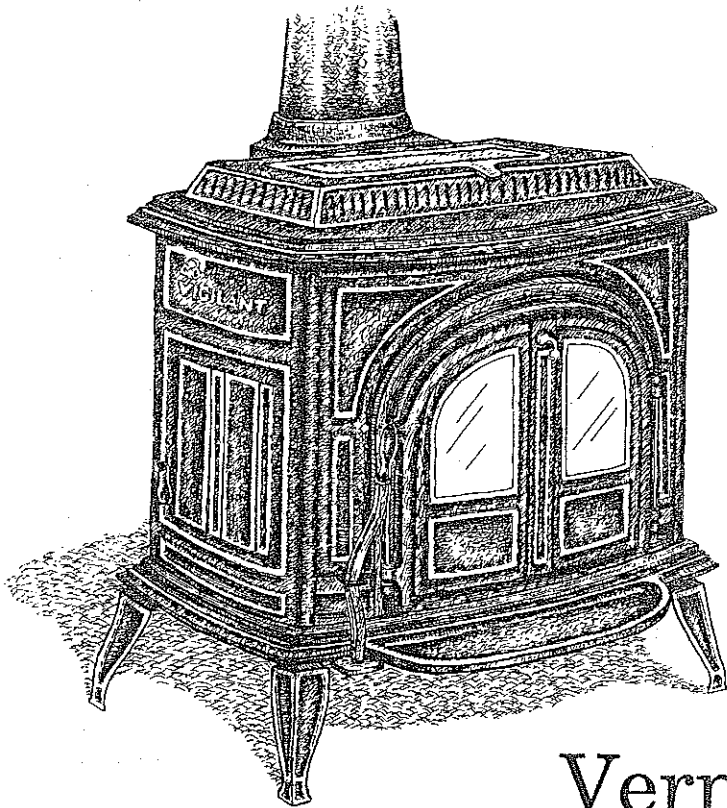


THE VIGILANT®
COAL STOVE



by
Vermont Castings

OWNER'S GUIDE

Installation, Operation, and Maintenance

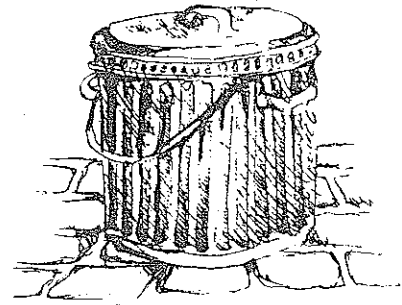
For Use in the U.S.A.

200-0901

DISPOSING OF ASHES

The ash disposal container should be made of metal, have a tight fitting lid which will keep air out and not blow off in the wind, and be located outdoors away from all combustible material. Ashes taken from an operating stove may continue to burn and generate heat and gases for many days after they are removed from the stove.

Dispose of ashes properly. Coal ashes should not be used in the garden, as they may contain unacceptable levels of toxic heavy metals, but they are excellent for de-icing and providing traction on slippery walkways.



MAINTENANCE

The fire must be out and the stove cool before starting stove maintenance. A strong light will be helpful as you inspect and maintain your stove.

We suggest you wear gloves and safety goggles when working on your stove.

Basics

CLEANING

CAST IRON: An occasional dusting with a dry rag is usually all that is necessary to keep your Vigilant looking new. From time to time, you may wish to go over the cast iron surface with a damp cloth; do this while the stove is cool, and make sure no water remains on the stove surface.

If your stove's paint needs retouching, allow the stove to cool completely. Brush any areas needing attention with a wire brush, and make sure the entire stove is clean and dry. Remove the griddle and set it aside. Touch up the stove with Vermont Castings High Temperature Stove Paint. Apply the paint sparingly. Two light coats are better than one heavy one.

PORCELAIN ENAMEL: Use a dry rag or soft brush as necessary. Do not use water or other liquids on your stove. Fingerprints usually can be buffed off porcelain enamel with a dry, soft rag. If marks remain, allow the stove to cool completely, then buff with a slightly damp, soft rag. Dry completely before starting a fire to avoid streaking. **NEVER USE ABRASIVES OR HARSH CHEMICAL CLEANERS ON THE PORCELAIN ENAMEL FINISH. THE ENAMEL MAY SCRATCH AND EXPOSE THE CAST IRON, WHICH CAN THEN STAIN OR RUST.**

If you must remove spills or stains from porcelain surfaces, make sure the fire is out and the stove is completely cold before cleaning. Use **ONLY** a kitchen appliance cleaner and polish especially formulated for

enamel surfaces. Apply cleaner sparingly with a soft rag, and buff away ALL traces of the cleaner.

THE DAMPER AREA

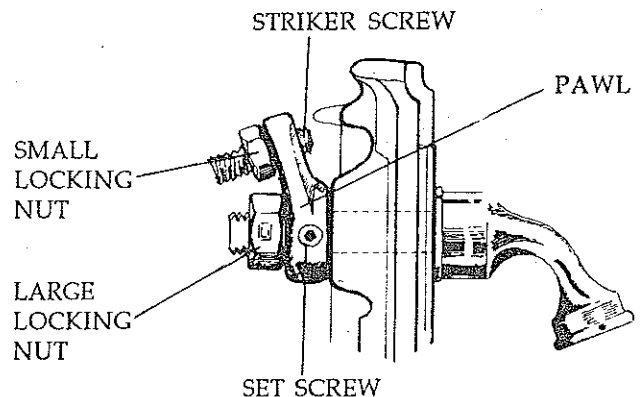
Clean the damper area to be sure the damper works smoothly and closes securely. When you close the damper it should make a sharp metal-against-metal sound. If it doesn't, clean the ridge on the underside of the top plate against which the damper closes.

THE AIR INLET SHUTTER

The air inlet shutter must open and close freely. If it doesn't, check to be sure the shutter or shutter pin is not bent.

THE DOOR LATCH

The front doors should be securely closed when the handle is pointing down. If the doors are loose when closed, adjust the latch by loosening the small locking nut, extending the striker screw one turn, and re-tightening the small locking nut. Keep making adjustments slowly until the setting is right. The handle should resist slightly as it is turned to the closed position, and the doors should pull in slightly.



Gaskets

The gaskets used in the assembly of your Vigilant Coal Stove play an important part in ensuring consistent, reliable performance. Inspection of the gaskets and replacement when necessary is an important part of routine maintenance. Gasketing is used to guarantee that the incoming air and outgoing combustion gases flow through the stove along the proper pathways. All the gaskets in your Vigilant are fiberglass, secured with Vermont Castings High Temperature Stove Gasket Cement.

Light colored streaks on the inside of the stove near the door or griddle openings may indicate air leaks due to worn or damaged gasketing. You may also check for leaks by shining a strong light along gasketed seams to see if light leaks through. While minor leaks may be repaired by building up the gasketing in just the area of the leak, it is usually better to replace the gasketing in the door or griddle.

Anytime you remove or replace parts is a good time to examine the exposed gasketing. Replace any gasket which appears frayed or worn. Pay particular attention to any point where a continuous gasket meets itself. Follow this procedure to replace worn gaskets:

- Remove the old gasketing.
- Clean the gasket channel or groove with a wire brush. Remove stubborn deposits of cement with a cold chisel if necessary.
- Clean all parts to be gasketed. Place on a level clean surface.
- Select the appropriate gasket. Your Vermont Castings Authorized Dealer carries a complete line of gaskets. Cut to the recommended length plus a 1" - 2" excess.
- Place an unbroken 1/8" bead of gasket cement in the channel or groove.
- Starting at one end, press the gasket into the channel. Where ends of the gasket meet, insure a good joint before trimming any excess. Do not overlap or leave ragged edges.
- If possible, place the gasketed part firmly against its normal mating surface to seat the gasket evenly in its channel or groove. Remove the gasketed part and clean away any excess gasket cement before placing the part aside to dry.

Clean-Out Access Covers

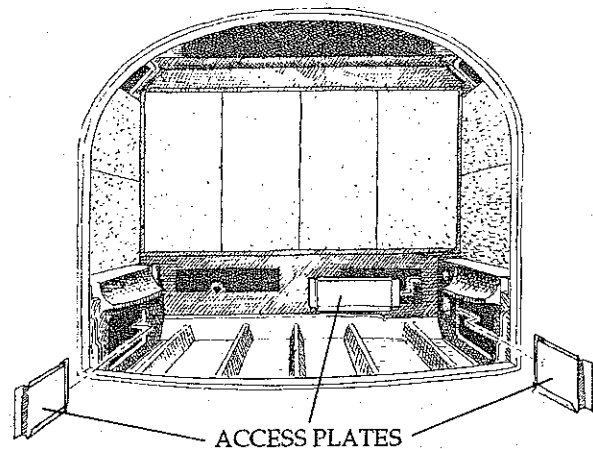
Remove the three clean-out access covers to clean behind the lower fireback, and the left and right side plates.

Slide the cover in the left side plate toward the back of the stove and pull it to the inside of the stove. Slide the cover in the lower fireback to the right, and the cover in the right side plate toward the front of the stove and then pull them into the stove.

Use a shop vac, or an old household vacuum (it will get dirty) to clean out the areas on the bottom of the

stove behind the side plates, and the lower fireback.

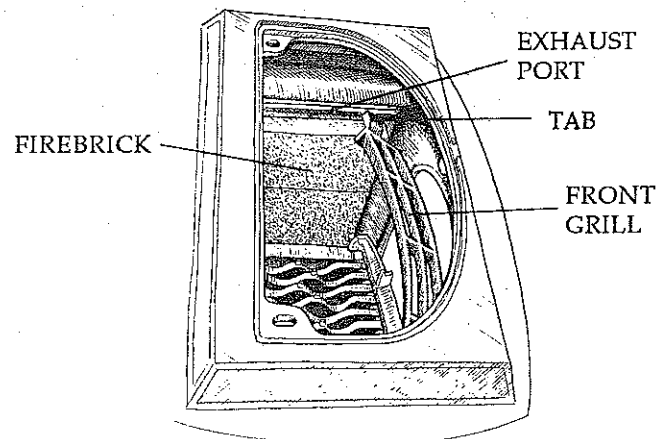
The three covers are identical. Always put the end of the cover with the longer offset into the clean-out opening first, then slide it so the end with the shorter offset end catches behind the cast iron. Put the longer end of the cover into the access opening in the left side plate and then slide it toward the front of the stove so the end with the shorter offset will be behind the iron. The cover in the lower fireback will be inserted into the opening and pushed to the left, and the cover in the right side plate will be inserted and pushed toward the back of the stove.



The Interior Parts

On occasion you may wish to remove the interior parts to clean unburned coal from the firebox, or to inspect or replace worn parts. Refer to the Exploded View to identify the various parts.

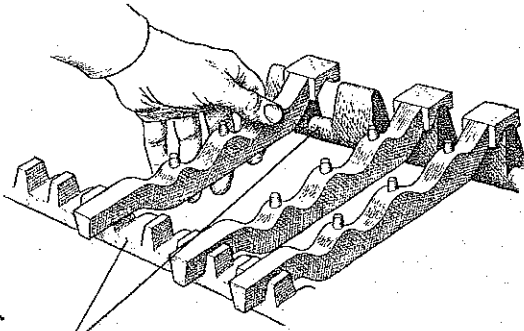
- Lift the Front Grill straight up so that you may direct the tabs on either side of the top of the grill into the exhaust ports at the top of the side plates. Slide the tabs of the grill backward and lift the grill to a horizontal position.



- Move one end of the grill forward and the other end backward so the tabs may be disengaged from the exhaust ports. Then lift the grill out through the griddle opening.

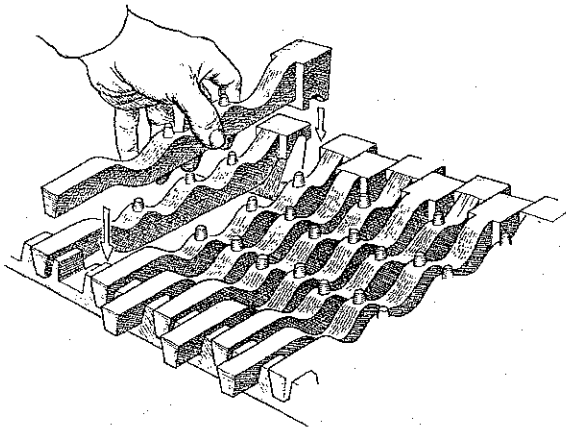
- Remove the side firebricks.
- Lift the Ash Fettle straight up and out of the stove.
- To remove or replace the Low Grates, pull the shaker handle away from the stove. The Grates may now be removed or replaced on the grate supports. To remove or replace the High Grates, push the shaker handle toward the stove. The Grates may now be removed or replaced on the grate supports. High Grates may be interchanged with each other, and Low Grates may be exchanged with each other also. If one grate shows excessive wear, swap it with another of the same kind.

PLACING THE LOW GRATES



GRATE
SUPPORTS

PLACING THE HIGH GRATES



Because access to the areas behind the side plates and lower fireback is possible through the three clean-out access covers, it usually will not be necessary to remove any other interior parts. Contact your local Vermont Castings Authorized Dealer or a Team Fireside Advisor for instructions if it is necessary to remove the remaining interior parts.

Re-Install the interior parts in this order:

- Low Grates
- High Grates
- Ash Fettle
- Side Firebricks
- Front Grill

The Glass

CLEANING

The Vigilant glass system is designed so that during normal stove operation you may enjoy the view of the fire for extended periods without cleaning the glass. However, the ash residue which accumulates on the glass surface should be removed regularly to prevent etching. To clean the glass, follow this procedure:

- Let the stove and glass cool completely.
- Wash the glass with warm water, and a soft paper towel or rag.
- Rinse and dry thoroughly.

NEVER USE ABRASIVES, ASHES, OR HARSH CHEMICALS TO CLEAN YOUR VIGILANT COAL STOVE GLASS DOORS.

For stubborn deposits use a ceramic glass cleaner available from your local Vermont Castings Authorized Dealer. Do not allow the cleaner to touch any brass ornamentation or porcelain finish on the stove.

REPLACEMENT

The ceramic glass used in your Vigilant is specially designed to withstand high temperatures. Although it is very durable, handle it carefully. It may chip if dropped against a hard surface, if struck with a hard object, or if the doors are carelessly slammed shut.

If it should be necessary to replace the glass, use only high temperature ceramic glass supplied by Vermont Castings. Do not use substitutes.

Do not operate your stove if glass panes installed in the doors are broken.

