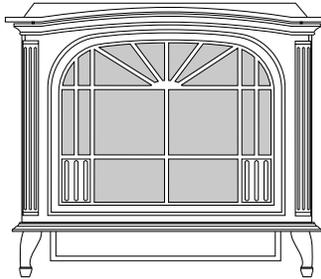




# **CAST IRON STOVE AND DIRECT-VENT (FREESTANDING FIREPLACE HEATER) BURNER SYSTEM OWNER'S OPERATION AND INSTALLATION MANUAL**



## **NATURAL GAS BURNER SYSTEM MODEL MSTDVN PROPANE/LP GAS BURNER SYSTEM MODEL MSTDVP REMOTE READY**

**IMPORTANT:** This direct-vent burner system must be installed into approved Sun Valley cast iron stove bodies, models MC(\*) series ONLY. See page 3 of this manual. \* Indicates Color Suffix Designation

**QUALIFIED INSTALLER:** If you encounter problems during installation of this product, please contact DESA International's Technical Service Department at 1-800-337-2564.

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

### **FOR YOUR SAFETY**

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

### **FOR YOUR SAFETY**

#### **WHAT TO DO IF YOU SMELL GAS**

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

**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.

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

— 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.

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

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

**Save this manual for future reference.**

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### SAFETY INFORMATION

#### WARNINGS

**IMPORTANT:** Read this owner's manual carefully and completely before trying to assemble, operate, or service this stove and burner system. Improper use of this stove and burner system can cause serious injury or death from burns, fire, explosions, electrical shock, and carbon monoxide poisoning.

** DANGER:** Carbon monoxide poisoning may lead to death!

This stove with burner system is a vented product. This stove with burner system will not produce any gas leakage into your home if properly installed. This stove with burner system must be properly installed by a qualified service person. The glass door must be properly seated and sealed. If this unit is not properly installed by a qualified service person with glass door properly seated and sealed, gas leakage can occur.

**Carbon Monoxide Poisoning:** Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, or nausea. If you have these signs, the stove with burner system may not have been installed properly. **Get fresh air at once!** Have stove with burner system inspected and serviced by a qualified service person. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

Propane/LP gas and natural gas are both odorless. An odor-making agent is added to each of these gases. The odor helps you detect a gas leak. However, the odor added to these gases can fade. Gas may be present even though no odor exists.

Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this stove and burner system.

** WARNING:** Any change to this stove or burner system or its controls can be dangerous.

1. 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.
2. For propane/LP burner system, do not place propane/LP supply tank(s) inside any structure. Locate propane/LP supply tank(s) outdoors. To prevent performance problems, do not use propane/LP fuel tank of less than 100 lbs. capacity.
3. If you smell gas
  - shut off gas supply
  - do not try to light any appliance
  - do not touch any electrical switch; do not use any phone in your building
  - immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions
  - if you cannot reach your gas supplier, call the fire department.
4. Never install the stove
  - in a recreational vehicle
  - where curtains, furniture, clothing, or other flammable objects are less than 42" from the front, top, or sides of the stove
  - in high traffic areas
  - in windy or drafty areas
5. This stove reaches high temperatures. Keep children and adults away from hot surfaces to avoid burns or clothing ignition. Stove will remain hot for a time after shutdown. Allow surfaces to cool before touching.
6. Carefully supervise young children when they are in the room with stove.
7. Do not modify the burner or stove under any circumstances. Any parts removed for servicing must be replaced prior to operating stove or burner system.
8. Turn burner system off and let cool before servicing, installing, or repairing. Only a qualified service person should install, service, or repair the stove or burner system. Have burner system inspected annually by a qualified service person.
9. You must keep control compartments, burners, and circulating air passages clean. More frequent cleaning may be needed due to excessive lint and dust from carpeting, bedding material, pet hair, etc. Turn off the gas valve and pilot light before cleaning stove or burner system.
10. Have venting system inspected annually by a qualified service person. If needed, have venting system cleaned or repaired. See *Cleaning and Maintenance*, page 28.
11. Keep the area around your stove clear of combustible materials, gasoline, and other flammable vapor and liquids. Do not run burner system where these are used or stored. Do not place items such as clothing or decorations on or around stove.
12. Do not use this stove to cook food or burn paper or other objects.
13. Never place anything on top of stove.
14. Do not use any solid fuels (wood, coal, paper, cardboard, etc.) in this stove. Use only the gas type indicated on burner system nameplate.
15. This appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the *National Electrical Code, ANS/NFPA 70*, or the *Canadian Electrical Code, CSA C22.1*.
16. Do not obstruct the flow of combustion and ventilation air in any way. Provide adequate clearances around air openings into the combustion chamber along with adequate accessibility clearance for servicing and proper operation.
17. Do not install stove directly on carpeting, vinyl tile, or any combustible material other than wood. The stove must set on a metal or wood panel extending the full width and depth of the stove.
18. Do not use stove or burner if any part has been exposed to or under water. Immediately call a qualified service person to arrange for replacement of the unit.
19. Do not operate burner system if any log is broken.
20. Do not use a blower insert, heat exchanger insert, or other accessory not approved for use with this stove.
21. Do not operate burner system with glass door removed, cracked, or broken.

# OWNER'S MANUAL

## PRODUCT IDENTIFICATION

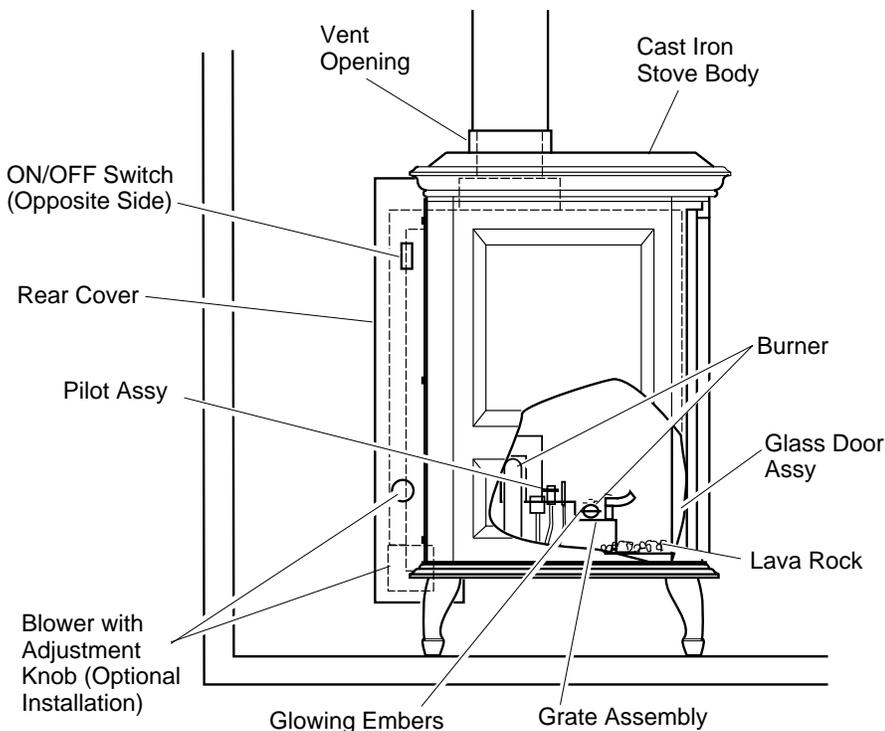
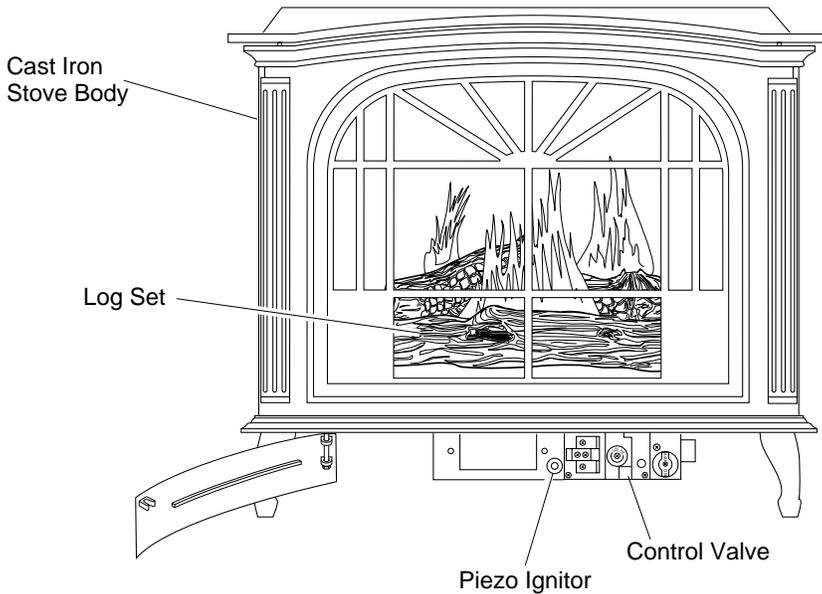


Figure 1 - Sun Valley Direct-Vent Burner System Shown Installed in Approved Sun Valley Cast Iron Stove Body Models MC Series Only

## LOCAL CODES

Install and use stove and burner system with care. Follow all local codes. In the absence to local codes, use the current *National Fuel Gas Code, ANS Z223.1*, also known as NFPA 54\* (USA) or the current *CAN/CGA-B149[.1 or .2] Installation Codes* (Canada).

\*Available from:

American National Standards Institute, Inc.  
1430 Broadway  
New York, NY 10018

National Fire Protection Association, Inc.  
Batterymarch Park  
Quincy, MA 02269

## PRODUCT FEATURES

### OPERATION

This cast iron stove with burner system is clean burning and vents easily through outside walls or vertically using outside air for combustion. Heat is generated by both realistic flames and glowing embers. When used without the blower accessory, the stove with burner system requires no electricity making it ideal for emergency backup heat.

### PIEZO IGNITOR

This burner system has a piezo ignitor. This system requires no matches, batteries, or other sources to light burner system.

## GLOSSARY OF TERMS

**Chase** - A boxlike enclosure to protect venting from the elements when the venting run is on the outside of a structure.

**Mastic** - A pliable sealant for use around the vent terminal.

**Snorkel Termination** - A box that raises the horizontal termination above ground level clearances.

**Vent Terminal** - Mounted on an outside wall or roof to separate the inlet and outlet of the vent system and protect it from weather.

**Vinyl Siding Standoff** - A metal box that separates the vent cap from vinyl siding.

**Wall Thimble/Firestop** - A metal plate used to secure the vent pipe when it passes through a wall or ceiling.

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### PRE-INSTALLATION PREPARATION

**⚠ WARNING:** A qualified installer or service person must install stove and burner system. Follow all local codes.

**⚠ CAUTION:** This stove creates warm air currents. These currents move heat to wall surfaces next to stove. Installing stove next to vinyl or cloth wall coverings or operating stove where impurities (such as tobacco smoke, aromatic candles, cleaning fluids, oil or kerosene lamps, etc.) in the air exist, may discolor walls.

### LOCATION AND SPACE REQUIREMENTS

Determine the safest and most efficient location for your Sun Valley cast iron stove. Make sure that rafters and wall studs are not in the way of the venting system. Choose a location where the heat output is not affected by drafts, air conditioning ducts, windows, or doors. Figure 2 shows some common locations. Read all venting information in this manual. Be aware of all restrictions and precautions before deciding the exact location for your stove.

When deciding the location of your stove, follow these rules:

1. Do not connect this stove and burner system to a chimney flue serving a separate solid-fuel burning fireplace or appliance.
2. Due to high temperatures, do not locate this stove in high traffic areas or near furniture or draperies.
3. Proper clearances must be maintained, see Figures 3 and 4.
4. This stove is a freestanding unit designed to set directly on the floor. If your stove is to be installed directly on carpeting, vinyl tile, or any combustible material other than wood, it must be installed on a metal or wood panel extending the full width and depth of the stove. See Figure 5.

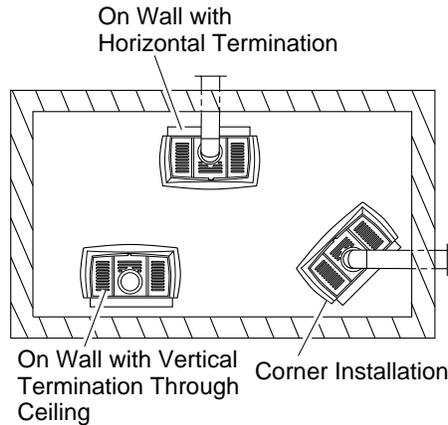


Figure 2 - Common Stove Locations

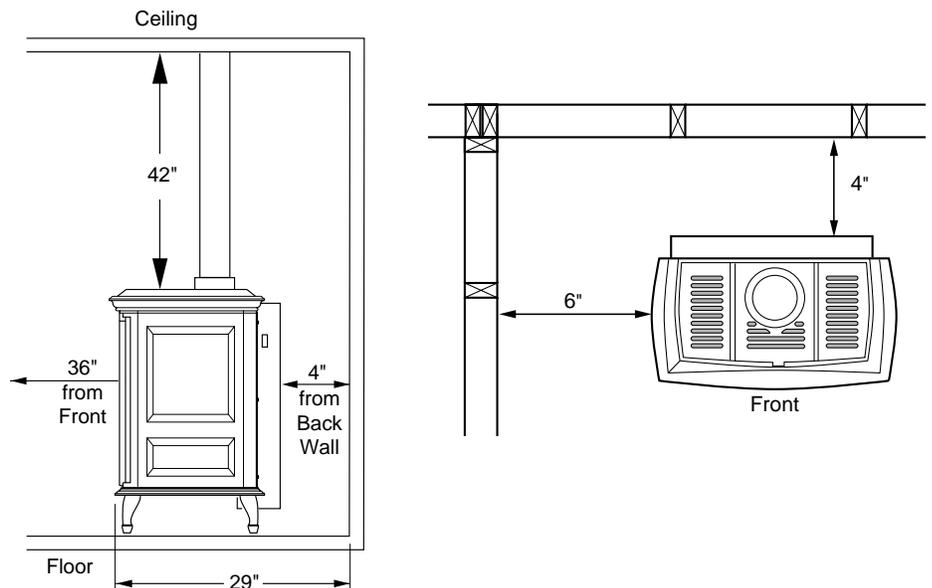


Figure 3 - Minimum Clearances for Standard Installation

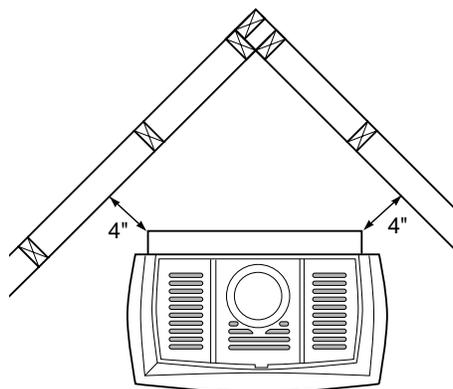


Figure 4 - Minimum Clearance for Corner Installation

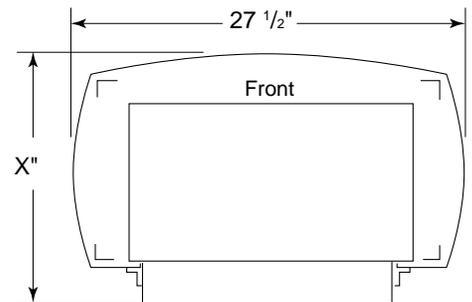
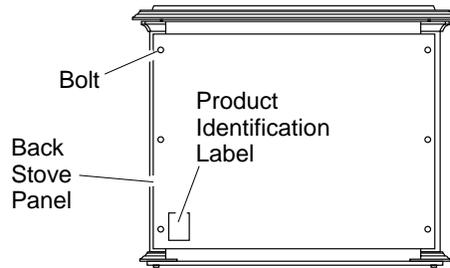


Figure 5 - Stove with Burner System Bottom Dimensions

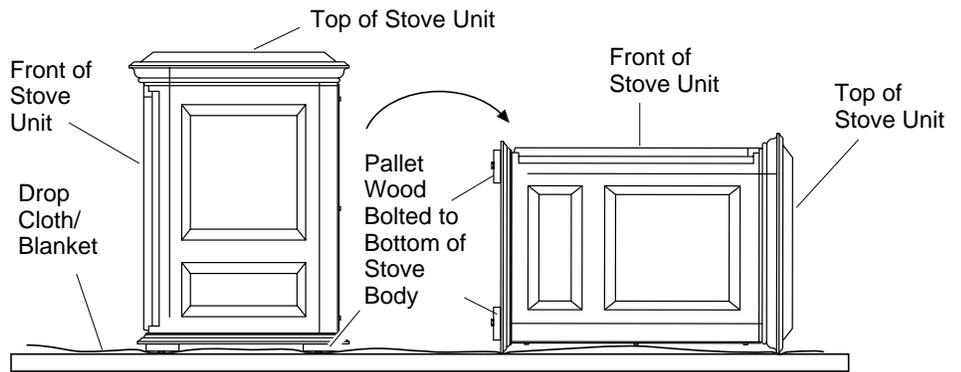
## CAST IRON STOVE AND DIRECT-VENT BURNER SYSTEM ASSEMBLY

### STOVE BODY ASSEMBLY

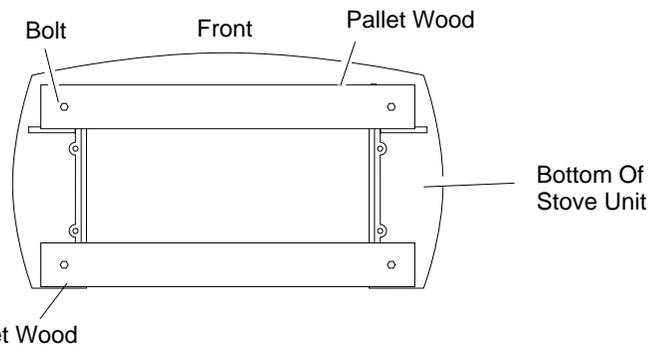
1. Lift off corrugated box enclosing stove body crating.
2. Remove all screws fastening the wood frame enclosure. Spread wood frame open and lift away from plastic-bagged stove body. The bottom pieces of pallet wood will remain bolted to the stove body.
3. Remove plastic bag from stove body.
4. Remove back panel from stove (see Figure 6). Use an adjustable wrench or a 10 mm socket. Remove six (6) bolts and washers. Keep bolts and washers to attach rear cover.
5. Remove all contents from inside stove cavity. Contents include:
  - (1) - Stove bottom (Discard - Not used with this application)
  - (4) - Legs with leg leveler bolts
  - (1) - Bottom door
  - (3) - Top grates
  - (2) - Brackets
  - (1) - Hardware kit bag with fasteners
6. Carefully lay stove body on back to attach bottom components to stove body (see Figure 7). Rest stove on drop cloth or blanket to avoid scratching stove edges.
7. Remove remaining pallet wood attached to bottom of stove body (see Figure 8). Use an adjustable wrench to remove bolts.
8. Fasten each leg to stove with four (4) M8 x 1.25 - 20mm bolts. Use a flat washer and lock washer with each bolt. Tighten bolts into threaded holes on stove body (see Figure 9 and Figure 10 on page 6). Use an adjustable wrench or a 12mm socket.



