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ATTENTION CONSUMER:

IN ORDER TO ENSURE A SAFE AND EFFECTIVE INSTALLATION, THIS UNIT MUST BE INSTALLED ONLY BY A QUALIFIED AGENCY, INDIVIDUAL, FIRM, CORPORATION, OR COMPANY THIS IS EXPERIENCED IN THE INSTALLATION, REPAIR AND SERVICING OF THIS TYPE OF APPLIANCE AND IS FAMILIAR WITH THE BUILDING CODES AND INSTALLATION TECHNIQUES APPROPRIATE IN YOUR AREA. CONTACT YOUR HEARTH PRODUCTS DEALER OR LOCAL GAS SUPPLIER FOR THE NAME OF A QUALIFIED SERVICE PERSON.

INSTALLER:

PLEASE READ THIS MANUAL CAREFULLY BEFORE YOU BEGIN THE INSTALLATION PROCEDURES. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPER DAMAGE, BODILY INJURY OR LOSS OF LIFE. THIS MANUAL CONTAINS IMPORTANT USER INFORMATION. KEEP THIS MANUAL WITH THE APPLIANCE AFTER INSTALLATION IS COMPLETE.

Specifications

Radiance RDV40 Direct Vent Gas Heater

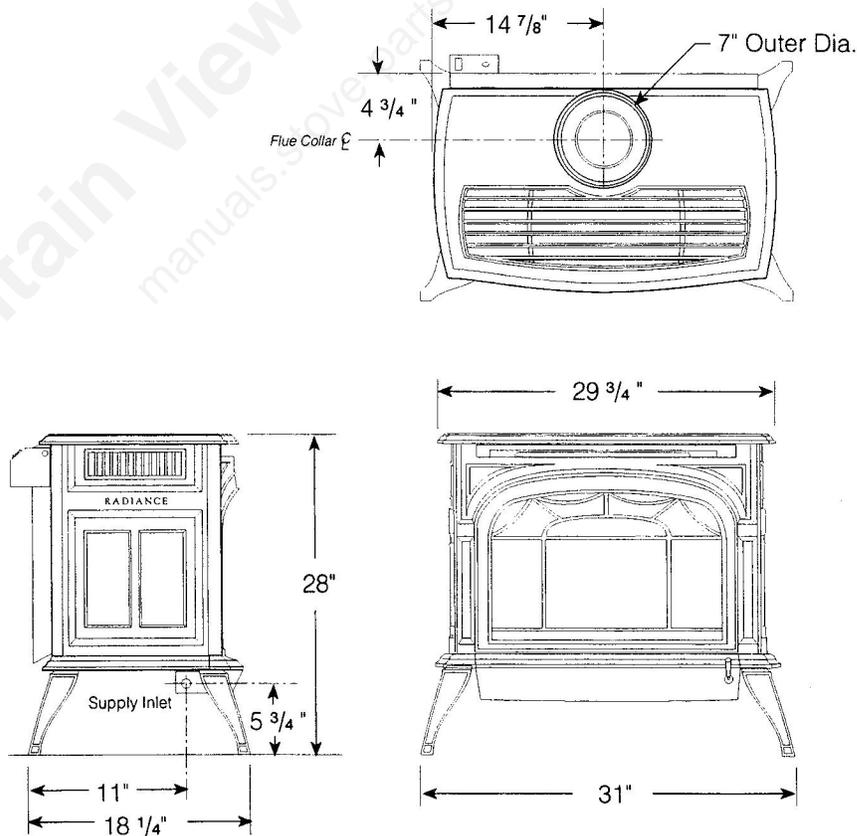
Fuel	Natural Gas	Propane
Manifold pressure:	3.5"	11.0"
Minimum inlet supply pressure for the purpose of input adjustment:	5.0"	11.0"
Maximum inlet supply pressure:	11.0"	13.0"
Input, BTU/hr:	40,000	36,000
Output, BTU/hr:	29,400	27,000
A.F.U.E.*	72.7 %	74.5%
Steady State Efficiency:	73.5 %	75.3%
Glass Panel	Hi-temperature ceramic	
Weight	350 lbs./ Shp. 375 lbs.	
Ignition	Standing pilot with Piezo ignition	

* seasonal efficiency - minimum vent, no fan

AGA Design Certified to ANSI Z21.86 -1998 and CGA approved to CAN/CGA 2.32-M98 for Direct Vent Gas Fireplaces by International Approval Services, Inc.

Dimensions

Check local codes for approved supply line fittings.



See Pages 5-6 for Flue Collar Centerline Dimensions.

Drawings not to scale

General Information

The Radiance Direct Vent Gas Heater, Model RDV40, is a vented gas appliance listed to the ANSI standard Z21.86-1998 and CAN/CGA-2.32-M98 for Direct Vent Wall Furnaces.

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

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

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.

"Direct vent" is a term used to describe a sealed combustion system in which incoming outside air for combustion and outgoing exhaust enter and exit through two separate concentric passageways within the same sealed vent system. Room air is not used to support combustion.

The direct vent system permits the gas appliance to be vented directly to the outside atmosphere through an exterior wall or the roof of the house, unlike conventional venting systems that take air from the room for combustion and vent the exhaust vertically through the roof to the atmosphere.

The installation of the RDV40 must conform to local codes, or in the absence of local codes, with National Fuel Gas Code, ANSI Z223.1 — latest edition and CAN 1 B-149.1 and .2 Installation Code. (EXCEPTION: Do not derate this appliance for altitude. Maintain the manifold pressure at 3.5 inches W.C. for Natural Gas and 11 inches W.C. for LP gas.)

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. 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 RDV40 should be inspected before use and at least annually by a qualified service agency. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that control compartments, burners, and circulating air passageways of the heater be kept clean.

The appliance 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 appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig.

A 1/8-inch N.P.T. plugged tapping, accessible for test gage connection, should be installed on the inlet gas connection.

The RDV40, 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.

***AFTERMARKET: COMPLETION OF SALE, NOT FOR PURPOSE OF RESALE, FROM THE MANUFACTURER.**

SAFETY NOTICES

1. Due to high temperatures, this appliance should be located out of traffic and away from furniture and draperies.
•
2. **WARNING:** This appliance is hot while in operation. Keep children, clothing, and furniture away. Contact may cause burns or ignition of combustible materials.
•
3. Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition.
•
4. Young children should be carefully supervised when they are in the same room as the appliance.
•
5. Clothing or other flammable materials should not be placed on or near the appliance.
•
6. Any safety screen or guard removed for servicing an appliance must be replaced prior to operating this appliance.
•
7. The appliance area must be kept clear and free from combustible materials, gasoline, and other flammable vapors and liquids.
•
8. The flow of combustion and ventilation air must not be obstructed.
•
9. **WARNING:** Do not operate this appliance with the glass panel removed, cracked or broken. Replacement of the panel should be done by a licensed or qualified service person.
•
10. 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.
•
11. 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.
•
12. This gas appliance must not be connected to a chimney flue serving a separate solid fuel burning appliance.
•
13. **CAUTION:** Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.
•
14. Installation and repair should be done by a qualified service person. The appliance should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. it is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.

Installation Requirements

The installation should be done by a qualified service person who is familiar with the building codes and installation techniques appropriate for your area. Your Vermont Castings dealer or your local gas supplier will be able to refer a qualified service person.

Locating the RDV40

Factors that need to be considered in planning your installation include:

- the location of outside walls,
- where in the home additional heat may be desired,
- where family members gather most regularly,
- the vent system length limitations and termination requirements.

Study the vent system requirements in this chapter to familiarize yourself with any restrictions that may influence where the appliance may be located.

NOTE: The use of wallpaper adjacent to this appliance is not recommended. Over time, radiant heat may cause shrinkage of the wallpaper or adversely effect the binding agents in the adhesive used to apply the wallpaper.

Hearth Requirements

This RDV40 must be installed on rigid flooring. When the appliance 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.

WARNING

DUE TO HIGH TEMPERATURES, THIS APPLIANCE SHOULD BE LOCATED OUT OF TRAFFIC AND AWAY FROM FURNITURE AND DRAPERIES.

THE SURFACE OF THIS HEATER IS HOT WHEN IT IS IN USE. YOUNG CHILDREN SHOULD BE WATCHED CAREFULLY WHEN THEY ARE IN THE SAME ROOM WHEN THE RADIANCE 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 SPECIFIED IN THIS MANUAL.

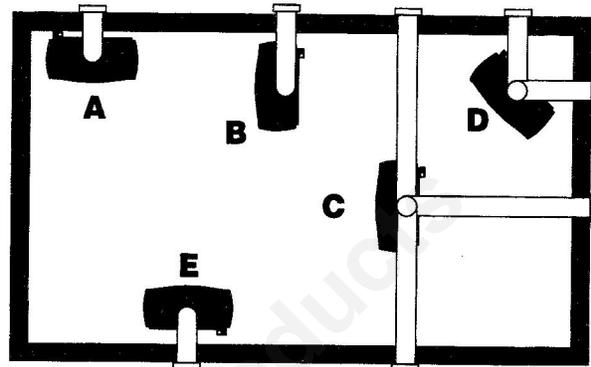


Figure 1. Potential stove locations.

A: Flat on a corner wall
B: Room divider
C: Island
D: Cross corner
E: Flat on a wall

Clearances to Combustible Materials

The Radiance will heat nearby surfaces when operating. A safe installation requires that adequate *clearance* be maintained between the stove and nearby combustible materials to ensure that those materials do not overheat. Figures 2-5 illustrate the minimum clearances for parallel, corner, and alcove installations.

Flue Collar Centerline from the Wall

Use the flue collar centerline dimensions indicated in Figures 2, 3 and 5 to determine the proper stove position that will maintain the minimum required clearances from combustible walls and surfaces.

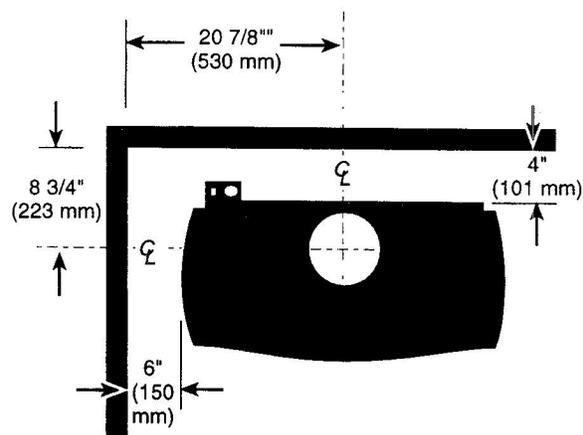


Figure 2. Minimum Clearances; Parallel Installation

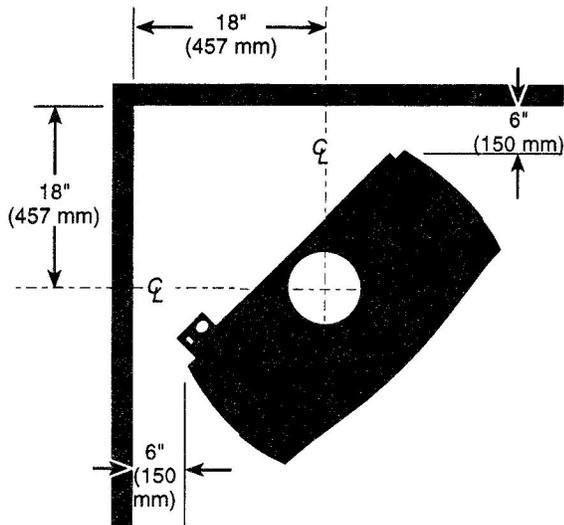


Figure 3. Minimum Clearances; Corner Installation

Alcove Installation

The Radiance DV40 is approved for installation into alcove construction composed of combustible materials. The dimensions indicated in Figures 4 and 5 conform to clearance requirements.

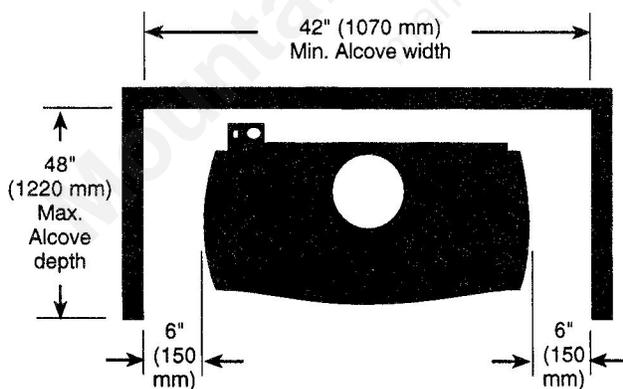


Figure 4. Minimum Alcove Clearances.

