

# Vigilant® II

## Coal Stove

### Model #2310

## Homeowner's Installation and Operating Instructions

For Use in North America

**SAFETY NOTICE: IF THIS APPLIANCE IS NOT PROPERLY INSTALLED, OPERATED AND MAINTAINED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR EVEN DEATH. CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.**



We recommend that our woodburning hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Woodburning Specialists or who are certified in Canada by Wood Energy Technical Training (WETT).



**Do Not Discard This Manual: Retain for Future Use**

# Welcome

Congratulations on your choice of a Vermont Castings Vigilant II Coal Stove. With this purchase, you have made a commitment to make the hearth a place of warmth, beauty and comfort in your home. At Vermont Castings, we share that joy and appreciation for the hearth, and we show it in all our cast-iron stoves and fireplaces.

As you become acquainted with your new stove or fireplace, you will find that its visual appearance is matched by its functionality, due to cast iron's unique capability to absorb and radiate heat.

Also, Vermont Castings products are among the cleanest-burning stoves and fireplaces available today. And as an owner of a Vermont Castings stove, you are making a strong statement for pollution-free energy. But clean burning depends on both the manufacturer and the operator. Please read this manual carefully to understand how to operate your stove properly.

At Vermont Castings, we are equally committed to your satisfaction as a customer. That is why we maintain an exclusive network of the finest dealers in the industry. These dealers are chosen for their expertise and dedication to customer service. They are factory-trained to know the most minute detail of every Vermont Castings product. Contact your Authorized Vermont Castings Dealer anytime you have a particular question about your stove or its performance.

Be assured that your cast-iron Vermont Castings stove or fireplace has been made with the utmost care and will provide you with many years of service.

This manual contains valuable instructions on the installation and operation of your Vermont Castings stove. It also contains useful information on maintenance and assembly of this product. We urge you to read the manual thoroughly and to keep this manual as a reference.

Sincerely,

**All of us at MHSC**

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## Accessories

Outside Air Kit	0000278
Warming Shelf	0001560
Rear Heat Shield	0000175
Bottom Heat Shield	0000279
Stove Surface Thermometer	0000574

## CAUTION

Do not burn bituminous coal in a stove which has been modified to burn anthracite.

The Vigilant II Coal Stove is listed by OMNI Test Laboratories of Portland, Oregon according to ANSI/UL 1482 for the United States and ULC S627 for Canada. The Vigilant II Coal Stove is listed for burning coal. Do not burn other fuels. The Vigilant II Coal Stove is not listed for installation in mobile homes.

The Vermont Castings Vigilant II 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.

**Proposition 65 Warning:** Fuels used in gas, wood-burning or oil fired appliances, and the products of combustion of such fuels, contain chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.  
California Health & Safety Code Sec. 25249.6

# Specifications

## Vigilant II Coal Stove Model #2310

Coal type ..... Anthracite or bituminous  
 Coal size ..... Pea or nut  
 Maximum heat output ..... 50,000 Btu's/hr\*  
 Maximum area heated ..... 2,000sq.ft.  
 Fuel Capacity ..... 45 lbs. (20 kg)  
 Fuel Loading ..... top  
 Glass Panel ..... Hi-temperature ceramic  
 Weight ..... 425 lbs. (212kg)  
 Flue exit position ..... Top or rear  
 Flue exit size ..... 6" standard  
 ..... 8" optional

\*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 nonstandard construction (e.g. unusually well insulated, not insulated, built under ground, 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.

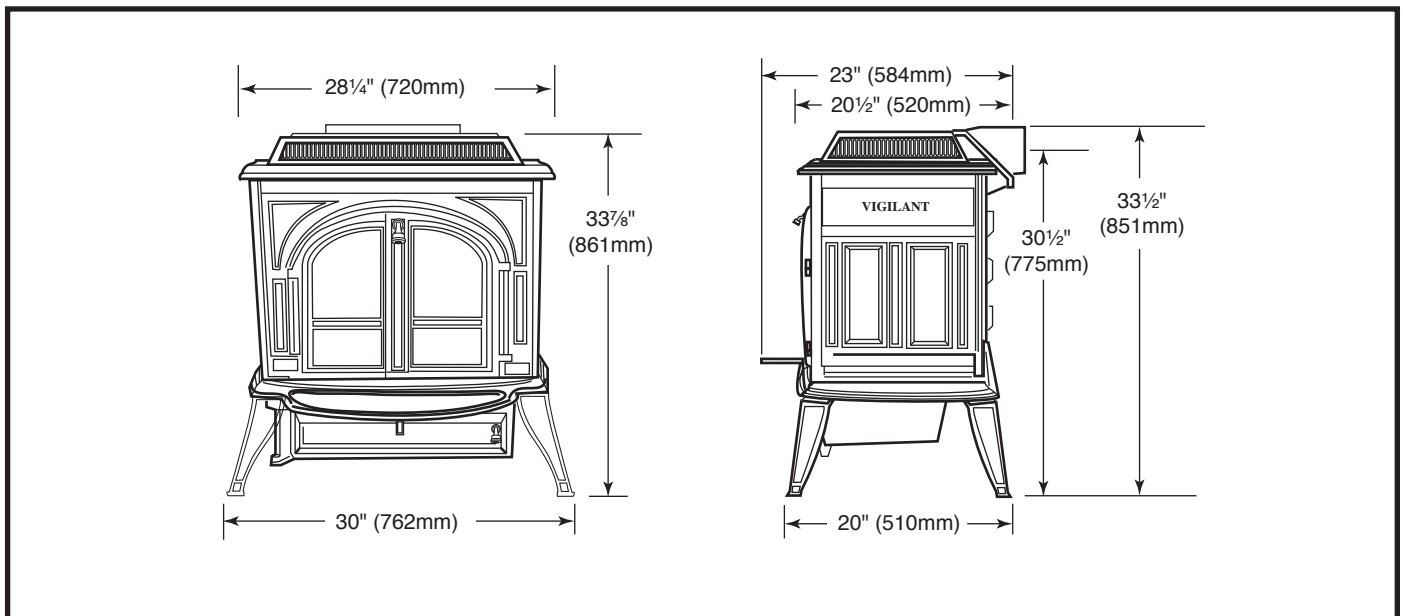


Fig. 1 Vigilant II dimensions.

