

Installation & Operating Manual

Installation and Appliance Setup - Care and Operation

INSTALLER: Leave this manual with party responsible for use and operation.

OWNER: Retain this manual for future reference.

Call your dealer for questions on Installation, Operation, or Service.

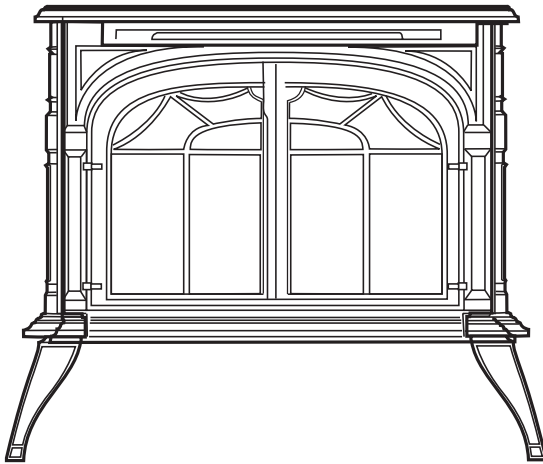
NOTICE: SAVE THESE INSTRUCTIONS

VERMONT
CASTINGS

**RADVT Series Radiance®
Direct Vent Gas Heater**

Models:

RADVTSCCB, RADVTSCBS, RADVTSCBD,
RADVTSCBM, RADVTCBSB, RADVTBSSB,
RADVTBDSB, RADVTBMSB



Installation and service of this appliance should be performed by qualified personnel. Hearth & Home Technologies recommends HHT Factory Trained or NFI certified professionals.



WARNING

FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death or property damage.

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



DANGER

**HOT GLASS WILL
CAUSE BURNS.**



**DO NOT TOUCH GLASS
UNTIL COOLED.**

**NEVER ALLOW CHILDREN
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed.

PLEASE READ THE INSTALLATION & OPERATING INSTRUCTIONS BEFORE USING APPLIANCE.

Thank you and congratulations on your purchase of a Vermont Castings stove. IMPORTANT: Read all instructions and warnings carefully before starting installation. Failure to follow these instructions may result in a possible fire hazard and will void the warranty.

Table of Contents

1 Important Safety Information	3	5 Signature Command Operating Instructions	
A. Massachusetts Safety Information	3	A. Command Center	35
B. California Safety Information	4	B. Control Board	35
2 Pre-Installation		C. AC Module (Requires TSFSC Remote)	35
A. Stove Dimensions	5	D. Transmitter (TSFSC)	35
B. Installation Requirements	6	E. Battery installation	35
C. Clearance Requirements	6	F. System Configuration / Setup	36
D. Hearth Requirements	7	G. Operating Instructions	37
E. Clearances to Combustibles	7	H. Safety Features	42
F. Gas Specifications	8	6 Troubleshooting	43
G. Vent Terminations	8	A. Signature Command System Transmitter	43
H. Restrictor Plate Adjustment	9	B. General Troubleshooting	43
I. Vent Terminations & Clearances	10	C. Burner, Pilot and Control Compartment	44
3 Assembly and Installation		7 Fuel conversion	45
A. Venting Requirements and Options	13	A. Conversion Precautions	45
B. Assembling the Stove	14	B. Conversion Procedure	45
C. Venting System Assembly	16	RADVT Series Models	45
D. Log Set Installation	23	RADVTSC Series Models	48
E. Install ON/OFF Switch - RADVT Model (<i>Millivolt only</i>)	25	C. Injector Sizes	49
F. Thermostat Connection (optional)	25	8 Cleaning and maintenance	50
G. Signature Command® System (SC)	25	A. Annual System Inspection	50
H. Junction Box Wiring	26	B. Logset & Burner / Cleaning and Inspection	50
I. Command Center Wall Installation	26	C. Care of Cast Iron	50
J. Wall Switch Installation	26	D. Cleaning the Glass	50
K. Connect the Gas Supply Line	27	E. Glass Replacement	51
L. Burner Information	27	F. Gasket Replacement	51
M. Signature Command Wiring Diagram	28	G. Inspect the Vent System Annually	51
N. Install the Safety Barrier	29	H. Check the Gas Flame Regularly	51
O. Install the Mesh and Grill	29	9 Wiring Diagrams	52
4 Operating Instructions		→ 10 Service Parts List	54
A. Operation	30	11 Optional Accessories	58
B. Your First Fire	30	12 Warranty Policy	59
C. Pilot and Burner Inspection	30		
D. Flame Characteristics	30		
E. Flame & Temperature Adjustment	30		
F. Lighting and Operating Instructions	31		
G. Troubleshooting	32		
H. Read before lighting	33		

→ = Contains updated information

1 Important Safety Information

A. Massachusetts Safety Information

The Radiance Direct Vent Room Heater, Model Nos. RADVTCBSB, RADVTBSSB, RADVTBDSB, RADVTBMSB, RADVTSCCB, RADVTSCBS, RADVTSCBD, RADVTSCBM, is a vented gas appliance listed to the ANSI Standard Z21.88-2014 and CSA 2.33-2014 for Vented Room Heaters, and CSA 2.17-M91, Gas-Fired Appliances For Use at High Altitudes.

The installation of the Radiance Direct Vent Room Heater must conform with local codes, or in the absence of local codes, with National Fuel Gas Code, ANSI Z223.1/NFPA 54 — latest edition and CSA B-149.1 Installation Code. (EXCEPTION: Do not derate this appliance for altitude. Maintain the manifold pressure at 3.5 inches w.c. for Natural Gas and 10 inches w.c. for LP gas at maximum input.)

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases unless a certified kit is used.

Installation and replacement of gas piping, gas utilization equipment or accessories, and repair and servicing of equipment shall be performed only by a qualified agency, preferably NFI or WETT (Canada) certified. The term “qualified agency” means any individual, firm, corporation, or company that either in person or through a representative is engaged in and is responsible for (a) installation or replacement of gas piping, or (b), the connection, installation, repair, or servicing of equipment, who is experienced in such work, familiar with all precautions required, and has complied with all the requirements of the authority having jurisdiction.

The Radiance Direct Vent Room Heater should be inspected before use and at least annually by a qualified service agency. It is imperative that control compartments, burners, and circulating air passageways of the appliance be kept clean.

The Radiance Direct Vent Room Heater and its individual shut-off valve must be disconnected from the gas supply piping during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

The Radiance Direct Vent Room Heater 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 psig.

An accessible tap is located above the pilot/On-Off knob for checking the inlet pressure.

‘Direct Vent’ describes a sealed combustion system in which incoming outside air for combustion and outgoing exhaust enter and exit through two separate concentric passages within the same sealed vent system. The system does not use room air to support combustion. The Direct Vent system permits the gas appliance to be vented directly to the outside atmosphere through the side of the house or vertically through the roof. Conventional venting systems (Natural Vent) take air from the room for combustion and vent the exhaust vertically through the roof to the atmosphere.

This appliance is approved for bedroom installations in the U.S. and Canada.

This appliance may be installed in an aftermarket* manufactured (mobile) home, where not prohibited by state or local codes.

WARNING: Operation of this heater when not connected to a properly installed and maintained venting system can result in carbon monoxide (CO) poisoning and possible death.

The Radiance Direct Vent Room Heater, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code ANSI/NFPA 70, (latest edition), or of the current Canadian Electrical Code C22.1.

Due to high temperatures this appliance should be located out of traffic and away from furniture and draperies.

WARNING: This appliance is hot while in operation. Keep children, clothing, and furniture away. Contact may cause burns or ignition of combustible materials.

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

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

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

Any safety screen, glass or guard removed for servicing an appliance must be replaced prior to operating the appliance.

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

The flow of combustion and ventilation air must not be obstructed. The installation must include adequate accessibility and clearance for servicing and proper operation.

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

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.

Do not burn wood, trash or any other material for which this appliance was not designed. This appliance is designed to burn either natural gas or propane only.

This gas appliance must not be connected to a chimney flue serving a separate solid-fuel burning appliance.

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

Verify proper operation after servicing.

*** Aftermarket:** Completion of sale, nor for purpose of resale, from the manufacturer.

Requirements for the Commonwealth of Massachusetts

All gas fitting and installation of this heater shall only be done by a licensed gas fitter or licensed plumber.

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 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 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".

Radiance Direct Vent

Certified to: ANSI Z21.88-2014 / CSA 2.33-2014 Vented Gas Heaters

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.

B. California Safety Information



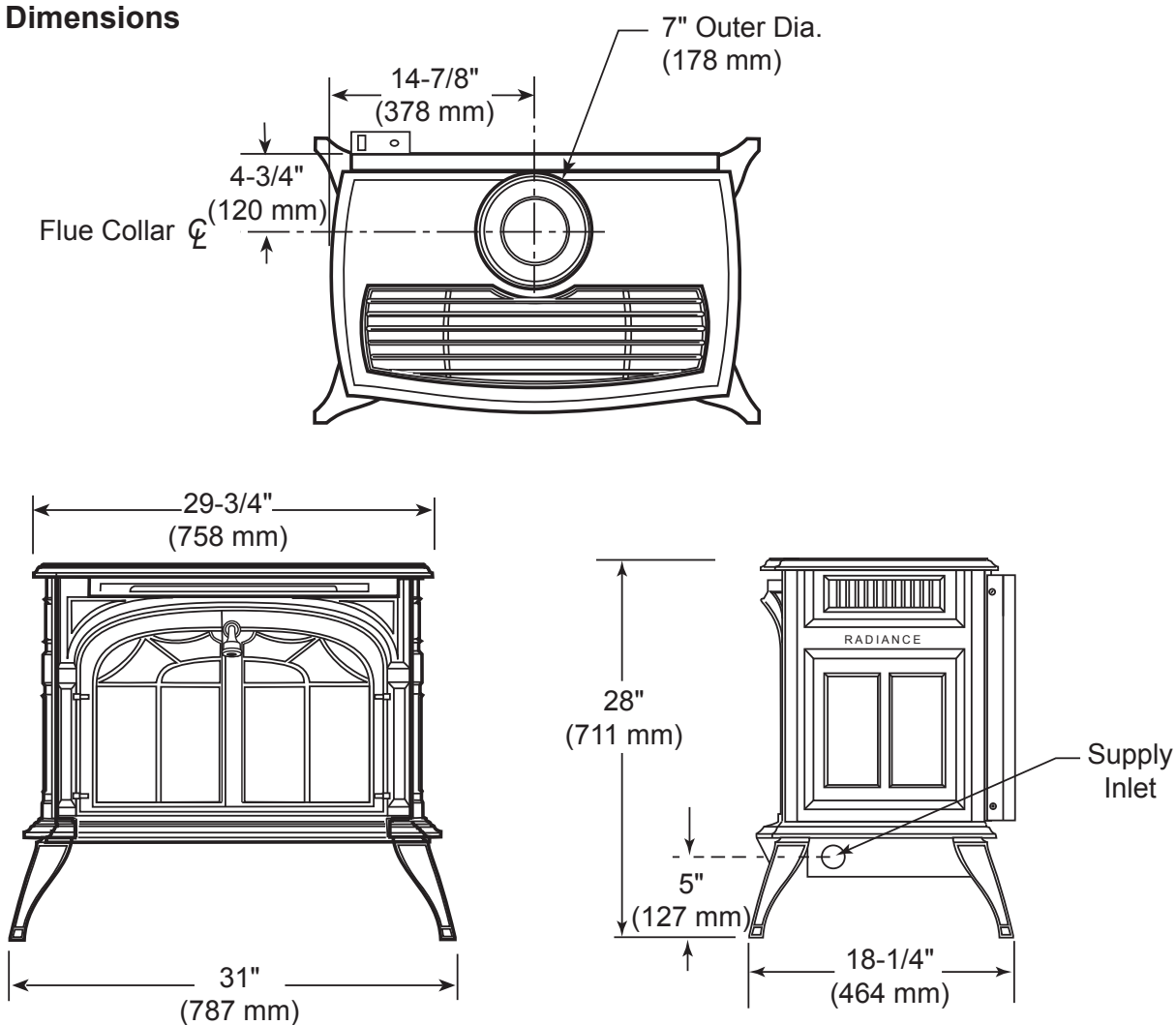
WARNING

This product and the fuels used to operate this product (liquid propane or natural gas), and the products of combustion of such fuels, can expose you to chemicals including benzene, which is known to the State of California to cause cancer and reproductive harm. For more information go to: www.P65Warnings.ca.gov.

2 Pre-Installation

A. Stove Dimensions

Stove Dimensions



Weight: Fully assembled; 350 lbs.

Figure 2.1 - Radiance dimensions.

B. Installation Requirements

The installation must conform with local codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54 - latest edition. (EXCEPTION: Do not derate this appliance for altitude. Maintain the manifold pressure at 3.5" w.c. for Natural Gas, and 10" w.c. for Propane).

In Canada, installation must be in accordance with the current CSA B-149.1 Installation Codes and/or local codes.

The installation should be done by a qualified service person who is familiar with the building codes and installation techniques appropriate for your area to accomplish a safe and effective installation.

Your dealer or your local gas supplier will be able to refer a qualified service person.



WARNING

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

The surface of the Heater is hot when it is in use. Young children should be watched carefully when they are in the same room when the Heater is in use, and they should be taught to avoid the hot surface. Keep any objects that can burn well away from the Heater, and observe the recommended clearances that follow.



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.

In choosing a location for the stove, consider:

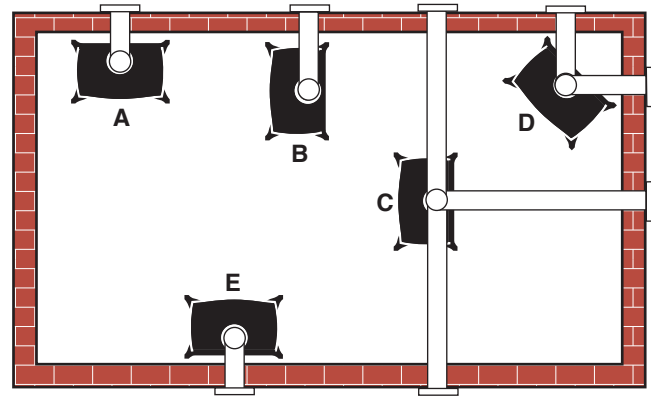
- The location of outside walls;
- Where additional heat is needed;
- Where family members gather most often;
- The vent system requirements.

NOTE: We do not recommend the use of wallpaper next to this stove. Over time, radiant heat may cause the wallpaper to shrink, or may adversely affect the binders in the wallpaper adhesive.

This appliance may be installed in an aftermarket,* permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes. This appliance is for use only with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

* Aftermarket: Completion of sale, not for purpose of resale, from the manufacturer.

Direct Vent System Only



A. Flat on corner wall

D. Cross Corner

B. Room Divider

E. Flat on wall

C. Island

Figure 2.2 - Possible stove locations.

C. Clearance Requirements

Minimum Clearances to Combustible Materials

Measure side clearances as shown in Figures 2.3, 2.4 and 2.5 from the outer edge of the cast iron stove top. Measure rear clearances from the outermost surface of the steel rear skirt.

The Radiance heater is approved for installation into an alcove constructed of combustible materials to the dimensions and clearances shown on the next page.

The same clearances apply in a standard parallel installation.



WARNING

- Always maintain required clearances (air spaces) to nearby combustibles to prevent fire hazard. Do not fill air spaces with insulation. All venting components must maintain a 1" (25 mm) clearance to combustible materials. The gas appliance and vent system must be vented directly to the outside of the building and never be attached to a chimney serving a separate solid fuel or gas-burning appliance.
- Refer to the manufacturer's instructions included with the venting system for complete installation procedures.

D. Hearth Requirements

The Radiance Heater must be installed on rigid flooring. When the heater is installed directly on any combustible surface other than wood flooring, a metal or wood panel extending the full width and depth of the unit must be used as the hearth. There are no other hearth requirements.

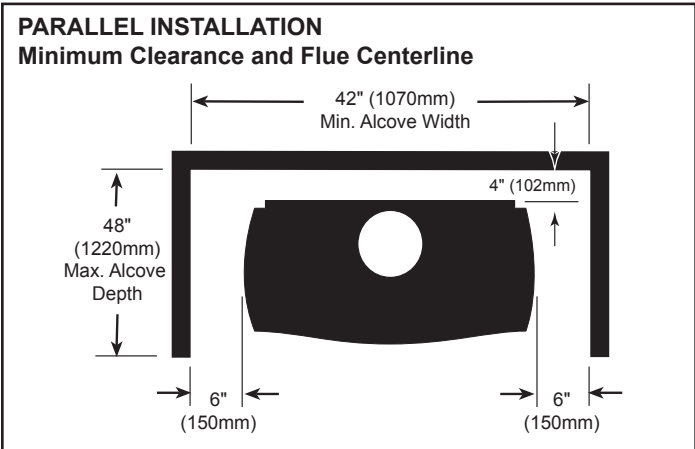


Figure 2.3 - Parallel installation, minimum back and side clearances, and flue centerlines.

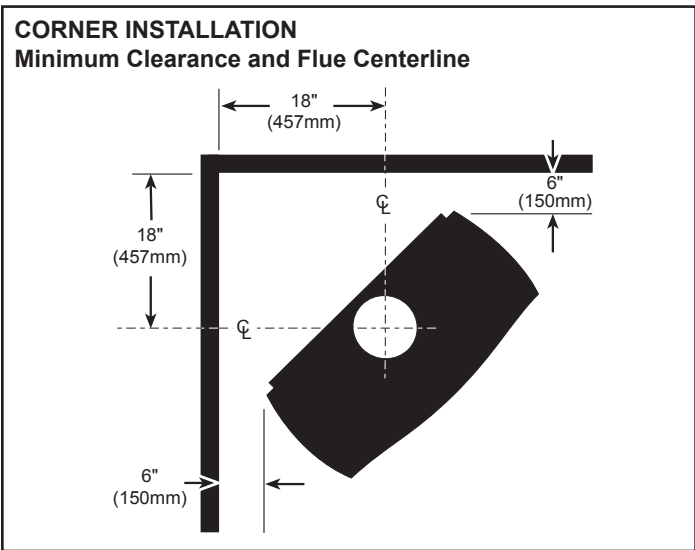


Figure 2.4 - Corner installation, minimum corner clearances and flue centerline.

E. Clearances to Combustibles

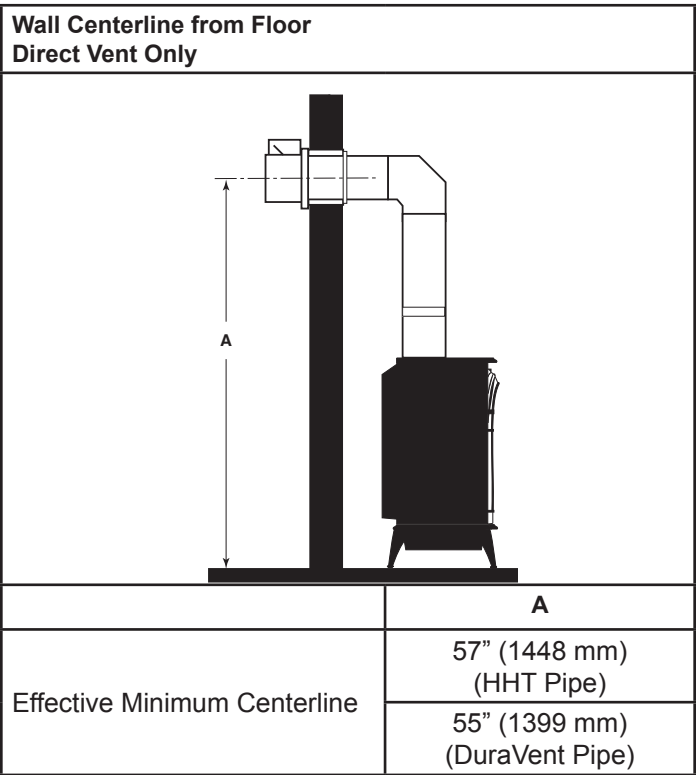


Figure 2.5 - Minimum wall centerline.

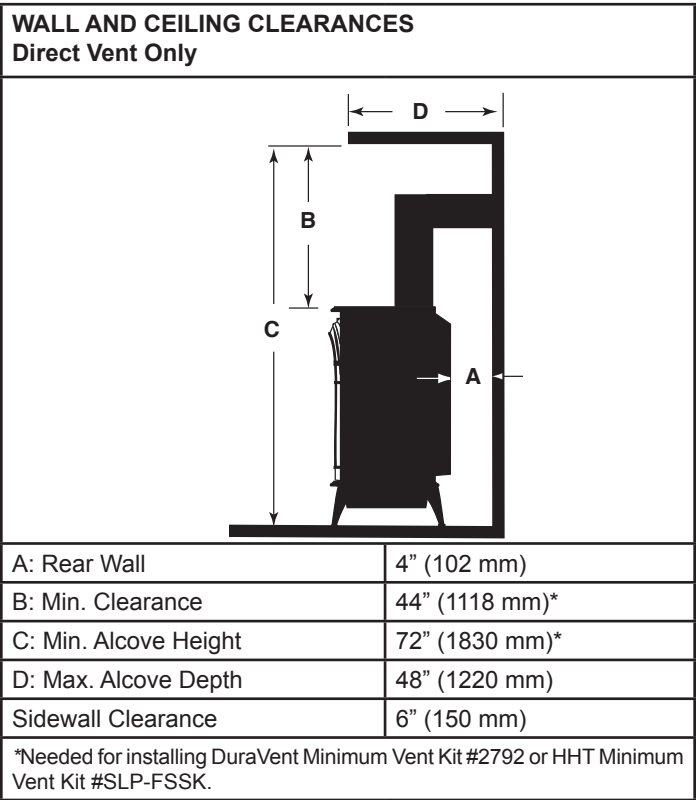


Figure 2.6 - Dimensions and clearances to ceiling or alcove.

F. Gas Specifications

Model	Fuel	Control	Max. Input BTU/h	Min. Input BTU/h
RADVT	Nat.	Millivolt Manual	38,000	25,000
RADVT	LP	Millivolt Manual	36,000	25,000
RADVTSC	Nat.	Signature Command	38,000	25,000
RADVTSC	LP	Signature Command	36,000	25,000

Gas Inlet and Manifold Pressures

	Natural	Liquid Propane
Inlet Minimum	5.5" w.c.	11.0" w.c.
Inlet Maximum	14.0" w.c.	14.0" w.c.
Manifold Pressure	3.5" w.c.	10.0" w.c.

The installation of your Vermont Castings stove must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code ANSI Z223.1/ NFPA 54 - latest edition, or CSA B149.1 Installation code. (EXCEPTION: Do not derate this appliance for altitude up to 2,000 (610 m) for natural gas and 4,500 feet (1,370 m) for LP Gas. Maintain the manifold pressure at 3.5" w.c. for Natural Gas and 10.0" w.c. for LP Gas.

HIGH ELEVATIONS

Input ratings are shown in BTU per hour and are certified without deration for elevations up to 2,000 feet (610 m) for natural gas and 4,500 feet (1,370 m) for LP gas above sea level.

In the USA installations with elevations above 2,000 feet (610 m) for natural gas and 4,500 feet (1,370 m) for LP gas must be in accordance with the current ANSI Z223.1/NFPA 54 and/or local codes having jurisdiction.

In Canada, please consult provincial and/or local authorities having jurisdiction for installations at elevations above 2,000 feet (610 m) for natural gas and 4,500 feet (1,370 m) for LP gas.



WARNING

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

G. Vent Terminations

Horizontal Termination

The vent must rise vertically a minimum of 24" (610 mm) off the top of the unit, before the first elbow. The horizontal run may extend up to 20' (6m) and include a vertical rise of up to 40' (12 m). (Figure 7) Horizontal termination must also meet the criteria shown in Figures 2.10 through 2.12.

- Approved vent systems must terminate above and including the heavy line in Figure 7.
- Two 45° elbows may be substituted for each single 90° elbow.
- With a rise between 2' - 5', one 90° or two 45° elbows may be used.

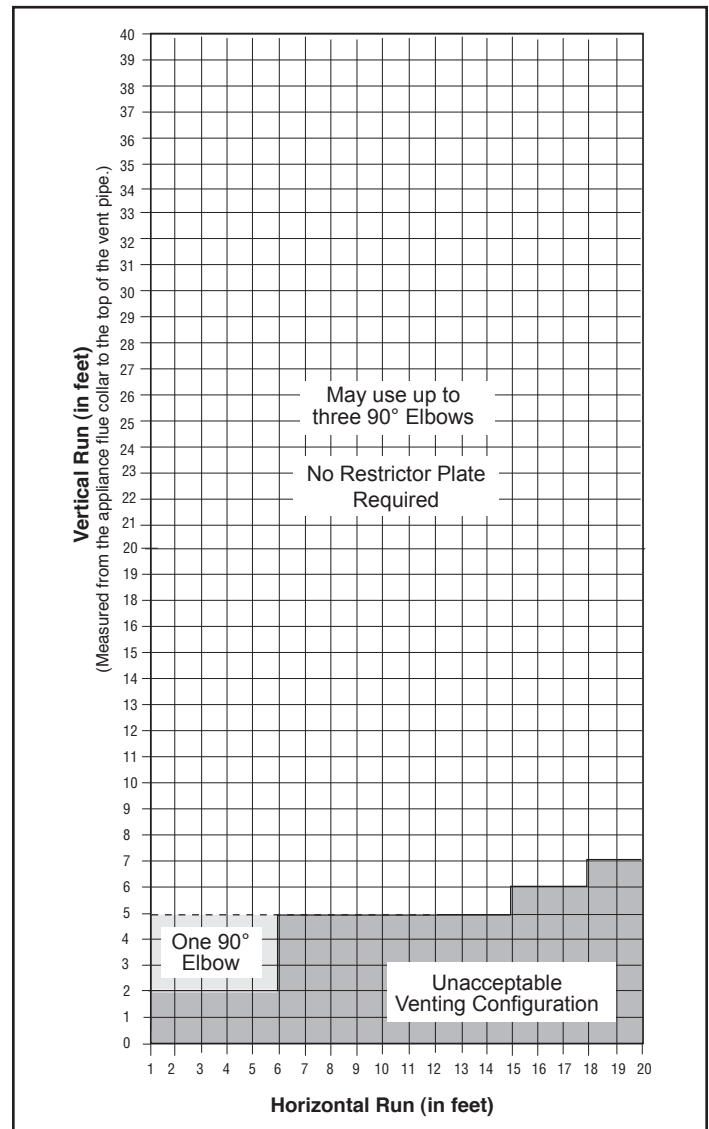
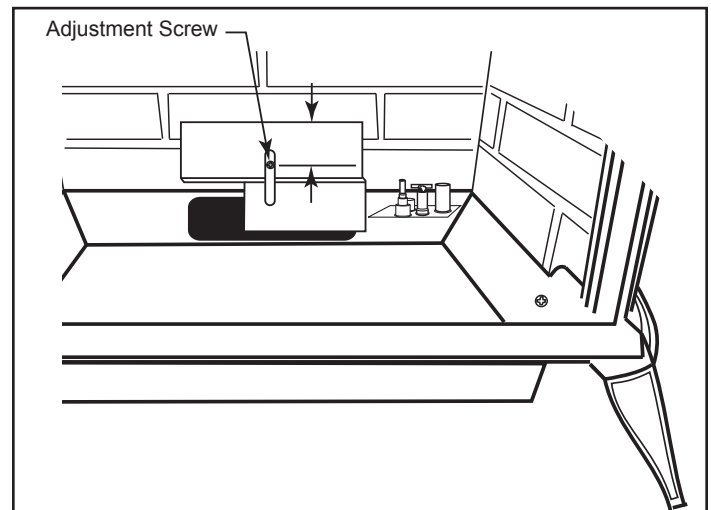
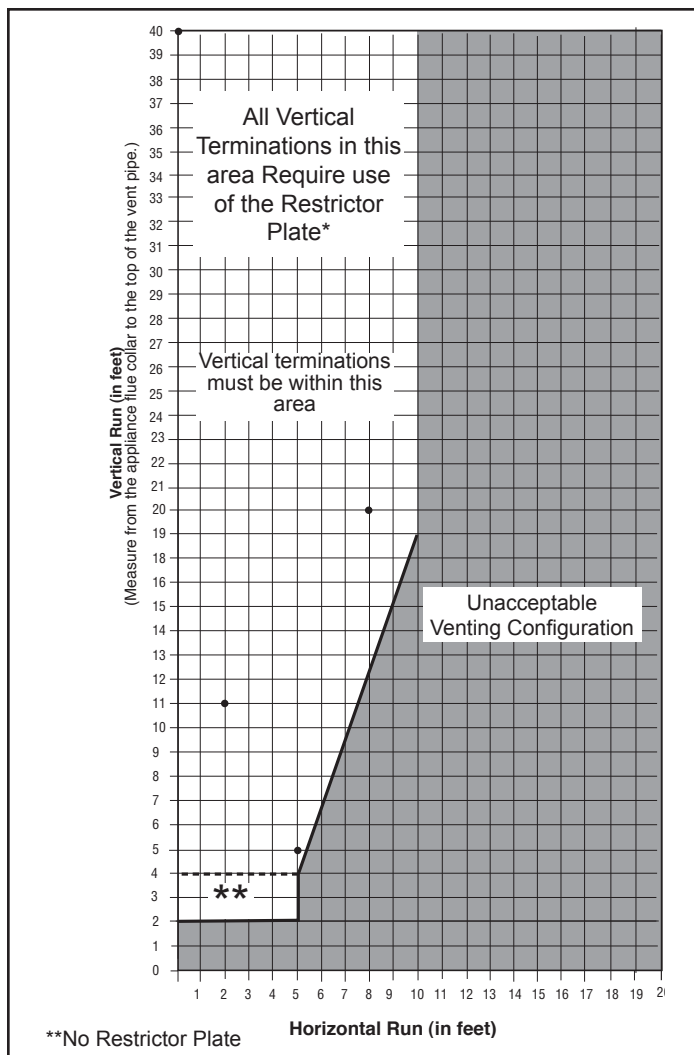


Figure 2.7 - Horizontal vent termination window.

