# 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.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- -- WHAT TO DO IF YOU SMELL GAS:
- Do not try to light any appliance.
- Do not touch any 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.

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

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.



# Stardance Direct Vent, Rear Vent Gas Heater Models:

SDDVR Series: SDDVRCB, SDDVREB, SDDVRMB, SDDVRBS, SDDVRCH, SDDVRVG, SDDVRBD SDDVRC Series: SDDVRCCB, SDDVRCEB, SDDVRCMB, SDDVRCBS, SDDVRCCH, SDDVRCVG, SDDVRCBD



# Homeowner's Installation and Operating Manual



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

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Thank you and congratulations on your purchase of a Vermont Castings stove.

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# **Installation & Operating Instructions**

The Stardance Direct Vent Room Heater, Models. SDDVR Series: SDDVRCB, SDDVREB, SDDVRMB, SDDVRBS, SDDVRCH, SD-DVRVG, SDDVRBD; SDDVRC Series: SDDVRCCB, SDDVRCEB, SDDVRCMB, SDDVRCBS, SDDVRCCH, SDDVRCVG, SDDVR-CBD are vented gas appliances listed to 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 Stardance Direct Vent Room Heaters must conform with local codes, or in the absence of local codes, with National Fuel Gas Code, ANSI Z223.1/NFPA 54 — latest edition and CSA B-149.1 (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 LP gas at maximum input.) Refer to Page 7 (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 Stardance Direct Vent Room Heaters 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 Stardance Direct Vent Room Heaters and the 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 Stardance Direct Vent Room Heaters must be isolated from the gas supply piping system by closing the 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.

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

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

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

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

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

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

Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition. Young children should be carefully supervised when they are in the same room as the appliance.

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.

# Stardance Direct Vent / Rear Vent Certified to:

#### ANSI Z21.88-2005 / CSA Z2.33-2005 Vented Gas Fireplace Heaters

**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

# **Installation & Operating Instructions**

#### Requirements for the Commonwealth of Massachusetts

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

For all side wall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than seven (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

#### Installation of Carbon Monoxide Detectors

At the time of installation of the side wall horizontal vented gas fueled equipment, the installing plumber or gas fitter shall observe that a hard wired carbon monoxide detector with an alarm is installed on each additional level of the dwelling, building or structure served by the side wall horizontally vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors.

In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or an attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level.

In the event that the requirements of this subdivision can not be met at the time of completion of installation, the owner shall have a period of thirty (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

#### Approved Carbon Monoxide Detectors

Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and ANSI/UL 2034 listed and IAS certified.

#### Signage

A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height of eight (8) feet above grade directly in line with the exhaust vent terminal for the horizontally vented gas fueled heating appliance or equipment. The sign shall read, in print size no less than one-half (1/2) inch in size, "GAS VENT DIRECTLY BELOW, KEEP CLEAR OF ALL OBSTRUCTIONS".

#### Inspection

The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspection, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CMR 5.08(2)(a)1 through 4.

#### Exemptions

The following equipment is exempt from 248 CMR 5.08(2)(a)1 through 4:

- The equipment listed in Chapter 10 entitled "Equipment Not Required To Be Vented" in the most current edition of NFPA 54 as adopted by the Board; and
- Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.

# MANUFACTURER REQUIREMENTS

#### **Gas Equipment Venting System Provided**

When the manufacturer of Product Approved side wall horizontally vented gas equipment provides a venting system design or venting system components with the equipment, the instructions provided by the manufacturer for installation of the equipment and the venting system shall include:

- Detailed instructions for the installation of the venting system design or the venting system components; and
- A complete parts list for the venting system design or venting system.

#### Gas Equipment Venting System NOT Provided

When the manufacturer of a Product Approved side wall horizontally vented gas fueled equipment does not provide the parts for venting the flue gases, but identifies "special venting systems", the following requirements shall be satisfied by the manufacturer:

- The referenced "special venting system" instructions shall be included with the appliance or equipment installation instructions; and
- The "special venting systems" shall be Product Approved by the Board, and the instructions for that system shall include a parts list and detailed installation instructions.

A copy of all installation instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions, and/or all venting design instructions shall remain with the appliance or equipment at the completion of the installation.



Fig. 1 Stardance dimensions.

# **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. (EXCEP-TION: 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 Propane).

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

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

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

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

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

# WARNING



HOT GLASS WILL CAUSE BURNS.

DO NOT TOUCH GLASS UNTIL COOLED.

NEVER ALLOW CHILDREN TO TOUCH GLASS.

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

The same clearances apply in a standard parallel installation.



#### WARNING:

• Always maintain required clearances (air spaces) to nearby combustibles to prevent fire hazard. Do not fill air spaces with insulation. All venting components must maintain a 1" (25 mm) clearance to combustible materials. Maintain a 6" (152 mm) clearance when using single wall pipe. Maintain a 2" (51 mm) clearance on top and 1" (25 mm) on sides and bottom when venting straight off the rear.

- 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.







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



Fig. 5 Clearances to ceiling or alcoves.



Fig. 6 Mantel / top trim clearances.

# **Hearth Requirements**

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

Gas Specifications				
			Max. Input	Min. Input
Model	Fuel	Gas Control	BTU/h	BTU/h
SDDVR Series	Nat	Millivolt	21,000	15,000
SDDVR Series	Prop	Millivolt	21,000	16,000
SDDVRC Series	Nat	Comfort Control	21,000	15,000
SDDVRC Series	Prop	Comfort Control	21,000	16,000

Air Shutter Setting Minimum rear injector air inlet openings.				
Model	Natural Gas	LP		
SDDVR/SDDVRC 1/2" Open 1/2" Open				

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.

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. (EXCEP-TION: 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.)

# **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

The vent must rise vertically a minimum of 24" (610mm) after the first elbow directly off the back of the unit, before the next 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 9 and 10.

- 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 (Excluding the first elbow directly off the back of the unit.



Fig. 7 Horizontal vent termination window.

\* Not the transition elbow.

## **Vertical Termination**

A vertical vent system must terminate no less than 8' (2.44m) and no more than 40' (12m) above the appliance flue collar. A restrictor plate (supplied) must be used (where specified) in all vertically terminated vent systems. **NOTE: The restrictor plate supplied with the vertical termination should be discarded. Install restrictor plate according to recommendations in Figure 10.** A vertically terminated vent system must also conform to the following criteria:

- No more than three 90° elbows may be used. 90° elbow off back must be transition elbow.
- Two 45° elbows may be substituted for one 90° elbow. No more than six 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 11.



Fig. 8 Vertical vent termination window.

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# Restrictor Plate Adjustment for Extended Pipe Runs

The Stardance stove is shipped with a restrictor plate in the Parts Bag. Adjustments can be made by loosening the adjustment screw to allow the restrictor plate to slide up or down. (Fig. 9) A guide for usage is shown in Figure 10.

**NOTE:** Some installations may require some adjustment by the installer for optimum flame appearance. Optimum flame appearance is a flame that is not subject to tall, dirty yellow flames producing soot or flames lifting off of the ember bed ports.

#### **Restrictor Plate Adjustment**

- 1. Remove the logs if installed.
- 2. Remove the adjustment screw in the back wall of the firebox.
- Install restrictor plate as shown in Figure 9 with angle on plate on the top right side. Secure with adjustment screw.
- 4. Adjust restrictor according to examples in Figure 10.
- 5. Install logs following log installation instructions.



Fig. 9 SDDVR/SDDVRC restrictor plate.