## 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 and 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.

**CAUTION:** Follow all installation and use instructions exactly. Failure to follow instructions may result in a dangerous situation, including a chimney or house fire.

### Chimneys and Draft

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.

### Improving Draft With 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.

### How Draft Affects Stove Performance

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.

A more common cause of overdraft is inadequate maintenance, such as worn gasket allowing uncontrolled air to enter the stove. 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

**DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.**

### New Chimneys

Both masonry and prefabricated metal chimneys work well.

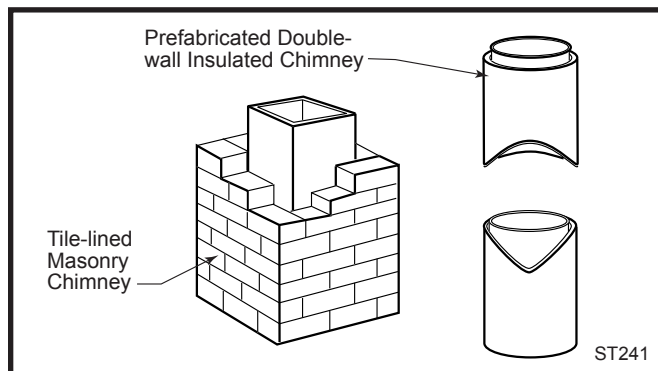


Fig. 2 Chimney types.

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-103-1985 (2100° F.) and have interior walls especially designed for use with coal-burning stoves. Be sure to follow the chimney manufacturer's instructions exactly when passing the chimney through a combustible wall or ceiling. Special accessories may be necessary for this type of installation.

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.

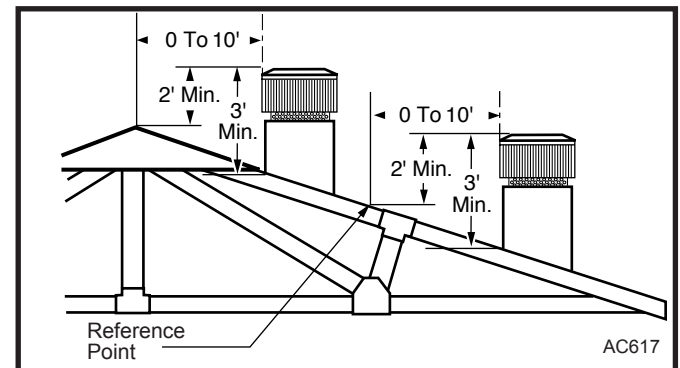


Fig. 3 The 2'-3'-10' chimney rule.

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: (Fig. 4)

- 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.

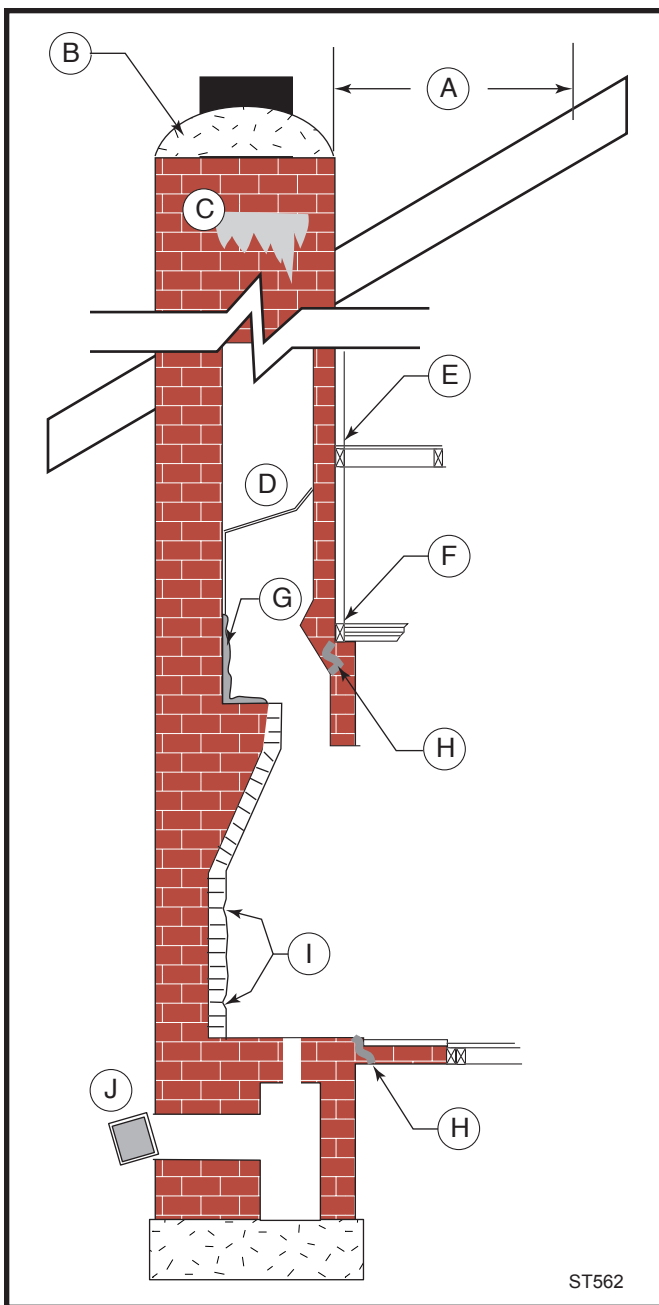


Fig. 6 Existing chimney.