To remove or replace the glass, follow this procedure:

1. Place the door, interior side up, on a level work surface.
2. Remove the two retainer clips. Carefully remove the old glass.
3. Examine the gasketing. Worn gasketing should be replaced. Remove the old gasketing. Cut new gasketing to fit around the sides and top of the window opening. Secure the new gasketing in place with a thin bead of gasket cement.
4. Set the glass in place in the door so there is a gap about the thickness of a nickel between the bottom of the glass and the horizontal ridge just below the window opening.
5. Position the two retainer clips on the door with openings in the retainer lining up with the screw holes in the door. A round hole in the retainer will line up with the upper screw hole in the door. A slot in the retainer will line up with the lower screw hole in the door. The section of the retainer which is at an angle with the main section should point downward toward the glass.

6. Reinstall the retainer screws; do not overtighten.

The Chimney System

For safety, good performance and to protect your chimney and chimney connector, inspect your chimney and chimney connector on a regular schedule, and clean the system if necessary. We suggest you inspect the system every two weeks when you first start burning your stove. Your experience maintaining the stove and chimney system may show that inspections every two weeks are not necessary, but be sure to inspect at least every two months.

When the stove is burning, some of the gases which are products of combustion combine with moisture to form combustible deposits on walls of stove, chimney

connectors and chimneys. If these deposits are ignited, a very hot fire can result.

When coal is burned, very small, solid particles (fly ash) are carried from the fuel bed by draft in the chimney. While these particles are non-combustible, they may accumulate enough to reduce the size of the chimney connector and chimney, and restrict draft. This will affect stove performance, and is a potentially hazardous situation. (See Safety Tips). Reduce the risk of restricting draft by keeping the system clean.

In addition, fly ash contains an acid which, when combined with moisture, can cause rapid deterioration of metal or tile chimney walls.

The Maintenance Guidelines given below will help you develop a schedule that works for you. Once you have developed a maintenance schedule, stick to it.

Stove

DAILY:

- Ashes should be removed before the ashes reach the top of the ashpan. Check at least once a day. A build up of ashes under the grates will not only restrict the supply of air going to the fire, but may contribute to overheating the grates, causing them to warp.

TWO WEEKS:

- Inspect the stove interior air ports and passageways; look for fly ash or coal that might block either incoming or outgoing gases.

TWO MONTHS:

- Check handles and latches to be sure that they are working properly. If gasketing becomes compressed over time, adjust the latch.

YEARLY SPRING CLEANING:

- Check the grates and gasketing for wear; replace gasketing if necessary.
- Remove ashes and place a desiccant in the ashpan to absorb moisture from the air.
- Clean dust off the bottom heat shield so it retains its heat-reflective value.
- Tighten the leg bolts and bottom heat shield assembly.
- Paint the stove when necessary.

Chimney and Chimney Connector

TWO WEEKS:

- Inspect chimney connector and chimney. Clean if necessary.

TWO MONTHS:

- Brush out fly ash or soot that may have been deposited in the chimney connector, particularly in horizontal runs or in elbows.

YEARLY SPRING CLEANING:

- Thoroughly brush the chimney and connector to remove all fly ash.
- Inspect the chimney and chimney connector for any signs of deterioration. Have a professional mason repair the chimney. Replace chimney connector sections if any appear to be corroded.

INSTALLATION

Codes and Listings

Conforming to local building codes will be an important part of your planning. Local authorities make the final decision on whether or not an installation will be approved. They need to know that your installation is safe and meets local codes.

The metal label permanently attached to every Vermont Castings stove indicates that the stove has been tested to current UL or ULC standards, and gives the name of the testing laboratory. Clearance and installation information is also printed on the label. In most cases, local authorities will accept the label as evidence that, when the stove is installed according to the information on the label and in this manual, the installation meets codes and can be approved.

However, codes vary in different areas. Be sure to review your installation plans with your local authority before starting the installation. Check with your local Vermont Castings Authorized Dealer for help in providing the necessary information to local officials.

This section will answer clearance and construction questions for almost all installations. Your local Vermont Castings Authorized Dealer will also be able to help. For questions left unanswered, we recommend that you refer to the National Fire Protection Association ANSI/NFPA 211-1988 Standard for Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances, or in Canada, CSA B365. These standards are the basis for many national codes.

Remember, your local building official makes the final decision on approvals of installations.

Chimneys and Draft

BASICS

Understanding how your chimney contributes to stove operation is essential if you are to obtain optimum performance from your Vigilant Coal Stove. The chimney provides a safe pathway for hot smoke and exhaust gases to exit from the stove, but in addition, the chimney strongly influences the "draft" necessary for operation of your stove.

Draft is the force which produces a flow of warm gases up and out of the chimney, and draws fresh combustion air into the stove. Your Vigilant does not come equipped with "draft". Draft is the result of a difference in weight (due largely to a difference in temperature) between the gases inside the chimney, and gases outside the chimney. Because gas expands when heated, warm gases inside the chimney weigh less than cool gases outside. This weight difference creates the pressure necessary to produce and sustain draft.

As the lighter, more buoyant gases rise up the

chimney, draft causes a flow of cooler air into the stove. When starting a fire in a cold stove on an unheated chimney, it may be necessary to provide some assistance by igniting several sheets of crumpled newspaper which have been placed in the flue collar area.

There are other factors which influence draft, such as barometric pressure, wind speed and direction, the height, configuration and size of the chimney, and the airtightness of the home itself.

OUTSIDE AIR

In some modern, super-insulated homes, the air necessary for combustion is inadequate due to restricted air infiltration into the dwelling. (Infiltrated air is simply that air which finds its way into a home through various cracks and openings in the foundation, along windows and doors, and at other non-weathertight areas.) If the stove is competing with kitchen or bath exhaust fans for available air, the situation is aggravated further. Where poor draft is the result of a low infiltration rate, opening a ground floor window in the vicinity of the stove, or installing a permanent outside air supply, will often alleviate the problem.

In some areas, bringing air for combustion from outside the home directly to the air inlet of the stove is required for new construction. When the air supply for the fire is brought directly from the outside, it is not affected by variations in air pressure within the house. Improved stove performance often results. An Outside Air Adaptor Kit is available from your local Vermont Castings Authorized Dealer.

EFFECTS ON STOVE OPERATION

A strong draft will allow you to successfully fine-tune the Vigilant's performance by adjusting the primary air supply to determine the rate of combustion and heat output. With a strong draft, you can restrict the primary air supply and lower the heat output without risk of suffocating the fire.

A strong draft will be maintained by operating your stove so that combustion gases entering the chimney are hot, and stay hot. Air must not be allowed to enter the chimney without first having passed through the stove. Make sure that clean-out doors and thimbles are sealed tightly, and that the chimney is structurally sound.

Weak draft situations are characterized by smoking and odor problems in the house, low heat output, and difficulty maintaining a fire, especially at low thermostat settings. The reverse situation, overdraft, is rare, but can be recognized by short burn time, poor response when trying to slow down the fire, or by any part of the stove glowing red. (The more common cause of overdraft symptoms, however, is poor maintenance. Following recommended maintenance procedures will ensure

consistent stove performance.)

Following the stove manufacturer's recommendation on both chimney size and height will also help ensure adequate chimney flow capacity. Flow capacity measures the ability of the chimney to evacuate combustion gases quickly. Even the strongest draft cannot overcome an insufficient flow capacity; the result is a back up of combustion gases in the chimney which forces smoke out of chimney connector joints or the stove itself. Remember, the Vigilant and the chimney must function as a unit. For optimum performance, they must be sized properly for each other. Your Vermont Castings Authorized Dealer can help you assess your existing chimney or plan a new one for best stove operation.

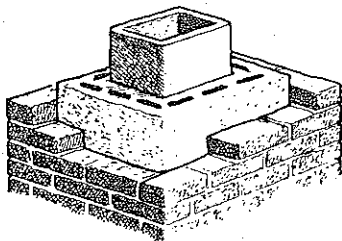
CHIMNEY GUIDELINES

NEW CHIMNEYS

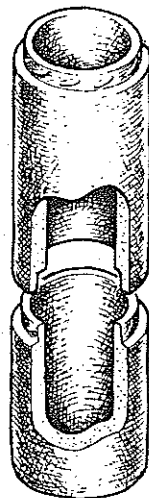
Both masonry and prefabricated metal chimneys work well. A new masonry chimney should be constructed to conform to the standards of your local building code or a recognized national code. Masonry chimneys must be lined with code-approved masonry or pre-cast refractory tiles, stainless steel pipe suitable for use with coal, or a code-approved poured-in-place liner. The chimney must have a tight sealing clean-out door.

A new prefabricated metal chimney should be one tested and listed for use with solid-fuel burning appliances to the High-Temperature (H.T.) Chimney Standard UL-

TILE LINED MASONRY CHIMNEY



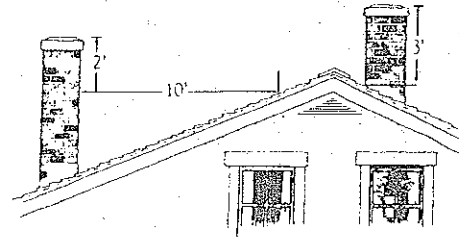
PREFABRICATED DOUBLE-WALL INSULATED CHIMNEY



103-1985 (2100° F.) and have interior walls especially designed for use with coal-burning stoves.

The chimney should extend at least 3 feet above the highest point where it passes through a roof, and at least 2 feet higher than any portion of a building within 10 feet.

For proper draft and good performance, any chimney used with a Vermont Castings wood or coal burning stove should extend at least 16 feet above the flue collar of the stove.



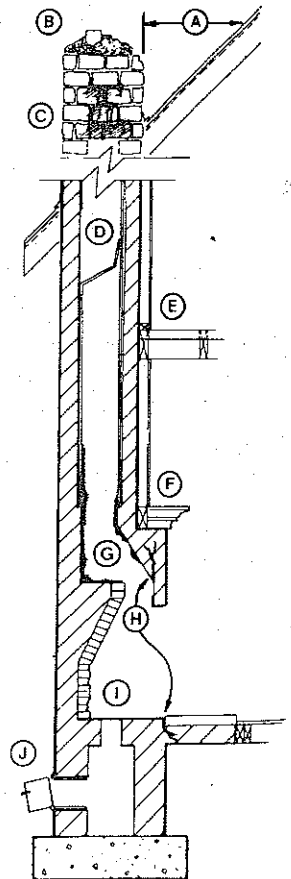
EXISTING CHIMNEYS

An existing masonry chimney may work well, but be sure to have it carefully inspected before using it. Defects may have gone unnoticed if the chimney previously was used only occasionally. Defects must be repaired before the chimney is used with your stove. If you are not sure that you can make the inspection yourself, your local professional chimney sweep, building inspector, or fire inspector will be able to make the inspection or direct you to someone who can.

The chimney should be thoroughly cleaned before being used with your stove.

First, check to see that the chimney has a lining. Do not use an unlined chimney. Your local Vermont Castings Authorized Dealer or chimney sweep can help you with information about approved chimney lining systems. In addition, look for and repair (if necessary) these defects:

- A. Improper chimney height and roof clearance; check local building codes for proper construction.
- B. Chimney cap deterioration; rebuild.
- C. Creosote stains indicate flue damage; inspect and repair.
- D. Blockage within flue; remove.
- E. Improper clearance between chimney and combustible materials. Generally, a clearance of 2" (50 mm.) is required to all combustible walls and framing members; check local codes.
- F. Improper clearance between smoke chamber and adjacent framing members; check local codes.
- G. Creosote accumulation; chimney needs thorough cleaning.
- H. Structural deterioration of the fireplace; must be repaired before use.
- I. Loose or broken bricks or mortar; replace and remortar.
- J. Loose or broken clean-out door; repair or replace.



Existing masonry chimneys, especially older ones, may have two or more openings through the chimney walls to

the same flue. The openings were used to connect stoves in different rooms to the chimney. The unused openings must be sealed with masonry to the thickness of the chimney wall. Unused openings sealed with pie plates or wallpaper are a hazard. In the event of a chimney fire, flames and smoke may be forced out of these unused thimbles.

DO NOT CONNECT YOUR STOVE OR INSERT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

CHIMNEY SIZE

The Vermont Castings Vigilant Coal Stove is designed to perform well when vented through flues which have these dimensions:

MASONRY:

Square Liner	8" x 8" (nominal)
Rectangular Liner	8" x 12" (nominal)
Round Liner	8" (inside dimensions)

PREFABRICATED:

Round Liner	8" (inside dimension)
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Chimneys with liners larger than 8" x 12" may experience rapid cooling of combustion gases and reduction in draft, especially if they are located outside the home. These large chimneys may need to be insulated or the flues re-lined for good stove performance. Vermont Castings offers chimney lining accessories to help make the connection between stainless steel chimney liners and our stoves and fireplaces.

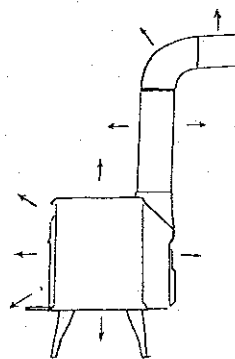
If you are planning to vent a small stove into a large flue, particularly an exterior masonry one, you may find it necessary to insulate the chimney, reline the chimney, or operate the stove with the damper open to maintain high flue temperatures.

Clearances

Your stove and chimney connector will radiate energy in all directions when in operation. An important part of planning a safe installation is to be sure combustible materials near your stove do not overheat due to inadequate clearance.

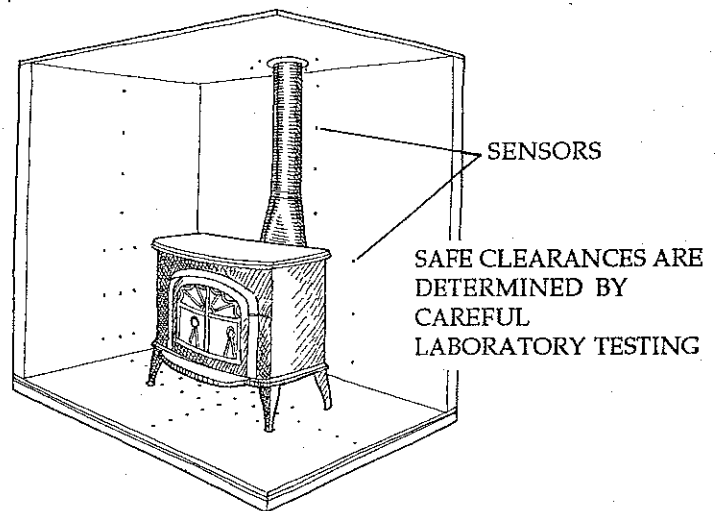
Clearance is the distance between your stove (or chimney connector) and nearby walls, ceiling, and floors, as well as other combustible materials. Correct clearance must also be maintained to moveable items, such as furniture, newspapers, or clothes left to dry near the stove. Installing your Vigilant to the tested clearance and keeping those clearance areas empty assures that nearby surfaces will not overheat.