A vertical vent system must terminate no less than 8' (2.44 m) and no more than 40' (12 m) above the appliance flue collar. A restrictor plate (supplied) must be used, where specified, in all vertically terminated vent systems. (Refer to Figure 8) NOTE: The restrictor plate supplied with the vertical termination should be discarded. Adjust the restrictor plate according to recommendations in Figure 2.10. A vertically terminated vent system must also conform to the following criteria:



Examples for Extended Run/Restrictor Plate Settings			
Vertical 20' (6 m), 90° elbow, out 8' (2.4 m)	Vertical 11' (3.4 m), 90° elbow, out 2' (610 mm)	Vertical 40' (12 m)	Vertical 5' (1.5 m), 90° elbow, out 5' (1.5 m)
			
Restrictor plate measurement from top of plate to center of screw:			
2¾" (70 mm) from center of screw to top edge of plate	Plate down to top of slot	Plate down to top of slot	2⅝" (60 mm) from center of screw to top edge of plate

Vent Termination Clearances

When planning the installation, consider the location of the vent terminal and clearances. Some of the most common clearances to keep in mind are shown in Figure 2.11.

Important: All vent clearances must be maintained. Check your vent termination clearances against Figures 2.11 and 2.12.

The vent should be placed so that people cannot be burned by accidentally touching the vent surfaces when the stove is operating.

The vent termination should be located where it cannot be damaged by such things as automobile doors, lawn mowers or snowblowers and it should be located away from areas where it could become blocked by snow, etc.

Some considerations are:

- Obstructions or impediments to venting.
- Nearby combustible materials that could come into contact with combustion exhaust gases.
- Other nearby openings {within 12" (305 mm)} through which exhaust gas could reenter the building.
- All vegetation within 3' (76 mm) that may interfere with the draft.

Other factors that influence where the installation will be sited include the location of outside walls, where additional heat may be desired in the home, where the family members gather most regularly, and perhaps most importantly, the distance limitations of the venting system.

IMPORTANT

The horizontal termination must not be recessed into the exterior wall or siding.

Horizontal vent runs must be level toward the vent termination.

Clearances around the vent termination must be maintained.

For installations using DuraVent pipe, parallel installations with minimum wall clearance have restricted access for connecting the Horizontal Vent Cap straps to the vent pipe. See the maker's instructions for recommended installation procedures.

Your stove is approved to be vented either through the side wall, or vertical through the roof.

- HHT does not require any opening for inspection of vent pipe.
- Only HHT SLP venting components or DuraVent venting components specifically approved and labeled for this stove may be used.
- Minimum clearances between vent pipes and combustible materials is one (1") inch (25 mm), except where stated otherwise.
- Venting terminals shall not be recessed into a wall or siding.
- Horizontal venting must be installed on a level plane without an inclining or declining slope.

There must not be any obstruction such as bushes, garden sheds, fences, decks or utility buildings within 24" from the front of the termination hood.

Do not locate termination hood where excessive snow or ice build up may occur. Be sure to check vent termination area after snow falls, and clear to prevent accidental blockage of venting system. When using snow blowers, make sure snow is not directed towards vent termination area.

Location of Vent Termination

It is imperative the vent termination be located observing the minimum clearances as shown in this manual.

General Venting Information - Termination Location

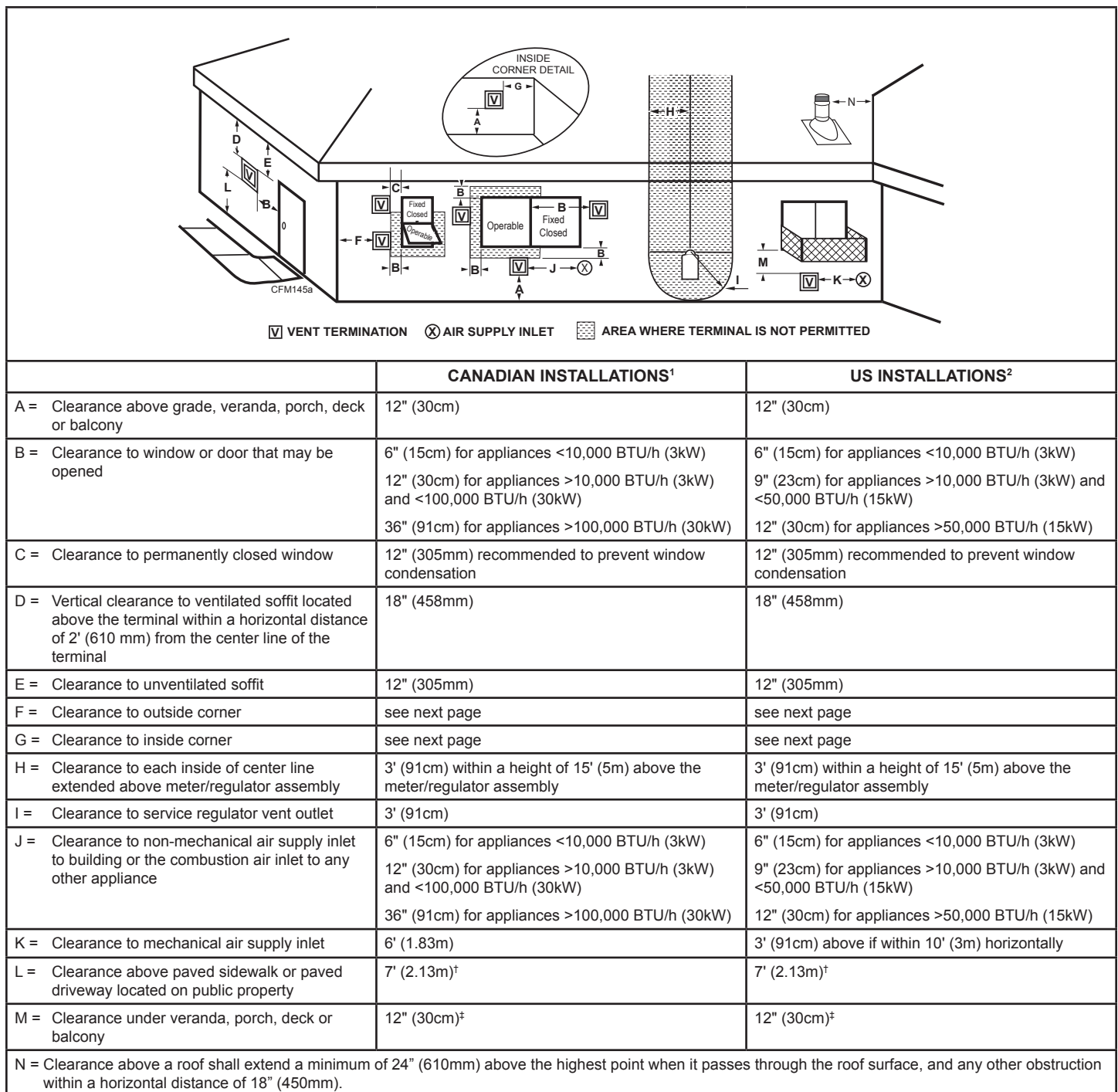


Figure 2.11 - Vent termination clearances.

1 In accordance with the current CSA-B149 Installation Codes

2 In accordance with the current ANSI Z223.1/NFPA 54 National Fuel Gas Codes

† A vent shall 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 2 sides beneath the floor.

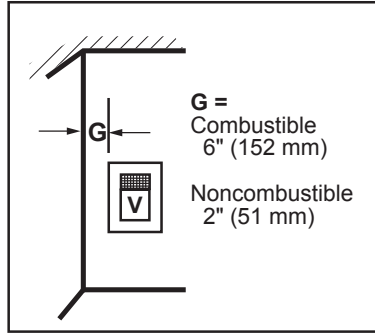
NOTE:

1. Local codes or regulations may require different clearances.
2. The special venting system used on Direct Vent Fireplaces are certified as part of the appliance, with clearances tested and approved by the listing agency.
3. HHT assumes no responsibility for the improper performance of the appliance when the venting system does not meet these requirements.

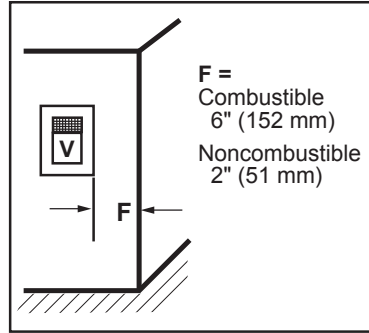
Termination Clearances

Termination clearances for buildings with combustible and noncombustible exteriors.

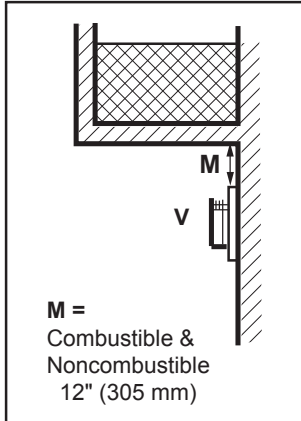
Inside Corner



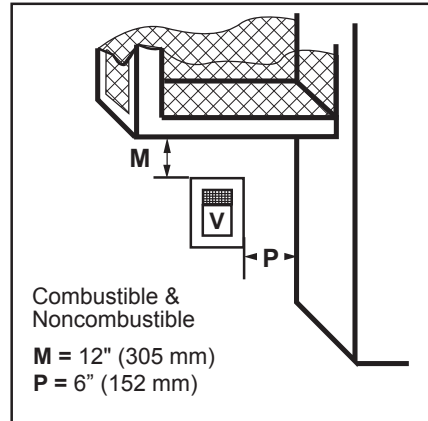
Outside Corner



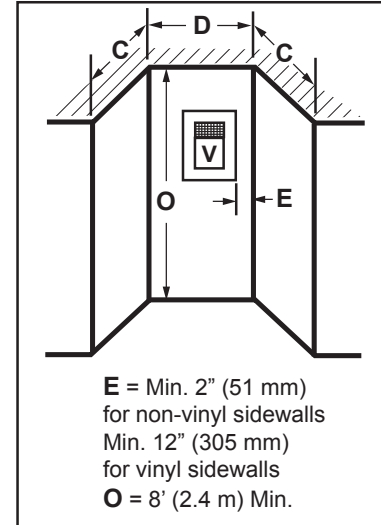
Balcony - with no side wall



Balcony - with perpendicular side wall



Alcove Applications*



# of Caps	D _{Min.}	C _{Max.}
1	3' (914 mm)	2 X D _{Actual}
2	6' (1.8 m)	1 X D _{Actual}
3	9' (2.7 m)	2/3 X D _{Actual}
4	12' (3.7 m)	1/2 X D _{Actual}

D_{Min.} = # of Termination caps x 3
C_{Max.} = (2 / # termination caps) x D_{Actual}

***NOTE:** Termination in an alcove space (spaces open only on one side and with an overhang) is permitted with the dimensions specified for vinyl or non-vinyl siding and soffits. 1. There must be a 3' (914 mm) minimum between termination caps. 2. All mechanical air intakes within 10' (1 m) of a termination cap must be a minimum of 3' (914 mm) below the termination cap. 3. All gravity air intakes within 3' (914 mm) of a termination cap must be a minimum of 1' (305 mm) below the termination cap.

Figure 2.12 - Termination clearances.

3 Assembly and Installation

A. Venting Requirements and Options

Approved Vent System Components

The Radiance Heater must be vented to the outdoors through an adjacent exterior wall or through the roof. The venting system must be comprised of the appropriate listed venting components specified on this page. These parts are available from DuraVent Corporation or your Vermont Castings Dealer.

See Figure 2.4 for dimensions relevant to the standard minimum-vent kits.

HHT Components*

SLP Horizontal Termination Kit (Termination Cap, SLP24-BK, SLP6-BK, SLP6A-BK, SLP90-BK, SLP-WT-BK & CCSLP)	SLP-SK-BK
Stove Adapter Kit (Includes 30' of 4" Flex, adapters, wall thimble, masonry and ZC flashing, 991DA Cap and Fasteners)	LINK-STOVE
Trapezoid Termination Kit (3-1/8" - 4-3/4")	SLP-TRAP1
Trapezoid Termination Kit (5-1/4" - 9-1/4")	SLP-TRAP2
Rear Vent Termination Kit	SLP-RVTK
Vertical Termination cap - High Wind (includes storm collar)	SLP-TVHW
Decorative Wall Thimble Cover	SLP-WT-BK
Decorative ceiling firestop - black	SLP-DCF-BK
Cathedral ceiling support - black	SLP-CCS-BK
4" (100mm) pipe length - black	SLP4-BK
6" (150mm) pipe length - black	SLP6-BK
12" Pipe length-black	SLP12-BK
24" Pipe length-black	SLP24-BK
36" (915mm) pipe length - black	SLP36-BK
48" Pipe length-black	SLP48-BK
3" - 6" (75 - 150mm) telescoping pipe extension - black	SLP6A-BK
3" - 12" telescoping pipe extension-black	SLP12A-BK
45 degree elbow-black	SLP45-BK
90 degree elbow-black	SLP90-BK
Radiance, Stardance, Oxford SLP adapter	CCSLP
Freestanding Draft Hood Adapter	FSDHAGSLP
SL Snorkel Cap (Includes 1 pair of firestops)	SLK-SNKD
*CCSLP adapter is required when using HHT components.	

DuraVent Components

Starter Pipe Assembly (incl. inner & outer sections)	46DVA-ADP
90° Elbow, Blk.	46DVA-E90B*
45° Elbow, Gal.	46DVA-E45
6" Straight, Blk.	46DVA-06B*
9" Straight, Blk.	46DVA-09B
11" - 14-5/8" Adjustable Straight Section	46DVA-08AB
12" Straight	46DVA-12
24" Straight	46DVA-24B*
36" Straight	46DVA-36B
48" Straight	46DVA-48
Horizontal Vent Cap	46DVA-HC*
Wall Plate	46DVA-DC
Vinyl Siding Shield	46DVA-VSS
Snorkel Termination - 14"	46DVA-SNK14
Snorkel Termination - 36"	46DVA-SNK30
Wall Strap	46DVA-WS
Cathedral Ceiling Support Box	46DVA-CS
Storm Collar	46DVA-SC
Firestop Spacer	46DVA-FS
Flashing 0/12 - 6/12	46DVA-F6
Flashing 6/12 - 12/12	46DVA-F12
Wall Thimble	46DVA-WT
Wall Thimble Cover (Brass)	3PVP-TKV
Wall Firestop	46DVA-WFS
Attic Insulation Shield	46DVA-IS
Co-Linear Vent Adapter	46DVA-GCL
Steel Chimney Conv. Kit A (6-5/8" - 8-5/8")	46DVA-KCA
Steel Chimney Conv. Kit B (6-5/8" - 10-1/2")	46DVA-KCB
Steel Chimney Conv. Kit C (6-5/8" - 13")	46DVA-KCC
Masonry Chimney Conversion Kit	46DVA-KMC
Vertical Termination Cap (High Wind)	46DVA-VCH
Vertical Termination Cap (Low Profile)	46DVA-VC

All DuraVent Straight vent pipe sections have a net length 1-1/2" (37mm) less than the nominal dimension; i.e., a 6" (152 mm) Straight pipe section has an effective length of 4-1/2" (115 mm).

B. Assembling the Stove:

Tools Required

- Phillips screwdriver (stub)
- Utility knife
- Metal drill bit: size 28 (.140"/3.5mm)
- Flat-blade screwdriver
- Power drill
- Reciprocating saw
- 9/16" wrench
- 1/2" Wrench

Parts Bag Contents:

- Three (3) Vent Screws
- Two (2) Switch bracket screws
- Wood handle w/insert lifter (handle for operable door)
- Restrictor Plate
- 4" Starter pipe
- On-Off switch, housing, and wiring harness
- Three (3) Phillips round-head bolts, 1/4"- 20 x 1/2"
- One (1) Tube of Vent Gasket Cement
- Four (4) CS, Hex Hd 3/8-16 x 1 Gr 2-Z
- Four (4) Washer, FI 3/8-Z
- LP Conversion Kit
- Owner's Installation and Operating Manual

Unpack Stove

Using the 1/2" wrench remove the (4) lag bolts installed through the shipping brackets and into the skid. Once the lag bolts are removed, remove the shipping brackets from around each leg leveler located at each leg with the 9/16" Wrench.



WARNING

This appliance is equipped with a three-prong (grounded) 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.

Install the Optional Fan - RADVT models (Millivolt only - see page 27 for SC model)

If you are installing the optional convection Fan Kit #2767 (FK26), continue here. It is easiest to install fan kit before connecting gas line.

1. The fan kit includes a Blower Assembly and a Rheostat Assembly, connected by a cable. (Figure 3.1) The Blower Assembly mounts to the bottom rear of the stove, and the Rheostat mounts to the valve cover plate. The assembly includes a 'snapstat' which automatically turns the fan On (or Off) above (or below) approximately 109°. The Rheostat also provides a range of fan speed settings from Off (which overrides the snapstat function) to High. Unpack and inspect the Blower assembly. Confirm that the fan spins freely.

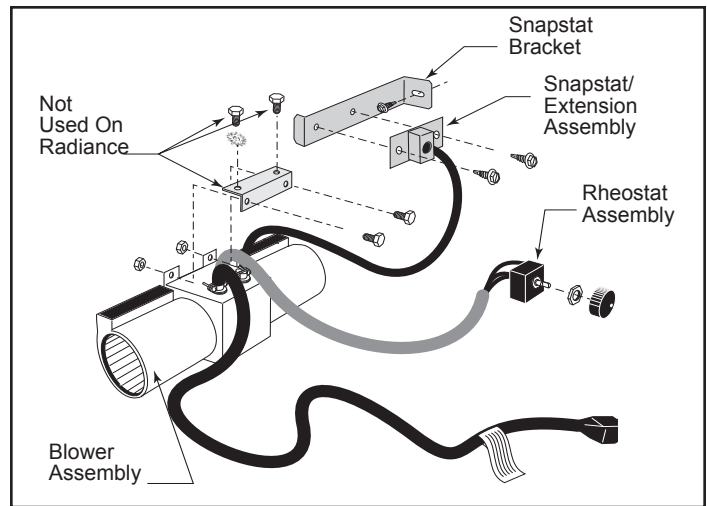


Figure 3.1 - Fan kit components.

2. Remove the rear shroud panel (Figure 3.2) and fasten the blower assembly to the firebox back with the two bolts provided. (Figure 3.3)
3. Attach the snapstat assembly to the snapstat bracket with two sheet-metal screws. Attach the snapstat bracket to the side shield. (Figure 3.3)
4. The rheostat control switch attaches to the left side of the valve bracket at the front of the stove. (Figure 3.4)
 - Remove retaining nut from shaft of rheostat. (If preinstalled)

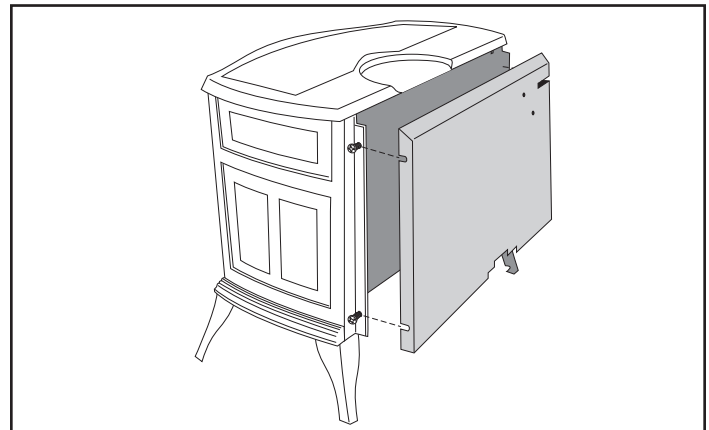


Figure 3.2 - Remove rear shroud.

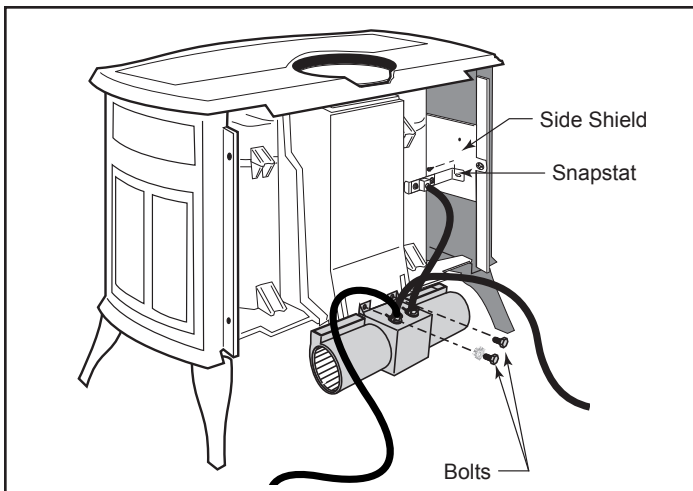


Figure 3.4 - Attach blower assembly and snapstat.

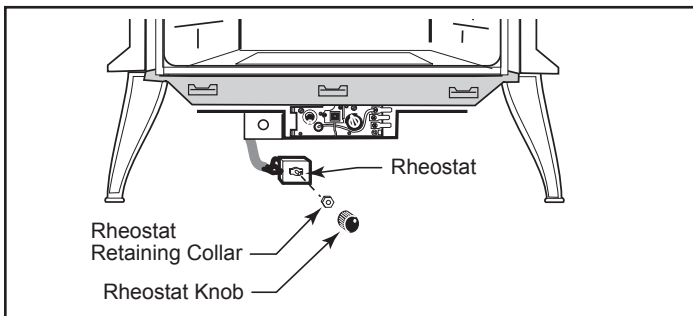


Figure 3.5 - Attach the fan rheostat.

- Insert the rheostat through the hole in the back of the left side of the valve bracket, aligning the locator pin with the smaller hole in that bracket.
- Thread the retaining nut onto the shaft of the rheostat, tightening with a wrench. Do not overtighten.
- Attach the control knob to the rheostat shaft.
- Use the wire tie to secure the fan and rheostat wire harnesses together.

C. Venting System Assembly



CAUTION

All HHT Direct Vent Stoves have been tested and approved to ANSI/CSA Standards and will operate safely when installed in accordance with this instruction manual. Read all instructions before starting installation, then follow these instructions carefully to maximize stove performance and safety. Report damaged parts to your dealer.



WARNING

Always maintain minimum clearances around vent systems. Rear/Top Vent Vertical Side wall: Horizontal sections of this vent system require a minimum of 3" (76 mm) clearances to combustibles at the top of the flue and 1" (25 mm) clearance at the sides and bottom until the flue penetrates the outside wall. A minimum 1" clearance all around the flue is acceptable at this point of penetration. If vertical rise is 7 1/2 feet (2.3 m) or higher when top venting, the clearance to combustibles is 1" on all sides of the horizontal run. FOR VERTICAL RUNS ONLY, maintain a 1" (25 mm) minimum clearance to all sides. Do not pack the open air spaces around the stove or flue with insulation or other materials. Any horizontal run must have a 1/4" rise for every one (1) foot of run towards the vent termination. Never run the vent level or down.



WARNING

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



WARNING

Any common venting of this gas appliance with other gas appliances is not allowed.

Important Safety Information

The termination cap MUST be vented directly to the outside. The termination kit MUST NEVER be connected to a chimney flue(s) servicing a separate solid-fuel burning appliance or any other appliances.

- Termination cap MUST NOT be recessed into a wall (see Figure 3.6).
- The installation must conform with local codes or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 (in the United States) or with the current installation code CSA B149 (in Canada).

- These models are approved to use HHT direct vent pipe components and HHT termination kits, and DuraVent components. No other venting system components may be used.
- Horizontal runs must be supported every 3 feet (914 mm) using wall straps. Vertical runs must be supported every 8 feet (2.4 m) using wall straps. Slip wall straps loosely on to pipe. Attach straps to framing members using nails or screws. Tighten nut/bolt to secure pipe.
- The stove and venting system should be inspected before initial use and at least annually by a qualified field service person. Inspect the external vent cap on a regular basis to make sure that no debris is interfering with the airflow. Inspect entire venting system to ensure proper function.