- 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**

When outfitted with the standard 6" (150 mm) flue collar, The Vigilant II Coal Stove is designed to perform well when vented through flues that have these dimensions:

**Prefabricated**

Round Liner, I.D. 6" (150 mm)

**Masonry**

Square Liner 8" x 8" (nominal)

Rectangular Liner 7" x 11" (nominal)

Round Liner 6" (inside dimensions)

A Vigilant II Coal Stove equipped with the optional 8" (200 mm) flue collar is designed to perform well when vented through flues that have these dimensions:

**Prefabricated**

Round Liner 8" (inside dimension)

**Masonry**

Square Liner 8" x 8" (nominal)

Rectangular Liner 8" x 12" (nominal)

Round Liner 8" (inside dimensions)

**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 flue, 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. Keep all combustibles a considerable distance away from the stove; 48" is a good minimum clearance. 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 II 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

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.

## 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.

Stove shields and connector shields (used only on single-wall connectors) attach directly to the stove or connector. Wall shields attach to wall surfaces. Combinations of these shield types may be used.

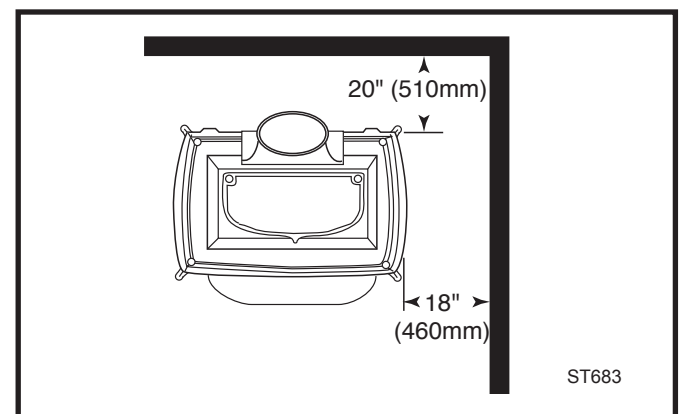
When shields are attached to the stove or chimney connector, they are mounted 1" - 2" away from the stove or connector surface on non-combustible spacers. The shiny shield surface facing the heat source must be left unpainted, enabling it to reflect heat back towards the stove or connector and away from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

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

## Unprotected Walls

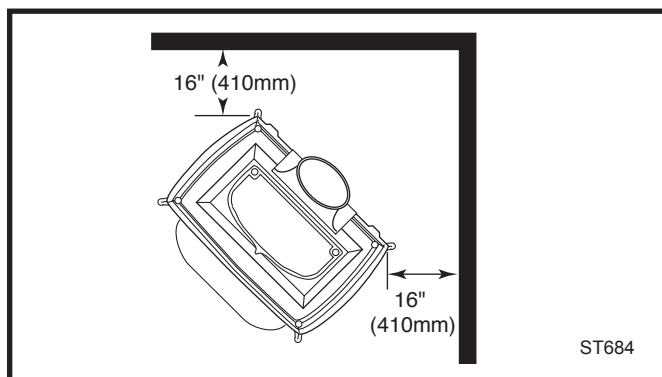
### Clearances With No Heat Shields

If the Vigilant is installed parallel to the rear wall (parallel installation) and no shields are used, the stove must be at least 20" (510 mm) from the wall behind it, and at least 18" (460 mm) from walls beside it.



**Fig. 5** Minimum clearances, parallel installation, no heat shield.

If the Vigilant is installed in a corner (corner installation) and no shields are used, the corners of the stove must be at least 16" (410 mm) from nearby walls. (Fig. 6)



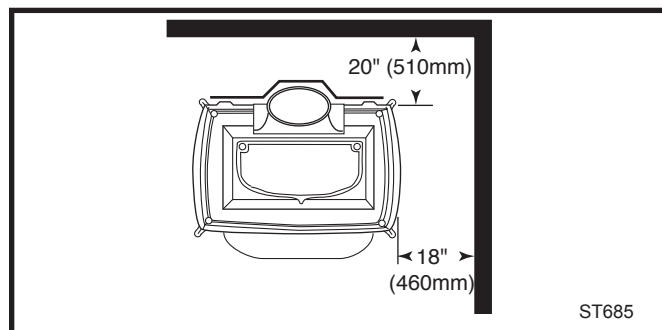
**Fig. 6** Minimum clearance, corner installation, no heat shield. Measure these distances from the edge of the top plate of the stove nearest the wall to the combustible part of the wall.

Unshielded single wall chimney connectors must be a minimum of 17" (430 mm) from the wall or ceiling.

### Clearances With Only the Stove Rear Heat Shield

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.

