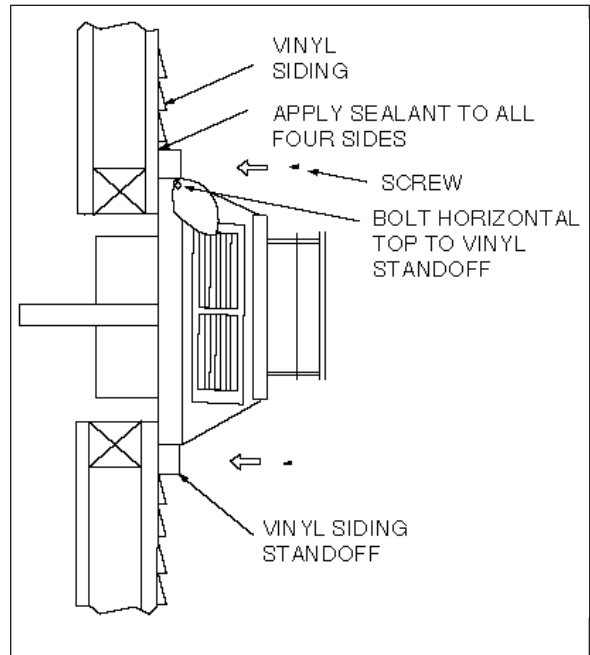


Figure 8
Vinyl Siding Standoff

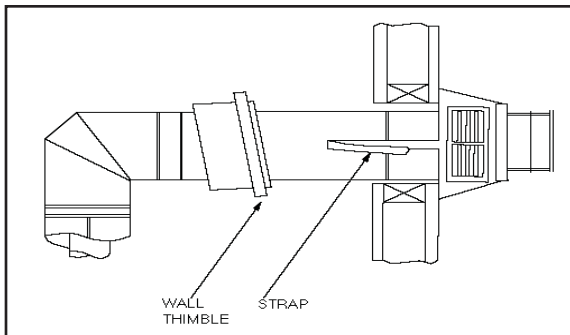


Figure 6
Insertion of Vent Pipe

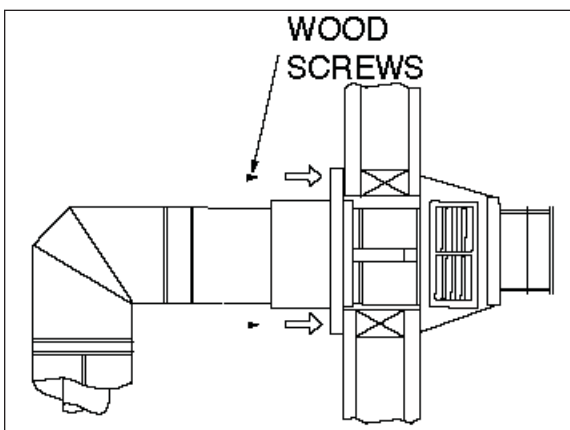


Figure 7
Decorative Wall Thimble

B. Vertical Termination.

The following figures are the maximum distances from the base of the unit, as well as the minimum air space clearances that must be maintained: Maximum straight unsupported rise - 25 feet; Maximum height - 40' from the base of the unit. maximum horizontal unsupported run - 3 feet; air space clearances around vertical venting - 1" on all sides; air space clearances around horizontal venting - 1½" on top and ½" on sides and bottom. If an elbow is being used in an enclosed wall, floor or ceiling, a top air space clearance of 3" must be maintained. These clearances must be maintained at all times. In a vertical termination every 1' of horizontal run requires at least 2' of vertical rise. (Example: a 12' overall installation height may be offset as much as 6' horizontally.) The maximum is 20 feet. These clearances must be maintained at all times.

1. Positioning the Heater. Position the heater in its desired location. Maintain all clearances found in Figure 1 on page 8.

2. Preparing the Ceiling. Drop a plumb bob down from the ceiling to the position of the heater flue exit, and mark the location where the vent will penetrate the ceiling. Drill a small hole at this point. Next, drop a plumb bob from the roof to the hole previously drilled in the ceiling, and mark the spot where the vent will penetrate the roof. Determine if ceiling joists, roof rafters, or other framing will obstruct the venting system. You may wish to relocate the appliance, or to offset to avoid cutting load bearing members.

(Vertical Termination Continued.)

3. To bypass any overhead obstructions, the vent system may be offset using a 45° elbow or a 90° elbow. Vent stabilizers have straps for securing these parts to joists or rafters. Plumbers tape may be purchased locally and used in conjunction with vent stabilizers. See Figure 9.

To install the Round Support Box/Wall Thimble in a flat ceiling, cut a 10-inch square hole in the ceiling, centered on the hole drilled in Step 2. Frame the hole.

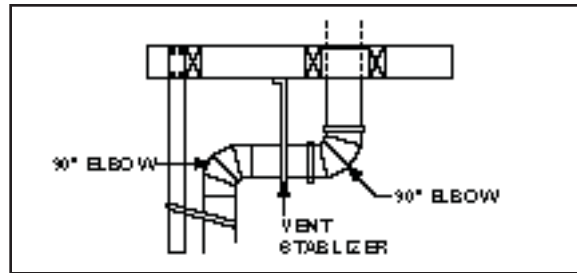


Figure 9
Elbows with Stabilizer

Note: Be sure to provide intermediate support for the vent during construction and check to be sure inadvertent loading has not dislodged the vent from the heater or any vent joint.

The SLD-Series Direct Vent Pipe is unitized and twist-locks together. For the twist-lock procedure, consult Figure 5 and do the following:

a. Four [4] indentations, located on the female ends of pipes and fittings, are designed to slide straight onto the male ends of adjacent pipes and fittings, by orienting the four pipe indentations so they match and slide into the four [4] entry slots on the male ends. See Figure 5. Push the pipe sections completely together, then twist-lock one section clockwise approximately one-quarter turn, until the two sections are fully locked. The female locking lugs will not be visible from the outside, on the Black Pipe or fittings. They may be located by examining the inside of the female ends.

b. Horizontal runs of vent must be supported every three feet. Wall Straps are available for this purpose. Assemble the desired lengths of black pipe and elbows. It is necessary to reach from the heater up through the round support box. Ensure that all pipe and elbow connections are in their fully twist lock position.