Clearances must be large enough so that furniture and



other combustibles near your stove will not overheat and catch fire. Wood framing that is part of a wall or floor will dry as it ages, and its ignition point (the temperature at which it will start to burn) will be lowered. The change may take place slowly over a period of many years, or more quickly if the wood is near a source of heat such as a stove.

Your Vermont Castings Vigilant Coal Stove has been carefully and thoroughly tested by independent testing laboratories to determine safe clearances. During testing, heat sensors installed in all surfaces near the stove and chimney connector, including floors and ceilings, show the temperatures reached during a variety of combustion situations. Clearance distances are accepted only when the sensors show the stove is far enough from nearby surfaces to meet strict UL or ULC standards.



USING THE CLEARANCE CHART

Separate tests are done for parallel and corner installations, for installations using stove and chimney connector heat shields, and for installations using ventilated wall shields. If your stove will be parallel to the wall behind it (parallel installation), use the columns of the chart labelled "side" and "rear". If your stove will be installed in a corner (corner installation), use the columns labelled "corner". Your stove will be in either a parallel or a corner installation, not both. Use only the part of the chart that applies to your installation. Note: Side clearances do not apply to corner installations.

Measure clearance between the edge of the stove's top plate and the nearby combustible surface. For most common installations, when the stove has the proper clearance from nearby surfaces, the chimney connector will also have the proper clearance. However, installations vary. It is important to double check all installations for proper chimney connector clearance, as well as stove clearance.

The clearance distance must be empty except for non-combustible heat shields. Air flowing between the stove (and/or chimney connector) and nearby shields carries away heat. Do not block the air flow by filling this empty space with any insulating material.

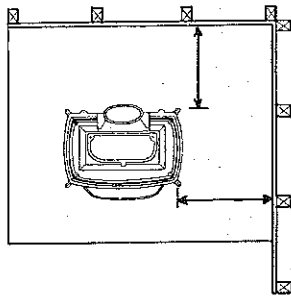
Vigilant™ Coal Stove Clearance Chart

STOVE CLEARANCE	Unprotected Surfaces			Protected Surfaces		
	PARALLEL INSTALLATION		CORNER INSTALLATION	PARALLEL INSTALLATION		CORNER INSTALLATION
	Side	Rear	Corner	Side	Rear	Corner
No Heat Shields	36"	36"	36"	14"	10"	14"
Top Exit, Rear H.S. only	36"	25"	18"	14"	10"	14"
Rear Exit, Rear H.S. only	36"	10"	18"	14"	6"	14"
Top Exit, Rear & Connector Heat Shields, ¹	36"	10"	18"	14"	6"	10"
CHIMNEY CONNECTOR CLEARANCE	ALL INSTALLATIONS			ALL INSTALLATIONS		
No Heat Shields				7"		
Connector Heat Shields				4"		
FRONT CLEARANCE TO COMBUSTIBLES	ALL INSTALLATIONS					
	48"					

¹Shielding for a top exit stove must include a chimney connector shield cut to protect the area behind the flue collar.

PARALLEL INSTALLATION

MEASURING CLEARANCES



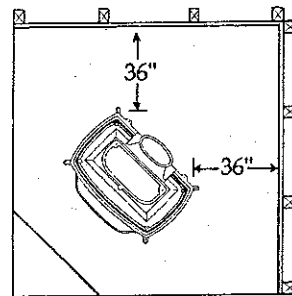
...WITH NO HEAT SHIELDS

If the Vigilant is installed parallel to the rear wall (parallel installation) and no shields are used, the stove must be at least 36" from the wall behind it, and at least 36" from walls beside it.

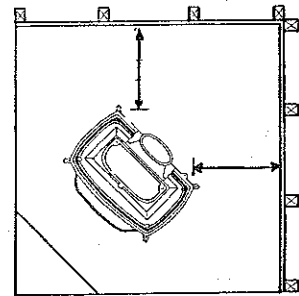
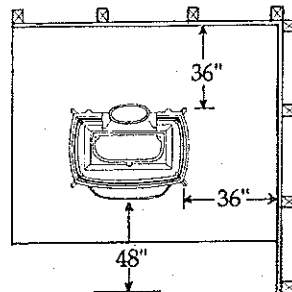
If the Vigilant is installed in a corner (corner installation) and no shields are used, the corners of the stove must be at least 36" from nearby walls.

Measure these distances from the edge of the top plate of the stove nearest the wall to the combustible part of the wall.

CORNER INSTALLATION — CLEARANCES WITHOUT HEAT SHIELDS



PARALLEL INSTALLATION — CLEARANCES WITHOUT HEAT SHIELDS



CORNER INSTALLATION

MEASURING CLEARANCES

ALWAYS MEASURE PERPENDICULAR TO THE WALL

Clearance Reductions

When no shields are used, empty space alone provides protection against overheating. When shields are used, it is usually possible to reduce the required clearance, as the shields offer additional protection.

Shields may be attached directly to the stove and/or chimney connector, or they may be fitted to the nearby wall surfaces, or a variety of different type shields may be used together.

When shields are attached to the stove or chimney connector, they are mounted 1" - 2" away from the stove or connector surface on non-combustible spacers. The shiny shield surface facing the heat source must be left unpainted, enabling it to reflect heat back towards the stove or connector and away from the wall.

The greatest clearance reductions result from using both stove and chimney connector shields in conjunction with wall shields.

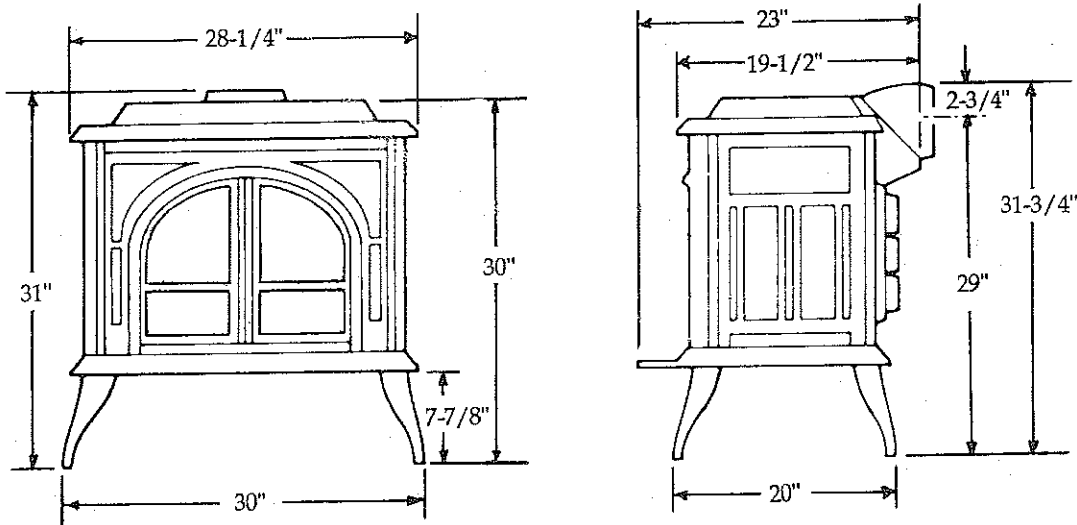
Welcome

As a Vermont Castings' stove owner, you join a growing community dedicated to using alternate energy sources. Your Vigilant Coal Stove is designed so you can enjoy the advantages of burning anthracite, or hard coal, a clean burning and low volatile fuel.

Whether or not this is your first experience with coal, you are assured of our continued support and guidance to help you gain the maximum benefit and enjoyment from your new stove. This special relationship is extended to you through our Vermont Castings Authorized Dealers, and our Vermont based Team Fireside Advisors, who are well versed in every aspect of heating with coal.

It has always been the philosophy at Vermont Castings to maintain direct contact with our customers. We hope to learn as much from you as you learn from us. If problems do occur, we can draw on the experience of thousands of stove owners to help you. Very few manufacturers have this advantage, an advantage which becomes yours when you purchase your Vermont Castings stove.

SPECIFICATIONS INCLUDE DIMENSIONS FOR PLANNING PURPOSES ONLY. BEFORE BEGINNING YOUR INSTALLATION, CONSULT YOUR VERMONT CASTINGS AUTHORIZED DEALER OR CALL TEAM FIRESIDE AT 1-800-22-STOVE (1-800-227-8683) FOR FINAL SPECIFICATIONS.



VIGILANT® COAL STOVE SPECIFICATION CHART

Maximum Heat Output*	50,000 BTU/hr.	Glass Panel	High-temperature ceramic, 5 mm. thick
Area Heated**	up to 2000 sq. ft.	Weight	425 lbs.
Size & Type of Fuel	Stove, pea, or nut anthracite	Width (leg to leg)	30"
Fuel Capacity	45 lbs.	Depth (leg to leg)	20"
Loading	Top	Height to top of flue collar:	
Chimney Connector	8" diameter	with regular legs	31" - top exit
Chimney Flue Size	8" (50 sq. in. minimum)		31-3/4" - rear exit
Flue Exit Position	Reversible, top or rear (oval)	with short legs	27" - top exit
Primary Air	Manually set, thermostatically maintained		27-3/4" - rear exit

*This value can vary depending on how the unit is operated, and the type and moisture content of the fuel used. Figure shown is based on maximum fuel consumption obtained under laboratory conditions and on average efficiencies.

**These values are based on operation in building-code conforming homes under typical winter climate conditions in New England. If your home is of non-standard construction (e.g., unusually well-insulated, not insulated, built underground, etc.) or if you live in a more severe or more temperate climate, these figures may not apply. Since so many variables affect performance, consult your Vermont Castings Authorized Dealer to determine realistic expectations for your home.

...WITH STOVE HEAT SHIELD ONLY

If you install a Vigilant with a rear heat shield in a parallel installation, but use no chimney-connector heat shields, different clearances will be required for top-exiting and rear-exiting stoves.

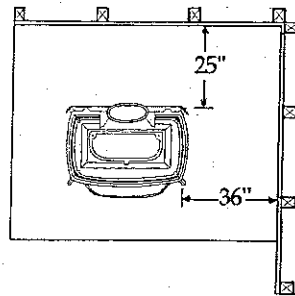
For top-exiting stoves, clearance to the rear wall is determined by heat from the unshielded chimney connector, not heat from the stove. Stove placement must ensure that the unshielded connector can not overheat the rear wall. Rear clearance must be a minimum of 25", measured from the edge of the stove top to the rear wall.

Side clearance is determined by heat from the stove. It must be a minimum of 36", measured from the edge of the stove top to the combustible component of the unprotected wall.

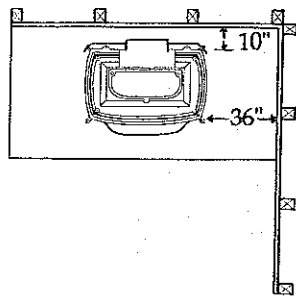
For rear-exiting stoves, both rear and side clearances are determined by the heat from the stove (provided that the connector does not pass near a combustible surface).

The rear heat shield protects the wall behind the stove so that clearance may be reduced to 10", measured from the rear edge of the stove's top plate to the combustible part of the wall. Side clearance remains the same — 36", measured from the edge of the stove top to the side wall.

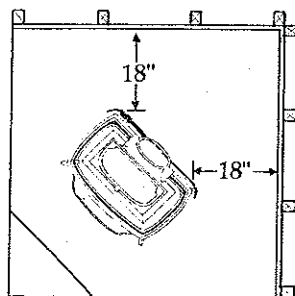
PARALLEL INSTALLATION
Rear Heat Shield Only, Top Exit



PARALLEL INSTALLATION
Rear Heat Shield Only, Rear Exit



CORNER INSTALLATION
Rear Heat Shield Only, Top Exit

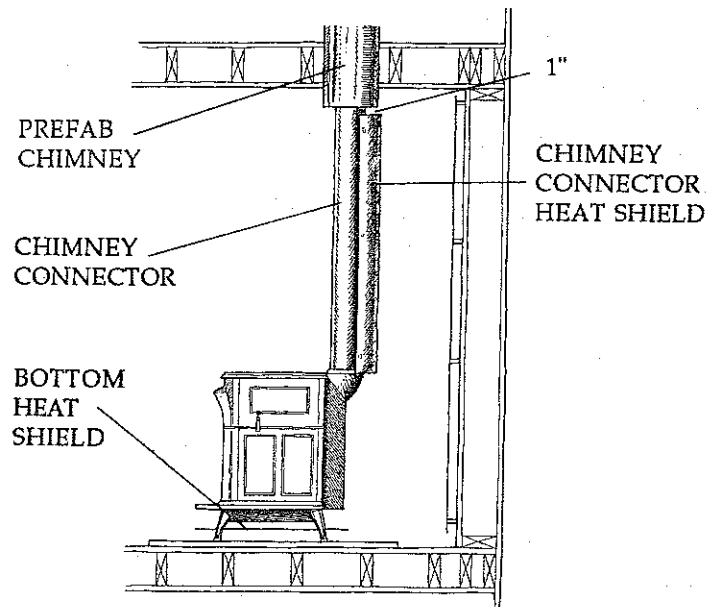


For corner installations, use of a rear heat shield reduces the clearance to 18", measured from the corners of the stove perpendicular to the wall.

...WITH CHIMNEY CONNECTOR HEAT SHIELDS ONLY

The Vigilant Coal Stove listing is for installations using single-wall chimney connectors. The rows of the clearance chart labelled "Chimney Connector Clearance" give clearances measured from the chimney connector to nearby walls and ceilings. ("Ceilings" is underlined to remind you that ceiling clearance is an important clearance that is sometimes overlooked.) Be sure to double-check chimney connector clearances before completing your installation.

When using a chimney connector heat shield on the section of connector attached to the flue collar, a shield cut-out is necessary for proper installation. The cut-out allows the connector shield to protect the area behind the flue collar. Instructions are included with the chimney connector heat shield. Where chimney connector goes straight up to a prefabricated chimney, the shield must extend to within 1" of the first chimney section.



