

## INSTALLER / CONSUMER SAFETY INFORMATION

PLEASE READ THIS MANUAL  
BEFORE INSTALLING AND USING  
APPLIANCE.

### WARNING!

IF THE INFORMATION IN THIS  
MANUAL IS NOT FOLLOWED  
EXACTLY, A FIRE OR EXPLOSION  
MAY RESULT CAUSING  
PROPERTY DAMAGE, PERSONAL  
INJURY OR LOSS OF LIFE.

### FOR YOUR SAFETY

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

### WHAT TO DO IF YOU SMELL GAS:

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

**DO NOT STORE OR USE  
GASOLINE OR OTHER  
FLAMMABLE VAPORS AND  
LIQUIDS IN THE VICINITY OF THIS  
OR ANY OTHER APPLIANCE.**

This appliance may be installed in an  
after market permanently located  
manufactured (mobile) home where not  
prohibited by local codes.

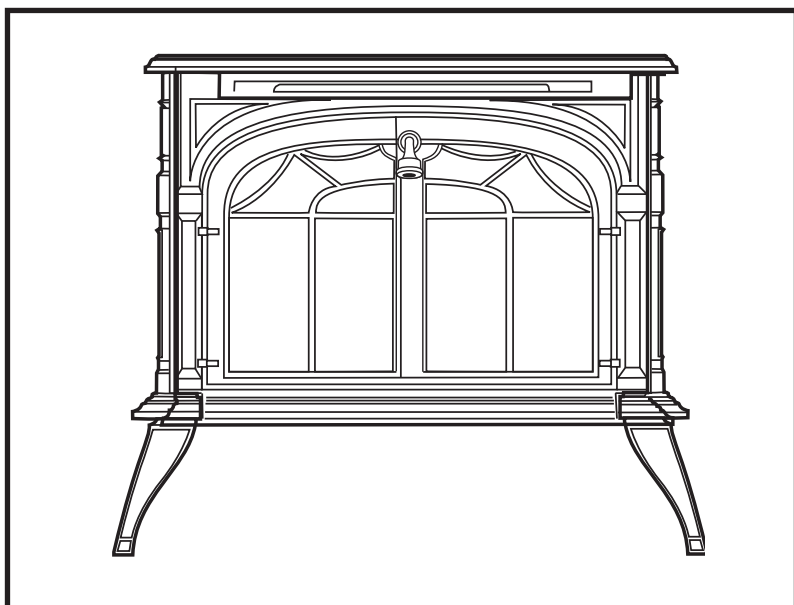
This appliance is only for use with the  
type of gas indicated on the rating plate.

This appliance is not convertible for use  
with other gases unless a certified kit is  
used.



## Radiance Direct Vent/Natural Vent Gas Heater

Model RDVOD: 3225 thru 3232,  
3350 thru 3354, 3360 thru 3369,  
3390 thru 3399



### Homeowner's Installation and Operating Manual



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

# Table Of Contents

**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.**

<b>Installation &amp; Operating Instructions</b>	General Information .....	3
	Stove Dimensions .....	4
	Installation Requirements .....	5
	Locating the Stove .....	5
	Clearance Requirements .....	5
	Parallel Installation .....	6
	Corner Installation .....	6
	Wall and Ceiling Clearances .....	6
	Hearth Requirements .....	6
	Gas Specifications .....	7
	Gas Inlet and Manifold Pressures .....	7
	High Elevations .....	7
	Horizontal Termination - Direct Vent ONLY .....	7
	Vertical Termination - Direct Vent ONLY .....	8
	Vent Termination Clearances .....	9
	General Venting Information - Termination Location .....	10
	Termination Clearances .....	11
	Venting Requirements - Natural Vent ONLY .....	11
	Venting Requirements and Options - Direct Vent ONLY .....	12
<b>Assembly Procedures</b>	Tools Required .....	13
	Parts Bag Contents .....	13
	Unpack and Assembly Legs .....	13
	Install Optional Fan .....	14
	Venting System Assembly - Direct Vent .....	15
	Install Vent Adapter Pipe (CFM Corporation Components) .....	15
	Install Vent Adapter Pipe (Simpson Dura-Vent Components) .....	16
	Side Wall Termination Assembly .....	16
	Vent Termination Below Grade .....	18
	Vertical (Through the Roof) Vent Assembly .....	18
	Venting System Assembly - Natural Vent .....	19
	Install the Vent Pipe .....	20
	Install Rear Bracket and Log Set .....	20
	Connect Gas Supply Line .....	21
	Burner Information .....	22
	Install ON/OFF Switch .....	22
	Thermostat Connection (Optional) .....	22
	Install the Mesh and Grille .....	22
<b>Operation</b>	Your First Fire .....	23
	Pilot and Burner Information .....	23
	Flame & Temperature Adjustment .....	23
	Flame Characteristics .....	23
	Lighting and Operating Instructions .....	24
	Troubleshooting - Honeywell #8420 Gas Control System .....	25
	Instructions for RF Comfort Control Valve .....	26
	Fuel Conversion Instructions .....	30
<b>Maintenance</b>	Annual System Inspection .....	34
	Logset and Burner/Cleaning and Inspection .....	34
	Care of Cast Iron .....	34
	Cleaning the Glass .....	34
	Glass Replacement .....	34
	Gasket Replacement .....	35
	Inspect the Vent System Annually .....	35
	Check the Gas Flame Regularly .....	35
	Wiring Diagrams .....	36
<b>Replacement Parts</b>	.....	37
<b>Optional Accessories</b>	.....	40
<b>Warranty</b>	.....	43
<b>Energuide</b>	.....	44

## Installation & Operating Instructions

The Radiance Direct Vent/Natural Vent Room Heater, Model Nos. 3225 thru 3232, 3350 thru 3354, 3360 thru 3369 and 3390 thru 3399, is a vented gas appliance listed to the ANSI standard Z21.88-2005 and CSA-2.33-2005 for Vented Room Heaters, and CSA 2.17-M91, Gas-Fired Appliances For Use at High Altitudes.

The installation of the Radiance Direct Vent/Natural 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 CSAB-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.) Refer to Page 30 (RF only).

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/Natural 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/Natural 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/Natural 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. Check local codes for natural vent requirements.

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/Natural 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.**

**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.**

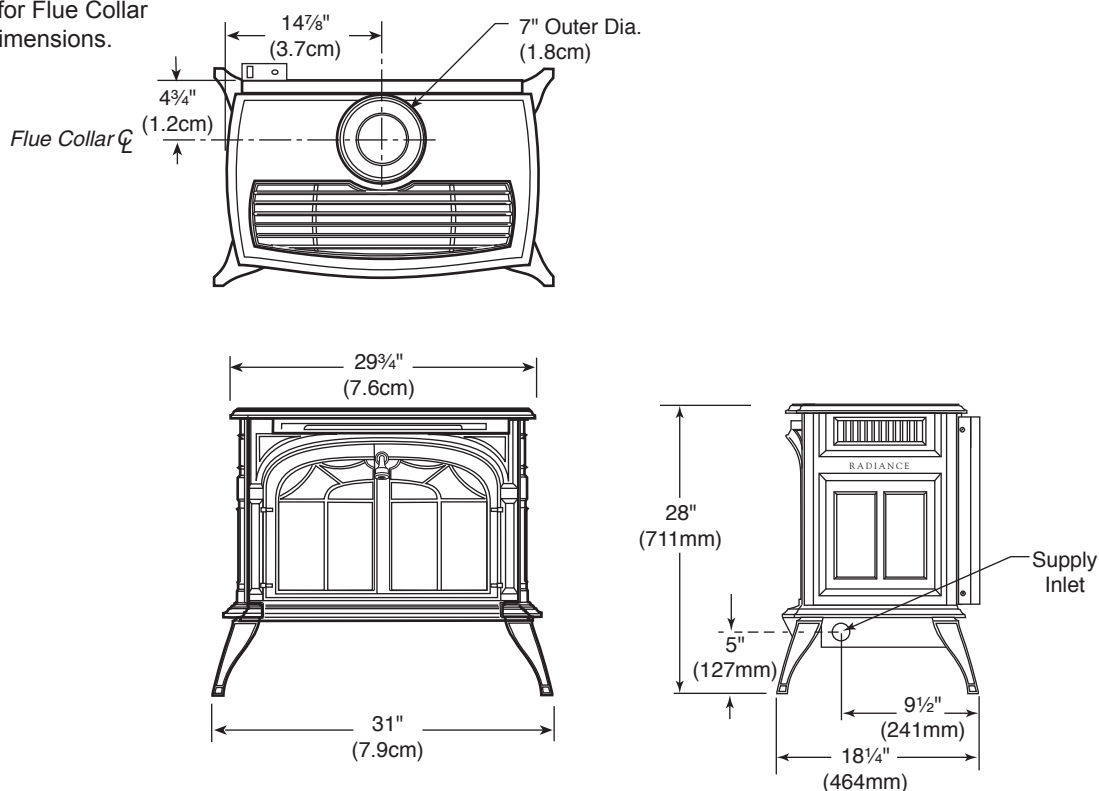
**\* Aftermarket:** Completion of sale, nor for purpose of resale, from the manufacturer.

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

California Health & Safety Code Sec. 25249.6

## Radiance Direct Vent/Natural Vent Stove Dimensions

See Page 6 for Flue Collar Centerline Dimensions.



4188

Fig. 1 Radiance dimensions.

### Attention

The Radiance stove is shipped from the factory as a Direct Vent Gas Heater. This heater may be converted into a Natural Vent unit in the field. If a Natural Vent Heater is desired, the Vermont Castings Z31D00 FSD-HAG Draft Hood must be directly installed to the top of the unit according to the installation instructions. The Draft Hood Adapter is available in the 7FSDHASK stove kit or as a separate item.

When the Radiance stove is converted to Natural Vent, it uses 4" vent pipe. For aesthetic purposes the CFM direct vent system may be used up to the ceiling.

## 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.

### Locating The Stove

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.

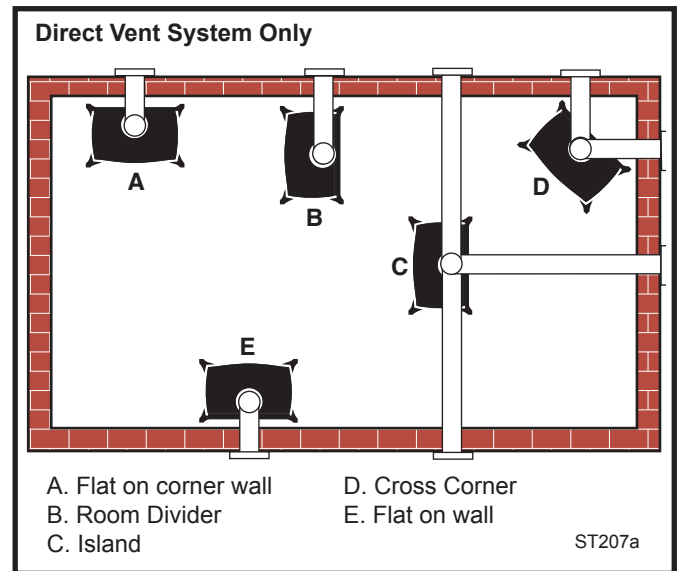


Fig. 2 Possible stove locations.

## Clearance Requirements

### Minimum Clearances to Combustible Materials

Measure side clearances as shown in Figures 3, 4 and 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.

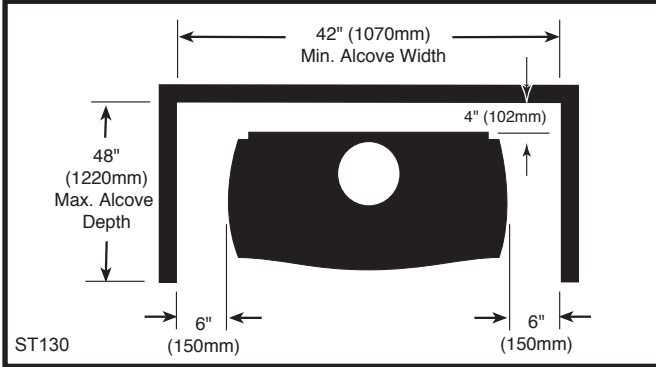
The same clearances apply in a standard parallel installation.



### WARNING:

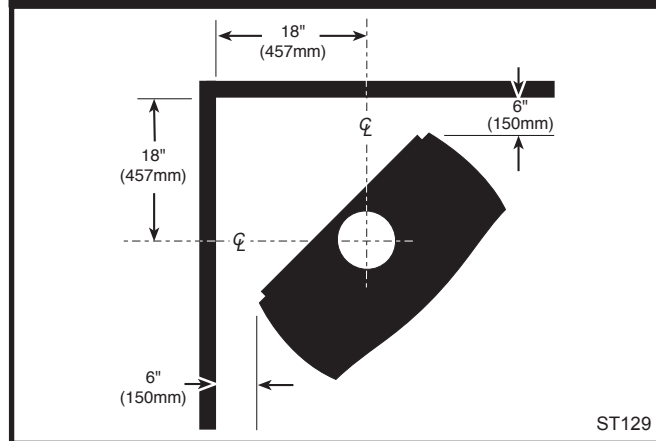
- Always maintain required clearances (air spaces) to nearby combustibles to prevent fire hazard. Do not fill air spaces with insulation. All venting components must maintain a 1" (25mm) clearance to combustible materials. Maintain a 6" (150mm) clearance when using single wall pipe.
- The gas appliance 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.

### Parallel Installation: Minimum Clearance and Flue Centerline, Direct Vent and Natural Vent



**Fig. 3** Parallel installation, minimum back and side clearances, and flue centerlines.

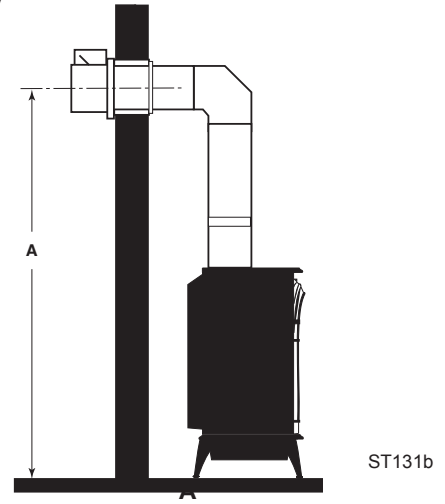
### Corner Installation: Minimum Clearance and Flue Centerline, Direct Vent & Natural Vent



**Fig. 4** Corner installation, minimum corner clearances and flue centerline.

### Wall Centerline from Floor

#### Direct Vent Only

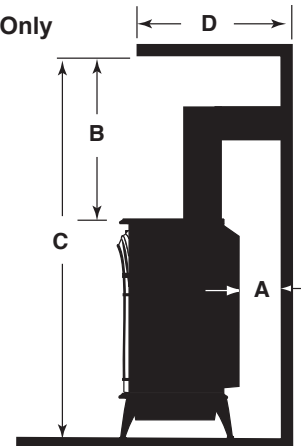


Effective Minimum Centerline  
 57" (1448 mm) (CFM Corporation Pipe)  
 55" (1399 mm) (Simpson DuraVent Pipe)

**Fig. 5** Minimum wall centerline.

### Wall and Ceiling Clearances

#### Direct Vent Only



A: Rear Wall	4" (102 mm)
B: Min. Clearance	44" (1118 mm)*
C: Min. Alcove Height	72" (1830 mm)*
D: Max. Alcove Depth	48" (1220 mm)
Sidewall Clearance	6" (150 mm)

\* needed for installing DuraVent Minimum Vent Kit #2792 or CFM Corporation Minimum Vent Kit #7TFMSK.

ST101b

**Fig. 6** Dimensions and clearances to ceiling or alcove.

### Hearth Requirements

The Radiance Heaters 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.



**Gas Specifications**

			Max. Input BTU/h	Min. Input BTU/h
Model	Fuel	Gas Control		
RDVODRN	Nat	Millivolt	35,000	25,000
RDVODRP	Prop	Millivolt	35,000	27,500
RDVODRFN	Nat	Comfort Control	35,000	25,000
RDVODRFP	Prop	Comfort Control	35,000	27,500

Weight: Fully assembled; 350 lbs.

**Gas Inlet and Manifold Pressures**

	Natural	LP (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" w.c.

**Radiance Direct Vent/Natural Vent  
Certified to:**

**ANSI Z21.88-2005 / CSA 2.33-2005  
Vented Gas Fireplace Heaters**

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 4,500 feet (1,370 m). 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 4,500 feet (1,370m) above sea level.

For elevations above 4,500 feet (1,370m) in USA, installations 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 4,500 feet (1,370m).

**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.**

**Horizontal Termination -  
Direct Vent ONLY**

The vent must rise vertically a minimum of 24" (610mm) 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' (12m). (Fig. 7) Horizontal termination must also meet the criteria shown in Figures 10 through 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.

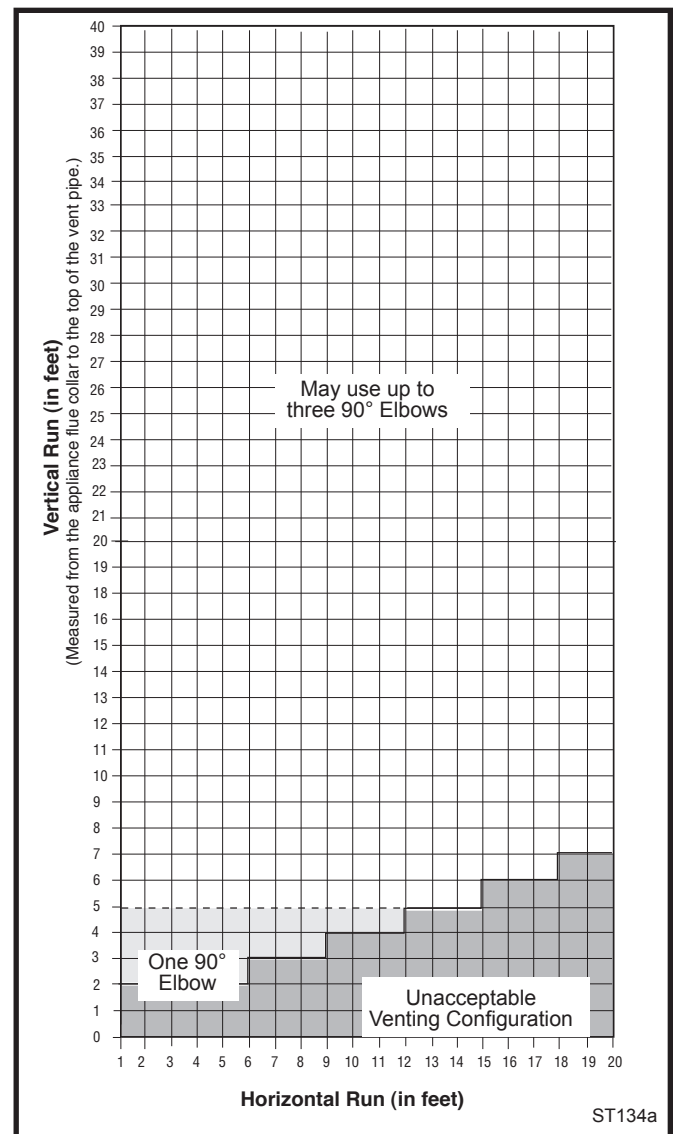


Fig. 7 Horizontal vent termination window.

## Vertical Termination - Direct Vent ONLY

A vertical vent system must terminate no less than 8' (2.44m) and no more than 40' (12m) above the appliance flue collar. A 2¼" 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. Install restrictor plate supplied with stove directly at stove outlet.** A vertically terminated vent system must also conform to the following criteria:

- No more than three 90° elbows may be used.
- Two 45° elbows may be substituted for one 90° elbow. No more than six 45° elbows may be used.
- Vent must rise a minimum of 2 feet before offset is used.
- Termination height must conform to roof clearance as specified in Figure 9.