Examples for Extended Run/Restrictor Plate Settings
90° elbow, vertical 40' (12 m) - restrictor plate lowered completely down

- 90° elbow, vertical 20' (6 m), 90° elbow, 8' (2.4 m ) horizontal - restrictor plate lowered completely down
- 90° elbow vertical 10' (3 m), 90° elbow, 2' (305 mm) horizontal - restrictor plate lowered completely down

Figure 10

# 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 11.

#### Important: All vent clearances must be maintained. Check your vent termination clearances against Figures 11 and 12.

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

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

Some considerations are:

- Obstructions or impediments to venting.
- Nearby combustible materials that could come into contact with combustion exhaust gases.
- Other nearby openings {within 9" (230 mm)} through which exhaust gas could reenter the building.
- All vegetation within 3' (914 mm) that may interfere with the draft.

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



# IMPORTANT

- The horizontal termination must not be recessed into the exterior wall or siding.
- Horizontal vent runs must be level toward the vent termination.
- Clearances around the vent termination must be maintained.

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 venting components specifically approved and labelled for this stove may be used.
- Minimum clearances between vent pipes and combustible materials is one (1") inch (25mm), 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 <u>any</u> obstruction such as bushes, garden sheds, fences, decks or utility buildings within 24" from the front of the termination hood.

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

#### **Location of Vent Termination**

It is imperative the vent termination be located observing the minimum clearances as shown in Figure 9.

General Venting Information - Termination Location			
$H \stackrel{*}{\Rightarrow} H $			
VENT TERMINATION (X) AIR S	SUPPLY INLET AREA WHERE TERMINAL		
A - Clearance above grade verende nereb	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 < 10,000Btuh (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).			
<ul> <li>1 In accordance with the current CSA-B149 Installation Codes</li> <li>2 In accordance with the current ANSI Z223.1/NFPA 54 National Fuel Gas Codes</li> <li>† A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings</li> <li>‡ only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor:</li> <li>NOTE: 1. Local codes or regulations may require different clearances.</li> <li>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.</li> <li>3. CFM Corporation assumes no responsibility for the improper performance of the appliance when the venting system does not meet these requirements.</li> </ul> Fig. 11 Vent termination clearances.			

Fig. 11 Vent termination clearances.



Fig. 12 Termination clearances.

# 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.

#### CFM Corporation Vent Components Rear Vent Kit

**7TFSRSK** (1) 20" Starter pipe (CG) for through wall installation (1) Side Wall Termination (1) Finishing Collar (CG) (1) Firestop (1) Zero Clearance Sleeve (1) Wall plate (CG) (1) Hardware Package Min. Through the Wall Vent Kit 7TFSSK (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 Starter Kit for **Below-Grade Installation 7TFSDVSKS** (1) Snorkel Termination (7TDVSNORK)

#### 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

(1) 7/12 - 12/12 Flashing and all of the other Vertical Termination parts.

Vertical Termination, Flat Roof (1) Flat Flashing	7DVSKVF
and all of the other Vertical Termination	parts.
Twist Lock 12" Straight Pipe (CG) (1) 12" Non-adjustable Pipe	7TFSDVP12
Twist Lock 12"-18" Straight Pipe (CG (1) 12" - 18" Adjustable Pipe	i) 7TFSDVP1218
<b>Twist Lock 24" Straight Pipe (CG)</b> (1) 24" Non-adjustable Pipe	7TFSDVP24
<b>Twist Lock 48" Straight Pipe (CG)</b> (1) 48" Nonadjustable Pipe	7TFSDVP48
<b>Twist Lock 45-Degree Elbow (CG)</b> for vertical offsets (1) 45-degree Elbow	7TFSDVT45
Combination Offset/Roof Support Attic Insulation Shield 7" Charcoal Gray Pipe Rings, (4) 7" Polished Brass Pipe Rings (4)	7DVCS 7DVAIS 7FSDRG 7FSDRP
Use the following approved CFM Corpo	pration vent

components for fireplace installations vented through a masonry chimney:

7TFSCSK	Transition Connector
HEDV25	25-foot flex connector
	(two 25 foot sections)
HEDV35	35-foot flex connector
	(two 35 foot sections)
HEDV32T812	Vent termination for 8 x 12" flue
HEDV32T1212	Vent termination for 12 x 12" flue
HEDVT	Round termination

# Installation

# **Unpack the Stove**

The stove is shipped fully assembled on its back. Unpack the stove and carefully set it upright.

# CAUTION

Porcelain enamelled surfaces are fragile. Handle porcelain enamelled castings tenderly. Familiarize yourself with the assembly steps before you begin and proceed with deliberation and care. If possible, have assistance available.

Place enamelled castings on a soft, cushioned surface until you are ready to assemble.

Avoid contact between the castings and other hard surfaces or objects.

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

If you are not installing a fan, proceed to the appropriate vent assembly section.

# Install Optional Fan Kit #2960/FK28

#### Fan Kit Contents:

- #10 x 1/2" phillips screws, 6
- Control Knob
- Retainer Collar
- Snapstat Snapstat Bracket
- Blower Assembly w/ Rheostat Control

**NOTE:** The Rheostat Assembly and the Snapstat Assembly are not used on RF Models.

**For RF Models only:** Follow Step 3, then run the spliced female leads to the front of the stove and attach to PC board of RF valve. Then follow Step 5.

- 1. Attach the Snapstat to the Bracket using two #10 x 1/2" phillips sheet metal screws as shown in Figure 13.
- 2. Locate and remove the 1/4-20 x 3/8" hex head bolt installed in the hole in the right rear ledge of the firebox. (Fig. 13) Use that bolt to secure the Snapstat Bracket to the firebox. The mounting hole is slotted to allow you to adjust the bracket so that its head makes contact with the firebox surface. (Fig. 11)
- 3. Attach the Fan to the firebox by engaging the upper flange of the fan skirt under the lower edge of the Shroud and secure the skirt with the four screws provided with the kit. (Fig. 14)



Fig. 13 Snapstat assembly and installation.



**Fig. 14** The upper flange of the fan skirt should be located behind the lower edge of the shroud.



Fig. 15 Correct position of fan skirt installation.

- 4. The rheostat control switch attaches to the left side of the valve bracket at the front of the stove. (Fig. 16)
  - Insert the switch box shaft through the hole in the back of the right side of the valve bracket, aligning the locator pin with the smaller hole in that bracket.
  - Attach the retaining nut to the switch control shaft to secure it to the plate.
  - Attach the Control Knob to the rheostat shaft.
  - Use the wire tie to secure the fan and rheostat wire harnesses together.



Fig. 16 Attach rheostat to bracket.

# Venting System Assembly

#### **General Information**

The Stardance is approved for installation only with the vent components listed on Pages 12 & 13. Follow the vent component instructions exactly.

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

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

## **Rear Vent**

Use Rear Vent Kit 7TFSRSK for an installation where the heater is parallel to the wall and the vent system extends straight back through that wall.

1. Attach Inner Starter Pipe, (found in with the logset), to the stove.

• Run a bead of sealant beneath the pipe bead and attach to the stove using three 1/4-20 x 3/8" phillips screws provided in the parts bag. (Fig. 17)



**Fig. 17** Apply sealant to the starter pipe, and fasten to stove with Phillips screws.

Locate the vent opening on the wall. Refer to Figures 18 & 19 to determine the top of 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 18. Combustible wall openings must be framed as shown in Figure 18.



Fig. 18 Locate vent opening.

- 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. 24) NOTE: The wall sleeve is required in combustible walls only.
- 4. Install the Wall Firestop/Sleeve assembly into the wall cutout and fasten the firestop to the wall cutout framing members. (Figs. 19)
- 5. Measure, and cut if necessary, the appropriate length of pipe section needed to make the connection through the wall.