WARNING:

DO NOT USE DOUBLE-WALL CHIMNEY CONNECTORS WITH THE VIGILANT COAL STOVE, UNLESS THEY HAVE BEEN SPECIFICALLY TESTED AND LISTED FOR USE WITH THIS APPLIANCE. USE OF DOUBLE-WALL CHIMNEY CONNECTORS WHICH HAVE NOT BEEN TESTED AND LISTED FOR USE WITH THE VIGILANT COAL STOVE MAY RESULT IN TEMPERATURES EXCEEDING THE LIMITS ESTABLISHED BY THE TEST STANDARD ANSI/UL-1482. A POTENTIAL HAZARD MAY RESULT, INCLUDING A HOUSE FIRE.

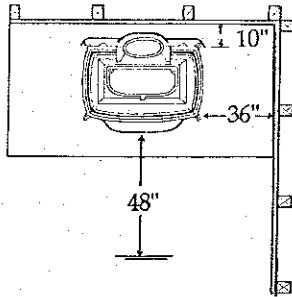
SEE YOUR VERMONT CASTINGS AUTHORIZED DEALER FOR INFORMATION ON DOUBLE-WALL CONNECTORS WHICH HAVE BEEN SUCCESSFULLY TESTED AND LISTED FOR USE WITH THE VIGILANT.

...WITH STOVE AND CHIMNEY CONNECTOR HEAT SHIELDS

Use of both stove and chimney connector heat shields reduces the required clearance further as shown on line 4 of the clearance chart.

PARALLEL INSTALLATION

Rear and Connector Heat Shields, Top Exit



...WITH WALL SHIELDS

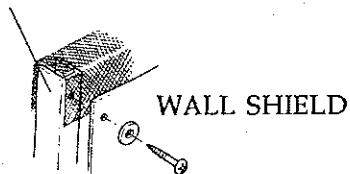
A properly constructed wall shield may be used to transform a standard wall into a protected wall, allowing installation to the clearances on the right half of the Clearance Chart.

Wall shields should be constructed of 24 gauge or heavier sheetmetal, 1/2" noncombustible insulation board, or common brick laid on flat (3-1/2" side down). Shields must be spaced out from the combustible wall or ceiling 1" on noncombustible spacers. The spacers should not be directly behind the stove or chimney connector.

Air must be able to flow between the wall and the shield. At least one-half (50%) of the bottom 1" of the shield should be open and the shield must stop 1" from the ceiling. Protect the top opening with metal screening to prevent objects from falling behind the shield.

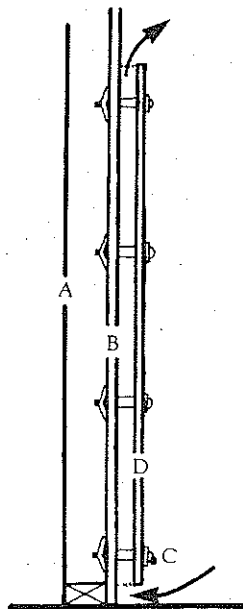
Rear wall shields must extend 18" above the top of the stove or to within 1" of the ceiling, be 64" wide and

METAL LATH ON NON-COMBUSTIBLE SPACERS



WALL SHIELD

- A. STUD WALL FRAMING
- B. SHEETROCK
- C. SCREWS AND NON-COMBUSTIBLE SPACERS
- D. WALL SHIELD



centered behind the stove. Side shields must extend 18" in back of the stove, measured from the back corner of the top plate (unless this distance has already been reduced by a rear stove or wall shield). It must be 18" above the top of the stove or to within 1" of the ceiling, and must extend 30" in front of the stove. If both rear and side wall shields are used, they must butt together at the corner. Shields behind or to the side of chimney connectors must be 34" wide, centered behind the pipe, and must extend to cover any combustibles along the length of the connector, stopping 1" from the ceiling.

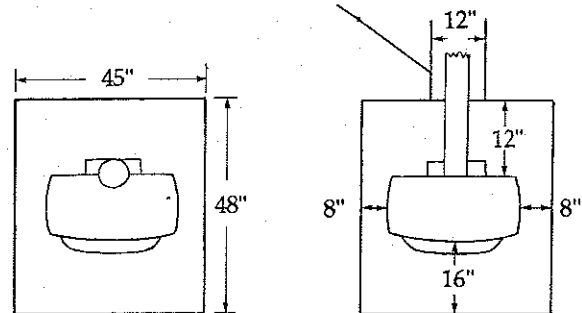
Floor Protection

FREE-STANDING INSTALLATIONS

A stove installed on a combustible floor must first be placed on a non-combustible floor protector. Every floor, with the exception of bare concrete over earth, should be considered combustible. The floor protector is necessary to guard against spilled coals and embers, and in some installations, to protect against heat radiating from the bottom and front of the stove. Commonly used floor protector materials such as brick and stone are good spark protectors but not good heat protectors. It is usually necessary to add a single or double bottom heat shield to the stove to provide proper heat protection.

With a single bottom heat shield and regular legs the floor protector acts only as a spark and ember barrier, and may consist of any non-combustible material, as long as the minimum hearth dimensions of 45" wide x 48" deep are met. Protection must also be extended under the full length of any horizontal run of chimney connector. For the 8" connector used with the Vigilant Coal Stove, the protector must be a minimum of 12" wide, centered under the connector. When using brick, tile, or stone, individual pieces must be mortared so sparks cannot fall through.

EXTENSION



TOP EXIT

REAR EXIT

When using regular legs and no bottom heat shield or a double bottom heat shield and short legs, the floor protector must also serve as a heat barrier. With regular legs alone, the tested floor protector consists of two layers of 1/4" mineral board covered by a sheet of 24 gauge or heavier reflective metal, left unpainted. For a short leg/double bottom heat shield installation, the tested

floor protector consists of the two layers of 1/4" mineral board only. No reflective metal covering is required. NOTE: short leg installations must use a double bottom heat shield unless installed on a non-combustible floor. A 3/8" layer of WonderBoard, a commercially available mineral board, may be substituted for the two 1/4" layers.

A floor protector may be custom made if care is taken to ensure that it offers protection equivalent to the tested standard. To determine equivalency, you must first determine the thermal conductivity of the material. Thermal conductivity, or "k", is a measure of how quickly heat will pass through a given material to combustible material underneath, and is described in the rather technical units of (btu)(in)/(ft²)(hr)(F°). Fortunately, this can be represented more simply as a number — for the Vigilant Coal Stove's tested standard of two 1/4" layers of mineral board the k value is 0.84. Custom made substitutes for the mineral board must have a k value equal to or less than 0.84, indicating that heat transfer occurs at the same speed or more slowly than the standard tested floor protector.

You may also choose a tested and listed floor protector of k value 0.84 or less. Your local Vermont Castings Authorized Dealer can help you assess the floor protector possibilities for your Vigilant Coal Stove installation.

IMPORTANT: Remember that in installations using regular legs and no bottom heat shield, the reflective metal covering must still be used on top of the custom fabricated floor protector.

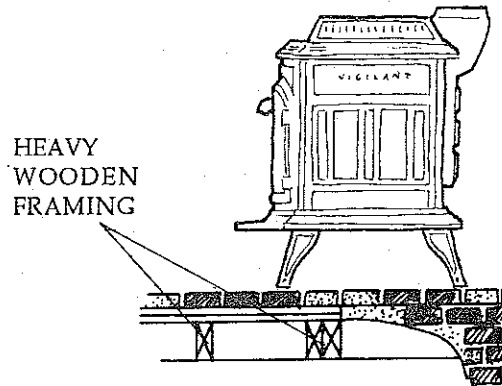
FIREPLACE INSTALLATIONS

In many fireplaces the brick or concrete hearth in front of the fireplace opening is supported by heavy wooden framing. Bricks and concrete are not good insulators, so heat radiated to the hearth under the stove will pass through the hearth directly to the wooden framing.

Such fireplace hearths must be protected like any other combustible floor. If a bottom heat shield and regular legs are used, the existing fireplace hearth may

provide adequate spark and falling ember protections if it meets the necessary size requirement of 45" x 48". Without a bottom heat shield (regular legs), or with a double bottom heat shield (short legs), the hearth construction must meet the requirements given in the previous section.

We recommend always using a bottom heat shield when using regular legs, so that your hearth/floor protector may reflect your personal design preference.



Special Installations

FIREPLACE MANTEL AND TRIM SHIELDS

If your installation will utilize an existing fireplace and its masonry chimney built to code, you must check your fireplace mantel and trim clearances. Ventilated shields (non-combustible shields installed on non-combustible spacers 1" away from the combustible surface) may be used to reduce clearances as shown in Table # 2. Mantel and top trim shields for the Vigilant Coal Stove must be at least 48" long, centered over the stove; side trim shields must extend the full length of the trim.

CALCULATION FOR THICKNESS OF AN ALTERNATE HEARTH EXTENSION MATERIAL

To calculate the thickness of an alternate material necessary to provide the required protection, obtain its k factor (available from a code or building materials handbook) and then use the following formula:

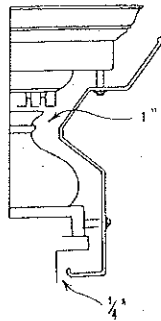
$$\frac{(\text{k factor of alternate material}) \times (\text{Thickness of WonderBoard required})}{(\text{k factor of WonderBoard})} = \text{Required thickness of alternate material}$$

A commonly used material, brick, provides an example. The k factor for brick is 5.0.

$$\frac{5.0 \times (3/8")}{0.84} = 2.23"$$

That is, when using brick for the floor protector, the brick must be a minimum of 2.23" thick. Similar calculations may be performed for any noncombustible material provided its k factor is known. If you have questions about floor protectors, contact your local Vermont Castings Authorized Dealer.

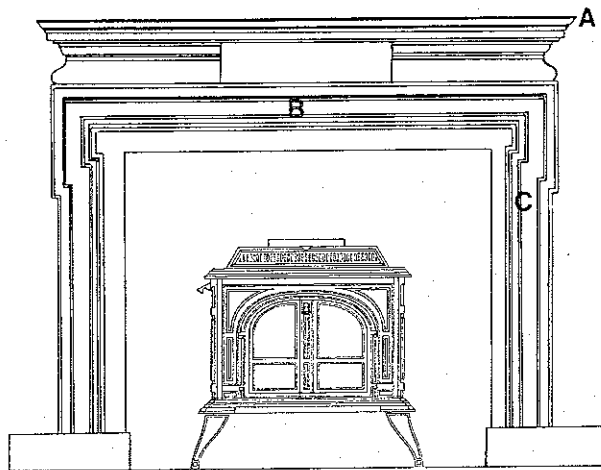
A CUSTOM FORMED MANTEL SHIELD



	unprotected	protected
A. MANTEL	36"	18"
B. TOP TRIM	36"	18"
C. SIDE TRIM, over 2"	36"	18"
SIDE TRIM, under 2"	18"	12"

Refer to the figure below. An unprotected mantel (A) must have a minimum clearance of 36", measured from the stove's top plate; with a ventilated shield the clearance may safely be reduced to 18".

Unprotected top trim (B) must be a minimum of 36" from the stove's top surface; with a ventilated trim shield the clearance may be safely reduced to 18".



Unprotected side trim (C) which protrudes 2" or more from the face of the fireplace must have a minimum 36" of clearance, measured from the stove's top side edge; with a ventilated trim shield, the clearance may be safely reduced to 18".

Unprotected side trim (C) which protrudes less than 2" from the fireplace face must have a minimum clearance of 18"; with a ventilated trim shield, this may be safely reduced to 12".

WALL PASS-THROUGHS

Whenever possible, design your installation so that the chimney connector does not pass through a combustible wall. If you are considering a wall-pass through in your installation, be sure you check with your

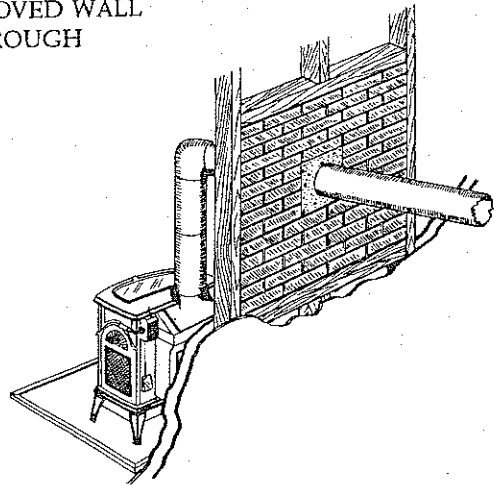
building inspector before you begin.

Accessories are available on the market which have been tested and listed specifically for use as wall pass-throughs. Use only these tested and listed accessories for wall pass-throughs.

The National Fire Protection Association (NFPA) has established guidelines for passing chimney connectors through combustible walls. Many building code inspectors follow these guidelines when approving installations.

The illustration shows one NFPA recommended method, in which all combustible material in the wall is cut away from the single wall connector a sufficient distance to provide the required 12" clearance for the connector. Any material used to close up the opening must be non-combustible.

AN APPROVED WALL PASS-THROUGH



Three other methods are also approved by the NFPA. These are: 1. Using a section of double-wall chimney with a nine-inch clearance to combustibles; 2. Placing a chimney connector pipe inside a ventilated thimble, which is then separated from combustibles by six inches of fiberglass insulating material; and 3. Placing a chimney connector pipe inside a section of eight-inch diameter solid insulated factory-built chimney, with two inches of airspace between the chimney section and combustibles.

Chimney Connectors

The chimney connector should be made of 24 gauge or heavier sheetmetal, and should be 8" in diameter. Galvanized chimney connector should not be used, as it may release toxic fumes when exposed to high temperatures.

The chimney connector should be as short and direct as possible, with no more than two 90 degree turns.

Horizontal runs of chimney connectors should slope upward 1/4" per foot going from the stove toward the chimney. The recommended maximum length of a horizontal run is 3 feet. The total length of chimney connector should be no longer than 8 feet. In cathedral ceiling installations, a prefabricated chimney should be

brought down to within 8 feet of the stove. The whole chimney connector should be exposed and accessible for inspection and cleaning. NEVER PASS A CHIMNEY CONNECTOR THROUGH A COMBUSTIBLE CEILING.