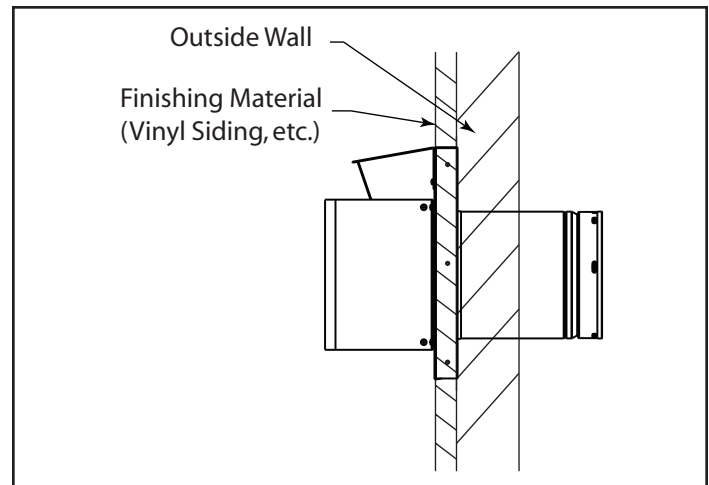


Figure 3.6 - Termination cap on wall

Before You Start

Plan your installation. Set the stove in place and survey how to best vent the unit. Select the appropriate termination kit and vent pipe for the installation. Read these instructions and the stove Owner's Manual before beginning installation. After vent configuration has been decided, begin attaching pipe to unit.

Items required for installation:

Tools:

Phillips screwdriver	Hammer
Saw and/or saber saw	Level
Measuring Tape	Electric drill and bits
Pliers	Square

Building Supplies:

Framing materials
Wall finishing materials
Caulking Material (noncombustible)



WARNING

Refer to pages 8 and 9 of this manual for the minimum and maximum venting requirements of your stove and for approved horizontal vent termination locations prior to installation. Failure to do so may cause fire hazard.



WARNING

Any horizontal run must have a 1/4" rise for every one (1) foot of run towards the vent termination. Never allow the vent pipe to run down. This could cause high temperatures and may present a fire hazard.



WARNING

Termination cap must be positioned so the embossed arrow is pointed up.

General Information

The Radiance is approved for installation only with the vent components listed on page 13. Follow the vent component instructions exactly.

For U.S. installations: The venting system must conform with local codes and/or the current National Fuel Gas Code, ANSI Z223.1/NFPA 54.

For Canadian installations: The venting system must conform to the current CSA B149.1 installation code.

Install the Vent Adapter Pipe (Vermont Castings SLP Vent Components)

1. Attach Inner Starter Pipe, (found in the Parts Bag), to the next section of inner pipe.
2. Run a bead of sealant about 1/2" from the upper end of the Inner starter pipe and join the two sections together.
3. Drill three pilot holes into the Inner Starter and secure the assembly with three sheet metal screws. (Figure 3.7)
4. Dry fit the Inner Pipe assembly to the stove for the purpose of determining the center line of the pipe on the wall.
5. Side Wall Terminations: Dry fit the outer elbow with the vertical outer vent and confirm the centerline alignment with the wall thimble opening.

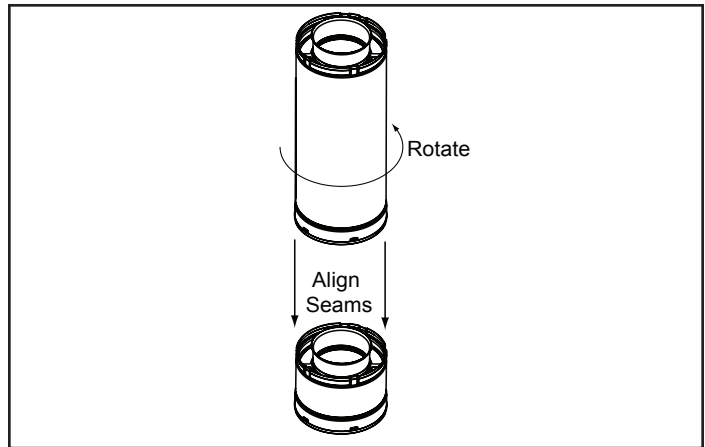


Figure 3.7 - Connect the inner starter with the next section of inner vent pipe.

1. Attach the Inner Vent Assembly to the stove.
2. Place a 3/8" bead of millpack caulk around the inside of the cast starter collar. Insert the 65/8" outer adapter into the cast outer starting collar and press down firmly.
3. Install the CCSLP Outer Adapter Pipe.
4. Place a 3/8" bead of millpack caulk around the 4" crimped end of the starter collar on the stove. Attach the SLP pipe to the adapter, and secure by aligning adapter and pipe seams, pressing down firmly until pipe stops, and twisting to lock into place. (Figure 3.8)

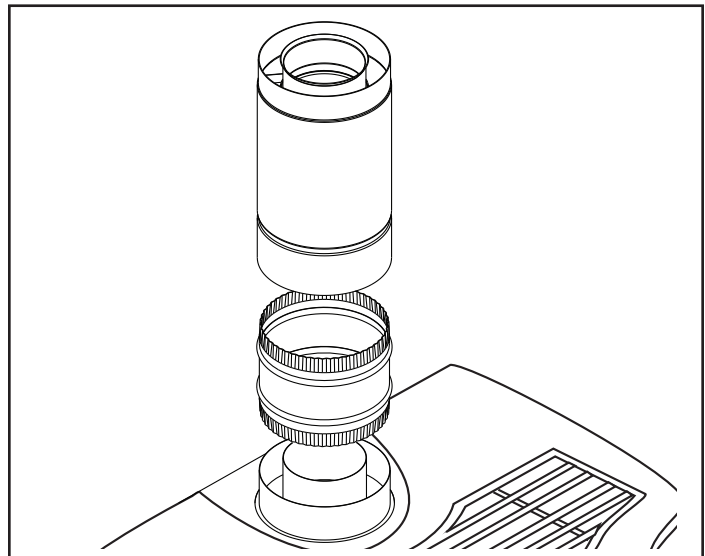


Figure 3.8 - Attach inner assembly to flue collar.

Assemble Slip Sections

The outer flue of the slip section should slide over the outer flue of the pipe section and into (inner flue) the last pipe section (see Figure 3.10).

Slide together to the desired length, making sure that a 1-1/2" outer flue overlap is maintained between the pipe section and slip section.

The pipe and slip section need to be secured by driving two 1/2 in. screws through the overlapping portions of the outer flues using the pilot holes (see Figure 3.11).

This will secure the slip section to the desired length and prevent it from separating. The slip section can then be attached to the next pipe section.

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

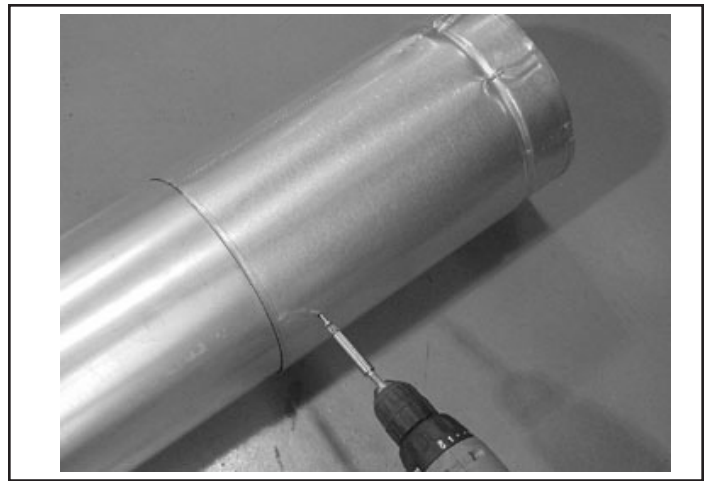


Figure 3.11 - Screws into Slip Section

Secure the Vent Sections

Vertical sections of SLP pipe must be supported every 8 ft.

The SLP firestop includes tabs that may be used to secure vertical sections.

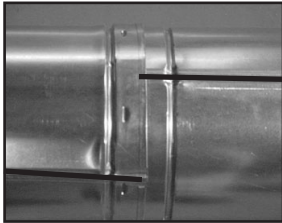
The vent support or plumber's strap (spaced 120° apart) may be used to secure the vertical sections of pipe (see Figure 3.12).

Horizontal sections of vent must be supported every 5 ft with a vent support or plumber's strap (see Figure 3.13).

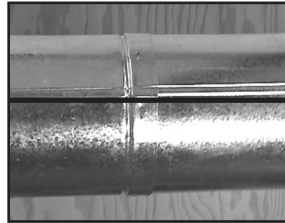


WARNING

Risk of Fire/Explosion! **DO NOT** break 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.



CORRECT



INCORRECT

Figure 3.9 - Make sure the seams are not aligned to prevent unintentional disconnection.



WARNING

Risk of Fire/Explosion/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.

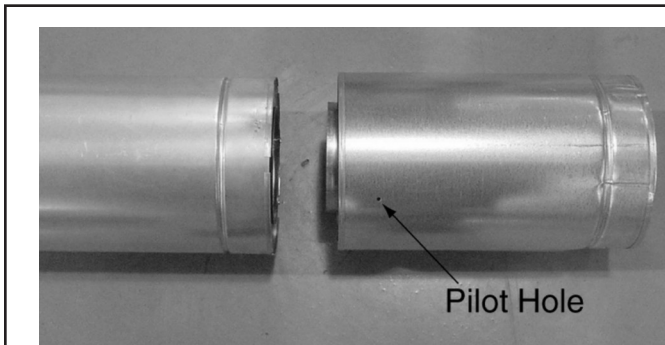


Figure 3.10 - Slip Section Pilot Holes

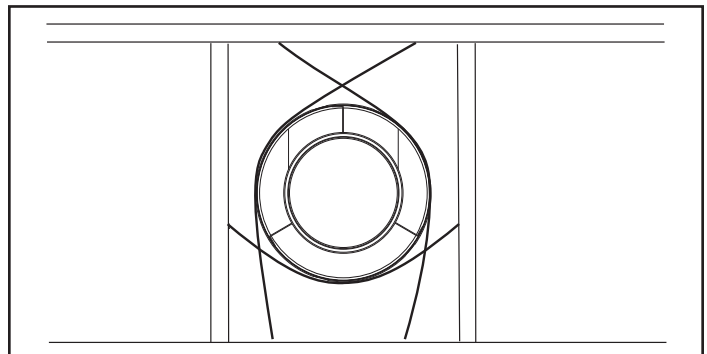


Figure 3.12 - Securing Vertical Pipe Sections

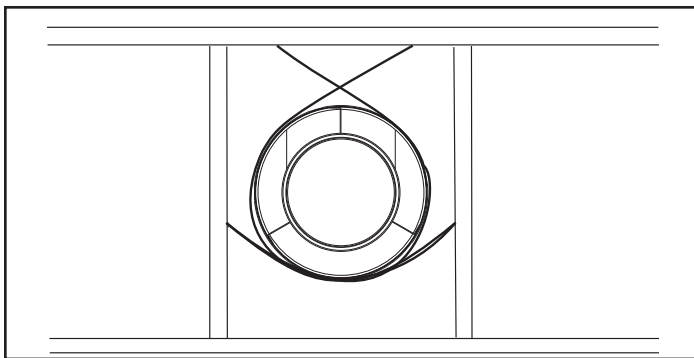


Figure 3.13 - Securing Horizontal Pipe Sections

Disassemble Vent Sections:

To disassemble any two pieces of pipe, rotate either section (Figure 3.14), so that the seams on both pipe sections are aligned (Figure 3.15). They can then be carefully pulled apart.

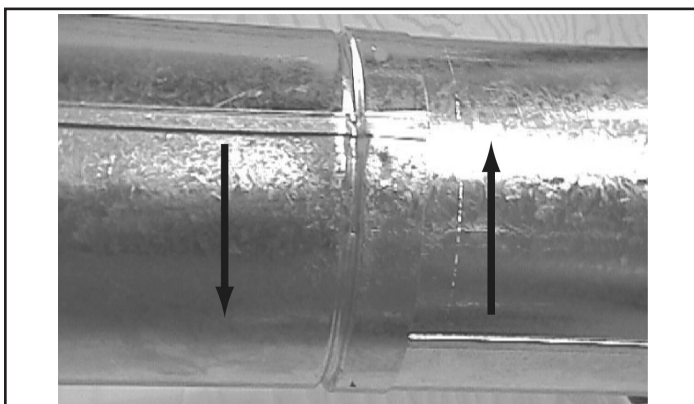


Figure 3.14 - Rotate Seams for Disassembly

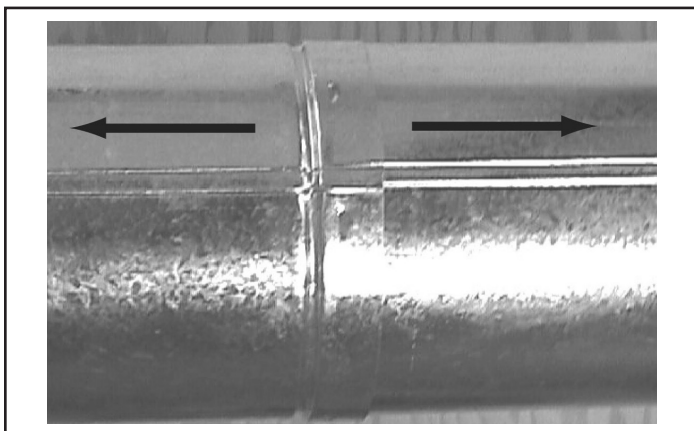


Figure 3.15 - Align and Disassemble Vent Sections

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 vent and telescoping flue section is required.

Failure to maintain overlap may cause overheating and fire.

Note: For horizontal vent runs through a combustible wall and framing dimensions, refer to appliance installation manual.

Install the Horizontal Termination Cap

Attach slip section of cap to last vent section. Maintain 1-1/2" overlap between slip and vent sections.

Note: For installations using black pipe, slide the decorative wall thimble over the last vent pipe before connecting the termination to the pipe. When this connection has been made, slide the wall thimble up to the interior wall surface and attach with screws provided.

Secure termination cap to exterior wall using provided holes and fasteners.

Vent termination must not be recessed in the wall. Siding may be brought to the edge of the cap base.

CAUTION

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

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.

Divert Roof Run-off

HHT recommends, where excessive water run-off is possible, use of one of the two options shown in Figure 3.16 to prevent water running off the roof and onto/into the horizontal termination cap.

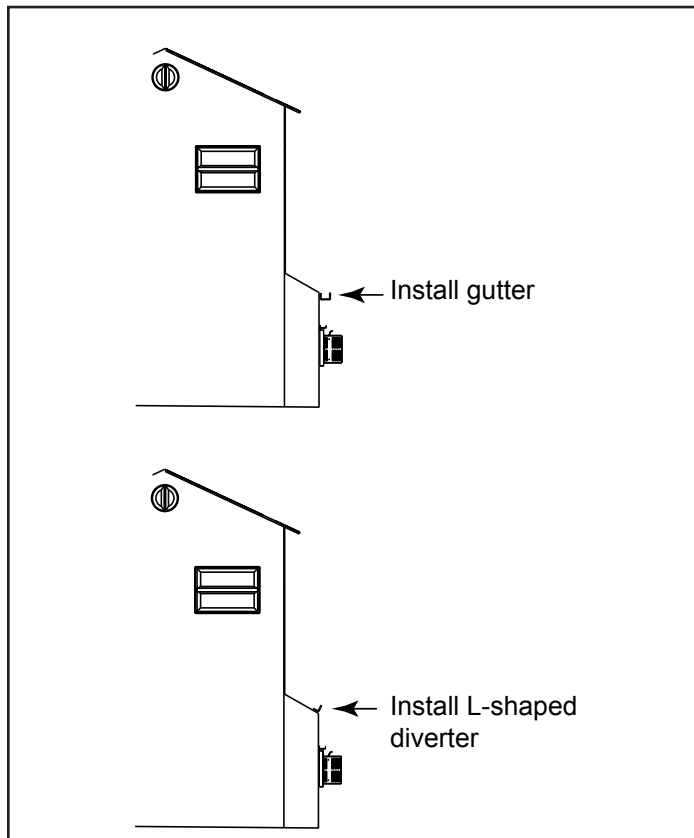


Figure 3.16 - Locate Vent Opening on Wall

Vertical Side Wall Installation:

NOTE: Refer to Figures 2.8 thru 2.10 for restrictor plate adjustments for vertical vent runs.

1. Locate vent opening on the wall. It may be necessary to first position the stove and measure to obtain hole location. Depending on whether the wall is combustible or noncombustible, cut opening to size. Figure 3.17 (For combustible walls first frame in opening.) Combustible Walls: Cut a 9"H x 9"W (244 x 244 mm) hole through the exterior wall and frame as shown. Figure 30 Noncombustible Walls: Hole opening must be 7" (178 mm) in diameter.

NOTE: When using flex vent, the opening will have to be measured according to the 1/2" (13 mm) rise in 12" (305 mm) vent run.

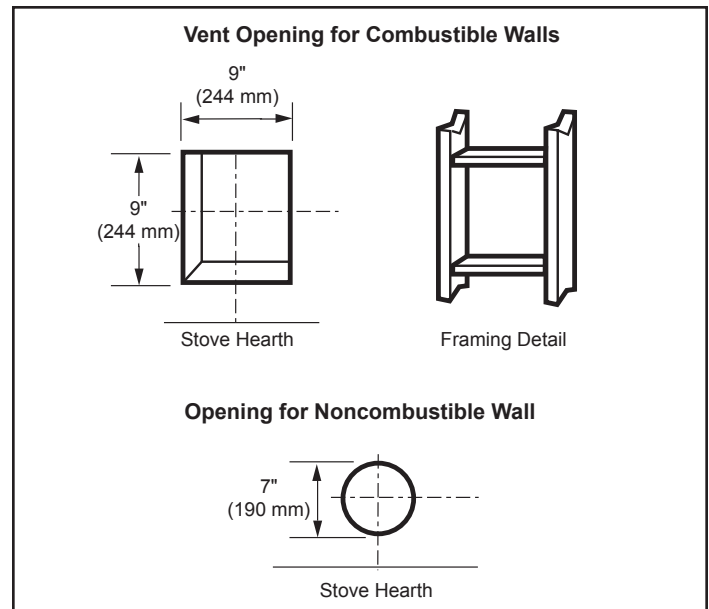


Figure 3.17 - Locate Vent Opening on Wall

2. Secure firestop to the inside frame, center in the 9" x 9" vent opening.
3. Place stove into position. Measure the vertical height (X) required from the base of the flue collars to the center of the wall opening. Figure 3.18

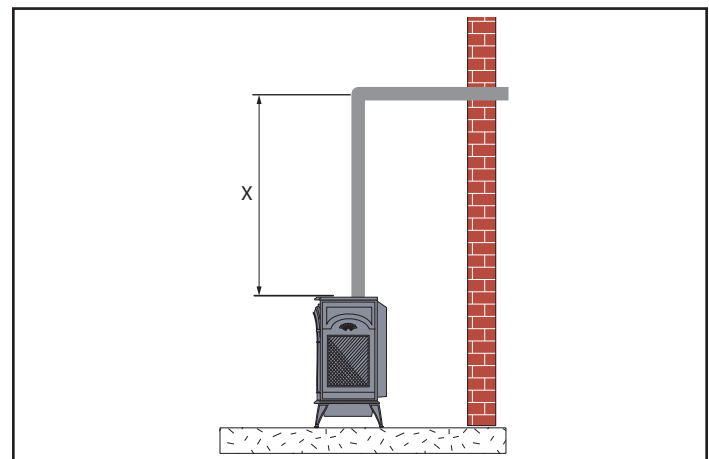


Figure 3.18 - Vertical Height Requirements

4. Using appropriate length of pipe section(s) attach to stove by twisting collar.
5. Measure the horizontal length requirement including a 2" (51 mm) overlap, i.e. from the elbow to the outside wall face plus 2" (51 mm) (or the distance required if installing a second 90° elbow). Figure 3.19

NOTE: Always install vertical side wall horizontal venting with a 1/4" rise for every 12" of run.

6. Use appropriate length of pipe sections – telescopic or fixed – and install. The sections which go through the wall are packaged with the starter kit, and can be cut to suit if necessary.
7. Guide the vent terminations 4" and 6-5/8" collars into their respective vent pipes. Double check that the vent pipes overlap the collars by 2" (51 mm). Secure the termination to the wall with screws provided and caulk around the wall plate to weatherproof. As an alternative to screwing the termination directly to the wall, you may also use expanding plugs or an approved exterior construction adhesive.

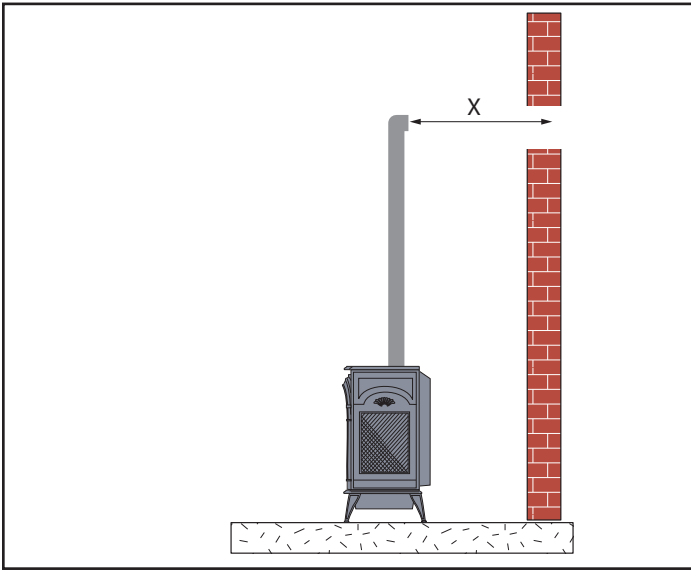


Figure 3.19 - Horizontal Length Requirement

NOTE: Support horizontal pipes every 5' (152 cm) with metal pipe straps.

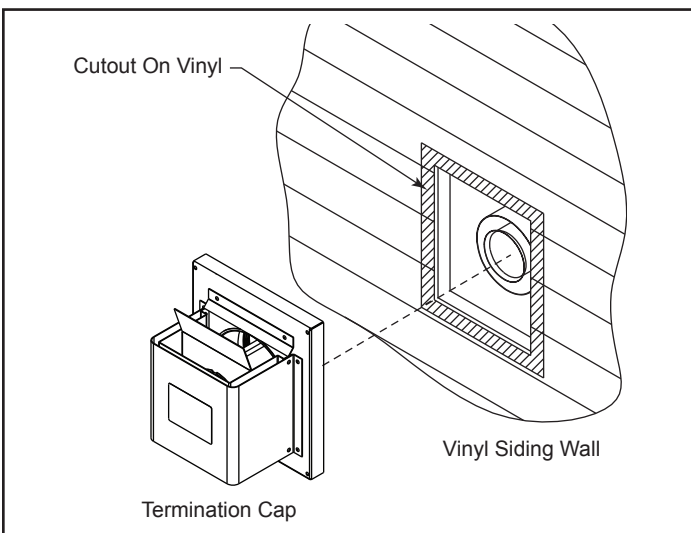


Figure 3.20 - Horizontal Termination Cap on a Vinyl Siding Wall

Vent Termination Below Grade:

Install Snorkel Kit #SLP-SNORK when it is not possible to meet the required vent termination clearances of 12" (305 mm) above grade level. The snorkel kit will allow installation depth of down to 7" (178 mm) below grade level. The seven inches is measured from the center of the horizontal vent pipe as it penetrates the wall. **If the venting system is installed below grade, a window well must be installed with adequate and proper drainage.** (Figure 35)

NOTE: Be sure to maintain side wall clearances and vent run restrictions. Refer to Page 7, Figures 2.3 thru 2.6.

1. Establish the vent hole through the wall.
2. Remove soil to a depth of approximately 16" (406 mm) below the base of the snorkel. Install a window well (not supplied). Refill the hole with 12" (305 mm) of coarse gravel and maintain a clearance of at least 4" (102 mm) below the snorkel. (Figure 3.22)
3. Install the vent system as described on Pages 16-18.
4. Be sure to make a watertight joint around the vent pipe joint at the inside and outside wall joints.
5. Apply high temperature sealant around the inner and outer snorkel collars. Join the pipes and fasten the snorkel termination to the wall with the screws provided.
6. Level the soil to maintain a 4" clearance below the snorkel.
7. If the foundation is recessed, use extension brackets (not supplied) to fasten the lower portion of the snorkel. Fasten the brackets to the wall first, and then fasten to the snorkel with self-tapping #8 x 1/2" sheet metal screws. Extend the vent pipes out as far as the protruding wall face. (Figure 3.22)

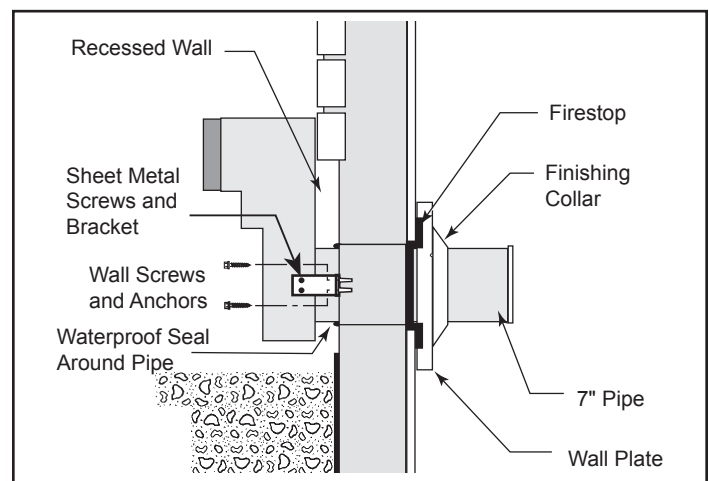


Figure 3.21 - Use extension brackets to mount snorkel against recessed wall.

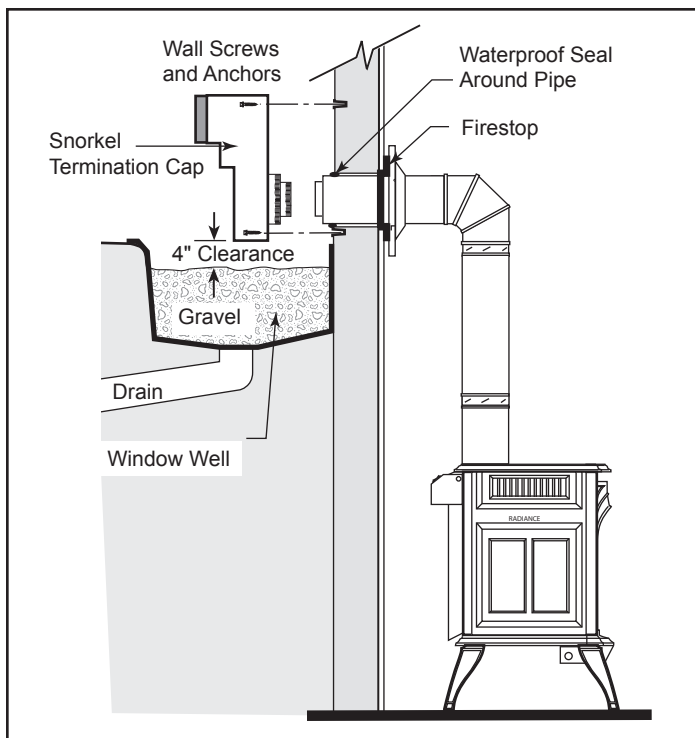


Figure 3.22 - Snorkel kit installation.

Vertical Through-The-Roof Application/Installation:

Note: Refer to figures 2.8 thru 2.10 for restrictor plate adjustments for vertical vent runs.

This gas stove has been approved for:

- Vertical installations up to 40' (12 m) in height. Up to a 10' (3 m) horizontal vent run can be installed within the vent system using a maximum of two 90° elbows. Figure 3.23
- Up to two 45° elbows may be used within the horizontal run. For each 45° elbow used on the horizontal plane, the maximum horizontal length must be reduced by 18" (450 mm).