Fig. 19 Rear Vent Kit 7TFSRSK installation.

- 6. 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.
- 7. Connect the pipe to the inner collar. 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. (Figs. 18)
- 8. Install the vent terminal. (Figs. 18) 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.

#### Through Side Wall / Vent Termination Below Grade

Refer to Figure 20 for minimum centerline of wall opening.



Fig. 20 Minimum wall thimble centerline.

1. Attach Inner Starter Pipe, (found in with the logset), to the stove.

• Run a bead of sealant beneath the pipe bead and attach to the stove using three  $1/4-20 \times 3/8$ " phillips screws provided in the parts bag. (Fig. 21)

- 2. Dry fit the inner and outer pipe of the first elbow directly to the starter pipe.
- 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 elbow to the starter pipe.
  - Run a bead of sealant about 1/2" from 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. 21)
- 5. Install the first elbow and secure using three sheet metal screws. Insert the elbow over the stove flue collar. 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. 22)



Fig. 22 Fasten outer pipe with #12 x 1/2" sheet metal screws.

#### Side Wall Termination Assembly

- Locate the vent opening on the wall. Refer to Figure 20, to determine the minimum centerline of wall opening. 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 23. Combustible wall openings must be framed as shown in Figure 23.
- 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.



Fig. 23 Locate vent opening.

Attach the firestop plate to the sleeve end with the holes. (Fig. 24) **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. 24)



Fig. 24 Assemble the wall sleeve and firestop.

- 4. If necessary, measure to determine the vertical length (X) of pipe required from the first (transition) elbow to the wall cutout centerline, including a 2" overlap at the joint. (Fig. 25) Use a hacksaw or tin snips to trim the pipe as needed.
- 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.
- Measure, and cut if necessary, 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. 26)







Fig. 26 Measure the horizontal length.

- 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.
- 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. 27)



Fig. 27 Install the horizontal pipe and wall plate parts.

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- 10. Install the vent terminal. (Fig. 28) 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.Install Charcoal Gray Pipe Rings (#7FSDRG) or Polished Brass Pipe Rings (#7FSDRP) at pipe joints, if desired.



Fig. 28 Install the vent terminal.

#### Vent Termination Below Grade

Install Snorkel #7TDVSNORK when it is not possible to meet the required vent termination clearances of 12" (305 mm) above grade level. The snorkel kit will allow installation depth of down to 7" (178 mm) below grade level. The seven inches is measured from the center of the horizontal vent pipe as it penetrates the wall. If the venting system is installed below grade, a window well must be installed with adequate and proper drainage. (Fig. 29)



Fig. 29 Snorkel kit installation.

**NOTE:** Be sure to maintain side wall clearances and vent run restrictions. Refer to Figures 3 through 11.

- 1. Establish the vent hole through the wall.
- Remove soil to a depth of approximately 16" (400 mm) below the base of the snorkel. Install a window well (not supplied). Refill the hole with 12" (305 mm) of coarse gravel and maintain a clearance of at least 4" (102 mm) below the snorkel. (Fig. 29)
- 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.

## Vertical (Through the Roof) Vent Assembly

NOTE: All vertically terminated installations must, where specified, use the restrictor plate, to comply with Vertical Termination Window (Fig. 8, Page 8), included in the hardware bag. The plate must be installed as directed on Page 8, Figure 8.

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 Page 10, Figure 11.

- 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.
- Cut the opening: (Page 17, Fig. 23) 9%" x 9%" (240 x 240mm)
- 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" (25mm) clearance to the vent pipe.
- 5. Place the stove in its final position.
- Install firestop(s) #7DVFS and Attic Insulation Shield #7DVAIS as needed. (Fig. 31) 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.





- Install the appropriate roof support and flashing, making certain that the upper flange of the flashing base is below the shingles. (Fig. 32)
- 8. Install appropriate pipe sections until the vent run reaches above the flashing. The enlarged ends of the vent sections always face downward.
- Install the storm collar and seal around the joints. (Fig. 32)
- 10. Add additional vent lengths to achieve the proper overall height.
- 11. Install termination cap.





# Vertical Through Existing Chimney

The heater must be vented to the outdoors through an existing masonry or prefabricated fireplace chimney system through the roof.

The heater is approved to be vented to the outdoors through any solid-fuel fireplace chimney that has been constructed or installed in accordance with the national, Provincial/State and local building codes and is constructed of noncombustible materials. For Venting Requirements, refer to Page 10. Refer to Venting Components on Pages 12 & 13.

#### **Fireplace Vent Termination Clearances**

Observe the chimney-top vent termination clearances specified in the instructions provided with those components. Some considerations are:

- Obstructions or impediments to venting.
- Nearby combustible materials that could come into contact with combustion exhaust gases.
- Other nearby openings within 9" (230 mm) through which exhaust gas could reenter the building.

• All vegetation within 36" (914 mm) that may interfere with the draft.

**NOTE:** The collar extending down from the Termination base is the air intake collar. Use the flex vent liner, marked with a **blue line**, to connect between this collar and the lower flue collar on the Transition Connector. Also make sure the other flex vent liner is attached to the upper Transition Connector collar and the Rain Cap. (Fig. 33)

- **1.** Clean the top of the chimney as needed, to ensure a good seal between it and the vent termination.
- 2. Slide the insulation sleeves provided in the termination kit over the two 3" flex liners (to be attached to the 3" flue collar and cap of the termination assembly).
- **3.** Feed 3" flex vent from the bottom of the termination assembly up through the 4" sleeve. Apply high-temperature sealant to the rain cap collar, and slide the flex vent over the end of the rain cap collar, fastening with the clamp provided.
- **4.** Slide the flex liner back through the 4" sleeve until the rain cap/collar engages over the sleeve. Attach the cap to the sleeve with three sheet metal screws provided in the kit.
- **5.** Apply high-temperature sealant over the air intake collar, and attach the intake flex vent (blue) with a clamp.
- 6. Apply high-temperature sealant to the top of the chimney. Feed the two liners down through the chimney flue and damper opening. Fasten the termination assembly to the chimney with the four set screws (C) provided.
- 7. Trim the flex liners as needed. Each should be only long enough to connect to the Transition Connector. There should be no sag in either flex liner when the stove is in place.
- 8. Attach the flex liners to the Transition Connector, using high-temperature sealant and clamps as shown in Figure 35. Prop the connector in rough position until the heater is in place in front of it.



Fig. 33 Fireplace vent system installation.



Fig. 34 Minimum lintel height for flush or forward placement.



Fig. 35 Installations using existing wood stove chimney pipe.

# Selkirk Direct-Temp Metalbestos Direct Vent System

#### Installation Instructions

- Determine whether the length of pipe fits the appliance outlet by attempting to engage the parts. If the parts engage smoothly, proceed to Step 2. If obstructions, interference or loose fit is noted, contact the appliance manufacturer or Selkirk Metalbestos with the dimensions of the appliance outlet.
- Slide the length of pipe over the appliance outlet a minimum of 1½" and screw to the appliance outlet collar using a minimum of two (2) #8 x 1/4" sheet metal screws.

#### Appliance Adapter (AAV)

The appliance adapter (AAV) adapts DIRECT-TEMP to most direct vent appliances incorporating outlet collars configured to receive most common 4" (ID) 6%" (OD) or 5" (ID) by 8" (OD) "Twist Lock" Style, direct vent systems.