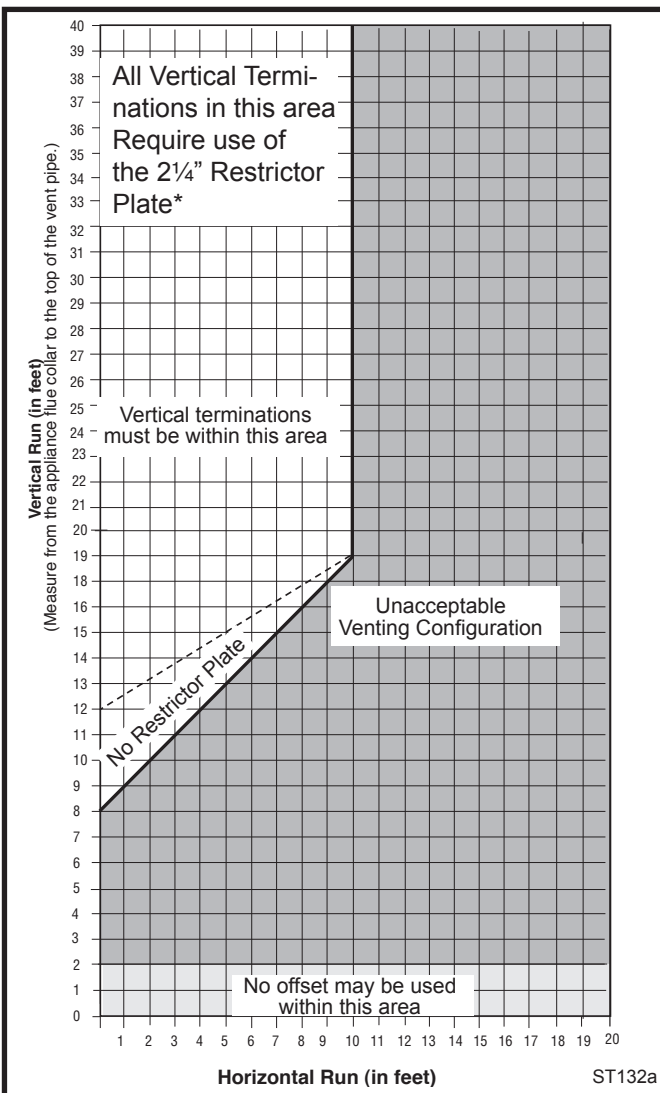


Fig. 8 Vertical vent termination window.

\*The Restrictor Plate is used on Direct Vent installations only.

## 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 9.

**Important: All vent clearances must be maintained. Check your vent termination clearances against Figures 9 through 11.**

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 Direct Vent Only

- 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 Simpson 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.



### **Vent Termination Clearances**

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

- **CFM Corporation does not require any opening for inspection of vent pipe.**
- **Only CFM Corporation and Simpson DuraVent venting components specifically approved and labelled 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.

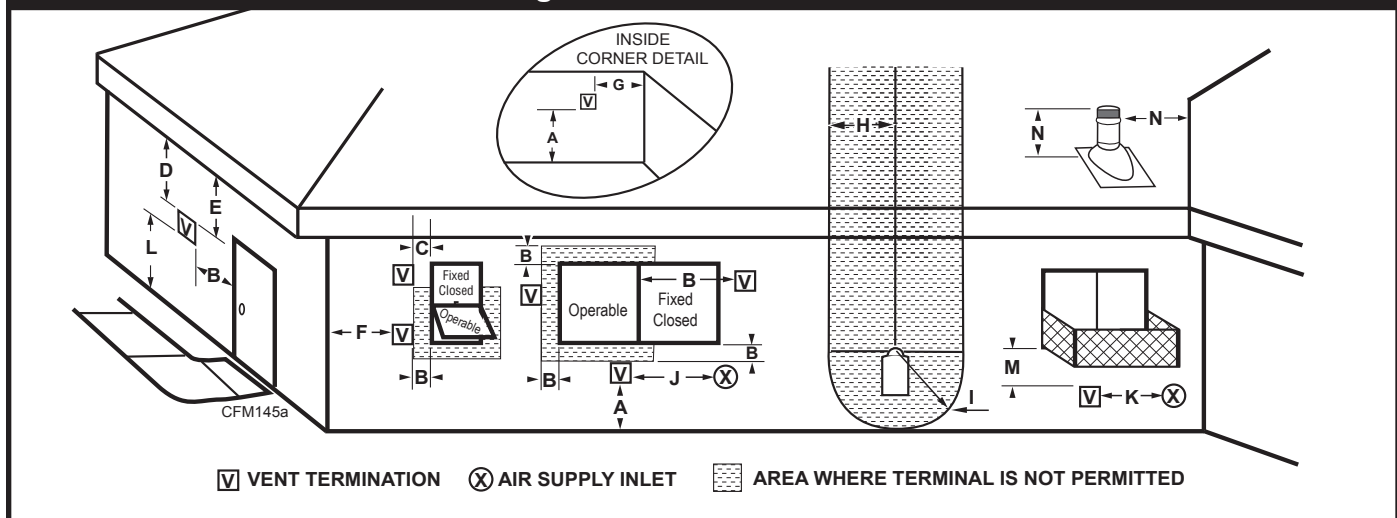
There must not be any obstruction such as bushes, garden sheds, fences, decks or utility buildings within 24" from the front of the termination hood.

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 on this page.

## General Venting Information - Termination Location



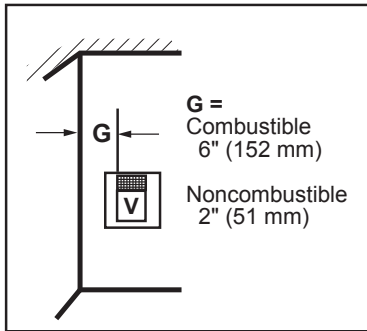
	Canadian Installations <sup>1</sup>	US Installations <sup>2</sup>
A = Clearance above grade, veranda, porch, deck, or balcony	12" (30cm)	12" (30cm)
B = Clearance to window or door that may be opened	6" (15cm) for appliances < 10,000 Btuh (3kW), 12" (30cm) for appliances > 10,000 Btuh (3kW) and < 100,000 Btuh (30kW), 36" (91cm) for appliances > 100,000 Btuh (30kW)	6" (15cm) for appliances < 10,000 Btuh (3kW), 9" (23cm) for appliances > 10,000 Btuh (3kW) and < 50,000 Btuh (15kW), 12" (30cm) for appliances > 50,000 Btuh (15kW)
C = Clearance to permanently closed window	12" (305mm) recommended to prevent window condensation	12" (305mm) recommended to prevent window condensation
D = Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2' (610mm) from the center line of the terminal	18" (458mm)	18" (458mm)
E = Clearance to unventilated soffit	12" (305mm)	12" (305mm)
F = Clearance to outside corner	see next page	see next page
G = Clearance to inside corner (see next page)	see next page	see next page
H = Clearance to each inside of center line extended above meter/regulator assembly	3' (91cm) within a height of 15' (5m) above the meter/regulator assembly	3' (91cm) within a height of 15' (5m) above the meter/regulator assy
I = Clearance to service regulator vent outlet	3' (91cm)	3' (91cm)
J = Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliances	6" (15cm) for appliances < 10,000 Btuh (3kW), 12" (30cm) for appliances > 10,000 Btuh (3kW) and < 100,000 Btuh (30kW), 36" (91cm) for appliances > 100,000 Btuh (30kW)	6" (15cm) for appliances < 10,000 Btuh (3kW), 9" (23cm) for appliances > 10,000 Btuh (3kW) and < 50,000 Btuh (15kW), 12" (30cm) for appliances > 50,000 Btuh (15kW)
K = Clearance to a mechanical air supply inlet	6' (1.83m)	3' (91cm) above if within 10' (3m) horizontally
L = Clearance above paved sidewalk or paved driveway located on public property	7' (2.13m)†	7' (2.13m)†
M = Clearance under veranda, porch, deck or balcony	12" (30cm)‡	12" (30cm)‡
N = Clearance above a roof shall extend a minimum of 24" (610mm) above the highest point when it passes through the roof surface, and any other obstruction within a horizontal distance of 18" (450mm).		
<p>1 In accordance with the current CSA-B149 Installation Codes</p> <p>2 In accordance with the current ANSI Z223.1/NFPA 54 National Fuel Gas Codes</p> <p>† A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings</p> <p>‡ only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor:</p> <p><b>NOTE:</b> 1. Local codes or regulations may require different clearances.</p> <p>2. The special venting system used on Direct Vent Stoves are certified as part of the appliance, with clearances tested and approved by the listing agency.</p> <p>3. CFM Corporation assumes no responsibility for the improper performance of the appliance when the venting system does not meet these requirements.</p>		

Fig. 9 Vent termination clearances.

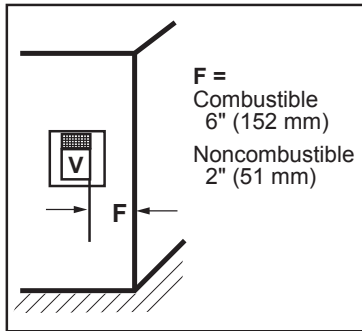
## Termination Clearances

Termination clearances for buildings with combustible and noncombustible exteriors.

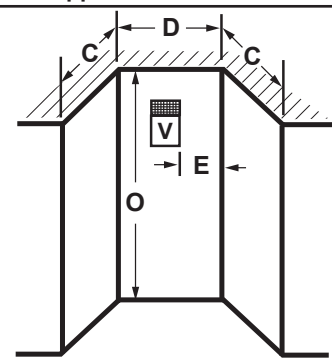
### Inside Corner



### Outside Corner

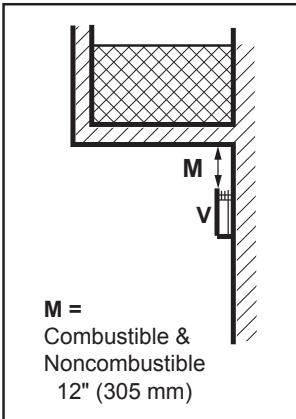


### Alcove Applications\*

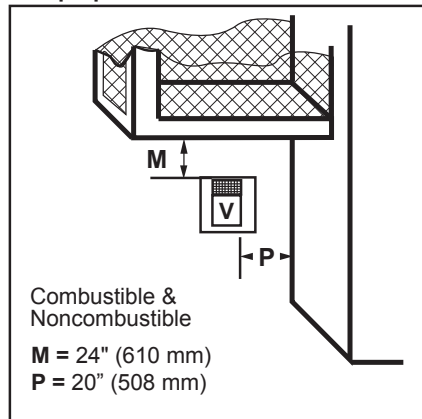


**E =** Min. 6" (152 mm) for non-vinyl sidewalls  
Min. 12" (305 mm) for vinyl sidewalls  
**O =** 8' (2.4 m) Min.

### Balcony - with no side wall



### Balcony - with perpendicular side wall



No. of Caps	D <sub>Min.</sub>	C <sub>Max.</sub>
1	3' (.9 m)	2 x D <sub>Actual</sub>
2	6' (1.8 m)	1 x D <sub>Actual</sub>
3	9' (2.7 m)	2/3 x D <sub>Actual</sub>
4	12' (3.7 m)	1/2 x D <sub>Actual</sub>

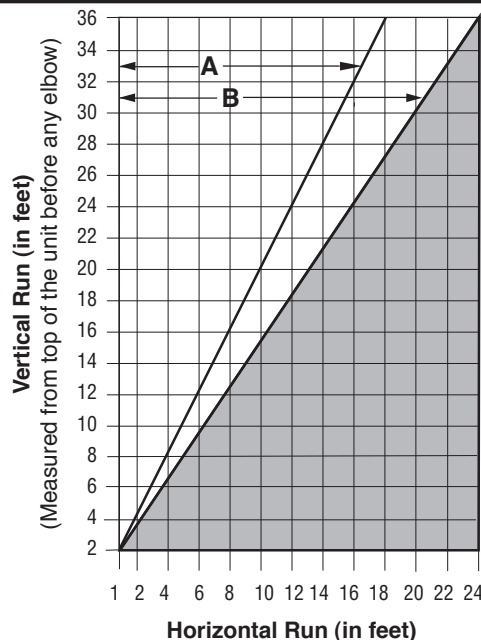
D<sub>Min.</sub> = # of Termination caps x 3  
C<sub>Max.</sub> = (2 / # termination caps) x D<sub>Actual</sub>

**\*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.

584-15

Fig. 10 Termination clearances.

## Venting Requirements - Natural Vent Only



### Venting Runs

**NOTE:** When venting straight vertical, without any elbow, a minimum of 8 ft. vertical is required off the top of the stove.

- ☐ = Acceptable venting configuration
- ☒ = Unacceptable venting configuration

**A:** Vertical installations up to 36 feet (12m) in height. Up to an 18 ft. horizontal vent run can be installed within the vent system using a maximum of two 90-degree elbows or four 45-degree elbows.

**B:** Vertical installations up to 36 feet (12m) in height. Up to a 24 ft. horizontal vent run can be installed within the vent system using a maximum of two 45-degree elbows. (Ratio = 2/3, Hor./Vert.)

Fig. 11 Vent termination window - Natural Vent ONLY.

**NOTE:** When using the FSDHAG, the restrictor plate supplied with the stove is not used.

## Venting Requirements and Options - Direct Vent ONLY

### Approved Vent System Components

The Stardance 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 4 for dimensions relevant to the standard minimum-vent kits.

### Simpson DuraVent Components

<b>Minimum Horizontal Vent Kit</b>	<b>2792</b>
Starter Pipe Assembly (incl. inner & outer sections) 2768*	
90° Elbow, Blk.	990B*
45° Elbow, Gal.	945
6" Straight, Blk.	908B*
9" Straight, Blk.	907B
11" - 14 $\frac{5}{8}$ " Adjustable Straight Section	911B
12" Straight	906
24" Straight	904B*
36" Straight	903B
48" Straight	902
Horizontal Vent Cap	984*
Wall Plate	940*
Vinyl Siding Shield	950
Snorkel Termination - 14"	982
Snorkel Termination - 36"	981
Wall Strap	988
Cathedral Ceiling Support Box	941
Storm Collar	953
Firestop Spacer	963
Flashing 0/12 - 6/12	943
Flashing 6/12 - 12/12	943S
Steel Chimney	
Kit A	931
Kit B	932
Kit C	933
Masonry Chimney Kit	934
Vertical Termination Cap (High Wind)	991
Vertical Termination Cap (Low Profile)	980

\*Included in Minimum Horizontal Vent Kit #2792

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

### CFM Vent Components

The following kits are available to meet the needs of most installations. All pipe has a 7" outer diameter and includes a 4" diameter inner section. A (CG) designation indicates the part is finished in Charcoal Gray paint. Consult your dealer about other vent parts that may be appropriate to complete the installation.

<b>Min. Through the Wall Vent Kit</b>	<b>7TFSSK</b>
(1) 90-Degree Elbow (CG)	
(1) 24" Straight pipe (CG)	
(1) 24" - 42" Adjustable Straight Pipe	
(1) Side Wall Termination	
(1) Firestop	
(1) Zero-clearance sleeve	
(1) Hardware package	
(1) Finishing plate (CG)	
(1) Finishing collar (CG)	
(4) Charcoal Gray flue pipe rings	
<b>Starter Kit for Below-Grade Termination</b>	<b>7TDVSKS</b>
(1) Snorkel Termination (7TDVSNORK)	
<b>Vertical Termination Kit, 1/12-6/12 Pitch</b>	<b>7TDVSKVA</b>
(1) Combination Horizontal Offset / Roof Support	
(1) Vertical Termination	
(1) Storm Collar	
(1) 1/12-6/12 Flashing	
(1) Finishing Plate (CG)	
(1) Finishing Collar (CG)	
(1) Polished Brass Flue Pipe Ring	
(1) Hardware Package	
<b>Vertical Termination Kit, 7/12-12/12 Pitch</b>	<b>7TDVSKVB</b>
(1) 7/12 - 12/12 Flashing	
and all of the other Vertical Termination parts.	
<b>Vertical Termination, Flat Roof</b>	<b>7DVSKVF</b>
(1) Flat Flashing	
and all of the other Vertical Termination parts.	
<b>Twist Lock 12" Straight Pipe (CG)</b>	<b>7TFSDVP12</b>
(1) 12" Non-adjustable Pipe	
<b>Twist Lock 12" - 18" Adjustable Pipe</b>	<b>7TFSDVP1218</b>
(1) 12" - 18" Adjustable Pipe	
<b>Twist Lock 24" Straight Pipe (CG)</b>	<b>7TFSDVP24</b>
(1) 24" Non-adjustable Pipe	
<b>Twist Lock 48" Straight Pipe (CG)</b>	<b>7TFSDVP48</b>
(1) 48" Nonadjustable Pipe	
<b>Twist Lock 45-Degree Elbow (CG)</b>	<b>7TFSDVT45</b>
for vertical offsets	
(1) 45-degree Elbow	
<b>Draft Hood Adapter</b>	<b>FSDHAG</b>
<b>NV Stove Kit</b>	<b>7FSSK</b>
(1) 7" Diameter Polished Brass Trim Ring	
(1) 48" Nonadjustable Pipe (CG)	
(1) 24" Nonadjustable Pipe (CG)	
(1) Finishing Plate	
(1) Finishing Collar (CG)	
(1) 90 Degree Elbow (CG)	
<b>Stove Kit</b>	<b>7FSDHASK</b>
Includes all parts in the 7FSSK plus the Draft Hood Adapter FSDHAG	
<b>Combination Offset/Roof Support</b>	<b>7DVCS</b>
<b>Attic Insulation Shield</b>	<b>7DVAIS</b>
<b>7" Charcoal Gray Pipe Rings, (4)</b>	<b>7FSDRG</b>
<b>7" Polished Brass Pipe Rings (4)</b>	<b>7FSDRP</b>
<b>Wall Thimble</b>	<b>942G</b>

**NOTE:** Direct vent pipe may be used on the Natural Vent system from the top of the draft hood adapter to the ceiling.

## Assembly Procedures



### WARNING

Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved for use with this heater may result in property damage or personal injury.

This heater and components are heavy. Have help available for assembly.

### Tools Required

- Phillips screwdriver (stub)
- power drill
- utility knife
- reciprocating saw
- metal drill bit: size 28 (.140"/3.5mm)

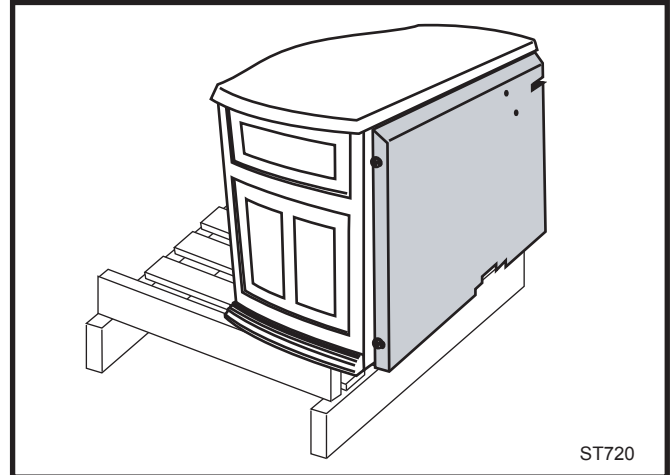
### Parts Bag Contents:

- Control door handle/screw
- (3) Vent Screws
- (2) Switch bracket screws
- Ceramic handle w/insert lifter (handle for operable door)
- On-Off switch, housing, and wiring harness
- (3) Phillips round-head bolts, 1/4"- 20 x 1/2"
- (2) Bag of Lava Rocks
- (1) Tube of Vent Gasket Cement
- (1) Vent Restrictor Plate, 2 1/4" inside diameter
- Owner Registration Card
- (4) CS, Hex Hd 3/8-16 x 1 Gr 2-Z
- (4) Washer, FI 3/8-Z

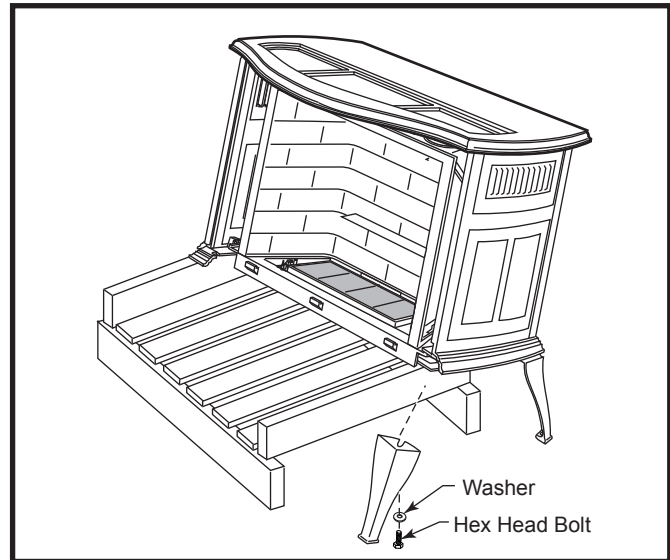
### Unpack and Assemble Legs

The Radiance is shipped upright. Cut the shipping straps and set stove upright.