Example: Maximum horizontal length:

No elbows	= 10' (3 m)
1 x 45° elbow	= 8.5' (2.6 m)
2 x 45° elbows	= 7' (2.1 m)

- A minimum of an 8' (2.5 m) vertical rise is required. (Figure 38)
- Two sets of 45° elbow offsets may be used within the vertical sections. From 0 to a maximum of 8' (2.5 m) of vent pipe can be used between elbows. Figure 3.23.

- SLP-HVS supports offsets. This application will require that you first determine the roof pitch and use the appropriate starter kit. (Refer to Venting Components list.)
- The maximum angular variation allowed in the system is 270°. Figure 3.24
- For the minimum height of the vent above the highest point of penetration through the roof refer to Figure 3.24.

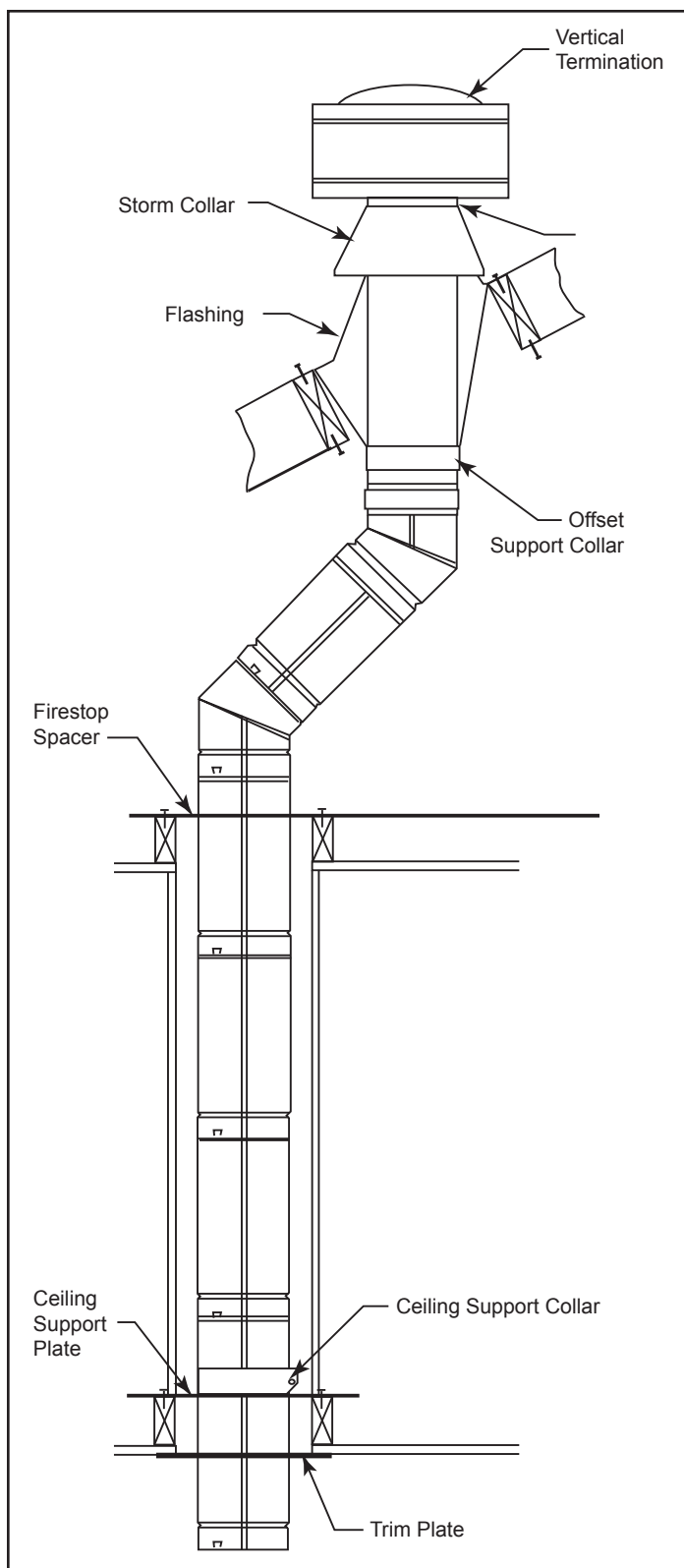
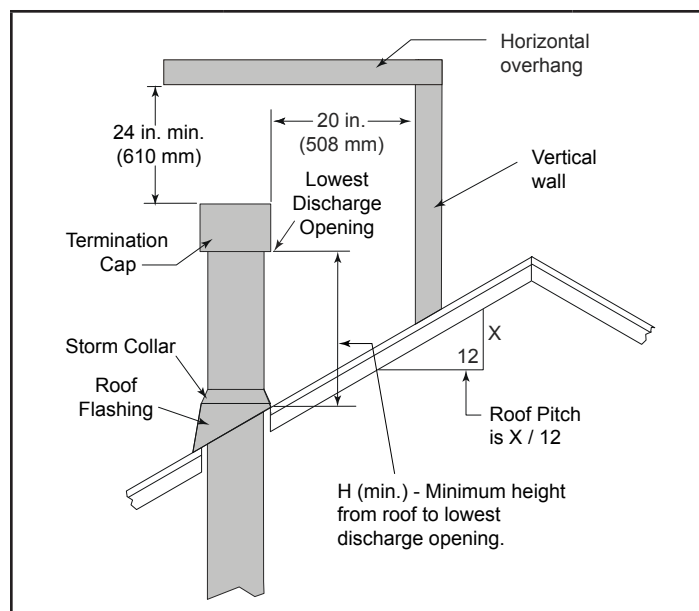


Figure 3.23 - Typical Vertical Venting Configuration



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

* 3 Ft. Minimum in Snow Regions

Figure 3.24 - Minimum Height from Roof to Lowest Discharge Opening

D. Log Set Installation

Before beginning log installation, remove stove front and glass frame. Refer to Figures 3.25 and 3.26.

Note: Remove the safety barrier before you remove the glass frame. To remove the barrier, simply lift up and pull out until the tabs are clear of their corresponding slots on the firebox. Then proceed to remove the glass frame by following the steps below.

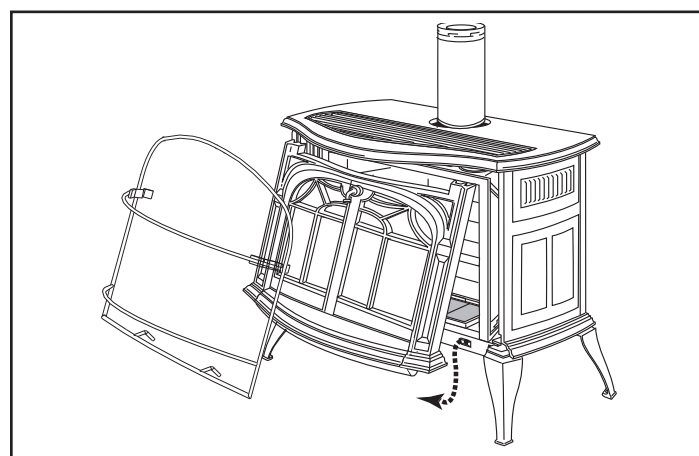


Figure 3.25 - Remove the safety barrier and stove front.

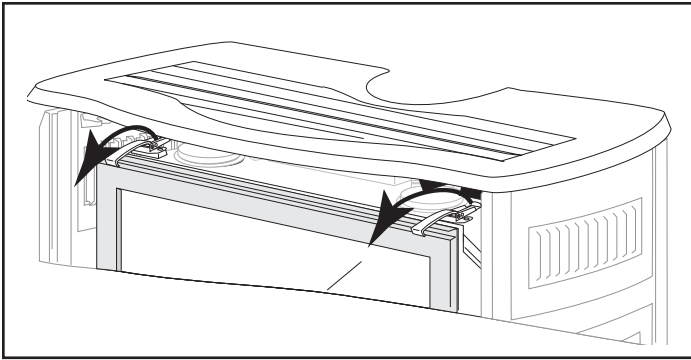


Figure 3.26 - Release the latches to remove the glass frame.

DANGER

**HOT GLASS WILL
CAUSE BURNS.**

**DO NOT TOUCH GLASS
UNTIL COOLED.**

**NEVER ALLOW CHILDREN
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed.

Before installation, inspect ember bed burner for damage. Do not use ember bed if damaged or cracked. Small, shallow surface cracks are acceptable.

1. Remove the logs from their packaging and inspect each piece for damage. **DO NOT INSTALL DAMAGED LOGS.**
2. Install the rear log by placing it on the ember bed toward the back of the firebox. (Figure 3.27) The log should touch the back wall of the firebox. When the log is in place, the two (2) notches on the bottom of the log rest on the two (2) ribs on the back side of the ember bed. (Figure 45)

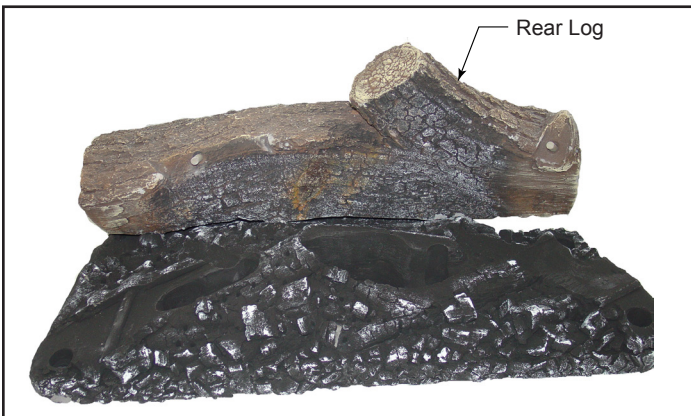


Figure 3.27 - Rear Log

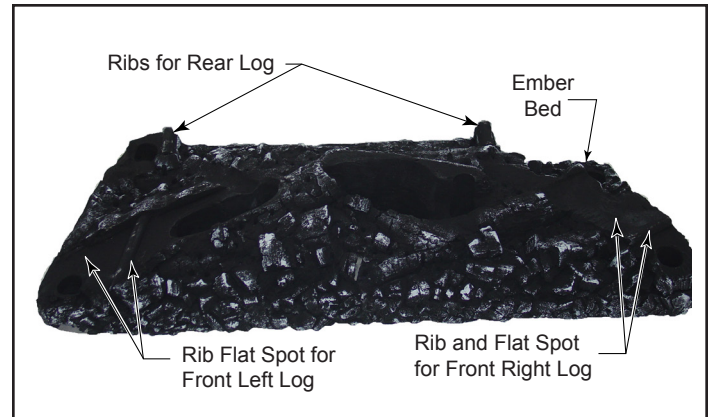


Figure 3.28 - Ribs for Logs

3. Install the front left and right logs (Figure 3.29) by placing them on the ribs shown in Figure 3.26. Make sure the logs line up with the flat spots on the ember bed intended for location purposes. (Figure 3.28)
4. Install the left cross log by engaging the hole on the bottom with the pin on the left side of the rear log. Set front side of cross log on notch in ember bed. (Figure 3.30)
5. Install the right cross log by engaging the hole on the bottom with the pin on the right side of the rear log. Set front edge of cross log on ember bed as shown in Figure 3.30.

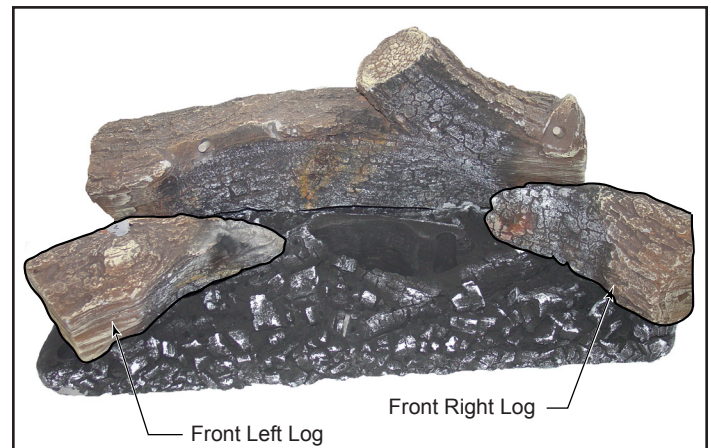


Figure 3.29 - Front Logs

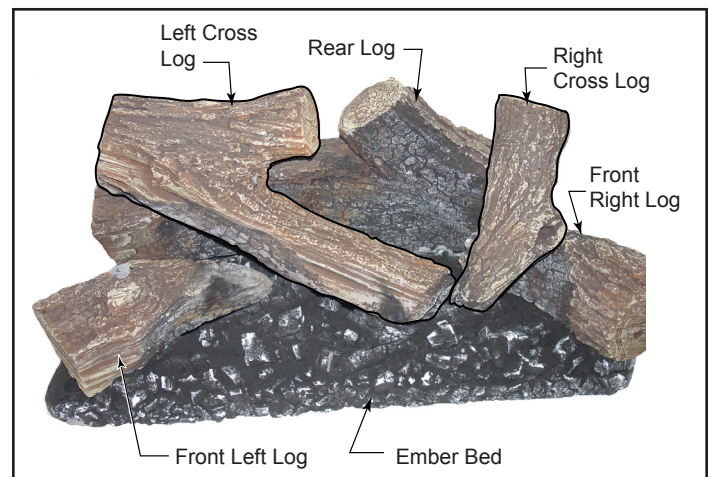


Figure 3.30 - Completed Installation

E. Install ON/OFF Switch - RADVT models:

The switch assembly parts are found in the parts bag.

1. Attach switch assembly to left rear side of stove shroud (when facing shroud) using two screws and existing holes in shroud. (Figure 3.31)
2. Run wires down back of stove, under bottom of rear shroud to valve.
3. Attach wires to valve terminals. (Figure 3.32)

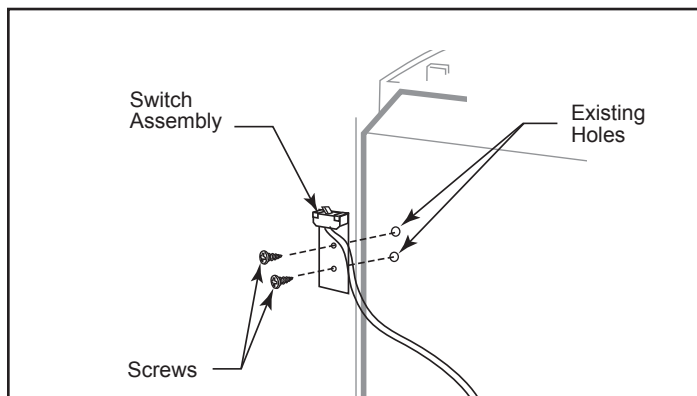


Figure 3.31 - Attach switch assembly to rear shroud.

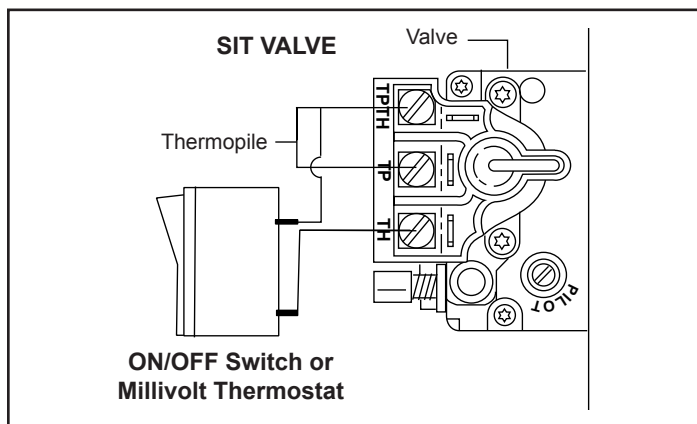


Figure 3.32 - Install wiring to switch before connecting to valve.

F. Thermostat or wall switch Connection (optional):

Use only a thermostat rated for 500 - 750 millivolts.

Check the table below for the appropriate gauge thermostat wire to use for the length of lead required in your installation.

Thermostat Wire / Gauge	Maximum Run
18	20 Feet
16	20 - 40 Feet
14	up to 60 Feet

1. Install the wall thermostat or switch in the desired location and run the wires to the stove location. Terminate these leads with 1/4" female connectors.
2. Connect the thermostat wires to the valve. (Figure 3.32)

G. Signature Command® System - General:

RADVTSC models are equipped with the Signature Command control valve (Figure 3.33) which operates on 6 volts. The A/C module plugs into the stove junction box A/C power supply. Four (4) "AA" batteries are used for back up during power outages.

The Signature Command System can also be operated without A/C power. The system can run on four (4) "AA" batteries for approximately six (6) months under normal use.

A/C power must be used to power the A/C module and blowers.

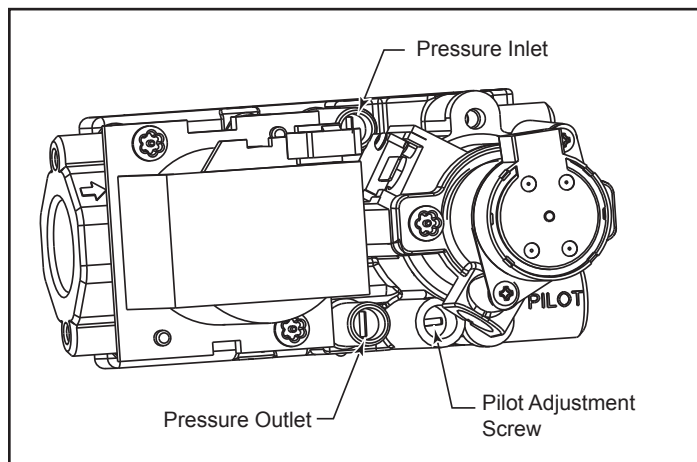


Figure 3.33 - Signature Command Valve

⚠ WARNING

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

⚠ CAUTION

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

H. Junction Box Wiring

This should be done before framing the stove. Wire the receptacle into an electrical circuit. Wire with minimum 60° C wire in accordance with prevailing codes.

Remove the external junction box cover by removing the screw from the side of the outside firebox wall. Junction box was installed at the factory.

The junction box cover has a factory installed “romex” style strain relief connector. After connecting the wires, route the wire leads through this connector. Refer to the wiring diagram in Figure 3.34.

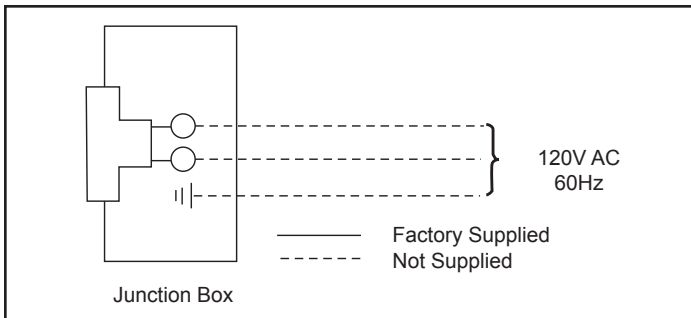


Figure 3.34 - Junction Box Wiring Diagram

I. Command Center Wall Installation

The command center may be mounted on the wall with the use of the SCSWEK Kit (15 ft. cable, junction box, wall cover).

Mount the junction box provided at the desired location on the wall. Do not extend beyond the 15 ft. wire cable provided. If a longer distance is required, the 15 ft. may be extended up to 30 ft. maximum by using two (2) SCSWEK cables plugged together.

Route the wire from junction box to lower control area at bottom of stove. Unplug the 12" cable from the command center. Attach the connector to the pins from wire by pushing in to connector making sure to follow the color code on connector. Plug the 15 ft. extension cable into the 2 ft. cable. Remove command center from the stove and plug the other end of the extension cable into the command center. Snap on wall cover provided and screw to junction box.

J. Wall Switch Installation

The wall switch wire connection is located off the 2 ft. wire harness from the control box to the command center. Figure 3.37. The connection is labeled “Wall Switch”. Unplug the male and female connectors and connect the two (2) low voltage wires provided. Run wire to desired location on wall. Up to 50 ft. of 18 ga. wire may be used if necessary. Attach wires to wall switch. Mount the wall switch in to junction box and screw on cover.



WARNING

Do not connect wall switch to 110 V circuit.



CAUTION

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



WARNING

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

K. Install the Fan - RADVTSC Models

It is easiest to install the fan kit before connecting a gas line.

- Unpack and inspect the blower assembly. Confirm that the fan spins freely.
- Unfasten the two machine bolts attached to the lower back of the stove. Figure 3.36
- Using the two bolts secure the blower assembly to the rear of the stove. Figure 3.36
- Connect the blower wires to the wire control board. See Figure 3.38.

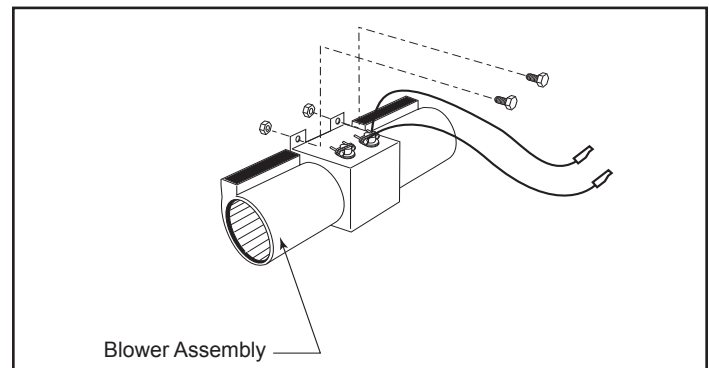


Figure 3.35 - RADVTSC Blower assembly

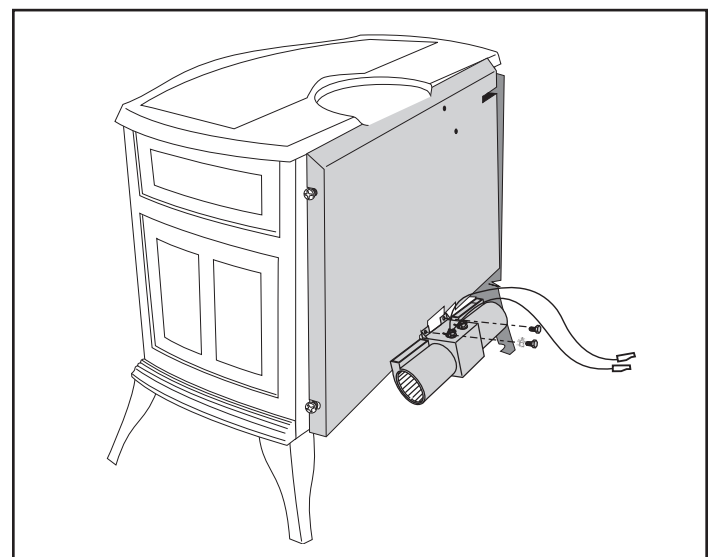


Figure 3.36 - Secure Blower assembly to lower back of the stove.

Connect the Gas Supply Line

Check the Rating Plate attached by a steel cable to the firebox, to confirm that you have the appropriate firebox for the type of fuel to be used. The Radiance may be converted from one gas to another using the appropriate Fuel Conversion Kit listed in this manual under Replacement Parts.

In the U.S.; Gas connection should be made in accordance with current National Fuel Gas Code, ANSI Z223.1/NFPA 54. Since some municipalities have additional local codes, be sure to consult your local authority.

In Canada; consult the local authority and CSA-B149.1 installation code.

NOTE: Always check for gas leaks with a mild soap and water solution. Do not use an open flame for leak testing.

Light the pilot according to the directions in the Operation section of this manual.

Burner Information

The appliance must only use the gas specified on the rating plate, unless converted using a Vermont Castings Fuel Conversion Kit. To convert from Natural Gas to LP use Kit 20012729 or 20012900. To convert from LP to Natural Gas use Kit 20012899 or 20012902.

Conversion instructions are provided with each kit and in this manual.



CAUTION

This appliance should only be connected by a qualified gas technician. Test to confirm manifold pressures as specified below.

The Radiance Heater and its individual shutoff valve must be disconnected from the gas supply piping during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

The Radiance Heater 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 pressure equal to or less than 1/2 psig.

There must be a gas shutoff between the stove and the supply.

In order to connect Natural Gas, use a fitting with 1/2" NPT on the valve side and 1/2" natural gas supply line with an input of 38,000 BTUs at a manifold pressure of 3.5" between minimum inlet supply of 5.5" w.c. and maximum of 14.0" w.c.

In order to connect Propane, use a fitting with 1/2" NPT on the valve side and 1/2" propane gas supply line with an input of 36,000 BTUs at a manifold pressure of 10.0" between a minimum inlet supply of 11.0" w.c. and maximum of 14.0" w.c.

THIS APPLIANCE SHOULD BE CONNECTED TO THE GAS SUPPLY ONLY BY A QUALIFIED GAS SERVICE TECHNICIAN. FOLLOW ALL LOCAL CODES.

THERE MUST BE A GAS SHUT-OFF BETWEEN THE STOVE AND THE SUPPLY.