The adapter incorporates two (2) indentations on the outer wall of the inlet end, which are designed to "Twist Lock" into place upon attachment to the appliance outlet. Align the adapter indentations with the entry slots of the appliance outlet and slide together. Turn the adapter clockwise approximately one-quarter turn to lock in place. The outlet end of the adapter is standard DIRECT-TEMP construction.

Framing Dimension Table 1			
Model DT Diameter	Ceiling Support (CS) Firestop (FS)	Cathedral Ceiling Support CCS)	Wall Thimble (WT)
4"	8¼" x 8¼"	10%" x 10%"	8¼" x 8¼"
5"	101⁄8" x 101⁄8"	14½" x 14½"	101/8" x 101/8"

#### Use of Sealant

It is not required to apply or use sealant on the inner liner of DIRECT-TEMP. For outer wall joint sealing considerations, follow appliance manufacturer recommendations.

#### Joint Connection:

The pipe and elbows are assembled by inserting the outlet (male) end of a length of pipe or elbow into the inlet (female) end of an adjacent length of pipe or elbow. Make sure the outlet end is fully seated within the inlet end of the adjoining section and the gasket, located on the inner liner of the inlet section is fully enclosed by the inner liner of the outlet of the adjoining section. Push in the Lock Tab such that it becomes seated within the inward groove of the adjoining section. This locks the joint in place. (Fig. 36)

# Supporting DIRECT-TEMP: Vertical Support

Vertical installations can be supported by two methods: Ceiling Support (CS) (used in flat ceiling installation) comes with a support plate and a support collar. Install



Fig. 36 Joint connection.

it by screwing the support plate to the top of the properly framed ceiling joist opening, using screws provided. A round trim plate (TP) is attached to the ceiling, using screws, to provide a finished appearance once installed. (Fig. 37)

The Cathedral Ceiling Support (CCS) may be used in pitched or flat ceiling installations and comes with a support collar and a decorative two part square trim plate. Install by inserting the support box down through the framed joist opening (end with round hole first) in the ceiling using tin snips, cut the corners of the open end of the box such that the sides can be folded down over the top of the joist framing members. Nail the folded sides to the top of the framing. (Fig. 38)



Fig. 37 Ceiling support.



Fig. 38 Support box.

Stardance Direct Vent - Rear Vent Gas Heaters

A two-part square trim plate is provided to give a finished look once installed. Simply fit the two halves of the trim plate around the cathedral ceiling support box hanging below the ceiling (overlapping if necessary) and screw them to the ceiling. Both the ceiling support and cathedral ceiling support can support a maximum of 40' (12 m) of pipe.

#### Offsets:

If any offsets are necessary in the vertical system, an



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Vent Termina-

tion (VC)

Storm Collar

(SC)

#### Supporting DIRECT-TEMP: Horizontal Support

Horizontal runs of Direct-Temp should be supported every 4' (122 cm) of pipe. This can be done with the use of plumbers strapping or the offset support.

#### Adjustable Length (AJ)

An Adjustable Length is available to accommodate installations where non-standard lengths are necessary. The adjustable length telescopes down over a standard length of pipe and provides an extension range of  $3\frac{1}{2}$ " (89 mm) to  $10\frac{1}{2}$ " (267 mm). Install by sliding the inlet end of the adjustable length over the outlet end of a standard length of pipe. After positioning the adjustable length appropriately, secure it to the standard length with two (2) #8 x1/4" sheet metal screws (provided). Seal the area between both the top and bottom of the adjustable length outer wall and the outer wall of the standard length with an approved silicone sealant.

#### **Fire Stopping**

DIRECT-TEMP must be firestopped wherever it passes through floors, ceiling or walls. The only location where a firestop is not required is at the roof level. Both vertical support components with trim plates provide for firestopping. The wall thimble also acts as a firestop. at other locations, a firestop spacer (FS) should be installed. In the attic the firestop should be placed on top of the joist framing to prevent debris from falling into the joist framing. (Fig. 41)





# Horizontal Installation

1. Determine the appliance location. Refer to the appliance manufacturer's installation instructions for clearance to combustible requirements, termination options, number of elbows, maximum length, etc. Then position the appliance and plan vent routing accordingly. Consider locating the appliance in a place where there will be no interference with wall studs, electrical wiring, conduit, plumbing pipe or other obstructions. The termination should be located at least 12" (305 mm) (Fig. 42) above grade, remain above the snow line in geographical areas that accumulate snow and be away from traffic areas such as walkways if it is less than 7' (2.1 m) high. Refer to Pages 10, 11, Figures 11, 12 for more detail.

2. Assemble the pipe (and elbow if using) and attach it to the appliance. Plan for a level to 1/4" per foot rise (6 mm per 305 mm) (from inlet to outlet) in the horizontal system if not specified by the appliance manufacturer. Horizontal runs should be supported every 4' (122 cm).



Fig. 42 Below grade installation.

3. Push the appliance near the desired location. Determine the centerpoint of the penetration by locating the centerline of the outlet of the pipe with respect to the wall.

4. Frame an opening to the dimension specified in the Framing Dimension Table 1. Ensure the centerline of the pipe lines up with the center of the prepared opening unless otherwise specified by the appliance manufacturer.

**NOTE:** As a general rule, the wall thimble is optional in the U.S. However, there may be some manufacturers that require it. Contact the appliance manufacturer for information if uncertain. When installed in Canada, a wall thimble is required on all installations in which the vent passes through a combustible wall.

5. If required, install the outside half of the wall thimble (WT) through the opening and screw or nail in place. (Fig. 43) Seal around the perimeter of the thimble face plate on the exterior wall using an RTV silicone sealant to provide protection from possible rain infiltration. (Fig. 43)

**NOTE:** The wall thimble accommodates wall thicknesses of  $4\frac{1}{2}$ " (114 mm) to  $7\frac{1}{2}$ " (191 mm). If a larger range is needed due to a thicker wall, it is permissible to field fabricate a metal sleeve extension and attach it to the shields.

6. Install the horizontal termination to the exterior wall using four (4) all purpose screws through the holes located at each corner of the termination. Make sure the arrow (embossed on the front of the termination) is pointing up. (Fig. 44) If the house has vinyl siding,



Fig. 43 Wall thimble.



Fig. 44 Horizontal termination.

a Vinyl Siding Standoff (VS) must be installed prior to installing the horizontal termination. Refer to the appliance manufacturer to determine if one is recommended. Attach the vinyl siding standoff to the exterior side of the wall (making sure it is level and centered with respect to the opening) with screws (provided) at each corner of the standoff. Attach the horizontal termination to the standoff. (Fig. 45)

If the wall is brick or concrete, and contains no combustible material, a 7" (178 mm) round penetration hole is adequate. The wall thimble is not required. The perforated straps of the horizontal termination provide a method of attachment. These can either be threaded through the opening or wall thimble (if used) and screwed to the pipe or removed with a pair of tin snips if not used. Use proper masonry fasteners to attach the horizontal termination to the wall.

7. If a wall thimble is used, push the pipe (which is connected to the appliance) carefully through the wall thimble until the DIRECT-TEMP pipe becomes fully engaged with the horizontal termination. If no thimble is used, place the Trim Plate (TP) on the DIRECT-TEMP pipe. Carefully push the DIRECT-TEMP pipe through



Fig. 45 Vinyl siding standoff and horizontal termination.

the wall until fully engaged with the horizontal termination. Secure the trim plate to the wall.