Venting Requirements and Options

The Radiance Direct Vent Heater is approved for venting through a roof or through an adjacent side wall. It may be installed parallel to the wall and vented to the rear or it may be installed in a corner and vented to either side.

The direct vent components listed on page 7 have been certified by AGA/CGA for use with the Radiance RDV40 heater. The list includes vent pipe and associated fittings manufactured by CFM Majestic Products Inc. and also by Simpson Dura-Vent Corporation. Install the RDV40 only with these vent components and only with one brand or the other. Individual parts are not interchangeable.

All Simpson Dura-Vent straight vent pipe sections have a net length that is 1-1/2" less than the nominal dimension; i.e., a 6" Straight pipe section has an effective length of 4-1/2".

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.

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. EACH DIRECT VENT APPLIANCE MUST USE IT'S OWN SEPARATE VENT SYSTEM. COMMON VENTS ARE PROHIBITED.

REFER TO THE VENT MANUFACTURER'S INSTRUCTIONS INCLUDED WITH THE VENTING SYSTEM FOR COMPLETE INSTALLATION PROCEDURES.

CFM Vent Components

A 12" CFM Adaptor pipe is included with the stove. The kits listed below are available to meet the requirements of most installations. All pipe has a 7" outer diameter and includes a 4" diameter inner section. A [CG] designation indicates that the part is finished in Charcoal Grey paint. Consult your Dealer regarding other CFM vent components that may be appropriate or necessary to complete the installation.

Minimum Horizontal Vent Kit **7TFSDVSK**

- 1, 90 Degree Elbow [CG]
- 1, 24" Straight Pipe [CG]
- 1, 48" Straight Pipe [CG]
- 1, Side Wall Termination
- 1, Firestop
- 1, Zero-clearance Sleeve
- 1, Hardware Package
- 1, Finishing Plate [CG]
- 1, Finishing Collar [CG]
- 4, Polished Brass Flue Pipe Rings

Min. Horizontal Vent Kit for Below Grade Termination **7TFSDVSKS**

- Includes all of the above parts plus
- 1, Snorkel Termination

Vertical Termination Kit, 1/12–6/12 Pitch **7TDVSKVA**

- 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

Vertical Termination Kit, 7/12–12/12 Pitch **7TDVSKVB**

- 1, 7/12 - 12/12 Flashing
- and all of the other Vertical Termination parts

Vertical Termination, Flat Roof **7DVSKVF**

- 1, Flat Flashing
- and all of the other Vertical Termination parts

Twist Lock 24" Straight Pipe [CG] **7TFSDVP24**

- 1, 24" Non-adjustable Pipe
- 1, Polished Brass Flue Pipe Ring

Twist Lock 48" Straight Pipe [CG] **7TFSDV48**

- 1, 48" Non-adjustable Pipe
- 1, Polished Brass Flue Pipe Ring

Twist Lock 45 Degree Elbow [CG] **7TFSDVT45**

- for vertical offsets
- 1, 45 Degree Elbow
- 1, Polished Brass Flue Pipe Ring

Siding Shield **7DVSS**

Combination Offset/Roof Support **7DVCS**

Attic Insulation Shield **7DVAIS**

Simpson Dura-Vent Components

The following vent components are approved for installation with the Radiance RDV40. A "B" designation indicates that the part is finished in Black paint. Consult your Dealer for recommendations regarding specific parts.

Minimum Horizontal Vent Kit	2792
Starter Pipe Assembly, inc. inner & outer sections	2768*
90° Elbow	990B*
45° Elbow	945
11"-14-5/8" Adjustable Straight Section	911B
6" Straight	908B*
9" Straight	907B
12" Straight	906
24" Straight	904B*
36" Straight	903B
48" Straight	902
Horizontal Vent Cap	984*
Firestop Spacer	963
Wall Plate	940*
Snorkel Termination - 14"	982
Snorkel Termination - 36"	981
Wall Strap	988
Ceiling Support Box	941
Storm Collar	953
Flashing 0/12 - 6/12 Pitch	943
Flashing 7/12 - 12/12 Pitch	943S
Vertical Termination Cap	991
Vinyl Siding Stand-off	950

* Included in Minimum Horizontal Vent Kit 2792

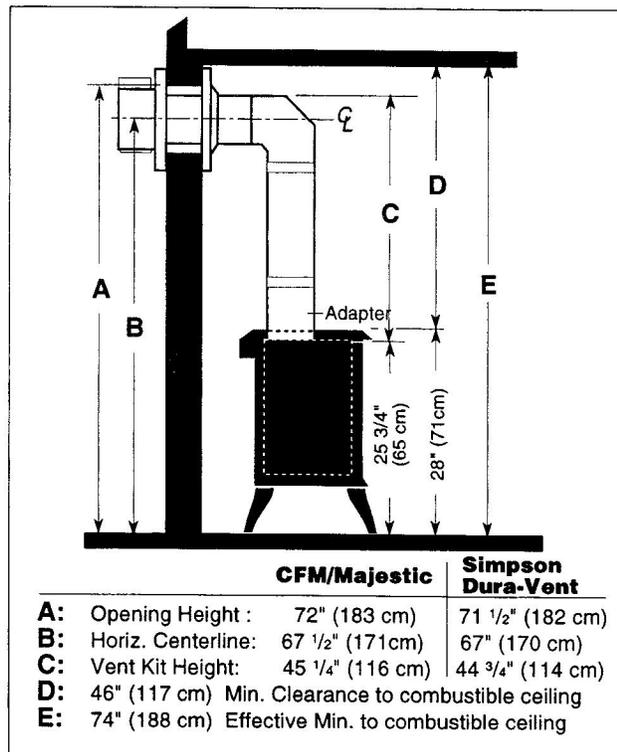


Figure 5. Vertical dimensions for minimum vent through wall.

Vent Run Specifications

Horizontal Termination

The vent must rise vertically a minimum of 36" (914mm) before the first elbow. The horizontal run may extend up to 20' (6m) and include a vertical rise of up to 20'.

Horizontal termination must also conform to the criteria as illustrated in Fig. 6.

- Approved vent systems must terminate only within the shaded area.
- Two 45° elbows may be substituted for each single 90° elbow.
- With a rise between 3' - 5', one 90° or two 45° elbows may be used.
- With a minimum rise of 3', maximum horizontal run or offset is 6'.

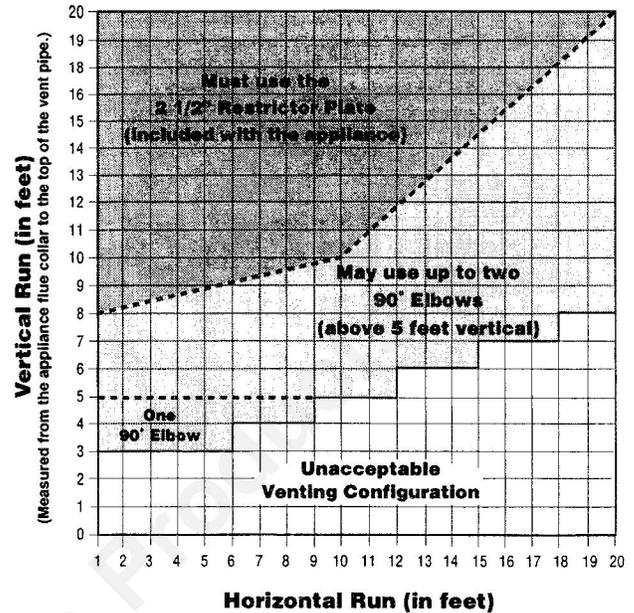


Figure 6. Horizontal Vent Termination Area (through the wall)

Vertical Termination

A vertical vent system must terminate no less than 8' (2.44m) and no more than 35' (8.9 m) above the appliance flue collar. A restrictor plate (supplied) must be used as indicated in Fig. 7. A vertically terminated vent system must also conform to the following criteria:

- The 2 1/2" restrictor plate (PN 140-9169) provided must be installed on a vent run that terminates within **Zone A** of the grid. Example: The termination ends a vent run extending 8' horizontally and 22' vertically.

- The 2 1/4" restrictor plate (PN 140-9170) provided must be installed on a vent run that terminates within **Zone B** of the grid. Example: The termination ends a vent run extending 3' horizontally and 22' vertically.

- No more than two 90° elbows may be used.
- Two 45° elbows may be substituted for one 90° elbow. No more than four elbows may be used.
- Vent must rise a minimum of 3' before offset is used.
- Termination height must conform to roof clearance as specified in Fig. 8.

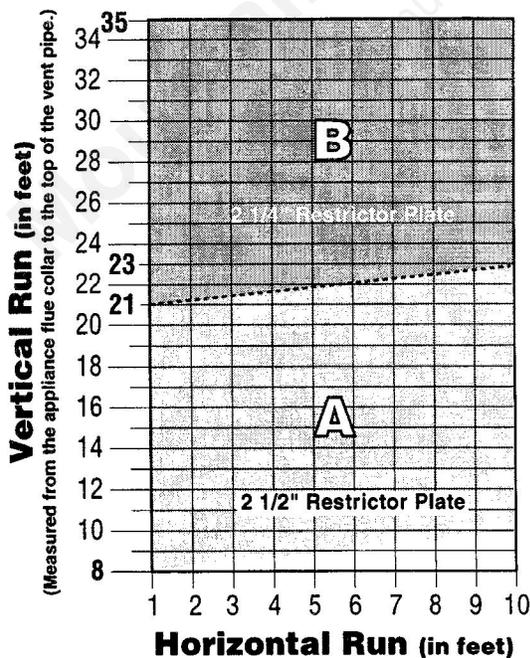
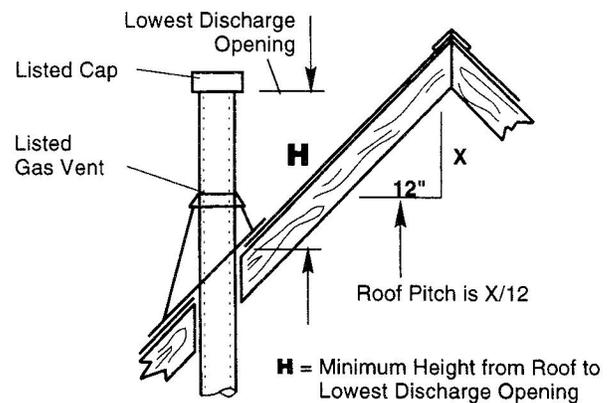


Figure 7. Vertical Vent Termination Window.