M. Signature Command Wiring Diagram

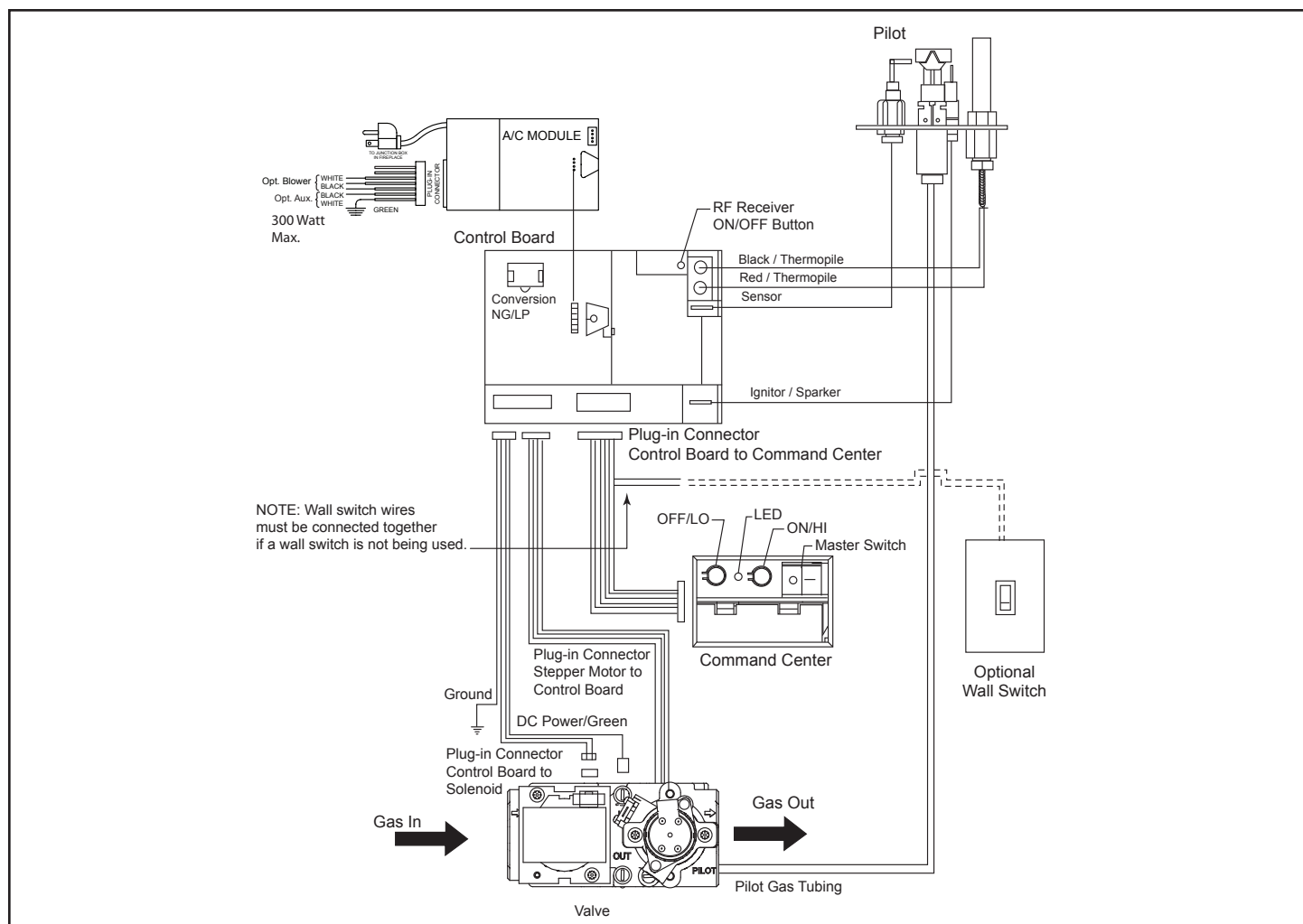


Figure 3.37 - Signature Command Wiring Diagram

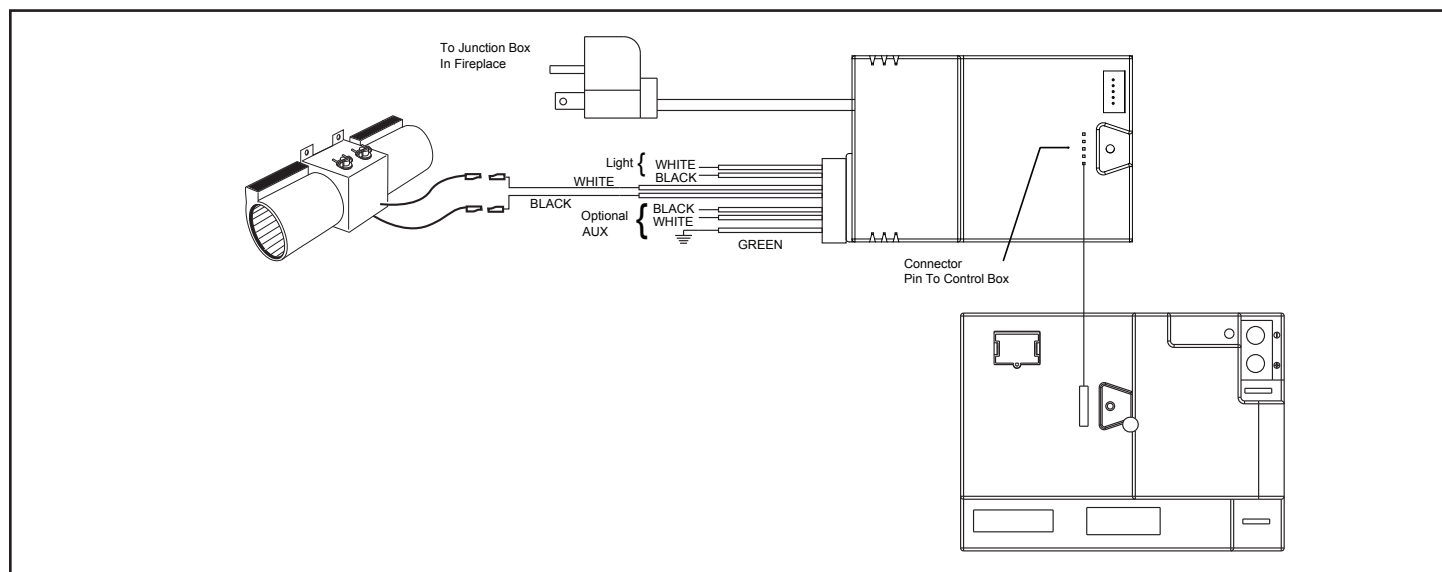


Figure 3.38 - Blower Wiring Diagram

N. Install the Safety Barrier



NOTE: A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at risk individuals. If the barrier becomes damaged, the barrier shall be replaced with the manufacturer's barrier for this appliance.* Any safety screen, guard, or barrier removed for servicing the appliance must be replaced prior to operating the appliance.

* See parts list for model number.

The safety barrier has been designed to work with the doors open or closed.

1. Remove screen from packaging.
2. Place the two bottom hooks over the bottom edge of the stove opening Figure 3.39.
3. Press the screen against the stove snapping the two spring fingers until the screen fits securely in place.

NOTE: It is the responsibility of the installer to ensure the barrier is affixed to the stove at the time of installation.

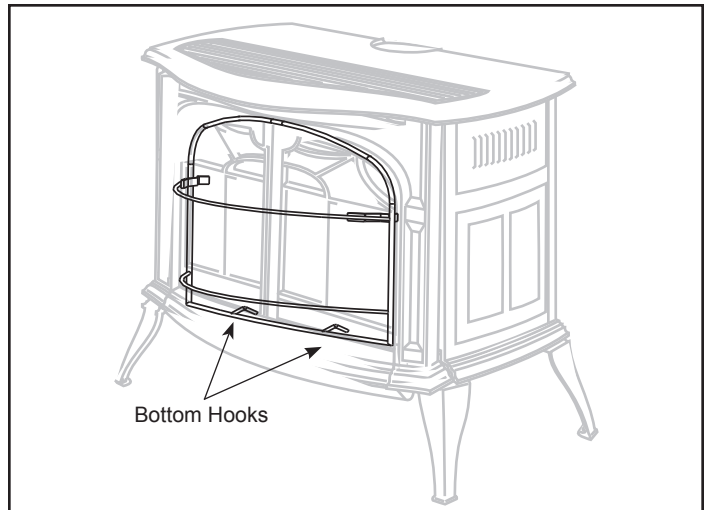


Figure 3.39 - Install safety barrier screen.

WARNING

The safety screen barrier must be installed after the glass front is in place. It is not a replacement for the glass and the unit must not be operated without the glass in place.

O. Install the Mesh and Grille

Place the mesh and grille on the top of the Radiance stove to complete assembly.

**DANGER**



**HOT GLASS WILL
CAUSE BURNS.**

**DO NOT TOUCH GLASS
UNTIL COOLED.**

**NEVER ALLOW CHILDREN
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed.

4 Operating Instructions

A. Operation

The Radiance is operated with the front plate in place with the doors open or closed. To open the front doors, pull forward to separate the magnetic catch. Ensure the safety barrier screen is in place during operation.

B. Your First Fire

Read these instructions carefully and familiarize yourself with the burner controls shown on Page 32 (RADVT models) or page 35 (RADVTSC models). Locate the pilot assembly, Figure 4.2. Follow the lighting instructions in this manual exactly.

During the first fire, it is not unusual to smell some odor associated with new logs, paint and metal being heated. Odors should dissipate within the first eight to ten hours, however, you can open a window to provide fresh air to alleviate the condition.

C. Pilot and Burner Inspection

Each time you light your heater check that the pilot flame and burner flame patterns are as shown in Figure 4.1. If flame patterns are incorrect, turn the heater off. Contact your dealer or a qualified gas technician for assistance. Do not operate the heater until the pilot flame is correct.

Follow regular maintenance procedures as described in the Cleaning and Maintenance section of this manual.

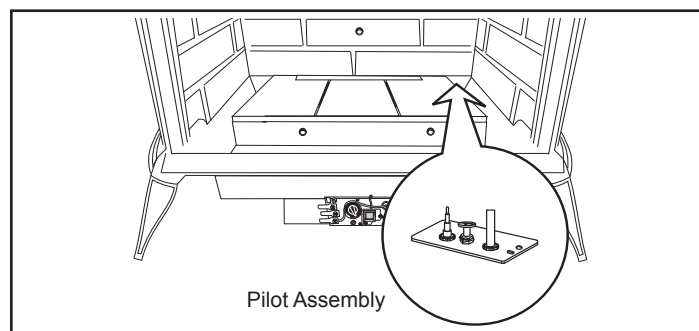


Figure 4.1 - Pilot Assembly location.

D. Flame Characteristics

It is important to periodically perform a visual check of the pilot and the burner flames. Compare them to Figure 4.2. If any of the flames appear abnormal, call a service person.

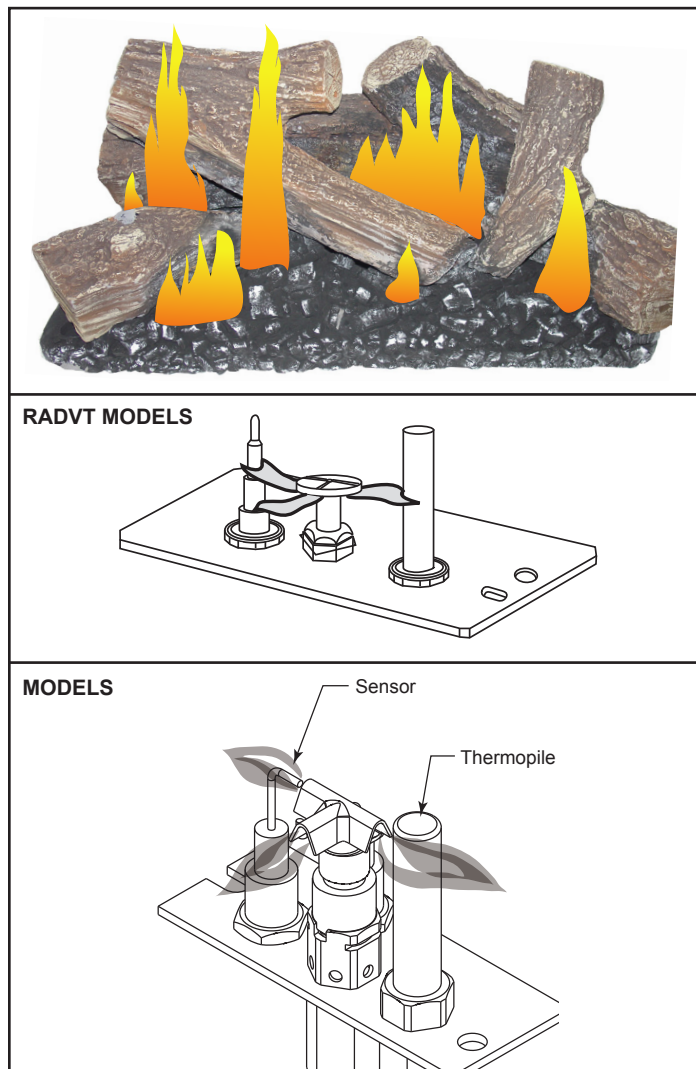


Figure 4.2 - Correct pilot and burner flame appearance.

E. Flame & Temperature Adjustment

For RADVT models which are equipped with HI/LO valves, flame adjustment is accomplished by rotating the HI/LO adjustment knob located near the center of the gas control valve. (Figure 4.3)

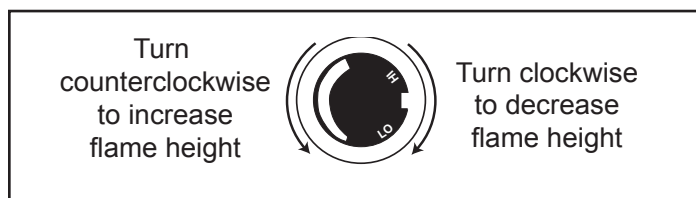


Figure 4.3 - Flame adjustment knob for SIT valve.

F. Lighting and Operating Instructions

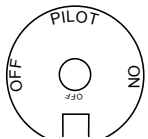
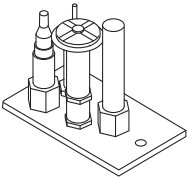
LIGHTING AND OPERATING INSTRUCTIONS FOR RADVT MODELS (MILLIVOLT ONLY)

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 heater has a pilot which must be lit manually. When lighting the pilot follow these instructions exactly.
- B. BEFORE LIGHTING smell all around the heater 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 stove
 - Do not touch any electric switch
 - Do not use any phone in your building
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the Fire Department
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, do not try to repair it, call a qualified service technician. Applying force or any attempted repair may result in a fire or explosion.
- D. Do not use this stove 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.

Lighting Instructions

1. **STOP!** Read the safety information above.
 2. Turn off all electrical power to the stove.
 3. Turn the On/Off switch to "OFF" position, set the remote to OFF or set thermostat to lowest level.
 4. Open control access panel.
 5. Push in gas control knob slightly and turn clockwise  to "OFF".
- 
- SIT NOVA**
6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you do not smell gas, go to the next step.
 7. Remove glass door before lighting pilot. (See Glass Frame Removal section).
 8. Visibly locate pilot by the main burner.
 9. Turn knob on gas control counter-clockwise  to "PILOT".
 10. Push the control knob all the way in and hold. Immediately light the pilot by repeatedly depressing the piezo spark ignitor until a flame appears. Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release knob and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 5 through 8.
- 
- If knob does not pop up when released, stop and immediately call your service technician or gas supplier.
 - If after several tries, the pilot will not stay lit, turn the gas control knob to "OFF" and call your service technician or gas supplier.
11. Replace glass door.
 12. Turn gas control knob to "ON" position.
 13. Turn the On/Off switch to "ON" position or set thermostat to desired setting.
 14. Turn on all electrical power to the stove.

To Turn Off Gas To Heater

1. Turn the On/Off switch to Off position or set the thermostat to lowest setting.
2. Turn off all electric power to the stove if service is to be performed.
3. Open control access panel.
4. Push in gas control knob slightly and turn clockwise  to "OFF". Do not force.
5. Close control access panel.

G. Troubleshooting

Gas Control System (RADVT models)

SIT NOVA 820 Millivolt Valve

NOTE: Before trouble shooting the gas control system, be sure external gas shut off is in the “On” position.

Symptom	Possible Causes	Corrective Action
Spark Ignitor will not light	1. Defective or misaligned electrode at pilot	1. Using a match, light pilot. If pilot lights, turn off pilot and push the red button again. If pilot will not light - check gap at electrode and pilot-should be 1/8” to have a strong spark.
	2. Defective ignitor (push button)	2. With the control knob in the pilot position, push the control knob all the way and hold. Check for spark at electrode and pilot. If no spark to pilot, and electrode wire is properly connected, replace the battery in the ignitor module and try again. Refer to Maintenance Section. If the problem still exists, replace the ignitor module box.
Pilot will not stay lit after carefully following lighting instructions	1. Defective pilot generator (thermocouple), remote wall switch	1. Check pilot flame. Must impinge on thermocouple/thermopile. NOTE: This pilot burner assembly utilizes both a thermocouple and a thermopile. The thermocouple operates the main valve operation (On and Off). Clean and or adjust pilot for maximum flame impingement on thermopile and thermocouple.
	2. Defective automatic valve	2. Turn valve knob to “Pilot”. Maintain flow to pilot; millivolt meter should read greater than 10mV. If the reading is okay and the pilot does not stay on, replace the gas valve. NOTE: An interrupter block (not supplied) must be used to conduct this test.
Pilot burning, no gas to main burner	1. Wall switch or wires defective	1. Check wall switch and wires for proper connections. Jumper wire across terminals at wall switch, if burner comes on, replace defective wall switch.. If okay, jumper wires across wall switch wires at valve, if burner comes on, wires are faulty or connections are bad.
	2. Thermopile may not be generating sufficient millivoltage	• Be sure wire connections form thermopile at gas valve terminals are tight and thermopile is fully inserted into pilot bracket. • One of the wall switch wires may be grounded. Remove wall switch wires form valve terminals if pilot now stays lit, trace wall switch wiring for ground. May be grounded to stove or gas supply. • Check thermopile with millivolt meter. Take reading at thermopile terminals of gas valve. Should read 250-300 millivolts (minimum 150) while holding valve knob depressed in pilot position and wall switch “Off”. Replace faulty thermopile if reading is below specified minimum.
	3. Plugged burner orifice	3. Check burner orifices for debris and remove.
	4. Defective automatic valve operator	4. Turn valve knob to “On”, place wall switch to “On” millivolt meter should read greater than 150mV. If the reading is okay and the burner does not come on, replace the gas valve.
Frequent pilot outage problem	1. Pilot flame may be too low or blowing (high) causing the pilot safety to drop out	1. Clean and/or adjust pilot flame for maximum flame impingement on thermopile and thermocouple.
	2. Possible blockage of the vent terminal	2. Check the vent terminal for blockage (recycling the flue gases)

H. Read Before Lighting

FOR YOUR SAFETY READ BEFORE LIGHTING



WARNING

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

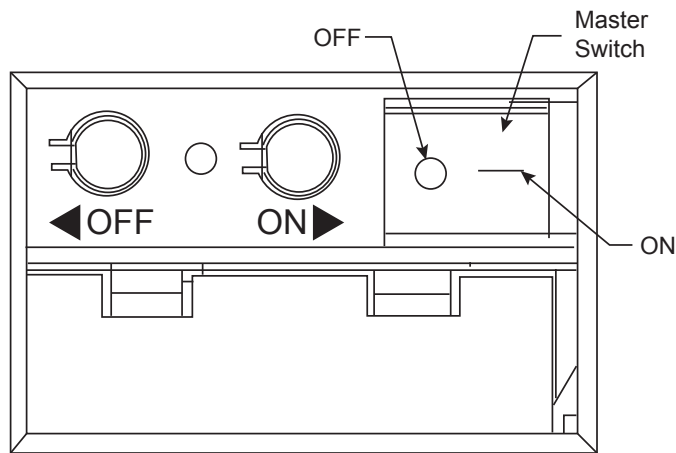
- A.** This appliance is equipped with an ignition device which automatically lights the pilot. Refer to the instructions.
- B.** BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS:

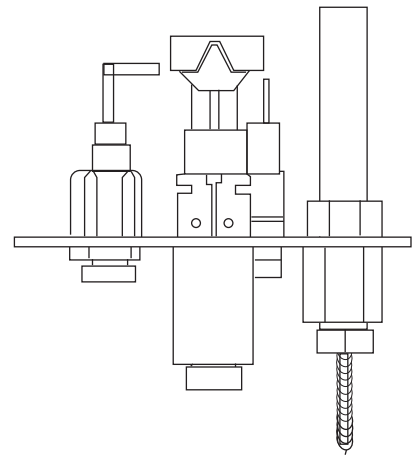
- Do not attempt to light any appliance.
 - Do not touch any electric switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- C.** Use only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

LIGHTING AND OPERATING INSTRUCTIONS FOR RADVTSC MODELS

1. STOP! Read the safety information above.
2. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
3. With 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 on Page 34. If you do not smell gas, go to next step.
4. Press the master switch to the "ON" (-) position. Within eight (8) seconds it will beep once. This indicates the system is ready.
5. Press "ON " button. Sparker will spark and pilot flame will light.
6. Once pilot flame is established, the main burner flame will light automatically.
7. If the pilot will not stay lit after several tries, turn the master switch to "OFF" and call your service technician or gas supplier.



Command Center



TO TURN OFF GAS TO APPLIANCE

1. Turn master switch to "OFF".
2. Turn off all electrical power to the appliance if service is to be performed.

5 Signature Command Operating Instructions

A. Features - Command Center (Figure 5.1)

- Easy Access Function Operation and System Configuration
- Operation Confirmation/Fault Diagnostic Indications (LED/Buzzer)
- ON/OFF/HI/Med/Low Operation
- Optional Wall Mounting

B. Control Board

- Electronic Ignition
- Pilot Lockout safety feature
- Electric Power Regeneration from Thermopile to save battery
- 6-hour Automatic Shut Down Option
- Convenient NG/LP Gas Type Conversion
- Standing Pilot/Intermittent pilot Conversion
- Previous settings Restoration Ability (Memory Off)
- Uninterrupted Operation During Power Outage (Automatic Battery Backup)
- ON/OFF RF Remote Receiver
- Optional Transmitter Learn Capability

C. AC Module (Requires TSFSC Remote)

- Easy Snap-on Design
- Embedded Compact 120 VAC Adapter with Auto Battery Back up Feature
- Remote Controlled 3-step Blower, Lighting, and On/Off Auxiliary AC Outputs

D. Transmitter (TSFSC)

- Three Flame Height Settings
- Low battery Indication for Transmitter
- Child Proof Lock-out
- LCD Backlight
- Security Codes (16)
- Countdown 6 hr Timer
- Standard Thermostatic Control Mode
- Smart Mode® Thermostat (Auto Flame & Blower Modulation)
- Three Brightness Settings for Lights
- Three Speed Control for Blower
- On/Off Auxiliary
- Programmable Timer to turn blower on and off

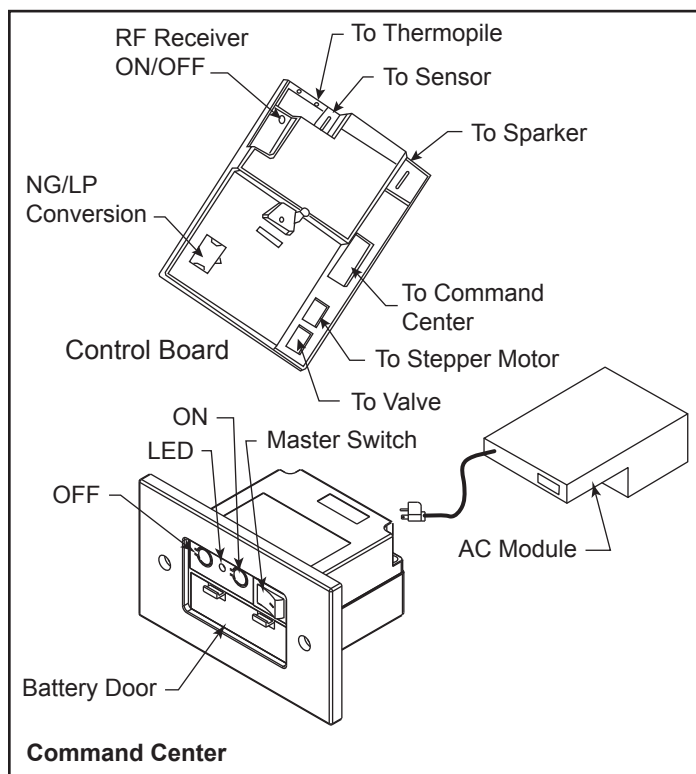


Figure 5.1 - Signature Command System Components

E. Battery installation

The Command Center uses four (4) "AA" batteries as back up for power outages. The system can operate for approximately six (6) months on battery power.

To Install Batteries (not included):

1. Press down the battery door tabs and pull out to remove battery door.
2. Install the batteries as indicated on Command Center.
3. Close battery door by snapping in place.
4. When the four (4) batteries are installed the system will operate without power.
5. The batteries should be replaced when the LED indicates low battery or at least once a year.

F. System Configuration / Setup

All System configuration/setup is done on the Command Center. Choose the mode that best suits your needs.

NOTE: When using On/Off wall switch, the switch must be in the ON position to perform all configuration set ups at the command center.

Cold Climate Option

The Signature Command System is designed to operate in either Standing Pilot or Intermittent Pilot mode.

- The Standing Pilot Mode is best for colder climates when the pilot must remain on continuously to prevent condensation and ensure reliable operation.
- The Intermittent Pilot Mode is ideal for maximum efficiency, igniting the pilot only when needed to start your stove, lowering fuel consumption and reducing your carbon footprint.

Either mode benefits from the instantaneous battery back-up, so you never have to worry about a power outage.

NOTE: The Signature Command System comes standard in the Intermittent Pilot mode, so you must follow the instructions below to switch to Standing Pilot Mode if needed.

Intermittent/Standing Pilot Setup (Default intermittent)

Holding the ON button on the Command Center while turning on the master switch will toggle between standing pilot and intermittent pilot.

After the above operation, one beep (for standing pilot) or two beeps (for intermittent pilot) will be given as confirmation.

Six-hour Safety Shutdown Option (Default ON)

The system comes preset from the factory with a six (6) hour shutdown from its last command of operation. This is done to prevent the stove from continuing to operate if unattended. You may disable this feature if you wish.

NOTE: By disabling this feature, your stove may continue to operate unattended.

When the master switch is in the ON position ("–"), pressing the ON button and the OFF button on the Command Center simultaneously will toggle between enabling and disabling the six-hour shutdown option.

After the above operation, one beep (for enabling the six-hour shutdown option) or two beeps (for disabling the six-hour shutdown option) will be given as confirmation.

Remote Transmitter Learn Function (Default OFF)

The RF receiver button located on the Control Board must be in the on position before the learn function can begin. Use paper clip to depress button. One beep for RF receiver ON or two beeps for RF receiver OFF will be given as confirmation.

After the RF receiver is on, holding the OFF button on the Command Center while turning on the master switch will activate the learn function for the transmitter.

After the above operation, two beeps will be given and the green LED on the Command Center will flash for 10 seconds.

During the 10 seconds, press the OFF button on a transmitter to learn. Another two beeps will be given to confirm a successful learning. Refer to transmitter instructions for remote operations.

Shutting Off the Standing Pilot (Temporary Shut Off)

To shut off the standing pilot for service or summer shut down, press and hold the ON button on the Command Center for 3 seconds when the master switch is in the ON position ("–") and the main burner is off.

Note: Pilot will resume the next time system is turned on.

Key Combinations for System Settings

NOTE: When On/Off wall switch is used, it must be in the On position to perform all system setups.

Function	Operation	Default Setting
Intermittent / Standing Pilot Setup	Hold the ON ▲ button while turning on the master switch (Beep once for standing pilot, twice for intermittent pilot)	Intermittent Pilot
Standing Pilot Temperature Shutoff	Hold the ON ▲ button 3 seconds (when the master switch on the main burner is off)	
RF Remote Receiver On/Off	Push the RF receiver On/Off button on the control board. Beep once for ON and beep twice for OFF	RF OFF
Learn Remote Transmitter	Hold the OFF ▼ button while turning on the master switch (Beep twice then press any hand-held remote button)	
6-Hour Safety Shutdown Setup	Press the ON ▲ button and OFF ▼ button simultaneously (Beep once for ON, twice for OFF)	ON

G. Operating Instructions

Turning on the stove

Turn on the master switch and wait for a beep. Press the ON button on the Command Center or turn on wall switch. Pilot will light and burner will come on High setting or last memory setting (See Turning Off Stove below). For memory feature.

Pilot Safety Lockout Function

If the pilot doesn't light after sparking for 30 seconds, pilot trial lockout happens. The LED on the Command Center flashes Green once every 2 seconds, until reset.

If the pilot flame is lost during normal operation, the system will try three (3) times to relight after three (3) failures, flame loss lockout happens. The LED on the Command Center flashes Red-Green once every 2 seconds, until reset.

Turning the master switch on the Command Center to the off position, then ON again will reset the system.

Flame Height Control

Press the ON button (on the Command Center) once to turn on the main burner with maximum flame height.

Press the OFF button to decrease flame height. The first two presses will decrease the flame height to medium and low. The third press on OFF will turn off the main burner. In standing pilot configuration, the pilot will stay; in intermittent pilot configuration, the pilot will be shut off.