**NOTE:** If a vertical rise is necessary on the exterior side of the building, a 14" (356 mm) and 36" (914 mm) Snorkel Termination (ST) is available. Follow the installation procedures for horizontal terminations. If the snorkel termination is to be located below grade, a window well is recommended with adequate and proper drainage as per local codes. Leave 2" (51 mm) clearance below snorkel to prevent water from entering the snorkel termination. Do not enclose the snorkel within a wall or other type of enclosure and **do not back fill**. Ensure that grade level slopes away from the building. (Fig. 42)

#### Vertical Installation (Fig. 46)

1. Determine the location of the appliance. Choose a location which provides adequate clearance from obstacles such as electrical wiring, conduit, framing members, plumbing pipe, etc.

2. After positioning the appliance, determine where the vent pipe will pass through the ceiling. This can be done by using a plum bob or a small weight attached to a string. Hold the plum bob from the ceiling moving it until it lines up with the centerline of the outlet of the appliance. Mark the position on the ceiling.

**NOTE:** Frame openings to the dimensions specified in the framing table for the cathedral ceiling support box (CCS), the ceiling support (SC) and wherever the firestop spacer (FS) is being used.

3. Cut and frame the appropriate sized square hole through the ceiling. Repeat the process for other ceiling penetrations as necessary.

4. Determine and mark the roof penetration in the same manner.

5. Cut a hole in the roof at this point large enough to satisfy all clearance-to-combustible requirements as specified by the appliance manufacturer's installation instructions.

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Fig. 46 Typical vertical venting configuration.

6. Install the ceiling support cathedral ceiling support box assembly, as appropriate.

7. Determine the distance from the appliance outlet to a point just above [approximately 12" (305 mm) to 24" (610 mm)] either the cathedral ceiling support box or the ceiling support plate and assemble lengths of pipe to satisfy this distance. Do not attach assembly to appliance.

8. Loosely position the support collar around the assembled lengths (flared end down).

9. From above, lower the assembled pipe sections down through the cathedral ceiling box or ceiling support plate and attach it to the appliance adapter. The support collar should then be adjusted so that when the assembled lengths of pipe are attached to the appliance, it rests on the bottom of the cathedral ceiling support box on top of the ceiling support plate.

10. Tighten the tabs of the collar. Secure the support collar by inserting three (3)  $\#8 \times 1/4$ " sheet metal

screws through the support collar and the outer wall of the pipe.

**NOTE:** If the cathedral ceiling support box assembly is being used, it may be necessary to temporarily connect the assembled pipe to the appliance. Determine and mark the location of where the support collar will be attached to the pipe. Disconnect and remove assembled pipe. Attach the support collar per Step 10 (where marked) and reinstall assembly. This is due to limited space within the cathedral ceiling support box. Install any required offset supports.

11. Add lengths of pipe and firestop as necessary until assembly extends to a point above the roof which complies with local code requirements for minimum termination height and with the appliance manufacturer's installation instructions. (Fig. 47)



#### Fig. 47 Minimum Height Above Roof Requirements

**NOTE:** Whenever DIRECT-TEMP penetrates through a ceiling, a floor or a wall, it must be firestopped.

12. Using a level, make sure the system is perfectly vertical.

13. Slide the flashing, suitable for the roof pitch, down over the pipe protruding through the roof. Recheck orientation and use a silicone sealant around and under the perimeter of the flashing where it is in contact with the roof. Secure the flashing with roofing nails. Finish roofing around the pipe, covering the sides and upper ares of the flashing base with roofing material. However, be sure the lower unnailed portion of the base covers the roofing material.

14. Position the storm collar around the pipe and slide down until it is in contact with the flashing. Secure the storm collar by inserting the two (2) tabs into the raised slots and fold tabs back. Seal the area between the storm collar and the vent pipe with a silicone sealant to prevent rain infiltration.

15. Install the vertical termination (VC) by inserting it down into the top most section of pipe until it is fully

seated. Depress lock tab to secure the cap to the pipe. **NOTE:** In high wind areas, it is recommended to screw termination to the pipe with two (2) #8 x 1/4" sheet metal screws. The screws should be approximately 3/4" from the bottom of the vertical termination's galvanized collar.

#### **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 Stardance may be converted from one gas to another using the appropriate Fuel Conversion Kit listed on Page 47.

# CAUTION

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

The Stardance Heaters and the individual shutoff valves 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 Stardance Heaters must be isolated from the gas supply piping system by closing the 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 3/8" NPT nipple on the valve side and 1/2" natural gas supply line with a minimum input of 21,000 BTUs at a minimum inlet supply for adjustment of 5.5" w.c.

In order to connect Propane, use a fitting with 3/8" NPT nipple on the valve side and 1/2" propane gas supply line with a minimum input of 21,000 BTUs at a and minimum inlet pressure of 11.0" w.c.

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.

Connect the gas supply and test for leaks. Use a mild soap and water solution applied with a brush no larger than 1" (25 mm). Never apply soap and water solution with a spray bottle. Do not use an open flame for leak testing.

#### **Burner Information**

The appliance must only use the gas specified on the rating plate, unless converted using a Vermont Castings Fuel Conversion Kit. Refer to Page 47 for correct Fuel Conversion Kit for your stove model.

Coversion instructions are provided with each kit and beginning on Page 39 of 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.

#### **Complete the Assembly**

- Open the swiveling latches (cams) on the top left and right corners of the glass frame.
- Position the glass and frame against the firebox by placing the bottom edge on the brackets on the bottom face of the firebox.
- Swing the assembly against the firebox, and close the latches firmly against the pins protruding from the firebox top.

#### Install ON/OFF Switch

The switch assembly parts are found in the parts bag.

- Attach switch assembly to left rear side of stove shroud using two screws and existing holes in shroud. (Fig. 48)
- 2. Run wires down back of stove, under bottom of rear shroud to valve.
- 3. Attach wires to valve terminals. (Fig. 49)



Fig. 48 Attach switch assembly to rear shroud.

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Fig. 49 Attach switch wires to valve.

## Install the Front Plate

Grasp the Front Plate and lift it into position, engaging the two steel tabs at the upper corners behind the adjacent bosses in the Side Plates. (Fig. 50) Seat the Front against the Sides so that the tabs at the bottom lip engage with the notches in the edge of the stove base. When properly installed, the bottom of the Front Plate cannot be pulled away from the sides without also lifting it up.

If you are installing optional Warming Shelves, do so now, according to the instructions supplied with that kit.



Fig. 50 Install Stove Front.

## Thermostat Connection (Optional) R Models Only

**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	40 feet
20	25 feet
22	16 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. 49)

This completes assembly of the Stardance Rear Vent stove.

#### Install the Log Set

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

- 1. Remove the logs from their packaging and inspect each piece for damage. **DO NOT INSTALL DAM-AGED LOGS.**
- 2. Install the rear log by mating the notch on the bottom of the log with the raised notch on the back left side of the ember bed. (Fig. 51) Ensure the cutout in the right side of the log is sitting around the pilot assembly and pilot is not obstructed. (Fig. 52)





LG497



- 3. Install the left log by mating the hole on the bottom of the log with the pin in the ember bed. (Fig. 53) Position the log over air hole in ember bed.
- 4. Install the right log by mating the notch on the bottom of the log with the raised notch on the ember bed. (Fig. 53) Position the log over air hole in ember bed.



 Install top log by mating hole on bottom of log with locating pin on top right side of rear log. (Fig. 54) Position log so it is angled down toward the area where the front two logs meet.

# Operation

# WARNING



The Stardance is operated with the front plate in place with the doors open or closed. To open the front doors, pull forward to separate the magnetic catch.



CAUTION: DO NOT TOUCH DOORS WHEN HOT!

## Your First Fire

Read these instructions carefully and familiarize yourself with the burner controls shown in Figure 55. Locate the pilot assembly, Figure 68. Follow the lighting instructions on Page 33 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 a few hours. You can open a window to provide fresh air to alleviate the condition.