1. Slide stove to the rear of the pallet just far enough to access rear leg holes. Make sure the stove does not tip over backwards. (Fig. 12)
2. Attach the rear legs using 3/8" hex head bolts and flat washer supplied. Tighten with a 9/16" wrench or socket.
3. Carefully tip the stove onto its rear legs. Adjust the pallet to allow access to one of the front leg holes. Be sure to leave the pallet under the stove to prevent the stove from falling fully forward. (Fig. 13) **CAUTION:** To prevent valve tubing from being crushed or damaged, make sure to rest valve on wooden pallet.



**Fig. 12** Slide stove back just far enough to access rear leg holes.



**Fig. 13** Carefully tip stove onto back legs. Leave pallet under stove to keep stove from falling fully forward.

4. Have your assistant attach one leg using the hardware described.
5. Move the pallet to allow access to the other front leg hole. Attach remaining leg.
6. Remove pallet and allow stove to gently rest on all four legs.
7. Adjust leg levelers to compensate for irregularities in the hearth.

**NOTE:** Verify the two relief doors (located on top of the firebox) are properly seated on the gasket. The doors should sit flush on the gasket, and should lift easily from the seal around the opening.

## 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

If you are installing the optional convection Fan Kit #2767 (FK26), continue here. It is easiest to install fan kit before connecting gas line. If you are not installing a Fan Kit, go to Page 15, Venting System Assembly.

1. The fan kit includes a Blower Assembly and a Rheostat Assembly, connected by a cable. (Fig. 14) 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.

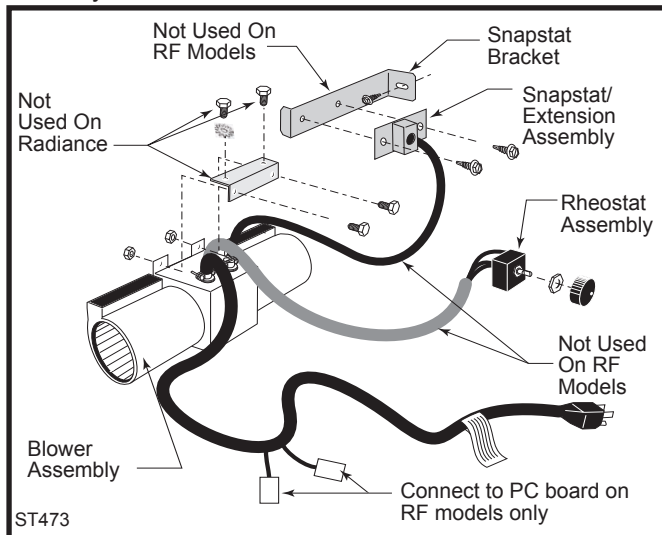


Fig. 14 Fan kit components.

2. Remove the rear shroud panel (Fig. 15) and fasten the blower assembly to the firebox back with the two bolts provided. (Fig. 16)

**NOTE:** Steps 3 and 4 do not apply when the RF valve is used. After attaching blower assembly to the firebox, run the spliced female leads to the front of the stove and attach to back of RF valve. (Page 30, Fig. 57)

3. Attach the snapstat assembly to the snapstat bracket with two sheet-metal screws. Attach the snapstat bracket to the side shield. (Fig. 16)
4. The rheostat control switch attaches to the left side of the valve bracket at the front of the stove. (Fig. 17)

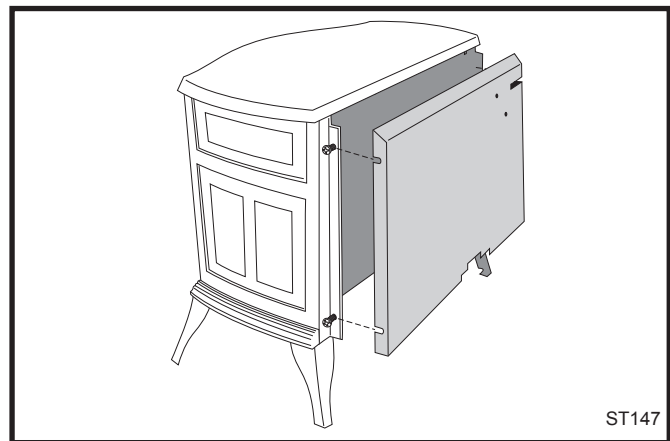


Fig. 15 Remove rear shroud.

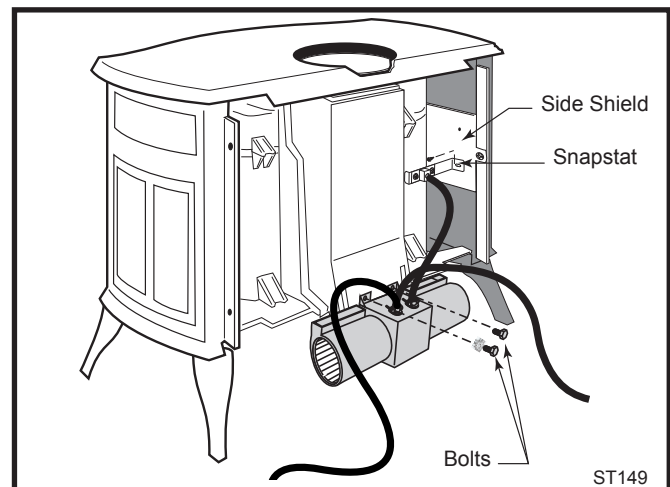


Fig. 16 Attach blower assembly and snapstat.

- Remove retaining nut from shaft of rheostat. (if preinstalled)
- 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 over-tighten.
- Attach the control knob to the rheostat shaft.
- Use the wire tie to secure the fan and rheostat wire harnesses together.

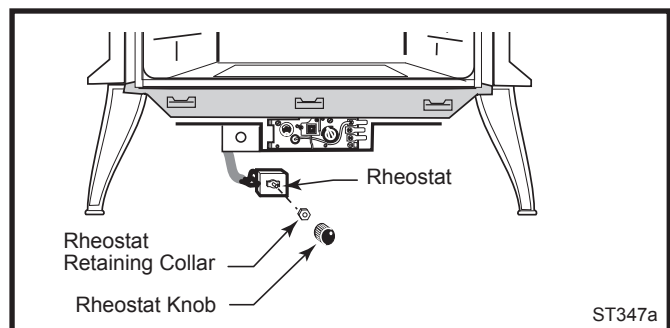


Fig. 17 Attach the fan rheostat.



## Venting System Assembly - Direct Vent General Information

The Radiance is approved for installation only with the vent components listed on Page 11. Follow the vent component instructions exactly.

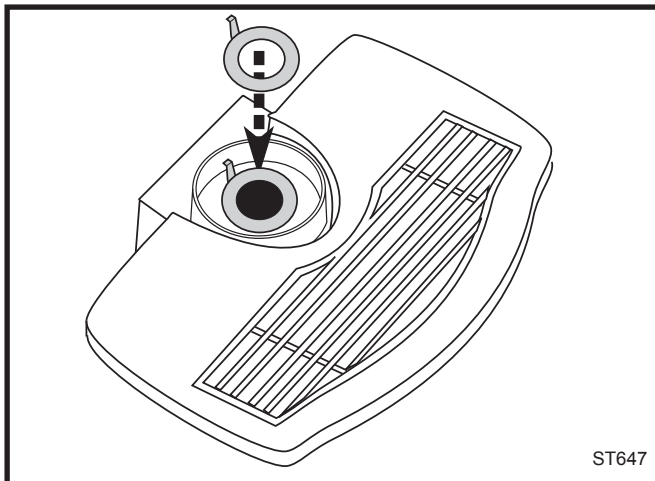
**For U.S. installations:** The venting system must conform with local codes and/or the current National Fuel Gas Code, ANSI Z223.1/NFPA 54.

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

## Install the Vent Adapter Pipe

### (CFM Corporation Vent Components)

1. **Install the Restrictor Plate.** Consult Page 7, Figure 8 to determine whether the restrictor plate is needed. If so, place the restrictor plate within the inner flue collar as shown in Figure 18.



**Fig. 18** Install the restrictor plate only if required for the venting configuration. Refer to Page 7.

2. **Attach Inner Starter Pipe, (found in with the log-set), to the next section of inner pipe.**

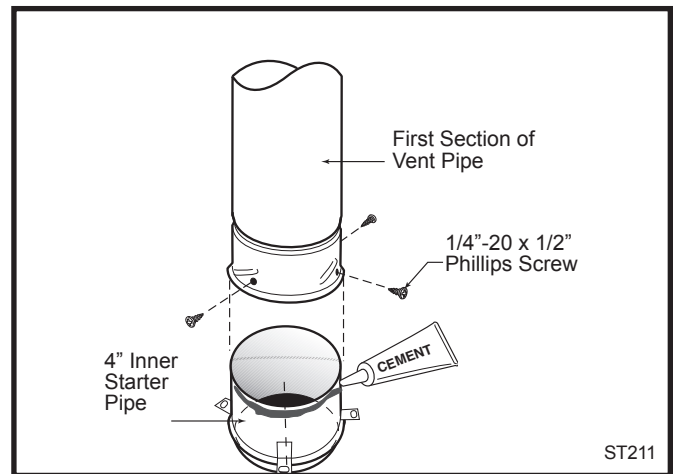
- Run a bead of sealant about 1/2" from the upper end of the Inner starter pipe and join the two sections together.
- Drill three pilot holes into the Inner Starter and secure the assembly with three sheet metal screws. (Fig. 19)

3. **Dry fit the Inner Pipe assembly to the stove for the purpose of determining the center line of the pipe on the wall.**

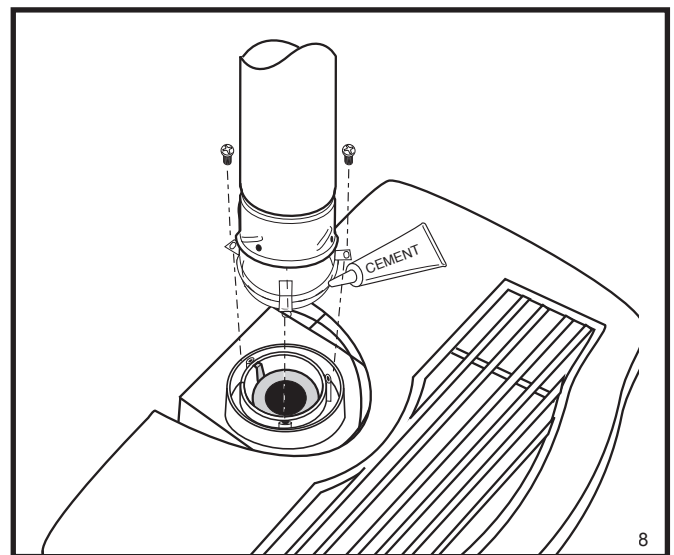
- **Side Wall Terminations:** Dry fit the outer elbow with the vertical outer vent and confirm the centerline alignment with the wall thimble opening.

4. **Attach the Inner Vent Assembly to the stove.**

- Run a bead of sealant around the bottom end of the starter pipe and attach the assembly to the stove using three 1/4-20 x 3/8" Phillips screws provided in the parts bag. (Fig. 20)



**Fig. 19** Connect the inner starter with the next section of inner vent pipe.



**Fig. 20** Attach inner assembly to flue collar.

5. **Install the Outer Adapter Pipe.** Insert the pipe over the stove flue collar, keeping the vertical seam oriented to the back of the stove. Also, be sure to align holes on the pipe with the holes on the flue collar of the firebox. Fasten the pipe to the holes in the flue collar with the #12 x 1/2" sheet metal screws provided. (Fig. 21)

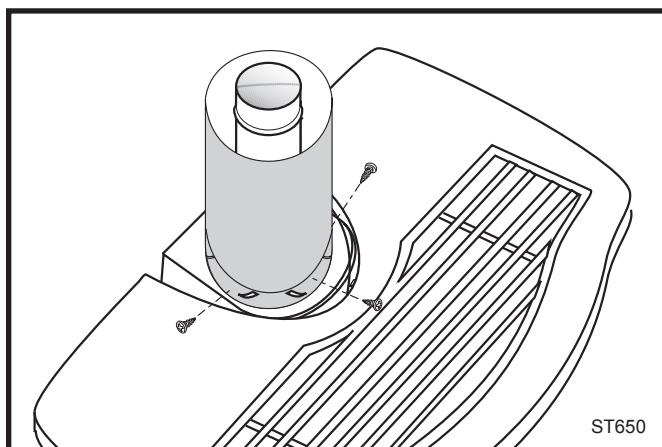


Fig. 21 Fasten outer pipe with #12 x 1/2" sheet metal screw.

## Install the Vent Adapter Pipe

### (Simpson Dura-Vent Components)

- 1. Install the Restrictor Plate.** Consult Page 7 to determine whether the restrictor plate is needed. If so, place the restrictor plate within the inner flue collar as shown in Figure 18.
- 2. Discard the inner starter pipe** shipped with the log-set. Using the starter pipe assembly listed on Page 12, slide the inner section out to allow access.
  - Run a bead of sealant around the bottom end of the starter pipe and attach the assembly to the stove using three 1/4-20 x 3/8" Phillips screws provided in the parts bag. (Fig. 22)
- 3. Install the Outer Adapter Pipe.** Orient the vertical seam to the rear, and insert the crimped end of the outer pipe into the flue collar. Fasten with three sheet metal screws provided. (Fig. 23)

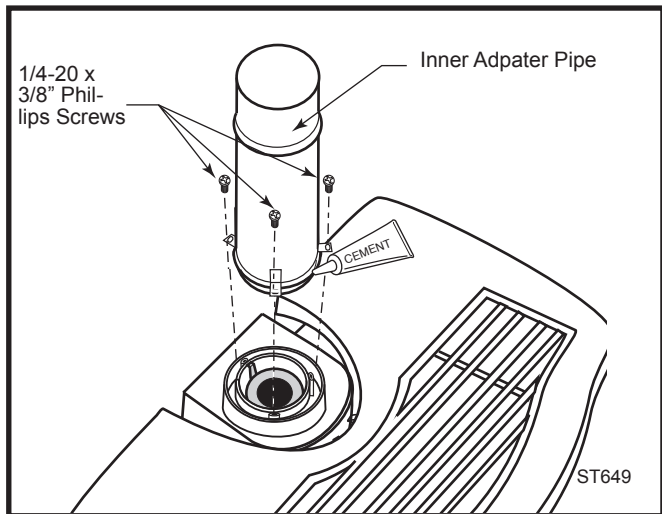


Fig. 22 Simpson DuraVent - install inner adapter pipe.

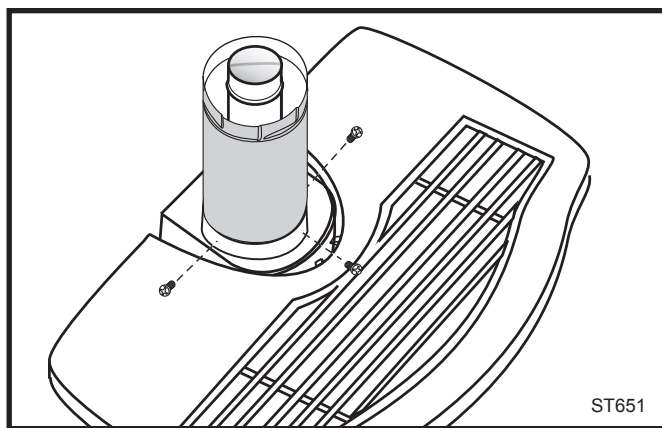


Fig. 23 Simpson Dura-Vent - install outer adapter pipe.

## Side Wall Termination Assembly

1. Locate the vent opening on the wall. Refer to Page 6, Figure 5, to determine the opening centerline. It may be necessary to first position the stove and measure to find the hole location. Depending on whether the wall is made of combustible materials, cut the opening to the size shown in Figure 24. Combustible wall openings must be framed as shown in Figure 24.

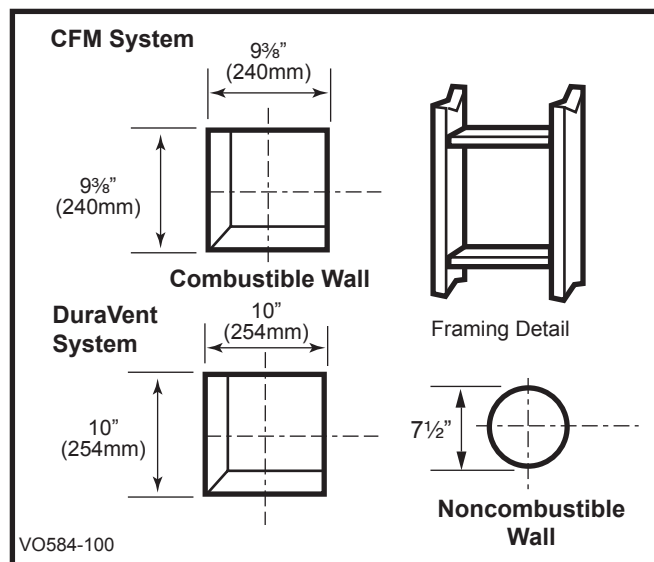
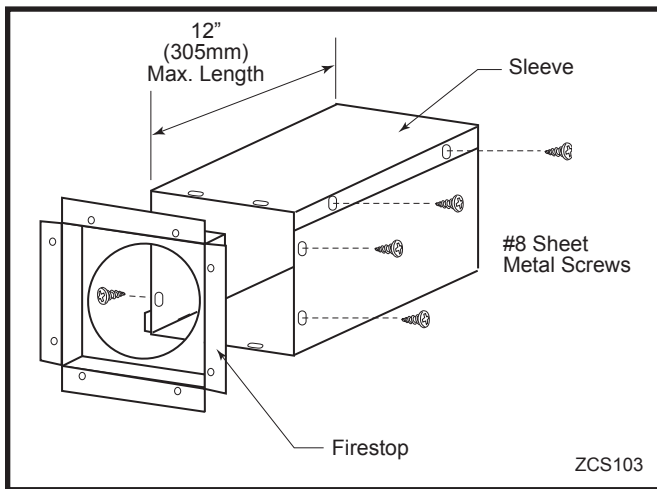


Fig. 24 Locate vent opening.