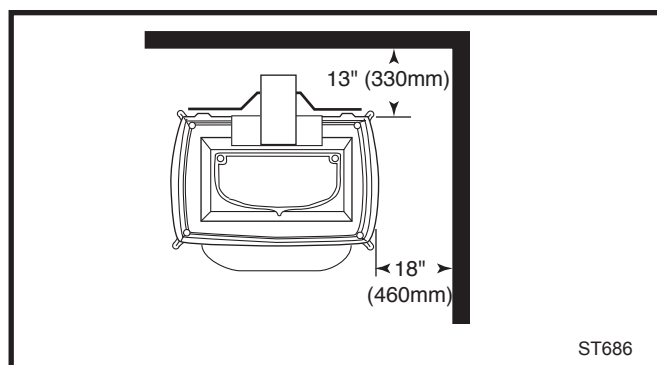
For **top-exiting** stoves, clearance to the **rear** wall is determined by heat from the unshielded **chimney connector**, not heat from the stove. Stove placement must ensure that the unshielded connector cannot overheat the rear wall. Reminder: Use the Flue Collar Heat Shield (#140-0924) included with the Rear Heat Shield #0175 to protect the area directly behind the flue collar. **Rear** clearance must be a minimum of 20" (510 mm), 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 18" (460 mm), measured from the edge of the stove top to the combustible component of the unprotected wall. (Fig. 7)



**Fig. 7** Minimum clearance, parallel installation, rear heat shield.

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 13" (330 mm), measured from the rear edge of the stove's top plate to the combustible part of the wall. Side clearance remains the same — 18", measured from the edge of the stove top to the side wall. (Fig. 8)



**Fig. 8** Minimum clearance, rear exit, rear heat shield.

For corner installations, the clearance is 16", measured from the corners of the stove perpendicular to the wall.

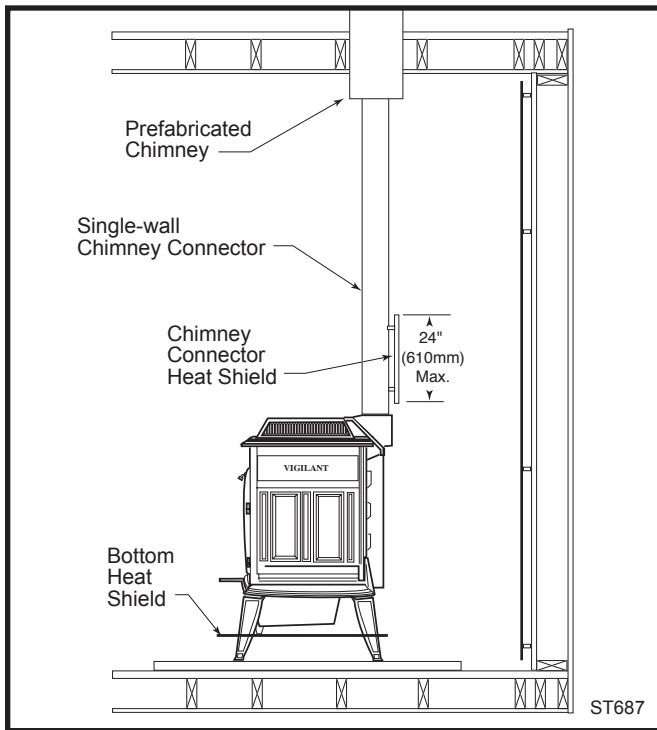
### Clearances With Double-wall Connectors, Or Single-wall Connectors And Connector Heat Shields

The Vigilant II Coal Stove listing includes using single-wall or double-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 emphasized 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.

Reminder: For top-exiting stoves using a rear heat shield, install the Flue Collar Heat Shield (#140-0924), included with the Rear Heat Shield #0175, to protect the area directly behind the flue collar. Instructions are included with the heat shield package.

When using a chimney connector heat shield on a single-wall connector, it may only extend 24" (610 mm) above the flue collar. The shield must come down to meet the top of the Flue Collar Heat Shield. (Fig. 9)





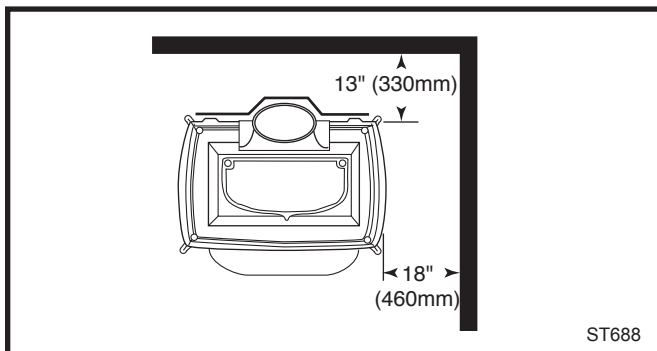
**Fig. 9** Chimney connector heat shields may be used to reduce clearances when single-wall connectors are used.

### Clearances With Double Wall Chimney Connectors And Rear Stove Heat Shields

When a rear heat shield is used on the stove and a double wall chimney connector is used, the rear clearance is 15½" (395 mm) and the chimney connector clearance is 12" (300 mm).