Function	Operation
Power Up	Flip the master switch to the ON ("I") position to power up the system
Stove ON	Press the ON s button on the Command Center or turn on wall switch to turn the stove on
Stove OFF	Flip the master switch to the OFF ("O") position OR press the OFF t button 3 times OR for Memory Off, hold the OFF t button 3 seconds, or turn off wall switch
Flame Height Up	Press the ON s button once to turn on the stove with maximum flame height
Flame Height Down	Press the OFF t button to lower the flame height to Medium and Low

Turning the Stove Off

There are three ways to turn the stove off.

1. Flip the master switch to the off ("O") position. (This will turn the entire system OFF.)
2. Press the OFF button to Medium, Low, then Off.
3. Hold the OFF button anytime for three seconds or by turning off the wall switch. These two commands of OFF are (Memory Off) the system will remember all last settings before turning off. The next time the stove is turned on, all settings will resume. To reset, change to the desired settings and shut off by using the Memory Off commands and the system will be reset to those new settings.

Command Center Operations

The following functions are available on the Command Center.

Self Diagnostics Chart

The Command Center has a self-diagnostic LED enabling you to troubleshoot problems and potentially avoid a service call. Please refer to the charts below for indicator reference.

Fault	LED Indication
Conversion Cover Missing	One RED every 7 seconds
Spark Fail	Two RED every 7 seconds
Flame Error/Sensor Signal	Three RED every 7 seconds
Pilot Lockout - Trial	Four RED every 7 seconds
Pilot Lockout - Flame Loss	Five RED every 7 seconds
Low Battery	One RED every 10 seconds
No or Low Thermopile Power	Two RED, every 10 seconds
Vaccum Switch Failed (Power Vent Only)	One RED every 2 seconds until reset
Learning	GREEN flashes, every 1 second (for 10 seconds)
AC Power On	GREEN solid

NOTE: Due to the sensitive temperature monitoring components in the transmitter, it is necessary to allow the transmitter to stabilize to room temperature before accurate room temperatures are displayed. If the transmitter is activated from a severe cold condition, allow 15 minutes for accurate temperature readings to appear on the LCD display.

 WARNING
Turn appliance OFF (at the Master Switch) if you are away from your house for an extended period of time. Never leave anything on top of the surface of the transmitter.

Function Areas of the LCD Display

Figure 59 shows the display of the TSFSC LCD.

Information Bar

The information bar shows the room temperature, the "sending signal" radio icon, the low battery indication icon, the child-proof icon, and the flame icon. This area doesn't have touch buttons.

- The room temperature will always be shown after power-up. It displays the room temperature from 40 °F to 99 °F. "Lo" and "Hi" will be displayed when the room temperature is lower than 40°F or higher than 99°F, respectively.

- The radio icon will be shown when the transmitter is sending a signal.
- The low battery indication icon will be shown when the battery voltage is low.
- The child-proof icon will be shown when the child-proof mode is activated.
- The flame icon indicates the current flame height - Off, Low, Medium and High

Touch Area

The touch area contains all touch buttons to control the transmitter. It consists of two categories: menus and adjustment arrows. The blue LED backlight lights up for 8 seconds when any of the touch buttons is pressed.

- The menus include TIMER, THERMO, LIGHT, FAN and AUX.
- The adjustment arrows include ON/up and OFF/down. Their default function is to adjust the flame height. When a button from the menu is pressed, the ON/up and OFF/down buttons will temporarily become adjustment controls for the selected item. When the adjustment is done, the ON/up and OFF/down buttons go back to flame height controller again.

Logo Bar

The Logo Bar contains the brand logo: Signature Command System.

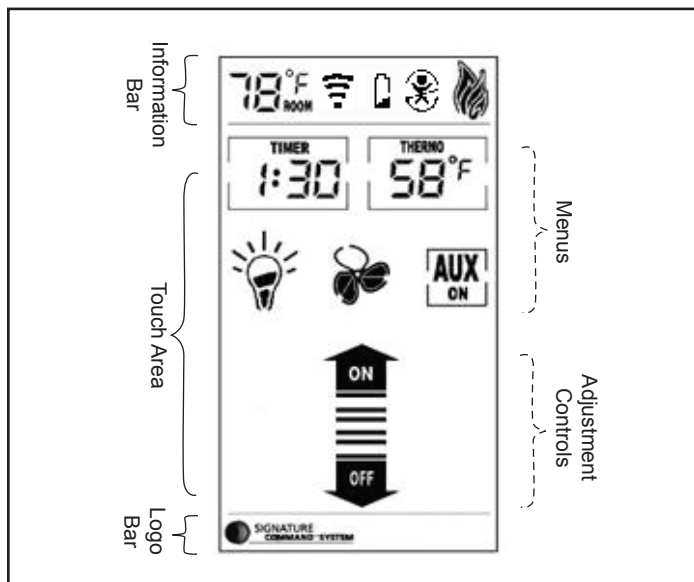


Figure 5.2 - Functional areas of LCD Display

Initialization and Setting up / Installing Batteries (Figure 5.3)

The remote transmitter has two battery compartments, one on each end of the transmitter. **Always change all four (4) batteries at the same time.**

To install batteries,

1. Press down the battery door tab and pull out to remove the battery door.
2. Install the batteries as indicated inside the battery compartments.
3. Close the battery door by snapping in place.
4. When all **four** batteries are installed, the transmitter will initialize for 5 seconds and then is ready for use.
5. The batteries should be replaced every 12 months or when the low battery icon indicator is displayed.

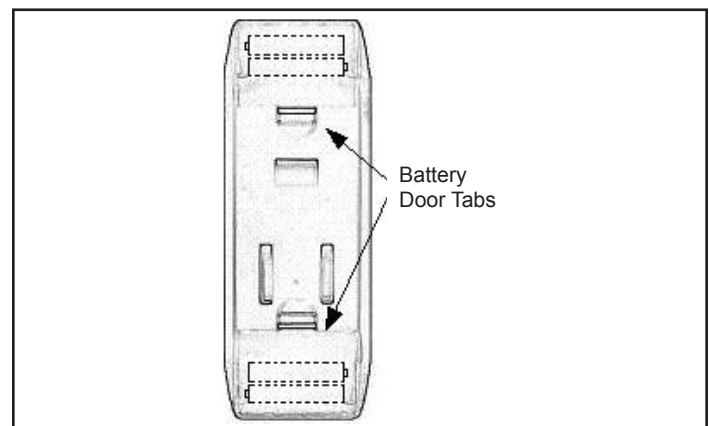


Figure 5.3 - Replacing the battery

Changing Temperature Unit

When batteries are installed in the transmitter, all available icons on the LCD will be turned on then be cleared.

The LCD will display temperature unit: °F. Use ON Δ to toggle the units between °F and °C within the first 5 seconds.

The transmitter enters Manual Mode

The LCD displays room temperature with the chosen unit.

Setting Privacy Code on Transmitter (Figure 5.4)

The remote transmitter privacy code is preset in factory. In the event of activation or interference from other nearby transmissions, change the code using the following procedures (learn function must be performed after changing the code):

- Press the ON/arrow button and the TIMER button at the same time to enter privacy code setup mode.
- The setup display is shown in the figure. The four digits on the top stand for the privacy code (as the actual DIP switches on Ambient's previous remotes). The default values of the four digits will be all "1" (ON).
- The first digit will be flashing upon entering the setup mode. Push the ON button to toggle its value between "0" (OFF) and "1"(ON), and push the "OFF" button to jump to the next digit. The next digit will then start flashing and the first one stops flashing. Set up the four digits to your choice.
- After setting up all the four digits, push "OFF" to finish the process and return to the previous mode.
- The Signature Command control board then needs to re-learn the new setting.

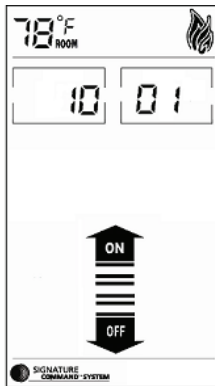


Figure 5.4

Performing Learn Function

- The RF receiver button on the control board in the stove must be in the ON position before the learn function can begin. With the Command Center master switch in the ON position, use paper clip to depress the recessed button on Control Board, one beep for RF receiver ON or two beeps for RF receiver OFF. Figure 5.5
- Holding the OFF button on the Command Center while turning on the master switch will activate the learn function for the transmitter. Figure 64
- After the above operation, two beeps will be given and the green LED on the Command Center will flash for 10 seconds.
- During the 10 seconds, press the OFF button on the transmitter to learn. Another two beeps will be given to confirm a successful learning. Figure 5.6

Resetting the Transmitter

If the transmitter is not working properly, reinstall the batteries to reset the transmitter.

- Pull out at least one of the batteries.
- Press any key on the screen to discharge.
- Wait for 10 seconds and reinstall the batteries.

Pushing and holding any key for more than 10 seconds until the display refreshes will also reset the transmitter.

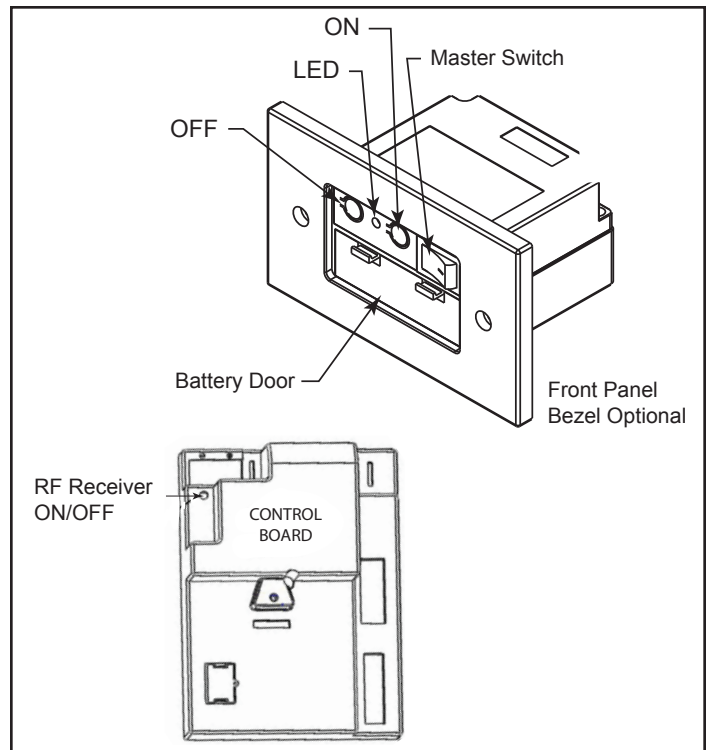


Figure 5.5 - Command center and control board



WARNING

Do not use two (2) or more remote control systems in the same area with the same privacy code setting, as they will communicate with each other. This may cause the appliances to malfunction.

Functions and Operations

General

The TSFSC Remote Control has four (4) operating modes: Manual, Timer, Thermostatic and Smart Mode® thermostat. The control system can be set to temperature range between 45° F and 90° F. The blower speed and flame height can be adjusted in the manual, timer and thermostatic mode. The Smart Mode® thermostat will automatically adjust flame height and blower speed according to the difference between Set and Room temperatures.

The transmitter will operate the remote receiver from 1 foot to a maximum of 30 feet. The distance is reduced when batteries are low.

Manual Mode (Figure 5.6)

In this mode, the TIMER button and the THERMO button will only display "TIMER" and "THERMO", respectively without showing the time and the SET temperature. Pressing the ON/up and OFF/down buttons will change the flame height if none of the menu buttons (TIMER, THERMO, LIGHT, FAN, AUX) are pressed and flashing.

- Press the ON/up button to turn on the stove. The flame icon on the LCD displays High.

- Press the OFF/down button to decrease the flame height and turn off the stove. When the OFF/down button is pressed for three times, the flame icon changes from High to Medium, to Low, then to Off.
- If the OFF button is held for more than 3 seconds at any flame height, the stove will be turned off and the flame icon disappears.
- Sliding up and down on the arrow buttons can also turn on or turn off the stove.

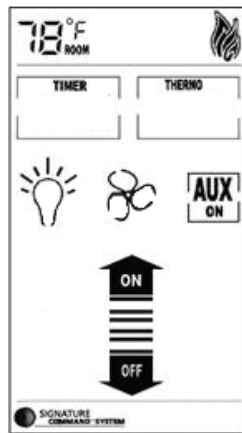


Figure 5.6

- If the stove is shut off using the above methods in 3 and 4, all the settings will be remembered and will be resumed next time the stove is turned on (Memory Off).

Timer Mode (Figure 5.7)

Press the TIMER button to enter timer mode. The stove will stay on for a period of time as specified by the timer and then be shut off by the transmitter when the timer counts down to zero.

- When the TIMER button is pressed, the Set Time appears in the frame of the button and flashes.
- Use ON/up and OFF/down to increase or decrease the Set Time in 15 min. increments, between 0:00 to 6:00. Sliding up and down on the arrow buttons will increase or decrease the Set Time in 1 hour increments.
- Push the TIMER button again to confirm the Set Time, the transmitter sends an ON signal to turn on the stove.
- The flashing stops and the ON/up and OFF/down buttons become flame height controller again. The flame height will then stay as set up by the ON/up and OFF/down buttons.
- The TIMER button can be used when the transmitter is in Manual Mode or in Thermostat Mode. In both modes, the stove will be shut down completely when the timer counts down to zero.

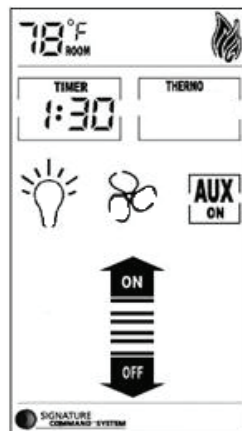


Figure 5.7

To exit Timer Mode, you can do one of the following:

- Push and hold the TIMER button for 3 seconds
- Use the OFF/down buttons to decrease the Set Time to zero.
- Slide down on the arrow buttons to exit TIMER mode and shut off the stove.

Thermostat Mode (Figure 5.8)

NOTE: The Command Center buttons will disable when thermostat is being used.

Press the THERMO button to set the transmitter in thermostat mode. The transmitter will automatically turn on the stove when the room temperature is below the set temperature and turn off the appliance when the room temperature is above the set temperature within one degree.

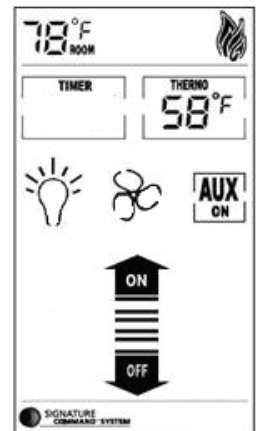


Figure 5.8

1. When the THERMO button is pressed, the Set temperature appears in the frame of the button and flashes.
2. Use ON/up and OFF/down to increase or decrease the Set temperature in 1 degree increments, between 45 degrees and 90 degrees. Slide up and down on the arrow buttons will increase or decrease the Set Temperature in 10 degrees increments.
3. Press the THERMO button again to confirm the Set Temperature. The transmitter will send out an On signal or an Off signal depending on the relationship between the Set temperature and the Room temperature.
4. The flashing stops and the ON/up and OFF/down buttons become flame height controller again. The flame height will then stay as set up by the ON/up and OFF/down buttons.
5. To exit Thermostat Mode:
 - a. Push and hold the THERMO buttons for 3 seconds
 - or
 - b. Slide down on the arrow buttons to exit Thermostat mode and shut off the stove.

Smart Mode® Thermostat Option for Thermostat Mode (Figure 5.9)

Press and hold the THERMO button and the ON/UP button at the same time for 3 seconds to toggle between Smart Mode® thermostat and the regular Thermostat Mode. The icon "Smart Mode" will appear under the Set Temperature. The transmitter will automatically adjust the flame height according to the difference between the set temperature and the room temperature. There is no manual flame height adjustment. The fan speed will also automatically adjust if turned on.

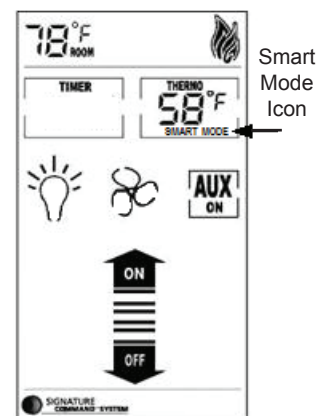


Figure 5.9

NOTE: there will a 10 second delay for the flame adjustment when the stove is turned on.

- When Set Temp. is 3° F or higher than Room Temp., flame height will be on High.
- When Set Temp. is 2° F higher than Room Temp., flame height will be on Medium.
- When Set Temp. is 1° F higher than Room Temp., flame height will be on Low.
- When Set Temp. is equal to Room Temp., flame height does not change (stays on low).
- When Set Temp. is lower than Room Temp., the stove will be shut off.
- When Set Temp. is 1° F higher than Room Temp., again the flame height will be on Low.
- The fan speed follows the flame height, if the fan is turned on.

To exit Smart Mode® thermostat and shut off the stove;

- Push and hold the THERMO buttons for 3 seconds, Or
- Press the OFF button, Or
- Slide down on the arrow buttons.

To shut off the Smart Mode® thermostat option and return to regular thermostat mode, press and hold the THERMO button and the ON/UP button at the same time for 3 seconds again.

Blower Speed Control (Figure 5.10)

NOTE: Blower will only work with flame on.

The blower speed control function is used to adjust the speed of the blower connected to the Signature Command System. There are four speed levels, Off, Low, Medium, High.

- Press the FAN button to enter the blower speed control mode. The fan icon will start flashing.
- Press the ON/up and OFF/down button to increase/decrease the blower speed.
- Press the fan button again to confirm the speed setting. If the stove is on, the blower speed will take effect right away; if the stove is off, the receiver will remember this setting and the blower is still off (see blower On Delay and Off Delay in the next section).
- After the signal is sent, the ON/up and OFF/down buttons become flame height controller again.
- When the fan button is flashing, slide up and down on the arrow buttons will turn the blower speed to High or Off directly without pressing the fan button again to confirm.

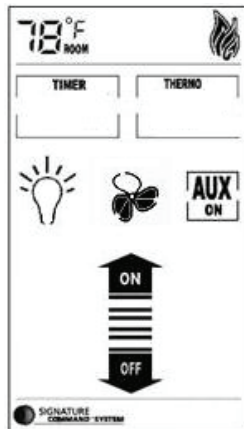


Figure 5.10

- If the blower is turned on using the FAN button, the blower speed will adjust automatically when using Smart Mode® thermostat (See Smart Mode® thermostat section).

Blower On Delay Time and Off Delay Time Setup (Figure 5.11)

- Hold the FAN button for 3 seconds until two numbers appear on the LCD screen. The left number is blower On Delay and the right number is blower Off Delay Time.
- When the first number is flashing, use the ON/up button to set the desired On Delay Time from 0 to 15 min.
- Press the OFF/down button to jump to the Off Delay Time setup.
- When the second number is flashing, use the ON/up button again to set the desired Off Delay Time from 0 to 15 min.

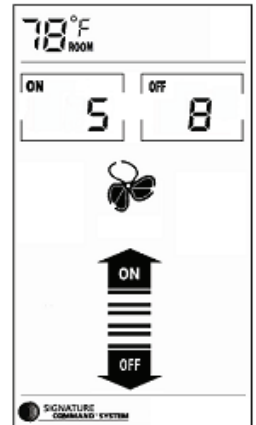


Figure 5.11

- Press the OFF/down button again to finish the setup and the new settings will be transmitted to the receiver.
- The default settings are 5 minutes for the On Delay Time and 8 minutes for the Off Delay Time, as shown.

Setting up Blank Screen or Constant Display in Idle (Figure 5.12)

There is an option to set up how the LCD displays and functions when the transmitter is in idle. There are two choices:

- A) Mode. When the transmitter is in idle, the icons in the “touch area” (timer, thermostat, blower, light and AUX) will disappear, as shown in the figure on the left. When any of the touch buttons is pressed, those icons will appear and are ready to operate (default).
- B) Mode. The transmitter always displays all available icons showing current status of timer, thermostat, blower, light and AUX as shown in the figure on the right.

Press TIMER and THERMO buttons at the same time for 3 seconds to toggle between A) and B).

- When the current setting is A), touch any place in the touch area to bring up the icons then press TIMER button and THERMO button at the same time for 3 seconds. The backlight will flash once to indicate that the setting has changed to B).
- When the current setting is B), pressing TIMER button and THERMO button at the same time for 3 seconds will switch to A) Mode. The touch area icons will disappear.

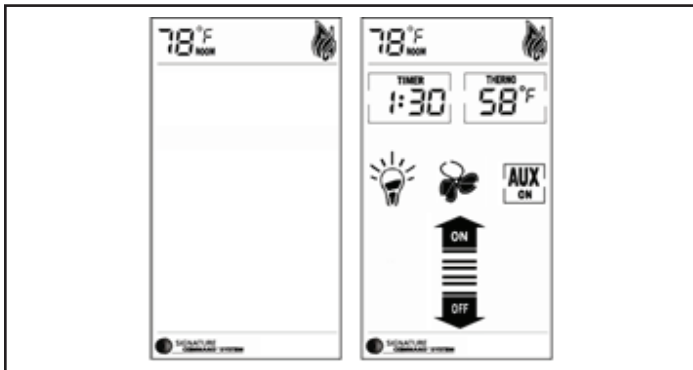


Figure 5.12 71

H. Safety Features

Low Battery Detection

When low battery condition occurs, the transmitter will turn off the stove.



Battery voltage is checked every one minute. When the battery voltage is low, the LCD displays a low battery icon which will exist in all modes.

- The transmitter will not operate with low battery voltage. Change the batteries before the batteries become too weak for normal operations.

Power On Initialization

After the power-on initialization, the transmitter sends a signal to turn off the stove.

Thermal Shutdown

When the ambient temperature is more than 99°F, the transmitter will turn off the stove.

- The LCD will display “HI”.
- The Transmitter will not function until the room temperature has dropped below 99 degree Fahrenheit.

Low Temperature Condition

When the ambient temperature is less than 40 degrees Fahrenheit, the LCD will display “LO”, and NO SIGNAL will be sent to turn on the appliance.

All functions still remain the same for both Manual Mode and Thermostat Mode



Child-proof Protection

The child-proof icon will be shown when the child-proof mode is activated by pressing the ON button and the OFF button at the same time for three seconds.



- Enter childproof mode by pressing and holding both the ON button and the OFF button simultaneously for 3 seconds. The Childproof indicator will be shown on the LCD.
- Deactivate childproof mode by pressing and holding the ON button and the OFF button simultaneously for 3 seconds again. The Childproof indicator disappears on the LCD.
- The transmitter cannot be operated in childproof mode.

Using the Mounting Base (Figure 5.13)

The transmitter comes with a mounting base which allows you to hang the transmitter on the wall.

Secure the mounting base on the wall with supplied screws. For best viewing angle, make it the same height as your eyes.

Hang the transmitter on the hook of the mounting base, then push down so the transmitter is flush to the mounting base.

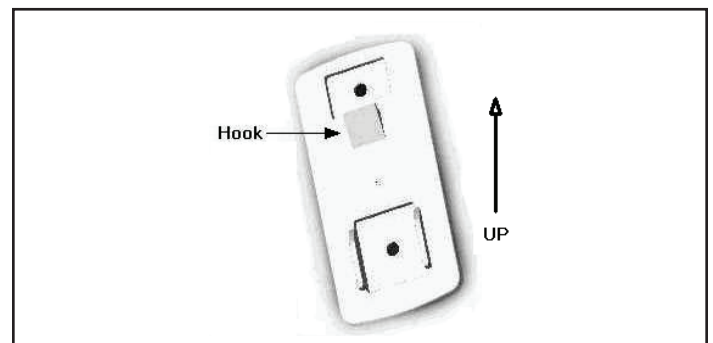


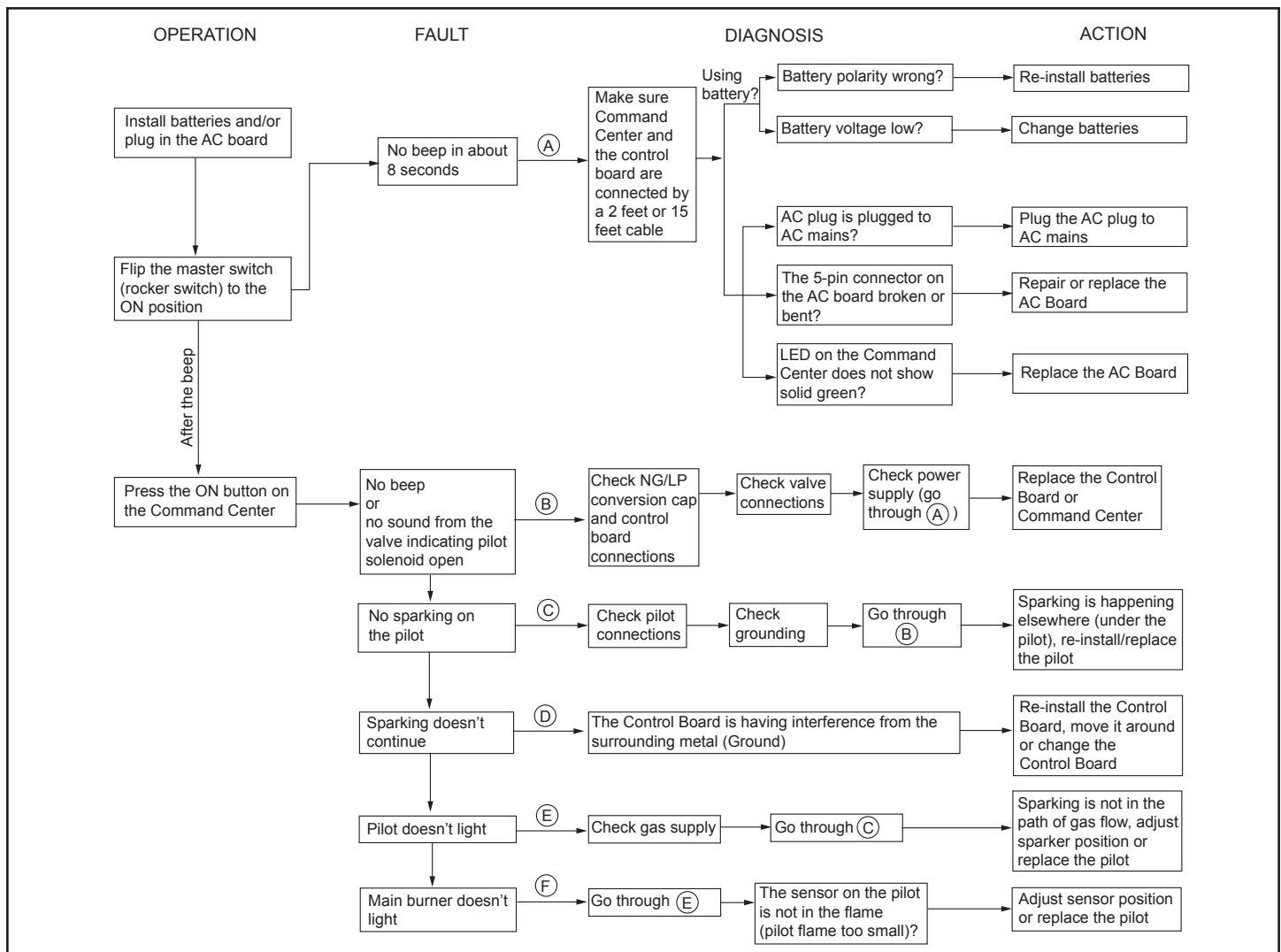
Figure 5.13 - Using the Mounting Base

6 Troubleshooting

A. Signature Command System - Troubleshooting the Transmitter

Symptom	Causes	Action
Battery icon on LCD on transmitter	Low Battery	Replace batteries. Change batteries every 6 months.
LCD display is blank	Low Battery	Check battery installation or replace batteries
LCD display shows "funny" display	Low Battery	Reset the transmitter (see "Resetting the Transmitter" setting)
Appliance does not come on	The transmitter did not match with the receiver.	Make sure the transmitter has learned to the receiver.
	Transmitter measures temperature exceeding 99°F and shows "HI" on LCD.	Move transmitter to a cooler place and wait until temperature drops below 99°F.
	Distance between the transmitter and receiver is more than 30 feet	Make sure the opening distance is less than 30 feet.
Blower is not on after the stove is turned on	Blower setting is off.	Press FAN key to select fan speed desired.
	Blower delay setting is set too high.	Press and hold FAN key to set desired ON/ OFF delays. This is done in minutes.