2. Measure the wall thickness and cut the wall sleeve sections to proper length (MAXIMUM 12"). Assemble the sleeve with the #8 sheet metal screws supplied. Attach the firestop plate to the sleeve end with the holes. (Fig. 25) **NOTE:** The wall sleeve is required in combustible walls only.
3. Install the Wall Firestop/Sleeve assembly into the wall cutout and fasten the firestop to the wall cutout framing members. (Fig. 25)

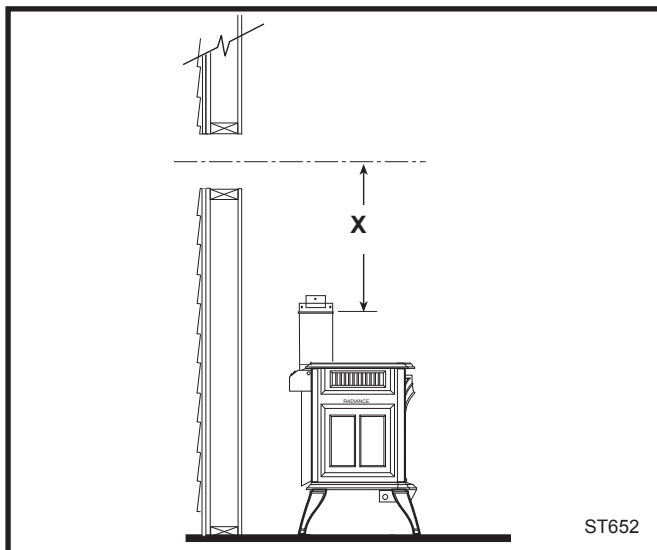


**Fig. 25** Assemble the wall sleeve and firestop.

**For DuraVent pipe only:** Install vent pipe by aligning the locking system together, sliding the pipes together and twisting clockwise.

- Install 90° elbow. Twist lock as before.
- Slide the wall plate over horizontal run before attaching the horizontal run to the elbow. Fasten wall plate to wall.

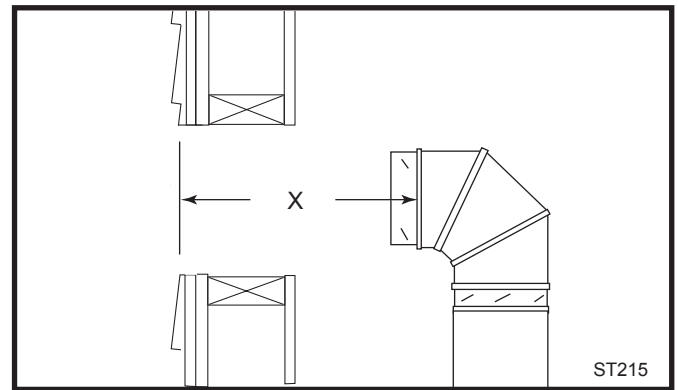
**4. For CFM Vent Pipe only:** If necessary, measure to determine the vertical length (X) of pipe required from the adapter pipe to the wall cutout centerline, including a 2" overlap at the joint. (Fig. 26) use a hacksaw or tin snips to trim the pipe as needed.



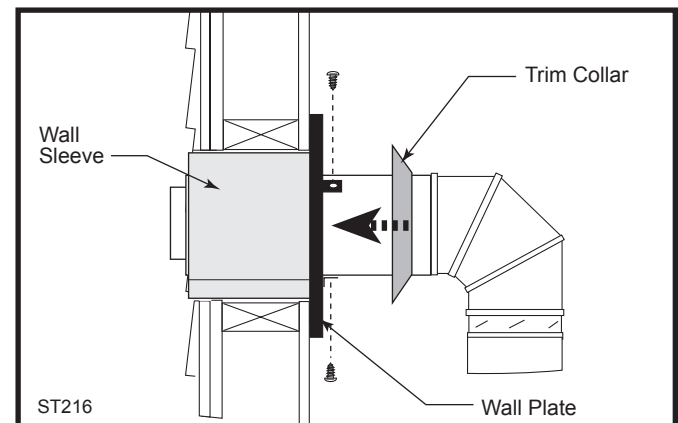
**Fig. 26** Determine the vertical pipe length.

5. Install first the inner then the outer straight pipe section(s), trimmed end down, to the point of the elbow. Drill 3 holes through each joint and fasten with sheet metal screws.

6. Install the elbow using 3 sheet metal screws at each joint.
7. Measure, and cut if needed, the appropriate length of pipe section needed to make the connection through the wall. Include a 2" overlap; i.e. from the elbow to the outside wall face, about 2" or the distance required if installing a second 90° elbow. (Fig. 27)
8. Slip the wall plate and trim collar over the interior end of the horizontal pipe and install into the wall sleeve. Seal the joint inside the wall plate if needed to keep cold air from being drawn into the home.
9. Connect the horizontal pipe to the elbow. Fasten the wall plate to the pipe with three sheet metal screws. Slide the trim collar up against the wall plate to cover the screws. (Fig. 28)



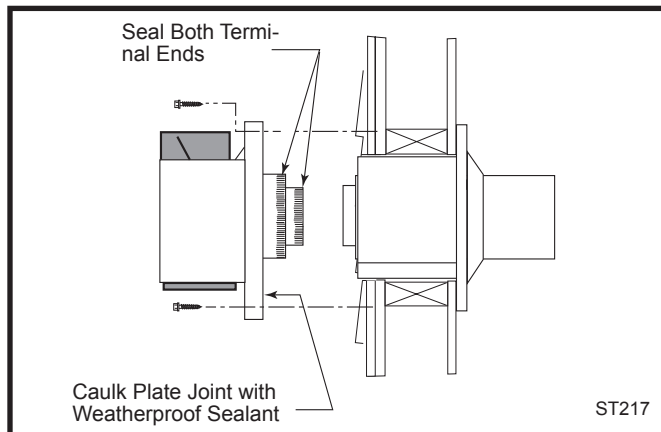
**Fig. 27** Measure the horizontal length.



**Fig. 28** Install the horizontal pipe and wall plate parts.

**10. For both CFM and DuraVent Systems:** Install the vent terminal. (Fig. 29) Apply high temperature sealant one inch from the ends of the inner and outer collars. Guide the inner and outer vent termination collars into the adjacent pipes. Double check that the vent pipes overlap the collars by 2". Fasten the termination to the wall with the screws provided, and caulk the joint with weatherproof sealant.

**11. For CFM only:** Install Charcoal Gray Pipe Rings (#7FSDRG) or Polished Brass Pipe Rings (#7FSDRP) at pipe joints, if desired.



**Fig. 29** Install the vent terminal.

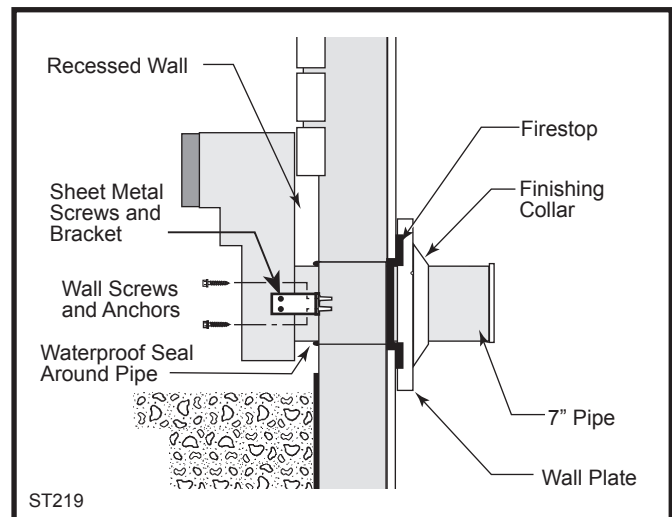
### Vent Termination Below Grade

Install Snorkel Kit #7FSDVSKS when it is not possible to meet the required vent termination clearances of 12" (305mm) above grade level. The snorkel kit will allow installation depth of down to 7" (178mm) 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.** (Fig. 31)

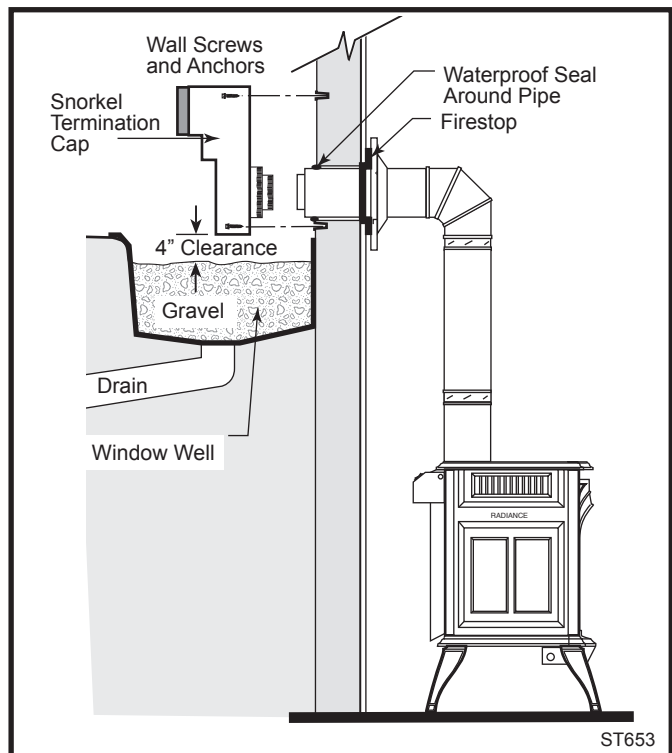
**NOTE:** Be sure to maintain side wall clearances and vent run restrictions. Refer to Page 6, Figures 3, 4, 5, 6.

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" (305mm) of coarse gravel and maintain a clearance of at least 4" (102 mm) below the snorkel. (Fig. 31)
3. Install the vent system as described on pages 15-18.
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.

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. (Fig. 30)



**Fig. 30** Use extension brackets to mount snorkel against recessed wall.



**Fig. 31** Snorkel kit installation.

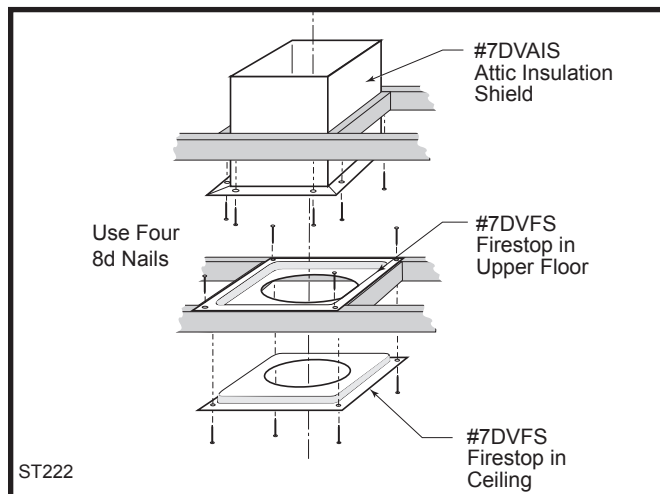
### Vertical (Through the Roof) Vent Assembly

**Note that all vertically terminated installations must, where specified, use the restrictor plate to comply with Vertical Termination Window (Page 7, Figure 8), included in the hardware bag. The plate must be installed within the firebox inner flue collar to insure a proper air/fuel ratio is maintained in an appliance vented through the roof.**

Make certain the vent system conforms to all other requirements for vertical termination as specified on Page 9.

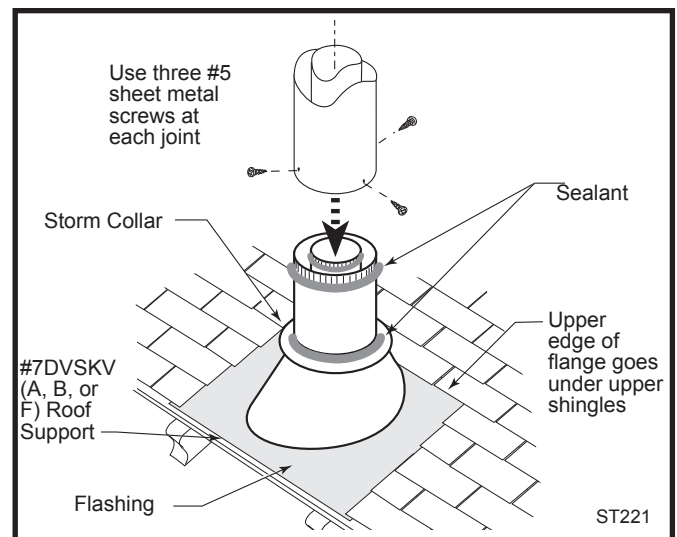
This installation will require you to first determine the roof pitch and use the appropriate vent components. Refer to Figure 9 on page 9.

1. Locate the final position of the stove, observing all clearances for both the vent and the stove.
2. Plumb to the center of the inner (4") flue collar from the ceiling above, and mark that location.
3. **Cut the opening:**  
**CFM System: 9 $\frac{3}{8}$ " x 9 $\frac{3}{8}$ " (240 x 240 mm)**  
**DuraVent System: 10" x 10" (254 x 254 mm)**
4. Plumb any additional opening through the roof or other construction that may be needed. In all cases, the opening must provide a minimum of 1" (25 mm) clearance to the vent pipe.
5. Place the stove in its final position.
6. Install firestop(s) #7DVFS and Attic Insulation Shield #7DVAIS as needed. (Fig. 32) If there is a room above ceiling level, a firestop must be installed on both the bottom and top sides of the ceiling joists. If an attic is above ceiling level, an attic insulation shield must be installed.



**Fig. 32** Install firestops and attic insulation shield.

7. Install the appropriate roof support and flashing, making certain that the upper flange of the flashing base is below the shingles. (Fig. 33)
8. Install appropriate pipe sections until the vent run reaches above the flashing. The enlarged ends of the vent sections always face downward.
9. Install the storm collar and seal around the joints. (Fig. 33)
10. Add additional vent lengths to achieve the proper overall height.
11. Apply cement to the inner and outer termination collars and install the terminal cap.



**Fig. 33** Roof support and flashing.

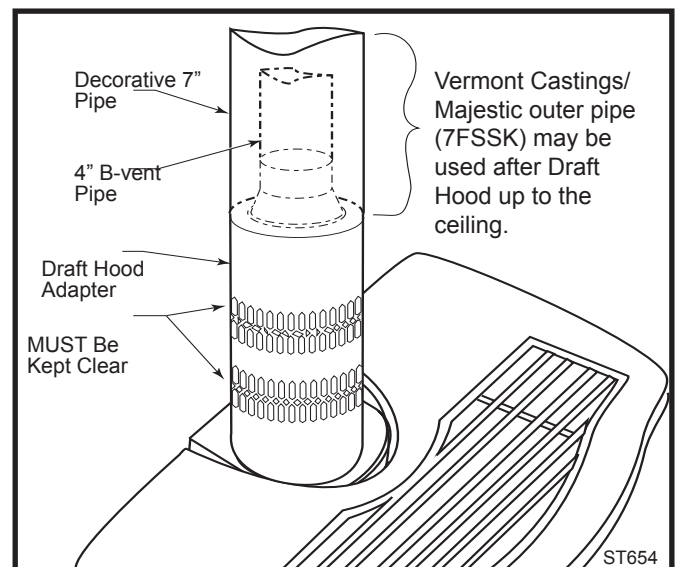
## Venting System Assembly - Natural Vent

### General Information

The Radiance Heater is shipped from the factory as a Direct Vent Heater. It may be converted to a Natural Vent heater by installing the Vermont Castings Model Z31D00 FSDHAG Draft Hood Adapter.

The Radiance Heater is approved for installation as a Natural Vent unit. Vermont Castings/Majestic Direct Vent outer pipe (7FSSK) could be used directly after the Draft Hood Adapter up to the ceiling, then B-vent pipe must be used. Do not mix types of B-vent pipe; use components from one maker or the another. Follow the vent component maker's instructions exactly. (Fig. 34)

**NOTE: The restrictor plate supplied with the stove is not used for Natural Vent applications.**



**Fig. 34** Decorative 7" pipe may be fitted around the B-vent pipe.



The Radiance stove, when installed as a Natural vent heater, includes a vent safety switch. (Page 34, Figure 67) Operating the stove when it is not connected to a properly installed and maintained venting system, or tampering with or disconnecting the vent safety switch, can result in carbon monoxide (CO) poisoning and possible death.

**For U.S. installations:** The venting system must conform with local codes and/or the current National Fuel Gas Code, ANSI Z22.1.

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

### Install the Vent Pipe

Apply a bead of sealant around bottom end of inner starter pipe (found in bag with logset) and attach to stove. Apply a bead of sealant around top of inner starter pipe and install the Z31D00 FSDHAG Draft Hood according to Draft Hood instructions. (Fig. 35)

Attach the first section of venting to the draft hood. Depending on the length of the individual venting sections and the lengths of the decorative pipe (if installed), you may need to slip the decorative pipe over the venting sections before attaching upper sections to lower ones. The sections of decorative pipe should be oriented with their seams (if any) toward the wall; sections usually do not need to be fastened at each joint, other than slip sections. If the layout includes a slip section, this should be the last section of pipe visible in the room, at the ceiling. Complete the venting according to the vent maker's instructions.

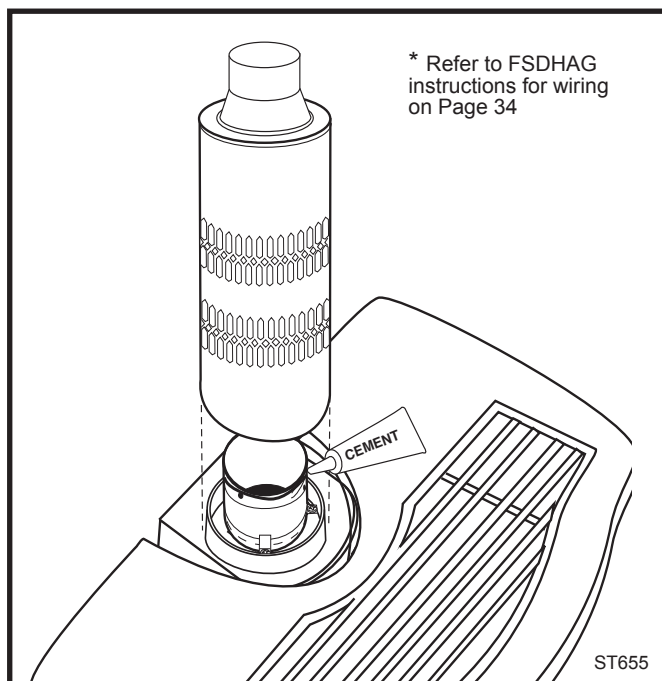


Fig. 35 Install draft hood adapter (FSDHAG).

### Install Log Set

Before beginning log installation, remove stove front and glass frame. Refer to Figures 36 and 37.

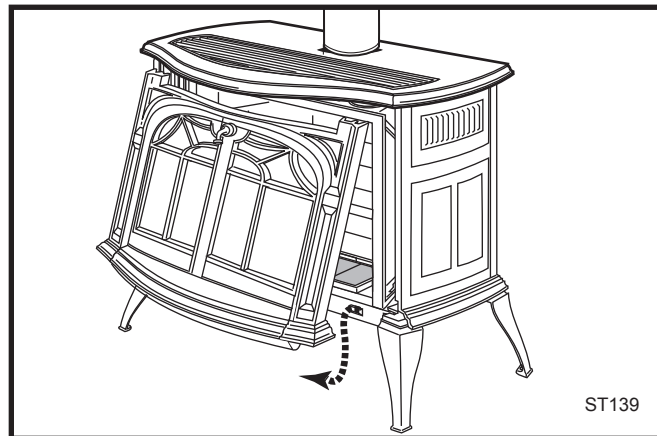


Fig. 36 Remove the stove front.

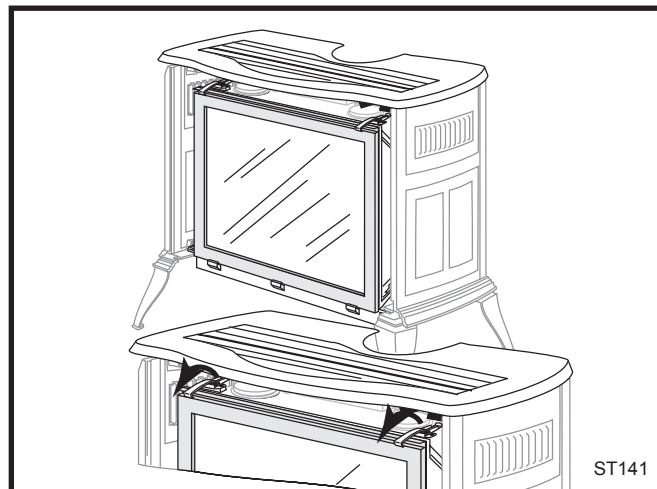


Fig. 37 Release the latches to remove the glass frame.