### Clearances With Single-wall Chimney Connectors, Connector Shields And Rear Stove Heat Shields

Use of both stove and chimney connector heat shields, on single-wall connectors, in top-exiting installations reduces the required clearance. (Fig. 10)



**Fig. 10** Minimum clearance, chimney connector heat shield, rear heat shield.

## Protected Walls

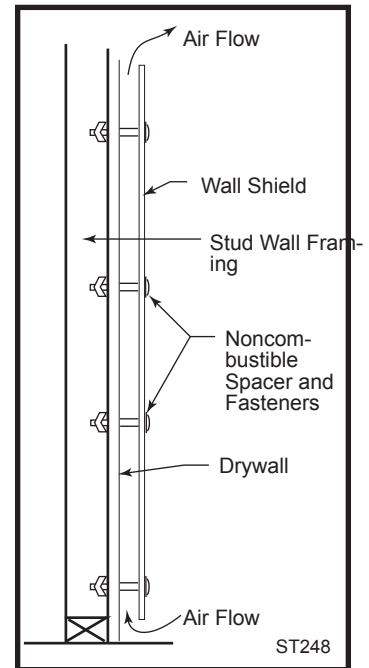
A properly constructed wall shield may be used to change an unprotected wall to a protected wall, allowing the clearances given in the right half of the Clearance Chart.

Wall shields should be constructed of 24 gauge or heavier sheetmetal, 1/2" noncombustible insulation board, or common brick laid on flat (3½" 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, must be centered behind the stove, and must be a minimum of 48" (1220 mm) wide by 48" high.

Side wall shields must be 48" (1220 mm) wide by 44" high, and must extend 15" (380 mm) beyond the front of the stove as measured from a point on the wall that is on the same plane as the door glass.



**Fig. 11** Wall shield construction.

<b>Vigilant II Clearance Chart</b>									
	<b>Stove Clearance</b>								
	<b>Unprotected Surfaces</b>			<b>Protected Surfaces</b>					
	<b>Stove Installed Parallel to Wall</b>		<b>Stove in Corner</b>	<b>Stove Installed Parallel to Wall</b>		<b>Stove in Corner</b>			
	<b>Side</b>	<b>Rear</b>	<b>Corners</b>	<b>Side</b>	<b>Rear</b>	<b>Corners</b>			
Single-wall connector No heat shields	18" (457 mm)	20" (508 mm)	16" (406 mm)	7" (178 mm)	13" (330 mm)	9" (229 mm)			
Single-wall connector Top exit Rear and chimney connector heat shields <sup>1</sup>	18" (457 mm)	13" (330 mm)	16" (406 mm)	7" (178 mm)	11" (279 mm)	9" (229 mm)			
Single-wall connector Rear exit, Rear heat shield	18" (457 mm)	13" (330 mm)	N/A	7" (178 mm)	11" (279 mm)	N/A			
Double-wall connector Top exit Rear heat shield	15½" (394 mm)	13" (330 mm)	16" (457 mm)	7" (178 mm)	10½" (267 mm)	9" (229 mm)			
<b>Chimney Connector Clearance</b>									
	<b>All Installations</b>			<b>All Installations</b>					
	Single-wall connector No connector heat shields			17" (432 mm)			9" (229 mm)		
	Single-wall connector Connector heat shields installed			11" (279 mm)			9" (229 mm) <sup>2</sup>		
	Double-wall connector			12" (305 mm)			7" (178 mm)		
<b>Clearance to Combustibles in Front of Stove</b>									
<b>All Installations</b>									
48" (1219 mm)									

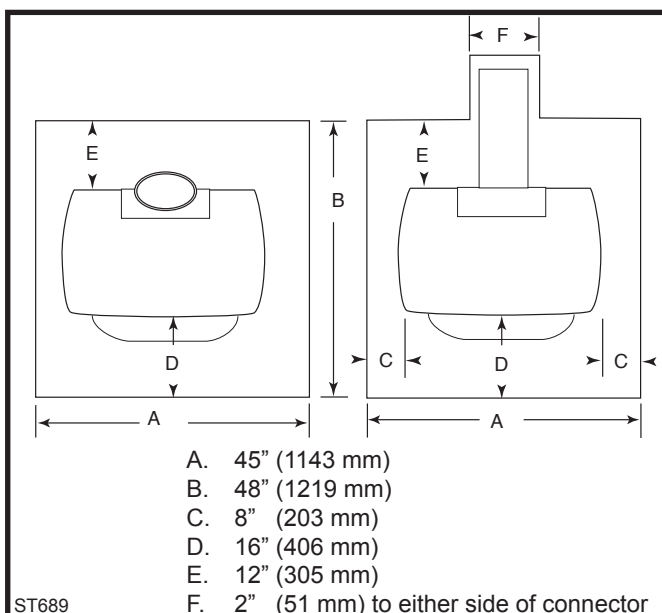
1. A ceiling heat shield, 24" (610 mm) in diameter and suspended 1" (25 mm) from the ceiling, must surround the chimney connector in installations in which the chimney connector penetrates the ceiling. The chimney connector shield extends only to 24" (610 mm) above the flue collar.
2. The ceiling heat shield required when the chimney connector shields are used should meet the wall protector. This will require trimming the ceiling shield along the line of intersection with the wall protector.

## Floor Protection Freestanding Installations

A tremendous amount of heat radiates from the bottom plate of a Vigilant Coal Stove, and the floor beneath requires special protection. A Vigilant Coal Stove Bottom Heat Shield (be sure to install the included shield insert when the shorter 7<sup>7</sup>/<sub>8</sub> (197 mm) legs are used) provides heat protection. A floor protector provides spark and ember protection.

Most installations will require the bottom heat shield together with its shield insert or “double bottom” and a floor protector be used. Only when the stove is placed on a completely non-combustible surface such as unpainted concrete over earth may it be used without either. In Canada, the double bottom heat shield is always required.