Fig. 55 RADVT valve control.

#### Pilot and Burner Inspection

Each time you light your heater check that the pilot flame and burner flame pattern are as shown in Figure 58. 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 42.



Fig. 56 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. 57)

Turn counterclockwise to increase flame height



Turn clockwise to decrease flame height

Fig. 57 Flame adjustment knob for SIT valve.

# **Flame Characteristics**

It is important to periodically perform a visual check of the pilot and the burner flames. Compare them to Figure 58.

If any of the flames appear abnormal call a service person.



Fig. 58 Correct pilot and burner flame patterns.

# Lighting And Operating Instructions

# 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.

- If you cannot reach your gas supplier, call the Fire Department
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, do not try to repair it, call a qualified service technician. Applying force or any attempted repair may result in a fire or explosion.
- D. Do not use this 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. Turn the On/Off switch to "OFF" position, set the remote to OFF or set thermostat to lowest level.
- 4. Open control access panel.
- Push in gas control knob slightly and turn clockwise to "OFF".



- 6. Remove glass door before lighting pilot. (See Glass Frame Removal section).
- 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.
- 8. Visibly locate pilot by the main burner.
- 9. Turn knob on gas control counterclockwise

 Push the control knob all the way in and hold. Immediately light the pilot by repeatedly depressing the piezo spark ignitor until a flame appears. Continue to hold the control knob in for about one (1) minute after the pilot is lit. Release knob and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 5 through 8.



- If knob does not pop up when released, stop and immediately call your service technician or gas supplier.
- If after several tries, the pilot will not stay lit, turn the gas control knob to "OFF" and call your service technician or gas supplier.
- 11. Replace glass door.
- 12. Turn gas control knob to "ON" position.
- 13. Turn the On/Off switch to "ON" position or set thermostat to desired setting.
- 14. Turn on all electrical power to the 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 the Gas Control System (SDDVT Series)

#### SIT NOVA 820 MILLIVOLT VALVE

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

	Symptom	Possible Causes	Corrective Action
1. S	park ignitor will not light	<ul> <li>A. Defective or misaligned electrode at pilot</li> </ul>	Using a match, light pilot. If pilot lights, turn off pilot and push the red button again. If pilot will not light - check gap at electrode and pilot-should be 1/8" to have a strong spark.
		B. Defective ignitor (Push Button)	With the control knob in the pilot position, push the control knob all the way and hold. Check for spark at electrode and pilot. If no spark to pilot, and electrode wire is properly connected, replace the battery in the ignitor module and try again. Refer to Maintenance Section. If the problem still exists, replace the ignitor module box.
Ca	ilot will not stay lit after arefully following lighting structions	A. Defective pilot generator (thermo- couple), remote wall switch	Check pilot flame. Must impinge on thermocouple/ther- mopile. NOTE: This pilot burner assembly utilizes both a thermocouple and a thermopile. The thermocouple operates the main valve operation (On and Off). Clean and or adjust pilot for maximum flame impingement on thermopile and thermocouple.
		B. Defective automatic valve	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.
	ilot burning, no gas to nain burner	A. Wall switch or wires defective	Check wall switch and wires for proper connections. Jumper wire across terminals at wall switch, if burner comes on, replace defective wall switch If okay, jumper wires across wall switch wires at valve, if burner comes on, wires are faulty or connections are bad.
		B. Thermopile may not be generat- ing sufficient millivoltage	<ol> <li>Be sure wire connections form thermopile at gas valve terminals are tight and thermopile is fully inserted into pilot bracket.</li> <li>One of the wall switch wires may be grounded. Re- move wall switch wires form valve terminals if pilot now stays lit, trace wall switch wiring for ground. May be grounded to fireplace or gas supply.</li> <li>Check thermopile with millivolt meter. Take reading at thermopile terminals of gas valve. Should read 250-300 millivolts (minimum 150) while holding valve knob depressed in pilot position and wall switch "Off". Replace faulty thermopile if reading is below specified minimum.</li> </ol>
		C. Plugged burner orifice	Check burner orifices for debris and remove.
		D. Defective automatic valve opera- tor	Turn valve knob to "On", place wall switch to "On" millivolt meter should read greater than 150mV. If the reading is okay and the burner does not come on, replace the gas valve.
	requent pilot outage roblem	<ul> <li>Pilot flame may be too low or blowing (high) causing the pilot safety to drop out</li> </ul>	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 (recycling the flue gases).

# 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. 59)
- 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. 59 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. 60 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.
- In the event of multiple failure codes, next failure code follows previous failure code by approximately 3 seconds.



Fig. 61 Comfort Valve wiring diagram.

# 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 rhe 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 <u>not</u> in REMOTE mode.
  - If the valve is producing Error Code 8 and in RE-MOTE 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.
- Slide the Remote/Local switch to REMOTE and teach the valve a transmitter (see item 6, page 1). 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**



# Auto Path If the manual switch is set Move switch to REMOTE, press the from LOCAL to mode button to display REMOTE. Press AUTO on the transmitter. any key within 30 Does the transmitter disseconds. play the room and temperature setting? If the setting is **above** room temperature on the No transmitter, does the main valve and fan turn on? If the settings is below No room temperature on the transmitter, does the main valve and fan turn off?

Turn pilotstat knob to OFF to turn valve completely

off.

### **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. 62 Attach the gas line to the right 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 43, Fig. 78)
- 2. Swing open the swiveling latches at the top left and right corners of the glass frame. (Page 44, Fig. 79)
- 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.

### Valve Conversion

### **SDDVR Series Models**

- 1. Turn control knob to the OFF position, and shut off the gas supply to the valve.
- 2. Allow the valve to cool to room temperature.
- 3. Remove the black protection cap by hand. (Fig. 63)
- 4. Insert a 5/32" or 4 mm Allen wrench into the hexago-

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nal key-way of the screw (Fig. 64), rotate it counterclockwise until it is free and extract it.

- 5. Check that the screw is clean and if necessary remove dirt.
- 6. Flip the screw. (Fig. 65)
- Using the Allen wrench as shown in Figure 66, rotate the screw clockwise and tighten until snug.

WARNING: Do not overtighten the screw. Recommended to grip the wrench by the short side.



- Verify that if the conversion is from NG to LP, the screw must be reassembled with the red o-ring visible. (Fig. 67)
- 9. Replace the black protection cap.





### **SDDVRC Series Models**

- 1. Follow procedure for pilot type 2 to replace pilot orifice.
- Remove and replace plug on lower right hand side of the valve; Red for LP and Blue for NG. (Page 35, Fig. 59)

3. Remove motor top cap using a standard slotted screwdriver. 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. 68)



Fig. 68 Depress and turn center plunger.

- 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 Torx #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.

### **Pilot Orifice Conversion**

### 1. Locate pilot. (Fig. 69)



Fig. 69 Pilot assembly location.

2. Replace pilot orifice.

### Pilot Type 1

• Remove pilot hood by lifting up. (Fig. 70) Do not remove snap ring to remove pilot hood. NOTE: It is not necessary to remove the pilot tube for conversion.

- Remove pilot orifice with Allen wrench. (Fig. 71)
- · Install the conversion orifice.



Fig. 70 Remove pilot hood.



Fig. 71 Remove pilot orifice

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

### Pilot type 2

· Loosen pilot hood turning counterclockwise using a 7/16" wrench. (Fig. 72) NOTE: You may use penetrating oil to prevent pilot hood threads from seizing up.