Using the mark from Step 2, drive a nail up through the roof to mark the center. Measure to either side of the nail and mark the opening required. This is measured on the horizontal; actual length may be larger depending on the pitch of the roof. Cut out and frame the opening. See chapter 25 of the Uniform Building Code for Roof Framing details. A one inch minimum air space clearance must be maintained between the vent system and the roof.

Assemble lengths of pipe and elbows necessary to reach from the ceiling support box up through the roof line. Galvanized pipe and elbows may be utilized in the attic, as well as above the roof line. The galvanized finish is desirable above the roof line due to its higher corrosion resistance.

4. Installing Roof Flashing or Site-produced Chase Top. Position roof flashing (or construct a chase and chase top) and secure in place with nails. Continue to add vent sections through the roof opening, maintaining at least a one inch air space clearance. Major building codes specify a minimum vent (chimney) height above the roof top depending on roof pitch. See Figures 10 and 11. The Termination Cap must be at least 2 feet from a vertical wall and 2 feet below a horizontal overhang. Note that for steep roof pitches, the vent height must be increased.

These vent system heights are necessary in the interest of safety and do not ensure draft-free operation. Trees, buildings, adjoining roof lines, adverse wind conditions, etc., may create a need for a taller vent system should down drafting occur.

5. Termination Cap. Twist lock the Vent Cap.

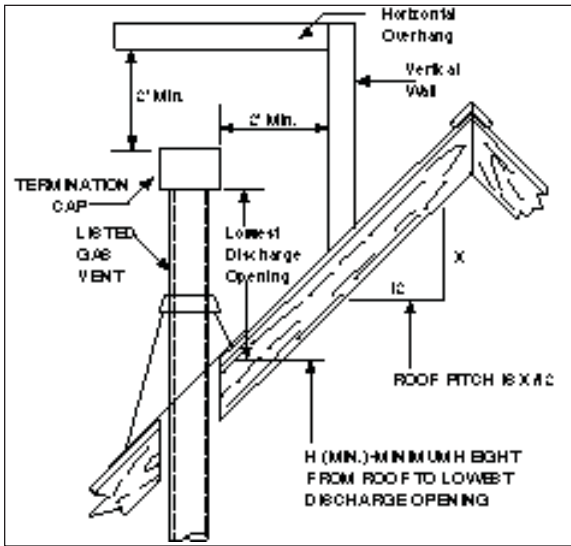


Figure 10
Vent (Chimney) Height

Roof Pitch	H (Min.) Ft.
Flat to 6/12	1.0
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

Figure 11
Vent (Chimney) Height

WARNING!

WHEN VENT SECTIONS EXCEEDING 3 FEET IN LENGTH ARE INSTALLED BETWEEN AN OFFSET/RETURN, STRUCTURAL SUPPORT MUST BE PROVIDED TO REDUCE OFF-CENTER LOADING AND PREVENT VENT SECTIONS FROM SEPARATING AT THE VENT JOINTS.

C. Existing Masonry Chimney. Installation Requirements:

This installation is subject to local jurisdiction. Some codes may require the use of another liner for intake air. If so, the 4" aluminum liner should be inside a 6" UL 181 listed liner.

This heater can be vented through an existing Masonry Chimney but the chimney must be lined with one UL 1777 listed 4" aluminum flexible gas vent liner for exhaust. The existing flue will be used to supply the air intake to the galvanized steel flue system. See Figure 12. **Before installing the liner system, the chimney passageway should be cleaned and examined to verify it is unobstructed and in good structural condition.**

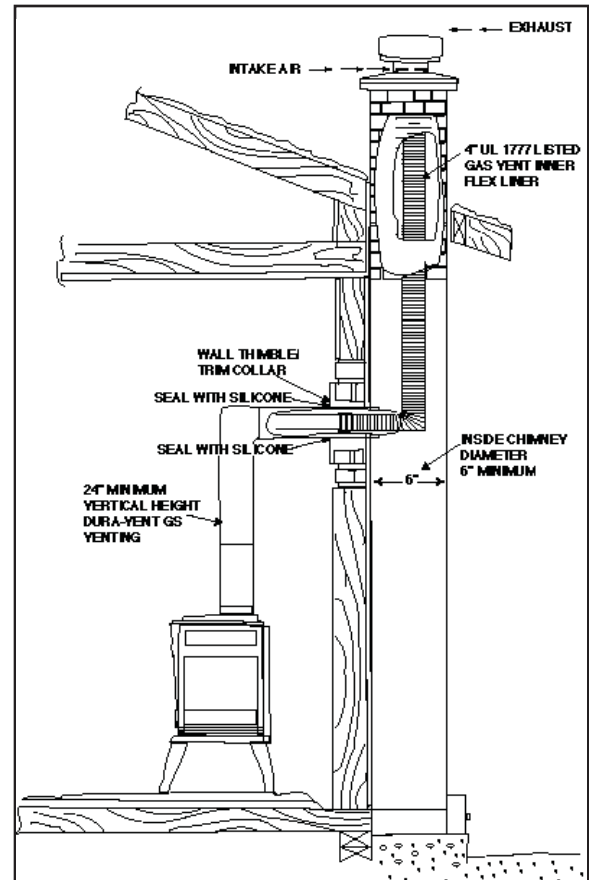


Figure 12 - Adaptation to Masonry Chimney

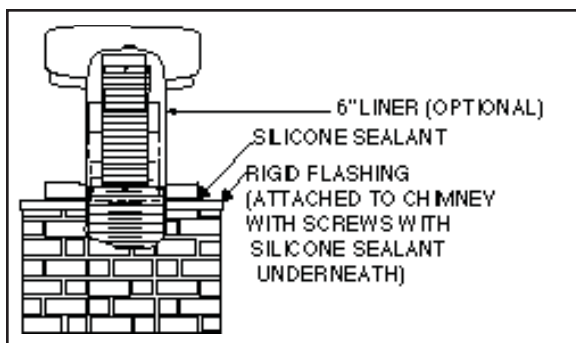
(Existing Masonry Chimney Installation Requirements Continued.)