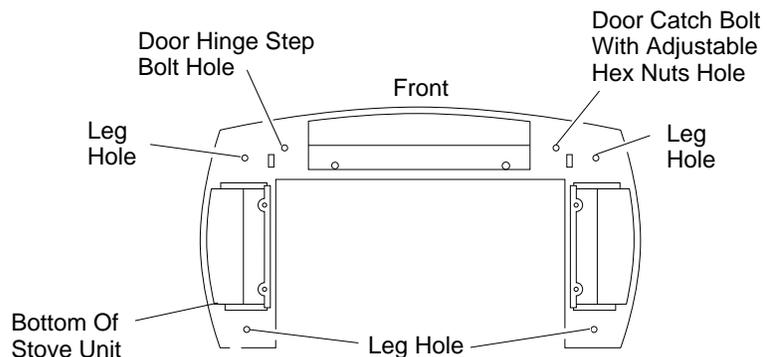
**Figure 6 - Removing Back Panel**



**Figure 7 - Laying Down Stove On Side**



**Figure 8 - Removing Pallet Wood From The Bottom of The Stove**



**Figure 9 - Locating Threaded Holes for Legs, and Door Attachment**

*Continued*

# SUN VALLEY STOVE COMPANY CAST IRON STOVE AND BURNER SYSTEM

## CAST IRON STOVE AND DIRECT-VENT BURNER SYSTEM ASSEMBLY

### Continued

9. Attach stove door by inserting step bolt through door hinge pivot hole and into threaded hole in stove body (see Figure 11 and Figure 9, page 5). Use an adjustable wrench or a 12mm socket to fasten step bolt. Tighten step bolt until snug. Make sure door moves freely.

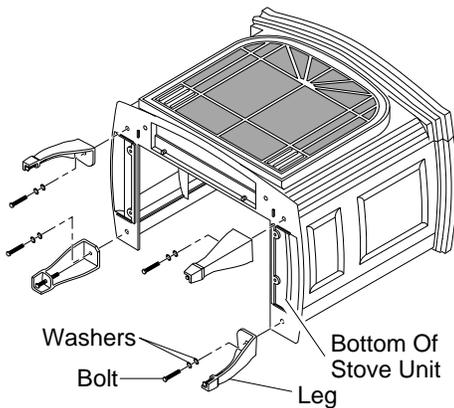


Figure 10 - Attaching Stove Legs

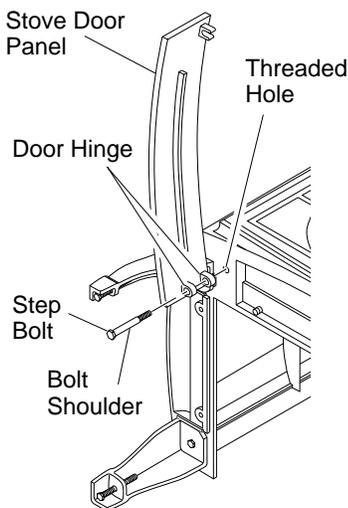


Figure 11 - Attaching Lower Stove Door Panel

10. Install door catch bolt (M8 x 1.25-55mm with two M8 hex nuts) into threaded hole on stove body (see Figure 9, page 5). Use an adjustable wrench or a 12mm socket. The catch bolt has two hex nuts attached to it (see Figure 12). The top nut is a bolt stop and the bottom nut is for door leveling adjustment.
11. Check general catch bolt alignment with door claw. Make final adjustment and door leveling after stove is in normal standing position.
12. Carefully lift stove back up on its four attached legs.
13. Remove 2 bolts from bottom of stove and discard. Remove bolt from the top of the stove to remove the front panel assembly (see Figure 13). If not removing screen, proceed to step 17.
14. **Optional Screen Removal:** Lay the front panel assembly face down on a protected surface. Remove the two screws that hold the front plate onto the front surround plate (see Figure 14). Save these screws.
15. Remove the seven screws and washers that hold the screen onto the front surround plate. Discard these screws, washers, and screen. They are required for vent-free use only (see Figure 14).
16. Replace the two screws from step 15 to reassemble the front plate and the front surround plate. Set this assembly aside until burner system has been installed, logs have been placed inside of burner system, and glass door to burner system insert has been replaced.
17. Remove the four screws that secure the metal plate located across the front section at the top of the stove body (see Figure 15). Discard these screws and metal plate. They are for vent-free use only.

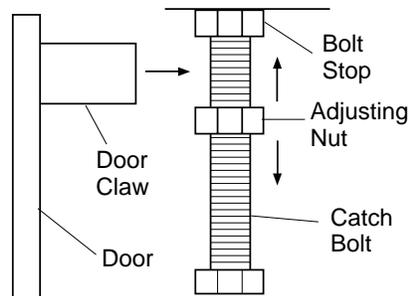


Figure 12 - Catch Bolt and Door Claw Orientation

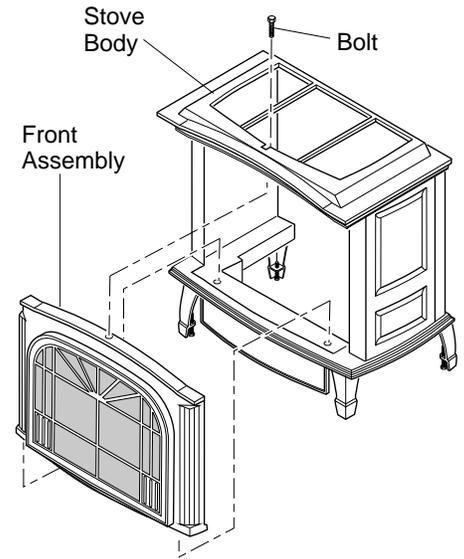


Figure 13 - Removing Front Assembly

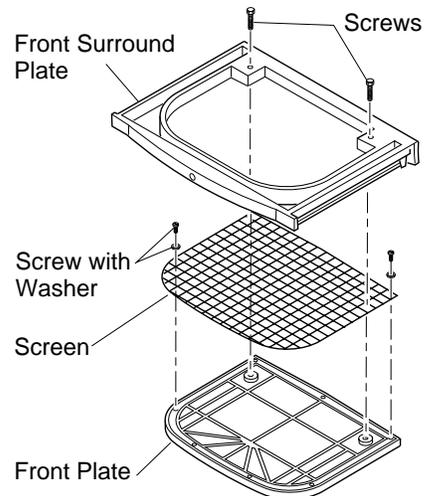


Figure 14 - Removing Screen from Front Assembly

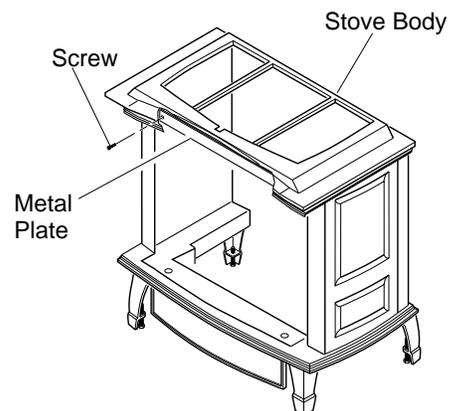


Figure 15 - Removing Metal Plate from Stove Body

## CAST IRON STOVE AND DIRECT-VENT BURNER SYSTEM ASSEMBLY

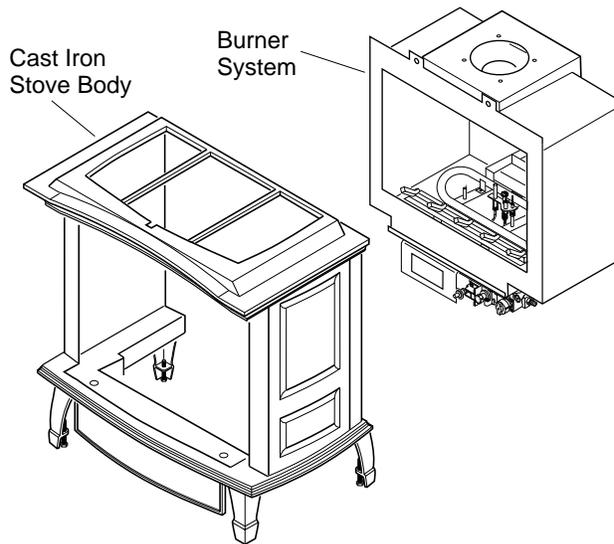
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### INSTALLING DIRECT-VENT BURNER SYSTEM INTO STOVE BODY

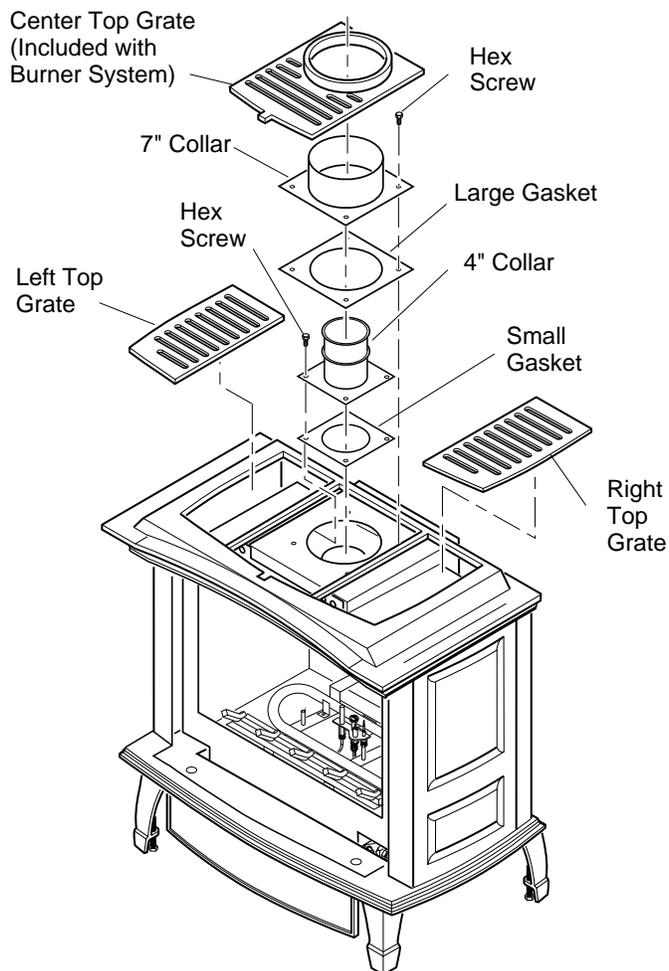
1. Carefully lift burner system and place into stove body from the rear of stove (see Figure 16).
2. Carefully insert small gasket into top vent hole of burner system box and align holes (see Figure 17).
3. Place 4" vent collar inside hole and align with gasket. Secure with hex screws provided (see Figure 17).
4. Place large gasket on outside of burner system box over vent hole and align (see Figure 17).
5. Place 7" vent collar over gasket and align holes. Secure with hex screws provided (see Figure 17).

**IMPORTANT:** These gaskets and collars must not be installed until after burner system has been inserted into stove body.

6. Place the left and right grate top into top of stove body. Discard center grate top and replace with center cast top provided with burner system.



**Figure 16 - Installing Burner System into Cast Iron Stove Body**



**Figure 17 - Installing Gaskets, Vent Collars, and Top Grates**

*Continued*

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

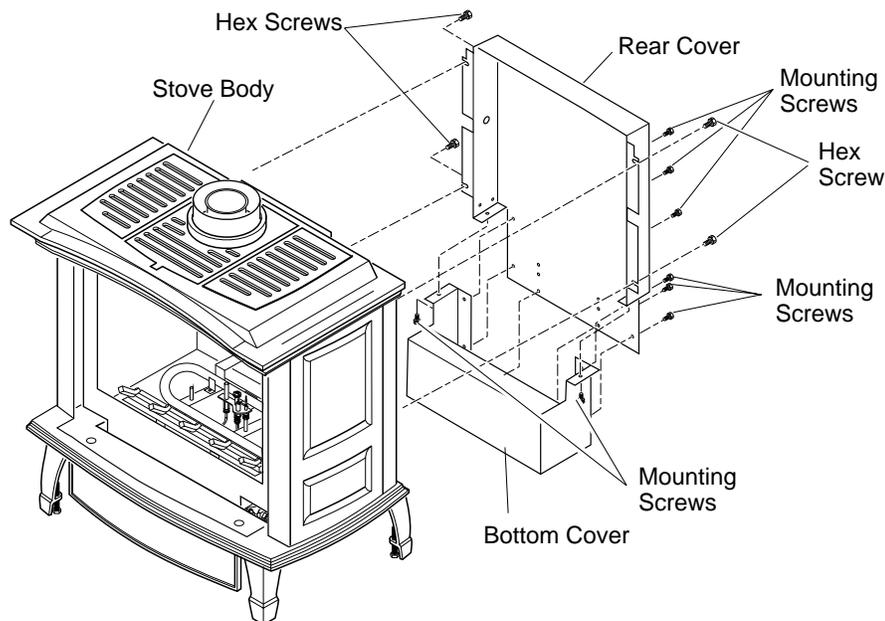
### CAST IRON STOVE AND DIRECT-VENT BURNER SYSTEM ASSEMBLY

*Continued*

#### INSTALLING OPTIONAL BLOWER ACCESSORY

**NOTICE:** If installing blower in an existing stove burner system with gas connections, shut off gas supply and disconnect heater from gas supply. Contact a qualified service person to do this.

1. Remove 4 hex screws securing rear cover to back of stove body (see Figure 18).
2. Separate bottom cover from rear cover by loosening the 8 mounting screws (see Figure 18).
3. Align the holes in the top mounting tabs of blower with the holes in wall of rear cover. Using the 4 screws provided, mount blower and tighten screws securely (see Figure 19).



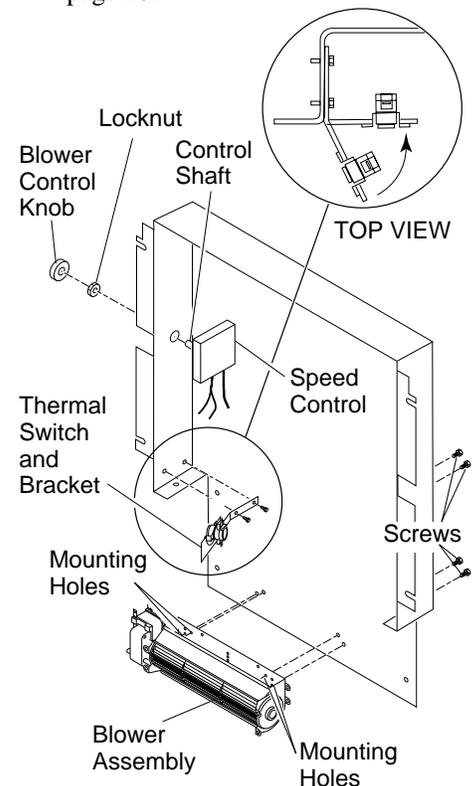
**Figure 18 - Removing Rear Cover and Bottom Cover from Stove Body**

4. Attach thermal switch and bracket to inside rear cover wall with two hex head screws provided as shown. After securing bracket to rear cover, carefully bend along existing bend line on bracket to almost a 90° angle (see Figure 19). This will allow thermal switch to be positioned against stove rear wall and sense temperature when in operating mode.
5. Place speed control on left inside of rear cover and push the plastic control shaft through opening (see Figure 19).
6. While supporting speed control, secure control shaft with lock nut by pushing and turning lock nut with pliers clockwise until tight against the side of rear cover. Place control knob provided onto shaft.
7. Place the green wire between the bottom hole on the blower assembly and the hex screw and tighten (see Figure 20, page 9).
8. Connect the blue wire to the blower assembly and to one side of the thermal switch (see Figure 20, page 9).
9. Connect the black wire to the other side of the thermal switch (see Figure 20, page 9).

10. Connect the white wire to the other terminal on the blower motor assembly (see Figure 20, page 9). Make sure the thermal switch has been properly installed to fit against back of fireplace insert after the rear cover assembly has been reinstalled.
11. Make sure all wire connections to terminals on blower motor and thermal switch are securely attached and that the screw retaining the green ground wire is tight.
12. Check to make sure that the power cord is completely clear of the blower wheel and that there are no foreign objects in blower wheel.

**⚠ WARNING:** Never touch the blower wheel while in operation.

13. Peel off the backing paper and stick the supplied wiring diagram decal on the inside of rear cover as shown (see Figure 20, page 9).
14. Connect or reconnect gas supply following instructions in *Connecting Stove/Burner System to Gas Supply*, page 20.



**Figure 19 - Blower Assembly, Speed Control, and Thermal Switch Locations**

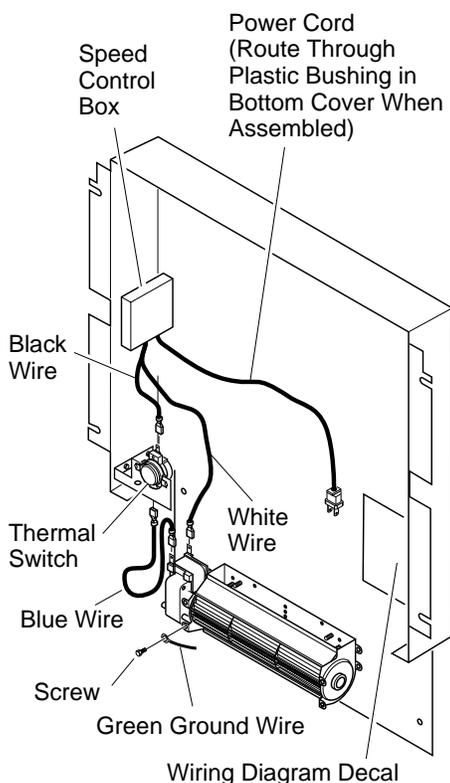
## CAST IRON STOVE AND DIRECT-VENT BURNER SYSTEM ASSEMBLY

*Continued*

**⚠ WARNING: A qualified installer or service person must connect fireplace to gas supply. Follow all local codes.**

15. Reattach bottom cover to rear cover with 8 screws (see Figure 18, page 8). Make sure that you don't pinch any wires during reassembly.