Roof Pitch	H (Min.) Ft.
Flat to 6/12	1.0
6/12 to 7/12	1.25
Over 7/12 to 8/12	1.5
Over 8/12 to 9/12	2.0
Over 9/12 to 10/12	2.5
Over 10/12 to 11/12	3.25
Over 11/12 to 12/12	4.0

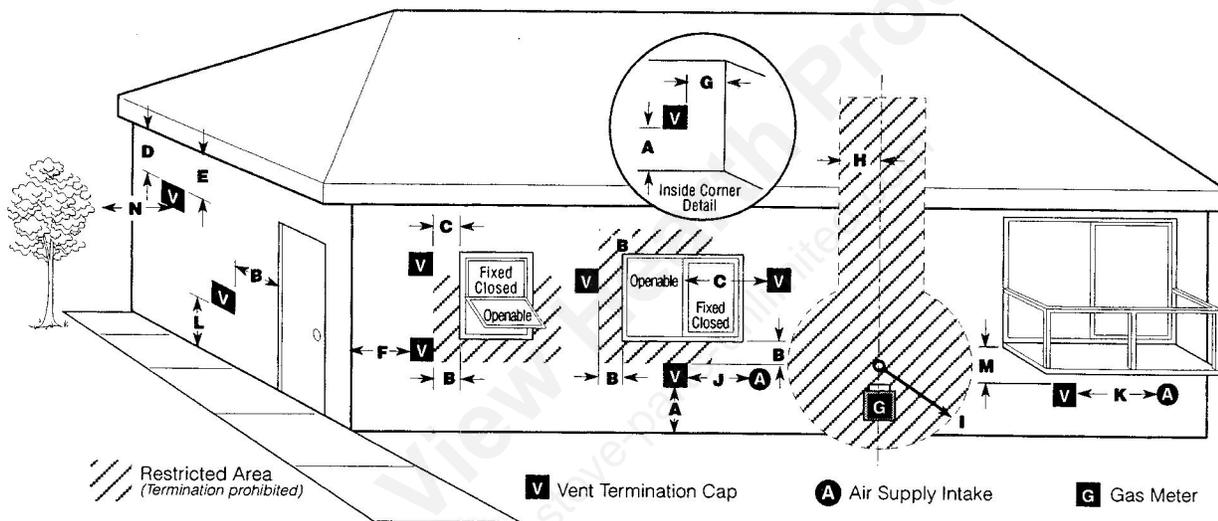
Figure 8. Vent (Chimney) Height

Vent Termination Clearances

The location of the vent terminal must meet clearance specifications as illustrated in Figs. 9-11. In addition, note the following guidelines when determining the vent terminal location:

1. Do not locate the terminal where people may come into accidental contact with it while the appliance is operating.
2. There must not be any obstruction such as bushes, fences, decks, garden sheds or utility buildings within 24" (60 cm) of the terminal hood.
3. Do not locate the terminal where it might be damaged by such things as automobile doors, lawnmowers or snowblowers. The terminal should be located away from areas where it could become obstructed by snow or ice build-up. Be sure to check the vent termination area after snow falls and clear it to prevent accidental blockage of the vent system. When using a snowblower, be careful to direct snow away from the terminal area.

Figure 9. Vent Termination Clearances.



- A:** Clearance above grade, veranda, porch, deck or balcony – *12" (30cm) min.
- B:** Clearance to window or door that may be opened – *12" (30cm) min. to top and sides
*24" (60cm) min. below
- C:** Clearance to permanently closed window – 12" (30cm) min. recommended to prevent condensation on window.
- D:** Vertical clearance to ventilated soffit located above the terminal within a *horizontal distance of 2 feet (60cm) from the centerline of the terminal* – 18" (46cm) min.
- E:** Clearance to unventilated soffit – 12" (30cm) min.
- F:** Clearance to outside corner – 6" (15cm) *combustible*, / 2" (50mm) *Noncombustible*

- G:** Clearance to inside corner – 6" (15cm) *combustible*, / 2" (50mm) *Noncombustible*
- H:** May not be installed above a meter/regulator assembly within 3 feet (90cm) horizontally from the centerline of the regulator.
- I:** Clearance to service regulator vent outlet – *6 feet (1.8m) min.
- J:** Clearance to non-mechanical air supply inlet for the building or to the combustion air inlet to any other fireplace – *12" (30cm) min.
- K:** Clearance to a mechanical air supply inlet – 6' (1.8) min.
- L:** † Clearance above paved sidewalk or a paved driveway located on public property – *7' (2.1m) min.
- M:** Clearance under veranda, porch, deck, or balcony – 18" (46 cm) min. ❖
- N:** Clearance to trees, bushes - 24" (60 cm).

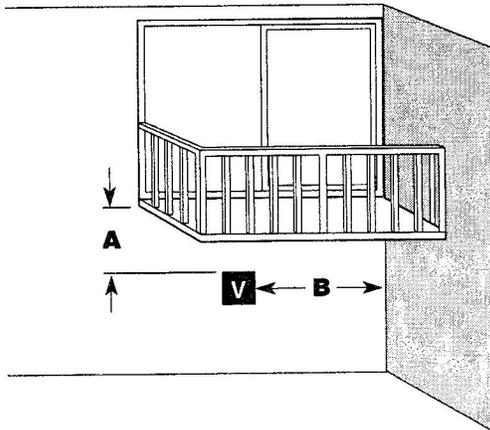
† A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single-family dwellings and serves both dwellings*.

❖ Only permitted if veranda, porch, deck, or balcony, is fully open on a minimum 2 sides beneath the floor*.

* As specified in CAN/CGA B149 (.1 or .2) Installation Codes (1991). Note: Local Codes or Regulation may require different clearances.

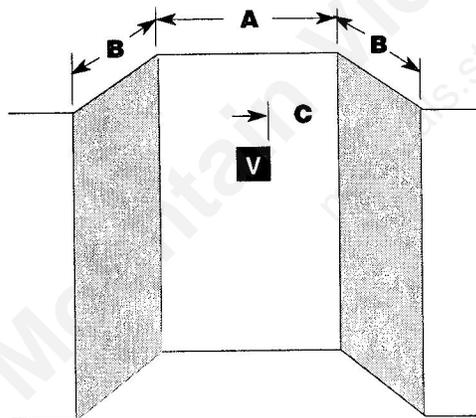
* For U.S.A. Installations, follow the current National Fuel Gas Code, ANSI Z223.1.

4. Vinyl siding requires protection from vented heat directly above the vent opening. Use Vinyl Siding Heat Shield Kit #950 or 950B with Simpson DuraVent pipe; use Heat Shield Kit #7DVSS with CFM/Majestic pipe.



- A:** Clearance to a balcony on a perpendicular side wall – 24" (610cm) min.
- B:** Clearance to a perpendicular sidewall below a balcony – 20" (508mm) min.

Figure 10. Vent clearance under balcony with sidewall.



- A:** Minimum width of back wall in a recessed location – 38" (965mm) Combustible
24" (610mm) Noncombustible
- B:** Maximum depth of back wall in recessed location – 48" (1219mm)
- C:** Clearance from corner to vent terminal in a recessed location – 6" (152mm)

Figure 11. Vent clearance within recessed wall.

IMPORTANT

- A horizontal termination must not be recessed into the exterior wall or siding. Use appropriate standoffs or heat shielding for vinyl siding.
- Horizontal vent runs must be level or rise 1/4" per foot toward the vent termination.
- All clearances around the vent termination must be maintained.

Assembly

Be sure to read these instructions through before starting the assembly. Follow procedures in the order presented. Inspect the stove and contents for damage. Do not install this appliance if any damage is evident. Contact your local dealer immediately.

Tools Required

- stub handle phillips screwdriver
- standard phillips screwdriver
- standard flat blade screwdriver
- knife
- work gloves
- power drill (.234 bit)
- tape measure & pencil
- hacksaw

Unpacking the RDV40

CAUTION. Enamel castings chip easily! Handle enamelled castings tenderly to avoid damage.

1. Cut all shipping straps and remove the Adapter Pipe and Grate carton from the shipping pallet.
2. Unpack the Top Grate and Grate Screen from the shipping carton.
3. With the aid of an assistant, carefully remove the stove from the pallet and locate it close to its final position.

Hardware Bag Contents

- 2 1/4" Vent Restrictor Plate
- 2 1/2" Vent Restrictor Plate
- 1/4-20 x 3/8" phillips screws (2)
- #10 x 1/2" sheet metal screws (3)
- Vent Sealant Cement (6 oz.)
- Bag of Lava Rocks
- Door Handle / Screw

Install the Log Set

The Front Plate and Glass Panel must be removed in order to install the Log Set which is packed in the carton located inside the firebox. The Log Set consists of six log sections; Rear log, Right and Left Middle logs, Right and Left Front Ember logs and an Upper log. A bag of Lava Rocks is provided to simulate charcoal and ember chips.

1. Remove the Front Plate by grasping one side and the bottom and lifting the plate up as a unit while swinging the bottom out and away from the stove body. See Fig. 12. Remove the cardboard packing material from the top of the firebox.
2. The Glass Frame is held in place by two compression latches located on top of the firebox. Release each latch by gently pulling the handle forward. Use your left hand to release the right latch while maintaining gentle pressure on the frame with your right hand. Use your right hand to release the left

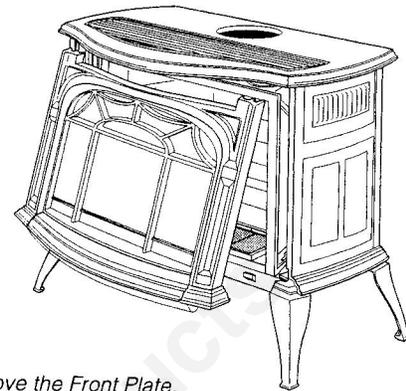


Figure 12. Remove the Front Plate.

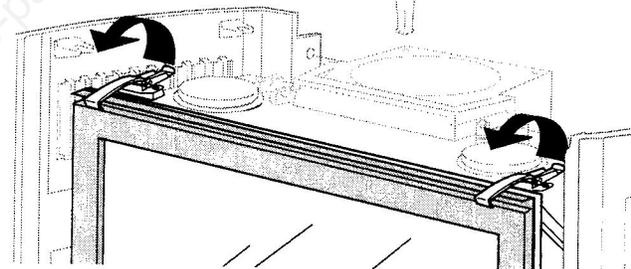
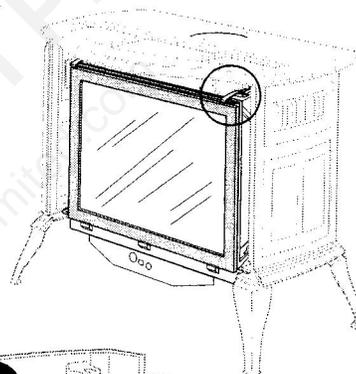


Figure 13. Release the latches to remove the Glass Panel Frame.

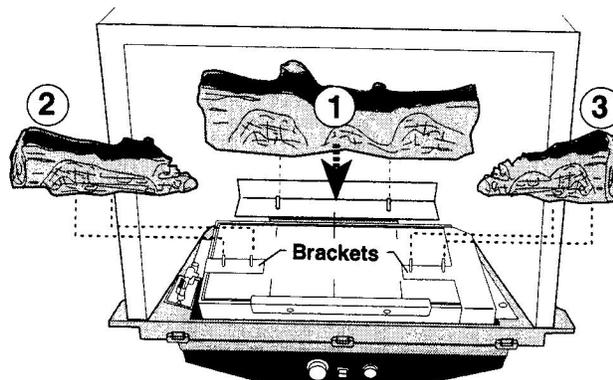


Figure 14. Install the Rear Log and Right and Left Logs

latch. See Fig. 13. Lift the Glass Frame up off the front of the firebox and place it out of the way on a flat, protected surface.

3. Unpack the Log Set and inspect each piece for damage. **DO NOT INSTALL DAMAGED LOGS.**
4. Install the Rear Log (1) by engaging it with the pins on the steel shelf at the back of the firebox. Fig. 14.
5. Install the Left (2) and Right (3) Middle Logs by engaging the burner bracket pins with the holes in the bottom of each log. Fig. 14.
6. Place the two Front Ember Log sections (4, 5) in the slot at the front of the firebox as indicated in Fig. 15.
7. Loosely sprinkle the Lava Rocks directly on top of the burner plate in between the front logs and middle logs. *Do not place any ember material behind the middle logs. Do not layer the lava rocks on top of each other.* Fig. 15.
8. Engage the Upper Log (6) with the anchor knob on the Rear Log and adjust its position so that the right branch is 6 3/4" away from the end of the lower right log.

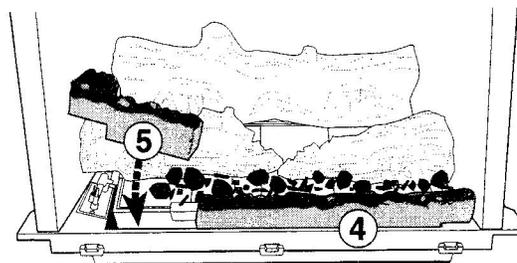


Figure 15. Install the Front Logs. Loosely spread the Lava Rocks between the front and middle logs.

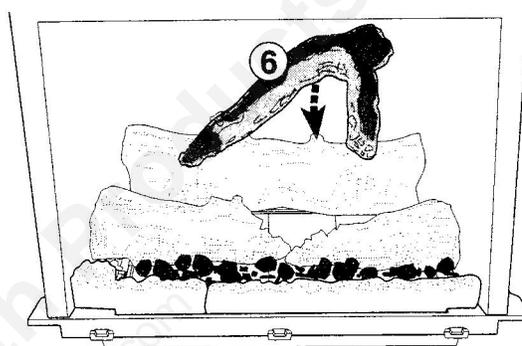


Figure 16. Install the Upper Log.