Measure and record the chimney dimensions to determine total flexible liner requirements.

Follow the liner manufacturer's instructions for installing the liner in the chimney. Attach a flexible liner puller to the liner and secure a rope to the puller. One person should feed the liner through the chimney, and another person should pull the liner from the bottom, with the rope, guiding the liner down the chimney. After feeding the liner down the chimney, form a 90° angle and bring the liner through the hole in the chimney wall. (If running two liners, run the 6" liner first and then the 4" inside of it.) Extend the liner through the wall of the chimney and attach it to the venting system extending from the top of the heater.

Construct a metal flashing large enough and strong enough to cover the chimney opening and support the heater Vertical Termination Cap. The flashing needs to fold down over and around the outside of the masonry chimney so that it can be secured to the chimney by 4 screws. See Figure 13. The flashing will require a hole at least 6 1/2" in diameter. (If using a 6" liner, extend the 6" flexible liner through the flashing and attach it to the vertical termination adapter. Secure the vertical termination adapter to the flashing with the screws provided and seal the vertical adapter/flashing joint with a silicone sealant to prevent moisture from running down the liner into the chimney.

Attach the 4" gas vent liner to the vertical termination cap with screws provided, then attach the Termination Cap. See Figure 13.



**Figure 13
Masonry Termination**

D. Existing Class A Metal Chimney Termination.

In many cases where an R-CAST is replacing a woodstove, much of the existing Class A Metal Chimney can be incorporated into the direct vent system.

The existing chimney must comply with NFPA-211 codes and any local code requirements.

The chimney should be cleaned and examined to verify it is unobstructed and in good structural condition. Any structural weaknesses such as cracks, leaky joints, corroded or warped surfaces can have an adverse effect on the performance of this heater and should be replaced or repaired.

Whenever an existing Class A Metal Chimney is on an outside wall, removal of the chimney and the use of the minimum horizontal direct vent termination kit may be less expensive.

When using an existing Class A Metal Chimney the following requirements are necessary:

Minimum size diameter is 6 inches.

Minimum height from the base of the stove to the top of termination cap is 9 feet.

The vent from the top of the heater to the Chimney must be rigid vent sections. A 4" UL 1777 listed gas vent aluminum flexible liner can be used inside the chimney. The flexible liner must be secured to the last rigid section with three [3] sheet metal screws. A minimum 3 inch overlap is required. Remove and discard the existing chimney termination cap.

Determine the length of the 4" UL 1777 listed gas vent flex liner required to meet the vent sections at the top of the heater.

Follow the liner manufacturer's instructions for installing the liner in the chimney. Attach a flexible liner puller to the liner and secure a rope to the puller. One person should feed the liner through the chimney, and another person should pull the liner from the bottom, with the rope, guiding the liner down the chimney. Extend and run the 4" gas vent liner down the chimney leaving 10" extending from the top of the chimney stack.

Install and secure the vertical termination adapter onto the chimney.

Place and secure the Termination Cap on the vertical termination adapter with the screws provided. See Figure 14.

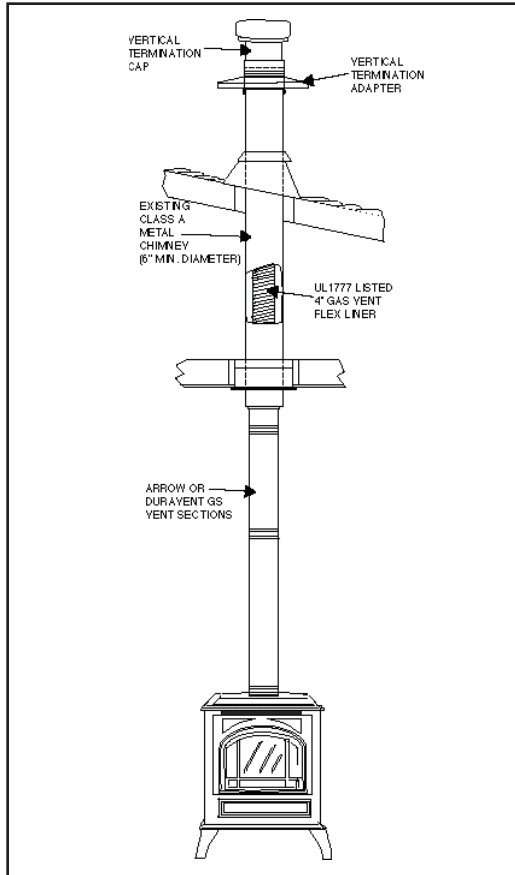


Figure 14
Retro-Fit to Metal Chimney

Note: The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa). The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).

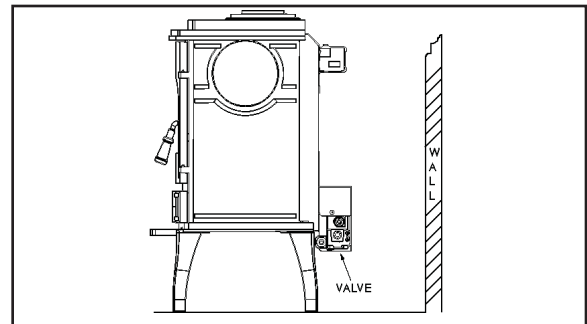
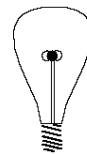


Figure 15 - Access to Controls From The Side

STEP 6 - Wiring



Note: This heater 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. This heater can be used with a thermostat.

Note: This heater **DOES NOT** require a 110VAC supply for operation.



STEP 3 - Gas Line Installation.

The Valve is located near the lower Right Rear Corner of the appliance. See Figure 11. Install the Gas Supply Line to the backside of the unit to ease installation of the unit to the Supply Line, a flexible connector and Manual Shut - Off Valve are supplied. The Manual Shut - Off Valve should be installed onto the Supply Line, ahead of the flex. All connections must be checked for leaks with a soap and water solution or Gas Sniffer.