Installation Procedures

SETTING UP THE STOVE

Our stoves are heavy and require at least two people to move and set them up. To make the job a bit easier, you may lift off the loading doors and remove the griddle, grates, and ashpan. DO NOT TRY TO MOVE THE STOVE ALONE AS THE STOVE CAN BE DAMAGED BY MISHANDLING.

Place the stove close to its final position before installing the stove legs.

The griddle has not been painted in order to allow cooking directly on its surface. In order to protect the surface from rust during shipping, a coating of oil has been applied. Be sure to wash the griddle thoroughly with soap and water. As the stove is used, the griddle will gradually darken to match the color of the stove.

Your Vigilant Coal Stove comes to you completely assembled except for the installation of the legs and handle holder, and the assembly of the removable handle. The optional coal magazine will require assembly and installation. Installation procedures are simple. The only tools needed are a 9/16" wrench, used to tighten the leg bolts, and a screwdriver and a pair of pliers used when installing the coal magazine.

So that you can easily secure the first section of chimney connector pipe to the stove, three holes have been drilled in the flue collar and three sheetmetal screws are included in the hardware package.

If you have ordered any accessories such as heat shields, they will come with their own installation instructions. Generally speaking, nothing more complicated than a screwdriver is involved in the installation of accessories.

THE REMOVABLE HANDLE

The removable handle is inserted into the front door stub or the damper handle stub when you want to open or close the doors, or change the position of the damper. The handle is removed when not being used so it will not get hot. It may be stored in the leg which is installed with the handle holder.

To assemble the handle, pass the long threaded screw through the ceramic shaft and into the bright metal insert. Tighten until snug; do not overtighten.

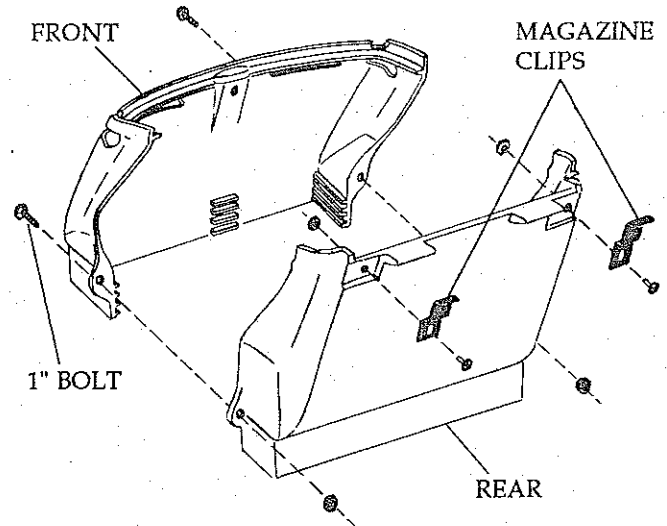
THE OPTIONAL COAL MAGAZINE

The magazine will preheat the next load of fuel, and re-fuel the fire automatically when you use the shaker handle to agitate the grates. Maximum heat output will be a little lower than without the magazine as the magazine reduces the size of the burning fuel bed

slightly. The high sides of the magazine allow an increase in the size of a load of coal from 45 pounds to 55 pounds.

ASSEMBLING THE COAL MAGAZINE

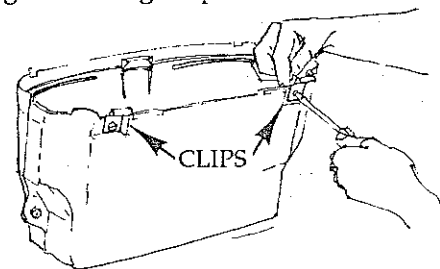
1. Align the front and back halves of the magazine.
2. Draw the front and back halves tightly together with the 1" nuts and bolts.
3. Bolt two Magazine Support Clips to the back of the magazine. The front of the magazine is supported by a tab at the front of the opening.



INSTALLING THE MAGAZINE

1. Open the griddle, hold the magazine from inside the sides of the magazine, and lower it into the stove. If it is difficult to lower the magazine into place, check to be sure that the two halves are very tightly bolted together. Also, file off any burrs or rough edges from the exterior of the magazine. Lift the gasket at the rear of the griddle opening slightly, and slide the Rear Support Clips under the gasketing.

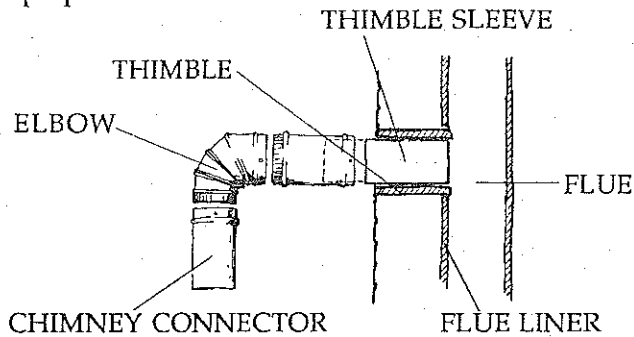
2. The magazine must be seated properly when it is first installed. Place a small block of wood on the top edge of the magazine in between the back clips. Tap the block gently. The clips may bend a little as you seat the magazine. To remove the magazine, just open the griddle and lift the magazine straight up.



CHIMNEY CONNECTOR DAMPERS

Because of the draft requirements of our stoves, we do not recommend the use of an in-flue damper. Not only is this an unnecessary restriction in the flue, but it is an additional surface directly in the path of the flue gases upon which deposits can form, creating a potential

If your masonry chimney does not have a metal or ceramic thimble lining the opening through the chimney wall to the flue, the chimney connector must extend through the wall of the chimney and end flush with the flue lining of the chimney. The connector must be cemented in place. Be careful not to extend the connector past the inner wall of the flue liner, as this will interfere with proper draft.

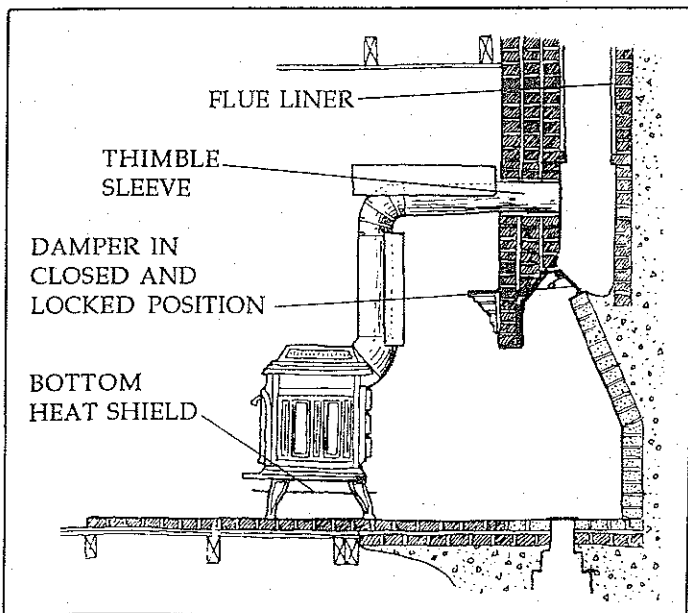


If your chimney does have a thimble, use a Vermont Castings Thimble Sleeve to make the connection between the chimney connector and the chimney. The sleeve is slightly smaller in diameter than standard chimney connector pipe so that it will slide inside it. It will also fit inside most metal or ceramic thimbles.

Insert the sleeve through the thimble until it is flush with the inner wall of the flue lining. Use furnace cement and thin gasketing to seal the sleeve in place in the thimble. Secure the chimney connector to the outer end of the sleeve with sheetmetal screws.

FIREPLACE - ABOVE THE FIREPLACE: In this installation, the chimney connector goes up from the stove, turns 90 degrees, and goes back into the fireplace chimney. The liner of the fireplace chimney should extend at least to the point at which the chimney connector enters the chimney. Follow all the guidelines for installing a chimney connector into a freestanding masonry chimney, and watch these additional points:

- If there is a combustible mantel or trim, check the

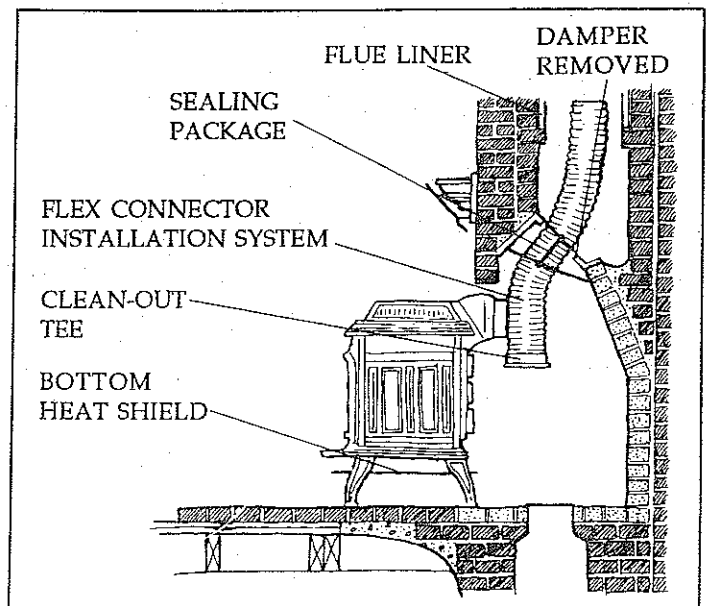


stove and chimney connector clearances in the Clearance Chart. Use the necessary combination of mantel, trim, and connector heat shields to provide the required clearances.

- Double check connector clearance from the ceiling.
- The fireplace damper must be closed and sealed to prevent room air from being drawn up the flue, reducing the draft. However, it must be possible to re-open the damper to inspect or clean the chimney.

FIREPLACE - THROUGH THE FIREPLACE: When installed through a fireplace opening, the chimney connector goes back from the stove, enters the fireplace cavity, turns upward, and passes through the fireplace damper opening and smoke chamber, and finally to the chimney flue. Watch these points:

- If there is a combustible mantel or trim, check the stove and chimney connector clearances in the Clearance Chart. Use the necessary combination of mantel, trim, and connector heat shields to provide the required clearances.
- When passing the chimney connector through the damper opening it may be necessary to "ovalize" the connector pipe. Do not make the narrowest width less than 5-1/2".
- The damper should be removed if possible, or sealed in the open position if removal is impossible.
- A seal must be provided so that room air is not drawn into the fireplace and up the chimney, reducing draft. The Vermont Castings Flex Connector System provides a convenient method for making the required seal and offers a flexible stainless steel chimney connector which can be bent to allow passage through most narrow damper openings.



NOTE: Do not vent your Vermont Castings stove into a factory-built (zero-clearance) fireplace. Zero-clearance fireplaces and their chimneys are specifically designed as a unit for use as fireplaces. It may void the listing or be hazardous to adapt them for any other use.

hazard. Combustion air entering your Vigilant Coal stove is controlled effectively by the thermostat, so no flue damper is required.

The Chimney Connector

ASSEMBLY

- Assemble the chimney connector beginning at the flue collar of the stove, keeping the crimped ends towards the stove. Using the holes in the flue collar as guides, drill 1/8" holes in the bottom of the first section of chimney connector, and secure it to the flue collar with #10 x 1/2" sheetmetal screws.

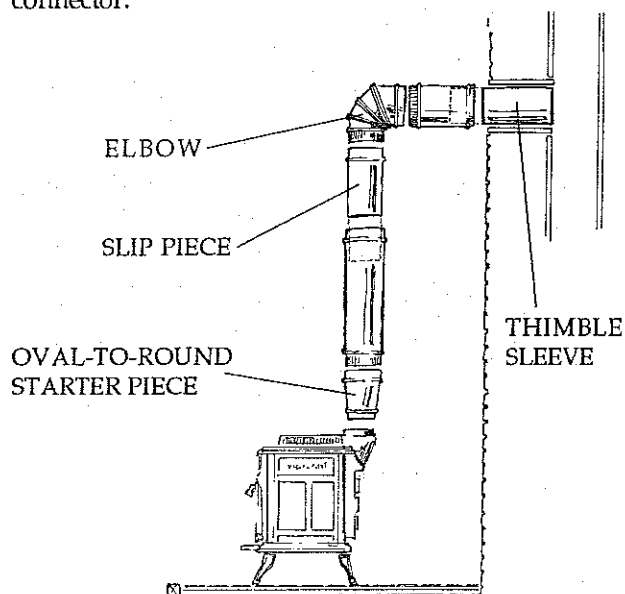
- Align the seams of the individual sections. Secure each joint between sections of chimney connector, including telescoping joints, with at least three sheetmetal screws. The pre-drilled holes in the top of each section of Vermont Castings Chimney Connector serve as guides when you drill 1/8" holes in the bottom of the next section.

- Secure the chimney connector to the chimney.

Instructions for various installations follow.

- Be sure the installed stove and chimney connector are correct distances from nearby combustible material.

Note: Vermont Castings offers Slip Pipes, Telescoping Connectors and Thimble Sleeves which can be used to form telescoping joints between sections of chimney connector. When telescoping joints are used, it is often unnecessary to cut individual sections of connector.



SECURING THE CONNECTOR

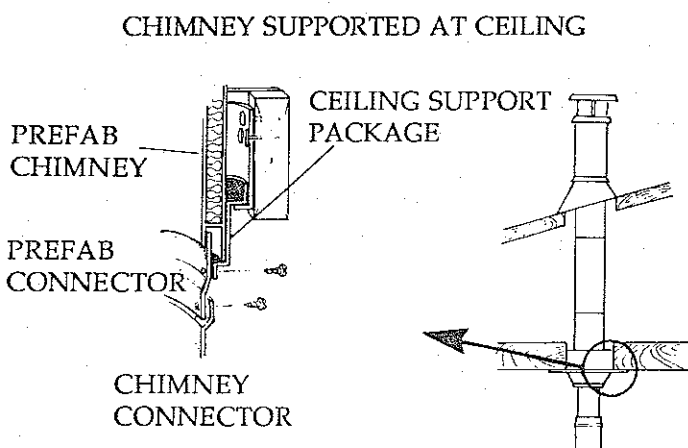
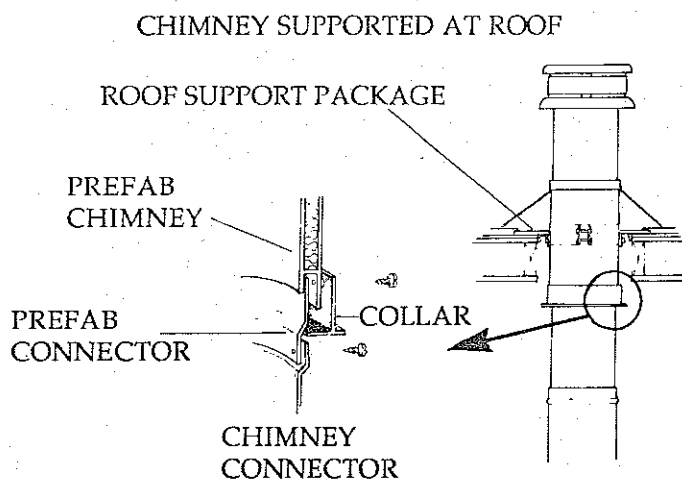
...TO A PREFABRICATED CHIMNEY

Follow the installation instructions of the chimney manufacturer exactly as you install the chimney. The manufacturer of the chimney will supply the accessories to support the chimney, either from the roof of the house or at the ceiling of the room where the stove is installed.