**⚠ WARNING: Failure to position the parts in accordance with supplied diagrams or failure to use only parts specifically approved with this heater may result in damage or personal injury.**



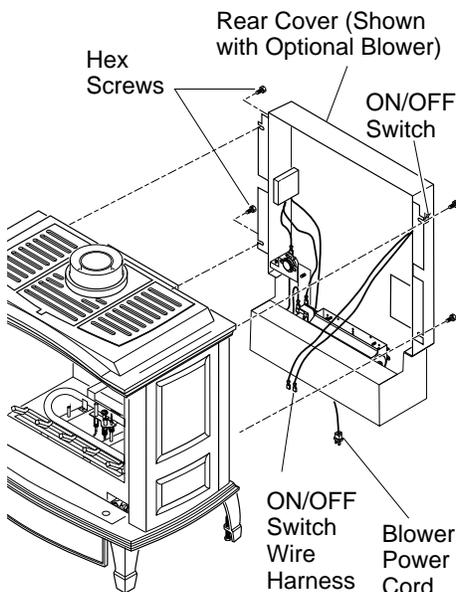
**Figure 20 - Blower Wiring Layout**

## INSTALLING REAR COVER

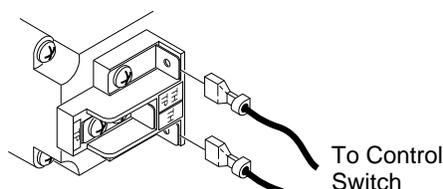
1. Place rear cover behind stove body. Rear cover will rest on the bottom ledge of the stove body.
2. Place wire harness from ON/OFF switch under the cast of stove body.
3. Using hex screws provided, attach rear cover to back of stove body. See Figure 21.

**IMPORTANT:** This rear cover must be securely in place before venting pipes are installed.

4. Open lower door panel. The valve is attached to the underside of the burner system assembly.
5. Connect one terminal of the wire from ON/OFF switch to the THTP terminal on the valve. Connect remaining wire terminal to the TH terminal on the valve. Make sure that the wire terminals are in the positions on the unit as pictured in Figure 22. If wires are not connected as shown, the ON/OFF switch will not work.



**Figure 21 - Installing Rear Cover (Shown with Optional Blower Accessory)**



**Figure 22 - Control Valve Terminals**

## GENERAL VENTING

These models are approved for use with Simpson Dura-Vent 6 5/8" direct-vent pipe components and terminations as well as rigid Sun Valley vent components.

Your stove with burner system is approved to be vented either through the side wall, or vertically using the following guidelines:

- Only use Sun Valley or Simpson Dura-Vent GS venting components or kits specifically approved for this stove and burner system.
- Minimum clearance between vent pipes and combustible materials is 1" (25 mm), except where stated otherwise.
- Do not recess venting termination into a wall or siding.
- If your house is covered with vinyl siding, you will need to use a vinyl siding standoff (see Figure 29, page 13).
- Install horizontal venting with a 1/4" rise for every 12" of run toward the termination.
- You may paint the vent termination with 450°F (232°C) heat-resistant paint to coordinate with the exterior finish.
- There must not be any obstruction such as bushes, garden sheds, fences, decks, or utility buildings within 24" from the front of the termination cap.
- Do not locate termination cap where excessive snow or ice build up may occur. Be sure to clear vent termination area after snow falls to prevent accidental blockage of venting system. When using snow blowers, do not direct snow towards vent termination area.
- You must maintain minimum wall and ceiling clearances shown in Figures 3 and 4, page 4.

## LOCATION OF VENT TERMINATION

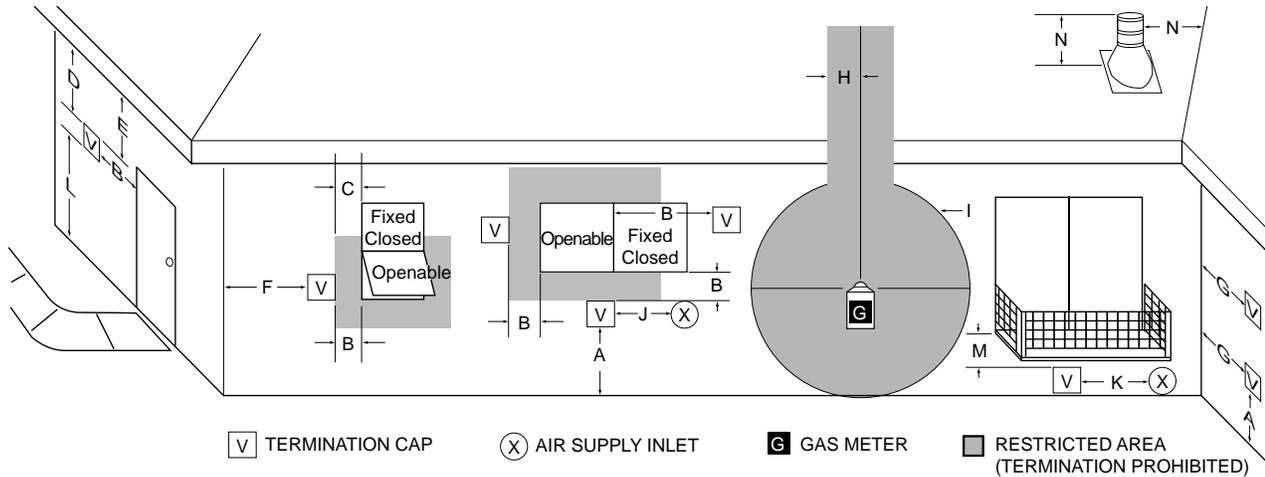
When locating vent termination, it is important to observe the minimum clearances shown in Figure 23, page 10.

\*Check with local codes or with the current *CAN/CGA B149[.1 or .2] Installation Codes* for Canada or the USA Installations follow the current *National Fuel Gas Code, ANSI Z223.1*, also known as NFPA 54.

*Continued*

# SUN VALLEY STOVE COMPANY CAST IRON STOVE AND BURNER SYSTEM

## GENERAL VENTING *Continued*



- A = clearance above grade, veranda, porch, deck, or balcony  
[\*12 inches (305mm) minimum]
  - B = clearance to window or door that may be opened  
[12 inches (305mm) minimum]
  - C = clearance to permanently closed window [minimum 12 inches (305mm) recommended to prevent condensation on window]
  - D = vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 24 inches (610mm) from the center-line of the terminal [18 inches (457mm) minimum]
  - E = clearance to unventilated soffit [12 inches (305mm) minimum]
  - F = clearance to outside corner (see below)
  - G = clearance to inside corner (see below)
  - H = \*not to be installed above a meter/regulator assembly within 36 inches (914mm) horizontally from the center-line of the regulator
  - I = clearance to service regulator vent outlet [\*72 inches (1829mm) minimum]
  - J = clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other fireplace [\*12 inches (305mm) minimum]
  - K = clearance to a mechanical air supply inlet [\*72 inches (1829mm) minimum]
  - L = † clearance above paved side-walk or a paved driveway located on public property [\*84 inches (2133mm) minimum]
  - M = clearance under veranda, porch, deck [\*12 inches (305mm) minimum ‡]
  - N = clearance above a roof shall extend a minimum of 24 inches (610mm) above the highest point when it passes through the roof surface and any other obstruction within a horizontal distance of 18 inches (457mm)
- † vent shall not terminate directly above a side-walk or paved driveway which is located between two single family dwellings and serves both dwellings\*  
 ‡ only permitted if veranda, porch, deck or balcony is fully open on a minimum of 2 sides beneath the floor\*  
 \* as specified in CAN/SGA B149 (.1 or .2) Installation Codes (1991) for Canada or for U.S.A. installation follow the current *National Fuel Gas Code, ANS Z223.1*  
 Note: Local codes or regulations may require different clearances

### Termination Clearances for Buildings with Combustible and Noncombustible Exteriors

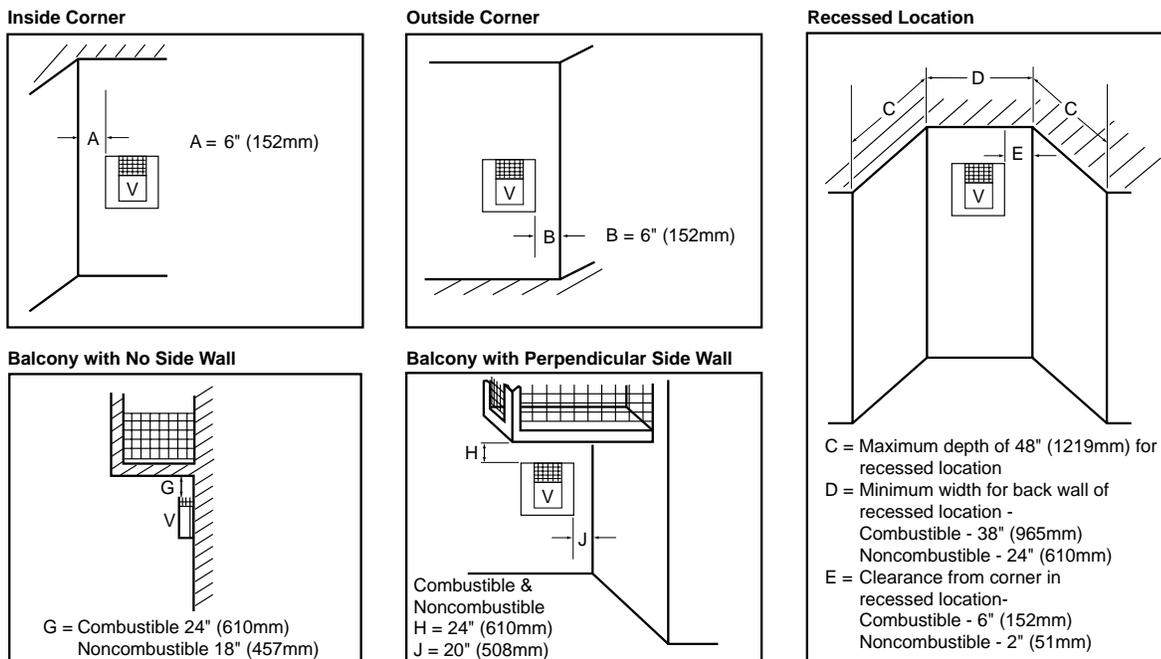


Figure 23 - Minimum Clearances for Vent Terminations

# OWNER'S MANUAL

## VENTING INSTALLATION

**⚠ WARNING:** Read all instructions completely and thoroughly before attempting installation. Failure to do so could result in serious injury, property damage or loss of life. Operation of improperly installed and maintained venting system could result in serious injury, property damage or loss of life.

**⚠ WARNING:** Seal all vent connections. Seal only the outer pipe connections with high temperature silicone (600°F/316°C). Before joining elbows and pipes, apply a bead of high temperature silicone sealant (GERTV106/Loctite RTV81585) to the male end of the elbow or pipe. High temperature silicone must also be used to re-seal any connections after maintenance to venting system.

**NOTICE:** Failure to follow these instructions will void the warranty.

## INSTALLATION PRECAUTIONS

Consult local building codes before beginning the installation. The installer must make sure to select the proper vent system for installation. Before installing vent kit, the installer must read this stove and burner system manual and vent kit instructions.

Only a qualified installer/service person should install venting system. The installer must follow these safety rules:

- Wear gloves and safety glasses for protection
- Use extreme caution when using ladders or when on roof tops
- Be aware of electrical wiring locations in walls and ceilings

The following actions will void the warranty on your venting system:

- Installation of any damaged venting component
- Unauthorized modification of the venting system

- Installation of any component part not manufactured or approved by DESA International
- Installation other than as instructed by these instructions

**⚠ WARNING:** This stove with burner system and vent assembly must be vented directly to the outside. The venting system must NEVER be attached to a chimney serving a separate solid fuel burning appliance. Each gas appliance must use a separate vent system. Do not use common vent systems.

**⚠ WARNING:** Horizontal sections of this vent system require a minimum clearance of 2" from the top of the pipe and 1" minimum to the sides and bottom. Vertical sections of this system require a minimum of 1" clearance to combustible materials on all sides of the pipe.

## INSTALLATION PLANNING

There are two basic types of direct-vent installation:

- Horizontal Termination
- Vertical Termination

It is important to select the proper length of vent pipe for the type of termination you choose. It is also important to note the wall thickness.

**For Horizontal Termination:** Select the amount of vertical rise desired. The horizontal run of venting must have 1/4" rise for every 12" of run towards the termination.

**⚠ WARNING:** Never run the vent pipe downward as this may cause excessive temperatures which could cause a fire.

You may use one or two 90° elbows in this vent configuration. See *Horizontal Termination Configurations* on page 14.

**For Vertical Termination:** Measure the distance from the burner system flue outlet to the ceiling. Add the ceiling thickness, the vertical rise in an attic or second story, and allow for sufficient vent height above the

roofline. You may use one or two 90° elbows in this vent configuration. See *Vertical Termination Configurations* on pages 16 and 17.

**Note:** When using Simpson Duravent pipe, you must order the vertical restrictor (shown in Figures 38 through 41 on pages 16 and 17) separately.

**Note:** You may use two 45° elbows in place of a 90° elbow. You must follow rise to run ratios when using 45° elbows.

For two-story applications, firestops are required at each floor level. If an offset is needed in the attic, additional pipe and elbows will be required.

You may use a chase with a vent termination with exposed pipe on the exterior of the house. See *Installing Vent System in a Chase*, below.

It is very important that the venting system maintain its balance between the combustion air intake and the flue gas exhaust. Certain limitations apply to vent configurations and must be strictly followed.

## Installing Vent System in a Chase

A chase is a vertical boxlike structure built to enclose venting that runs along the outside of a building. A chase is required for such venting.

**NOTICE:** Treatment of firestops and construction of the chase may vary from building type to building type. These instructions are not substitutes for the requirements of local building codes. You must follow all local building codes.

**Note:** When installing in a chase, you should insulate the chase as you would the outside walls of your home. This is especially important in cold climates. Minimum clearance between vent pipes and combustible materials such as insulation is 1".

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### VENTING INSTALLATION

*Continued*

#### INSTALLATION FOR HORIZONTAL TERMINATION

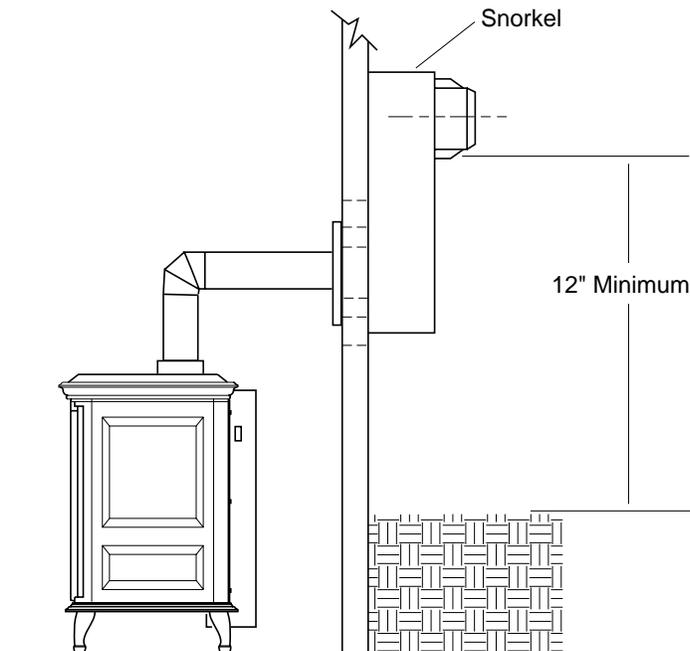
1. Determine the route your horizontal venting will take. *Note:* The location of the horizontal vent termination on the exterior wall must meet all local and national building codes and must not be easily blocked or obstructed.

**⚠ WARNING: Do not recess vent terminal into a wall or siding.**

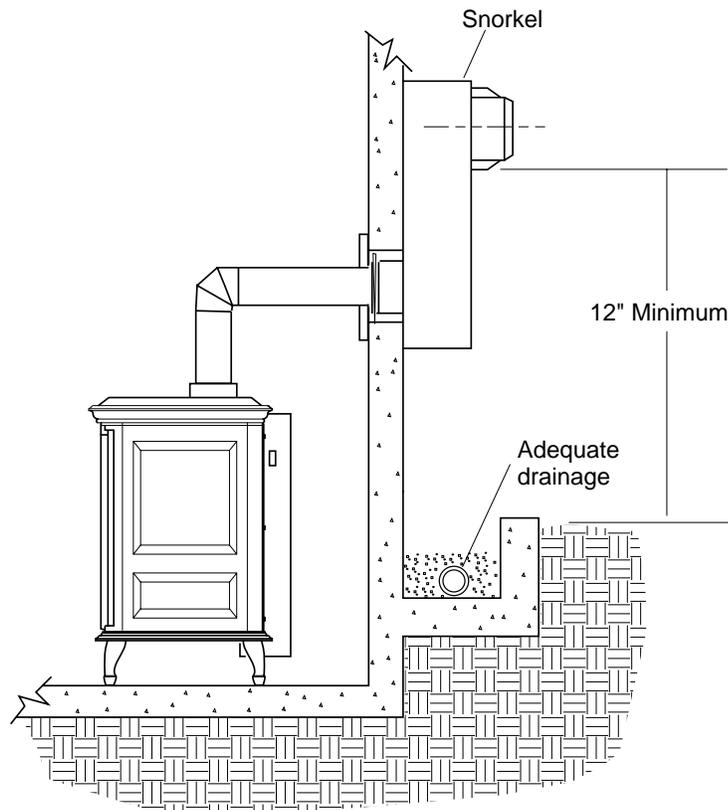
Snorkel terminations are available for terminations requiring a vertical rise on the exterior of the building (see Figures 24 and 25). Snorkel kit NSVKBK is also available (see page 18). Follow the same installation procedures used for standard horizontal terminations. If installing the snorkel termination below grade (basement applications), you must provide proper drainage to prevent water from entering the snorkel termination (see Figure 25). Do not back fill around the snorkel termination.

2. Rigid vent pipes and fittings have special twist-lock connections. Assemble the desired combination of pipe and elbows to the appliance adaptor with pipe seams oriented towards the wall or floor.

**Twist-lock Procedure:** The female ends of the pipes and fittings have locking lugs (indentations). These lugs will slide straight into matching slots on the male ends of adjacent pipes and fittings. (All connections must be sealed with high temperature silicone sealant as specified in the second warning statement on page 11.) Push the pipe sections together and twist one section clockwise approximately one-quarter turn until the sections are fully locked. See Figure 26, page 13. *Note:* Horizontal runs of vent must be supported every three feet. Use wall straps for this purpose.



**Figure 24 - Snorkel Termination**



**Figure 25 - Snorkel Termination with Drainage Pipe**

## VENTING INSTALLATION

### Continued

- Attach vent pipe assembly to the burner system. Set stove in front of its permanent location to insure minimum clearances. Mark the wall for a 10" square hole (for noncombustible material such as masonry block or concrete, a 7 1/2" diameter hole is acceptable). See Figure 27. The center of the hole should line up with the centerline of the horizontal rigid vent pipe. Cut a 10"x10" (254mm x 254mm) square hole through combustible exterior wall (7 1/2" [190mm] diameter hole if noncombustible). Frame as necessary (see Figure 27).