STEP 4 - Gas Line Connection.

Connect the gas line to the heater manual valve inlet, using 1/2" pipe. To ease installation, a listed flexible connector and manual shut-off valve are supplied. The manual shut-off valve should be connected opposite the gas valve. Gas connections can be made from the backside the heater. All connections must be checked for leaks with a soap and water solution.

Bleed the gas line to extract any air that may have been trapped inside the pipe.

STEP 5 - Access to the Gas Valve.

Access to the valve and associated components can be accomplished at the lower right rear corner of the heater. See Figure 16.

1. Optional Accessories Requirements. Optional accessories may be added now or at a later date. The optional fan kit (HBK95) requires a 110VAC supply.

1a. Optional Wall Thermostat. The use of a millivolt thermostat is allowed. It must be located within 20 feet. **In order for the thermostat to work, the "ON/OFF" switch must be in the "ON" position.**

Figure 16 shows how to connect a millivolt thermostat without the on/off switch in the circuit. Disconnect the on/off switch from the valve and wire the millivolt thermostat as indicated.

WARNING!

Electrical Grounding Instructions

This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

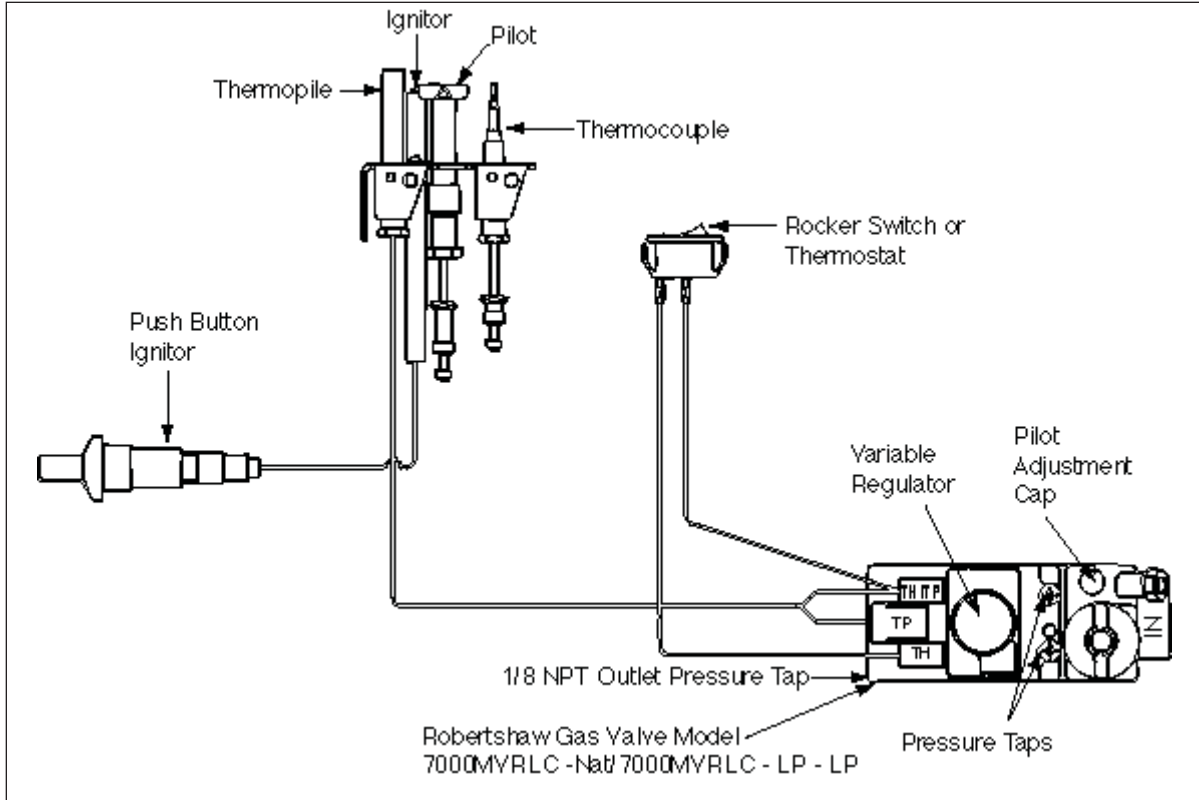


Figure 16
Wiring Diagram

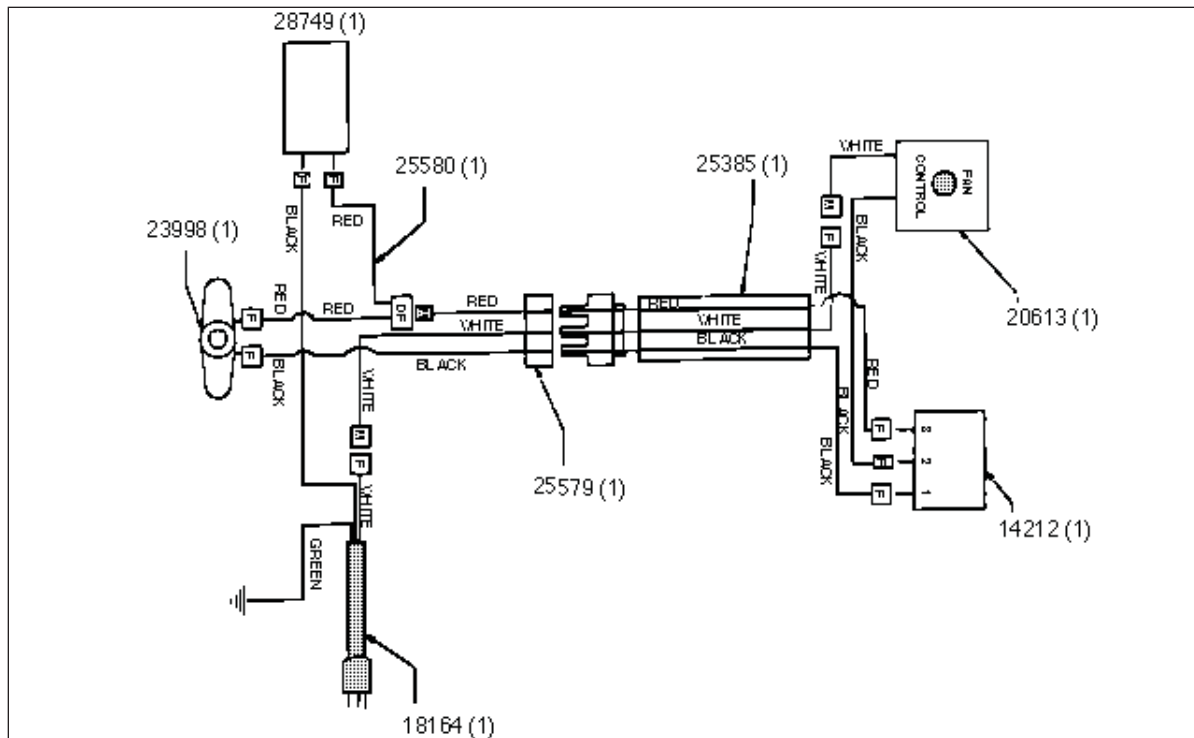


Figure 17
HBK95 Fan Wiring Diagram



Figure 18 - Front Face Removal

B. Removing the Glass

Remove Glass Frame Assembly by pulling the Latch Releases towards you and upward. See Figure 19a. Carefully lift the Glass and Frame from the unit. See Figure 19b.



Figure 19a
Latch Release



Figure 19b
Removal of Sealed Glass

C. Positioning the Logs

1. Place the Back Log on the Back Log Support and position the log all the way to the back of the support. See Figure 20.

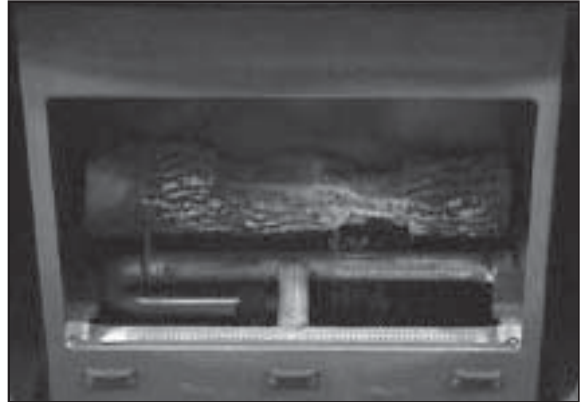


Figure 20 - Positioning the Back Log

2. Place the Front Log directly behind the front portion of the burner tube with the center detent of the log straddling the tube in the center of the burner assembly. The Front Log will then rest on the Front Log Supports. See Figure 21.



Figure 21 - Positioning the Front Log