Install the Optional Convection Fan Kit #2767/FK26

It is most easy to install the fan kit before the stove is connected to the gas line.

The fan kit consists of a blower assembly and a rheostat switch that are connected by a wire harness. The blower assembly mounts to the rear of the stove bottom and the rheostat is installed within the Remote Switch box on left rear corner of the stove.

The rheostat includes a "snapstat" which is a temperature-sensing switch installed within the stove heat exchange area. The snapstat automatically turns the fans "On" or "Off", above or below approximately 109°F.

The Rheostat also provides a range of fan speed settings from Off, (which overrides the snapstat function), to High.

Contents: See Fig. 18.

- Fan assembly with rheostat and snapstat
- 1/4-20 x 3/4" hex head screws, (use 2)
- 1/4-20 hex nuts, (2)
- #10 Sheet metal screws, (2)
- 1/4" Star washers, (use 1)
- #8 Star washer, (1)
- Wire Tie
- Control Knob
- Retaining Collar

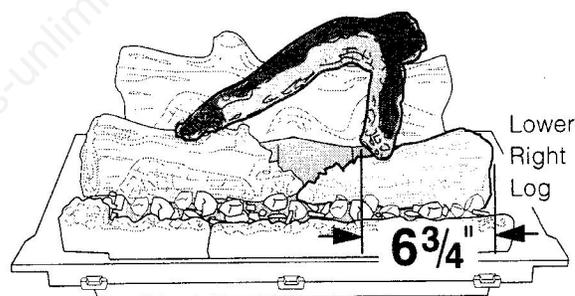


Figure 17. To confirm correct placement, check the dimension from the right edge of the lower Right Log to the inside edge of the right branch, Upper Log.

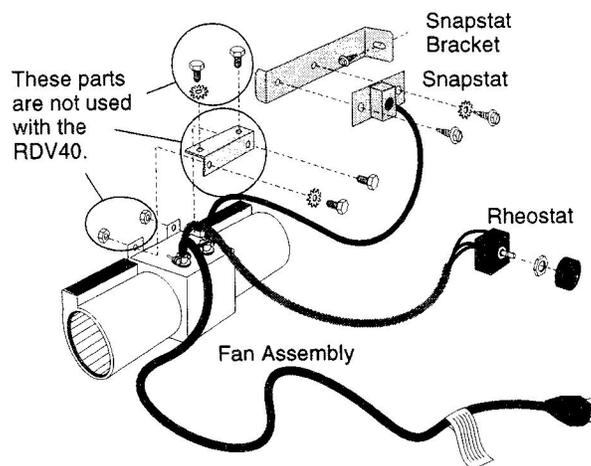


Figure 18. Fan Kit #2767 components.

- 1. Remove the rear shroud.** Fig. 19.
Use work gloves to protect your hands. Loosen the two phillips screws on each side of the rear shroud. Disengage the shroud and set it against the stove.
- 2. Remove the switch box.** Figs. 19.
 - Remove the two sheet metal screws that attach the switch box to the rear shroud, **(A & B)**.
 - Remove the hole plug **(C)** from the box.

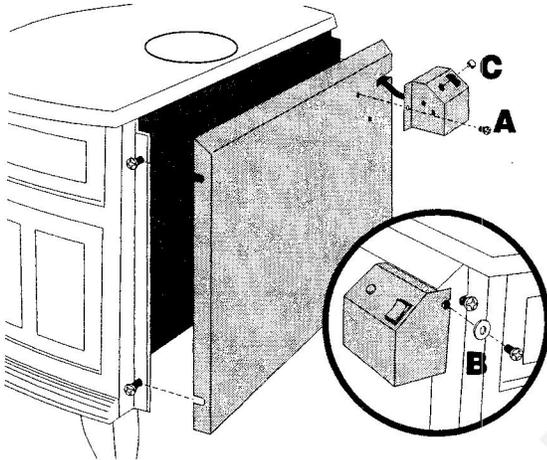


Figure 19. Remove the rear shroud and switchbox.

- 3. Attach the fan assembly.** Fig. 20.
Secure the fan assembly to the bottom plate with the two 1/4-20 x 3/4" hex head screws and one 1/4" star washer.

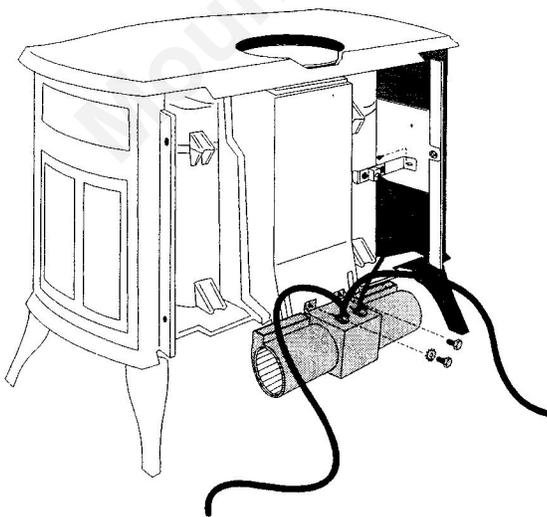


Figure 20.
Attach the fan assembly to the bottom of the stove.

- 4. Attach the snapstat to the snapstat bracket.** Use two sheet metal screws and one #8 star washer. Fig. 18.
- 5. Attach the snapstat bracket** to the lower hole on the inside face of one of the side heat shields using a sheet metal screw and #8 star washer. Choose the side from which the snapstat wire harness exits the fan housing. You may find it easier to remove the heat shield from the stove body before attaching the bracket to it. See Fig. 21.



Figure 21. Attach the snapstat bracket to the lower hole on the inside face of the side heat shield.

- 6. Install the rheostat into the switchbox.**

Fig. 22. Insert the rheostat control shaft through the switchbox hole being careful to align the locator pin with the smaller hole. Install the retaining collar and knob onto the control shaft.

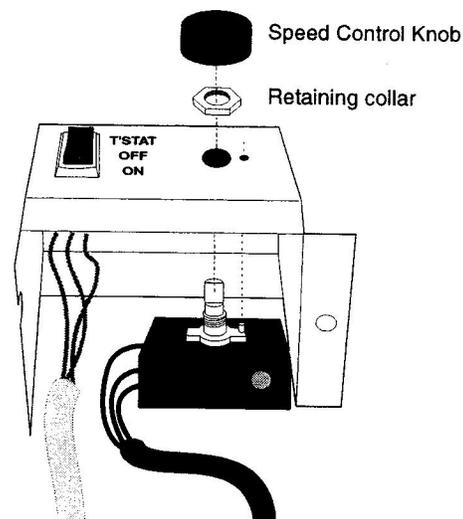


Figure 22. Install the rheostat into the switchbox.

7. Replace the switch box.

Reattach the switch box to the rear shroud using the original screws. Be sure that the wire harness is fed through the slot and runs down the inside of the shroud panel. To secure the two wire harnesses together cut the original wire tie and replace it with the new one at the same location.

Do not replace the rear shroud until after the vent Adapter pipe has been installed.

WARNING

AVOID ANY DRAFTS THAT ALTER BURNER FLAME PATTERNS. DO NOT ALLOW FANS TO BLOW DIRECTLY INTO THE FIREPLACE.

THIS OPTIONAL FAN KIT IS EQUIPPED WITH A THREE-PRONG (GROUNDING) PLUG FOR YOUR PROTECTION AGAINST SHOCK HAZARD AND SHOULD BE PLUGGED DIRECTLY INTO A PROPERLY GROUNDED THREE-PRONG RECEPTACLE. DO NOT CUT OR REMOVE THE GROUNDING PRONG FROM THIS PLUG.

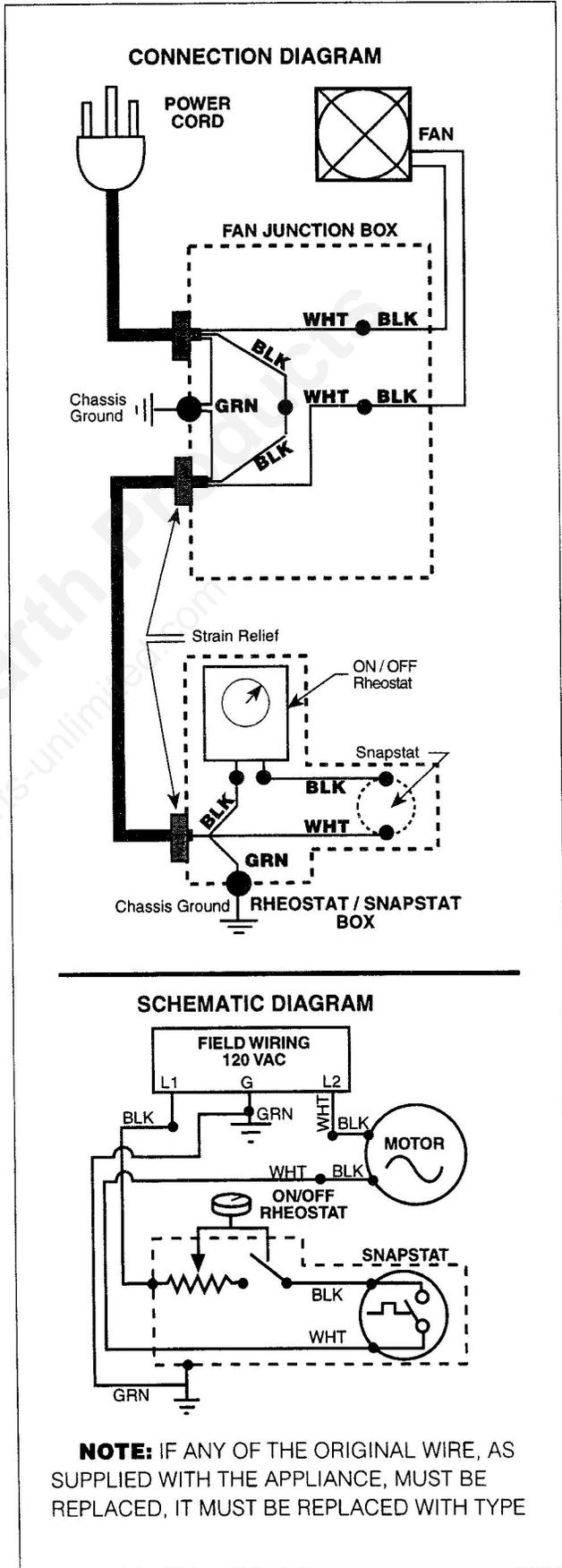


Figure 23. Fan Kit #2767 Wiring Diagram.

Venting System Assembly

General Information

The Radiance RDV40 Gas Heater is approved for installation only with the vent components listed on Page 7. Follow the each manufacturer's instructions exactly.

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

Canadian Installations: The venting system must be installed in accordance with the current CAN/CGA-B149 (.1 or.2) installation code.

Paint Option - Porcelain Enamel Stoves

A can of medium-temperature paint is provided with enamel stoves to paint the vent components to match your stove. Paint the vent pipe before assembling the system.

The instructions in this manual pertain to CFM/ Majestic vent components for the most part. *The CFM Adapter pipe provided with the stove cannot be used with Simpson Dura-Vent components. Use only pipe from one manufacturer or the other.*

NOTE: If you are using Simpson Dura-Vent vent components, use the instructions provided with those parts. See also Steps 2 and 3 below for Dura-Vent Adapter pipe installation.

Install the Vent Adapter Pipe

1. **Remove the rear shroud.** Fig. 19, page 13.
Use work gloves to protect your hands. Loosen the two phillips screws on each side of the rear shroud. Disengage the shroud and set it against the stove.
2. **Install Restrictor Plate.** Consult "Vent Run Specifications", page 8 to determine whether or not a restrictor plate is required. If so, place the appropriate restrictor plate (2 1/4" or 2 1/2") in position within the inner (4") flue collar exactly as shown in Fig. 24. The small retainer tab should point to the front center of the stove.
3. **Install the Inner Adapter Pipe.** *For both CFM and Simpson Dura-Vent pipe:* Apply a bead of cement around the lower end of the pipe and secure it to the inner flue collar using the two 1/4-20 x 3/8" phillips screws provided in the hardware bag. Fig. 25.