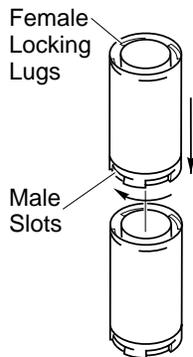


Figure 26 - Rigid Vent Pipe Connections

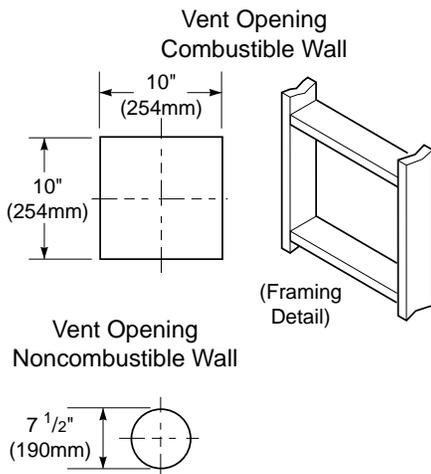


Figure 27 - Vent Opening Requirements

- Apply a bead of non-hardening mastic around the outside edge of the vent cap. Position the vent cap in the center of the 7 1/2" or 10" hole on the exterior wall with the word "up" on the vent cap facing up. Insure proper clearance of 1" to combustibles is maintained. Attach the vent cap with four wood screws supplied (see Figure 28). **Note:** Replace the wood screws with appropriate fasteners for stucco, brick, concrete, or other types of siding.

**WARNING: Do not recess vent termination into any wall. This will cause a fire hazard.**

For vinyl siding, stucco, or wood exterior use vinyl siding standoffs between vent cap and exterior wall. The vinyl siding standoff prevents excessive heat from melting the vinyl siding material. Bolt the vent cap to the standoff. Apply non-hardening mastic around outside edge of the standoff instead of the vent cap assembly. Use wood screws provided to attach the standoff. See Figure 29.

- Slide the wall thimble over the vent pipe before connecting the horizontal run to the vent cap (see Figure 30).

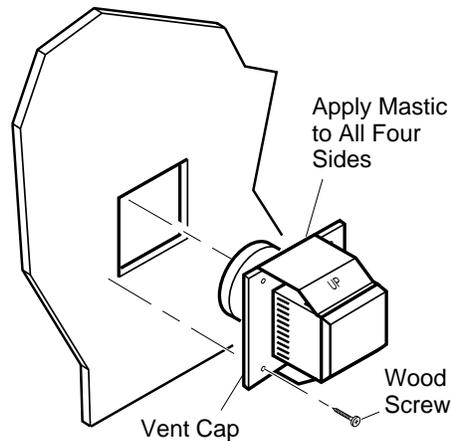


Figure 28 - Installing Horizontal Vent Cap

- Carefully move the stove with vent assembly attached toward the wall and insert the vent pipe into the horizontal termination. The pipe overlap should be a minimum of 1 1/4". Fasten all vent connections with screws provided. **Note:** It is not necessary to apply silicone to the outer pipe of the termination connection.
- Slide the wall thimble against the interior wall surface and attach with screws provided (see Figure 30).

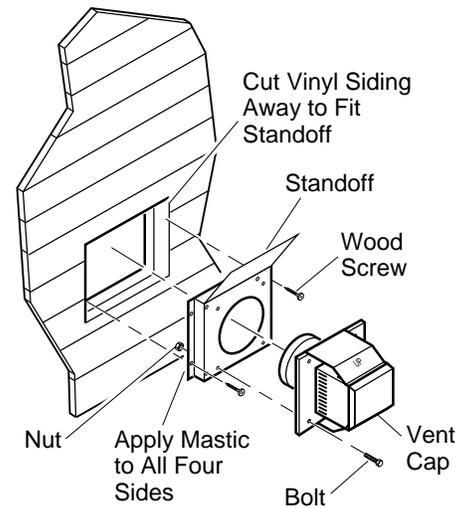


Figure 29 - Installing Vinyl Siding Standoff

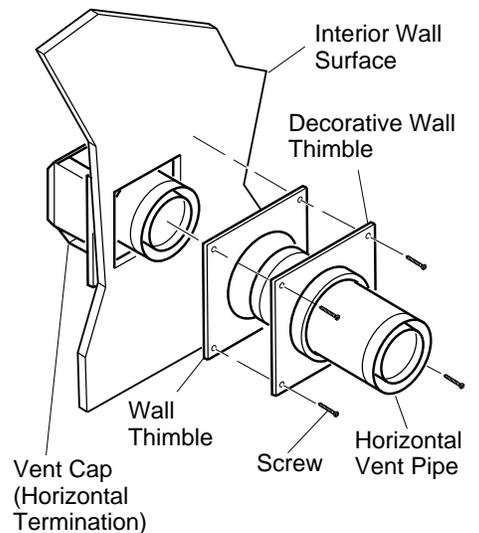


Figure 30 - Connecting Vent Cap with Horizontal Vent Pipe

Continued

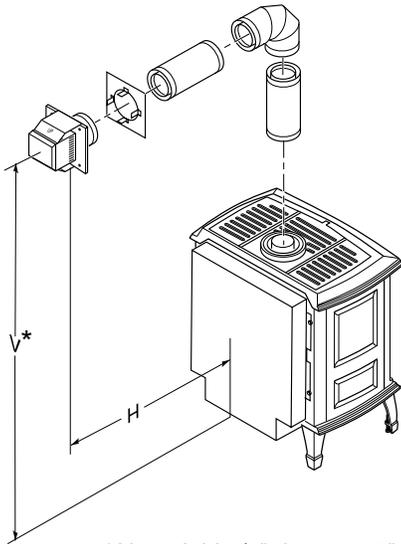
# SUN VALLEY STOVE COMPANY CAST IRON STOVE AND BURNER SYSTEM

## VENTING INSTALLATION

*Continued*

### Horizontal Termination Configurations

Figures 31 through 33 show different configurations for venting with horizontal termination. Each figure includes a chart with vertical minimum/maximum and horizontal maximum dimensions which must be met. Seal all connections with high temperature silicone sealant (outer pipe only) as specified in the second warning statement on page 11. All horizontal terminations require 1/4" rise per 12" of horizontal run.



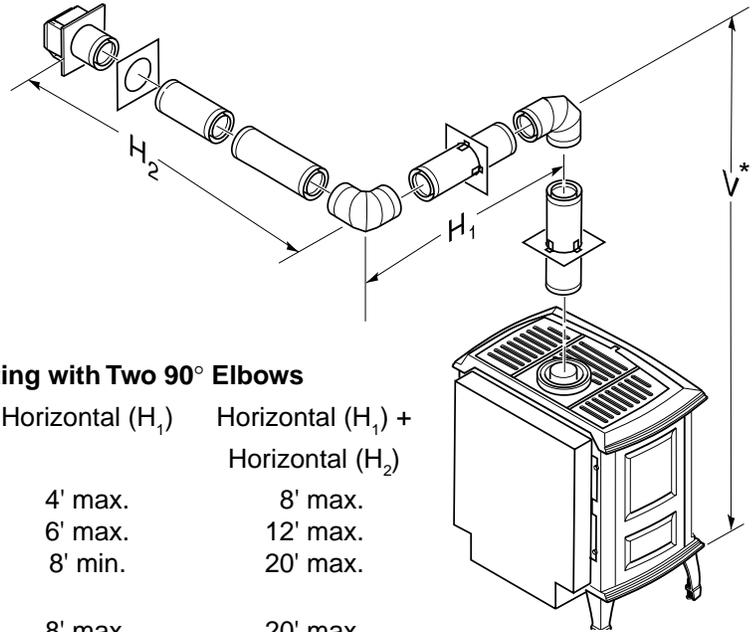
\*Note: Add 1/4" rise per 12" horizontal length of pipe.

### Horizontal Venting

Vertical (V)	Horizontal (H)
55" min.	24" max.
66" min.	46" max.
88" min.	20' max.

Note: This configuration for use with corner installation.

**Figure 31 - Horizontal Termination Configuration for Rigid Venting Using One 90° Elbow**

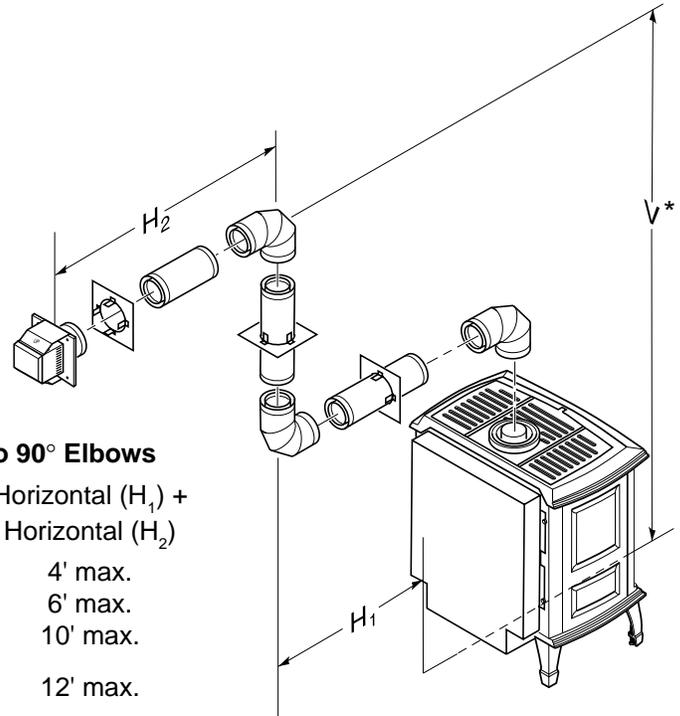


### Venting with Two 90° Elbows

Vertical (V)	Horizontal (H <sub>1</sub> )	Horizontal (H <sub>1</sub> ) + Horizontal (H <sub>2</sub> )
6' min.	4' max.	8' max.
7' min.	6' max.	12' max.
8' min.	8' min.	20' max.
20' max.	8' max.	20' max.

\*Note: Add 1/4" rise per 12" horizontal length of pipe.

**Figure 32 - Horizontal Termination Configuration for Rigid Venting Using Two 90° Elbows**



### Venting with Two 90° Elbows

Vertical (V)	Horizontal (H <sub>1</sub> ) + Horizontal (H <sub>2</sub> )
6' min.	4' max.
7' min.	6' max.
8' min.	10' max.
20' max.	12' max.

\*Note: Add 1/4" rise per 12" horizontal length of pipe.

**Figure 33 - Horizontal Termination Configuration for Rigid Venting Using Two 90° Elbows with Termination at 90° with Stove**

## VENTING INSTALLATION

*Continued*

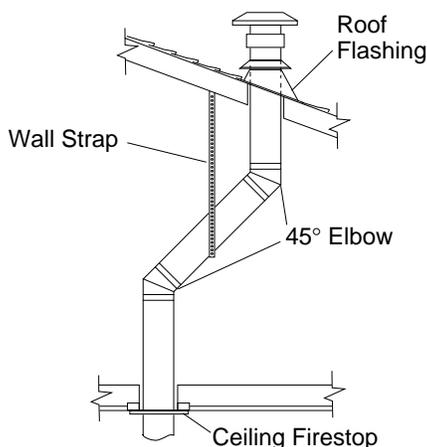
### INSTALLATION FOR VERTICAL TERMINATION

**NOTICE: Use rigid pipe only. Flex venting is not to be used with a vertical termination.**

1. Determine the route your vertical venting will take. If ceiling joists, roof rafters, or other framing will obstruct the venting system, consider an offset (see Figure 34) to avoid cutting loadbearing members. *Note:* Pay special attention to these installation instructions for required clearances (air space) to combustibles when passing through ceilings, walls, roofs, enclosures, attic rafters, etc. Do not pack air spaces with insulation. Also note maximum vertical rise of the venting system and any maximum horizontal offset limitations. Offsets must fall within the parameters shown in Figure 23 on page 10.

2. Set the stove in desired location. Drop a plumb line down from the ceiling to the position of the burner system exit flue. Mark the center point where the vent will penetrate the ceiling. Drill a small locating hole at this point.

Drop a plumb line from the inside of the roof to the locating hole in the ceiling. Mark the center point where the vent will penetrate the roof. Drill a small locating hole at this point.

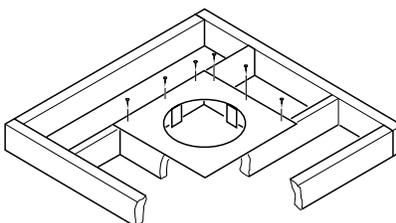


**Figure 34 - Offset with Wall Strap and 45° Elbows**

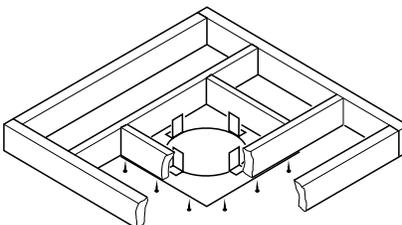
### Flat Ceiling Installation

1. Cut a 10" square hole in the ceiling using the locating hole as a center point. The opening should be framed to 10"x10" (254mm x 254mm) inside dimensions, as shown in Figure 27 on page 13 using framing lumber the same size as the ceiling joists. If the area above the ceiling is an insulated ceiling or a room, nail firestop from the top side. This prevents loose insulation from falling into the required clearance space. Otherwise, install firestop below the framed hole. The firestop should be installed with no less than three nails per side (see Figure 35).
2. Assemble the desired lengths of pipe and elbows necessary to reach from the burner system flue up through the firestop. All connections must be sealed with high temperature silicone sealant as specified in the second warning statement on page 11. Be sure all pipe and elbow connections are fully twist-locked (see Figure 26, page 13).

If area above is a room, install firestop above framed hole.



If area above is not a room, install firestop below framed hole.



**Figure 35 - Installing Firestop**

3. Cut a hole in the roof using the locating hole as a center point. (Cover any exposed open vent pipes before cutting hole in roof.) The 10"x10" hole must be measured on the horizontal; actual length may be larger depending on the pitch of the roof. There must be a 1" clearance from the vent pipe to combustible materials. Frame the opening as shown in Figure 27 on page 13.

4. Connect a section of pipe and extend up through the hole.

*Note:* If an offset is needed to avoid obstructions, you must support the vent pipe every 3 feet. Use wall straps for this purpose (see Figure 34). Whenever possible, use 45° elbows instead of 90° elbows. The 45° elbow offers less restriction to the flow of the flue gases and intake air.

5. Place the flashing over the pipe section(s) extending through the roof. Secure the base of the flashing to the roof and framing with roofing nails. Be sure roofing material overlaps the top edge of the flashing as shown in Figure 34. There must be a 1" clearance from the vent pipe to combustible materials.

6. Continue to add pipe sections until the height of the vent cap meets the minimum building code requirements described in Figure 23 on page 10. *Note:* You must increase vent height for steep roof pitches. Nearby trees, adjoining rooflines, steep pitched roofs, and other similar factors may cause poor draft or down-drafting in high winds. Increasing the vent height may solve this problem.

7. Twist-lock the vent cap onto the last section of vent pipe and seal outer pipe connection with high temperature silicone sealant as specified in the second warning statement on page 11.

*Note:* If the vent pipe passes through any occupied areas above the first floor, including storage spaces and closets, you must enclose pipe. You may frame and sheetrock the enclosure with standard construction material. Make sure and meet the minimum allowable clearances to combustibles. Do not fill any of the required air spaces with insulation.

*Continued*

# SUN VALLEY STOVE COMPANY

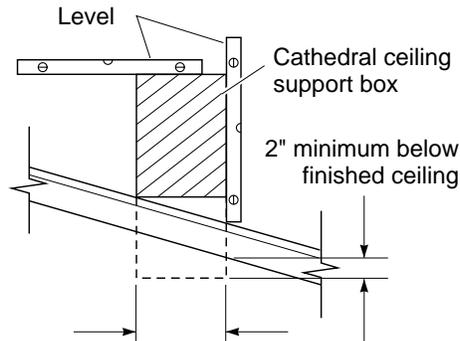
## CAST IRON STOVE AND BURNER SYSTEM

### VENTING INSTALLATION

*Continued*

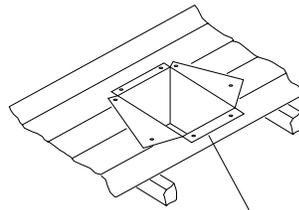
#### Cathedral Ceiling Installation

1. Remove shingles or other roof covering as necessary to cut the rectangular hole for the support box. Mark the outline of the cathedral ceiling support box on the roof sheathing using the locating hole as a center point.
2. Cut the hole 1/8" larger than the support box outline (see Figure 36).
3. Lower the support box through the hole in the roof until the bottom of the box extends at least 2" below the ceiling (see Figure 36). Align the support box vertically and horizontally using a level. Temporarily tack the support box in place through the inside walls and into the roof sheathing.
4. Using tin snips, cut the support box from the top corners down to the roofline and fold the resulting flaps over the roof sheathing (see Figure 37). Apply a bead of non-hardening mastic around the top edges of the support box to make a seal between the box and the roof. Nail in place with roofing nails. Remove any combustible material that might be inside of the support box.
5. Complete the cathedral ceiling installation by following the same procedures outlined in steps 2 through 7 for *Flat Ceiling Installation*, page 15.



Cut hole 1/8" larger than support box when projected onto roofline

**Figure 36 - Cathedral Ceiling Support Box Installation**

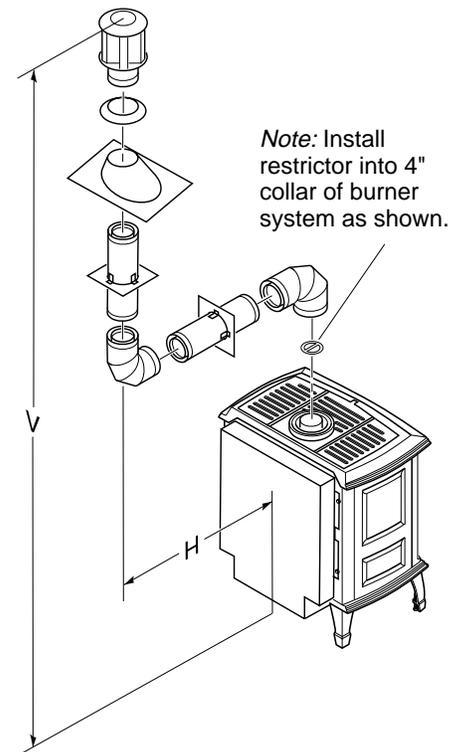


Non-hardening Mastic under all edges of support box before nailing

**Figure 37 - Installed Cathedral Ceiling Support Box**

#### Vertical Termination Configurations

Figure 38 and Figures 39 through 41 on page 17 show four different configurations for vertical termination. All connections must be sealed with high temperature silicone sealant as specified in the second warning statement on page 11.