3. The Top Log lays as shown. Position the top log in the relief area of the back log and the forward branch in the locating notch of the front log. See Figure 22.



STEP 9 - Placing the Rock Wool.

Tear the rock wool into pieces, no bigger than 1/2" diameter, and place them over the front gas ports so that the flame can touch the rock wool. This creates the glowing ember look. Be sure not to pack the rock wool against the gas ports. See Figure 23.



Figure 23 - Placing the Rock Wool

Step 10 - Adjustable Flue Restrictor

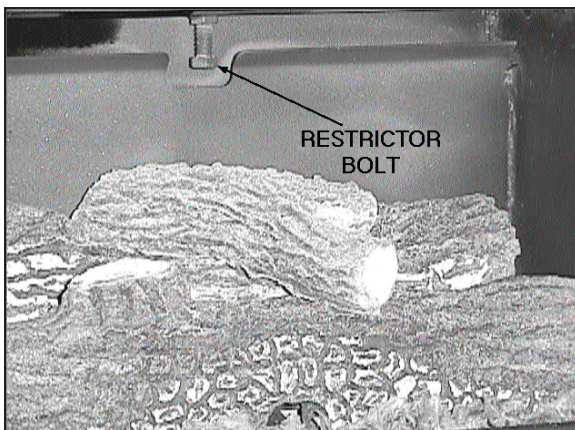
The R-Cast has an adjustable flue restrictor for maximum performance for vertical installations. The unit is shipped with the restrictor in the open position and should be left open with any horizontal installations.

By turning the bolt in the firebox to the right (tighten) and sliding, the restrictor will close. See Figure 24.

The amount to close the restrictor will depend on the flue height.

If the vertical height is 20 feet or more, the restrictor can be closed all the way. Anything less will require some setting less than closed. That setting will vary depending on the installation.

Any offsets in a vertical installation will restrict the system and the flue restrictor will not need to be closed as much.



**Figure 24
Adjustable Flue Restrictor**

WARNING!

DO NOT OPERATE APPLIANCE WITH THE PANEL(S) REMOVED, CRACKED OR BROKEN. REPLACEMENT OF THE PANEL(S) SHOULD BE DONE BY A LICENSED OR QUALIFIED SERVICE PERSON.

Step 10 - Clean the Glass.

To clean the glass, use a non-abrasive, mild cleaning solution. (For example, a glass cleaner or for stubborn film, an oven cleaner.) Apply an adequate amount to the glass and wipe off with a damp cloth. Be sure all cleaner is thoroughly rinsed from the glass.

Step 11 - Install the Glass.

After cleaning the glass, carefully place it into the frame assembly. Slide the slots of the bottom of the frame assembly over the screws on the front of the firebox. Replace the [3] screws at the top of the frame assembly. Snug the screws being sure not to over tighten them.

Snug the screws at the bottom being sure not to over tighten.

Step 12 - Replacing the Front Face.

Carefully lift the Front Face into position, reversing the procedure A in this section.

WARNING!

NEVER OPERATE THIS APPLIANCE WITH THE DOOR AND/OR GLASS REMOVED OR NOT SEALED!