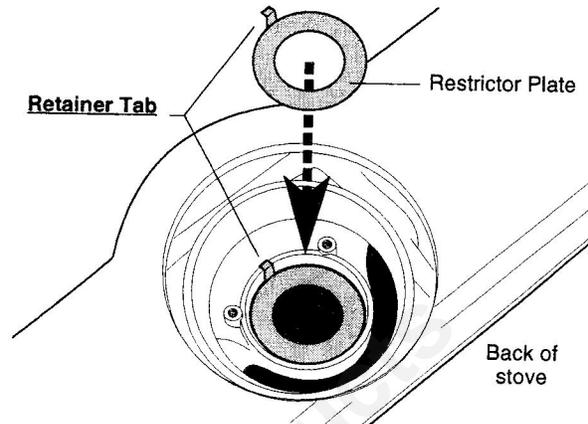


Figure 24. INSTALL THE RESTRICTOR PLATE ONLY IF REQUIRED FOR THE VENT CONFIGURATION. See page 8. For proper seating, the retainer tab must point toward the front of the stove.

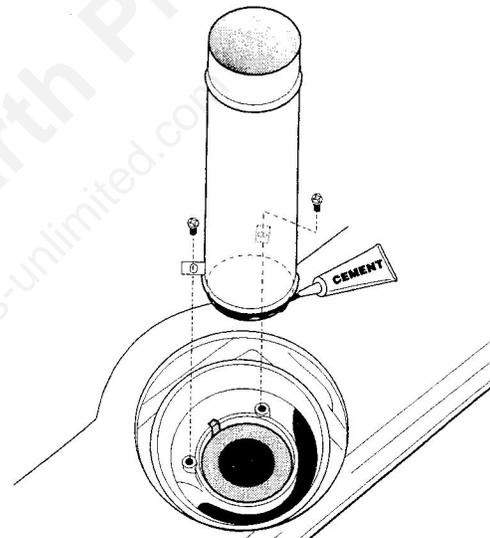


Figure 25. Install the Inner Adapter Pipe.

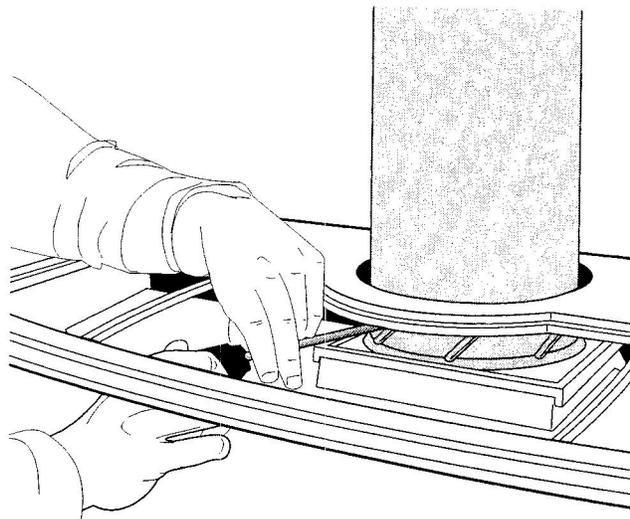


Figure 26. Secure the outer Adapter pipe with three sheet metal screws. CFM pipe is shown fitted over the flue collar.

4. Install the Outer Adapter Pipe.

CFM: Apply a 1/4" bead of cement around the *inside* wall of the pipe, about 1" from the end. Insert the pipe over the stove flue collar keeping the vertical pipe seam oriented to the rear of the stove. Secure the pipe to the flue collar at the pre-drilled holes with the three sheet metal screws supplied. Fig. 26.

Simpson-Dura-Vent pipe:

1) Orient the vertical seam to the rear and insert the crimped end of the outer pipe *into* the flue collar. Push it down as far as it will go and use a pencil to mark flue collar hole locations on the pipe as indicated in Fig. 27. Use a .234 bit to drill three holes into the crimped end at the marked locations.

2) Apply a 1/4" bead of cement around the *outside* surface, about one inch from the crimped end. Insert that end *into* the outer flue collar and secure it with the three sheet metal screws supplied. Fig. 28.

5. Reinstall the Rear Shroud on the back of the stove and tighten the four screws.

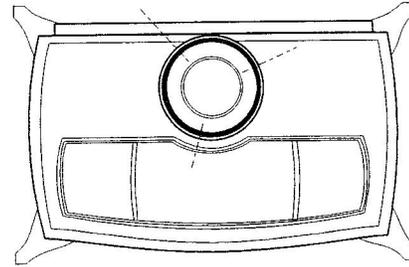


Figure 27. Outer flue collar pilot hole locations.

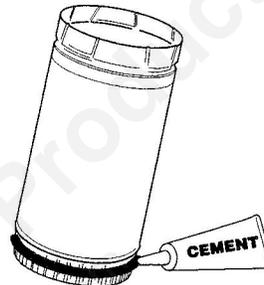


Figure 28. Apply cement to the crimped end of the Simpson-Dura-Vent Adapter pipe.

Side Wall Termination Assembly

1. Locate the vent opening on the wall. If you are using the CFM or Simpson-Dura-Vent minimum vent kit, see Fig. 5, page 7 to determine the opening centerline. It may be necessary to first position the stove and measure to obtain the hole location. Depending on whether or not the wall is composed of combustible materials, cut the opening to the size shown in Figs. 29 and 31. Combustible wall openings must be framed in as shown in Fig. 30.
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. 32. **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.

Figure 29. Combustible wall opening must be 9 3/8" x 9 3/8" (240mm x 240mm).

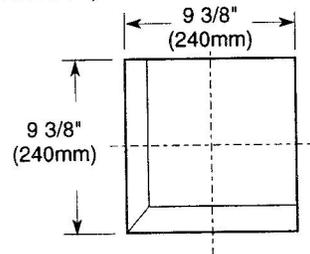


Figure 30. A combustible wall opening must be framed in.

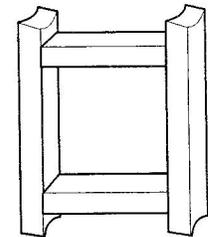


Figure 31. Noncombustible wall opening must be 7 1/2" (190mm) diameter.

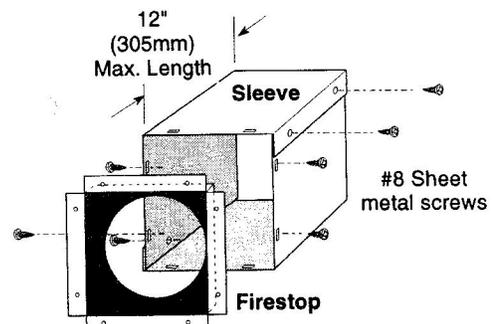
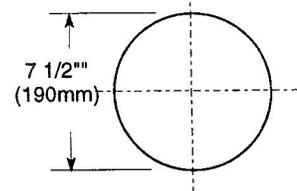


Figure 32. Assemble the wall sleeve and firestop.

4. 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. 33. Use a hacksaw to trim the pipe as necessary.

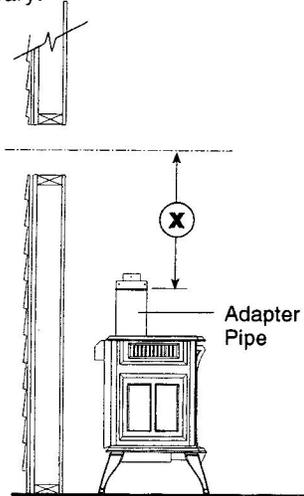


Figure 33. Determine the vertical pipe length.

5. Seal and install first the inner and then the outer straight pipe section(s), trimmed end down, to the point of the elbow. Drill 3 holes through each joint and secure with 1/4-20 sheet metal screws. Fig. 34.
6. Seal and install the elbow using 3 sheet metal screws at each joint.
7. Measure, and cut if necessary, the appropriate length of pipe section necessary to make the connection through the wall. Include a 2" overlap; i.e. from the elbow to the outside wall face plus 2" (or the distance required if installing a second 90° elbow). Fig. 35.
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 necessary to keep cold air from being drawn into the living space.
19. Seal the ends and connect the horizontal pipe to the elbow. Secure the Wall Plate to the pipe using three sheet metal screws. Slide the Trim Collar up against the Wall Plate to cover the screws. Fig. 36.
10. Install the vent terminal. Fig. 37. 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". Secure the termination to the wall with the screws provided and caulk the joint with weatherproof sealant.

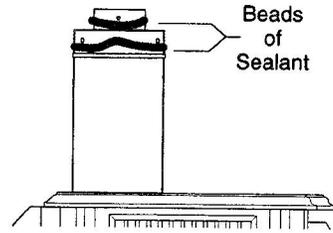


Figure 34. Drill and seal the pipe ends.

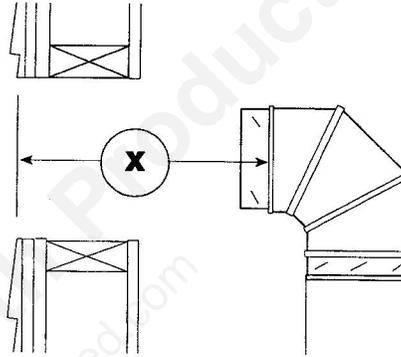


Figure 35. Measure the horizontal length.

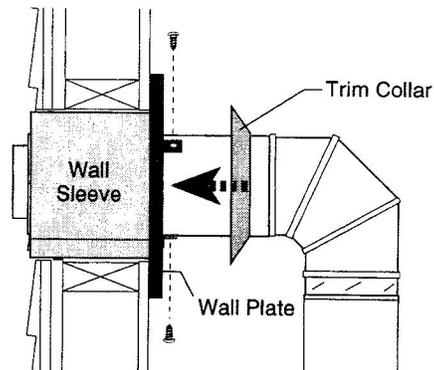


Figure 36. Install the horizontal pipe and wall plate parts.

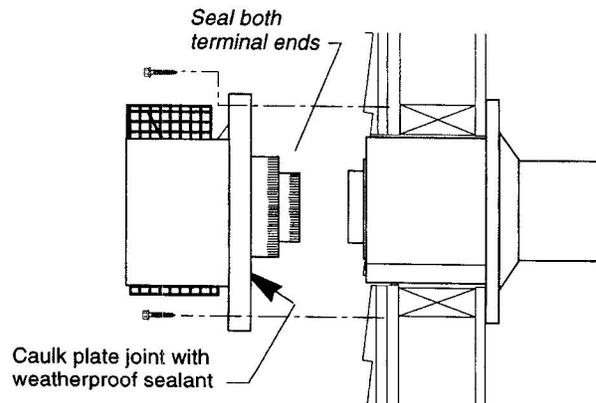


Figure 37. Install the vent terminal.

Vent Termination Below Grade

Snorkel Vent Kit #7FSDVSKS should be installed when it is not possible to meet the required vent termination clearances of 12 inches (305mm) above grade level. The snorkel kit will allow installation depth of down to 7 inches (178mm) below grade level. The 7 inches is measured from the center of the horizontal vent pipe as it penetrates through the wall. **If the venting system is installed below ground, a window well must be installed with adequate and proper drainage. See Fig. 38.**

NOTE: Ensure that side wall clearances and vent run restrictions are maintained. See Figs. 6 and 11.

1. Establish the vent hole through the wall.
2. Remove soil to a depth of approximately 16" below the base of the snorkel. Install a window well (not supplied). Refill the hole with 12" coarse gravel and maintain a clearance of at least 4" below the snorkel. See Fig. 38.
3. Install the vent system as described on pages 15-16.
4. Ensure a watertight seal is made around the vent joint at the inside and outside wall joints.
5. Apply high temperature sealant around the inner and outer snorkel collars. Join the pipes and secure the snorkel termination to the wall using the screws provided.
6. Level the soil so that 4" clearance is maintained beneath the snorkel.

If the foundation is recessed, use extension brackets (not supplied) to secure the lower portion of the snorkel. Fasten the brackets to the wall first and then secure to the snorkel with self-tapping #8 x 1/2" sheet metal screws. It will be necessary to extend the vent pipes out as far as the protruding wall face. Fig. 39.