#### Venting with One 90° Elbow

Vertical (V)	Horizontal (H)
5' min.	2' max.
6' min.	4' max.
7' min.	6' max.
8' min.	8' max.
20' max.	8' max.

**Figure 38 - Vertical Rigid Venting Configuration Using One 90° Elbow**



# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### VENTING INSTALLATION

*Continued*

#### HIGH ALTITUDE INSTALLATION

Your Sun Valley cast iron stove and direct-vent burner system has been CSA/AGA tested and approved for elevations from 0-2000 feet and CGA certified for elevations from 0-4500 feet.

When installing this stove at an elevation above 2000 feet (in the USA), you may need to decrease the input rating by changing the existing burner orifice to a smaller size. Reduce input 4% for each 1000 feet above sea level. Check with your local gas company for proper orifice size identification.

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

Consult your local gas company to help determine the proper orifice for your location.

For assistance with any high altitude installation contact DESA International's Technical Service Department at 1-800-DESA-LOG (1-800-337-2564).

### PARTS LISTS FOR VENTING KITS AND COMPONENTS

#### Sun Valley Rigid Venting

##### Number Description

NGFVKBK Ground Floor Rigid Vent Kit, Black  
Includes: Rigid Horizontal Termination, 7"-12" Adjustable Coaxial Pipe, 7" x 90° Coaxial Elbow, 7" x 12" Coaxial Pipe, Wall Thimble, Trim Plate, High Temperature Silicone, 12" Starter Pipe, and 16 Screws

NBVKBK Basement Rigid Vent Kit, Black  
Includes: Rigid Horizontal Termination, 7" x 90° Coaxial Elbow, 7" x 24" Coaxial Vent Pipe, Wall Thimble, 7"-12" Adjustable Coaxial Pipe, 7" x 12" Coaxial Vent Pipe, Trim Plate, High Temperature Silicone, 12" Starter Pipe, and 20 Screws

NSVKBK Snorkel Rigid Vent Kit, Black  
Includes: Snorkel Termination, 7" x 12" Coaxial Pipe, 7" x 24" Coaxial Pipe, 7" x 90° Coaxial Elbow, Wall Thimble, 7"-12" Adjustable Coaxial Pipe, Trim Plate, High Temperature Silicone, 12" Starter Pipe, and 28 Screws

NRVKBK Roof Rigid Vent Kit, Black  
Includes: Rigid Vertical Termination, 7" x 48" Coaxial Pipe, 7"-12" Adjustable Coaxial Pipe, 7" x 24" Coaxial Pipe, Firestop Spacer, Vertical Restrictor/Rigid Vent, 0/6 Galvanized Flashing, 7" Storm Collar, Trim Plate, High Temperature Silicone, 12" Starter Pipe, and 26 screws

D1000BK 7" x 12" Black Coaxial Pipe (1 pk)

D1010BK 7" x 24" Black Coaxial Pipe (1 pk)

D1020BK 7" x 48" Black Coaxial Pipe (1 pk)

D1030BK 7" Adjustable (7-12") Black Coaxial Pipe (1 pk)

D1050BK 7" x 6" Black Coaxial Pipe (1 pk)

D2000BK 7" X 90° Elbow (1 pk)

D2010BK 7" x 45° Elbow (1 pk)

D2040BK 7" x 12" Black Coaxial Starter Pipe (1 pk)

#### Sun Valley Rigid Venting (Cont.)

##### Number Description

D3000 Wall Strap/Offset Support (6 pcs.)  
D3010 Storm Collar (6 pcs.)  
D3040 Vertical Termination Cap (1 pk)  
D3020 Wall Thimble (6 pcs.)  
D3050 Vertical Restrictor (6 pcs.)  
D3060 Ceiling Firestop/Support (6 pcs.)  
D3070 Rectangular Horizontal Rigid Vent Termination Cap  
D3090 Cathedral Ceiling Support Box  
D4000 Roof Flashing 6/12-9/12  
D4010 Roof Flashing 9/12-12/12  
D5000 Wood/Vinyl Siding Standoff (6 pcs.)

#### SIMPSON DURA-VENT GS 4" x 6 5/8" (Black Pipe)

##### Number Description

902B 7" x 48" Pipe  
903B 7" x 36" Pipe  
904B 7" x 24" Pipe  
906B 7" x 12" Pipe  
907B 7" x 9" Pipe  
908B 7" x 6" Pipe  
911B 7" Adjustable (11"-14 5/8") Pipe  
940 Wall Thimble  
941 Cathedral Ceiling Support Box  
943 Roof Flashing 0/12-6/12  
943S Roof Flashing 7/12-12/12  
945B 7" x 45° Elbow  
950 Vinyl Siding Standoff  
953 Storm Collar  
963 Ceiling Firestop  
981 36" Snorkel Termination  
984 Horizontal Termination Vent Cap  
988 Wall Strap  
990B 7" x 90° Elbow  
991 Vertical High Wind Termination

# OWNER'S MANUAL

## STOVE AND DIRECT-VENT BURNER SYSTEM INSTALLATION

### CHECK GAS TYPE

Use proper gas type for the burner system you are installing. If you have conflicting gas types, do not install burner system. See dealer where you purchased the stove and burner system for proper burner system according to your gas type.

### INSTALLING GAS PIPING TO STOVE/BURNER SYSTEM LOCATION

**WARNING:** A qualified installer or service person must connect burner system to gas supply. Follow all local codes.

**CAUTION:** For propane/LP units, never connect burner system directly to the propane/LP supply. This burner system requires an external regulator (not supplied). Install the external regulator between the burner system and propane/LP supply.

### Installation Items Needed

Before installing stove and burner system, make sure you have the items listed below.

- external regulator (supplied by installer)
- piping (check local codes)
- sealant (resistant to propane/LP gas)
- equipment shutoff valve \*
- test gauge connection \*
- sediment trap
- tee joint
- pipe wrench
- approved flexible gas line with gas connector (if allowed by local codes) (not provided)

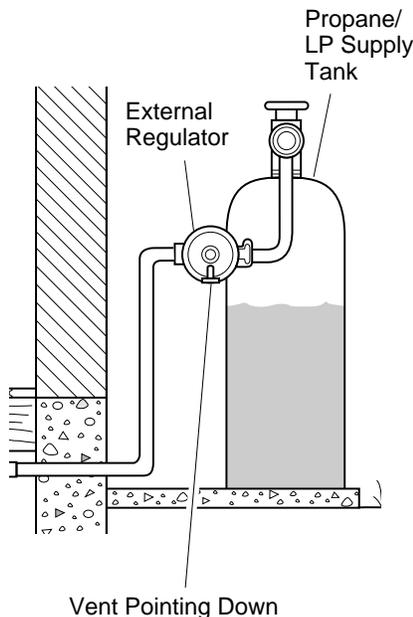
\* An CSA/AGA design-certified equipment shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the CSA/AGA design-certified equipment shutoff valve from your dealer.

For propane/LP connections only, the installer must supply an external regulator. The external regulator will reduce incoming gas pressure. You must reduce incoming gas pressure to between 11 and 14 inches of water. If you do not reduce incoming gas pressure, burner system regulator damage could occur. Install external regulator with the vent pointing down as shown in Figure 42. Pointing the vent down protects it from freezing rain or sleet.

**CAUTION:** Use only new, black iron or steel pipe. Internally-tinned copper tubing may be used in certain areas. Check your local codes. Use pipe of 1/2" diameter or greater to allow proper gas volume to burner system. If pipe is too small, undue loss of pressure will occur.

Installation must include a equipment shutoff valve, union, and plugged 1/8" NPT tap. Locate NPT tap within reach for test gauge hook up. NPT tap must be upstream from burner system (see Figure 43).

**IMPORTANT:** Install main gas valve (equipment shutoff valve) in an accessible location. The main gas valve is for turning on or shutting off the gas to the appliance.



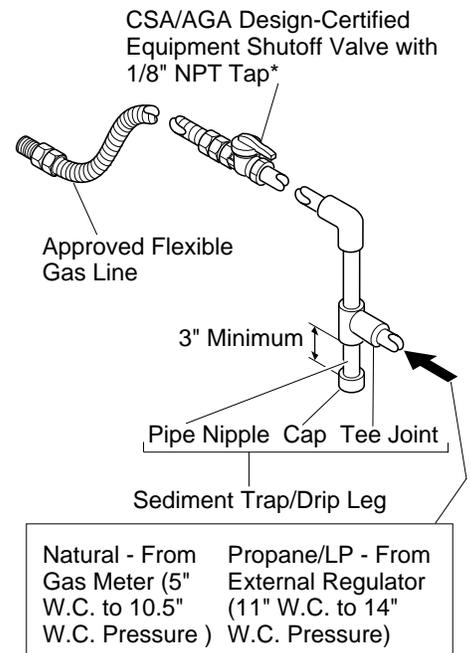
**Figure 42 - External Regulator with Vent Pointing Down (Propane/LP Only)**

Check your building codes for any special requirements for locating equipment shutoff valve to stoves.

Apply pipe joint sealant lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged burner system valves.

**CAUTION:** Use pipe joint sealant that is resistant to liquid petroleum (LP) gas.

We recommend that you install a sediment trap/drip leg in supply line as shown in Figure 43. Locate sediment trap/drip leg where it is within reach for cleaning. Install in piping system between fuel supply and burner system. Locate sediment trap/drip leg where trapped matter is not likely to freeze. A sediment trap traps moisture and contaminants. This keeps them from going into burner system gas controls. If sediment trap/drip leg is not installed or is installed wrong, burner system may not run properly.



\* The CSA/AGA design-certified equipment shutoff valve may be supplied with the appliance or you can purchase it from your dealer.

**Figure 43 - Gas Connection**

*Continued*

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

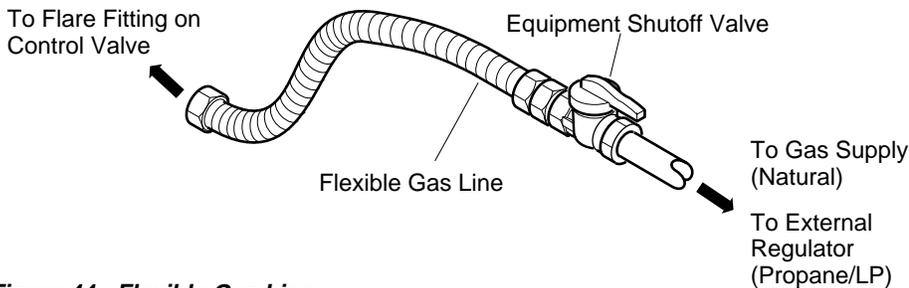
### STOVE AND DIRECT-VENT BURNER SYSTEM INSTALLATION

*Continued*

### CONNECTING STOVE/BURNER SYSTEM TO GAS SUPPLY

#### Installation Items Needed

- 5/16" hex socket wrench or nut-driver
  - sealant (resistant to propane/LP gas, not provided)
1. Open lower door panel.
  2. Route flexible gas line (provided by installer) from equipment shutoff valve to burner system. Route flexible gas supply line through slot in stove bottom and attach to valve.
  3. Check all gas connections for leaks. See *Checking Gas Connections*.



**Figure 44 - Flexible Gas Line**

### CHECKING GAS CONNECTIONS

**⚠ WARNING:** Test all gas piping and connections for leaks after installing or servicing. Correct all leaks at once.

**⚠ WARNING:** Never use an open flame to check for a leak. Apply commercial leak test solution to all gas joints. Bubbles forming show a leak. Correct all leaks at once.

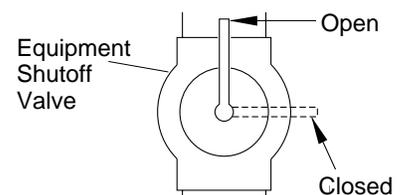
### Pressure Testing Gas Supply Piping System

#### Test Pressures In Excess Of 1/2 PSIG (3.5 kPa)

1. Disconnect appliance with its appliance main gas valve (control valve) and equipment shutoff valve from gas supply piping systems. Pressures in excess of 1/2 psig (3.5 kPa) will damage burner system gas regulator.
2. Cap off open end of gas pipe where equipment shutoff valve was connected.
3. Pressurize supply piping system by either opening propane/LP supply tank valve for propane/LP gas burner system or opening main gas valve located on or near gas meter for natural gas burner system, or using compressed air.
4. Check all joints of gas supply piping system. Apply commercial leak test solution to all gas joints. Bubbles forming show a leak. Correct all leaks at once.
5. Reconnect burner system and equipment shutoff valve to gas supply. Check reconnected fittings for leaks.

#### Test Pressures Equal To or Less Than 1/2 PSIG (3.5 kPa)

1. Close equipment shutoff valve (see Figure 45).
2. Pressurize supply piping system by either opening propane/LP supply tank valve for propane/LP gas burner system or opening main gas valve located on or near gas meter for natural gas burner system, or using compressed air.
3. Check all joints from propane/LP supply tank or gas meter to equipment shutoff valve (see Figure 46, page 21 for propane/LP or Figure 47, page 21 for natural). Apply commercial leak test solution to all gas joints. Bubbles forming show a leak. Correct all leaks at once.



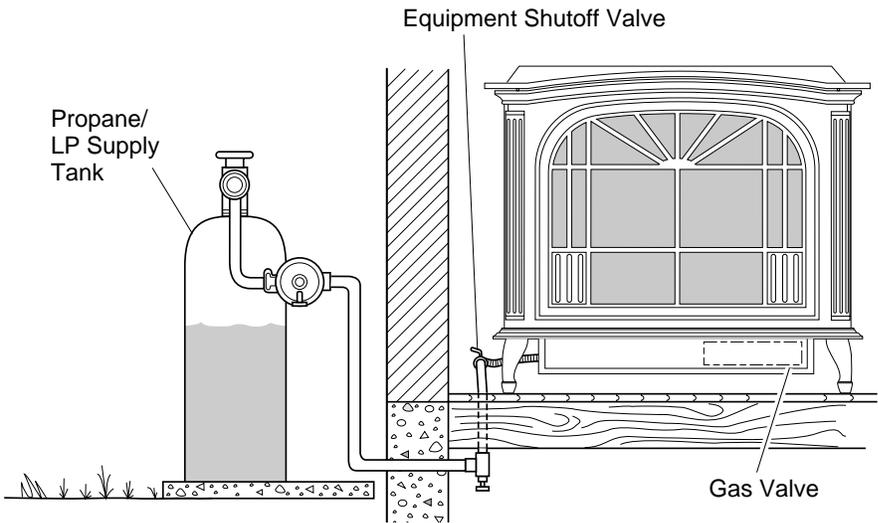
**Figure 45 - Equipment Shutoff Valve**

## STOVE AND DIRECT-VENT BURNER SYSTEM INSTALLATION

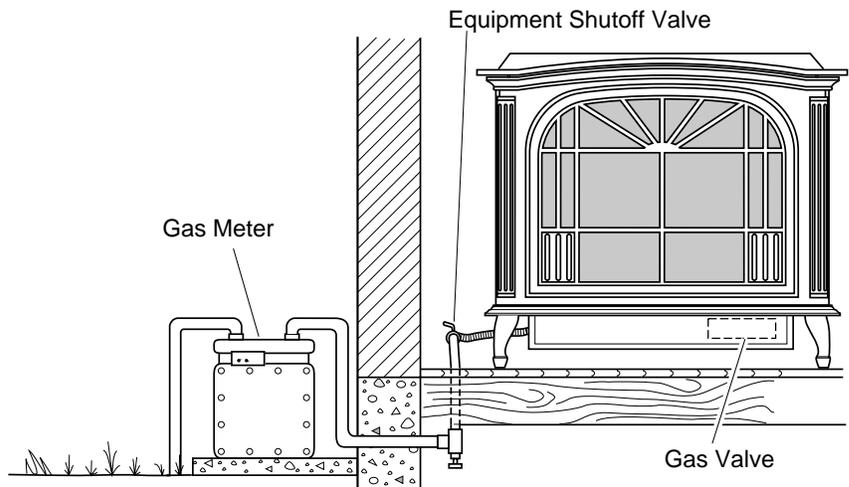
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### Pressure Testing Burner System Gas Connections

1. Open equipment shutoff valve (see Figure 45, page 20).
2. Open propane/LP supply tank valve for propane/LP burner system or main gas valve located on or near gas meter for natural gas burner system.
3. Make sure control knob of burner system is in the OFF position.
4. Check all joints from equipment shutoff valve to thermostat gas valve (see Figure 46 for propane/LP or Figure 47 for natural). Apply commercial leak test solution to all gas joints. Bubbles forming show a leak. Correct all leaks at once.
5. Light burner system (see *Operating Stove with Burner System*, pages 25 through 27). Check all other internal joints for leaks.
6. Turn off burner system (see *To Turn Off Gas to Appliance*, page 25).



**Figure 46 - Checking Gas Joints for Propane/LP Gas Burner System**



**Figure 47 - Checking Gas Joints for Natural Gas Burner System**

*Continued*

# SUN VALLEY STOVE COMPANY

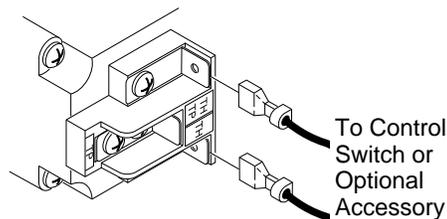
## CAST IRON STOVE AND BURNER SYSTEM

### STOVE AND DIRECT-VENT BURNER SYSTEM INSTALLATION

*Continued*

#### INSTALLING OPTIONAL WALL MOUNTED SWITCH GWMS2

1. Connect one terminal of 25 ft. wire for the wall switch to the TPTH terminal on the valve. Connect remaining wire terminal to the TH terminal on the valve. Make sure that the wire terminals are in the positions on the unit as pictured in Figure 48. If wires are not connected as shown, the switch will not work.
2. Route the 25 ft. wire through openings provided on the sides of the burner system to a convenient location to mount your switch.
3. Connect one bare wire end to each of the terminals of the GWMS2 wall switch.
4. Install the wall switch and cover in the wall.



**Figure 48 - Control Valve Terminals**

#### INSTALLING OPTIONAL WALL MOUNTED THERMOSTAT - GWMT1

**⚠ WARNING: Installation must be done by a qualified installer familiar with low voltage wiring procedures.**

**⚠ WARNING: Do not connect this thermostat to any electrical source! Electrical shock and/or fire hazard will occur.**

1. Open lower door panel. The valve is attached to the underside of the burner system assembly.
2. Disconnect from the valve the wires running from the ON/OFF switch.
3. Connect one terminal of the wire for the wall thermostat to the THTP terminal on the valve. Connect remaining wire terminal to the TH terminal on the valve. Make sure that the wire terminals are in the positions on the unit as pictured in Figure 48. If wires are not connected as shown the thermostat will not work.
4. Route the wire to a convenient location to mount your thermostat (no outside wall). **IMPORTANT:** The wire must not exceed 25 feet in length.