✓ Pre-Use Check List

Before operating this heater, please review the safety precautions given on page 2 as well as the items listed below:

1. The air shutter on the burner stem should be secured to a minimum opening of 3/8" for Natural Gas. Propane Gas should be fully open.
2. Check to make sure the logs and rock wool have all been placed correctly. Refer to Steps 8 and 9.
3. Check to see that all wiring is correct and enclosed to prevent possible shock.
4. Check to ensure there are no gas leaks. This may be done with a soap and water solution.
5. Make sure the glass is sealed and in its proper position. Never operate this heater with the door opened or glass removed or not sealed.
6. Verify that all venting and caps are unobstructed. Exhaust gases are extremely hot. Check for obstructions from trees, bushes, snow drifts, etc.
7. Read and understand these Instructions thoroughly before attempting to operate this heater.

VI. OPERATING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE LIGHTING



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

A. This gas appliance has a manual ignition device that lights the pilot. When lighting the pilot, follow these instructions exactly.

B. STOP! BEFORE READING FURTHER, smell around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle to the floor.

WHAT TO DO IF YOU SMELL GAS:

- *Do not try to light the appliance.
- *Do not touch any electric switch; do not use any telephone in your building.
- *Immediately call your gas supplier from a neighbor's telephone. Follow the instructions of your utility.
- *If you cannot reach your utility, call the fire department.

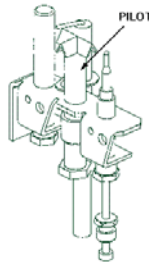
C. IF THE PILOT LIGHT AND BURNER WENT OUT DURING USE, YOU MUST TAKE THE GLASS OFF THE APPLIANCE AND WAIT TO CLEAR OUT ANY GAS. FOLLOW THE LIGHTING INSTRUCTIONS BELOW.

D. Use only your hand to push in or turn the gas control knob to light the pilot. Never use tools. If the knob will not push in or turn by hand, do not try to repair it; call a qualified service technician. Using a tool or attempting repairs may result in a fire or explosion.

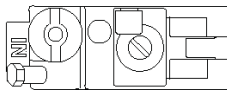
E. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control that has been under water.

LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above.
2. Turn off all electric power to the appliance. If your appliance has a thermostat, set to lowest setting.
3. Open control access panel.
4. Find the pilot. The pilot is inside the combustion chamber next to the main burner.




5. If the gas control knob is at the "OFF" position, go to step 7. If the gas control knob is at the "ON"



6. If the pilot light went out during normal use with the gas control knob at the "ON" position, turn the gas control knob to the "OFF" position. REMOVE THE FIXED GLASS PANEL. Wait ten (10) minutes to clear out any gas.

7. Smell for gas, including near the floor. If you don't smell gas, go to the next step. If you smell gas, wait another five (5) minutes or until the gas odor is no longer present before continuing. If the odor of gas does not disappear after fifteen (15) minutes, STOP! Follow "B" in the safety information above.


8. Replace glass panel if it has been removed.

9. Turn gas control knob counterclockwise  to the "PILOT" position.

10. Push the gas control knob in all the way and hold. At the same time, push in red ignition button repeatedly until the pilot lights. Never hold the gas control knob in for more than ten (10) seconds if the pilot does not light. Once the pilot lights, continue to hold the gas control knob in for 15 seconds. Release the gas control knob and it will pop back up. If pilot does not remain lit, repeat steps 6 through 9.

*If gas control knob does not pop back up when released, turn the knob to "OFF" and call your service technician or gas supplier.

*If the pilot will not stay on after two attempts, turn the gas control knob to "OFF" and call your service technician or gas supplier.

11. Turn gas control knob counterclockwise  to the "ON" position. The knob can be turned to the "ON" position only if it is popped out.

12. Close the access panel.

13. Turn on electrical power to the appliance. If equipped with a thermostat, set to the desired setting.

TO TURN OFF GAS TO APPLIANCE

1. Turn rocker switch to OFF or the wall thermostat to lowest setting if your unit is so equipped.

2. Turn off all electric power to the appliance if service is to be performed.

3. Open control access panel.

4. Turn gas control clockwise  "OFF".

5. Close control access panel.

Upon completing the gas line connection, a small amount of air will be in the lines. When first lighting the pilot light, it will take a few minutes for the lines to purge themselves of this air. Once the purging is complete, the pilot and burner will light and operate.

Subsequent lightings of the appliance will not require such purging.

CAUTION:

During the initial purging and subsequent lightings, NEVER allow the gas valve control knob to remain depressed in the “pilot” position without pushing the red ignitor button at least once every second.

When lit for the first time, the appliance will emit a slight odor for an hour or two. This is due to paint and lubricants used in the manufacturing process. Additionally, for the first few minutes after each lighting, vapor may condense and fog the glass and the flames may be blue. After a few minutes, this moisture will disappear and within 15-30 minutes the flames should become yellow.

“ON/OFF” SWITCH FOR THE BURNER.

The “ON/OFF” Switch for the burner is located at the top right rear of the unit.

FLAME HEIGHT ADJUSTMENT.

The variable regulator knob on the valve will adjust the flame from high to low. Turning counterclockwise increases the flame and clockwise turns the flame to low. The valve is located at the lower right rear of the unit behind the firebox.

AIR SHUTTER ADJUSTMENT.

The Air Shutter adjusts the amount of air that mixes with the gas as it enters the Burner. It is used to fine tune the flame as necessary for differences in altitude and vent configuration. It can be adjusted by turning the Adjustment Screw on the bottom of the Firebox. Turning the Screw in will open the Air Shutter; turning the Screw out will close the Air Shutter. See Figure 25.



Figure 25

Air Shutter Adjustment Screw

Allow the unit to operate about 15-20 minutes. This will give the flame time to reach its height and color before making adjustments to the air shutter. As the shutter is closed, the flame should get taller and darker.

The appliance may produce a noise, caused from metal expansion and contraction as it heats up and cools down. This noise is similar to one that a furnace or heat duct may produce and does not affect the operation or longevity of the unit.

Keep the control compartment, logs, and burner area surrounding the logs clean by vacuuming or brushing at least twice a year.