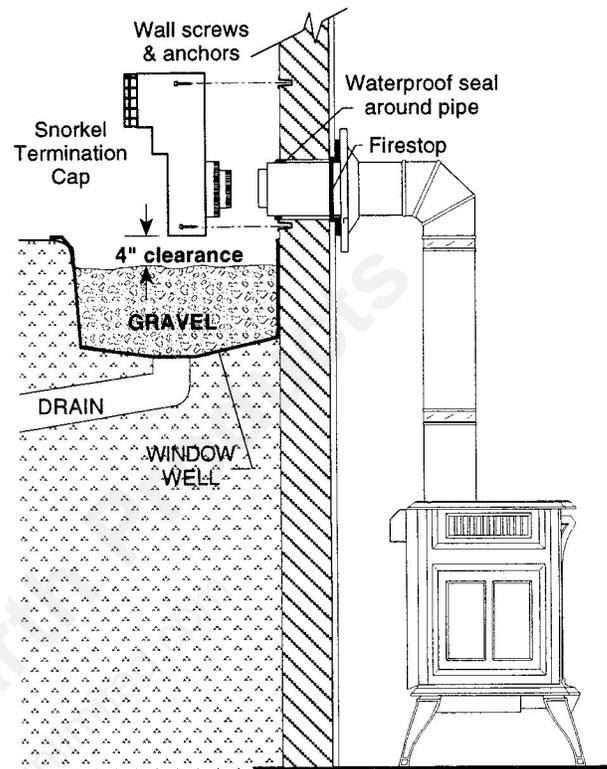


Figure 38. Snorkel kit installation.

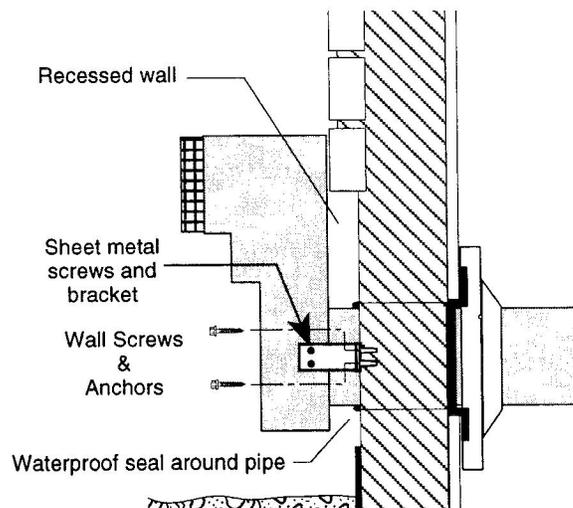


Figure 39. Use extension brackets to mount snorkel against recessed wall.

Vertical Through the Roof Vent Assembly

Note that all vertically terminated installations must include one of the two Restrictor Plates included in the hardware bag. Consult Figure 6, page 8 to determine which size plate must be used for your installation. The plate must be installed within the Inner Flue Collar to insure that a proper air/fuel ratio is maintained in an appliance vented through the roof.

Make certain that the vent system conforms to all other requirements for vertical termination as specified on page 8.

This installation will require that you first determine the roof pitch and use the appropriate vent components. See the component listing on page 7 and Figs. 7-8, page 8.

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 equal to 9-3/8" x 9-3/8" (240mm x 240mm).**
4. Plumb any additional openings through the roof or other construction that may be necessary. In all cases, the opening must provide a minimum of 1" clearance to the vent pipe.
5. Place the stove in its final position.
6. Install Firestop(s) #7DVFS and Attic Insulation Shield #7DVAIS as appropriate. Fig. 40. 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.
7. Install the appropriate roof support and flashing, making certain that the upper flange of flashing is below the shingles. See Fig. 41.
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. See Fig. 41.
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.

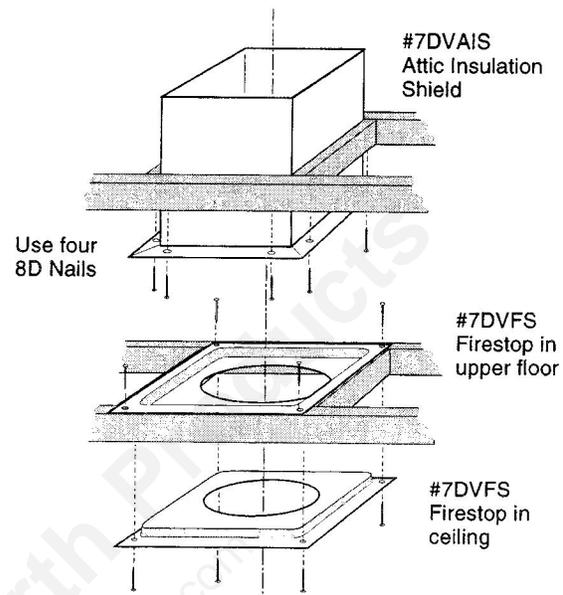


Figure 40. Install firestops and attic insulation shield.

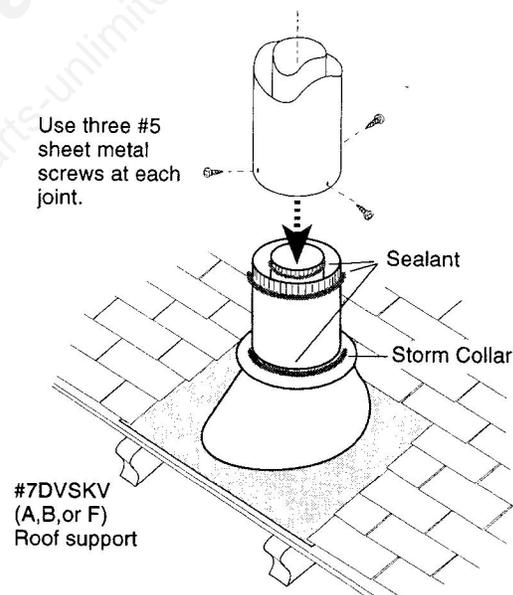


Figure 41. Roof support and flashing.

Thermostat Connection (optional)

Use only a millivolt rated thermostat . Note in the table below the appropriate gauge thermostat wire to use for the length of lead required in your installation.

1. Install the wall thermostat in the desired location and run the wires over to the stove location. Terminate these leads with 1/4" spade connectors.
2. Two leads with 1/4" female connectors extend from the wire harness accessible from under the left rear side of the stove. Either thermostat wire may be connected to either terminal. Fig. 42.

Thermostat Wire Gauge	/	Maximum Run
18		40 feet
20		25 feet
22		16 feet

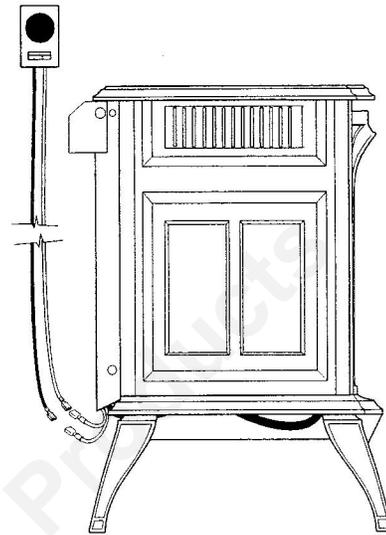


Figure 42. Connect thermostat leads to either terminal.

Connect the Gas Supply

1. Remove the Control Valve Coverplate.

Loosen, but do not remove the two phillips head retainer screws located behind the coverplate under the firebox. Fig. 43.

2. Connect the main gas supply line to the inlet on the left side of the control valve. Fig. 44.

The gas line connection can be made with properly tinned 3/8" copper tubing, 3/8" rigid pipe or an approved flex connector.

When using copper or flex connectors, use only approved fittings. Always provide a union so that gas line can be easily disconnected for burner service

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

In Canada: Consult the local authority and CAN/CGA-B149 (.1 or .2) installation code.

3. Test for leaks at all joints using a 50/50 soap and water solution before operating the stove.
4. Reinstall the Coverplate over the Control Valve by engaging the slots with the retainer screws. Retighten the screws.
5. Light the pilot and test the burner operation before completing final assembly.

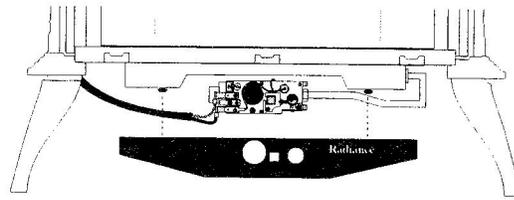


Figure 43. Remove the Valve Coverplate.

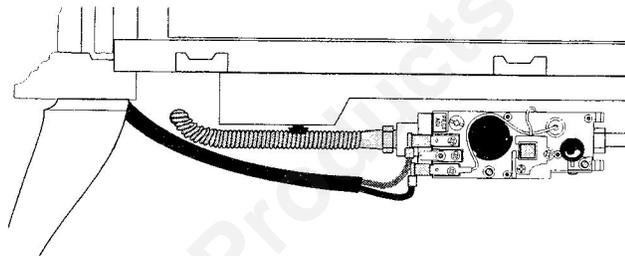


Figure 44. Flexible gas supply line connection.

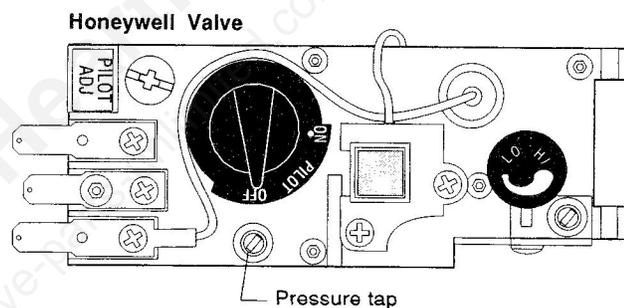


Figure 45. The gas control valve incorporates a captured screw type pressure test point. It is not necessary to provide a 1/8" pressure test point up stream from the control valve.

CAUTION

• **The gas line should be connected only by qualified gas technician. Test to confirm manifold pressure as specified below. See Fig. 45.**

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

With natural gas, use a 3/8" or 1/2" natural gas supply line with an input of 40,000 BTUs at a manifold pressure of 3.5" and minimum inlet supply for adjustment of 5.0" W.C.

With propane, use a 3/8" or 1/2" propane gas supply line with an input of 36,000 BTUs at a manifold pressure of 11.0" and minimum inlet supply for adjustment of 11.0" W.C.

Complete the Final Assembly

1. Replace the glass panel and frame assembly. Engage the lower lip of the frame behind the retainer tabs on the bottom plate. Engage the upper latches over the top of the frame and push the locking levers back down fully. See Fig. 52, page 26.
2. Replace the Front Plate by engaging the upper corners under the top plate and then swinging the bottom in against the sides. The plate should rest on the shoulders of the front legs.
3. Attach the wooden handle to the Control Door using the #8-32 x 2" screw from the hardware bag. See Fig. 55, page 28.
4. Set the steel Screen and cast iron Grate into the heat outlet recess in the top plate. See Fig. 55, page 28.

Operation

The Controls

The Radiance RDV40 burner is controlled by a Honeywell VS8420 valve located behind the access panel at the front to the stove. Using the small handle on the right front, swing the panel down to access the controls. See Figs. 46-47.

The main control knob controls gas flow to the pilot and burner. The square or round button controls the piezo ignitor which generates a small spark to light the pilot flame. The small HI/LO knob is used to regulate heat output.

A three-way remote switch, marked ON/OFF/TSTAT, is mounted at the upper rear of the stove for convenient burner control. When the main control valve is ON, this switch can be used for thermostatic or manual operation. Fig. 48.

The Radiance may also be controlled from anywhere in the room with use of the optional Vermont Castings Remote Control Kit .

Familiarize yourself with the operational controls and follow the instructions on pages 23 -24 exactly.

The First Fire

It is recommended that the RDV40 be burned for at least 2 hours at a high firing rate the first time it is used. Normally, the stove will give off some odor during this time as paint and manufacturing residues cure. Open windows as necessary to provide plenty of ventilation during this "break-in" period.

It is also normal to hear ticking sounds associated with the expansion and contraction of cast iron as the metal heats and cools. This will occur each time the stove is operated.