For double-wall insulated chimneys with walls approximately 1" thick, the connection between the metal chimney and the chimney connector can be made with the Vermont Castings Enamel to Prefab Connector. This accessory is used with both black and enamel chimney connectors. The top of the connector attaches directly to the chimney or to the chimney's ceiling support package. The bottom of the connector is screwed to the chimney connector.

The connector is designed so the top end will fit outside the inner wall of the chimney, and the bottom end will fit inside the first section of chimney connector. In this way, any soot or creosote falling from the inner walls of the chimney will stay inside the chimney connector.

NOTE: For double-wall chimneys whose outside dimension is more than 10-1/4", or triple wall chimneys, check with the manufacturer of the chimney for the right accessories to make the connection from the chimney to the chimney connector.



...TO A MASONRY CHIMNEY

Both freestanding masonry chimneys and fireplace masonry chimneys may be used for installation of your Vigilant Coal Stove.

FREESTANDING: If the chimney connector must pass through a combustible wall to reach the chimney, follow the recommendations in the Wall Pass-Through section.

Safety Tips

Do not overfire your stove. If a cast iron plate or the chimney connector glows red you are overfiring. If overfiring occurs, adjust the thermostat lever to decrease the air and slow the fire.

If at any time it becomes difficult to slow or regulate the fire in a reasonable time, let the fire go out. Overfiring or difficulty in slowing the fire is the result of too much air entering the stove. Check these points:

- Does the air shutter close when you move the thermostat lever to the right?
- Is the gasketing in good shape so air does not leak into the stove around the doors and griddle?
- Is the door handle adjusted so the doors close tightly? Instructions for adjusting the handle are given in the Maintenance Section.

If the draft in the chimney is interrupted, smoke, which contains carbon monoxide and other toxic gases, may be forced out of the stove and chimney and into living areas. This is a potentially hazardous condition. If you notice a sulfur-like smell or if smoke backs out of the stove frequently, let the fire go out. Be sure all air inlets are clear, the chimney connector and chimney are clean, and your stove is being operated correctly before starting another fire.

The following suggestions may help solve draft related problems:

- When your heating needs are light and you are operating your stove to produce a small amount of heat, in Spring or Fall for instance, run your stove with the damper open to direct heat to the flue and maintain good draft. Small, hot fires, with the damper open, work well in Spring and Fall.
- Operating your stove with the damper open will help keep flue temperatures high. When outside temperatures rise to 50°F., you may begin to notice draft problems which were not present when outside temperatures were colder. In this situation it is recommended to refrain from burning coal.
- If you notice draft problems when the wind is blowing, install a chimney cap designed to stabilize draft under windy conditions.

Keep all safety equipment ready for use.

- Test the smoke alarm to be sure it is operating properly.
- Be sure the fire extinguisher works and is clearly visible. All occupants of the house should know where it is, and how it operates.
- Have heavy stove gloves available near the stove.
- Have special safety accessories (e.g., Child Guard Screen) available for use if small children will be in the home.



SAVE THIS INFORMATION FOR FUTURE REFERENCE

Please log all purchase information here. It will be helpful for servicing or warranty.

Model _____

Serial # _____

(Located on a metal tag permanently attached to the back of your Vermont Castings Vigilant Coal Stove.)

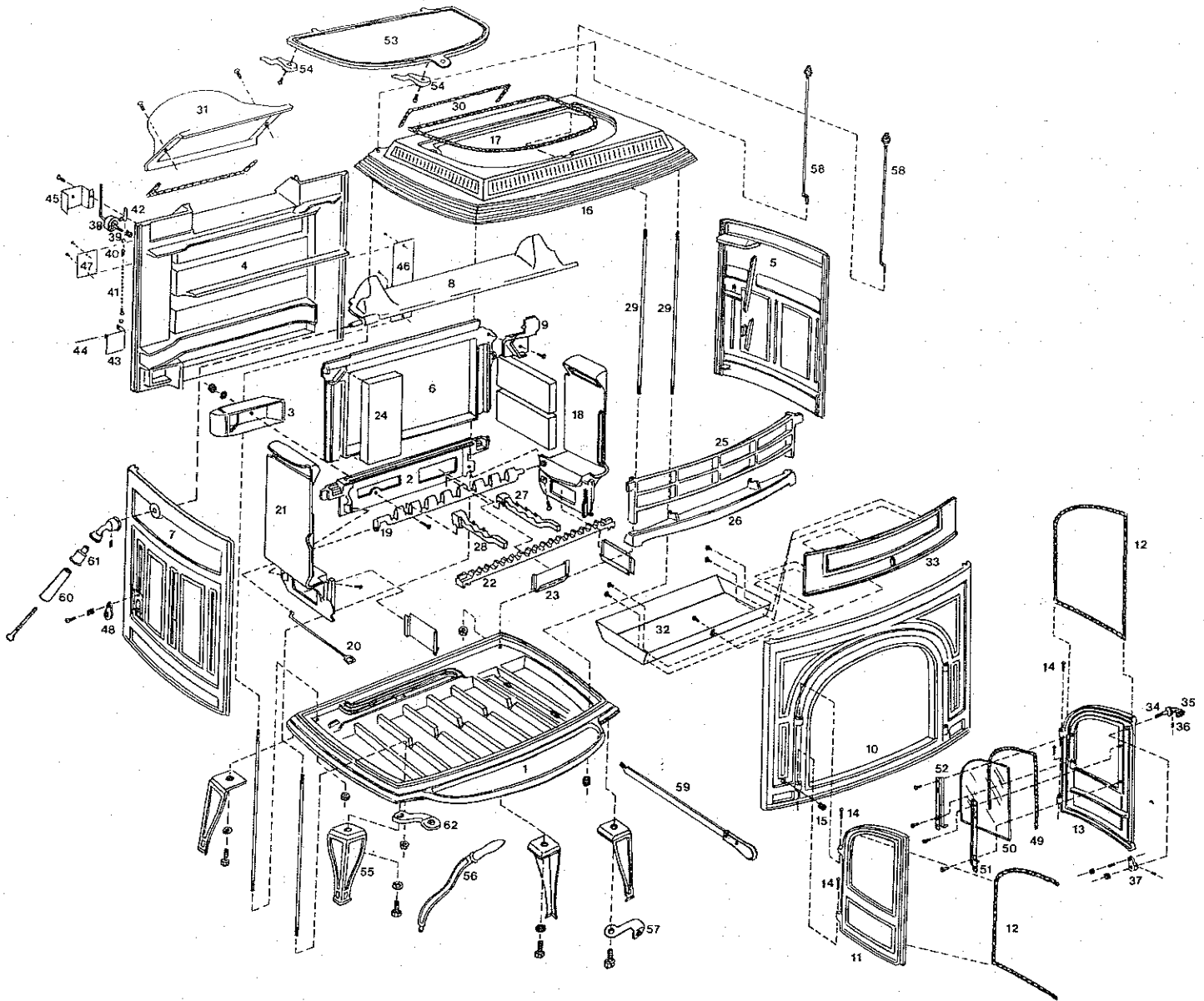
Date of Manufacture _____

(Located on a metal tag permanently attached to the back of your Vermont Castings Vigilant Coal Stove.)

Where did you purchase your Vigilant?

Date of Purchase _____

VIGILANT COAL STOVE EXPLODED VIEW



- | | | | |
|------------------------|--------------------------|---------------------------|---------------------------|
| 1. Bottom | 17. Wire wrapped gasket | 33. Ashpan front plate | 49. Gasket |
| 2. Lower fireback | 18. Right inner side | 34. Handle shaft | 50. Glass |
| 3. Primary air tube | 19. Rear grate support | 35. Handle stub | 51. Glass retainer clip |
| 4. Back | 20. Shaker rod | 36. Roll pin | 52. Glass retainer clip |
| 5. Right end | 21. Left inner side | 37. Pawl | 53. Griddle |
| 6. Upper fireback | 22. Front grate support | 38. Thermostat | 54. Griddle quadrant |
| 7. Left end | 23. Cleanout cover | 39. Jump ring | 55. Leg |
| 8. Damper | 24. Firebrick | 40. Ball chain fitting | 56. Shaker handle |
| 9. Damper retainer | 25. Front retainer grill | 41. Ball chain | 57. Door handle holder |
| 10. Front | 26. Fettle | 42. Compression spring | 58. Mitten rack |
| 11. Left door | 27. High grate bar | 43. Air flap | 59. Slicer/poker |
| 12. Gasket | 28. Low grate bar | 44. Air flap rod | 60. Ceramic handle |
| 13. Right door | 29. Tie rod | 45. Thermostat cover | 61. Handle insert stub |
| 14. Door pin | 30. Gasket | 46. UL label | 62. Shaker handle support |
| 15. Shaker rod bushing | 31. Flue collar | 47. EPA label | |
| 16. Top | 32. Ashpan | 48. Secondary air control | |

Glossary

FLUE: An opening which carries off smoke.

CHIMNEY: A masonry or prefabricated metal structure enclosing the flue.

CHIMNEY CONNECTOR: The sections of piping that connect an appliance to the flue of the chimney. Chimney connectors are used only in the house, never as chimneys.

CHIMNEY FLUE LINER: The metal, fire clay or other approved lining in a chimney that protects the chimney walls from the hot gases in the flue.

CLEARANCE: The minimum safe distance between the appliance (or chimney connector) and nearby combustible surfaces. The clearance distance must be empty space except for non-combustible heat shields.

COMBUSTIBLE MATERIAL: Any material which will burn. A material is combustible if any part of it, either on the surface or in the interior, contains a combustible substance. Wood, wallpaper, paint, sheetrock, some veneer bricks, and plastic are all combustible materials.

NON-COMBUSTIBLE MATERIAL: Any material which will not burn when exposed to fire. Metal, brick, ceramic tile, concrete, stone, asbestos, and glass are all non-combustible. Floors, ceilings, and walls, including any unseen framework, must be constructed completely of such materials in order to be classified as non-combustible.

FLOOR PROTECTOR: A non-combustible pad placed in front of and to the sides of the Vigilant, which protects the floor from heat, sparks and falling embers.

CONVECTIVE HEAT: Heat transmitted by the movement of heated molecules. Warm air rising is a good example of natural heat convection. Convective heat transfer can be enhanced by the use of blowers.

RADIANT HEAT: Heat transmitted by infrared energy waves. The energy is converted to heat when the waves are absorbed by a solid surface, such as your body or a piece of furniture.

DAMPER: A valve controlling the flow of air or smoke into the chimney.

FACTORY-BUILT FIREPLACE: A fireplace designed to be installed with a prefabricated, factory-built chimney. **NOTE: NOT SUITABLE FOR USE WITH THE VIGILANT® COAL STOVE.**

MASONRY HEAT FORM: A factory-built metal form around which a code-approved masonry fireplace and a code-approved masonry chimney can be built. **NOTE: SUITABLE FOR USE WITH THE VIGILANT® COAL STOVE IF INSTALLED ACCORDING TO DIRECTIONS IN THE INSTALLATION SECTION OF THIS MANUAL.**

ZERO-CLEARANCE FIREPLACE: A term often used to describe a type of factory-built fireplace and chimney, with enough insulation and/or air space to allow installation directly next to combustible materials. A more accurate term is "reduced-clearance fireplace". **NOT SUITABLE FOR USE WITH THE VIGILANT® COAL STOVE.**

VOLATILES: Various unburned hydrocarbons released as gases and vapors during the primary combustion of wood or coal. The volatiles burn with a blue flame.

CHARCOAL: Residue which remains after all the volatiles have been driven out of solid fuel. Primary combustion of charcoal continues until only inorganic ash remains. Primary combustion of true charcoal produces no flame.

SECONDARY COMBUSTION: Combustion of the volatiles released during primary combustion.

BITUMINOUS: A "soft" coal, high in volatiles. Bituminous coal is not suitable for use in the Vigilant® Coal Stove.

ANTHRACITE: A "hard" coal, low in volatiles, which burns efficiently and cleanly.

FLY ASH: A very fine, light ash which can be carried into the chimney along with the exiting combustion gases.

WARRANTY - FOR USE IN THE U.S.A.

LIMITED 3 YEAR WARRANTY

Vermont Castings, Inc. warrants that this Vigilant Coal Stove will be free of defects in material and workmanship for a period of three years from the date you receive it, except that the thermostat assembly, coal grates, handles, glass door panels, cement, and gasketing shall be warranted as described below.

Vermont Castings, Inc. will repair or replace, at its option, any part found to be defective when the Vigilant Coal Stove is returned with shipping charges prepaid to a Vermont Castings Authorized Dealer. The customer must pay for any Authorized Dealer in-home travel fees, service charges, or transportation costs for returning the stove to the Authorized Dealer. If upon inspection, the damage is found to be the fault of the manufacturer, repairs will be authorized at no charge to the customer for parts and/or labor.

Any Vigilant Coal Stove or part thereof that is repaired or replaced during the limited warranty period will be warranted under the terms of the limited warranty for a period not to exceed the remaining term of the original limited warranty or six (6) months, whichever is longer.

LIMITED 1 YEAR WARRANTY

The following parts of the Vigilant Coal Stove are warranted to be free of defects in material and workmanship for a period of one year from the date you receive it. These parts are the thermostat assembly, coal grates, handles, glass door panels, cement, and gasketing. Any of these items found to be defective will be repaired or replaced at no charge, upon the return of said part to a Vermont Castings Authorized Dealer with postage prepaid.