 Remove pilot orifice with needlenose pliers. (Fig. 73) 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. 72 Remove pilot hood. (Your pilot may have a different appearance.)



Fig. 73 Remove pilot orifice.

### **Burner Orifice Conversion**

- 1. Remove three (3) 3/8" nuts on bottom side of burner pan. (Fig. 74)
- Carefully remove ember bed by tilting the right side up and lifting out toward the right side of the unit. (Fig. 75)





Fig. 74 Remove three (3) nuts securing ember bed in place.

Fig. 75 Tilt ember bed slightly to correctly place on venturi and air shutter.

- Remove injector orifice from left burner bracket with a 1/2" wrench. Use a back up wrench to prevent damage to the manifold. (Fig. 76)
- 4. Install conversion orifice. (Refer to Table 2)
- 5. The air shutter is factory set according to table on Page 7 and should not need adjustment. The air shutter opening may be verified by measuring as shown in Figure 77.



Fig. 76 Use two wrenches to avoid damage to manifold.



**Fig. 77** The air shutter setting is 1/2" (13 mm) from the orifice bracket to the edge of the air shutter.

### All Models

- Replace burner making sure venturi on bottom of ember bed aligns with orifice and is seated properly on air shutter assembly. (Fig. 75) Make sure burner is slid into place at a slight angle and opposite to how it was removed. When burner is slid into place, the three (3) pem studs should slide down through clearance holes into the bottom of the control panel.
- 2. Thread and tighten 3/8" nuts back onto pem studs on underneath side of control panel, reversing Step 1 shown in Figure 74.
- 3. Reinstall logs as per instructions on Page 29.
- 4. Place conversion label on valve.
- 5. Replace glass and stove front.
- 6. Restore gas to system and relight appliance according to Lighting Instructions on Page 33.
- 7. Leak check the system using a gas leak detector solution.
- Relight the main burner in both the "HI" and "LO" positions to verify proper burner ignition and operation. Conversion is complete.

Table 2. Injector Orifice Size Matrix						
	Conversion to LP					
Input (BTU/h)					(BTU/h)	
Model	Kit #	Orifice	Part #	Minimum	Maximum	
SDDVR	20012911	1.30 mm	20042052	10.000	21,000	
SDDVRC	20012913	1.30 mm	20012952	16,000		
	Conversion to Natural Gas					
Input (BTU/h)					(BTU/h)	
Model	Kit #	Orifice	Part #	Minimum	Maximum	
SDDVR	20012919	#43 / .089"	20005480	15 000	21.000	
SDDVRC	20012912	#437.089	20005480	15,000	21,000	

# Maintenance

Your Stardance 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. 78)
- 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.
- Carefully inspect the Logs for damage. Contact your local dealer if any damage is evident. DO NOT OPERATE THE HEATER WITH DAMAGED LOGS.
- 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 <u>OFF</u> BEFORE PAINTING. ALLOW THE HEATER TO COOL COMPLETELY BEFORE PAINTING.



WARNING: Let the glass cool completely before attempting to clean.

**Cleaning the Glass** 

# WARNING



HOT GLASS WILL CAUSE BURNS.

DO NOT TOUCH GLASS UNTIL COOLED.

NEVER ALLOW CHILDREN TO TOUCH GLASS.

It will be necessary to clean the glass periodically. During start-up, condensation, which is normal, forms on the inside of the glass and causes lint, dust and other airborne particles to cling to the glass surface. Also initial paint curing may deposit a slight film on the glass. It is therefore recommended that the glass be cleaned two or three times with a non-ammonia household cleaner and warm water (we recommend gas 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 45 for Replacement Parts. Refer to Figures 78 & 79 to remove the damaged glass frame.



Fig. 78 Remove the Stove Front.

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Fig. 79 Release the latches to release the glass frame.

### **Gasket Replacement**

The Stardance Gas Heater use 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.

- Remove the Front, Glass Frame and Glass Panel. (Figs. 78, 79) 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.
- 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 about 6" at a time and being careful to not stretch the material. Do not overlap the gasket ends. (Fig. 80)
- 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. 80** 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 81. 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.



# **Stove Disassembly**

If there is ever a need to remove the firebox assembly from the stove shell, support the firebox with solid stands about 6" (152 mm) tall under the left and right outer edges of the firebox base. Do not set the firebox assembly directly on the floor; this can damage the control valve and/or the gas lines from the valve to the firebox.

Before removing the firebox from the shell, disconnect the on/off switch wires from the valve. If the assembly includes the optional fan, disconnect the fan rheostat. If the installation includes a wall thermostat, disconnect the thermostat leads from valve.

Disconnection and reconnection to the gas line should only be done by a qualified gas service technician.

Upon reinstallation, the vent system must be sealed to the firebox as shown in the installation section, Page 15. Also be sure the logs are placed in the firebox correctly, as shown on Page 29.



SF-2, 200°C WIRE OR ITS EQUIVALENT.



Fig. 83 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.

# Stardance Direct Vent/Rear Vent Gas Heater:

Models SDDVR Series: SDDVRCB, SDDVREB, SDDVRMB, SDDVRBS, SDDVRCH, SDDVRVG, SDDVRBD SDDVRC Series: SDDVRCCB, SDDVRCEB, SDDVRCMB, SDDVRCBS, SDDVRCCH,

SDDVRCVG, SDDVRCBD

Stardance Direct Vent/Rear Vent Gas Heater (continued) Models SDDVR Series: SDDVRCB, SDDVREB, SDDVRMB, SDDVRBS, SDDVRCH, SDDVRVG, SDDVRBD SDDVRC Series: SDDVRCCB, SDDVRCEB, SDDVRCMB, SDDVRCBS, SDDVRCCH, SDDVRCVG, SDDVRCBD

Ref.	Description	SDDVR/SDDVRC			
1.	Log Set - Complete	20012551			
1a.	Log Rear	20012546			
1b.	Log Right	20012548			
1c.	Log Left	20012547			
1d.	Log Top	20012915			
2.	Ember Bed Assembly	20013245			
3.	Тор	Refer to Enamel Parts Chart			
4.	Grille	30000393			
5.	Mesh, Grille	30000508			
6.	Front, Operable Door	Refer to Enamel Parts Chart			
7.	Door Right	Refer to Enamel Parts Chart			
8.	Door Left	Refer to Enamel Parts Chart			
9.	Left End	Refer to Enamel Parts Chart			
10.	Right End	Refer to Enamel Parts Chart			
11.	Door, Control	1301087			
12.	Rear Shroud Assembly	20003801			
13.	Glass Frame Assembly	30000127			
14.	Glass	1601691			
15.	Gasket, Glass - Med. Knit	1203702			
16.	Nut, Hex Jam 3/8-16 TOPLK-Z	1203290			
17.	Pawl Assy. Ash Door	5004025			
18.	Front Steel Handle/Shaft - NI/VER	30002717			
19.	Restrictor Plate	20012961			
20.	FK28 Fan Subassembly	30000887			
21.	Valve Nova SIT820.852	20012218			
22.	Valve Gas Honeywell Convertible RFN RV8310E	20003719			
23a.	Pilot Assembly 3Way N/DV RN 0.199.706	10002264			
	Pilot Assembly 3Way N/DV RP 0.199.703	10002265			
23b.		20001115			
	Pilot, PSE - LP175	20001116			
230.	Pilot Assembly 3Way DV/RFN CS3003A2009 Pilot Assembly 3Way DV/RFP CS3003A2017	20002266 20002268			
24.		10002266			
24.	Thermocouple 24"	7531137			
26.	Electrode Ignitor w/Cable SIT24	10001297			
20.	· · · · · · · · · · · · · · · · · · ·	7533113			
28.	Nut Electrode Slt #0.974.144	57886			
20.	Tubing Pilot w/Fittings 1/8 x 24"	10001296			
30.	Thermopile - PSE for RF Pilots	20002400			
31a.	Pilot Orifice #62 - NG Top Convertible	10002268			
31b.	Pilot Orifice #35 - LP Top Convertible	10002269			
32a.	Pilot Orifice PSE RFN	20000908			
32b.	Pilot Orifice PSI RFP	20000907			
33a.		20005480			
33b.		20012952			
34.		52464			
35.	Bracket Piezo Ignitor (not shown)	20010876			
36.		20012968			
37.	Air Shutter Assembly	20012517			
38.	Trim ON/OFF Switch	30000874			