CAUTION:

**The Logs can get very hot.
Handle only when cool.**

SEASONAL SHUTDOWN.

When the burning season comes to an end, the entire system should be shut down to prevent gas running to the appliance while it is not in use.

OPERATION PROCEDURE DURING REGULAR USE.

Simply turn the switch/thermostat to the “ON” position. This will ignite the main burner.

SHUTDOWN DURING REGULAR USE.

Simply turn the switch/thermostat to “OFF”. This will disengage the burner and the flames will extinguish.

VII. MAINTENANCE INSTRUCTIONS

Cleaning the Burner and Control Compartment.

Keep the burner compartment clean. Brush this area with a clean, dry paint brush and vacuum at least once a year. Always turn off the gas valve and "ON/OFF" switch before cleaning.

Checking Flame Patterns.

Visually check the flame of the burner periodically, making sure the flames are steady; not lifting or floating. The flame color should be blue with yellow tips. The thermopile tip should be covered with flame. See Figure 26.

Note: If the air shutter is open all the way and the flames remain sooty, shut off gas to the appliance and contact a qualified gas service technician.

If the vent configuration is installed incorrectly, the vent may cause the flames inside the appliance to lift or "ghost" - a dangerous situation. Inspect the flames after installation to ensure proper performance. If the vent configuration is correct, yet the flames are lifting or ghosting, shut off gas to the appliance and contact the dealer for information on remedying the problem. Refer to Figure 27.

Venting System Inspection.

The heater and venting system should be inspected before use each season, and at least annually, by a qualified field service person, to ensure that the flow of combustion and ventilation air is not obstructed.

Cleaning the Glass.

It is recommended to wear gloves while handling or removing the glass. **DO NOT REMOVE THE GLASS WHEN HOT.**

Note: When cleaning the glass, NEVER use abrasive materials. NEVER clean glass when hot.

To open the door and remove the glass for cleaning, follow Step A on page 18.

To clean the glass, use a non-abrasive, mild cleaning solution. For example, a glass cleaner or for stubborn film, an oven cleaner. Apply an adequate amount to the glass and wipe off with a damp cloth. Be sure all cleaner is thoroughly rinsed from the glass.

Never operate this heater without the glass properly secured in place or if the glass is broken.

In the event of glass breakage, follow door removal instructions. This will allow the removal of all glass fragments and sheet metal edge protection strips. Vacuum all remaining glass pieces with a shop vac. (DO NOT VACUUM IF PIECES ARE HOT.) Replace glass ordered direct or through your local distributor. Never use substitute material. Only ceramic glass may be used on this heater.

Log Cleaning.

Logs can be easily lifted out of position. Carbon build-up can be removed with a vacuum cleaner.

WARNING!