When using the standard 10” (250 mm) legs on the stove over a combustible floor, a single bottom heat shield must be used in conjunction with a floor protector that consists of a minimum of one layer of 24 gauge galvanized sheet metal or .25” thick mineral board or the equivalent. The floor protector must be at least 45” (1140 mm) wide x 48” (1220 mm) deep and must extend under the full length of any horizontal run of chimney connector. For the 6” (150 mm) connector that is standard with the Vigilant Coal Stove, the protector must be a minimum of 10” (250 mm) wide, centered under the connector. When the optional 8” (200 mm) connector is used, the protector must be a minimum of 12” (300 mm) wide and centered under the connector. When the shorter 7<sup>7</sup>/<sub>8</sub>” (197 mm) legs are used on the stove over a combustible floor, the double bottom heat shield must be used as well as a floor protector. The



**Fig. 12** Minimum floor protection requirements.

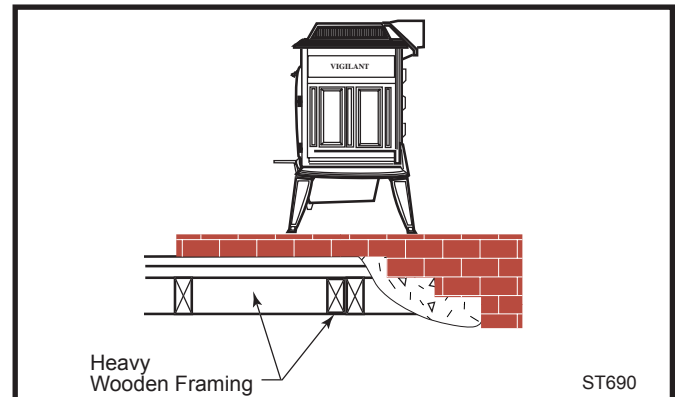
floor protector must meet the same requirements as for standard legs.

## Floor Protection for 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 the 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.



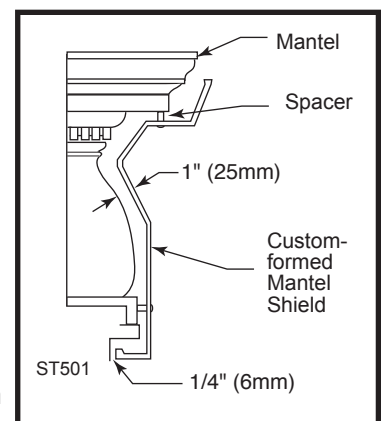
**Fig. 13** Additional protection may be required when the hearth is built over wooden framing.

## Fireplace Mantel and Trim Clearance

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. (Fig. 14)

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.



**Fig. 14** A custom formed mantel shield.

An unprotected mantel 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 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 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 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". (Fig. 15)

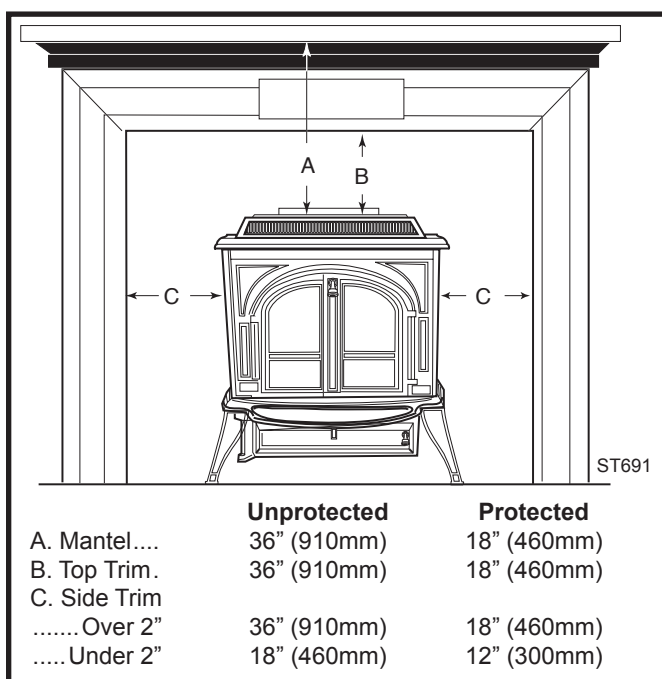


Fig. 15 Maintain clearances to combustible mantel components.

### 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. Also check with the chimney connector manufacturer for any specific requirements.

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 below 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 noncombustible.

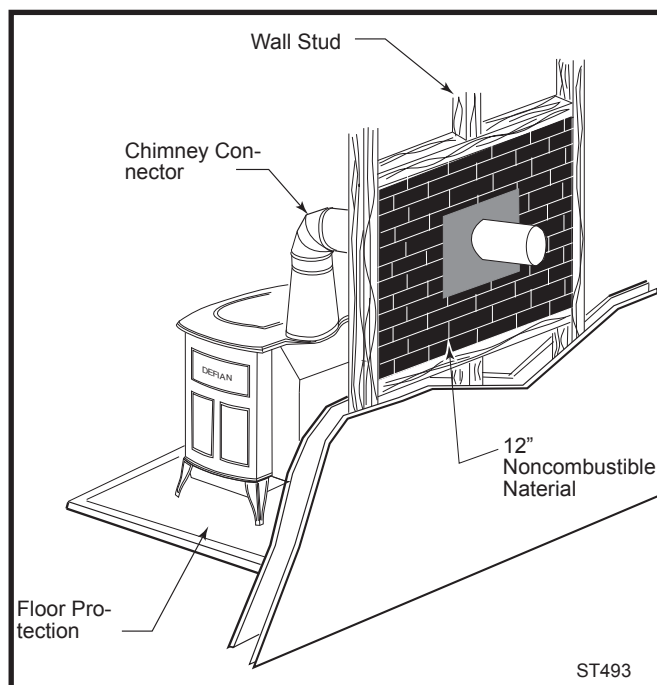


Fig. 16 An approved wall pass-through method.