EXCLUSIONS & LIMITATIONS

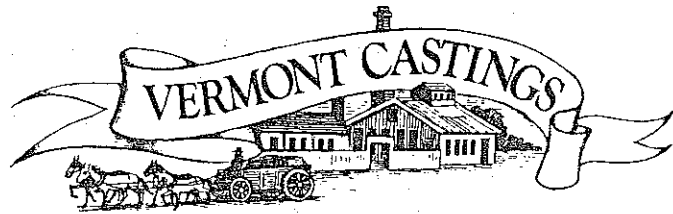
1. This warranty is transferable; however, proof of original retail purchase is required.
2. This warranty does not cover misuse of the stove. Misuse includes overfiring which will result if the stove is used in such a manner as to cause one or more of the stove plates to glow red. Overfiring can later be identified by warped plates and areas where the paint pigment has burned off. Overfiring in enamel stoves is identified by bubbling, cracking, chipping and discoloration of the porcelain enamel finish. Vermont Castings offers no warranty on chipping of enamel surfaces. Inspect your stove prior to accepting it for any damage to the enamel.
3. This warranty does not cover misuse of the Vigilant Coal Stove as described in the Owner's Guide, nor does it cover a Vigilant Coal Stove which has been modified unless authorized by a Vermont Castings representative in writing. This warranty does not cover damage to the stove caused from a salt environment or from burning any fuel not recommended in the Owner's Guide.
4. This warranty does not cover a stove repaired by someone other than a Vermont Castings Authorized Dealer.
5. Damage to the unit while in transit is not covered by this warranty but is subject to claim against the common carrier. Contact the Vermont Castings Authorized Dealer from whom you purchased your Vigilant Coal Stove or Vermont Castings if the purchase was direct. (Do not operate the Vigilant Coal Stove as this may negate our ability to process the claim with the carrier.)
6. Claims are not valid where the installation does not conform to local building and fire codes or, in their absence, to the recommendations in our Owner's Guide.

HOW TO OBTAIN SERVICE

If a defect is noted within the warranty period, the customer should contact the Vermont Castings Authorized Dealer (or Vermont Castings, Inc. for direct sale customers) with the following information:

1. Name, address, and telephone number of the purchaser.
2. Date of purchase.
3. Serial number from the label on the back of the stove.
4. Nature of the defect or damage.
5. Any relevant information or circumstances, i.e., installation, mode of operation when defect was noted, etc.

A warranty claim will then start in process. Vermont Castings reserves the right to withhold final approval of a warranty claim pending a visual inspection of the defect by authorized representatives.



Vermont Castings, Inc.
Prince Street
Randolph, Vermont
U.S.A. 05060

Vermont Castings, Inc.
44 Friargate
Derby
Derbyshire DE1 1DA
England



Vigilant Coal Stove

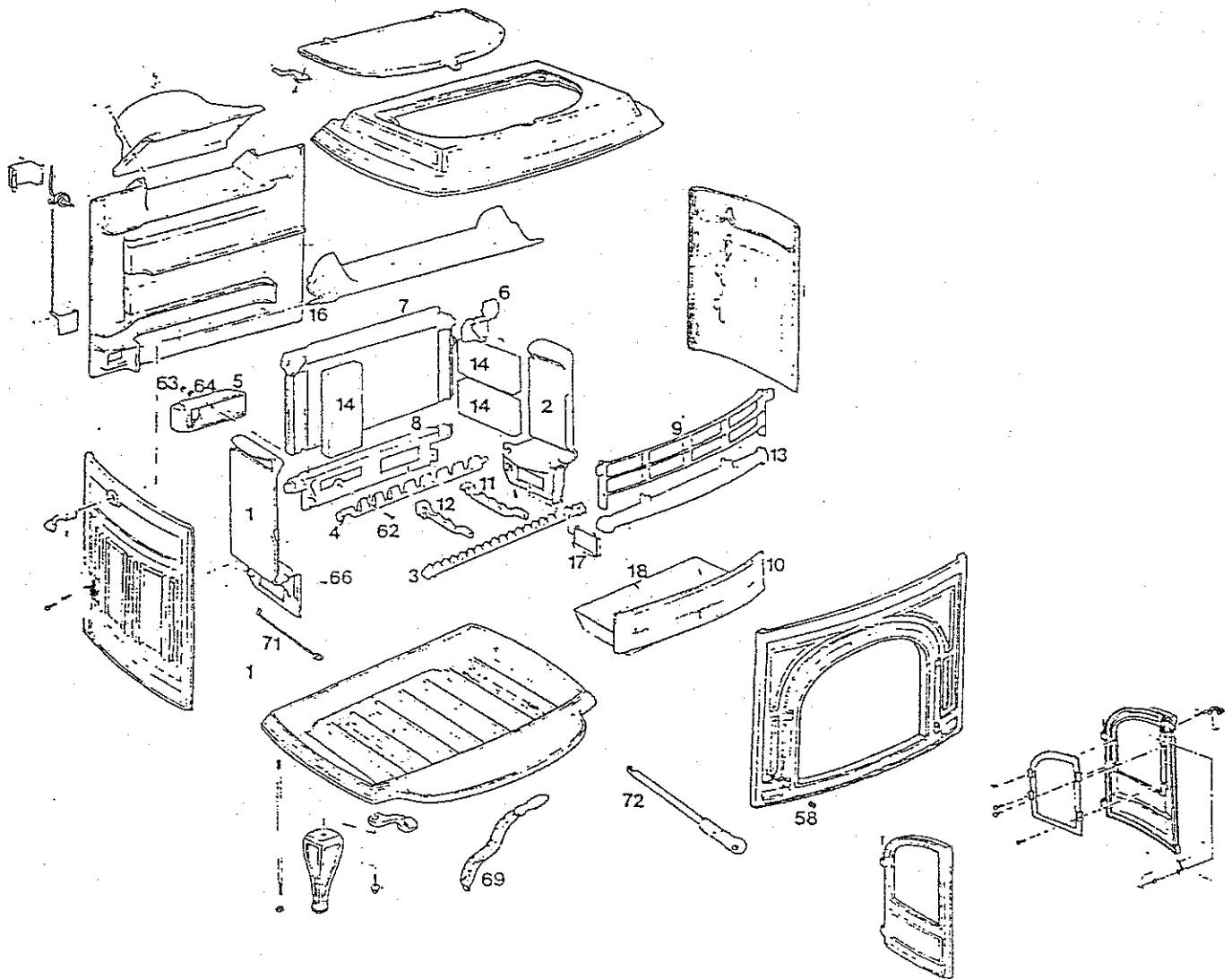
MODEL # **1400 VIGILANT COAL**
ALSO CALLED MULTIFUEL STOVE

FEATURES: *MANUFACTURED IN 1982 THROUGH 1992*

DIAGRAM #	ITEM #	PART DESCRIPTION
1	1305000	LEFT SIDE PLATE (INNER)
2	1305004	RIGHT SIDE PLATE (INNER)
3	1305009	FRONT GRATE SUPPORT
4	1305011	REAR GRATE SUPPORT
5	1305015	AIR TUBE
6	1305018	DAMPER RETAINER
7	1305022	UPPER FIREBACK
8	1305025	LOWER FIREBACK
9	1305029	FRONT GRILL
10	1305033	ASH PAN FRONT
11	1305041	HIGH GRATE BAR
12	1305038	LOW GRATE BAR
13	1305047	FETTLE
14	1601103	SPLIT FIREBRICK
15	5000992	DAMPER W/ PIN
16	1300671	AIR CONTROL
17	1304277	BACK
17	1602202	CLEANOUT COVER
18	1304258	BOTTOM
18	1400928	ASHPAN
19	1304280	FLUE COLLAR 8" OVAL
20	1304273	FRONT
	5000945	FRONT W/ DOORS ASS'Y
21	1300797	GRIDDLE
22	1300809	GRIDDLE QUAD
23	1300515	LATCH PAWL
24	1304224	LEFT DOOR
25	1304269	LEFT END
26	1303225	LEG
27	1304216	RIGHT DOOR
28	1304262	RIGHT END
29	1301935	SHAKER HANDLE SUPPORT



VIGILANT COAL STOVE MODEL # 1400



How to Use This Manual

We have tried to make this manual as easy to read as possible. Please read the entire manual at least once before you make the final installation connection. This manual contains a great deal of information and is not easily digested in one sitting. Before you light your first fire, study it thoroughly. Take your time, especially reading the Operation section. The quality of the installation (especially the chimney connector and chimney), and the quality of the fuel being burned will affect the performance of your Vigilant Coal Stove, but the most important factor is the way you operate the stove.

Save These Instructions. Keeping the manual handy will allow you to refine your operating techniques as you develop skills and confidence. Read it again after you have used your Vigilant Coal Stove for a while. Points which may be difficult to understand on first reading will become clear as you acquire hands-on experience.

Your Vermont Castings Authorized Dealer, with his knowledge of local conditions, is a valuable source of information should you need further assistance. Experienced advisors from Vermont Castings Team Fireside™ are available at 1-800-22-STOVE (1-800-227-8683). Every Vermont Castings Authorized Dealer, and every member of Team Fireside™, is committed to your satisfaction with your new Vigilant Coal Stove.

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SAFETY NOTICE: IF YOUR VIGILANT COAL STOVE IS NOT PROPERLY INSTALLED, OPERATED AND MAINTAINED, A HOUSE FIRE MAY RESULT. FOR SAFETY, FOLLOW ALL INSTALLATION, OPERATION AND MAINTENANCE DIRECTIONS. CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

The Vigilant Coal Stove has been tested and is listed by the R.F. Geisser Laboratory of East Providence, Rhode Island. The test standards are ANSI/UL 1482 and ANSI/UL-737. The Vigilant Coal Stove is listed for burning coal. Do not burn other fuels. The Vigilant Coal Stove is not listed for installation in mobile homes.

The Vermont Castings Vigilant Coal Stove is exempt from the standards set forth by the Federal Environmental Protection Agency, 40 CFR Part 60.530(g), as stated on the permanent label attached to this appliance.

THE INSIDE STORY

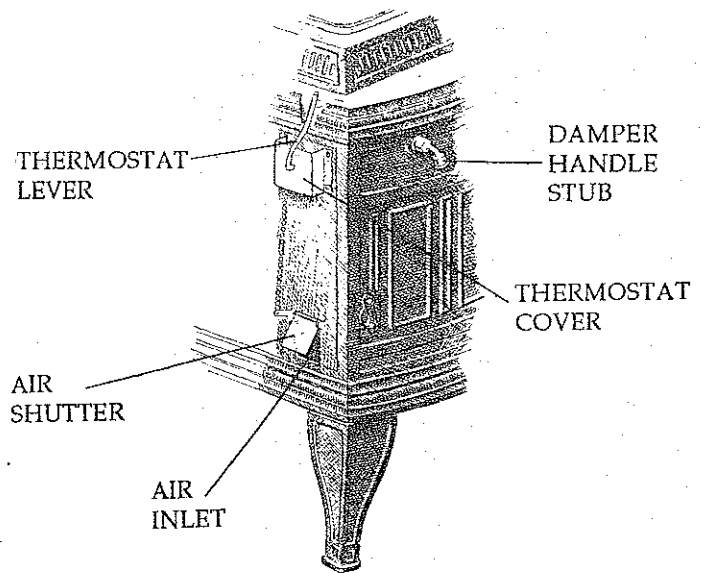
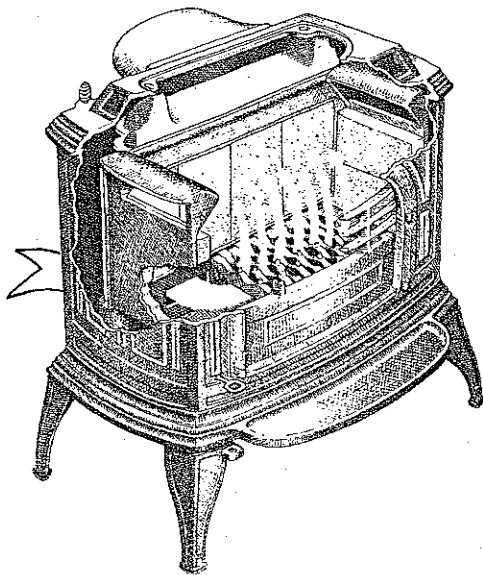
It has been our experience that if you understand the inner workings of your Vigilant Coal Stove you will be better able to use it wisely and derive maximum efficiency and pleasure from your investment. This knowledge is as important for installation as it is for daily use, since good performance depends on both correct installation and proper operation. Read this section as well as the Installation section before you install the Vigilant Coal Stove.

The Combustion Process

A fire needs air, fuel and heat. Air for the fire enters your Vigilant Coal Stove through the air inlet in the back of the stove, and is directed through the primary air tube to the area under the grates. It is then drawn up through the grates to the fuel bed.

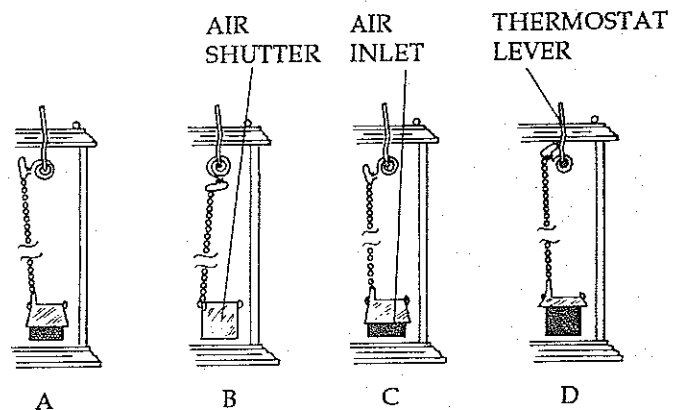
Heat to start the fire is provided by a kindling fire. Heat to keep the fire going is supplied by a thick bed of hot coals on the grates.

PRIMARY AIR FLOW THROUGH THE VIGILANT COAL STOVE



As you move the thermostat lever to the left (facing the stove), the air shutter opens and admits more air, and the fire burns hotter. As you move the lever to the right, the shutter closes and reduces the air supply, and the fire becomes cooler.

AIR SHUTTER POSITIONS DURING A COMPLETE BURN CYCLE



- A. After fire is well established, set thermostat to desired heat output. Air shutter is partially open.
- B. As heat output intensifies, air intake is decreased. Air shutter closes.
- C. As heat output lowers, air intake increases. Air shutter is partially open.
- D. At end of burn cycle, maximum air is admitted. Air shutter is completely open.