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

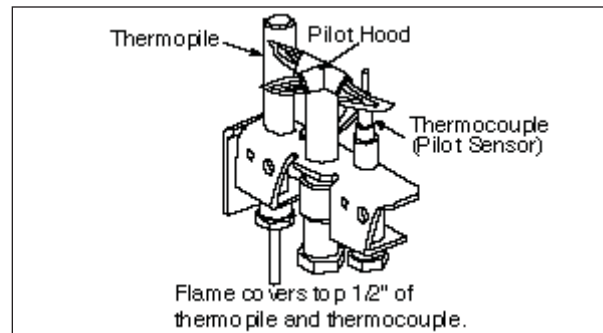


Figure 26 - Standing Pilot

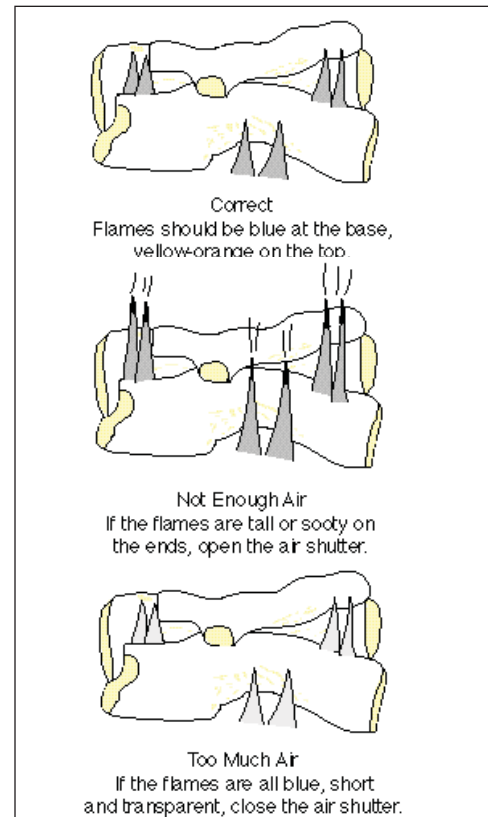


Figure 27 - Flame Patterns

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

VIII. TROUBLE SHOOTING

STANDING PILOT

Problem	Cause	Corrective Action
1. Spark ignitor will not light pilot after repeated pressing of red button.	<p>A. Defective ignitor.</p> <p>B. Misaligned electrode.</p> <p>C. No gas to pilot/plugged orifice.</p> <p>D. Ignitor wire grounding out.</p> <p>E. Loose ignitor wiring.</p>	<p>Replace ignitor.</p> <p>Spark should be approximately 1/8" to bottom of pilot hood. Adjust gap to give proper spark. Remove hands from electrode before pressing red button.</p> <p>Check valve knob position & any shut-off valves. If propane, check for empty tank. Check pilot orifice; remove any blockage.</p> <p>Replace pilot assembly.</p> <p>Check for spark. If electrode connection is correct & no spark, replace ignitor.</p>
2. Pilot will not stay lit.	<p>A. Pilot flame not in constant contact with pilot sensor.</p> <p>B. Pilot sensor not tightened/seated in valve properly.</p> <p>C. Defective pilot sensor thermocouple.</p> <p>D. Faulty valve.</p>	<p>Check log placement. Check pilot flame; adjust flame if necessary.</p> <p>Check that pilot sensor connector is tight in valve.</p> <p>Replace pilot sensor thermocouple.</p> <p>Replace valve.</p>
3. With pilot lit, valve and "ON/OFF" switch in "ON" position, burner will not light.	<p>A. 110 volts of electricity has burned out valve.</p> <p>B. "ON/OFF" switch defective.</p> <p>C. Plugged burner orifice.</p> <p>D. Defective thermopile.</p> <p>E. Burner not on orifice.</p> <p>F. Loose or faulty wiring.</p> <p>G. Faulty valve.</p>	<p>Remove voltage and replace valve.</p> <p>Check "ON/OFF" switch for proper connections. Connect wires across terminal at "ON/OFF" switch. If burner comes on, replace "ON/OFF" switch. If burner doesn't come on, connect to "ON/OFF" switch junctions at valve. If burner comes on, replace wires.</p> <p>Check burner orifice, remove blockage.</p> <p>Replace thermopile.</p> <p>Check burner; place on orifice.</p> <p>Check for loose connections; verify wiring. See Figures 16 and 17.</p> <p>Replace valve.</p>
4. Appliance turns itself off after a period of time, but pilot stays lit.	<p>A. Intermittent short in "ON/OFF" wiring system.</p> <p>B. Defective thermopile.</p>	<p>Have a qualified service technician check venting system for blockage (i.e. bird nests, damage). Ensure proper venting condition. Check/replace "ON/OFF" wiring system.</p> <p>Replace thermopile.</p>
5. Appliance turns itself off after a period of time, pilot no longer lit.	<p>A. Pilot flame not in constant contact with pilot sensor.</p> <p>B. Defective pilot sensor thermocouple.</p>	<p>Check log placement; check pilot flame, adjust flame if necessary.</p> <p>Replace pilot sensor thermocouple.</p>
6. Glass doors fog up.	<p>A. Normal result of gas combustion.</p>	<p>No action necessary - glass will clear as appliance warms.</p>
7. Blue flames.	<p>A. Normal result during first 20 minutes of burning.</p>	<p>No action necessary - flames will turn more yellow after about 20 minutes.</p>
8. Glass has film on it.	<p>A. Normal result during initial few hours of operation.</p> <p>B. Improper log placement causing soot.</p> <p>C. Dark yellow tipped flame.</p>	<p>Clean glass with Brasso or silver polish.</p> <p>Check log placement; reposition if necessary.</p> <p>Open air shutter to increase air to gas ratio.</p>

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LIMITED LIFETIME WARRANTY ROYAL GAS FIREPLACE PRODUCTS

A. **BASIC ONE-YEAR WARRANTY.** HEARTH TECHNOLOGIES INC., located at 20802 Kensington Boulevard, Lakeville, MN 55044, ("HEARTH") warrants to the original owner that your new ROYAL Gas Fireplace (the "Product") will be free from defects in materials and workmanship for a period of one year from the date of installation. During the first year, HEARTH will replace or repair, at its discretion, any defective components (not limited to steel and cast iron components) at its sole cost and expense, including payment of all reasonable labor costs incurred in replacing or repairing such components. This basic warranty is subject to the conditions, exclusions and limitations described below.

B. **EXTENDED LIFETIME COVERAGE.** HEARTH warrants that the firebox, heat exchanger, log(s), and burner will not be defective in material or workmanship during the period the Product is owned by the original owner, subject to the following conditions and limitations:

1. The ROYAL Gas Fireplace must have been installed and operated in compliance with the instructions in the installer's guide and user's manual furnished with the Product. Any failure to properly install or operate the Product will void this warranty.
2. This warranty applies to the original owner only and is non-transferable.
3. This warranty applies only to Products installed in the United States of America or Canada.
4. This warranty is limited to the replacement or repair of defective components or workmanship and HEARTH may fully discharge all obligations under this warranty by repairing or replacing, at its discretion, the defective components. The maximum amount recoverable under this warranty is limited to the purchase price of the Product and, if HEARTH is unable to provide replacement or repair in an expedient and cost-effective manner, HEARTH may discharge all obligations under this warranty by refunding the purchase price of the Product. **IN NO EVENT SHALL HEARTH BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY DEFECTS IN THE PRODUCT.**
5. Any labor and related repair charges relating to the costs and expenses of replacing or repairing defective components under the Limited Lifetime Warranty are not covered by this warranty.
6. Components and parts made by other manufacturers, whether sold with the Product or added thereafter, are NOT covered by this warranty.
7. This warranty will be void if:
 - a) Any parts or components made by other manufacturers are added or used in the Product.
 - b) The Product is not installed in compliance with the instructions in the installer's guide.
 - c) The Product is not operated, at all times, according to the user's manual furnished with the Product.
 - d) Any service work is performed on the Product by anyone other than an authorized HEARTH representative.
 - e) The Product is subjected to any alteration, abuse, accident or misuse.

EXCEPT TO THE EXTENT PROVIDED BY LAW, HEARTH MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY SPECIFIED HEREIN. THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO THE DURATION OF THE WARRANTY SPECIFIED ABOVE.

Some states do not allow limitations on how long an implied warranty lasts, or do not allow exclusion or limitation of incidental or consequential damages, so those limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

If warranty service is needed you should contact your installing dealer and if the installing dealer is unable to provide necessary parts or components, contact the nearest authorized HEARTH dealer or supplier.

NOTES TO CUSTOMER:

1. In order to insure proper installation, operation and maintenance HEARTH strongly recommends annual servicing by an authorized HEARTH dealer.
2. Please complete this information and retain this warranty in a safe place for future reference:
 Model Number: _____
 Serial Number: _____
 Installation Date: _____
 Installing Contractor: _____
3. HEARTH reserves the right to make changes at any time, without notice, in design, material, specifications and prices of the Product. HEARTH also reserves the right to discontinue styles and products.

Attention

INSTALLER

***Please return these
Operating & Installation
Instructions to the
Consumer***



Hearth Technologies Inc.
20802 Kensington Blvd.
Lakeville, MN 55044