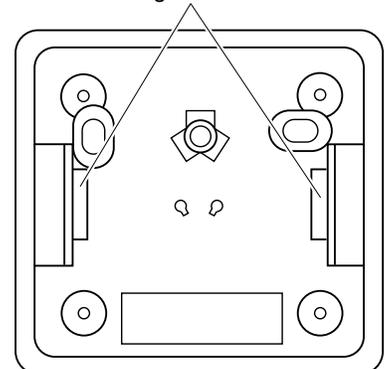
The thermostat should be mounted 54" above the floor in a location where there is good air circulation. Avoid heat sources such as lamps, direct sunlight, fireplace, or heat and air conditioning ducts.

5. Gently remove the cover of the thermostat from the base. Grasp the sides of the cover firmly and pull to separate from the base.
6. Feed the electrical wires through the rectangular slots (from the back) on each side of the base (see Figure 49).

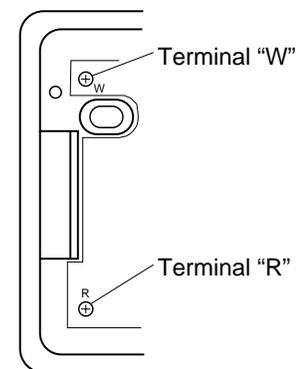
**⚠ WARNING: Do not connect this thermostat to a power source. Electrical shock and/or fire hazard will occur.**

7. Connect one bare wire end to each terminal ("W" and "R") of the thermostat base (see Figure 50).
8. Install the base to the wall with screws provided with thermostat.
9. Move the temperature adjustment back and forth to insure the bimetal is free from restrictions.
10. Replace the cover onto the base. (Upon installation, the thermostat must be allowed to stabilize at room temperature for a minimum of 30 minutes for proper operation.)
11. Set the temperature adjustment to the desired setting. This thermostat has been electronically calibrated at the factory. No adjustment or leveling is necessary.

Feed wires through rectangular slots



**Figure 49 - Back View of Thermostat Base**



**Figure 50 - Thermostat Base Terminal "W" and "R"**

## STOVE AND DIRECT-VENT BURNER SYSTEM INSTALLATION

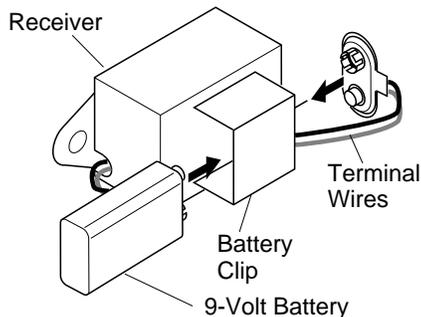
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### INSTALLING OPTIONAL WIRELESS HAND-HELD REMOTE CONTROL ACCESSORIES - GHRC AND GHRCTA SERIES

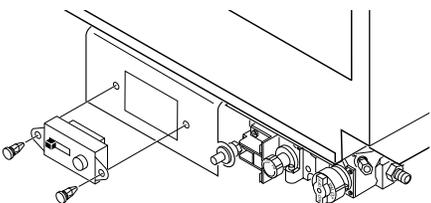
**Notice:** Only use alkaline batteries (not included).

#### Installing Remote Receiver and 9-Volt Alkaline Battery

1. Open bottom door on stove body.
2. Disconnect wires from THTP and TH on control valve that lead to the switch (see Figure 48, page 22). Discard switch plate, screws, and nuts.
3. Install 9-volt battery (not included) into receiver battery clip and connect to terminals (see Figure 51).
4. Place receiver into valve bracket and align holes (see Figure 52).
5. Use push-in fasteners included with receiver to secure to bracket.
6. Connect the wires from the receiver to the valve at TH and THTP (see Figure 48, page 22).



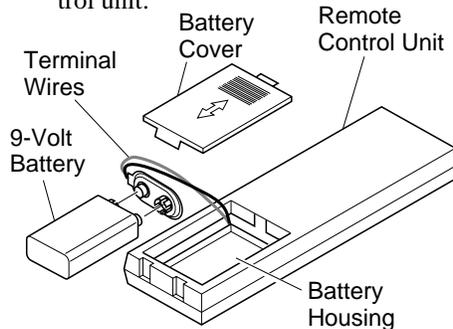
**Figure 51 - Installing Battery in Receiver**



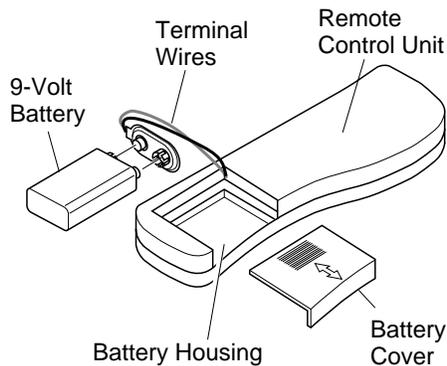
**Figure 52 - Installing Remote Receiver**

#### Installing 9-Volt Alkaline Battery in Hand-Held Remote Control Unit

1. Remove battery cover on back of remote control unit
2. Attach terminal wires to a 9-volt battery (not included). Place battery into the battery housing.
3. Replace battery cover onto remote control unit.



**Figure 53 - Installing Battery in Hand-Held Remote Control Unit (GHRC Series)**



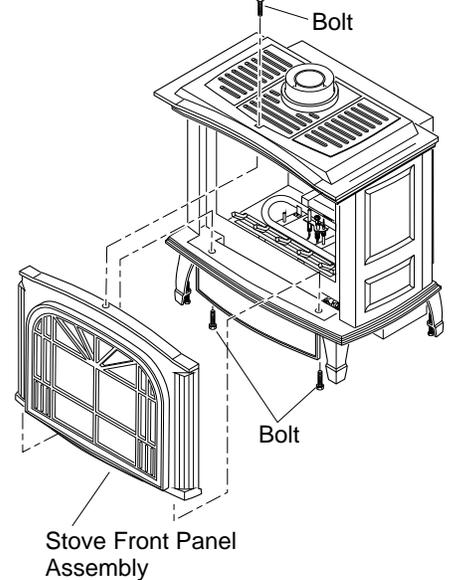
**Figure 54 - Installing Battery in Hand-Held Remote Control Unit (GHRCTA Series)**

#### REMOVING/REPLACING GLASS DOOR

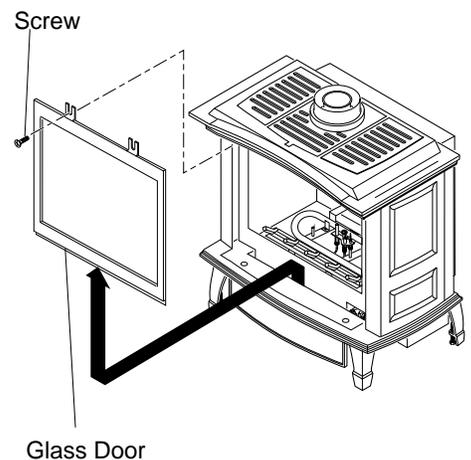
You must remove glass door to install logs, lava rock, and ember material. To remove glass door, you must first remove the front panel assembly on stove body if it has been previously installed. If the front panel assembly is not in place, proceed to step 2.

**CAUTION:** Do not operate this burner system with a broken glass door panel or without the glass door panel securely in place. For replacement part information see *Replacement Parts*, page 32.

1. Remove 2 bolts from bottom of stove (if still in place) and one from the top of stove to remove front panel (see Figure 55).
2. Remove the screws from the 2 tabs at the top of the glass door while holding door securely keeping it from falling forward (see Figure 56).
3. Grasp door by both sides and ease it upward off of the lower bracket (see Figure 56).
4. To replace glass door, follow the above instructions in reverse.



**Figure 55 - Removing Front Panel from Stove**



**Figure 56 - Removing Glass Door from Burner System**

*Continued*

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### STOVE AND DIRECT-VENT BURNER SYSTEM INSTALLATION

*Continued*

#### INSTALLING LOGS, LAVA ROCK, AND GLOWING EMBERS

**⚠ WARNING:** Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this burner system may result in property damage or personal injury.

Each log is marked with a number. These numbers will help you identify the log when installing. It is very important to install these logs exactly as instructed. Do not modify logs. Only use logs supplied with burner system. Do not use if any log(s) are broken (see *Replacement Parts*, page 32).

1. Remove glass door. See *Removing/Replacing Glass Door*, page 23.
2. Place log #1 (back log) on top of grate. Make sure the notches in the bottom of the log fit over the grate (see Figure 57).
2. Rest log #2 (large front log) on the pins on the front part of the grate (see Figure 58).

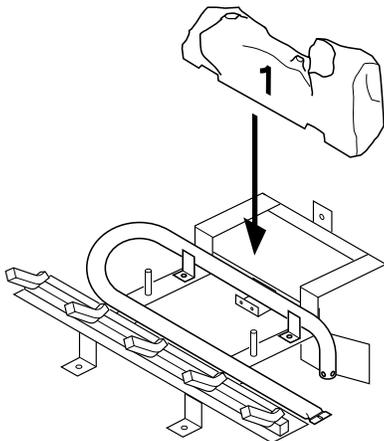


Figure 57 - Installing Log No. 1

3. Place log #3 (crossover log) onto the rear and front logs. Make sure it is seated properly into the notch on the front log and over the raised triangular portion of the rear log as shown in Figure 59.
4. Place log #4 (small log) onto the front left part of the grate making sure the notches fits over the prong of the grate. See Figure 60.

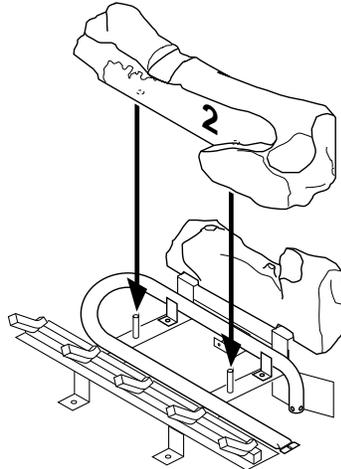


Figure 58 - Installing Log No. 2

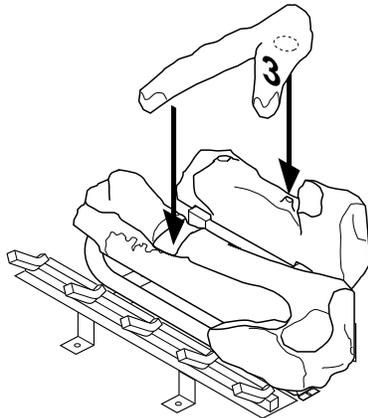


Figure 59 - Installing Log No. 3

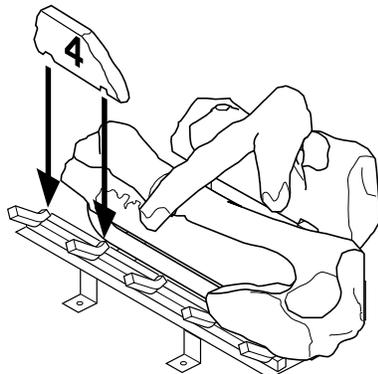


Figure 60 - Installing Log No. 4

5. Lava rock may be placed along sides and front inside burner system bottom. This may not be visible when you have replaced the front of the stove. It is not necessary to use all of the lava rock provided.

**NOTICE:** Do not put lava rock on burner or under burner. Placing lava rock on burner could cause performance problems.

6. Pull ember material apart into pieces no larger than a dime. Place these pieces loosely and sparingly directly onto the exposed section of the front burner and along the space between the burner and grate prongs (see Figure 61). This will create the glowing ember appearance as the flame touches the ember material. Do not block air slots by using too much ember material in one area. It is not necessary to use all of the ember material provided.
7. Replace the glass door and stove front. See *Removing/Replacing Glass Door*, page 23.

**⚠ WARNING:** The glass door must be securely in place before running this burner system. Do not run this burner system if glass is missing or broken.

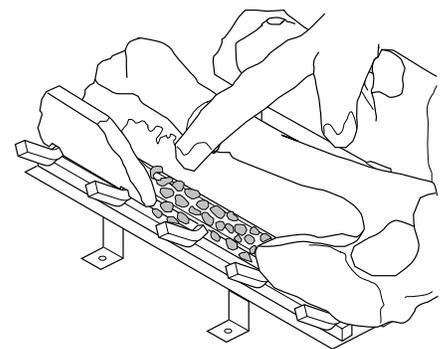


Figure 61 - Placing Ember Material on Burner

# OWNER'S MANUAL

## OPERATING STOVE WITH BURNER SYSTEM

### FOR YOUR SAFETY READ BEFORE LIGHTING

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

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

#### WHAT TO DO IF YOU SMELL GAS

- Do not 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 a neighbor's phone. Follow the gas supplier's instructions.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
  - D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

## LIGHTING INSTRUCTIONS

1. **STOP!** Read the safety information in column one.
2. Turn ON/OFF switch, located on the side of rear cover, to "OFF".
3. Open lower door panel.
4. Turn off all electric power to the burner system.
5. Push in gas control knob slightly and turn clockwise  to "OFF".
6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, **STOP!** Follow "B" in the safety information in column one. If you don't smell gas, go to the next step.
7. The pilot is located by the main burner and should not require accessing for lighting.
8. Turn gas control knob counterclockwise  to "PILOT".
9. Push in gas control knob all the way and hold. Immediately light the pilot by repeatedly depressing the piezo spark ignitor until a flame appears. Continue to hold for about one (1) minute after the pilot is lit. Release gas control knob and it will pop back. Pilot should remain lit. If it goes out, repeat steps 5 through 8.
  - If gas control knob does not pop up when released, stop and immediately call your service technician or gas supplier.
  - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
10. Turn gas control counterclockwise  to "ON".
11. Turn on all electric power to the burner system.
12. Turn the ON/OFF switch to ON position.
13. This valve is equipped with a HI/LO feature. Set burner system input as desired.
14. Close lower panel.

## TO TURN OFF GAS TO APPLIANCE

1. Turn ON/OFF switch, located on the side of rear cover, to "OFF".
- 2a. Open lower door panel.
- 2b. If Using Optional Hand-Held Remote: Set selector switch in the OFF position to prevent draining battery.
3. Turn off all electrical power to the appliance if service is to be performed.
4. Push in gas control knob slightly and turn clockwise  to "OFF".
5. Close lower panel.

### Shutting Off Burners Only (pilot stays lit)

You may shut off the burners and keep the pilot lit by doing one of the following:

1. Turn gas control knob clockwise  to the PILOT position.
2. Set selector switch in the OFF position.

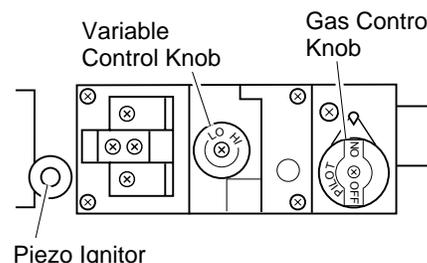


Figure 62 - Control Valve

## MANUAL LIGHTING PROCEDURE

1. Remove glass door (see *Removing/Replacing Glass Door*, page 23).
2. Follow steps 1 through 8 under *Lighting Instructions*.
3. Depress gas control knob and light pilot with match.
4. Keep gas control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release gas control knob. Now follow steps 10 through 14, column 2.
5. Replace glass door (see *Removing/Replacing Glass Door*, page 23).

Continued

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### OPERATING STOVE WITH BURNER SYSTEM

Continued

#### OPTIONAL REMOTE OPERATION

**Note:** All remote control accessories must be purchased separately (See *Accessories* on page 33). Follow instructions included with the remote control.

#### Thermostat Control Operation

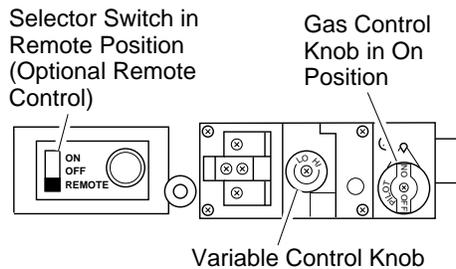
(Optional GHRCTA Only) The thermostat control setting on the remote control unit can be set to any comfort level between **WARMER** and **COOLER**. The burners will turn on and off automatically to maintain the comfort level you select. The ideal comfort setting will vary by household depending upon the amount of space to be heated, the output of the central heating system, etc.

**NOTICE:** You must light the pilot before using the hand-held remote control unit. See *Lighting Instructions*, page 25 .

1. After lighting, let pilot flame burn for about one minute. Turn gas control knob on the control valve to **ON** position. Turn variable control knob anywhere between **HI** and **LO**. Slide the selector switch to the **REMOTE** position. **Note:** The burners may light if hand-held remote **ON** button was on when selector switch was last turned off. You can now turn the burners on and off with either optional hand-held remote control unit.

**IMPORTANT:** Do not leave the selector switch in the **REMOTE** position when the pilot is not lit. This will drain the battery.

**IMPORTANT:** Be sure to press the **ON/OFF** buttons on the hand-held remote control unit for up to 3 seconds to assure proper operation.



**Figure 63 - Setting the Selector Switch, Gas Control Knob, and Variable Control Knob for Remote Operation**

#### GHRC Series Operation:

- 2a. Press the **ON/OFF** button to turn the burners on and off. When turning burners off, the pilot will remain lit.

#### GHRCTA Series Operation:

- 2b. Press the **AUTO/ON/OFF** button on the hand-held remote control (see Figure 64). The lights to the left of the button will show **AUTO**, **ON**, or **OFF**.
  - In the **ON** mode, the burners will ignite. The heater is in manual mode when **ON** is lit.

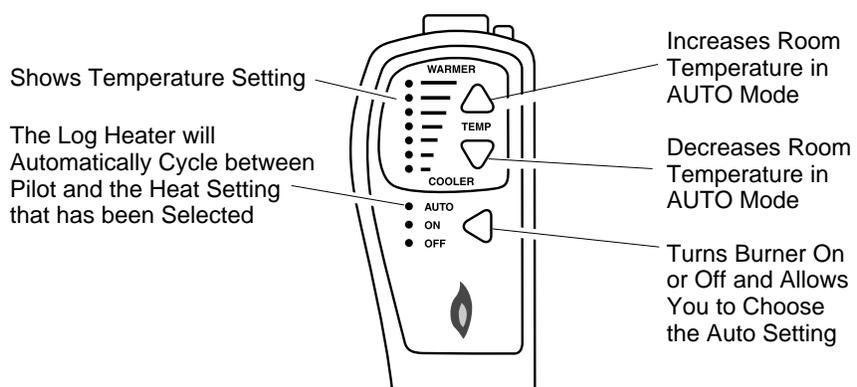
- In the **AUTO** mode, the thermostat in the hand-held remote unit controls the room temperature. To increase the room temperature, press the top arrow of the **TEMP** button. To lower the room temperature, press the bottom arrow of the **TEMP** button. At higher settings the heater will run longer.