Controls

THERMOSTAT

You will control the intensity of the fire by adjusting the amount of air going to the fire. The air shutter, which covers the air inlet, is opened and closed by the thermostat lever.

During a long burn, the bimetallic coil on the thermostat lever automatically adjusts the air supply to maintain an even heat output, as shown in the accompanying illustration. As the stove gets hotter, the coil expands and closes the shutter, and the fire slows. As the stove cools, the coil contracts, opens the shutter, and the fire revives.

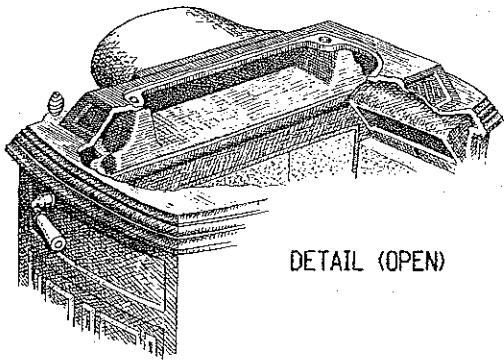
INTERNAL DAMPER

The internal damper regulates the direction of the smoke and other by-products of combustion as they leave the fire.

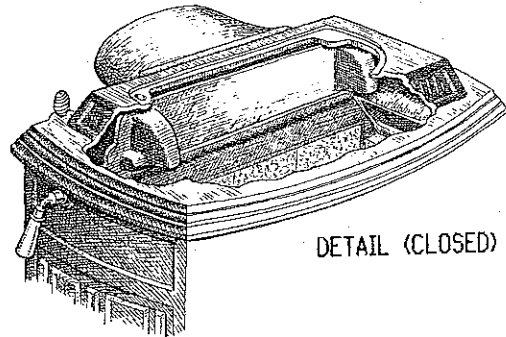
When the damper is closed, smoke is directed through the exhaust ports at the top of the left and right side plates, downward and to the back of the stove, and then to the flue collar and the chimney. The flow of smoke through the stove is slowed a little, and heat is held in the stove longer for better heat transfer to the iron.

More heat is radiated into the room and less heat goes up the chimney when the damper is in the closed position than when the damper is in the open position. (Some chimneys, however, require the extra heat provided when the damper is open. See the Operation section of this manual for guidelines on proper use of the damper.)

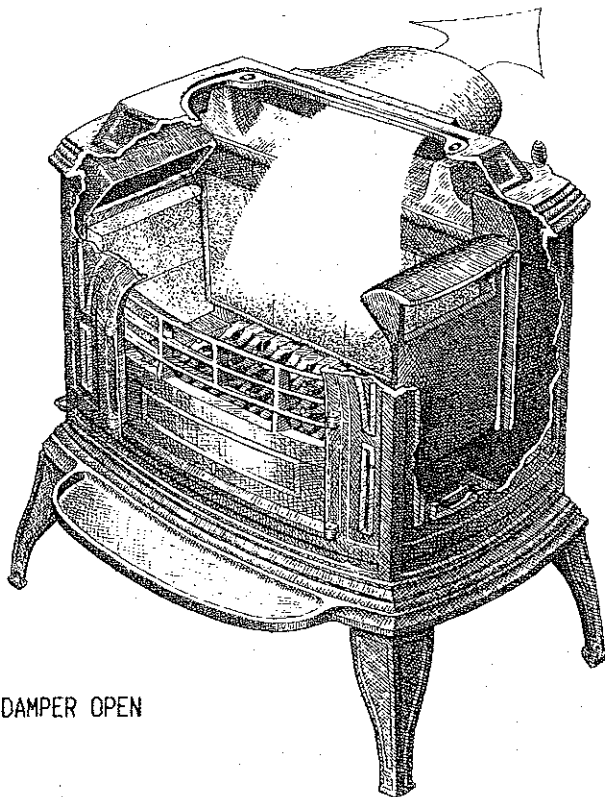
Your Vigilant Coal Stove may be set for a long burn with the damper open or closed. In either case, you control the rate of combustion by controlling the air supply with the thermostat lever.



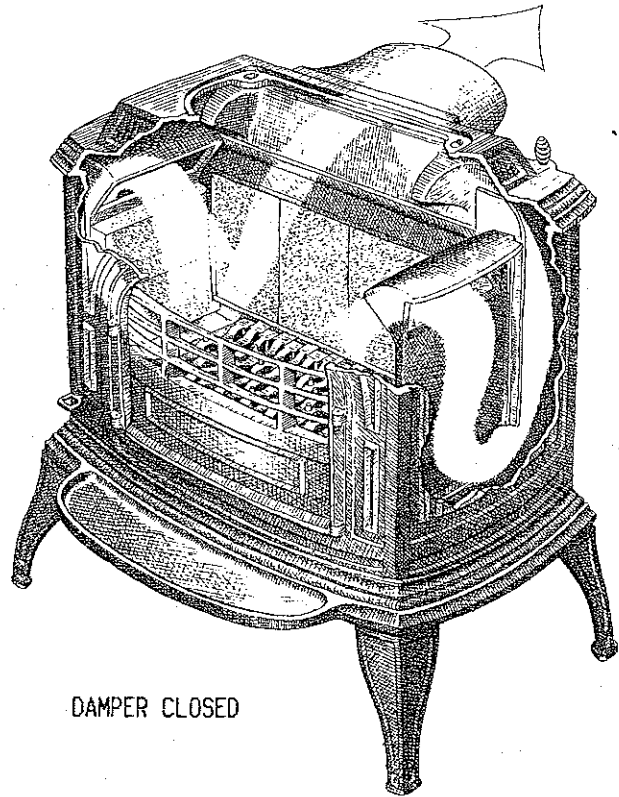
DETAIL (OPEN)



DETAIL (CLOSED)



DAMPER OPEN



DAMPER CLOSED

OPERATION

Basics

FUEL

Pea, nut or stove size anthracite may be burned when you batch feed coal (when the magazine is not used). For proper feeding when the optional magazine is used, burn only pea or nut size anthracite.

Anthracite with a low ash content will provide more heat with less ash than anthracite with higher ash content. Your coal dealer may be able to provide you with information about the ash content of the coal he sells.

PLEASE NOTE: The Vigilant Coal Stove is designed to burn anthracite (hard coal). Do not burn other fuels.

STARTING THE COAL FIRE

In order to successfully establish a coal fire in your Vigilant Coal Stove, you must take the time to build a thick bed of hardwood or charcoal briquette coals on the grates. This step is critical to successful operation for two reasons. First, the intense heat of a concentrated coal bed is necessary to ensure ignition of anthracite coal, which requires a relatively high temperature compared to wood. Second, the heat sent up the flue during this important step is necessary to thoroughly warm the chimney, a factor critical to the establishment and maintenance of a strong draft. For a review of this important topic, read "Chimneys and Draft" in the Installation Section of this manual.

Follow these steps to start your coal fire:

- Open the damper.
- Cover the grates with bunched up paper. Add a layer of short, thin pieces of kindling wood. (Hardwood is best). Open the damper, close the griddle, move the thermostat lever to the left for maximum air, and light the paper. When the kindling wood is burning strongly, add a layer of larger wood or untreated charcoal.

- Continue building up the fire until there is a thick bed of hot coals all across the grates and the chimney is thoroughly preheated. Don't hurry this part of the burn. Insufficient preheating is the single most common cause of poor coal stove performance.

- The cast iron plates in your Vigilant will "season" as they are heated and cooled over a period of time. The thermal shock of very rapid temperature changes can cause the cast iron to crack. NEVER build a roaring fire in a cold stove.

- Add a moderate layer of coal (1" - 2" thick). When this small load of fuel is burning well, you may add a full load of coal.

- If your stove is not equipped with a coal magazine, coal may be loaded to the top of the front grill, and to within one inch of the exhaust ports in the top of the left and right side plates. Keep the coal level at least 1" below the exhaust ports.

- If your stove is equipped with the optional magazine, you may fill the magazine to the top, but do not mound the coal above the top.

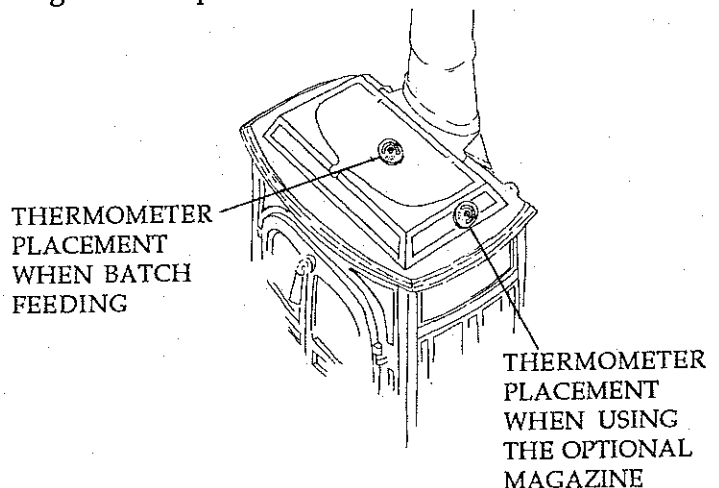
SAFETY NOTE: DO NOT USE CHARCOAL LIGHTER FLUID OR ANY FLAMMABLE LIQUID TO KINDLE OR RE-ESTABLISH A FIRE IN YOUR COAL BURNING STOVE. ALSO, NEVER USE SELF-STARTING CHARCOAL BRIQUETTES. THE VOLATILE GASES GIVEN OFF BY THESE MATERIALS WHEN HEATED MAY EXPLODE WHEN IGNITED.

Daily Operation

USING A SURFACE THERMOMETER

Monitoring the surface temperature of your stove can provide helpful information about how your stove is performing.

Place a surface thermometer in the middle of the griddle if the optional magazine is not being used, or on the sloping part of the right side of the stove top if the magazine is in place.



Normal operating temperatures will be between 400° F. and 600° F. Temperatures slightly outside this range may be expected. However, if temperatures go above 600° F. for extended periods, decrease the air supply (move the thermostat lever to the right) and slow the fire.

When starting a new fire, or after re-loading the stove, leave the damper open until the surface

temperature reaches at least 500° F. Do NOT close the damper on a fire before it is well established. A surface temperature of 500° F. is one indication that the damper may be closed.

If the surface temperature drops below 400° F., revive the fire. To revive the fire, take one or more of these actions:

- Increase the air supply (move the thermostat lever to the left).
- Open the damper, if closed.
- Clear ashes from the grates and empty the ashpan.
- Reload the stove.
- Add a layer of untreated charcoal or NON-SELF-STARTING charcoal briquettes.

THE DAMPER

Depending on the particulars of each individual installation, the Vigilant Coal Stove may be operated with the damper either open or closed. Operate the stove with the damper open when starting the fire, when re-establishing the fire after a long burn, when burning a small fire with moderate heat output, or at all times when burning on a massive exterior chimney.

You may operate your stove with the damper closed only after a strong fire and good draft have been established with the stove burning in the damper open mode. Be sure the fire is burning well before closing the damper. On large or outside chimneys, the damper may always need to be in the open position to ensure that enough heat reaches the flue to establish and maintain an adequate draft. Even under these circumstances, however, the Vigilant will operate properly and supply your living area with a generous amount of heat.

Be sure to open the damper before opening either the griddle or front doors. It is good practice to run the stove with the damper open for a few minutes before opening the griddle or doors. Running the stove with the damper open will direct extra heat to the flue to increase draft, and will clear exhaust gases from the baffle system. Do not open both doors and griddle at the same time as this may cause gases to back out of the stove.

DAILY STOVE TENDING

Once you have established your coal fire, you will find that the main part of your daily stove-tending schedule consists of clearing the grates of ashes, disposing of the ashes, and reloading your stove with coal. Many coal-stove operators start one fire in the late fall and continue that same fire until spring.

While you are learning to operate the Vigilant Coal Stove, you should clear the grates and empty the ash pan each time new fuel is added. Plan on reloading your stove with small loads of fuel three or four times a day.

When you are familiar with your stove's performance you will probably find that your stove needs less tending. You will set up your own schedule for clearing the grates and disposing of ashes, and reloading the stove. Learn

the stove tending procedure that works well for you, and stick to that program.

RELOADING

If the fire has burned very low before reloading, add just a small amount of fuel at a time and leave the damper open while the fire is regaining strength. When the fire is burning briskly again you may add a full load of coal.

Be sure the new fuel is burning strongly before you reduce the air supply or close the damper.

CLEARING THE GRATES

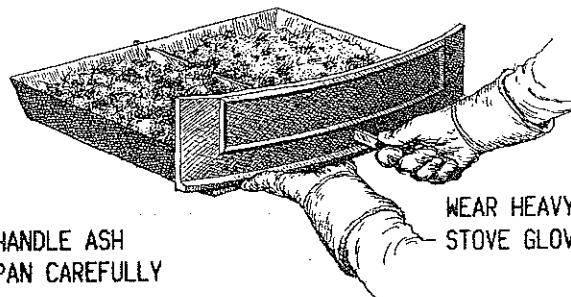
Shake the grates with full, steady strokes of the Shaker Handle. Stop shaking when red coals cover the ashpan or when you feel resistance. Using the slicer, clear ashes from between the bars of the Front Grill. (Pull the ash pan out a few inches so ash which falls to the front of the grill will go into the pan.) Also clear ashes from along the sides and back of the grate area. Push the pan in and close the doors. Be sure to leave a bed of hot coals on the grates to ignite new fuel.

ASH HANDLING

Incoming air is necessary to keep the fire burning and, equally important, to cool the bottom grates. If ashes form a mound higher than the edges of the pan, they will block incoming air. The fire may go out, or the grates may overheat and warp. To avoid blocking incoming air, empty the ashpan before the ashes reach the top of the pan.

It is good practice to empty the ashpan before shaking the grates to avoid handling an ashpan full of hot ashes. Use extra care when handling and disposing of ashes if it is necessary to dispose of them when they are hot.

To empty the ashpan, open the front doors and use the hook on the slicer/poker to start drawing the pan from the stove. When the pan hits the front of the stove (about 1/2" out), lift the pan a little and continue withdrawing it until the slot in the rear of the pan is visible. Hook the slicer/poker in the rear slot. Carry the pan to your ash disposal container. Check that there is no accumulation of ash in the bottom of the stove; remove any ash before replacing the ashpan.



HANDLE ASH
PAN CAREFULLY

WEAR HEAVY
STOVE GLOVES