B. General Troubleshooting



C. Burner, Pilot and Control Compartment



WARNING

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

Keep the control compartment, stones and burner areas surrounding the stones clean by vacuuming or brushing at least twice a year. Make sure the burner porting, pilot air opening and burner air opening are free of obstructions at all times.

Pilot Flame

The flames from the pilot should be visually checked as soon as the heater is installed and periodically during normal operation. The pilot flame must always be present when the stove is in operation, Figure 6.1. The pilot flame has three distinct flames, one engulfing the sensor, one engulfing the thermopile, and the other reaching to the main burner.

Burner

Inspect area around the injector. Remove any lint or foreign material with a brush or vacuum.

Burner Flame

The flames from the burner should be visually checked as soon as the heater is installed and periodically during normal operation. In normal operation, at full rate, and after operating for about 15 to 30 minutes, the flame should be yellow.

If the flame is blue and candle-like in appearance, adjust glass or add more glass over ports.

NOTE: The type of installation, vent system configuration, and wind effects may cause the flame patterns to vary.

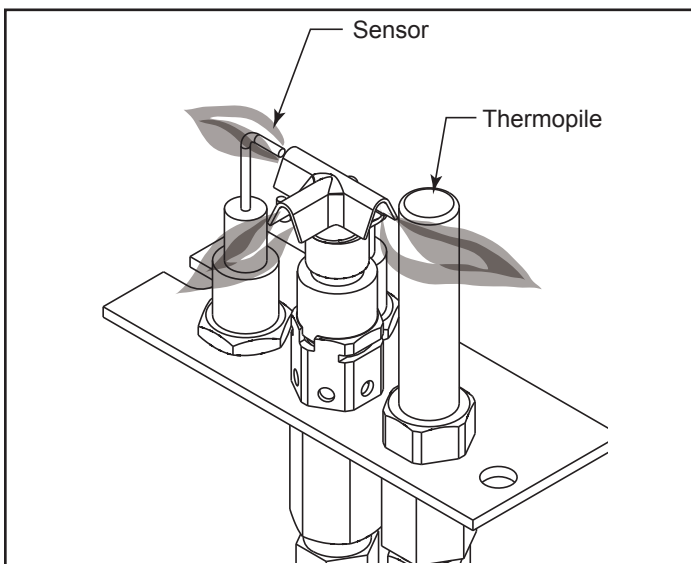


Figure 6.1 - Pilot Flame

7 Fuel Conversion



WARNING

This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, a fire, explosion or production of carbon monoxide may result causing property damage, personal injury or loss of life. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer's instructions supplied with the kit.



CAUTION

The gas supply shall be shut off prior to disconnecting the electrical power, before proceeding with the conversion (Figure 7.1).

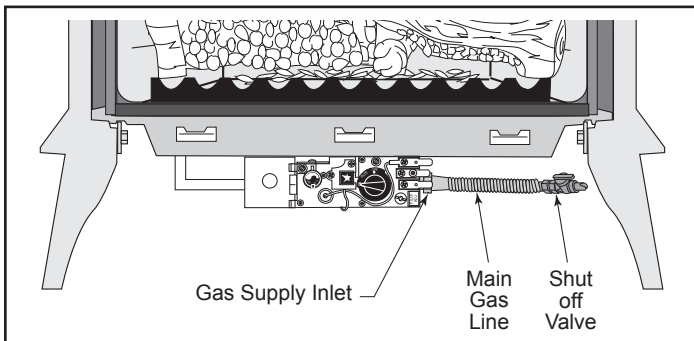


Figure 7.1 - Attach the gas line to the right side of the valve.

A. Conversion Precautions

Before proceeding, turn control knob on valve to OFF and turn gas supply OFF. Turn OFF any electricity that may be going to the appliance.

B. Conversion Procedure

- Remove stove front. Lift stove front up and then swing bottom out and away to disengage from the stove body.
- Undo the right and left latches at the top of the glass frame.
- Pull the top edge of the glass and frame assembly away from the firebox face. Place the assembly out of the way on a flat, padded surface such as a counter protected by a towel.
- Remove the logset from the firebox.

RADVT Series Models (Millivolt)

- Turn control knob to the OFF position, and shut off the gas supply to the valve.
- Allow the valve to cool to room temperature.
- Remove the black protection cap by hand. (Figure 7.2)

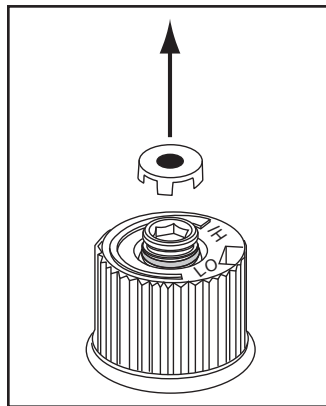


Figure 7.2

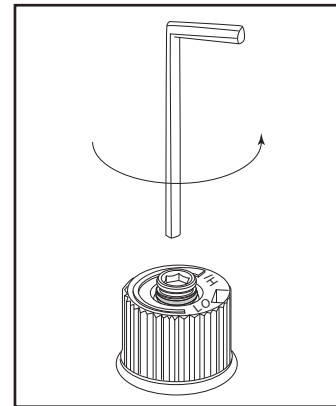


Figure 7.3

- Insert a 5/32" or 4 mm Allen wrench into the hexagonal keyway of the screw (Figure 7.3), rotate it counterclockwise until it is free and extract it.
- Check that the screw is clean and if necessary remove dirt. Flip the screw. (Figure 7.4)
- Using the Allen wrench as shown in Figure 7.5, rotate the screw clockwise and tighten until snug.

NOTE: Do not over-tighten the screw. Recommended to grip the wrench by the short side.

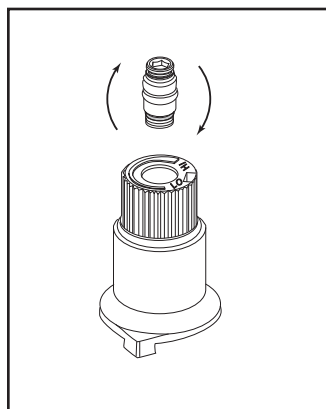


Figure 7.4

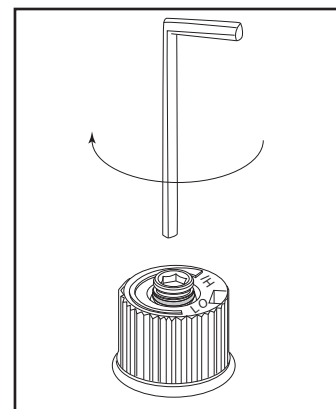


Figure 7.5

8. Verify that if the conversion is from NG to LP, the screw must be reassembled with the red o-ring visible. (Figure 7.6)
9. Replace the black protection cap.

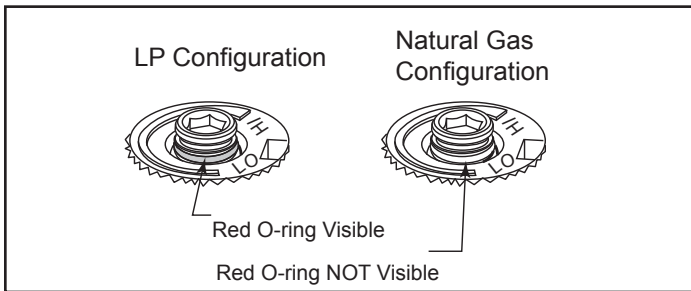


Figure 7.6

NOTE: Check that also the pilot and main burner injectors are appropriate for the gas type.

Pilot Orifice Conversion

- Locate pilot. (Figure 7.7)
- Replace pilot orifice.
- Remove pilot hood by lifting up. (Figure 7.8) Do not remove the snap ring to remove the pilot hood.

NOTE: It is not necessary to remove the pilot tube for conversion.

- Remove pilot orifice with Allen wrench. (Figure 7.9)
- Install the conversion orifice.

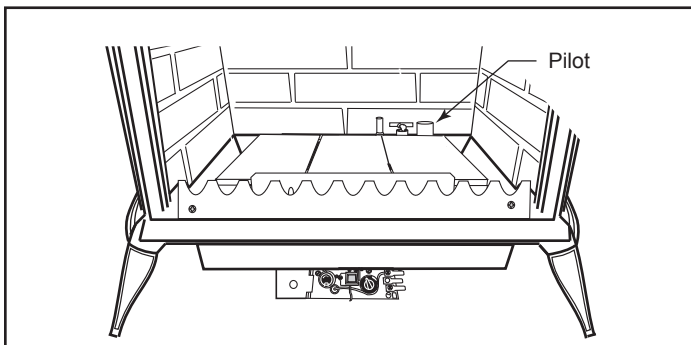


Figure 7.7 - Locate pilot.

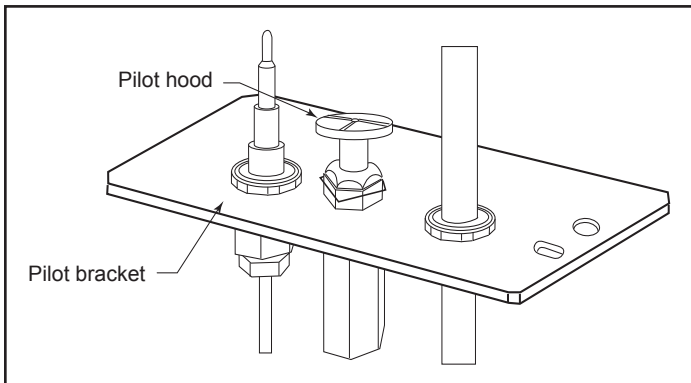


Figure 7.8 - Remove pilot hood.

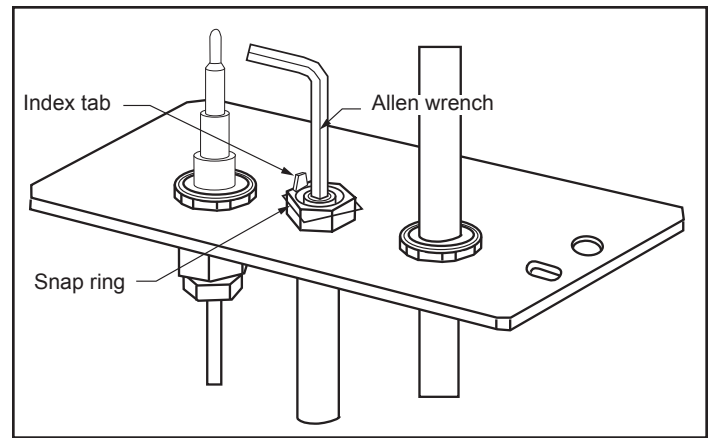


Figure 7.9 - Remove pilot orifice.

- Reinstall pilot hood. Be sure to align hood with index tab.

Burner Orifice Conversion

- Remove three (3) 3/8" nuts on bottom side of burner pan. (Figure 7.10)
- Carefully remove ember bed by tilting the right side up and lifting out toward the right side of the unit. (Figure 7.11)

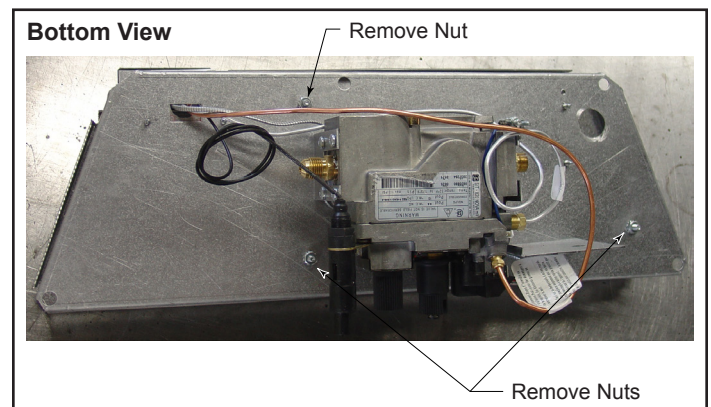


Figure 7.10 - Remove three (3) nuts securing ember bed in place.

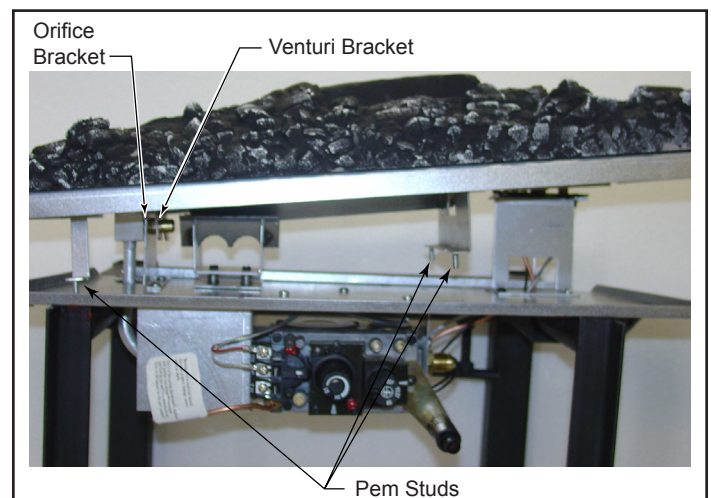


Figure 7.11 - Tilt ember bed slightly to correctly place on venturi and air shutter.

- Remove injector orifice from left burner bracket with a 1/2" wrench. Use a back up wrench to prevent damage to the manifold. (Figure 7.12)
- Install conversion orifice. (Refer to Table 2)
- The air shutter is factory set according to Table 3 and should not need adjustment. The air shutter opening may be verified by measuring as shown in Figure 7.13.

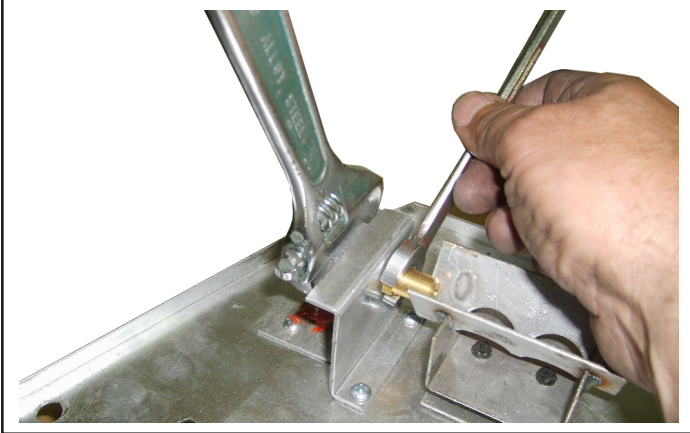


Figure 7.12 - Use two wrenches to avoid damage to manifold.

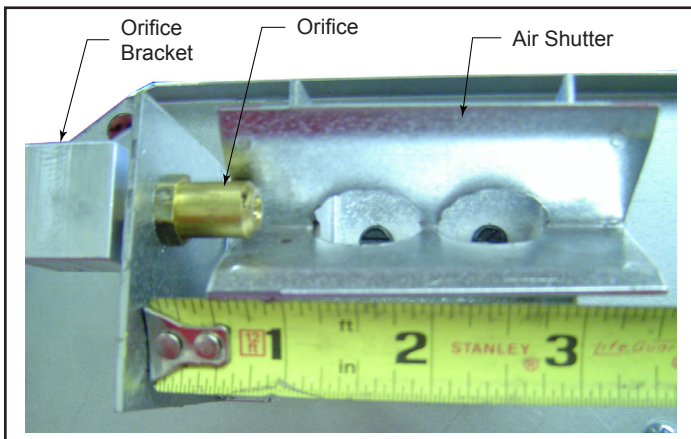


Figure 7.13 - The air shutter setting is 1/2" (13 mm) from the orifice bracket to the edge of the air shutter.

RADVTSC Series Models

- Using Torx T20 driver or slotted screwdriver, remove and discard the regulator and rubber gasket in the face of the valve. Figure 7.14.
- Install the new regulator with rubber gasket from the conversion kit. Make sure the gasket is seated properly. Figure 7.14.
- Convert the control box by using a small flat head screwdriver. Lift the conversion cap from the control box and replace with new one marked LP. Be sure to place correctly. Figure 7.15

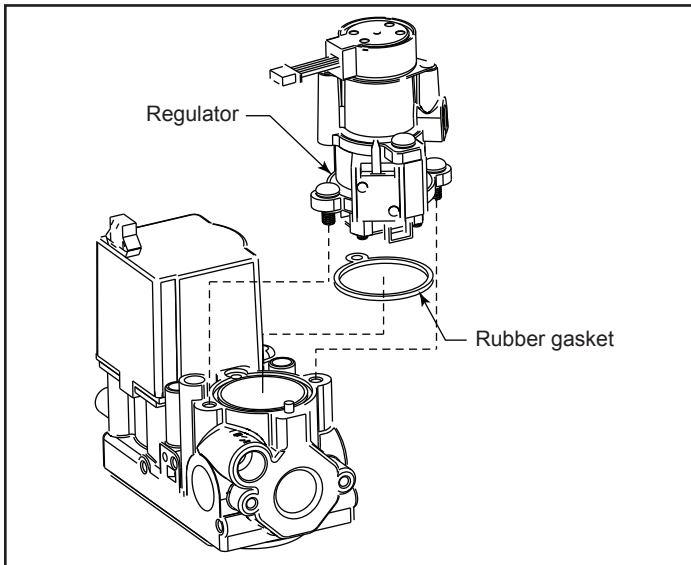


Figure 7.14 - Valve Regulator

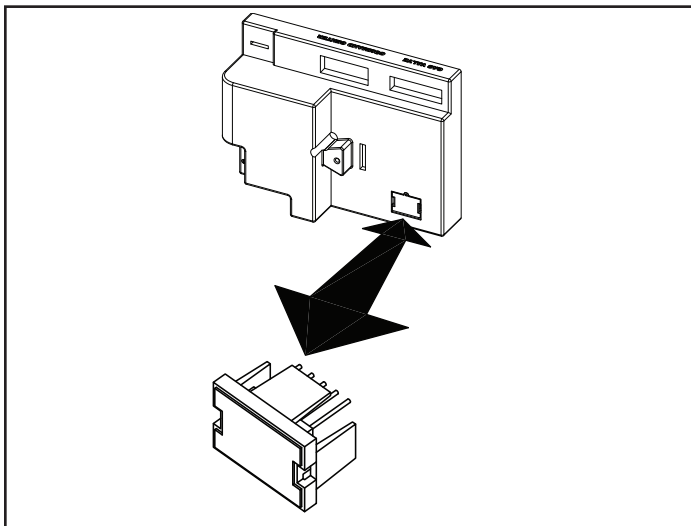


Figure 7.15 - Convert Control Box

All Models

Replace burner making sure venturi on bottom of ember bed aligns with orifice and is seated properly on air shutter assembly. Make sure burner is slid into place at a slight angle and opposite to how it was removed. When burner is slid into place, the three (3) pem studs should slide down through clearance holes into the bottom of the control panel.

Thread and tighten 3/8" nuts back onto pem studs on underneath side of control panel, reversing Step 1 shown in Figure 7.11.

Refer to Log Installation section of this manual to reinstall logs.

Place conversion label supplied with kit on rating plate.

Replace glass and stove front.

Restore gas to system and relight appliance according to Lighting Instructions on Page 32 (RADVT models) or Page 35 (RADVTSC models).

Leak check the system using a gas leak detector solution.

Relight the main burner in both the "HI" and "LO" positions to verify proper burner ignition and operation.

Conversion is complete.

C. Injector Sizes

Table 2. Injector Orifice Size Matrix					
Conversion to LP					
				Input (BTU/h)	
Model	Kit #	Orifice	Part #	Minimum	Maximum
RADVT	20012729	#51	20008557	25,000	36,000
RADVTSC	4604-015				
Conversion to Natural Gas					
				Input (BTU/h)	
Model	Kit #	Orifice	Part #	Minimum	Maximum
RADVT	20012899	#33 / 0.113"	20012554	25,000	38,000
RADVTSC	4604-014				

Table 3. Air Shutter Adjustment			
Model	Natural Gas	Natural Gas High Altitude	LP
RADVT/ RADVTSC	1/2" Open	1/2" Open	1/2" Open

*LP models do not need re-orificed up to 4500' (1,370 m) above sea level.

8 Cleaning and Maintenance

Your Radiance Gas Heater will provide years of service with minimal upkeep. The following procedures will help ensure that your stove continues to function properly.

A. Annual System Inspection

Have the entire heater and venting system inspected annually by a qualified gas technician. Replace any worn or broken parts.

B. Logset & Burner / Cleaning and Inspection

Cleanliness is critical to the proper function of the heater. The logset and burner must all be kept free of dust and unobstructed by debris. Inspect these areas before each use and clean as necessary.

1. Turn the burner OFF and let the heater cool completely before cleaning.
2. Remove the safety barrier and lift the stove front up and then swing the bottom out to disengage it from the heater shell. (Figure 90)
3. Carefully remove the glass and frame assembly and place it out of the way on a flat, padded surface such as a counter protected by a towel.
4. Carefully inspect the Logs for damage. Contact your local dealer if any damage is evident.
5. Use a soft bristled brush to sweep dust or debris from the Logs, Pilot and Burner. Use care as the logs are fragile and susceptible to damage.
6. Replace the glass panel and frame assembly.
7. Replace the stove front and safety barrier.

C. Care of Cast Iron

An occasional dusting with a dry rag will help keep the painted surfaces looking new. Use high-temperature stove paints, available through your local dealer, to touch-up areas as needed. Clean areas to be painted with a wire brush and be sure to cover the logs, burner and valve assembly, glass and frame assembly. Apply the paint sparingly; two light coats of paint will give better results than a single heavy coat.

Clean porcelain enamel surfaces with a soft, damp cloth. Do not use abrasive cleaning agents. If necessary, use only a cleaning agent formulated especially for use on porcelain enamel surfaces.

D. Cleaning the Glass

It will be necessary to clean the glass periodically. During start-up, condensation, which is normal, forms on the inside of the glass and causes lint, dust and other airborne particles to cling to the glass surface. Also initial paint curing may deposit a slight film on the glass. It is therefore recommended that the glass be cleaned two or three times with a non-ammonia household cleaner and warm water (we recommend gas stove glass cleaner). After that the glass should be cleaned two or three times during each heating season depending on the circumstances present.

NOTE: Clean glass after first two weeks of operation.

WARNING

Allow the glass to cool completely before attempting to clean.



DANGER



**HOT GLASS WILL
CAUSE BURNS.**

**DO NOT TOUCH GLASS
UNTIL COOLED.**

**NEVER ALLOW CHILDREN
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed.



CAUTION

Turn the pilot off before painting. Allow the heater to cool completely before painting.

E. Glass Replacement

Replace glass only with HHT approved parts. Refer to Replacement Parts section for correct glass. Refer to Figures 8.1 and 8.2 and previous instructions for removal of the damaged glass frame.

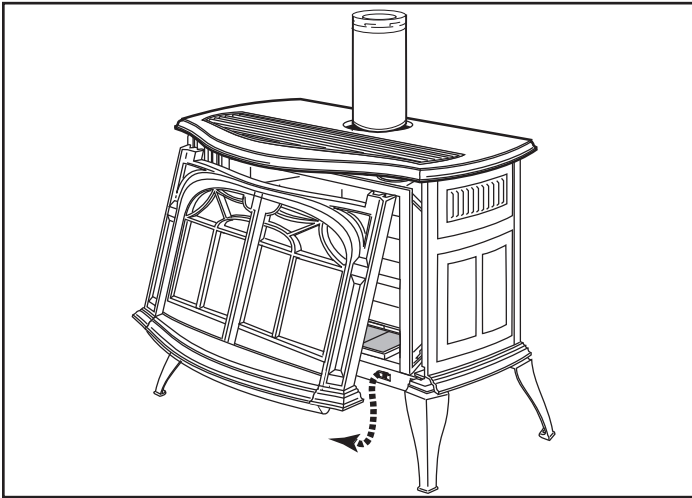


Figure 8.1 - Remove the stove front.



Figure 8.2 - Release the latches to remove the glass frame.

F. Gasket Replacement

The Radiance Gas Heater uses a 'tadpole' type gasket to seal between the glass panel and the frame. In time, this gasket can become brittle and compressed and should be replaced. New gasket is available from your dealer.

Shut off the gas supply and allow the stove to cool. Wear safety goggles and a dust mask.

1. Remove the Front, Glass Frame and Glass Panel. (Figures 89 & 90) Remove the old gasket. Use a razor blade to separate the glass and gasket from the frame, and to clean the glass of any remaining cement or bits of gasket. Use a cold chisel if necessary.
2. Determine the correct length of gasket by laying it out around the edge of the glass. Allow an extra 1 - 2" (25-50mm). Mark the spot to be cut. Use a utility knife.

1. Starting on a long edge, remove about 6" of the protective paper strip and apply the flat adhesive face of the gasket around the outside-facing edge of the panel. Continue around the panel, applying about 6" at a time and being careful to not stretch the material. Do not overlap the gasket ends. (Figure 8.3)
2. Apply a thin bead of high temperature silicone rubber sealant along the inside corner of the glass frame, all around the perimeter. Place the flat gasketed side of the glass panel back into the steel frame. Pinch the rounded inside-facing gasket material to bulk it up.
3. Replace the glass frame and front panel as previously described.

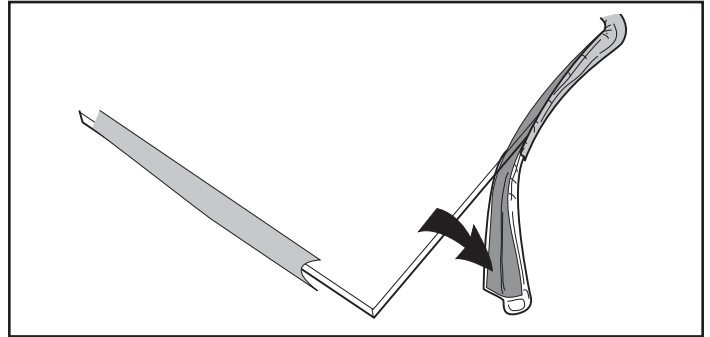


Figure 8.3 - Wrap the gasket material around the outside edge of the glass.

G. Inspect the Vent System Annually

Have the vent system inspected annually by a qualified technician. Shut off the main gas supply before inspecting the system. Both the inner exhaust pipe and the outer combustion supply pipe must be checked to confirm that they are unblocked and in good condition.