1. Remove the logs from their packaging, and inspect each piece for damage. **DO NOT INSTALL DAMAGED LOGS.** The rear log bracket is shipped packaged with the logs.
2. Install the rear left log by placing it on the sheet metal shelf at the back of the firebox. (Fig. 39) The log should touch the back wall of the firebox. Slide the log to the left until the left side lines up with the left bracket. (Fig. 39) When the log is in place the left front corner of the log should rest on the decorative grate.
3. Install the rear right log by placing it on the sheet metal shelf at the back toward the right. Make sure the right side of the log lines up with the right bracket. (Fig. 39) **NOTE:** When the right and left rear logs are in place, they should touch the back of the firebox and each other.



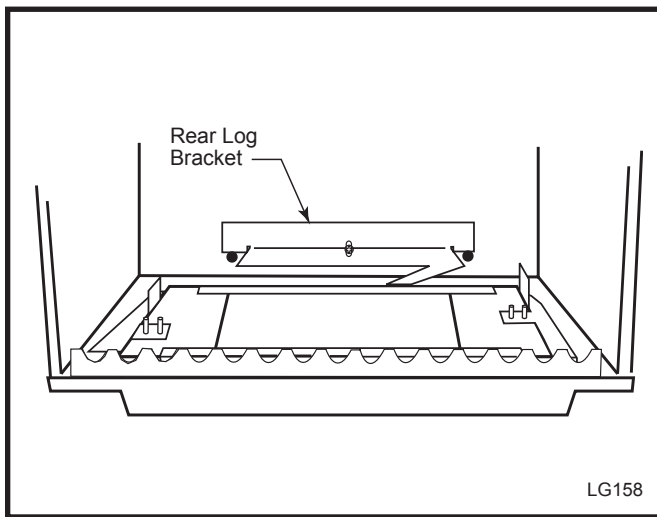


Fig. 38 Radiance firebox.

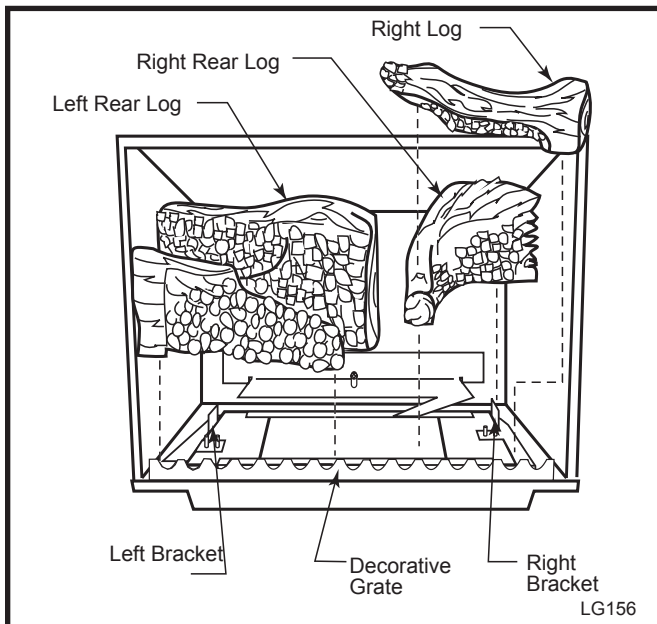


Fig. 39 Install the left and right rear logs and the right log.

4. Install the right log by engaging hole on the bottom with pin on the right rear log. (Fig. 40) Set the bottom of the log on the bracket and bring forward to come in contact with decorative grate on right.
5. Loosely sprinkle the lava rocks directly on top of the burner just behind decorative grate. (Fig. 41) Use the lava rock to cover brackets on the burner. Do not place lava rocks toward back of burner. The lava rock is shipped inside the bag assembly.

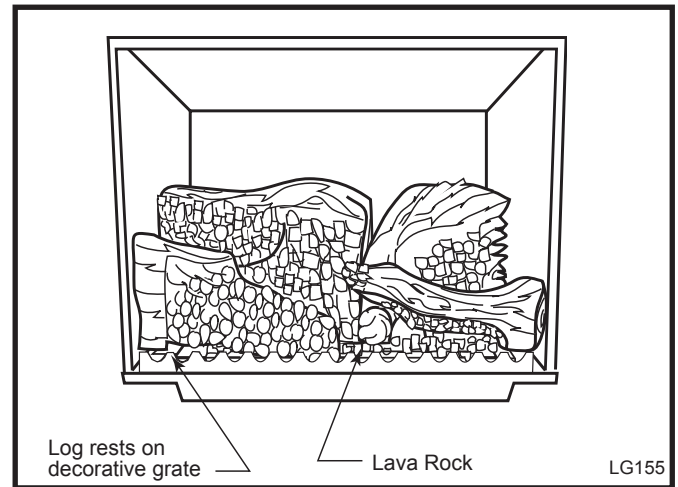


Fig. 40 Completed log installation.

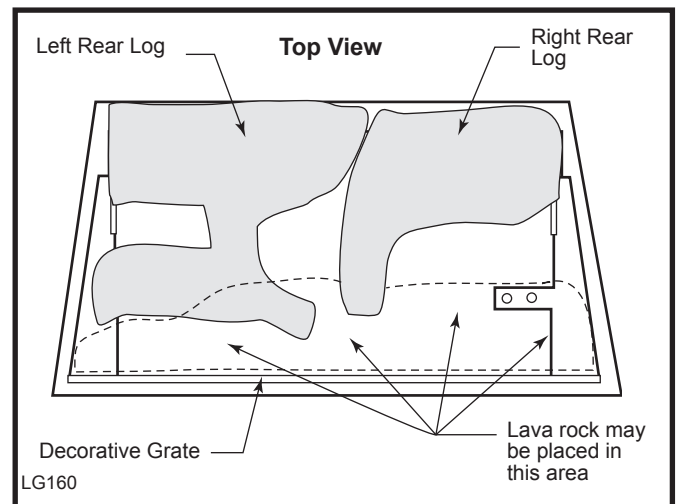


Fig. 41 Lava rock placement.

## 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 on page 30.

**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.



**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 on Page 24, before going to the next step.

**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 35,000 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 35,000 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.

**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 LP to Natural Gas use Kit #000-5009. To convert from Natural Gas to LP use Kit #000-5010.

Conversion instructions are provided with each kit and beginning on Page 29 in this manual.

**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.**

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 35,000 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 35,000 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.

**Install ON/OFF Switch**

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. (Fig. 42)
2. Run wires down back of stove, under bottom of rear shroud to valve.
3. Attach wires to valve terminals. (Fig. 43)

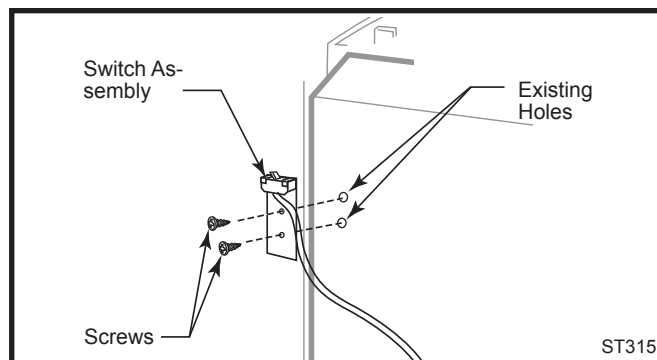


Fig. 42 Attach switch assembly to rear shroud.

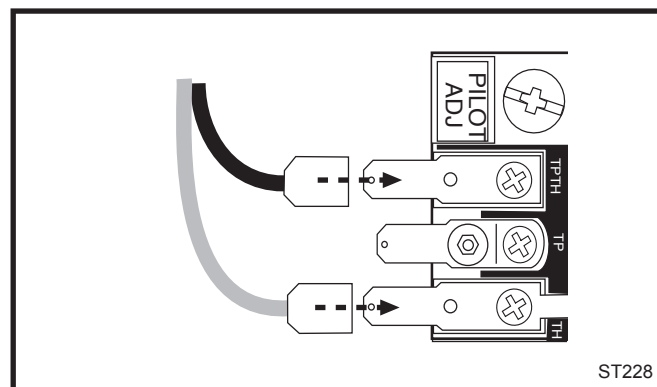


Fig. 43 Attach switch wires to valve.

**Thermostat 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

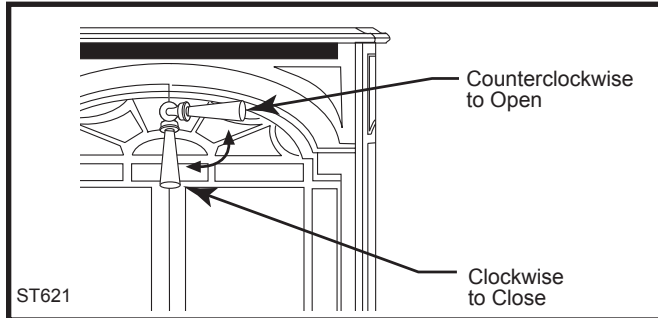
1. Install the wall thermostat in the desired location and run the wires to the stove location. Terminate these leads with 1/4" female connectors.
2. Connect the thermostat wires to the valve. (Fig. 43)

**Install the Mesh and Grille**

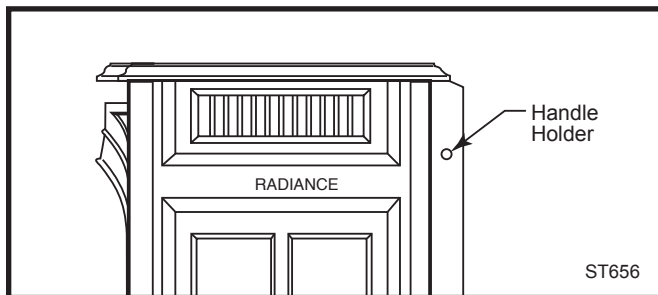
Place the mesh and grille on the top of the Radiance stove to complete assembly.

## Operation

The Radiance is shipped with the operable door front plate. The stove may be operated with the doors either open or closed. To open the front doors, insert the handle into the door latch stub and turn it to the right and up. (Fig. 44) When not in use, the handle may be stored in the handle holder on the right side of the rear shroud. (Fig. 45)



**Fig. 44** To open the front doors, turn handle counterclockwise.



**Fig. 45** When not in use, store handle in the handle holder.

### Your First Fire

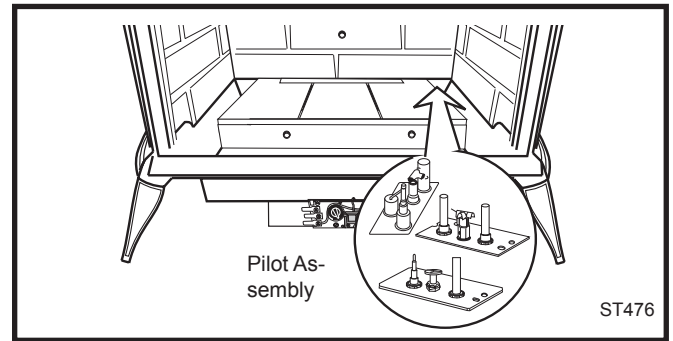
Read these instructions carefully and familiarize yourself with the burner controls shown on Page 24. Locate the pilot assembly, Figure 46. Follow the lighting instructions on Page 24 exactly.

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.

### Pilot and Burner Inspection

Each time you light your heater check that the pilot flame and burner flame patterns are as shown in Figure 48. 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 on Page 32.



**Fig. 46** Pilot Assembly location.

### Flame & Temperature Adjustment

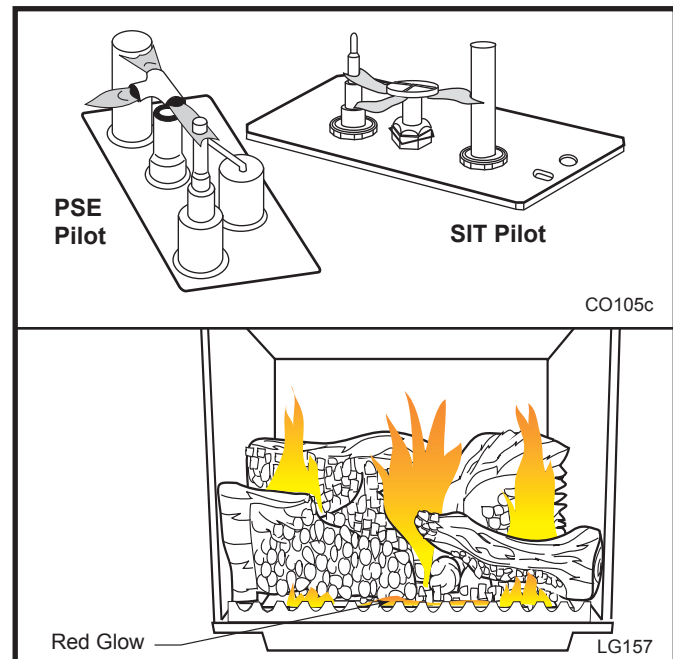
For stoves equipped with HI/LO valves, flame adjustment is accomplished by rotating the HI/LO adjustment knob located near the center of the gas control valve. (Fig. 47)



**Fig. 47** Flame adjustment knob for Honeywell valve.

### Flame Characteristics

It is important to periodically perform a visual check of the pilot and the burner flames. Compare them to Figure 48. If any of the flames appear abnormal, call a service person.



**Fig. 48** Correct pilot and burner flame patterns.

# Lighting and Operating Instructions

## FOR YOUR SAFETY READ BEFORE LIGHTING


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

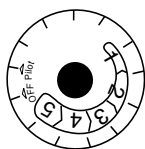
- A. This heater has a pilot which must be lit manually. When lighting the pilot follow these instructions exactly.
- B. BEFORE LIGHTING smell all around the heater area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

### WHAT TO DO IF YOU SMELL GAS

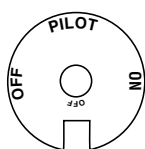
- Do not try to light any fireplace
  - Do not touch any electric switch
  - Do not use any phone in your building
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. 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 fireplace 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 fireplace.
3. For MN/MP/TN/TP appliances ONLY, go on to Step 4. For RN/RP appliances turn the On/Off switch to "OFF" position or set thermostat to lowest level.
4. Open control access panel.
5. Push in gas control knob slightly and turn clockwise  to "OFF".




Euro SIT



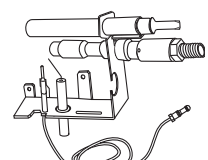
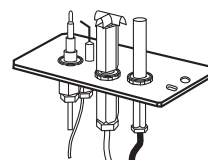
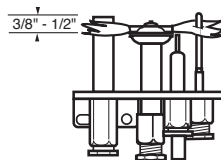
SIT NOVA



Honeywell

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 counterclockwise  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. For RN/RP appliances turn the On/Off switch to "ON" position or set thermostat to desired setting.
  14. Turn on all electrical power to the fireplace.

## 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 fireplace 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.

## Troubleshooting / Honeywell #8420 Gas Control System

NOTE: Before troubleshooting the gas control system, be sure the external gas shutoff is in the "ON" position.

**WARNING: REMOVE THE GLASS PANEL BEFORE PERFORMING ANY GAS CONTROL SERVICE WORK.**

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. Spark ignitor will not light	A. Defective or misaligned electrode at the pilot	Using a match, light pilot. If pilot lights, turn off pilot and push the ignitor button again. If pilot will not light, check gap at electrode and pilot - it should be 1/8" to have a strong spark.
	B. Defective ignitor (push button)	Push piezo ignitor button. Check for spark at electrode and pilot. If there is no spark at the pilot, and electrode wire is properly connected, replace ignitor.
2. Pilot will not stay lit after carefully following the lighting instructions	A. Defective pilot generator (thermocouple)	Check pilot flame. It must impinge on the thermocouple or thermopile. NOTE: This pilot burner assembly uses both a thermocouple and a thermopile. The thermocouple operates the pilot flame. Tighten the thermocouple. The thermopile operates the main valve (ON and OFF). Clean and/or adjust pilot for maximum flame impingement on thermocouple and thermopile.
	B. Defective automatic valve operator	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.
3. Pilot lights, no gas to burner, valve knob ON, remote switch (rocker switch) ON	A. Remote switch or wires defective	Check rocker switch and wires for proper connection. Use jumper wires across terminals at rocker switch. If burner lights, replace rocker switch. If okay, use jumper wires across rocker switch wires at the valve; if burner lights, wires are faulty or connections are bad.
	B. Thermopile may not generate sufficient voltage	1. Be sure wire connections from thermopile at gas valve terminals are tight and thermopile is fully inserted into pilot bracket.
		2. One of the rocker switch wires may be grounded. Remove rocker switch wires from valve terminals. If burner now stays lit, trace rocker switch wiring from ground. It may be grounded to the appliance or the gas supply line.
		3. Check the thermopile with a millivolt meter. Take reading at thermopile ("TP" and "TP/TH") terminals of gas valve. Should read 325 millivolts minimum while holding valve knob depressed in PILOT position and with rocker switch OFF. Replace faulty thermopile if reading is below specified minimum.
	C. Plugged burner orifice	Check burner orifices for debris, and remove.
	D. Defective automatic valve operator	Turn knob to ON, place rocker switch to ON, millivolt meter should read greater than 10 mV. If the reading is okay and the burner does not light, replace the valve.
4. Frequent pilot outage	A. Pilot flame may be too low or high, (blowing or lifting), causing the pilot to drop out	Clean and/or adjust pilot flame for maximum flame impingement on thermocouple and thermopile.
	B. Possible blockage of the vent terminal	Check the vent terminal for blockage.



## Instructions for RF Comfort Control Valve

The Comfort Control valve allows remote control of temperature, fan and flame appearance.

**NOTE:** The antenna should hang in free air away from grounded metal.

### Operation

1. If the manual switch is in remote position, switch it to LOCAL. (Fig. 49)
2. Turn the pilotstat knob counterclockwise from OFF to the PILOT position, push the knob down, and hold in position. The pilot valve opens and allows gas to flow to the pilot burner.
3. Push plunger on the piezo until the pilot burner is lit. When the pilot burner is lit, the LED on the control will come on after approximately 40 seconds and will provide 1 short blink continuously in the normal mode. When the light turns off which will be approximately 10 seconds after it has been continuously red, the receiver/valve is fully powered.

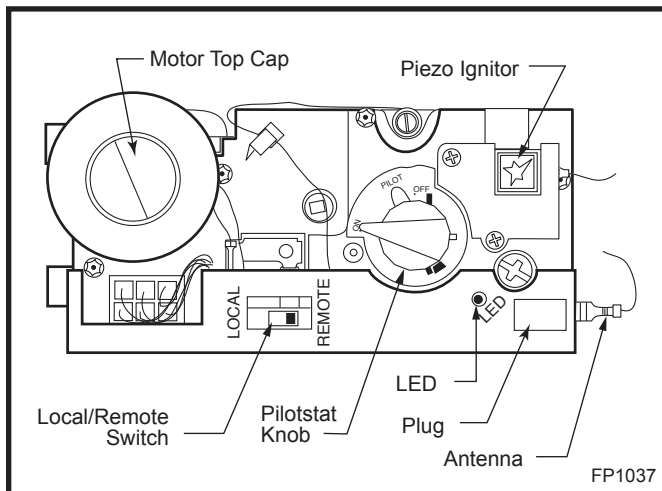


Fig. 49 Comfort control valve.

4. Release the knob. The shaft will move upward. The pilot burner should now stay burning. If the pilot burner goes out, repeat step 2.
5. Turn the knob counterclockwise to the ON position. If the manual switch is in the LOCAL position, the main burner will turn on immediately.
6. ON the initial use of a transmitter, a recognition operation is required between the receiver/valve and transmitter. Change the switch from LOCAL to REMOTE. Press the fan or flame button on the transmitter within 30 seconds. The LED will blink indicating the transmitter will now work with the receiver/valve. If the switch continues in the REMOTE position, the transmitter will now control the main valve, flame modulation level and fan control.