Three other methods are also approved by the NFPA.

- Using a section of double-wall chimney with a nine-inch clearance to combustibles
- Placing a chimney connector pipe inside a ventilated thimble, which is then separated from combustibles by six inches of fiberglass insulating material
- 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. 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 to prevent the cooling of flue gases.

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 arrives completely assembled except for the installation of the legs and handle holder, and the assembly of the removable handle. The only tool needed are a 9/16" wrench, used to tighten the leg bolts.

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, and stored in the handle holder installed on one of the front legs.

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.

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## 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 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.
  - 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.
- Your dealer may offer a variety of specialty pipe pieces to simplify the installation, including slip pipes and thimble sleeves that can be used to form telescoping joints between sections of chimney connector. Telescoping joints may eliminate the need to cut individual sections of connector.

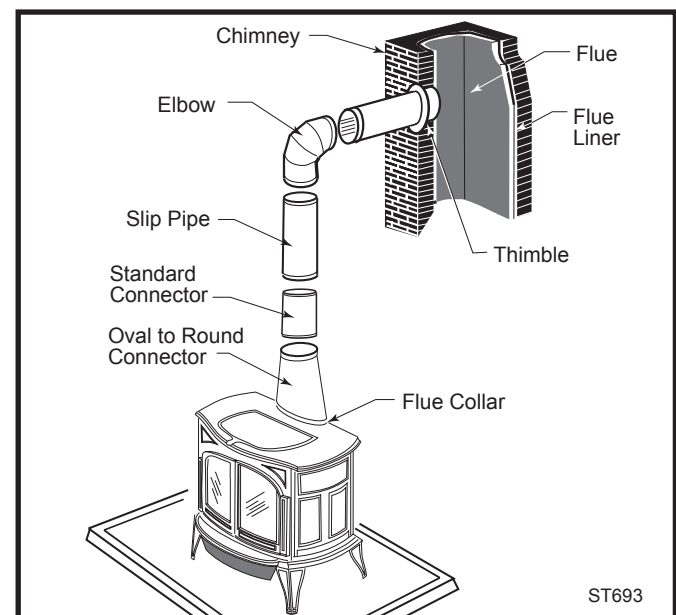


Fig. 17 An exploded view of the chimney connection in a freestanding masonry installation.

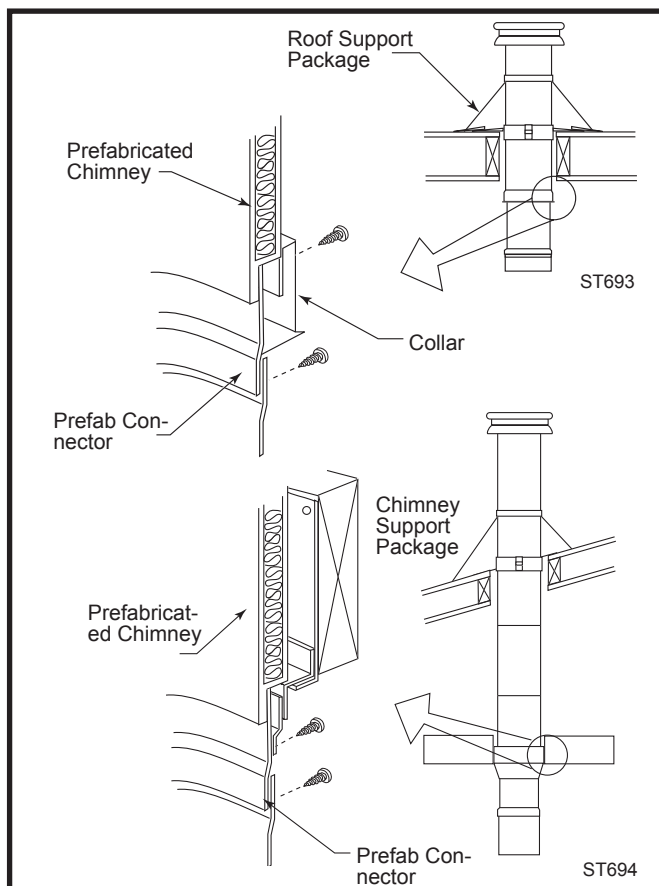
## Securing the Connector to a Prefabricated Chimney

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.

Again, your dealer can supply a variety of specialty pieces to simplify the installation. Some adaptors, for example, enable you to make an attachment directly to the chimney or to the chimney's ceiling support package. The bottom of the adaptor is screwed to the chimney connector. (Fig. 18)

Some pieces are 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 with an outside dimension greater than 10¼", or with triple-wall chimneys, check with the manufacturer of the chimney for the right trim collar to finish the installation.