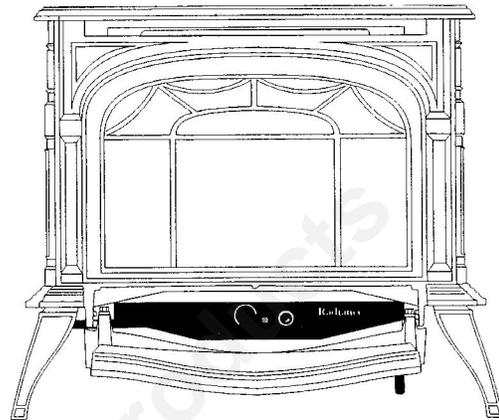


Figure 46. Swing the lower panel down to access the controls.

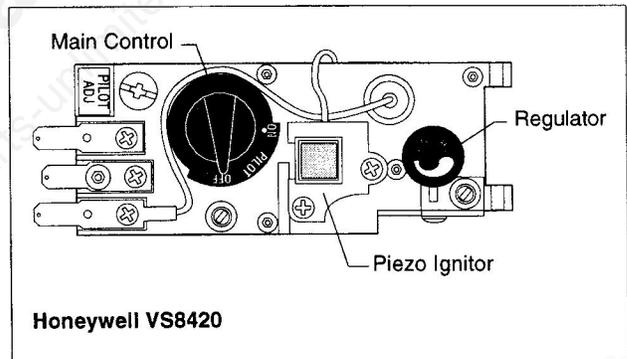


Figure 47. The RDV40 Control Valve / coverplate removed.

	T'STAT	T'STAT: Gas flow to burner is controlled by external wall thermostat setting.
	OFF	OFF: Burner is shut off / pilot remains lit.
	ON	ON: Burner is set for continuous operation by manual or remote control.

Figure 48. Remote Switch functions.

Lighting the Pilot

1. If you have not already done so, remove the front and glass panel assemblies. See Figs. 12-13 on page 11.
 2. Turn the thermostat, if applicable, to its lowest setting.
 3. Turn the main control knob clockwise to the OFF position. Also, put the remote switch at the back of the stove in the OFF (midpoint) position.
 4. Smell for gas. Inspect the stove for damage or sign of deterioration. Do not attempt to operate the stove if any damage is evident.
 5. Locate the pilot assembly at the lower left front corner of the firebox. When lit, the pilot will produce a small, steady flame.
 6. Turn the main gas control knob counterclockwise to the PILOT position and push it in. With your other hand, immediately push the ignitor button in until the pilot flame ignites. You may have to push the ignitor repeatedly. Continue to hold the control knob in for about one (1) minute after the pilot is lit. Then, release the knob and it will spring back out. The pilot should remain lit and appear as in Fig. 49.
- NOTE:** Once the pilot has been lit, it will remain burning continuously.
7. Turn the gas control knob counterclockwise to "ON." The burner will not light off until the remote switch is placed in the ON or TSTAT position.
 8. Replace the glass panel and front assemblies.

Lighting the Burner

1. Check that the pilot is lit and that the main control knob is in the ON position.
2. Place the ON/OFF/T"STAT switch in the ON position and continue to watch the fire until the entire unit is lit. The burner flames should appear as depicted in Fig. 50. For thermostatic control, set the wall thermostat to the desired room temperature and then place the remote switch in the T'STAT position.

CAUTION

If the entire fire is not lit within five (5) seconds of turning the remote switch ON, immediately push the switch to OFF. Repeat from Step 3 above. Allow fifteen (15) minutes for the gas to clear from the firebox before relighting the pilot.

If unsuccessful again, completely turn off all gas to the Radiance. Call your local Vermont Castings Authorized Dealer for service.

Turning the Burner Off

1. Simply push the remote rocker switch to OFF. The pilot will remain on. You can leave the pilot burning. (It costs less than 1 cent an hour to run.)

You may hear a popping noise from within the firebox a few seconds after shutting the Radiance off. This is normal and does not indicate a problem.

NOTE: If you do not intend to operate the unit for an extended period of time, it is a good idea to turn the gas control knob to OFF and to turn the manual gas valve on the supply line to OFF as well.

WARNING

DO NOT OPERATE THIS APPLIANCE WITH THE GLASS PANEL MISSING OR DAMAGED. REPLACE GLASS ONLY WITH VERMONT CASTINGS PART NO. 160-1290.

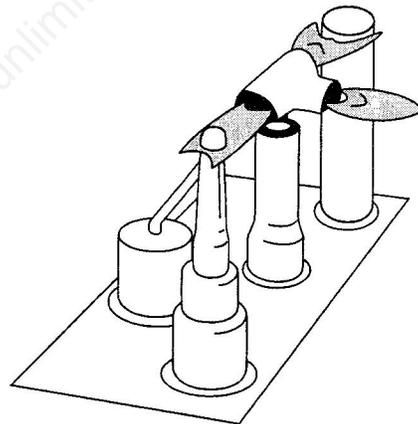


Figure 49. Correct pilot flame. Pilot assembly is located at the left forward corner of the burner area.

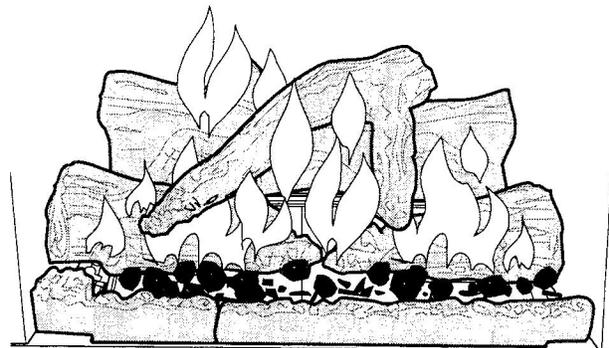


Figure 50. Correct burner flame pattern.

FOR YOUR SAFETY READ BEFORE LIGHTING

Instructions for use with stoves equipped with the Honeywell 8420

WARNING: IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR LOSS OF LIFE.

- A. This appliance has a pilot. When lighting the pilot, follow these instructions exactly.
- B. **BEFORE OPERATING** smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

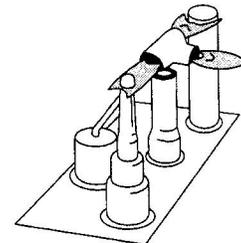
- Shut off the manual valve in the supply piping to the appliance.
 - Do not try to light any gas appliance.
 - Do not touch any electric switch; do not use any phone in your building.
 - Immediately call gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach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

LIGHTING INSTRUCTIONS

1. **STOP!** Read the safety information above on this label.
2. Turn off all electric power to the appliance.
3. Turn the thermostat to the lowest setting, (if applicable).
4. Place the OFF/ON/T'STAT switch in the OFF position.
5. Push in gas control knob slightly and turn clockwise  to "OFF."
6. Wait fifteen (15) minutes to clear out any gas. If you then smell gas, **STOP!** Follow "B" in the safety information above. If you don't smell gas, go to the next step.
7. Turn knob on gas control counterclockwise  to "PILOT."
8. Find the pilot, located below the log set in the forward left corner of the firebox.
9. Push the control knob all the way and hold in. Immediately push the ignitor button repeatedly until the pilot flame ignites. 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 9.
 - If knob does not pop up when released, stop and immediately call your service technician or gas supplier.
 - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
10. Turn gas control knob counterclockwise  to "ON."
11. Place the OFF/ON/T'STAT switch in the ON or T'STAT position.
12. Turn on all electric power to the appliance.



Control Knob



Pilot Assembly

TO TURN OFF GAS TO APPLIANCE

1. Turn off all electric power to the appliance if service is to be performed.
2. Push in gas control knob slightly and turn clockwise  to "OFF."

NOTE: Knob cannot be turned from "PILOT" to "OFF" unless knob is pushed in slightly. Do not force.

Troubleshooting / Honeywell 8420 Gas Control System

NOTE: Before troubleshooting the gas control system, be sure the external gas shut off is in the 'ON' position.

WARNING: REMOVE THE GLASS PANEL BEFORE DOING 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 red 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 not 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)	1. Check pilot flame. It must impinge on 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 10 mV. 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 ON.	A. Remote switch or wires defective.	Check wall switch and wires for proper connections. Use jumper wires across terminals at wall switch. If burner lights, replace wall switch. If okay, use jumper wires across wall switch wires at 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 wall switch wires may be grounded. Remove wall switch wires from valve terminals. If burner now stays lit, trace wall switch wiring from ground. May be grounded to appliance or gas supply line. 3. Check thermopile with millivolt meter. Take reading at thermopile terminals of gas valve. Should read 325 millivolts minimum while holding valve knob depressed in pilot position and wall 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 wall switch to 'On', millivolt meter should read greater than 100 mV. If the reading is okay and the burner does not light, replace the gas 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 thermopile and thermocouple.
	B. Possible blockage of the vent terminal.	Check the vent terminal for blockage.

Maintenance

Care of Painted Cast Iron Surfaces

An occasional dusting with a dry rag will keep the painted surface of a Classic Black Radiance looking new.

The paint can be touched-up as needed with Vermont Castings High-temperature Stove Paint.

- Shut off the pilot and let the stove cool completely.
- Clean the areas to be painted with a wire brush.
- Cover controls or trim with masking tape and protect the surrounding walls and furniture from aerosol paint particles.
- Always wear a dust mask when using spray paint. Apply the paint sparingly; two light coats will give better results than a single heavy coat.

Cleaning Porcelain Enamel

Use a dry or slightly damp rag or soft brush to clean porcelain enamel surfaces. Use only a kitchen appliance cleaner or polish recommended for use on enamel surfaces.

Cleaning the Glass

The condensation normally associated with burner start-up will cause lint, dust and other airborne particulates to cling to the surface of the glass. A film may also develop as the paint cures during the initial operation periods. Clean the glass after the first two weeks of operation and then 2-3 times during the heating season. Use a non-ammonia based household cleaner with warm water as necessary (Fireplace glass cleaner is recommended).

Remove or Replace the Glass

The Front cast iron panel and the glass panel must be removed for inspection and cleaning of the logs and burner. In the event that the glass panel needs to be replaced,

REPLACEMENT OF THE GLASS PANEL SHOULD BE DONE BY A LICENSED OR QUALIFIED SERVICE PERSON. USE ONLY THE CORRECT RDV40 GLASS PANEL, VERMONT CASTINGS PART #160-1290, AVAILABLE FROM A VERMONT CASTINGS AUTHORIZED DEALER. USE OF SUBSTITUTE GLASS WILL VOID ALL PRODUCT WARRANTIES.

UNDER NO CIRCUMSTANCES SHOULD THIS APPLIANCE BE OPERATED WITHOUT THE GLASS PANEL OR WITH A BROKEN GLASS PANEL.

In order to remove the glass, it is first necessary to remove the front. Follow the procedures on page 11.

1. Remove the glass and frame assembly as a unit and place it front side down on a flat, padded surface such as a counter protected by a towel.
2. If you are replacing old gasket material, lift the glass panel out of the frame and remove the old gasket material from around the edge. Fig. 51.

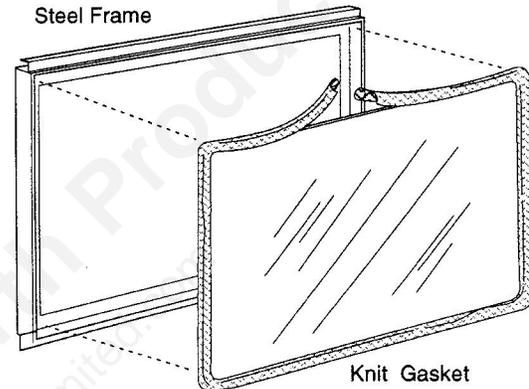


Figure 51. Remove the glass from the frame.

Replace the Glass Gasket

Use only Vermont Castings Glass Gasket Part # 120-3702. Note that the gasket material has two distinct halves; the flat self-adhesive portion is applied around the outside edge of the glass panel so that the thick, round half overlays the inside perimeter. Do not stretch it out. See Fig. 52.

1. Place the glass panel on a towel on a table or counter.
2. Beginning on a long side, remove about 6" of the protective paper strip and apply the flat adhesive face of the gasket around the outside-facing edge of the panel. Continue around the panel, applying about 6" length at a time and being careful not to stretch the material.

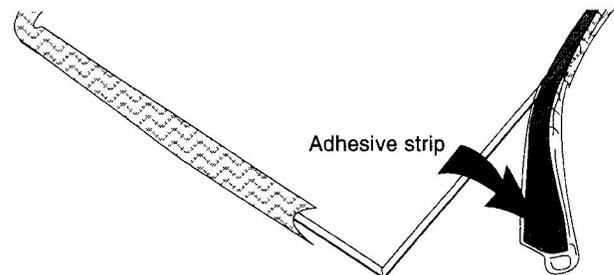


Figure 52. Wrap the self-adhesive gasket material around the outside edge of the glass.