7. If the manual switch is in the LOCAL position, the valve will be at the highest fixed pressure setting and the fan will be at the highest fixed speed. The transmitter will control the fan only.

### Shut Off Procedure

If the manual switch is in the REMOTE position, the transmitter can shut off the main burner and fan. However, the control is still on and a command from the transmitter can turn on the main burner or fan.

To shut off the system, turn the pilotstat knob clockwise to the OFF position. This action closes the main gas and safety valves. The transmitter cannot turn on the main burner or fan.

### Transmitter Operation

#### Off Mode

In the OFF mode, the fireplace flame and fan are off, the display will show OFF and displays the room temperature. If the receiver is in REMOTE mode, the fireplace will shut off.

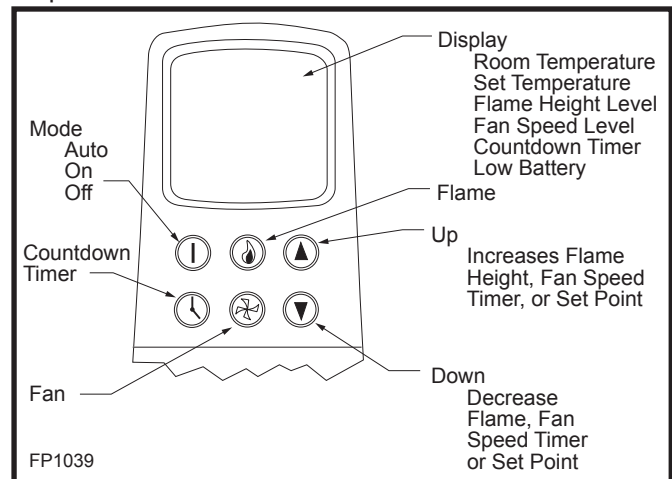


Fig. 50 Transmitter diagram.

### On (Manual) Mode

In the ON mode, the room temperature, flame and fan levels will be shown. MANUAL will appear next to both the flame and fan icons.

When the control is in the ON mode, the flame and fan levels, and delay timer are changed with the up and down buttons. To change the flame level, press the flame button followed by an arrow key. To change the fan level, press the fan key followed by an arrow key. Pushing the arrow key once will change the level by one unit.

### Delay Timer Mode

The shut off delay timer has a maximum of 2 hours and a minimum of zero minutes. To change the timer level, press the time key followed by an arrow key. Pushing the key once will change the timer by 10 minutes.



## Auto Mode

In the AUTO mode, the room temperature, set temperature, flame and fan levels will be shown. AUTO will appear next to both the flame and fan icons.

When the control is in the AUTO mode, the main burner will turn on/off or modulate based on the heat needed to maintain the set temperature. The flame level will change automatically to optimize the heat output needed to maintain the set temperature. To change the set temperature, press the up or down key. Pushing a key once will change the temperature by one degree.

In the AUTO mode, the fan speed will increase with increasing flame height or decrease with decreasing flame height. "AUTO" is displayed next to the flame and fan icons.

## Fan Override During Auto Mode

If a lower or higher fan speed is desired when operating in the AUTO mode, the fan speed can be overridden by pushing the fan button followed by the up or down key. Pushing a key once will change the fan level by one unit. In this mode "AUTO" is displayed next to the flame icon and "MANUAL" is displayed next to the fan icon.

## Change Between F/C Temperature Units

Push the up and down arrow keys simultaneously for at least 3 seconds to toggle between Fahrenheit and Celsius units.

## Disable Thermostat Function

To disable the thermostat function in the AUTO mode, push the time and down keys simultaneously for at least 3 seconds.

## To Change Batteries

1. Remove cover on the backside of the transmitter. Install 3 AAA batteries as shown and reattach cover.
2. Once steps 1-3 in OPERATION are completed, receiver/valve and transmitter are now ready. Press any button on transmitter for recognition process to occur between the receiver/valve and transmitter.
3. Use functions as described in TRANSMITTER section.

## Troubleshooting

1. Locate LED light on valve.
2. LED will blink after every valid command received by the transmitter; this is not an error.
3. Failure codes may occur anytime after pilot burner is lit.
4. Sequence is failure code followed by light not blinking for 30 seconds.

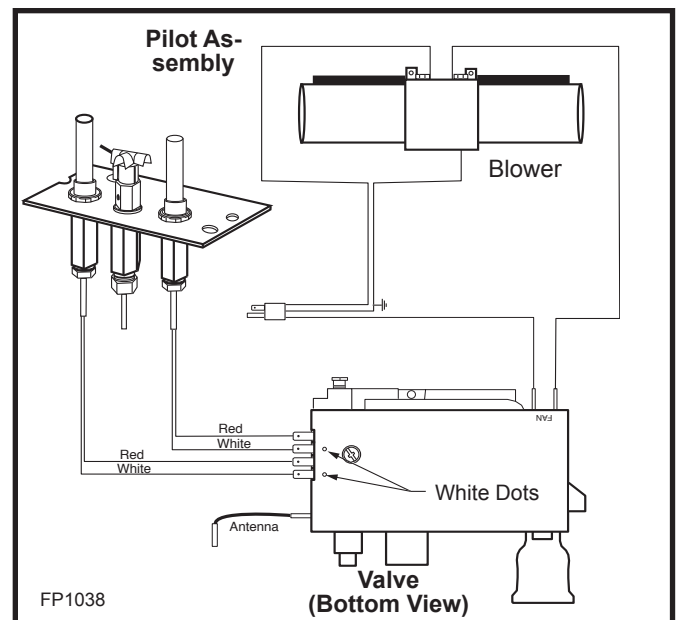


Fig. 51 Comfort Valve wiring diagram.

5. In the event of multiple failure codes, next failure code follows previous failure code by approximately 3 seconds.

**If an Error Code 3 is observed while performing the testing, complete the following:**

1. Make sure the spade connectors are pushed all the way on. If the Error Code 3 is still showing, then go to the next step.
2. Switch the front two thermopile leads with the back two. Be sure the white lead is connected to the spade with the white dot next to it. If the Error Code 3 is still showing, replace the thermopiles.

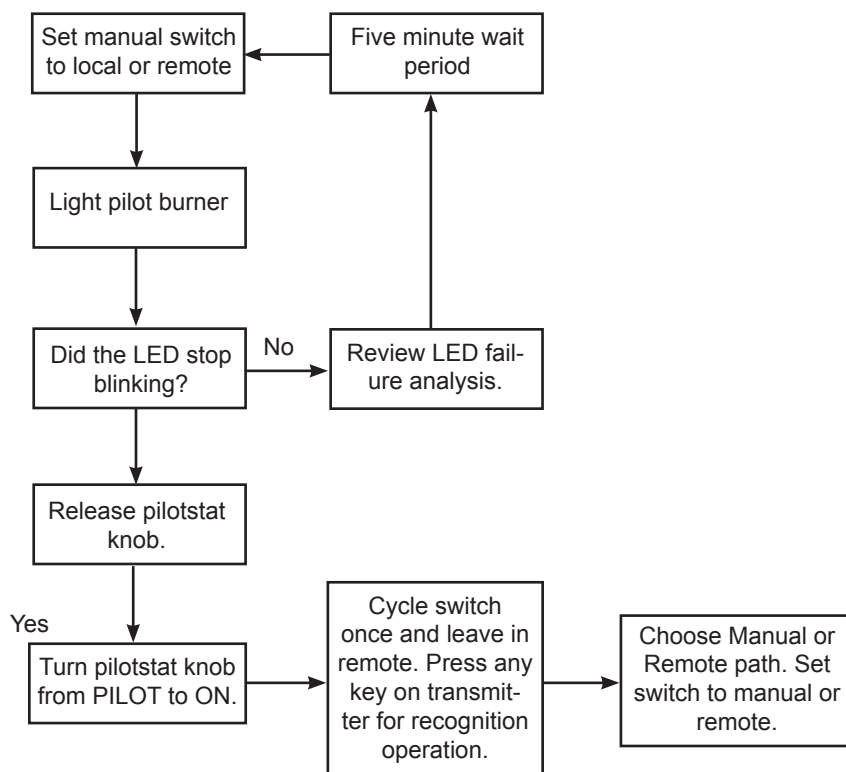
**If an Error Code 8 is observed while performing the testing, complete the following:**

1. Confirm the valve is not in REMOTE mode.
  - If the valve is producing Error Code 8 and in REMOTE mode, the valve is defective and should be replaced.
  - If the valve is in LOCAL mode and producing Error Code 8, then go to the next step.
2. Slide the Remote/Local switch to REMOTE and teach the valve a transmitter (see item 6, page 32). The Error Code will clear itself after approximately 1.5 minutes and return to normal operation.

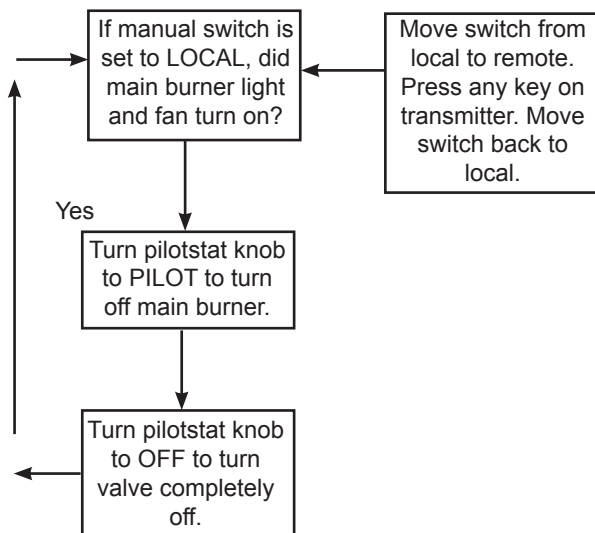
LED Count	Service Action
8	Replace valve
7	Confirm stepper motor connection exists
5	Confirm fan connection exists and works
4	Confirm gas type; jumper in place
3	Replace thermopiles
2	Turn fan ON

**NOTE:** Some keys are not active.

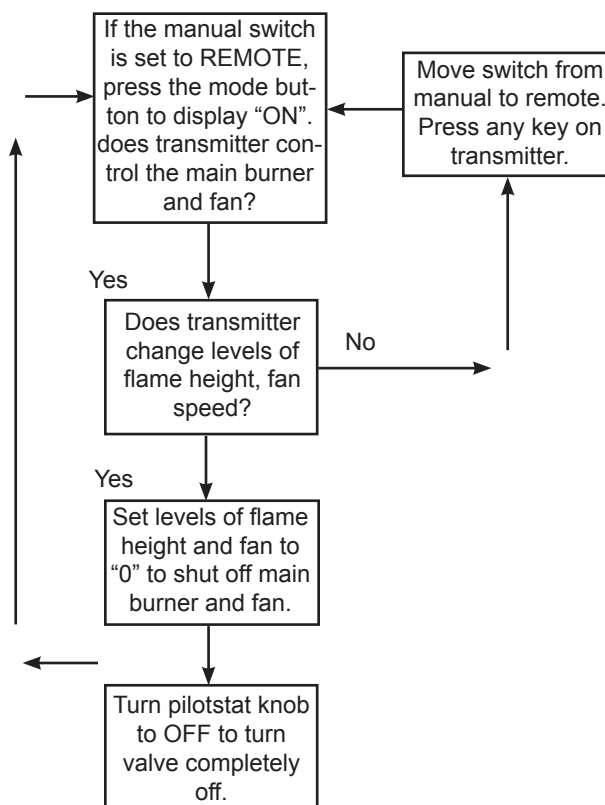
## Comfort Valve System Control Sequence Of Operation With Transmitter

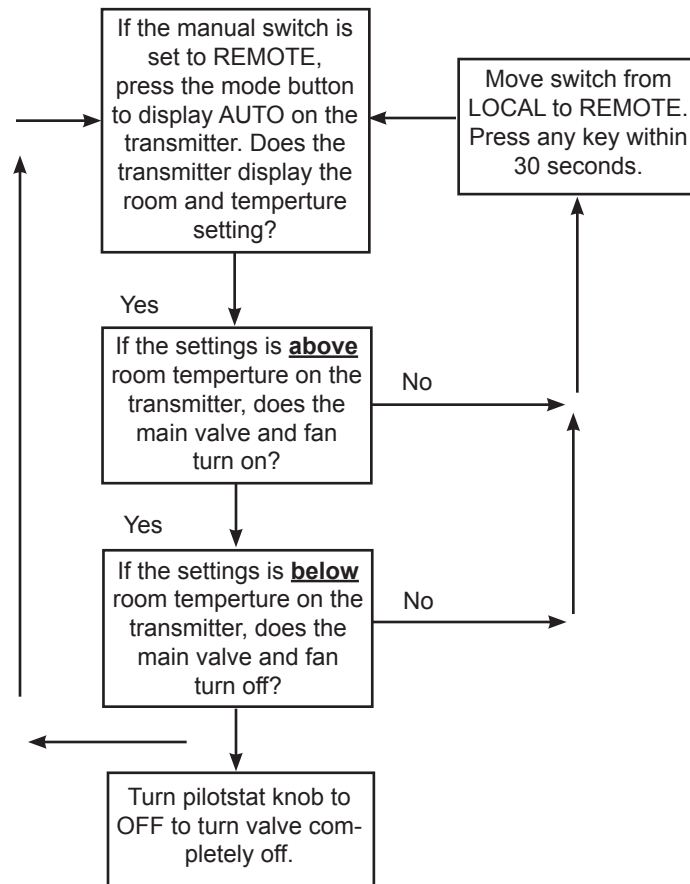


### Local Path



### On Path



**Auto Path**

## Fuel Conversion Instructions

**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.

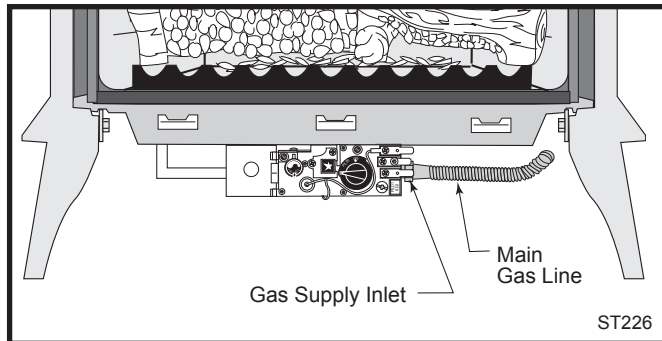


Fig. 52 Attach the gas line to the left side of the valve.

### 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.

### Conversion Procedure

1. Remove stove front. Lift stove front up and then swing bottom out and away to disengage from the stove body. (Page 32, Fig. 62)
2. Undo the right and left latches at the top of the glass frame. (Page 32, Fig. 63)
3. 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.
4. Remove the logset from the firebox.
5. Remove the rear log bracket by loosening the screw and lifting the bracket up and away. (Fig. 53)
6. Remove the right and left log bracket assembly by unfastening the two screws which hold the burner in place. (Fig. 53)

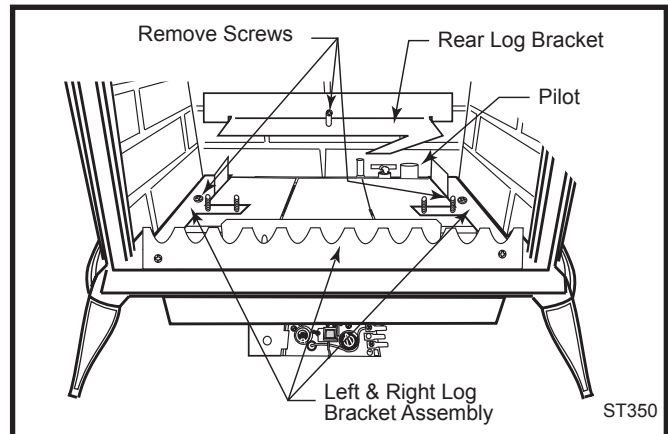


Fig. 53 Remove rear log bracket and left and right log bracket assembly.

### Burner Orifice Conversion

1. Hold the burner at the right hand side and lift to clear the right burner leg. Then pull to the right to clear the injectors on the left hand side.
2. Remove injector orifices from left burner leg using 1/2" wrench. (Fig. 61)
3. Install conversion orifices. (Refer to Table 1)
4. Air shutter adjustment. The unit is shipped from the factory with the air shutter open 1". For LP units only, the air shutter could be closed further. Refer to Table 2 for minimum air shutter opening. The air shutter is located on the bottom of the burner to the left. Unfasten the two nuts holding the shutter in place. Adjust the air shutter as needed according to Table 2. (Fig. 54)

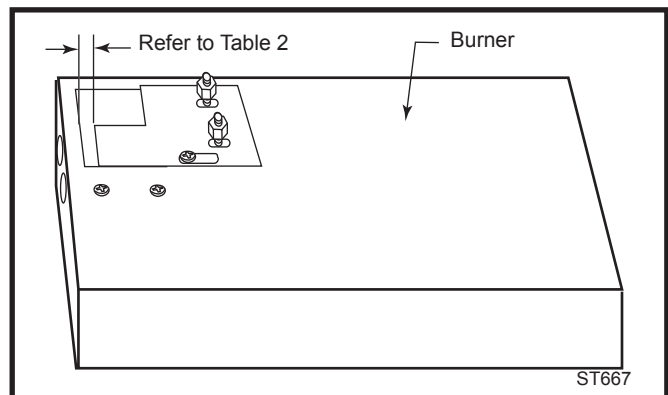
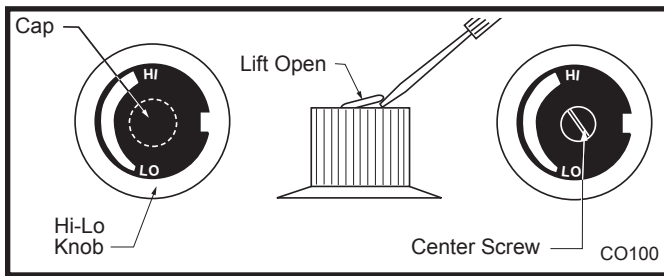


Fig. 54 Adjust air shutter according to Table 2.

### Models 3350, 3351, 3360 thru 3369 (R Models) Only Honeywell Valve

1. Remove cap from Hi-Lo knob. This can be accomplished by lifting the plastic cap off the screw. (Fig. 55)
2. Remove the screw from center of Hi-Lo knob with small screwdriver turning counterclockwise. (Fig. 55)

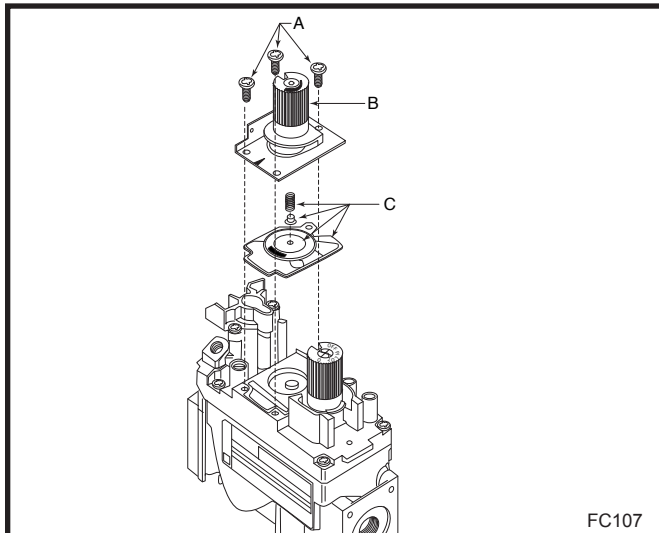


**Fig. 55** Remove center screw from Hi-Lo knob.

3. Insert blue painted screw when converting to natural gas and red painted screw when converting to LP.
4. Tighten screw (do not over tighten), replace cap.