**IMPORTANT:** This remote control has been specially engineered to take an air temperature sample every 5.5 minutes in the auto mode. It will not respond immediately to the temperature setting being turned up or down.

**IMPORTANT:** The hand-held remote control unit must be near the heater. Do not keep the hand-held remote control unit too close to the heater. The thermostat on the hand-held remote control unit will heat up too quickly and turn the heater off.

3. To turn the burner off, press the **AUTO/ON/OFF** button until **OFF** lights. The pilot will remain lit.

**IMPORTANT:** To turn the pilot off, manually turn the control knob on the heater to the **OFF** position.



**Figure 64 - Hand-Held Thermostat Remote Control Unit Selections (GHRCTA Only)**

## OPERATING STOVE WITH BURNER SYSTEM

*Continued*

### OPERATING OPTIONAL BLOWER ACCESSORY

Locate the blower controls on right side of rear cover (standing in front of stove).

The DA3610T thermostatically-controlled blower has an ON setting and an OFF setting. The blower will only run when the switch is in the ON position. In the OFF position, the blower will not operate.

If you are using DA3610TA blower with optional thermostat (wall mount or remote control) for the burner system, your burner system and blower will not turn on and off at the same time. The burner system may run for several minutes before the blower turns on. After the burner system modulates to the pilot position, the blower will continue to run. The blower will shut off after the burner system temperature decreases.

The blower helps distribute heated air from the burner system. Periodically check the air passageways of the burner system and remove any dust, dirt, or other obstructions that will hinder the flow of air.

### OPERATING OPTIONAL GWMT1 WALL MOUNTED THERMOSTAT

**WARNING:** Do not connect the thermostat to a power source. Electrical shock and/or a fire hazard will occur.

Light the burner system as instructed in *Lighting Instructions* on page 25. Set wall thermostat to desired temperature.

This thermostat has been electronically calibrated at the factory and requires no adjustment or leveling.

Upon installation, the thermostat must be allowed to stabilize at room temperature for a minimum of 30 minutes for proper operation.

To turn the burner system off, adjust thermostat to the lowest setting and turn the gas control knob back to PILOT. The pilot will remain lit.

**IMPORTANT:** To turn the pilot off, turn the gas control knob on the burner system to the OFF position.

## INSPECTING BURNERS

Check pilot flame pattern and burner flame patterns often.

### PILOT ASSEMBLY

The pilot assembly is factory preset for the proper flame height. Alterations may have occurred during shipping and handling. Call a qualified service person to readjust the pilot if necessary.

The height of the thermopile must be 3/8" to 1/2" above the pilot flame as shown in Figure 65. The thermocouple must be at a height of about 1/8" above the pilot flame. The flame from the pilot burner must extend beyond both the thermocouple and thermopile.

If your pilot assembly does not meet these requirements:

- turn burner system off (see *To Turn Off Gas to Appliance*, page 25)
- see *Troubleshooting*, pages 29 through 31

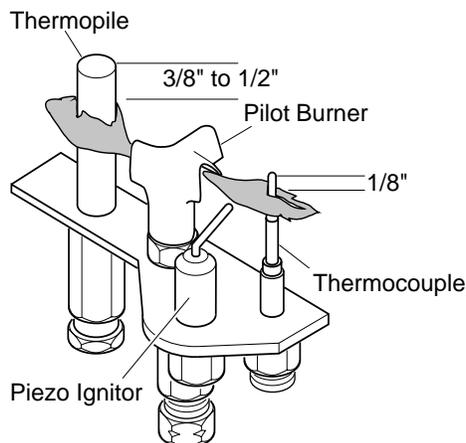


Figure 65 - Pilot Assembly

## BURNER FLAME PATTERN

Burner flames will be steady; not lifting or floating. Flame patterns will be different from unit to unit and will vary depending on installation type and weather conditions.

If the vent configuration is installed incorrectly, the flames will lift or "ghost". This can be dangerous. Inspect the flames after installation to ensure proper installation and performance.

Figure 66 shows a typical flame pattern. If burner flame pattern differs from that described:

- turn burner system off (see *To Turn Off Gas to Appliance*, page 25)
- see *Troubleshooting*, pages 29 through 31

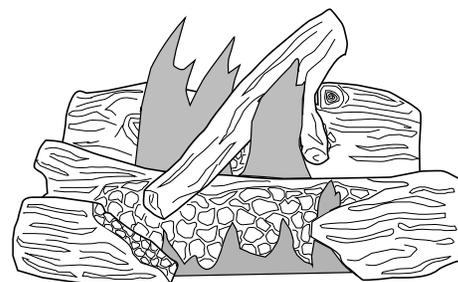


Figure 66 - Typical Flame Pattern

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### CLEANING AND MAINTENANCE

**⚠ WARNING:** Turn off burner system and let cool before cleaning.

**⚠ CAUTION:** You must keep control areas, burners, and circulating air passageways of burner system and stove clean. Inspect these areas of burner system and stove before each use. Have burner system and stove inspected yearly by a qualified service person. Burner system and stove may need more frequent cleaning due to excessive lint from carpeting, bedding material, pet hair, etc.

### GLASS DOOR

**⚠ WARNING:** Handle glass door panel with care. Do not strike, slam, or otherwise abuse glass. Do not operate burner system with the glass door removed, cracked, or broken.

**⚠ WARNING:** Do not use abrasive cleaners as this may damage glass. Use a nonabrasive household glass cleaner to clean glass. Do not clean glass when hot.

Glass must be cleaned periodically. During start-up it is normal for condensation to form on the inside of the glass causing lint, dust, and other airborne particles to cling to the glass surface. During initial start-up a slight film may form on the glass due to paint curing. The glass should be cleaned several times with a non-ammonia, non-abrasive household cleaner and warm water after the first two weeks of operation. Thereafter, clean the glass two or three times during each heating season, depending on the usage and circumstances present. Refer to *Removing/Replacing Glass Door* on page 23 of this manual when removing glass door for cleaning.

**⚠ WARNING:** Only parts supplied by the manufacturer should be used when replacing broken or damaged glass door panel (see *Replacement Parts*, page 32). This glass door panel is a complete unit. No substitute materials may be used.

**⚠ CAUTION:** Wear gloves and safety glasses while handling or removing broken glass. Do not remove if glass is hot. Keep children and pets away from glass.

If glass has been broken, carefully remove glass door (see *Removing/Replacing Glass Door*, page 23). Vacuum all glass pieces with a shop vac.

**⚠ CAUTION:** Do not vacuum if pieces are hot.

Use only the ceramic glass door replacement intended for this burner system (see *Replacement Parts*, page 32 for detail on ordering). No substitutions may be made. See *Removing/Replacing Glass Door*, page 23 for instructions for replacing glass door.

**⚠ WARNING:** Do not operate burner system with the glass door removed, cracked, or broken.

### PILOT AND BURNERS

- Remove ember material before cleaning burners and replace when cleaning is complete.
- Burner and controls should be cleaned with compressed air to remove dust, dirt, or lint.
- Use a vacuum cleaner or small, soft bristled brush to remove excess dust, dirt, or lint.

### LOGS

- If you remove logs for cleaning, refer to *Installing Logs, Lava Rock, and Glowing Embers*, page 24, to properly replace logs.
- Use a vacuum cleaner to remove any carbon buildup on logs.
- Replace log(s) if broken. See *Replacement Parts* on page 32.
- Replace ember material periodically as needed. See *Replacement Parts* on page 32.

### VENTING SYSTEM

Conduct annual inspection of the venting system following these guidelines:

1. Check areas of venting system that are exposed to the weather for corrosion (rust spots or streaks and, in extreme cases, holes). Have these items replaced immediately by a qualified service person.
2. Remove the vent cap and shine a flashlight into the vent. Remove any foreign material.
3. Check for evidence of excessive condensation. Continuous condensation can cause corrosion of caps, pipes, and fittings and can be caused by having excessive lateral runs, too many elbows, or exterior portions of the system being exposed to cold weather.
4. Inspect joints to verify that no pipe section or fitting has been disturbed and loosened. Check mechanical supports such as wall straps for rigidity.

# OWNER'S MANUAL

## TROUBLESHOOTING

*Note:* For additional help, visit DESA International's technical service web site at [www.desatech.com](http://www.desatech.com).

**⚠ WARNING:** Turn off burner system and let cool before servicing. Only a qualified service person should service and repair burner system or stove.

**⚠ CAUTION:** Never use a wire, needle, or similar object to clean pilot. This can damage pilot unit.

*Note:* All troubleshooting items are listed in order of operation.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
When ignitor button is pressed, there is no spark at pilot	<ol style="list-style-type: none"><li>1. Ignitor electrode not connected to ignitor cable</li><li>2. Ignitor cable pinched or wet</li><li>3. Piezo ignitor nut is loose</li><li>4. Broken ignitor cable</li><li>5. Bad piezo ignitor</li><li>6. Ignitor electrode broken</li><li>7. Ignitor electrode positioned wrong</li></ol>	<ol style="list-style-type: none"><li>1. Reconnect ignitor cable</li><li>2. Free ignitor cable if pinched by any metal or tubing. Keep ignitor cable dry</li><li>3. Tighten nut holding piezo ignitor. Nut is located behind the mounting bracket</li><li>4. Replace ignitor cable</li><li>5. Replace piezo ignitor</li><li>6. Replace pilot assembly</li><li>7. Replace pilot assembly</li></ol>
When ignitor button is pressed, there is spark at pilot but no ignition	<ol style="list-style-type: none"><li>1. Gas supply turned off or equipment shutoff valve closed</li><li>2. Gas control knob not in PILOT position</li><li>3. Gas control knob not pressed in while in PILOT position</li><li>4. Air in gas lines when installed</li><li>5. Depleted gas supply (propane/LP models only)</li><li>6. Pilot is clogged</li><li>7. Gas regulator setting is not correct</li></ol>	<ol style="list-style-type: none"><li>1. Turn on gas supply or open equipment shutoff valve</li><li>2. Turn gas control knob to PILOT position</li><li>3. Press in gas control knob while in PILOT position</li><li>4. Continue holding down gas control knob. Repeat igniting operation until air is removed</li><li>5. Contact local propane/LP gas company</li><li>6. Clean pilot (see <i>Cleaning and Maintenance</i>, page 28) or replace pilot assembly</li><li>7. Replace gas control</li></ol>
Pilot lights but flame goes out when control knob is released	<ol style="list-style-type: none"><li>1. Gas control knob not fully pressed in</li><li>2. Gas control knob not pressed in long enough</li><li>3. Equipment shutoff valve not fully open</li><li>4. Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. This problem could be caused by one or both of the following:<ol style="list-style-type: none"><li>A) Low gas pressure</li><li>B) Dirty or partially clogged pilot</li></ol></li><li>5. Thermocouple connection loose at control valve</li><li>6. Thermocouple damaged</li><li>7. Control valve damaged</li></ol>	<ol style="list-style-type: none"><li>1. Press in gas control knob fully</li><li>2. After pilot lights, keep gas control knob pressed in 30 seconds</li><li>3. Fully open equipment shutoff valve</li><li>4. A) Contact local gas company  B) Clean pilot (see <i>Cleaning and Maintenance</i>, page 28) or replace pilot assembly</li><li>5. Hand tighten until snug, then tighten 1/4 turn more</li><li>6. Replace thermocouple</li><li>7. Replace control valve</li></ol>

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### TROUBLESHOOTING

*Continued*

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Burner does not light after pilot is lit	<ol style="list-style-type: none"> <li>1. Burner orifice clogged</li> <li>2. Inlet gas pressure is too low</li> <li>3. Thermopile leads disconnected or improperly connected</li> <li>4. Thermopile is defective</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean burner (see <i>Cleaning and Maintenance</i>, page 28) or replace burner orifice</li> <li>2. Contact local propane/LP or natural gas company</li> <li>3. Reconnect leads (see <i>Wiring Diagram</i>, page 32)</li> <li>4. Replace thermopile</li> </ol>
Delayed ignition burner	<ol style="list-style-type: none"> <li>1. Manifold pressure is too low</li> <li>2. Burner porting or orifice clogged</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact local propane/LP or natural gas company</li> <li>2. Clean burner (see <i>Cleaning and Maintenance</i>, page 28) or replace burner orifice</li> </ol>
Burner backfiring during combustion	<ol style="list-style-type: none"> <li>1. Burner orifice is clogged or damaged</li> <li>2. Damaged burner</li> <li>3. Gas regulator defective</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean burner (see <i>Cleaning and Maintenance</i>, page 28) or replace burner orifice</li> <li>2. Replace damaged burner</li> <li>3. Replace gas control</li> </ol>
Slight smoke or odor during initial operation	<ol style="list-style-type: none"> <li>1. Residues from manufacturing processes and logs curing</li> </ol>	<ol style="list-style-type: none"> <li>1. Problem will stop after a few hours of operation</li> </ol>
Burner system produces a whistling noise when burner is lit	<ol style="list-style-type: none"> <li>1. Turning gas control knob to HI position when burner is cold</li> <li>2. Air in gas line</li> <li>3. Dirty or partially clogged burner orifice</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn gas control knob to LO position and let warm up for a minute</li> <li>2. Operate burner until air is removed from line. Have gas line checked by local propane/LP or natural gas company</li> <li>3. Clean burner (see <i>Cleaning and Maintenance</i>, page 28) or replace burner orifice</li> </ol>
Glass soots	<ol style="list-style-type: none"> <li>1. Flame impingement on logs</li> <li>2. Debris around burner air mixer</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the log set so that the flame does not excessively impinge on it</li> <li>2. Inspect the opening at the base of the burner to see that it is NOT packed with any type of material</li> </ol>
Burner system produces a clicking/ticking noise just after burners are lit or shut off	<ol style="list-style-type: none"> <li>1. Metal expanding while heating or contracting while cooling</li> </ol>	<ol style="list-style-type: none"> <li>1. This is common. If noise is excessive, contact qualified service person</li> </ol>
Remote does not function	<ol style="list-style-type: none"> <li>1. Battery is not installed or battery power is low</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace 9-volt batteries in receiver and remote control</li> </ol>

# OWNER'S MANUAL

## TROUBLESHOOTING

*Continued*

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

**IMPORTANT:** Operating burner system where impurities in air exist may create odors. Cleaning supplies, paint, paint remover, cigarette smoke, cements and glues, new carpet or textiles, etc., create fumes. These fumes may mix with combustion air and create odors. These odors will disappear over time.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Burner system produces unwanted odors	1. Gas leak. <b>See Warning statement above</b>	1. Locate and correct all leaks (see <i>Checking Gas Connections</i> , pages 20 and 21)
Burner system shuts off in use	1. High or gusting winds 2. Low line pressure 3. Pilot is partially clogged 4. Inner vent pipe leaking exhaust gasses into system 5. Glass too loose and air tight gasket leaks in corners after usage 6. Bad thermopile or thermocouple 7. Improper vent cap installation	1. Burner system has been tested for up to 40mph winds. However, extreme conditions may occur. See <i>Lighting Instructions</i> on page 25 2. Contact local propane/LP or natural gas company 3. Clean pilot (see <i>Cleaning and Maintenance</i> , page 28) 4. Locate and correct all leaks (see <i>Checking Gas Connections</i> , pages 20 and 21) 5. Tighten glass 6. Replace faulty component 7. Check for proper installation and freedom from debris or blockage
Gas odor even when control knob is in OFF position	1. Gas leak. <b>See Warning statement above</b> 2. Control valve defective	1. Locate and correct all leaks (see <i>Checking Gas Connections</i> , pages 20 and 21) 2. Replace control valve
Gas odor during combustion	1. Gas leak. <b>See Warning statement above</b>	1. Locate and correct all leaks (see <i>Checking Gas Connections</i> , pages 20 and 21)
Dark residue on logs or inside of burner system	1. Improper log placement 2. Air holes at burner inlet blocked 3. Burner flame holes blocked	1. Properly locate logs (see <i>Installing Logs, Lava Rock, and Glowing Embers</i> , page 24) 2. Clean out air holes at burner inlets. Periodically repeat as needed 3. Remove blockage or replace burner

# SUN VALLEY STOVE COMPANY CAST IRON STOVE AND BURNER SYSTEM

## REPLACEMENT PARTS

*Note:* Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.

## PARTS UNDER WARRANTY

Contact authorized dealers of this product. If they can not supply original replacement part(s), call DESA International's Technical Service Department at 1-800-DESA LOG (1-800-337-2564).

When calling DESA International, have ready

- your name
- your address
- model and serial numbers of your burner system and stove
- how burner system or stove was malfunctioning
- type of gas used (propane/LP or natural gas)
- purchase date

Usually, we will ask you to return the defective part to the factory.

## PARTS NOT UNDER WARRANTY

Contact authorized dealers of this product. If they can not supply original replacement part(s), call DESA International's Parts Department at 1-800-972-7879 for referral information.

When calling DESA International, have ready

- model number of your burner system and stove
- the replacement part number

## TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact DESA International's Technical Service Department at 1-800-DESA LOG (1-800-337-2564).

You can also visit DESA International's technical service web site at [www.desatech.com](http://www.desatech.com).

## WIRING DIAGRAM

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

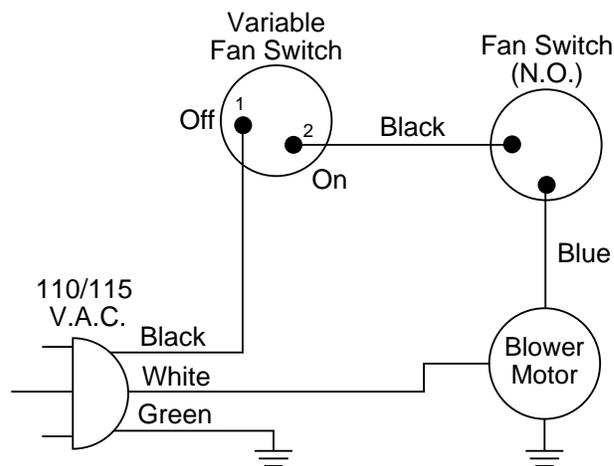


Figure 67 - Blower Wiring Diagram for Thermostat-Controlled Models

## SERVICE HINTS

### When Gas Pressure Is Too Low

- pilot will not stay lit
- burners will have delayed ignition
- burner system will not produce specified heat
- propane/LP gas supply might be low (propane/LP units only)

### When Gas Quality Is Bad

- pilot will not stay lit
- burners will produce flames and soot
- burner system will backfire when lit

If you feel your gas pressure is too low or gas quality is bad, contact your local natural or propane/LP gas supplier.