3. 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.
4. Replace the frame on the front of the firebox and secure with the two latches. Fig. 53.
5. Replace the Front, holding the bottom slightly away from the stove while engaging the top properly. Then, seat the bottom in position against the sides of the stove.

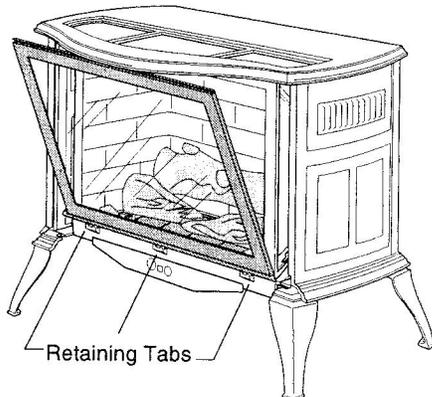


Figure 53. Engage the lower lip of the glass frame behind the retaining tabs at the bottom of the firebox.

Cleaning the Logs and Burner

The logs and burner area should be inspected each time you operate the stove. These parts should be cleaned at least once per year using a vacuum or soft brush. Before you begin, shut off the gas supply according to the directions on Page 23 and allow the stove to cool completely.

The logs are fragile and must be handled carefully and brushed gently. Support them evenly while handling.

1. Remove the front and the glass as described on the previous page.
2. Remove each log and clean gently with a soft brush or vacuum attachment.
3. Remove all the lava rocks and place them in a plastic bag or cup for reuse.
4. Use a vacuum to clean the entire burner base area.
5. Replace the log set parts by engaging each with the appropriate locator pins. See page 11 -12 for details.
6. Replace the lava rocks.
7. Replace the glass and the front as described previously.

Inspect the Vent System Annually

The vent system must be inspected annually by a qualified technician. Shut off the main gas supply before inspecting the vent system. Both the inner exhaust pipe and the outer combustion supply pipe must be checked to confirm that they are unobstructed and in good condition. Inspect for dust buildup, corrosion, or any sign of deterioration or deposits that could interfere with the positive flow of intake air and exhaust gases. Clean the system if necessary. Refer to the vent manufacturer's instructions for reassembly and resealing procedures required.

Check the Gas Flame Regularly

To ensure that the RDV40 is operating properly, check the flames periodically to confirm that they are consistent the illustration depicted in Fig. 54 below. The flame pattern should be evenly distributed throughout the log set. The flames will be blue during the first few minutes, but should gradually change to yellow after about 15-20 minutes.

Do not operate your stove if the flame pattern differs from that shown here. Contact your Vermont Castings authorized Dealer or a qualified gas technician for assistance.

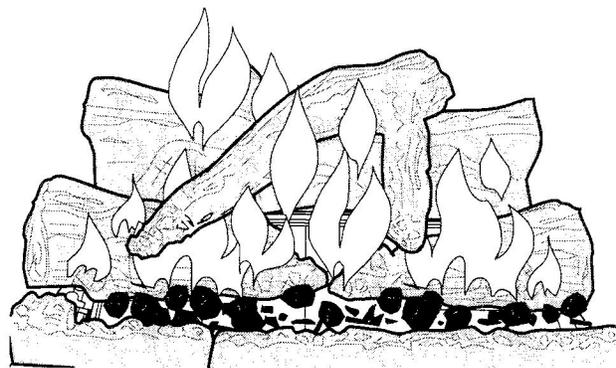


Figure 54. Correct flame pattern.

RDV40 Replacement Parts

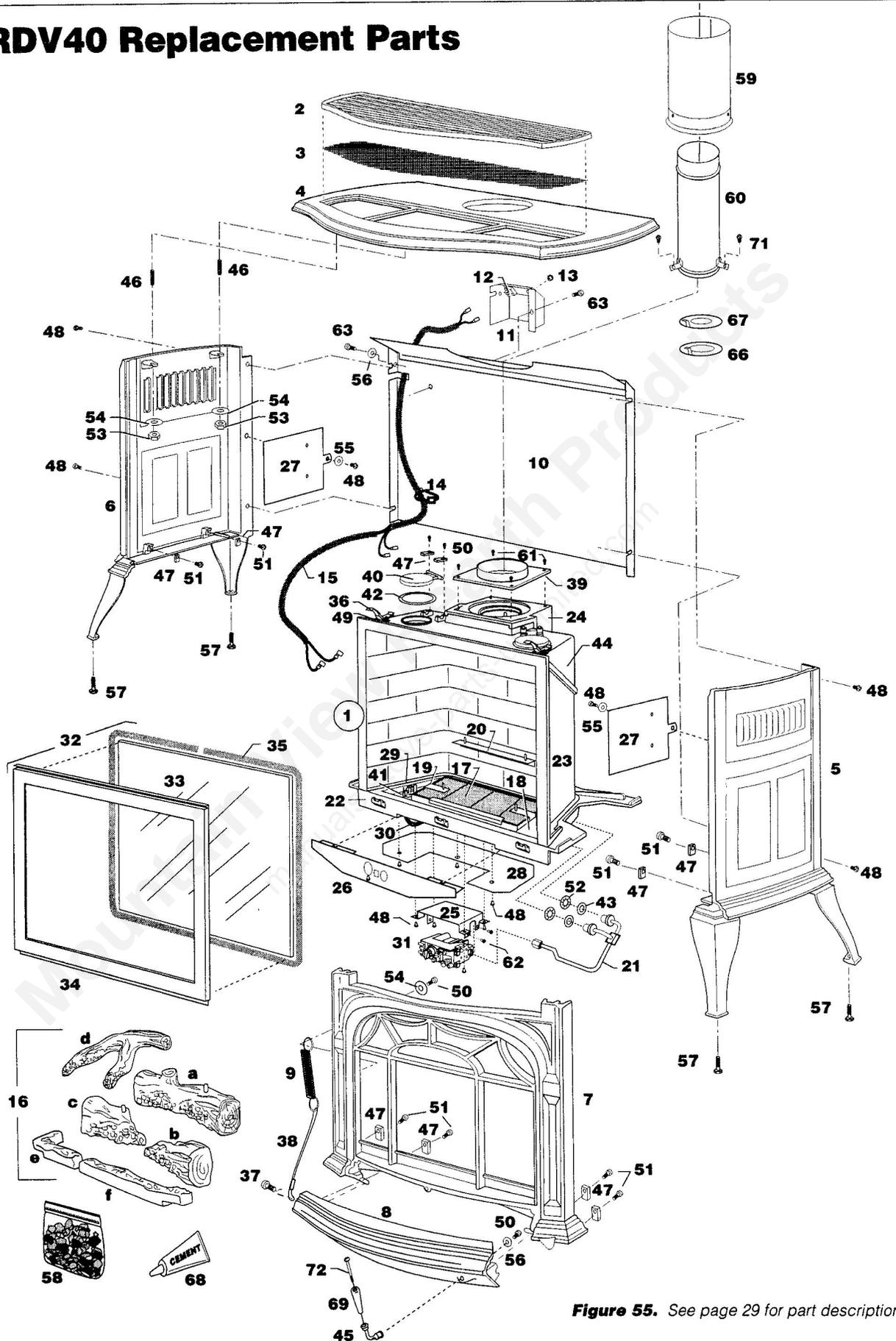


Figure 55. See page 29 for part descriptions.

RDV40 Part	Part No.
1. RDV40 Stove Assembly / NG	000-2770
RDV40 Stove Assembly / LP	000-2776
2. Grille	130-1195
3. Screen, Grille	160-1970
4. Top Plate	130-1194
5. End, Right	130-1233
6. End, Left	130-1234
7. Front Plate	130-1229
8. Control Door	130-1220
9. Spring, Control Door	120-1842
10. Rear Shroud	140-9111
11. Switch Box	140-8791
12. Switch, ON/OFF/T'STAT	160-1597
13. Rheostat Plug	160-0561
14. Wire Tie, wire harness, (4)	120-1504
15. Wire Harness, Burner/Thermostat	160-1913
16. Gas Log Set / RDV40 (6 pieces)	500-3076
16a. Rear	3000-0032
16b. Right	3000-0035
16c. Left	3000-0036
16d. Top	3000-0037
16e. Left Front	3000-0038
16f. Right Front	3000-0039
17. Burner Assembly, Natural gas	3000-0011
Burner Assembly, Propane	3000-0012
18. Log Bracket, Left	3000-0109
19. Log Bracket, Right	140-9173
20. Log Bracket, Rear	3000-0090
21. Manifold Assembly, Natural gas	500-3115
Manifold Assembly, Propane	500-3116
22. Base - Burner	130-1143
23. Firebox	130-1148
24. Inlet Duct	130-1149
25. Valve Bracket	130-9110
26. Control Panel	140-9136
27. Heat Shield, Side (2)	140-9130
28. Heat Shield, Bottom	140-9167
29. Pilot Assembly (NG)	160-1979
Pilot Assembly (LP)	160-1980
30. Electrode wire	160-1661
31. Control Valve, Honeywell NG	3000-0029
Control Valve, Honeywell LP	3000-0030
32. Glass Frame Assembly	500-3075
33. Glass Panel / GFP	160-1290
34. Glass Frame	140-9112
35. Glass Gasket, Med.Knit	120-3702
36. Glass Frame Latch, (2)	160-1972
37. Cable, Cntrl. 1/32 S.S.	120-4867
38. Cable, Control Door	160-1924

RDV40 Part	Part No.
39. Venting Collar	130-1196
40. Door, Heat Exchanger (2)	130-1197
41. Gasket, Fiberfrax / Pilot	120-3685
42. Gasket, Heat Exchanger (2)	120-3687
43. Gasket, Fibre Seal	120-3697
44. Top, Heat Exchanger	130-1185
45. Stub, Control Door	160-1981
46. Stud, 1/4-20 x 1-1/4" (4)	120-4212
47. Damper Tab (12)	160-1488
48. 1/4-20 x 3/8" Phillips Screw (17)	120-0993
49. #10-24 x 3/8" Phillips Screw (6)	120-0985
50. 1/4-20 x 1/2" Hex Head Screw (6)	120-1338
51. 1/4-20 x 5/8" Hex Head Screw (8)	120-1372
52. 7/16" Push Nut / Injector tube	120-3366
53. 1/4-20 x Hex Hd Flex Nut, (4)	120-3213
54. Flat Washer, 1/4"x 7/8" o.d. (17)	120-2470
55. Flat Washer, 1/4"x 3/4" o.d. (2)	120-2469
56. Flat Washer, 1/4" blk (2)	120-2473
57. 1/4-20 x 1" Leg Levelling bolt (4)	120-1745
58. Lava Rocks, (1 bag)	57897
59. Starter Vent Pipe, Outer (7")*	3000-0001
60. Starter Vent Pipe, Inner (4")*	3000-0002
61. 1/4-20 x 5/8" Phillips, Fl. Hd.	120-0865
62. 10-24 x 1/4" Phillips, Pan Hd.	120-0980
63. #10 x 1/2" Phillips, Pan Hd.	120-2058
64. 1/4-20 x 2" Phillips, Flat Hd.	120-0848
65. 1/4-20 x 1 3/4" Hex Hd. Screw	120-0830

Hardware Bag:

66. Restrictor Plate / 2-1/2"	140-9169
67. Restrictor Plate / 2-1/4"	140-9170
68. Cement, vent sealant / 3 oz.	120-6122
69. Control Door Handle	160-0660
70. #10 x 1/2" Phillips Screws, (3) for Outer Starter Vent Pipe	120-2058
71. 1/4-20 x 3/8" Phillips Screws, (2) for Inner Starter Vent Pipe	120-0993
72. #8-32 x 2" Slotted Screw (Handle)	120-1243

* For use only with CFM vent components

For replacement parts, or for information regarding parts or service, contact your local Vermont Castings Authorized dealer. For the name of the dealer nearest you contact:

The Majestic Products Company
1000 East Market Street
Huntington, IN 46750-2579
219-356-8000

Mountain View Hearth Products
manuals.stove-parts-unlimited.com

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