#### SIT 820 Valve

1. Using TORX T20 bit, remove and discard the three (3) pressure regulator mounting screws (A), pressure regulator tower (B) and the spring and diaphragm assembly (C). (Fig. 56)



**Fig. 56** Remove mounting screws, pressure regulator tower and spring and diaphragm assembly.

2. Insure the rubber gasket (D) is properly positioned and install the new HI/LO pressure regulator assembly to the valve using the new screws (E) supplied with the kit. Tighten the screws securely. (Ref. torque = 25 in/lb) (Fig. 57)
3. Install the enclosed conversion label (F) to the valve body where it can easily be seen. (Fig. 57)

#### Pilot Orifice Conversion

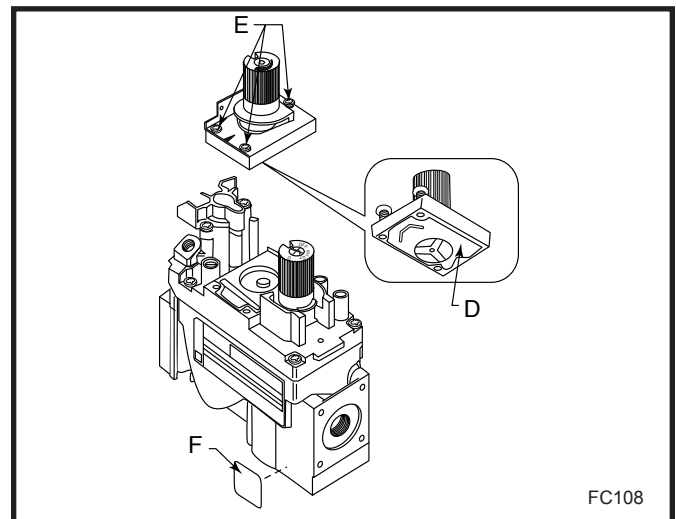
1. Locate pilot. (Fig. 53)
2. Replace pilot orifice.

##### Pilot Type 1 (SIT Pilot)

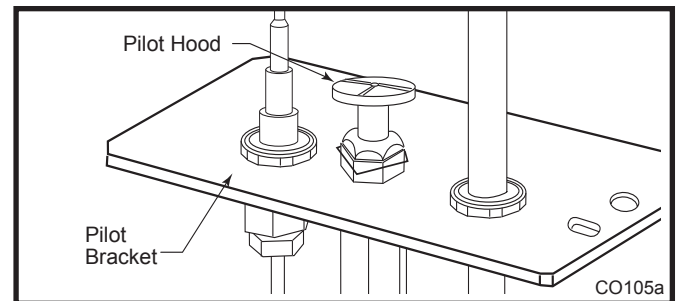
- Remove pilot hood by lifting up. (Fig. 58) Do not remove the snap ring to remove the pilot hood.

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

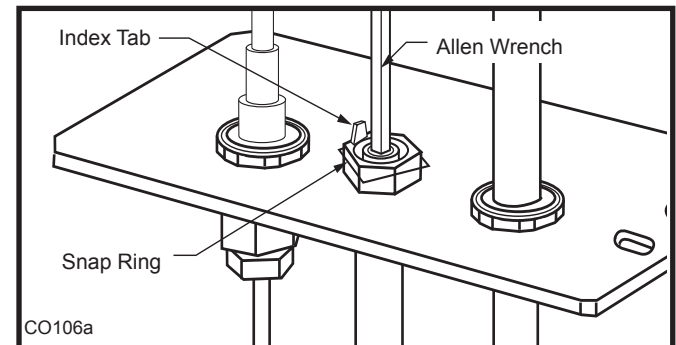
- Remove pilot orifice with allen wrench. (Fig. 59)



**Fig. 57** Replace regulator.



**Fig. 58** Remove pilot hood.

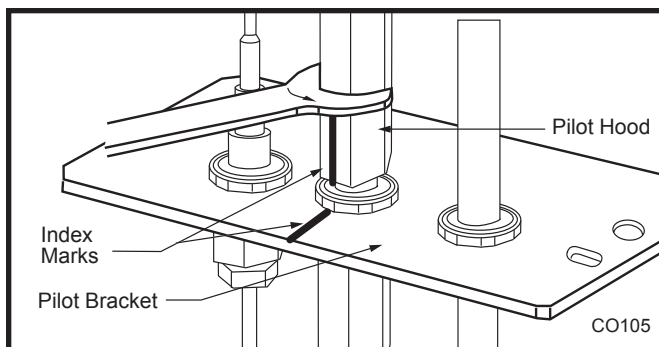


**Fig. 57** Remove pilot orifice.

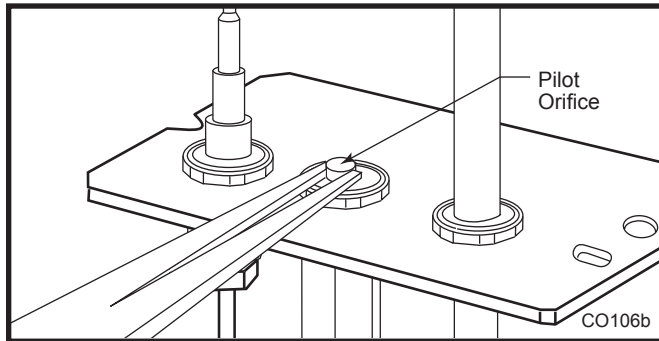
- Install the conversion orifice.
- Reinstall pilot hood. Be sure to align hood with index tab.

##### Pilot type 2 (Honeywell Pilot)

- Loosen pilot hood turning counterclockwise using a 7/16" wrench. (Fig. 60) **NOTE:** You may use penetrating oil to prevent pilot hood threads from seizing up.
- Remove pilot orifice with needlenose pliers. (Fig. 61) **NOTE:** Use a wrench to hold pilot tube in place while removing the orifice.
- Install the conversion orifice.
- Reinstall pilot hood and tighten until mark on pilot hood aligns with mark on pilot bracket.



**Fig. 60** Remove pilot hood. (Your pilot may have a different appearance.)

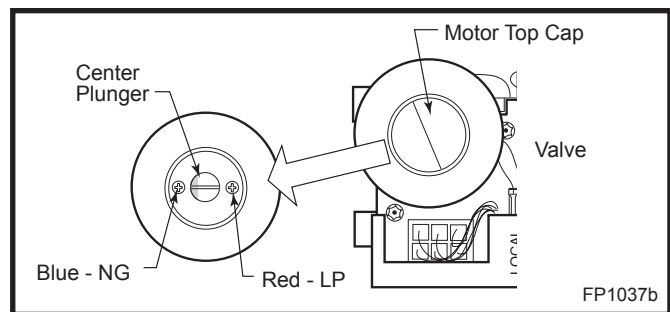


**Fig. 61** Remove pilot orifice.

**NOTE:** Be sure burner leg remains at a 90° angle to firebox base after conversion.

**Models 3352, 3354, 3390 thru 3399 (RF Models) Only**

1. Follow procedure for pilot type 2 to replace pilot orifice.
2. Remove and replace plug on lower right hand side of the valve; Red for LP and Blue for NG. (Page 26, Fig. 49)
3. Remove motor top cap. Depress and turn center plunger until arrow points to correct screw. Red for LP and Blue for NG. **NOTE:** Plunger will “snap” into NG position when arrow is close to blue screw. It will not “snap” at LP (Red) position. (Fig. 62)
4. Insure manifold pressure remains between 3.2” - 3.5” w.c. for NG and 9.5” - 10” w.c. for LP. To adjust the manifold pressure, for NG, using a torque #10 key turn the blue screw clockwise to increase the manifold pressure. Turn the screw counterclockwise to decrease the pressure. Use the red screw to adjust LP.
5. Replace motor top cap.



**Fig. 62** Depress and turn center plunger.

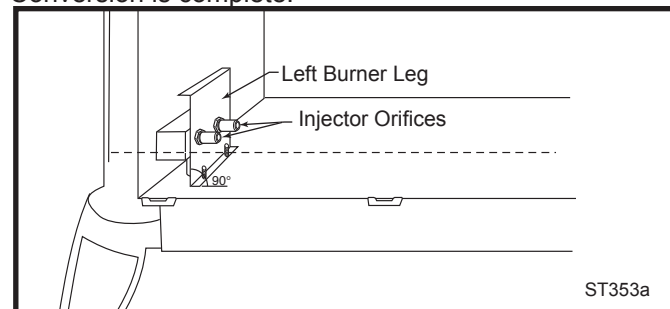
**All Models**

1. Replace burner. Slide the burner in at an angle with left side lower than the right side. Slide the left side onto the injectors, making sure the burner leg remains at a 90° angle to the base. Lower the right hand side down in to place. Make sure the burner is as far left as possible and the injector shoulders are inside the burner.

**NOTE:** It is very critical to keep the left burner leg, which holds the injectors, at a 90° angle to the base. (Fig. 63) This keeps the orifices aligned with the tubes inside burner. Failure to do so could affect the flame appearance and performance of the unit.

2. Place conversion label on valve.
3. Reinstall the right and left log bracket assembly.
4. Reinstall the rear log bracket.
5. Replace logs.
6. Replace glass and stove front.

Conversion is complete.



**Fig. 63** Remove and replace injector orifices.



**Table 1. Injector Orifice Size Matrix**

Conversion to Natural Gas					Input (BTU/h)	
Kit #	Front	Part #	Rear	Part #	Minimum	Maximum
000-5002	#51 / .067"	30000449	#40 / .098"	20004263	25,000	35,000
000-5009						
Conversion to LP					Input (BTU/h)	
Kit #	Front	Part #	Rear	Part #	Minimum	Maximum
000-5003	#57 / .043"	20004587	#54 / .055"	20000130	27,500	35,000
000-5010						

**Table 2. Air Shutter Adjustment**

Model	Natural Gas	LP
RDVOD, RDVOD with Vermont Castings Draft Hood Z31D00 FSDHAG	1"	Fully Closed

Minimum rear injector air inlet openings.

## 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.

### Annual System Inspection

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

### Logset and 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. Lift the Stove Front up and then swing the bottom out to disengage it from the heater shell. (Fig. 64)
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.

### 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.

### CAUTION

**TURN THE PILOT OFF BEFORE PAINTING.  
ALLOW THE HEATER TO COOL COMPLETELY  
BEFORE PAINTING.**

### Cleaning the Glass

**WARNING:** Allow the glass cool completely before attempting to clean.

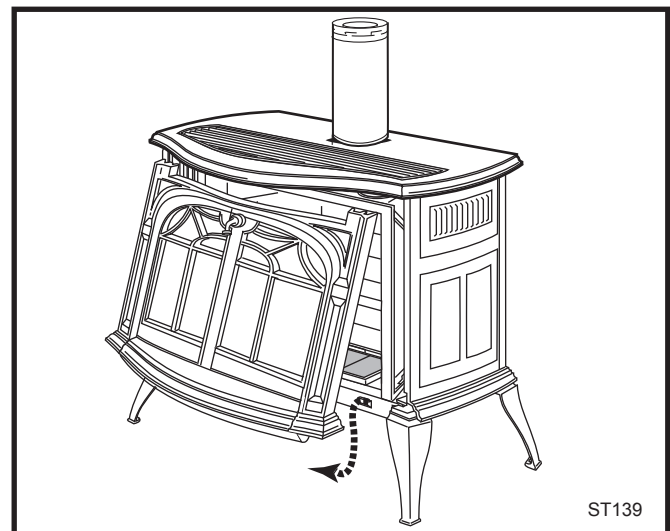
It will be necessary to clean the glass periodically. During start-up, condensation, which is normal, forms on the inside of the glass and causes lint, dust and other airborne particles to cling to the glass surface. Also initial paint curing may deposit a slight film on the glass. It is therefore recommended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



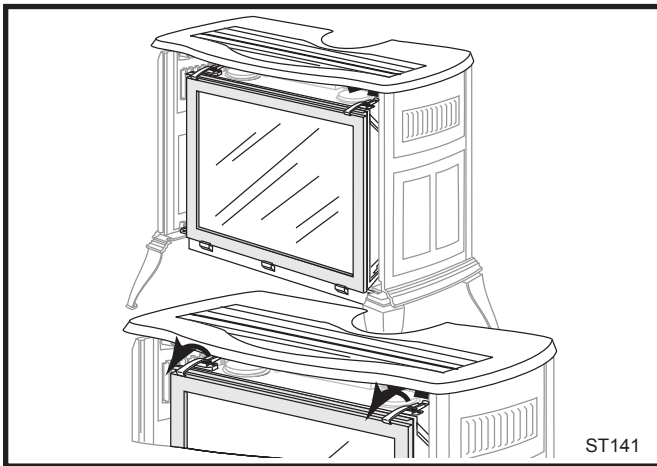
**Clean glass after first two weeks of operation.**

### Glass Replacement

Replace glass only with CFM Corporation approved parts. Refer to Page 37 for Replacement Parts. Refer to Figure 65 and previous instructions for removal of the damaged glass frame.



**Fig. 64** Remove the Stove Front.



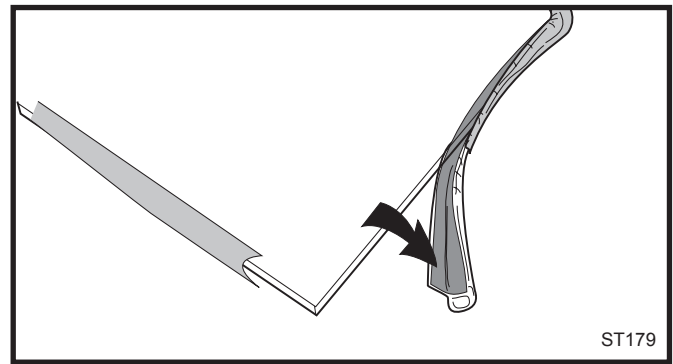
**Fig. 65** Release the latches to remove the glass frame.

### 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. (Figs. 62 & 63) 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.
3. 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 a bout 6" at a time and being careful to not stretch the material. Do not overlap the gasket ends. (Fig. 66)
4. 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.
5. Replace the glass frame and front panel as previously described.



**Fig. 66** Wrap the gasket material around the outside edge of the glass.

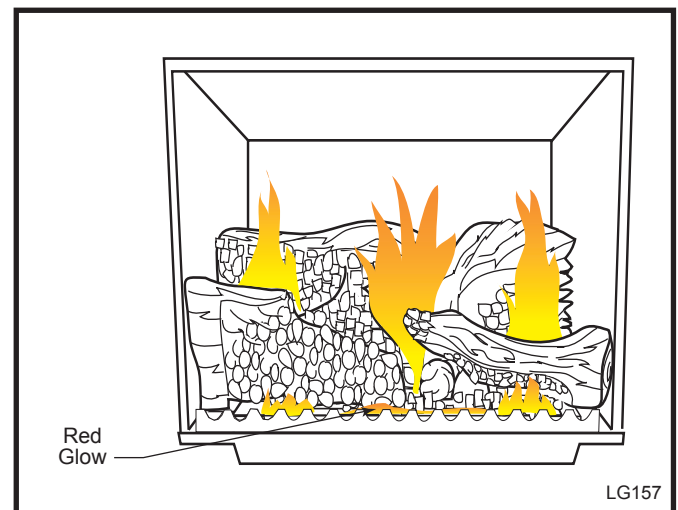
### Inspect the Vent System Annually

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.

### Check the Gas Flame Regularly

To ensure that the stove is operating properly, check the flames periodically to confirm that they match Figure 67. The flames will be blue during the first 15-20 minutes of operation, and will gradually turn to yellow after that.

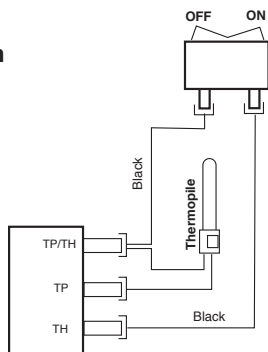
Do not use your stove if the flame pattern differs from that shown here. Contact your Vermont Castings dealer or a qualified technician for help.



**Fig. 67** Correct flame pattern.

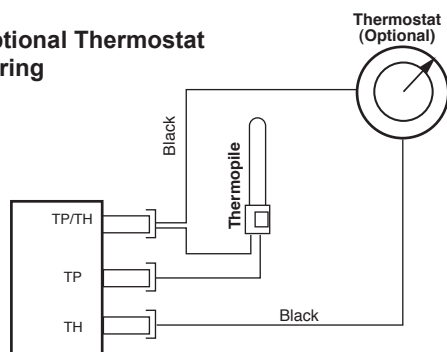
## Wiring Diagrams

### On/Off Switch Wiring



ST124b

### Optional Thermostat Wiring



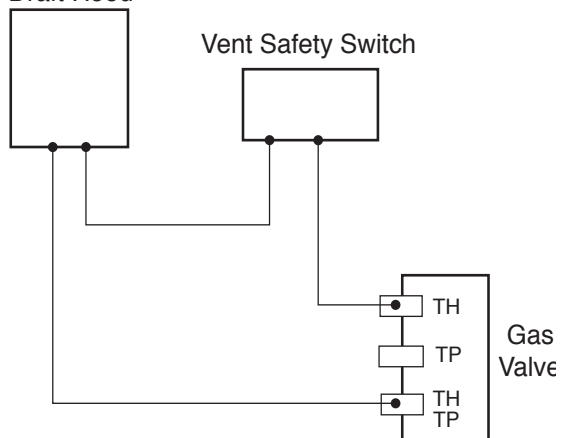
ST124c

Fig. 68 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.

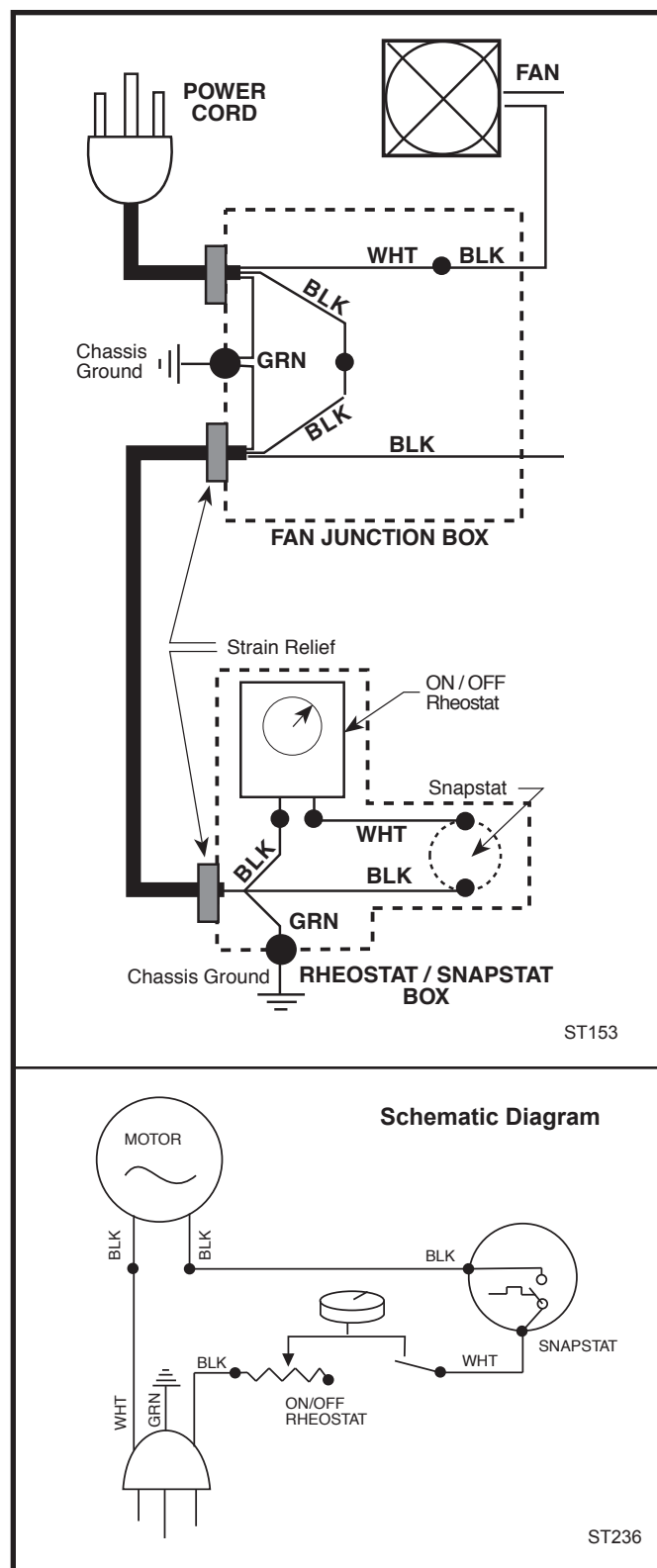
### Draft Hood

### Vent Safety Switch



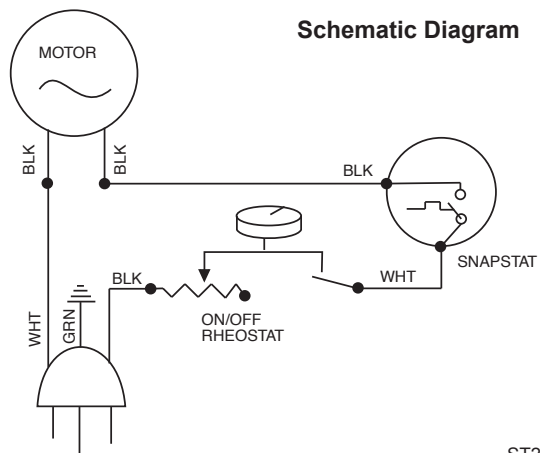
ST359

Fig. 69 Draft Hood Adapter (FSDHAG) wiring. Used on RN/RP models only.