H. Check the Gas Flame Regularly

To ensure that the stove is operating properly, check the flames periodically to confirm they match Figure 8.4. The flames will be blue during the first 15-20 minutes of operation, and will gradually turn to yellow after that.

Do not use your stove if the flame pattern differs from that shown here. Contact your Vermont Castings dealer or a qualified technician for help.



Figure 8.4 - Proper flame appearance

9 Wiring Diagrams

RADVT Models

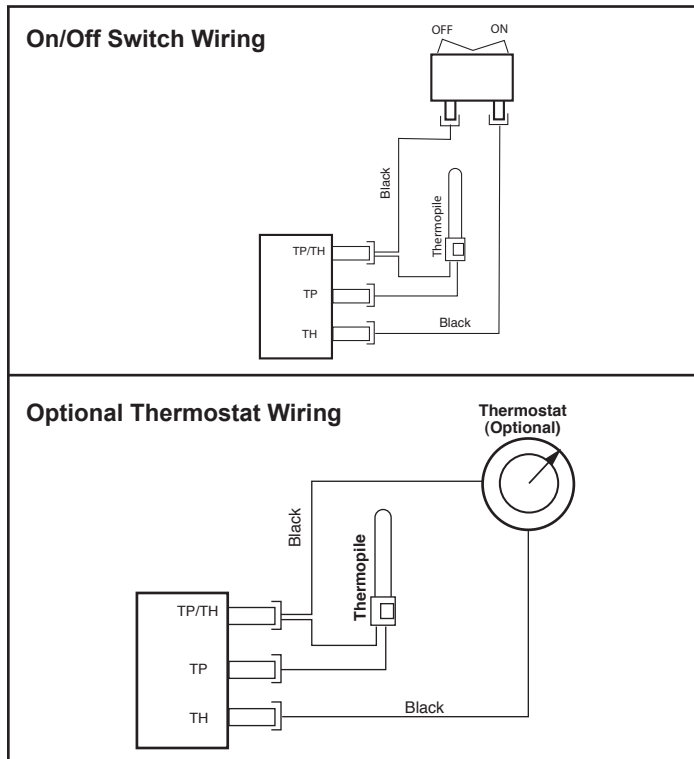
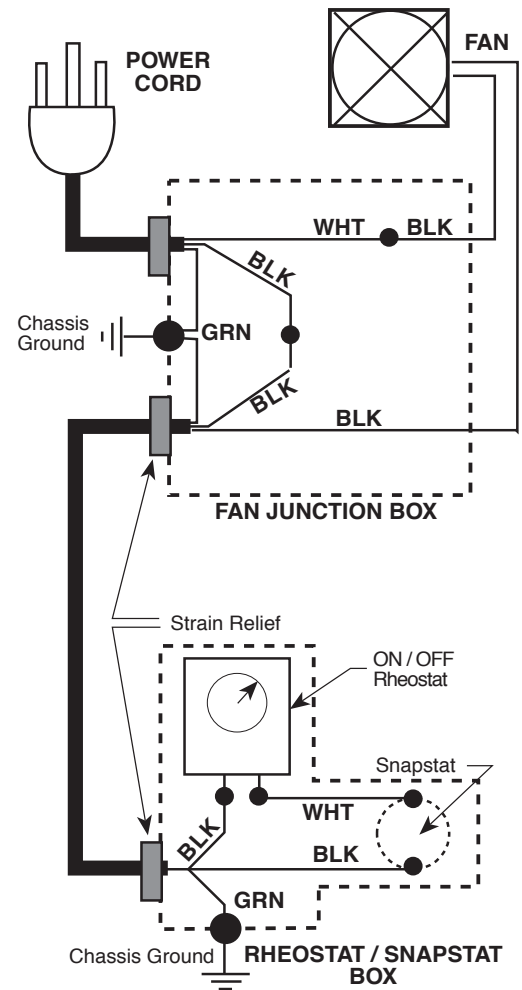


Figure 9.1 - On/off switch and optional thermostat circuit.

NOTE: If any of the original wire, as supplied with the appliance, must be replaced, it must be replaced with type SF-2, 200°C wire or its equivalent.

Optional Blower Kit Wiring Diagram



Optional Blower Kit Schematic Diagram

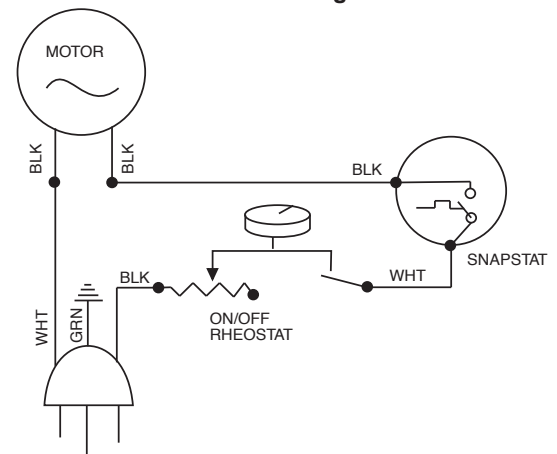


Figure 9.2 - Fan circuit.

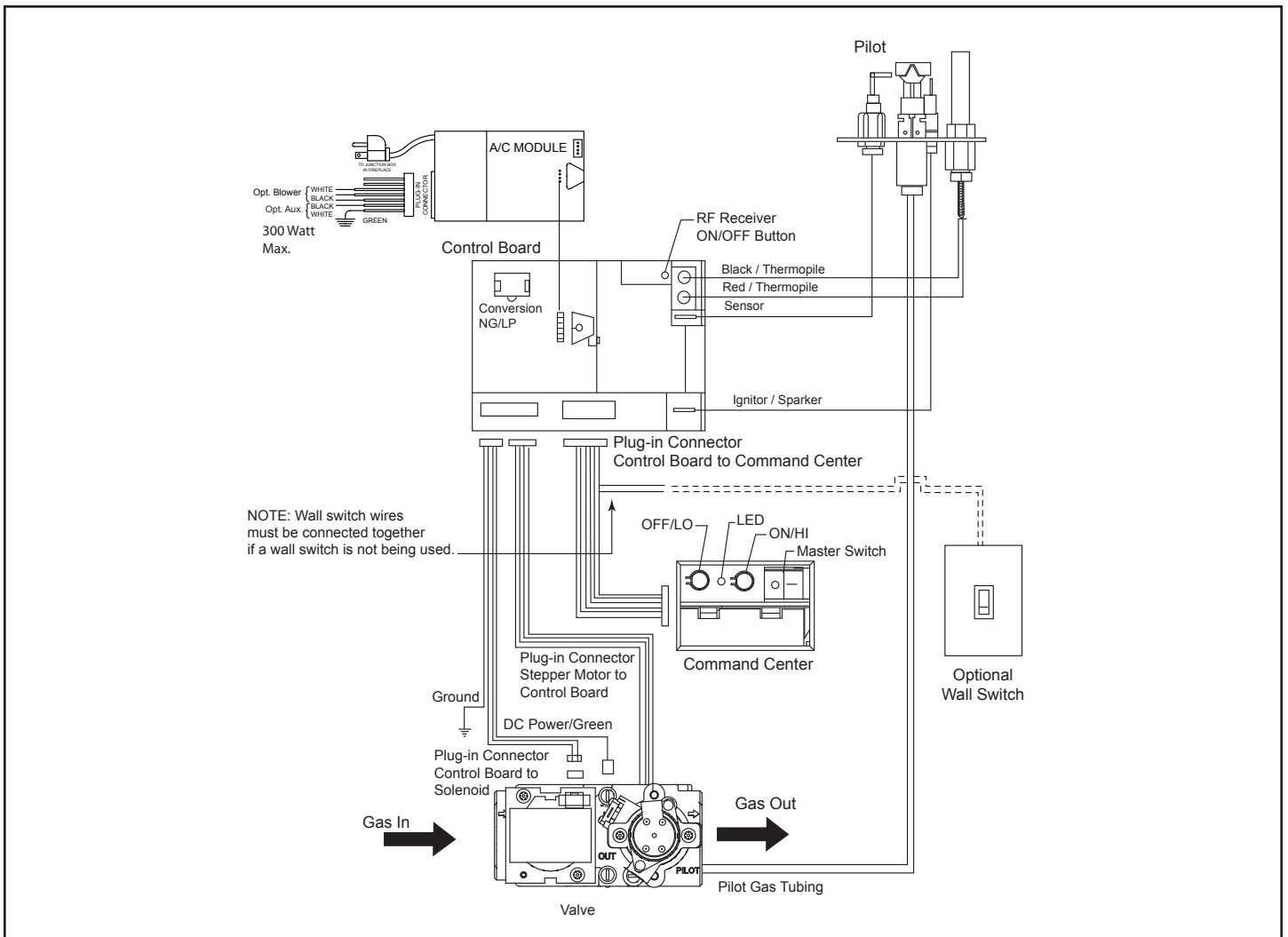


Figure 9.3 - Signature Command Wiring Diagram

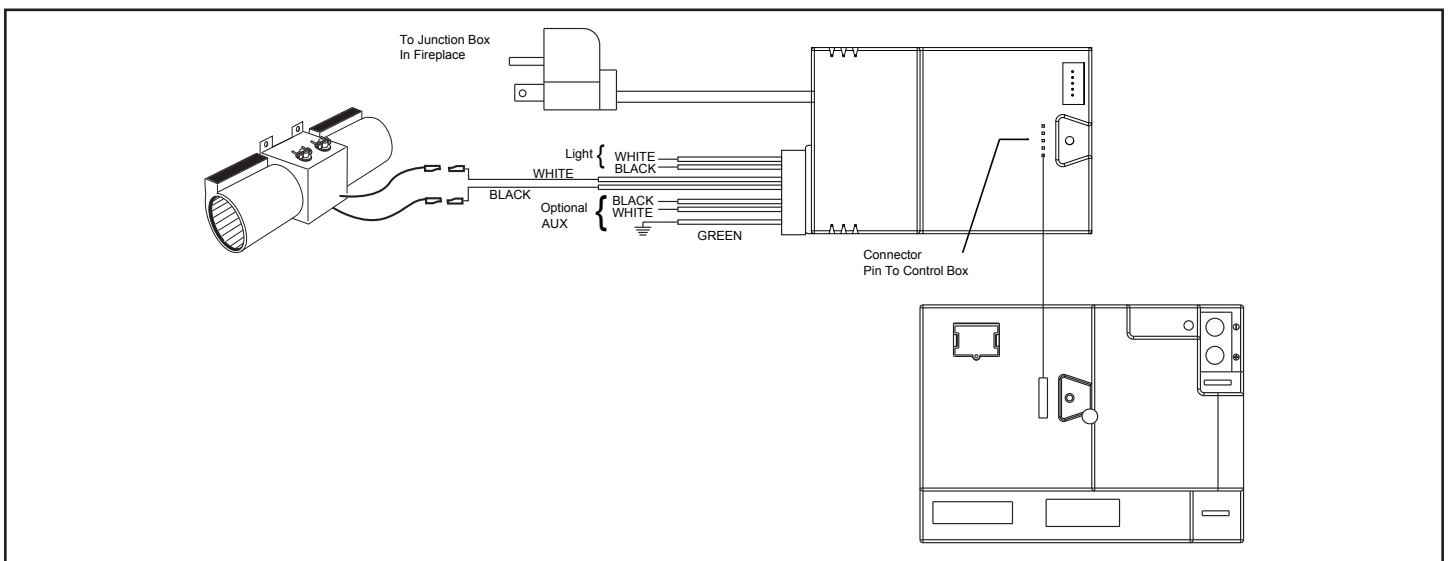


Figure 9.4 - Blower Wiring Diagram

VERMONT CASTINGS

Service Parts

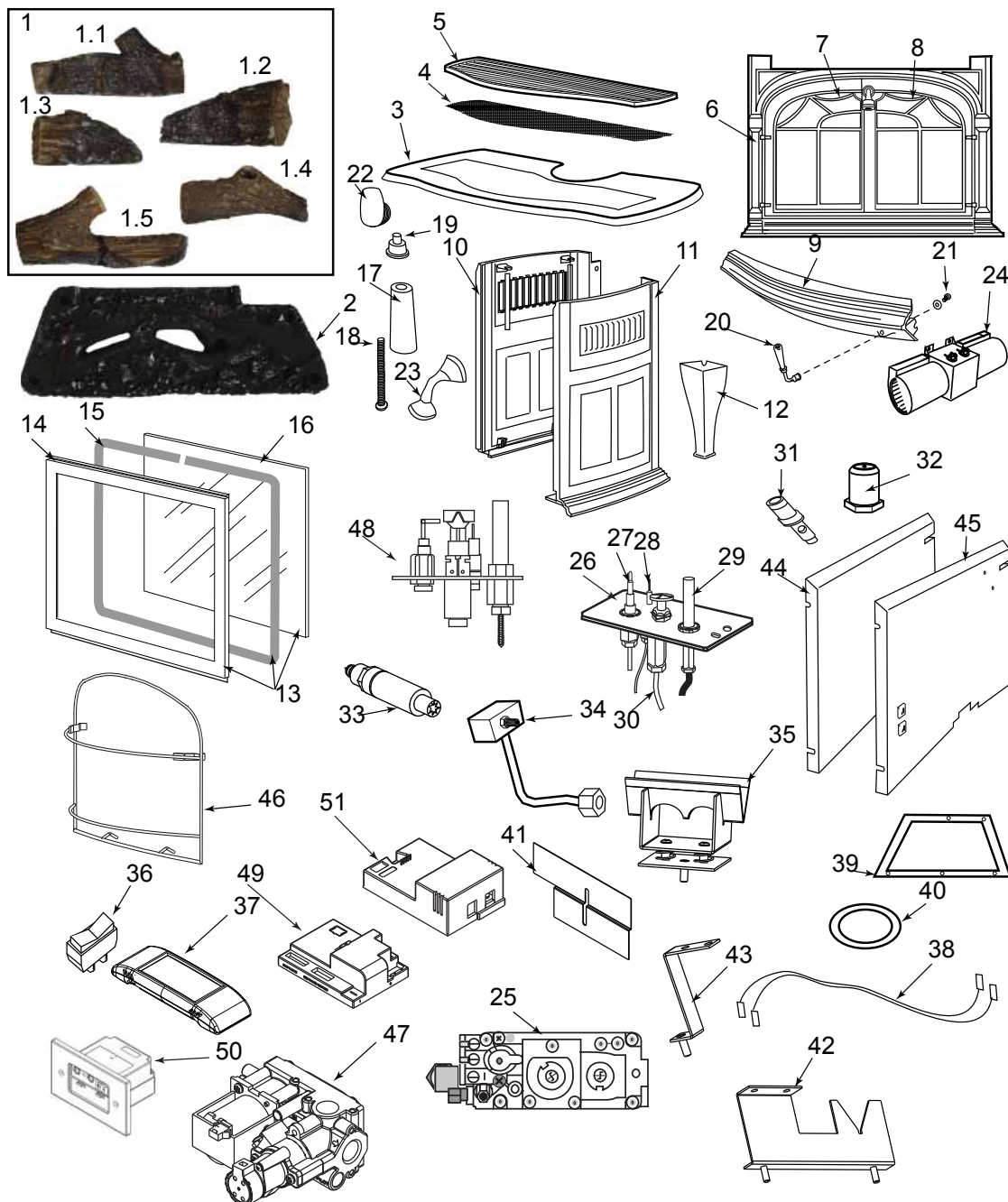
Direct Vent Gas Heater

RADIANCE

Beginning Manufacturing Date: NA
Ending Manufacturing Date: Active

RADVTCBSB (Classic Black)
RADVTBDSB (Bordeaux)
RADVTBMSB (Majolica Brown)
RADVTBSSB (Biscuit)

RADVTSCCB (Classic Black)
RADVTSCBD (Bordeaux)
RADVTSCBM (Majolica Brown)
RADVTSCBS (Biscuit)



Part number list on following page.

09/18

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers.** Provide model number and serial number when requesting service parts from your dealer or distributor.



**Stocked
at Depot**

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	
1	Log Set		20012550	Y
1.1	Log, Rear		20012541	
1.2	Log, Right Front		20012543	
1.3	Log, Left Front		20012542	
1.4	Right Cross Log		20012545	
1.5	Left Cross Log		20012544	
2	Ember Bed Assembly		20012206	Y
3	Top	Classic Black	1301194A	
		Biscuit	30003244	
		Bordeaux	30006794	
		Brown Majolica	30004933	
4	Screen, Top		1601970	
5	Grille		1301195A	
6	Front	Classic Black	30001376A	
		Biscuit	30003240	
		Bordeaux	30006790	
		Brown Majolica	30004928	
7	Door, Left	Classic Black	30001378A	
		Biscuit	30003242K	
		Bordeaux	30006792	
		Brown Majolica	30004930	
8	Door, Right	Classic Black	30001377A	
		Biscuit	30003241	
		Bordeaux	30006791	
		Brown Majolica	30004929	
9	Control Door	Classic Black	30001413A	
		Biscuit	30003243	
		Bordeaux	30006793	
		Brown Majolica	30004931	
10	Left End	Classic Black	30001751A	
		Biscuit	30003239	
		Bordeaux	30006789	
		Brown Majolica	30004927	
11	Right End	Classic Black	30001752A	
		Biscuit	30003238	
		Bordeaux	30006788	
		Brown Majolica	30004926	

Additional service parts on following page

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers.** Provide model number and serial number when requesting service parts from your dealer or distributor.



**Stocked
at Depot**

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	
12	Leg (Qty 4)	Classic Black	30001753A	
		Biscuit	30003245	
		Bordeaux	30006795	
		Brown Majolica	30004934	
13	Glass Frame Assembly		5003075	
14	Frame, Glass		1409112	
15	Gasket, Glass Medium Knit		1203702K	
16	Glass, GFP Firebox		1601290A	Y
17	Wood Handle		1600664	Y
18	Pan Head, SI 1/4-20x3-Z	Pkg of 10	1201310-10	
19	Brushed Nickel Insert		30002714	Y
20	Control Door Handle Assembly		30002730	
21	CS, Hex Head 1/4-20x3/8", Black	Pkg of 10	1201337-10	
22	Latch, Front Door		30001249	
23	Front Door Steel Handle w/Screw		30002720A	Y
24	Fan Blower	RADVTSC Series Only	20308374	
		RADVT Series Only	FK26	
25	Valve Nova SIT 820.852	RADVT	20012218	Y
26	Pilot Assembly 3 Way (RADVT)	N/DV RN 0.199.706	SRV10002264	Y
		N/DV RN 0.199.703	SRV10002265	Y
27	Thermocouple, 24"		SRV24D0808	Y
28	Electrode Ignitor w/Cable SIT 24		10001297	Y
29	Thermopile, 18" RS		SRV26D0566	Y
30	Tubing Pilot w/Fitting 1/8x24"		26D0665	Y
31	Pilot Orifice, Top Convertible	RADVT NG, #62	529-512	Y
		LP, #35	SRV200-2630	Y
32	Orifice Hood	NG, #33(0.113")	20012554	
		LP, #51	20008557	
33	Ignitor Piezo w/Nut SIT	RADVT	057958A	Y
	Bracket, Piezo Ignitor/Control	RADVT	20010876K	
34	Manifold Assembly		20012202	Y
35	Air Shutter Assembly		20012204	
36	Trim, On/Off Switch	RADVT	30000874	Y
37	Remote Transmitter (Full function for RADVTS008C only)		TSFSC	
38	Wire w/Straight Term 2 End, 50"	RADVT	1002582	
39	Gasket, Base Pan		20004287	Y
40	Gasket, HE Door		1203687A	Y

Additional service parts on following page

IMPORTANT: THIS IS DATED INFORMATION. Parts must be ordered from a dealer or distributor. **Hearth and Home Technologies does not sell directly to consumers.** Provide model number and serial number when requesting service parts from your dealer or distributor.



**Stocked
at Depot**

ITEM	DESCRIPTION	COMMENTS	PART NUMBER	
	Gasket Cement, 3 oz. Tube		1206122	Y
41	Restrictor Plate		20013028	
42	Right Burner Support Assembly		20012443	
43	Tie Bracket Assembly		20012442	
44	Rear Shroud Assembly	RADVT/RADVTSC	20004194	
45	Rear Shroud Assembly	RADVTCS	20300123	
	Bracket Ignitor	RADVTCS	20300111K	
46	Safety Screen Barrier		30007253	Y
47	Valve, NG SCS, (RADVTSC)	NG	SRV80D0001	Y
		LP	SRV80D0002	Y
48	Pilot Assembly (RADVTSC)	NG	20309010	Y
		LP	20309011	Y
49	Control Box, (RADVTSC)	NG	SRV80D0018	Y
		LP	SRV80D0019	Y
50	Command Center	RADVTSC	SRV80D0005	Y
	Wire, Valve/Control	RADVTSC	SRV80D0010	Y
	Wire, AC Module	RADVTSC	SRV80D0009	
	Wire, Command Center	RADVTSC	80D0008	Y
51	AC Module SCS w/8' Power Cord	RADVTSC	30007360	Y
	Handle Holder		1600600	
	Sensor, Temp	52P-1 2 T 09 5-090	10002013	Y
	Touch-Up Paint	Classic Black	3-42-19905	
		Biscuit	0001277	
		Bordeaux	0001341	
		Majolica	0001270	
	Cover, Vanity Control	RADVTSC	20308405K	
	Control Plate Assembly (Valve, Burner, Pilot, Comm. Center)	RADVTSC - NG	20308375	
	Control Plate Assembly (Valve, Burner, Pilot)	RADVT - NG	20012208	
Conversion Kits				
	Conversion Kit, NG to LP	RADVT	20012729	Y
	Conversion Kit, LP to NG		20012899	Y
	Conversion Kit, NG to LP	RADVTSC	4604-015	Y
	Conversion Kit, LP to NG		4604-014	Y

11

Optional Accessories

FK26 Fan Kits - RADVT Series

The FK26 fan helps distribute heated air from within the firebox out into the room. The fan is controlled by a snapstat that turns power on and off as the firebox temperature rises above and falls below a preset temperature. A rheostat provides for variable fan speeds. Used with standard millivolt models.

Specifications

115 Volt / 60Hz / .75 Amps

Maintenance

The fan itself does not require regular maintenance, however, periodic cleaning of the fan and the surrounding area is required.

Remote Controls - RADVT

The remote control allows you to turn the heater on or off from anywhere in the room. Refer to Page 53 for wiring diagrams. These remote controls are for use with standard millivolt models.

ON/OFF Remotes

RCB, RCMT

ON/OFF Thermostat Remote

TSST, RCST

Warming Shelf

Warming shelves add versatility to your stove; they can be used to keep foods warm at mealtime.

Model Color

1560	Classic Black
1553	Brown Majolica
1555	Biscuit
1571	Bordeaux

Shelf Installation

1. Attach the shelf loosely to the stove, leaving the screws loose enough to allow final adjustments.
2. Position the shelf and adjust the brackets so the shelf fits correctly.
3. Tighten the screws.

Refer to the instructions included with each warming shelf for complete installation procedures.

12 Warranty Policy

Hearth & Home Technologies LIMITED LIFETIME WARRANTY

Hearth & Home Technologies, on behalf of its hearth brands ("HHT"), extends the following warranty for HHT gas, wood, pellet 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 for consumers begins at the date of installation. 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. However, 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 and pellet appliances. These time periods reflect the minimum expected useful lives of the designated components under normal operating conditions.

Warranty Period		HHT Manufactured Appliances and Venting					
Parts	Labor	Gas	Pellet	Wood	Electric	Venting	Components Covered
1 Year		X	X	X	X	x	All parts and material except as covered by Conditions, Exclusions, and Limitations listed
2 years			X	X			Igniters, auger motors, electronic components, and glass
		X	X	X			Factory-installed blowers
				X			Molded refractory panels
		X					Ignition Modules
3 years			X				Firepots, burnpots, mechanical feeders/auger assemblies
5 years	1 year	X					Vent Free burners, Vent Free ceramic fiber logs, Aluminized Burners
			X	X			Castings and Baffles
6 years	3 years			X			Catalyst - limitations listed
7 years	3 years		X	X			Manifold tubes, HHT chimney and termination
10 years	1 year	X					Burners, logs and refractory
Limited Lifetime	3 years	X	X	X			Firebox and heat exchanger, Grate and Stainless Steel Burners, FlexBurn® System (engine, inner cover, access cover and fireback)
90 Days		X	X	X	X	X	All replacement parts beyond warranty period

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.
- This warranty is only valid in the country in which the HHT authorized dealer or distributor that sold the appliance resides.
- Contact your installing dealer for warranty service. If the installing dealer or distributor 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.
- Limited Catalyst Warranty
 - o For wood burning products containing a catalyst, the catalyst will be warranted for a six-year period as follows: if the original catalyst or a replacement catalyst proves defective or ceases to maintain 70% of its particulate emission reduction activity (as measured by an approved testing procedure) within 36 months from the purchase date, the catalyst will be replaced for free.
 - o From 37 to 72 months a pro-rated credit will be allowed against a replacement catalyst and labor credit necessary to install the replacement catalyst. The proration rate is as follows:

Amount of Time Since Purchase	Credit Towards Replacement Cost
0 - 36 Months	100%
37 - 48 Months	30%
49 - 60 Months	20%
61 - 72 Months	10%

- o Any replacement catalyst will be warranted under the terms of the catalyst warranty for the remaining term of the original warranty. The purchaser must provide the name, address, and telephone number of the location where the product is installed, proof of original purchase date, date of failure, and any relevant information regarding the failure of the catalyst.

WARRANTY EXCLUSIONS:

This warranty does not cover the following:

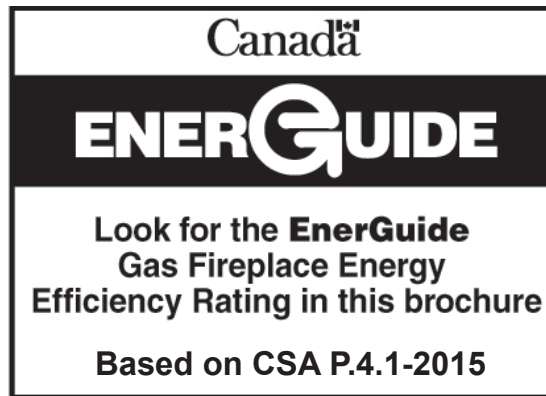
- Changes in surface finishes as a result of normal use. As a heating appliance, some changes in color of interior and exterior surface finishes may occur. This is not a flaw and is not covered under warranty.
- Damage to printed, plated, or enameled surfaces caused by fingerprints, accidents, misuse, 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 are not covered. These parts include: paint, wood and pellet gaskets, firebricks, grates, flame guides, 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 operation 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 connections 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 the appliance location and configuration, environmental conditions, insulation and air tightness of the structure.

This warranty is void if:

- The appliance has been over-fired, 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, deformation/warping of interior cast iron structure or components, 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.



EFFICIENCY RATINGS

MODEL	ENERGUIDE RATINGS	
	STOVE EFFICIENCY PERCENTAGE	D.O.E. (AFUE PERCENTAGE)
RADVT Series	62.7	68.4
RADVTSC Series	62.7	68.4

**NATIONAL
FIREPLACE
INSTITUTE**

NFI

CERTIFIED

www.nficertified.org

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

VERMONT
CASTINGS

352 Mountain House Road • Halifax, PA 17032
www.vermontcastings.com