# Stardance Direct Vent/Rear Vent Gas Heater (continued) Models SDDVR Series: SDDVRCB, SDDVREB, SDDVRMB, SDDVRBS, SDDVRCH, SDDVRVG, SDDVRBD

Models SDDVR Series: SDDVRCB, SDDVREB, SDDVRMB, SDDVRBS, SDDVRCH, SDDVRVG, SDDVRBD SDDVRC Series: SDDVRCCB, SDDVRCEB, SDDVRCMB, SDDVRCBS, SDDVRCCH, SDDVRCVG, SDDVRCBD

Ref.	Description	SDDVR/SDDVRC
38.	Transmitter Honeywell RF	20002047
40.	Antennae, Honeywell 395783-1	20003561
41.	Sensor 1450 CMG-8184-0032	10002013
42.	Wiring Harness	10002582
43.	Gasket, Base Pan	20002282
44.	Gasket, HE Door	1203687
45.	Gasket Cement	1206122
46a.	Handle Insert (not shown)	30002714
46b.	Wood Handle (not shown)	1600664
46c.	Handle Bolt (not shown)	1201310
47.	Magnet, Door (not shown)	30004112
48.	Right Burner Support Assembly	20012512
49.	Tie Bracket Assembly	20012514

### **Fuel Conversion Kits**

Conversion Kit, NG to LP - SDDVR Series	Kit #20012911
Conversion Kit, NG to LP - SDDVRC Series	Kit #20012913
Conversion Kit, LP to NG - SDDVR Series	Kit #20012919
Conversion Kit, LP to NG - SDDVRC Series	Kit #20012912

Shell Enamel Part Numbers - SDDVR/SDDVRC								
Color	Тор	Left End	Right End	Front OP	Left Door*	Right Door*	Left Door**	Right Door**
Classic	30001278	30001280	30001279	30001496	30001139	30001138	30004082	30004081
Biscuit	30003307	30003300	30003301	30003302	30003304	30003303	30004090	30004089
Bordeaux	30001285	30001287	30001286	30001261	30001263	30001262	30004084	30004083
Chestnut Brown	30003315	30003308	30003309	30003310	30003312	30003311	30004092	30004091
Ebony	30001306	30001308	30001307	30001270	30001272	30001271	30004086	30004085
Midnight Blue	30001319	30001321	30001320	30001314	30001316	30001315	30004088	30004087
Vermont Classic Green	30003323	30003316	30003317	30003318	30003320	30003319	30004094	30004093
Brick Blue	30003638	30003631	30003632	30003633	30003635	30003634	30004096	30004095
Country Cookware Gray	30003646	30003639	30003640	30003641	30003643	30003642	30004098	30004097
Granite Gray	30003654	30003647	30003648	30003649	30003651	30003650	30004100	30004099
Sage Green	30003662	30003655	30003656	30003657	30003659	30003658	30004102	30004101

\* These doors have a front handle.

\*\* These doors do not have a handle, they are closed with a magnet.

# **Optional Accessories**

### Fan Kits

### FK28 Fan

The FK28 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 13 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 40 for wiring diagrams. These remote controls are for use on SDDVR Series stoves.

### Model Functions Controlled

RC1	ON/OFF

- RC2 ON/OFF and Temperature
- IMTFK Wall mounted thermostat control

### Screen Kit

An optional screen, S30SK, for use with the operable doors is available for the Stardance only. The screen is used when the doors are 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

2702	Classic Black
2684	Biscuit
2685	Chestnut Brown
2688	Vt. Classic Green
2704	Bordeaux
2711	Midnight Blue
2765	Ebony
30230	Brick Blue
30232	Country Cookware Gray
30233	Granite Gray
30234	Sage Green

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

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

### PRODUCT COVERED BY THIS WARRANTY

# All Vermont Castings brand gas stoves, gas inserts, and gas fireplaces installed in the United States of America or Canada.

#### LIMITED LIFETIME WARRANTY

CFM Corporation (hereinafter referred to as CFM) warrants that all cast iron parts, the combustion chamber, ceramic burner, and heat exchanger of every Vermont Castings gas product will be free of defective material or workmanship during the period the product is owned by the original owner subject to proof of purchase and the conditions and limitations listed on this warranty document.

#### **BASIC ONE-YEAR WARRANTY**

CFM warrants to the original owner that your new Vermont Castings Gas Appliance is free from defects in material or workmanship for a period of one year from the date of purchase, subject to the following conditions and limitations. Labor to replace these parts is covered for one year, reimbursed per our warranty service fee schedule.

#### COMPONENT WARRANTY LIMITATATIONS

- **PORCELAIN ENAMEL FINISHED PARTS:** CFM offers no warranty on chipping of enamel surfaces. Inspect all products prior to accepting them 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. Color lot variations with parts and/or accessories can occur and are not covered by warranty.
- **GLASS:** Glass is not warranted for breakage due to misuse or accident. Glass is not covered for discoloration or stains due to environmental issues, or improper cleaning and maintenance.
- PLATED PARTS AND ACCESSORIES: Brass, nickel, and gold parts should be cleaned with Lemon oil only. Commercial cleaners cannot be used. Mortar mix and masonry cleaners corrode the brass finish. The CFM will not be responsible for, nor will it warrant any brass parts which are damaged by external chemicals or down draft conditions.
- ACCESSORIES: Unless otherwise noted, CFM supplied accessories are covered for a period of one year.

#### GENERAL CONDITIONS AND LIMITATIONS

- This Vermont Castings 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 Vermont Castings branded CFM products.
- Parts covered under the Limited Lifetime Warranty will be covered for the lifetime of the appliance up to a maximum of seven (7) years after CFM discontinues the model. The maximum amount recoverable under this warranty is limited to the purchase price of the product and, if CFM is unable to provide replacement or repair in an expedient and cost effective manner, CFM may discharge all obligations under this warranty by refunding the purchase price of the product.
- Any labor and related repair charges relating to the cost and expenses of replacing or repairing defective components under the Limited Lifetime Warranty are not covered, except as provided for under the Basic One-Year Warranty.

- Any part or component replaced under the provisions of this warranty is covered for six months or the remainder of the original warranty, whichever is longest.
- 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. IN NO EVENT SHALL CFM BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY DEFECTS IN THE PRODUCT 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 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...

Contact your installing Vermont Castings dealer. Make sure you have your warranty, your sales receipt, the model number and serial number of your CFM product. If you're the installing dealer is unknown or unable to provide necessary parts or service, a list of Authorized Vermont Casting dealers can be located on the internet at www.vermontcastings.com



Based on CSA P.4.1-02

Efficiency Ratings				
Model	EnerGuide Ratings Fireplace Efficiency (%)			
SDDVR	66			
SDDVR (LP)	66			
SDDVRC	66			
SDDVRC (LP)	66			



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

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