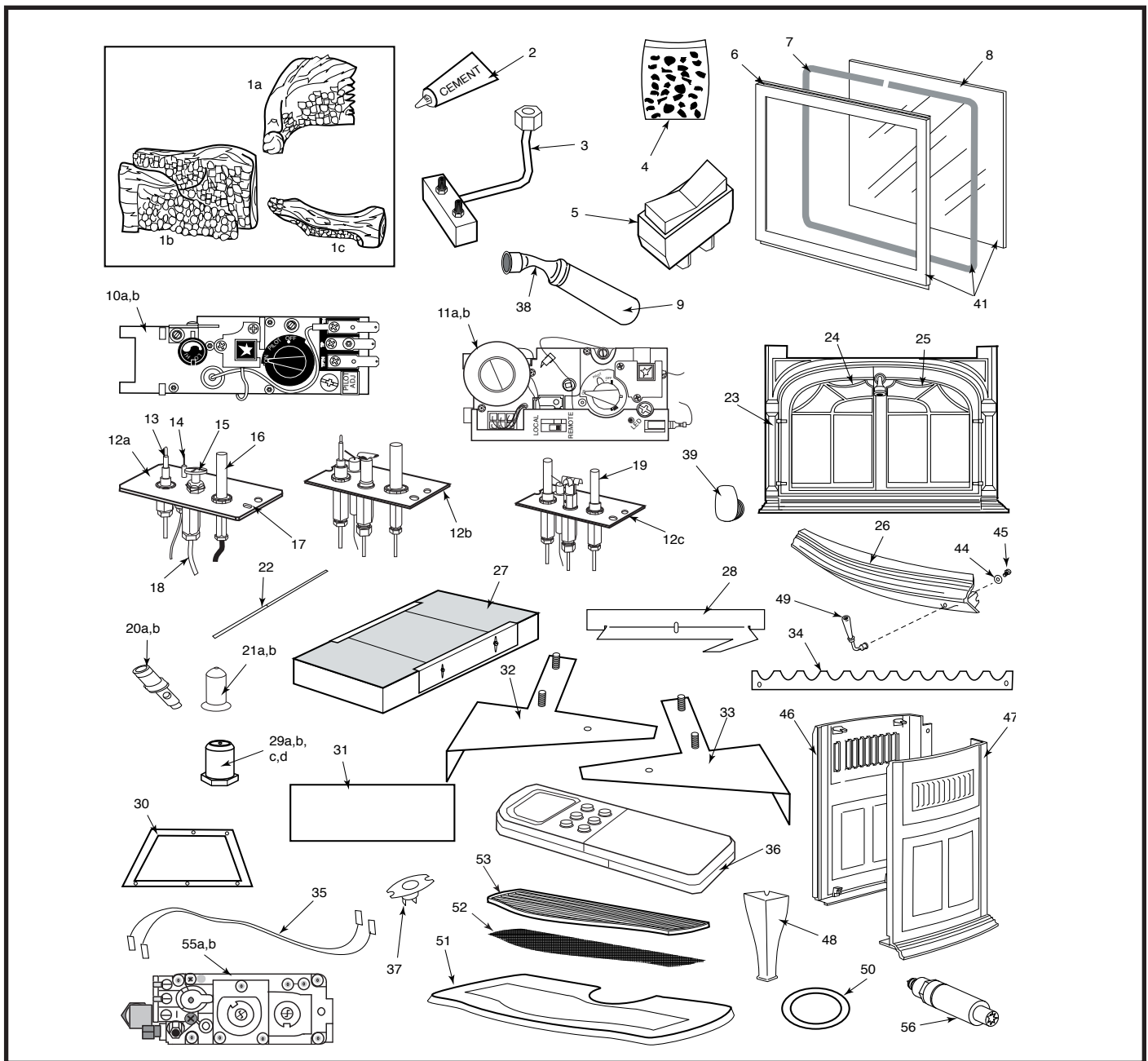
ST153

### Schematic Diagram



ST236

Fig. 70 Fan circuit.



CFM Corporation reserves the right to make changes in design, materials, specifications, prices and discontinue colors and products at any time, without notice.

## Radiance Direct Vent/Natural Vent Gas Heater (RDVOD)

Models: 3225 thru 3232, 3350 thru 3354, 3360 thru 3369, 3390 thru 3399

Ref.	Description	RDVOD
1.	Gas Log Set, RDVOD	20004184
1a.	Log, Right Rear - RDVOD	20004185
1b.	Log, Left Rear - RDVOD	20004186
1c.	Log, Right - RDVOD	20004187
2.	Gasket Cement, 3 oz. Tube	1206122
3.	Manifold Assembly	20003739
4.	Lava Rocks Burner	57897
5.	Trim ON/OFF Switch - JDV	30000874
6.	Frame, Glass - RDV40	1409112



**Radiance Direct Vent/Natural Vent Gas Heater (RDVOD)****Models: 3225 thru 3232, 3350 thru 3354, 3360 thru 3369, 3390 thru 3399 (continued)**

Ref.	Description	RDVOD
7.	Gasket, Glass Med. Knit - RDV40	1203702
8.	Glass, GFP Firebox	1601290
9.	Ceramic Handle w/Insert LFTR	0004345
10a.	Valve RN Honeywell VS8420E 2038 (Serial #'s up to 4939)*	10001782
10b.	Valve RP Honeywell VS8420E 2020 (Serial #'s up to 4939)**	10001759
11a.	Valve Gas Honeywell Convertible RFN RV8310E	20003719
11b.	Valve Gas Honeywell Convertible RFP RV8310E	20003720
12a.	Pilot Assembly 3Way N/DV RN 0.199.706	10002264
	Pilot Assembly 3Way N/DV RP 0.199.703	10002265
12b.	Pilot PSE - NA175	20001115
	Pilot PSE - LP175	20001116
12c.	Pilot Assembly 3Way DV/RFN CS3003A2009	20002266
	Pilot Assembly 3Way DV/RFP CS3003A2017	20002268
13.	Thermocouple 24"	53373
		7531137
14.	Electrode Ignitor w/ Cable SIT24	10001297
15.	Pilot Top Convertible	10002266
16.	Thermopile 18" RS	51827
		7533113
17.	Nut Electrode SIT #0.974.144	57886
18.	Tubing Pilot w/ Fitting 1/8 x 24"	10001296
19.	Thermopile PSE for RF Pilots	20002400
20a.	Pilot Orifice #62 - NG Top Convertible	10002268
20b.	Pilot Orifice #35 - LP Top Convertible	10002269
21a.	Pilot Orifice PSE RFN	20000908
21b.	Pilot Orifice PSE RFP	20000907
22.	Antennae, Honeywell 395783-1	20003561
23.	Front II, RDVOD	Refer to Enamel Parts Chart Page 38
24.	Door Left - RDVOD	Refer to Enamel Parts Chart Page 38
25.	Door Right - RDVOD	Refer to Enamel Parts Chart Page 38
26.	Control Door, RDVOD	Refer to Enamel Parts Chart Page 38
27.	Burner Housing Assembly	20003526
28.	Log Rear Bracket	20003577
29a.	Orifice Hood (.043) - Front - LP	20004587
29b.	Orifice Hood (.067") - Front - NG	30000449
29c.	Orifice Hood (.055") - Rear - LP	20000130
29d.	Orifice Hood (.098") - Rear - NG	20004263
30.	Gasket Base Pan	20004287
31.	Gasket Inner Base Pan	20004286
32.	Bracket, Right Log	20005259
33.	Bracket, Left Log	20005258
34.	Grate Decorative Burner	20003536
35.	Wire w/Straight Term 2 End 50"	10002582
36.	Transmitter Honeywell RF	20002047
37.	Sensor 2450 CMG-8184-0032	10002013
38.	Damper Steel Handle/Screw	30002720
39.	Latch, Front Door - RDV	30001249
41.	Glass Frame Assembly - RDV40	5003075
44.	Washer, Flat 1/4 - Blk. 266 x .629.064	1202473
45.	CS, Hex Hd 1/4-20 x 5/8" - Blk	1201372
46.	Left End	Refer to Enamel Parts Chart Page 38

# Radiance Direct Vent/Natural Vent Gas Heater (RDVOD)

Models: 3225 thru 3232, 3350 thru 3354, 3360 thru 3369, 3390 thru 3399 (continued)

Ref.	Description	RDVOD
47.	Right End	Refer to Enamel Parts Chart Page 38
48.	Leg	Refer to Enamel Parts Chart Page 38
49.	Control Door Handle Assembly	30002730
50.	Gasket, HE Door	1203687
51.	Top	Refer to Enamel Parts Chart Page 38
52.	FK26 Fan Subassembly (RF Only)	30000879
53.	Grille, RDV40	1301195
54.	Screen, Top RDV40	1601970
55a.	Valve Nova SIT820.662 RN (Serial #'s starting with 4940)	20010563
55b.	Valve Nova SIT820.653 RP (Serial #'s starting with 4940)	20010645
56.	Ignitor Piezo w/Nut SIT	52464
57.	Bracket Piezo Ignitor (not shown)	20010876

\*When converting to SIT valve, must order RP275

\*\*When converting to SIT valve, must order RP269

## Fuel Conversion Kits

Conversion Kit, NG to LP - RDVOD-RFN Kit #000-5003

Conversion Kit, NG to LP - RDVOD-RN Kit #000-5010

Conversion Kit, LP to NG - RDVOD-RFP Kit #000-5002

Conversion Kit, LP to NG - RDVOD-RP Kit #000-5009

Shell Enamel Parts - Radiance Direct Vent / Natural Vent									
Enamel Color	Model	Top	Left End	Right End	Front	Left Door	Right Door	Control Door	Leg (4)
Classic	3360, 3365 3390, 3395	1301194	30001751	30001752	30001376	30001378	30001377	30001413	30001753
Biscuit	3225, 3229	30003244	30003239	30003238	30003240	30003242	30003241	30003243	30003245
Bordeaux	3361, 3366 3391, 3396	2321194	30001771	30001770	30001416	30001418	30001417	30001419	30001772
Chestnut Brown	3226, 3230	30003253	30003248	30003247	30003249	30003251	30003250	30003252	30003254
Ebony	3227, 3231	30003262	30003257	30003256	30003258	30003260	30003259	30003261	30003263
Forest Green	3364, 3369 3394, 3399	2311194	30001780	30001779	30001428	30001430	30001429	30001431	30001781
Midnight Blue	3363, 3368 3393, 3398	2371194	30001777	30001776	30001424	30001426	30001425	30001427	30001778
Sand	3362, 3367 3392, 3397	1321194	30001774	30001773	30001420	30001422	30001421	30001423	30001775
Suede Brown	3350, 3351 3352, 3354	30002546	30002512	30002511	30002514	30002516	30002515	30002517	30002518
Vermont Cl. Green	3228, 3232	30003271	30003266	30003265	30003267	30003269	30003268	30003270	30003272

## Optional Accessories

### Fan Kits

#### FK26 Fan

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.

#### 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.

#### Installation

Refer to Page 14 for installation instructions.

### Remote Controls

The remote control allows you to turn the heater on or off from anywhere in the room. Refer to Page 35 for wiring diagrams. These remote controls are for use with RN/RP models.

Model	Functions Controlled
RC1	ON/OFF
RC2	ON/OFF and Temperature
IMTFK	Wall mounted thermostat control

### Screen Kit

An optional screen, R40SK, for use with the operable doors is available to allow the doors to be left in the open position.

### Warming Shelf

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

Model	Color
1560	Classic Black
1555	Biscuit
1556	Chestnut Brown
1557	Ebony
1558	Vermont Classic Green
1562	Sand
1565	Bordeaux
1566	Forest Green
1567	Midnight Blue
1568	Suede Brown

The shelf installation is done in three stages. First you attach the shelf loosely to the stove, leaving the screws loose enough to allow final adjustments. Then, you position the shelf and adjust the brackets so the shelf fits correctly. Finally, you tighten the screws.

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

### Decorative Rings

7" brass or charcoal gray rings are available to add a decorative touch to the exposed stove pipe.

Model	Description
7FSDRG/4	7" Charcoal Gray Rings (4)
7FSDRP/4	7" Polished Brass Rings (4)







# LIMITED LIFETIME WARRANTY

## PRODUCT COVERED BY THIS WARRANTY

All Vermont Castings gas stoves, gas inserts, and gas fireplaces, and all Majestic brand gas fireplaces equipped with an Insta-Flame Ceramic Burner, or standard steel tube burner.

### BASIC WARRANTY

CFM Corporation (hereinafter referred to collectively as the Company) warrants that your new Vermont Castings or Majestic Gas Fireplace/Stove is free from manufacturing and material defects for a period of one year from the date of purchase, subject to the following conditions and limitations.

### EXTENDED LIFETIME WARRANTY

The heat exchanger, where applicable, and combustion chamber of every Vermont Castings or Majestic gas product is warranted for life against through wall perforation. All appliances equipped with an Insta-Flame Ceramic Burner have limited lifetime coverage on the ceramic burner plaque. Warrantees are made to the original owner subject to proof of purchase and the conditions and limitations listed on this Warranty Document

### COMPONENT WARRANTY

**CAST IRON:** All external and internal cast iron parts are warranted for a period of three years.

**Note:** On porcelain enamel finished external parts and accessories The Company offers no Warranty on chipping of enamel surfaces. Inspect all product prior to accepting it for any damage to the enamel.

The salt air environment of coastal areas or a high humidity environment can be corrosive to the porcelain enamel finish. These conditions can cause rusting of the cast iron beneath the porcelain enamel finish, which will cause the finish to flake off.

Dye lot variations with replacement parts and/or accessories can occur and are not covered by warranty.

**GLASS DOORS:** Glass doors are covered for a period of one year. Glass doors are not warranted for breakage due to misuse or accident. Glass doors are not covered for discoloration or burned in stains due to environmental issues, or improper cleaning and maintenance.

**BRASS PLATED PARTS AND ACCESSORIES:** Brass parts should be cleaned with Lemon oil only. Brass cleaners cannot be used. Mortar mix and masonry cleaners may corrode the brass finish. The Company will not be responsible for, nor will it warrant any brass parts which are damaged by external chemicals or down draft conditions.

**GAS VALVES:** Gas valves are covered for a period of one year

**ELECTRONIC AND MECHANICAL COMPONENTS:** Electronic and mechanical components of the burner assembly are covered for one year. All steel tube burners are warranted for one year.

**ACCESSORIES:** Unless otherwise noted all components and CFM Corporation company supplied accessories are covered for a period of one year.

### CONDITIONS AND LIMITATIONS

- This Vermont Castings or Majestic product must be installed or serviced by a qualified installer, preferably NFI or WETT (Canada) certified, as prescribed by the local jurisdiction. It must be installed and operated at all times in accordance with the Installation and Operating instructions furnished with the product. Any alteration, willful abuse, accident, or misuse of the product shall nullify this warranty.
- This warranty is non-transferable, and is made to the original owner, provided that the purchase was made through an authorized supplier of the Company.
- The customer must pay for any Authorized Dealer in-home travel fees or service charges for in-home repair work. It is the dealers option whether the repair work will be done in the customer's home or in the dealer's shop.
- If upon inspection, the damage is found to be the fault of the manufacturer, repairs will be authorized at no charge to the customer parts and/or labor.

- Any part and/or component replaced under the provisions of this warranty is covered for six months or the remainder of the original warranty, whichever is longest.
- This warranty is limited to the repair of or replacement of part(s) found to be defective in material or workmanship, provided that such part(s) have been subjected to normal conditions of use and service, after said defect is confirmed by the Company's inspection.
- The company may, at its discretion, fully discharge all obligations with respect to this warranty by refunding the wholesale price of the defective part(s)
- Any installation, labor, construction, transportation, or other related costs/expenses arising from defective part(s), repair, replacement, or otherwise of same, will not be covered by this warranty, nor shall the Company assume responsibility for same. Further, the Company will not be responsible for any incidental, indirect, or consequential damages except as provided by law.
- *SOME STATES DO NOT ALLOW FOR THE EXCLUSION OR LIMITATIONS OF INCIDENTAL AND CONSEQUENTIAL DAMAGES OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOUR CIRCUMSTANCES. THIS WARRANTY GIVES YOU SPECIFIC RIGHTS AND YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.*
- All other warranties-expressed or implied- with respect to the product, its components and accessories, or any obligations/liabilities on the part of the Company are hereby expressly excluded.
- The Company neither assumes, nor authorizes any third party to assume on its behalf, any other liabilities with respect to the sale of this Vermont Castings or Majestic product
- The warranties as outlined within this document do not apply to chimney components or other non CFM Corporation accessories used in conjunction with the installation of this product..
- Damage to the unit while in transit is not covered by this warranty but is subject to claim against the common carrier. Contact the dealer from whom you purchased your fireplace/stove (do not operate the appliance as this might negate the ability to process the claim with the carrier).
- The Company will not be responsible for:
  - a) Down drafts or spillage caused by environmental conditions such as near-by trees, buildings, roof tops, hills, or mountains.
  - b) Inadequate ventilation or negative air pressure caused by mechanical systems such as furnaces, fans, clothes dryers, etc.
- This warranty is void if:
  - a) The fireplace has been operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals.
  - b) The fireplace has been subjected to prolonged periods of dampness or condensation
  - c) Any damages to the fireplace, combustion chamber, heat exchanger or other components due to water, or weather damage, which is the result of but not limited to, improper chimney/venting installation.
  - d) Any alteration, willful abuse, accident, or misuse of the product has occurred.

### IF WARRANTY SERVICE IS NEEDED...

- 1) Contact your supplier. Make sure you have your warranty, your sales receipt, and the model/serial number of your CFM Corporation product.
- 2) DO NOT ATTEMPT TO DO ANY SERVICE WORK YOURSELF.

Canada

# ENERGUIDE

Look for the **EnerGuide**  
Gas Fireplace Energy  
Efficiency Rating in this brochure

*Based on CSA P.4.1-02*

## Efficiency Ratings

Model	EnerGuide Ratings Fireplace Efficiency (%)
RDVODRN	60.7
RDVODRP	60.7
RDVODRFN	60.7
RDVODRPN	60.7

NATIONAL  
FIREPLACE  
INSTITUTE®



**CERTIFIED**  
[www.nficertified.org](http://www.nficertified.org)

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

## CFM Corporation

410 Admiral Blvd. • Mississauga, Ontario, Canada L5T 2N6  
800-668-5323 • [www.cfmcorp.com](http://www.cfmcorp.com)