# OWNER'S MANUAL

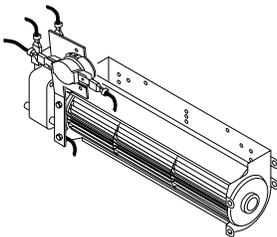
## SPECIFICATIONS

	MSTDVN	MSTDVP
	21,000-30,000 Btu/h	20,000-28,000 Btu/h
Gas Type	Natural	Propane/LP
Ignition	Piezo	Piezo
Manifold Pressure	3.5" w.c.	10.0" w.c.
Minimum Inlet Supply Pressure	4.5" w.c.	11.0" w.c.
Thermal Efficiency	70%	70%
Dimension, Inches/mm (HxWxD) Burner System*	27 3/4" x 28" x 18" 704.8 x 698.5 x 635mm	27 3/4" x 28" x 18" 704.8 x 698.5 x 635mm
Carton (Insert Only)	23 1/4" x 33 1/4" x 23 1/2" 590.5 x 844.5 x 596.9mm	23 1/4" x 33 1/4" x 23 1/2" 590.5 x 844.5 x 596.9mm
Weight, lbs/kg Stove and Burner System	70 lbs/31.8 kg	70 lbs/31.8 kg
Shipping	75 lbs/34 kg	75 lbs/34 kg

\* When installed in Sun Valley cast iron stove body (MC Series).

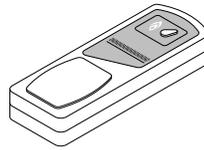
## ACCESSORIES

Purchase these stove and burner system accessories from your local dealer. If they can not supply these accessories, call Sun Valley Stove Company's Sales Department at 1-877-SUNVAL1 for information. You can also write to the address listed on the back page of this manual.



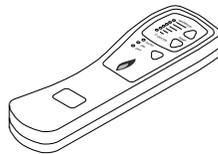
### THERMOSTATICALLY-CONTROLLED BLOWER KIT DA3610TA

Provides better heat distribution. Blower turns off and on automatically, as needed. Complete installation and operation instructions included in this manual.



### RECEIVER AND HAND-HELD REMOTE CONTROL KIT GHRCSERIES

For all models. Allows the burner system to be turned on and off conveniently.



### RECEIVER AND HAND-HELD THERMOSTAT REMOTE CONTROL KIT GHRCTASERIES

Allows the burner system to be operated in a manually or thermostatically-controlled mode. You can adjust your heat settings and turn the burner system on or off without leaving the comfort of your easy chair. (Requires part no. 103284-04 wire harness included with burner system.)

### WALL MOUNTED THERMOSTAT CONTROL KIT GWMT1 (Not Shown)

Allows easy wall access to the operation of your burner system. This will allow you thermostatic control with the convenience of a wall switch.

### WALL MOUNTED ON/OFF SWITCH - GWMS2 (Not Shown)

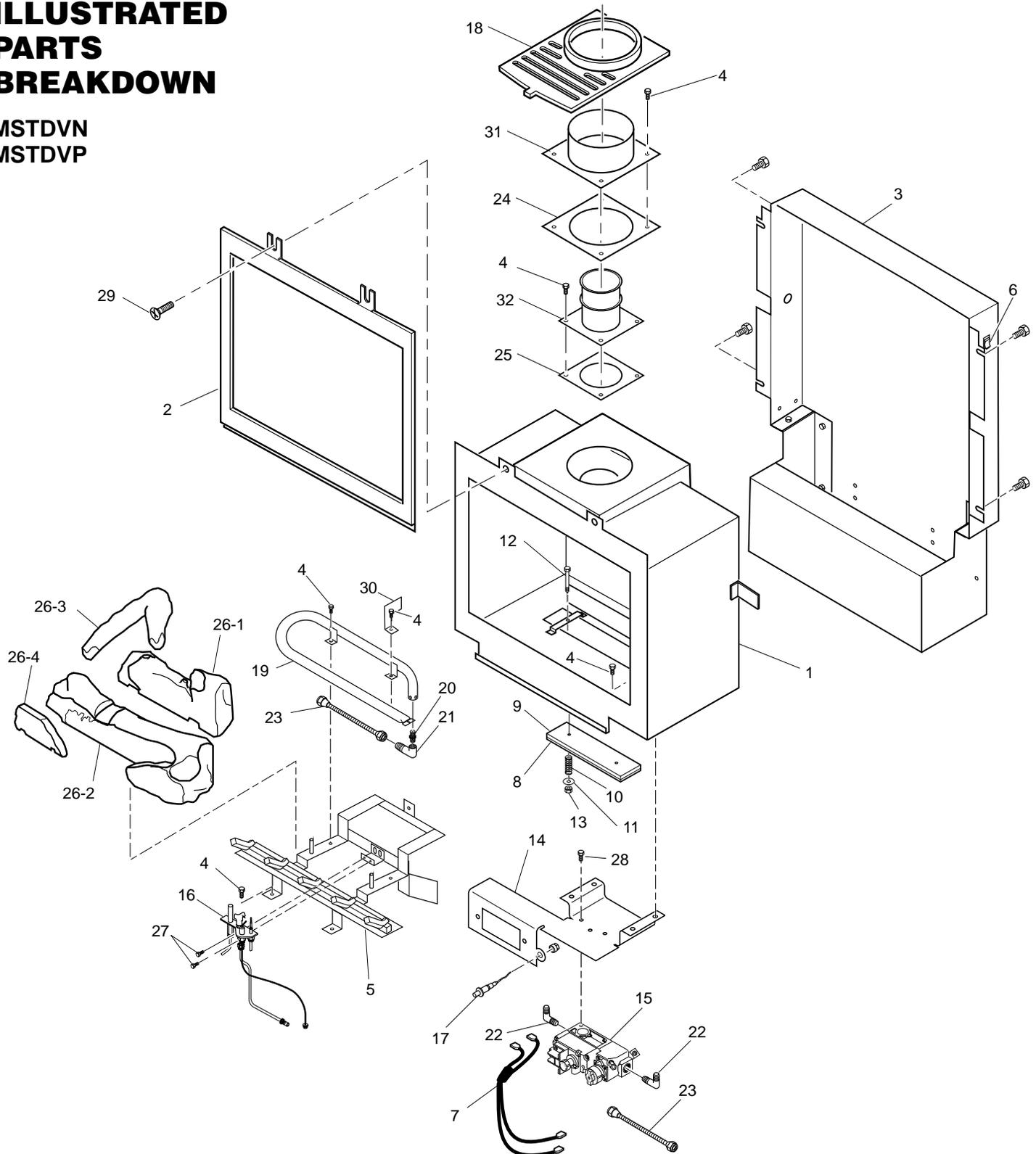
Allows burner system to be turned on and off with a wall switch.

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### ILLUSTRATED PARTS BREAKDOWN

MSTDVN  
MSTDVP



# OWNER'S MANUAL

## PARTS LIST

This list contains replaceable parts used in your burner system. When ordering parts, follow the instructions listed under *Replacement Parts* on page 32 of this manual.

MSTDVN  
MSTDVP

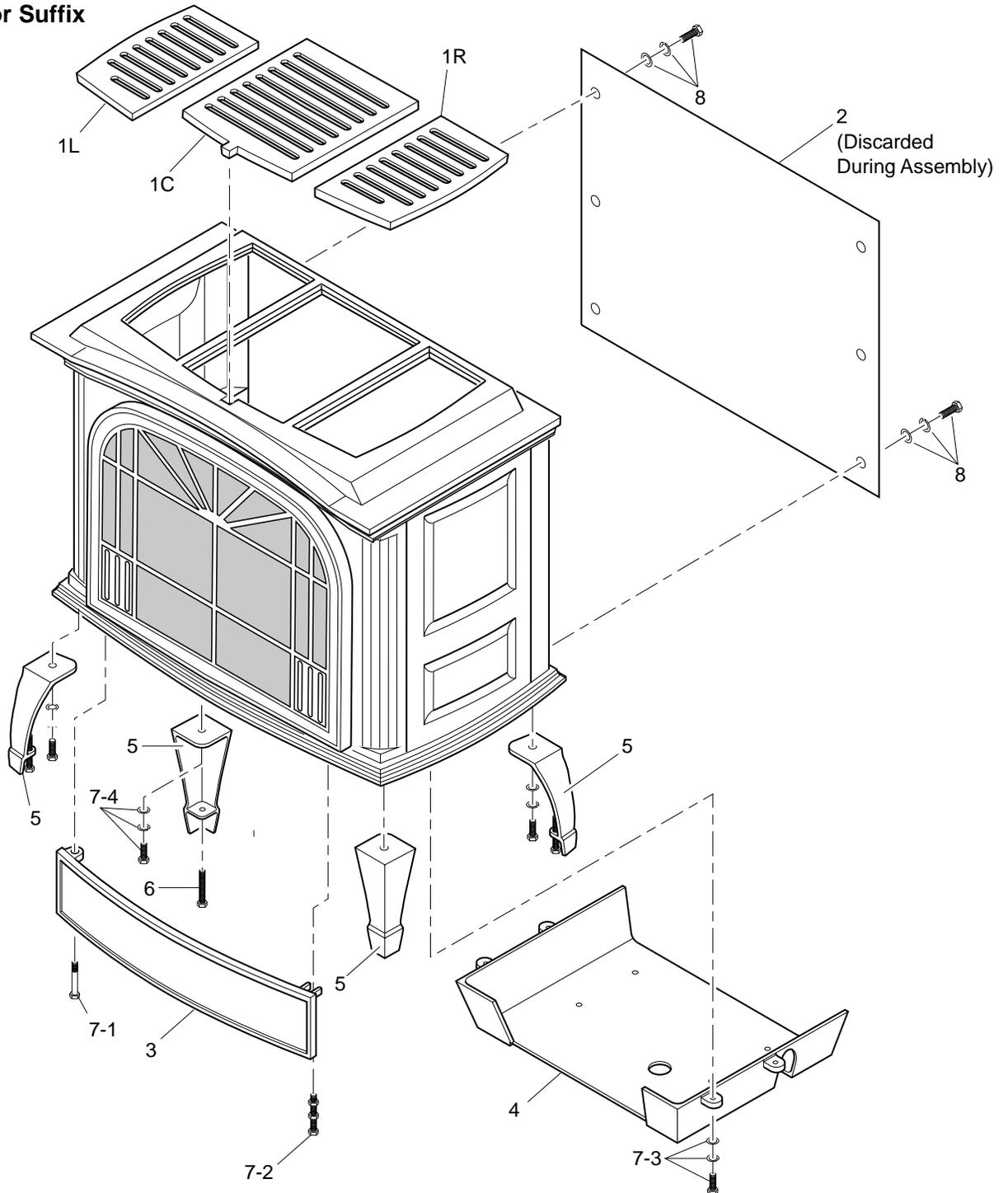
KEY NO.	PART NUMBER	DESCRIPTION	QTY.
1	106840-01	Firebox Assembly	1
2	106854-01	Glass Door Assembly	1
3	106859-01	Rear Cover	1
4	M11084-46	Screw, Hex	19
5	106794-01	Grate Assembly	1
6	099998-01	On/Off Switch	1
7	103284-07	Wire Harness	1
8	104491-01	Relief Cover	1
9	104518-01	Relief Cover Gasket	1
10	104527-01	Relief Spring	2
11	104528-01	Relief Washer	2
12	H5C4-20B	Hex Head Cap Screw	2
13	NTC-4C	Locknut	2
14	105468-01	Valve Bracket	1
15	105487-01	Valve, Natural	1
	105487-02	Valve, Propane/LP	1
16	105486-01	Pilot Assembly, Natural	1
	105486-02	Pilot Assembly, Propane/LP	1
17	102445-01	Ignitor, Piezo	1
18	107012-01	Center Cast Top Grate	1
19	106036-01	Burner, Natural	1
	106036-02	Burner, Propane/LP	1
20	104506-16	Orifice, Natural	1
	104506-17	Orifice, Propane/LP	1
21	104507-01	Brass Elbow	1
22	901063-01	Brass Elbow	2
23	101628-04	Flex Tubing	2
24	106865-01	6" Connector Gasket	1
25	106827-01	4" Connector Gasket	1
26	105491-01	Log Set	1
26-1	105774-01	Rear Log	1
26-2	105774-02	Front Log	1
26-3	105774-03	Crossover Log	1
26-4	105774-04	Log Piece	1
27	098304-03	Screw	2
28	M12461-50	Screw	3
29	M12461-65	Screw	2
30	105325-01	Air Deflector	1
31	107008-01	7" Outer Connector	1
32	107496-01	4" Inner Connector	1
<b>PARTS AVAILABLE - NOT SHOWN</b>			
	GA6060	Lava Rock	1
	104529-01	Ember Material	1
	M11084-26	Hex Screw for Blower Bracket	4

# SUN VALLEY STOVE COMPANY

## CAST IRON STOVE AND BURNER SYSTEM

### ILLUSTRATED PARTS BREAKDOWN

SUN VALLEY STOVE  
MC(\*) SERIES  
(\* Indicates Color Suffix  
Designation)



# OWNER'S MANUAL

## PARTS LIST SUN VALLEY STOVE MC(\*) SERIES (\* Indicates Color Suffix Designation)

This list contains replaceable parts used in your stove. When ordering parts, follow the instructions listed under *Replacement Parts* on page 32 of this manual.

KEY NO.	PART NO.	DESCRIPTION	QTY.
1C	104171-02	Top Grate with Screen (Center) (Black Only)	1
1L	104171-03	Top Grate with Screen (Left) (Black Only)	1
1R	104171-04	Top Grate with Screen (Right) (Black Only)	1
2	104172-02	Stove Back Panel (Black Only)	1
3	104173-10	Bottom Door (Metallic Black)	1
	104173-11	Bottom Door (Porcelain Enamel Black)	1
	104173-12	Bottom Door (Porcelain Enamel Navy)	1
	104173-13	Bottom Door (Porcelain Enamel Almond)	1
	104173-14	Bottom Door (Porcelain Enamel Green)	1
	104173-15	Bottom Door (Porcelain Enamel Red)	1
	4	104174-04	Stove Dropped Bottom
5	104175-10	One Leg (Metallic Black) (4 Total Per Stove)	1
	104175-11	One Leg (Porcelain Enamel Black) (4 Total Per Stove)	1
	104175-12	One Leg (Porcelain Enamel Navy) (4 Total Per Stove)	1
	104175-13	One Leg (Porcelain Enamel Almond) (4 Total Per Stove)	1
	104175-14	One Leg (Porcelain Enamel Green) (4 Total Per Stove)	1
	104175-15	One Leg (Porcelain Enamel Red) (4 Total Per Stove)	1
6	104176-01	Leg Leveler bolt M8 x 1.25 - 55mm Long (4 Total Per Stove)	1
7	104177-02	Hardware Kit	1
7-1	*	Door Hinge Step Bolt With Shoulder (1 Per Unit)	1
7-2	*	Door Catch Bolt M8 x 1.25 - 55mm Long With Two M8 Hex Nuts (1 Per Unit)	1
7-3	*	Bottom Floor Bolts M6 x 1 - 25mm Long With Flat Washer And Lock Washer (4 Per Unit)	1
7-4	*	Leg Bolts M6 x 1.25 - 20mm Long With Flat Washer And Lock Washer (4 Per Unit)	1
8	104178-01	Back Panel Bolts M6 x 1 - 20mm Long With Flat Washer And Lock Washer (6 Installed Per Unit)	1
<b>PARTS AVAILABLE — NOT SHOWN</b>			
	104108-06	Touch-up Spray Paint 12 oz Can (Metallic Black)	1
	104807-04	Touch-up Paint Bottle with Brush (Porcelain Enamel Black)	1
	104807-05	Touch-up Paint Bottle with Brush (Porcelain Enamel Navy)	1
	104807-06	Touch-up Paint Bottle with Brush (Porcelain Enamel Almond)	1
	104807-07	Touch-up Paint Bottle with Brush (Porcelain Enamel Green)	1
	104807-08	Touch-up Paint Bottle with Brush (Porcelain Enamel Red)	1
	106057-01	Back Panel Extension, Left (Included)	1
	106057-02	Back Panel Extension, Right (Included)	1
	104178-01	Back Panel Bolts M6 x 1 - 20mm Long With Flat Washer And Lock Washer (6 Installed Per Unit)	1

\* Included In Hardware Kit

# WARRANTY INFORMATION

## KEEP THIS WARRANTY

Model _____
Serial No. _____
Date Purchased _____

Always specify model and serial numbers when communicating with the factory.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty. We make no other warranty, expressed or implied.

### LIMITED WARRANTY DIRECT-VENT BURNER SYSTEM

DESA International warrants this product to be free from defects in materials and components for four (4) years from the date of first purchase, provided that the product has been properly installed, operated and maintained in accordance with all applicable instructions. To make a claim under this warranty the Bill of Sale or cancelled check must be presented.

This warranty is extended only to the original retail purchaser. This warranty covers the cost of part(s) required to restore this stove and burner system to proper operating condition and an allowance for labor when provided by a DESA Authorized Service Center. Warranty part(s) MUST be obtained through authorized dealers of this product and/or DESA International who will provide original factory replacement parts. Failure to use original factory replacement parts voids this warranty. The stove and burner system MUST be installed by a qualified installer in accordance with all local codes and instructions furnished with the unit.

This warranty does not apply to parts that are not in original condition because of normal wear and tear, or parts that fail or become damaged as a result of misuse, accidents, lack of proper maintenance or defects caused by improper installation. Travel, diagnostic cost, labor, transportation and any and all such other costs related to repairing a defective stove and burner system will be the responsibility of the owner.

TO THE FULL EXTENT ALLOWED BY THE LAW OF THE JURISDICTION THAT GOVERNS THE SALE OF THE PRODUCT; THIS EXPRESS WARRANTY EXCLUDES ANY AND ALL OTHER EXPRESSED WARRANTIES AND LIMITS THE DURATION OF ANY AND ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO FOUR (4) YEARS ON ALL COMPONENTS FROM THE DATE OF FIRST PURCHASE; AND DESA INTERNATIONAL'S LIABILITY IS HEREBY LIMITED TO THE PURCHASE PRICE OF THE PRODUCT AND DESA INTERNATIONAL SHALL NOT BE LIABLE FOR ANY OTHER DAMAGES WHATSOEVER INCLUDING INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow a limitation on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitation on implied warranties, or exclusion or limitation on damages may not apply to you.

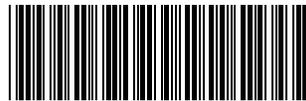
This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

For information about this warranty write:

**DESA**  
**INTERNATIONAL**  
2701 Industrial Drive  
P.O. Box 90004  
Bowling Green, KY 42102-9004  
[www.desatech.com](http://www.desatech.com)

or

**Sun Valley**  
**Stove Company**  
Div. MASDA Corporation  
Box D  
Whippany, NJ 07981  
[www.sunvalleystove.com](http://www.sunvalleystove.com)



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NOT A UPC

107280-01  
Rev. B  
09/00