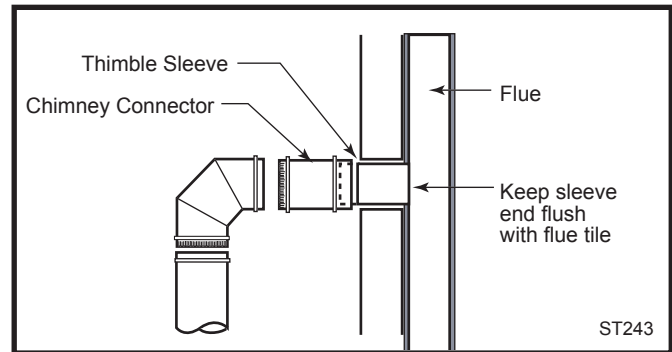


**Fig. 18** Special pre-fab chimney connectors may be available from the chimney manufacturer.

## Securing the Connector to a Masonry Chimney

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



**Fig. 19** The thimble, made of either ceramic or metal, must be cemented securely in place.

The opening through the chimney wall to the flue (the "breach") must be lined with either a ceramic or metal cylinder, called the "thimble", which is securely cemented in place. Most chimney breeches incorporate thimbles, but check to be sure the fit is snug and the joint between thimble and chimney wall firmly cemented.

A thimble sleeve, available from your local dealer, will facilitate the removal of the chimney connector for inspection and cleaning. The thimble sleeve is slightly smaller in diameter than standard connector pipe and most thimbles.

It is installed by sliding it into the breach until it is flush with the inner wall. It should not extend into the actual flue passage, however, since this could interfere with the draft.

The thimble sleeve should protrude 1-2" (25-50 mm) into the room, and should be sealed in place with furnace cement and thin gasketing.

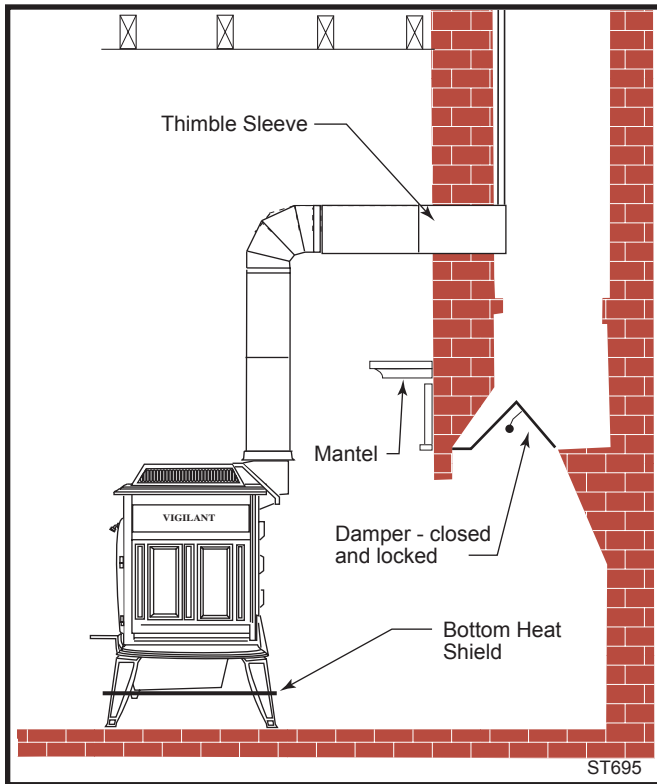
Once the thimble sleeve is installed, the chimney connector should be attached to it with sheet metal screws.

Lacking a thimble, a suitable length of chimney connector can be extended through the breach to the inner face of the flue liner, and securely cemented in place. Additional pieces of connector are then attached with sheetmetal screws.

### Above a 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:



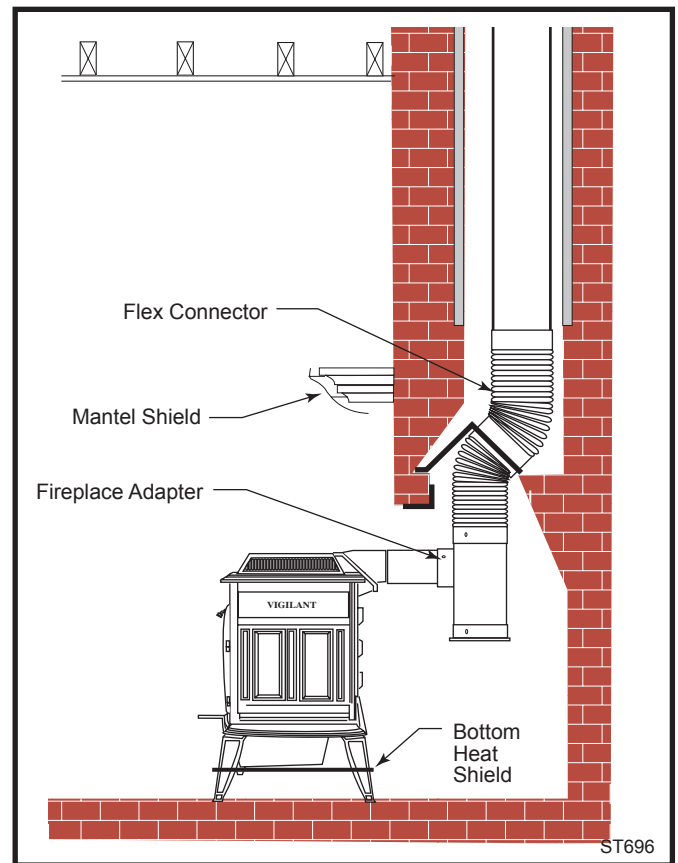
**Fig. 20** In this installation the chimney connector is attached to the chimney above the fireplace.

- 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.

#### Through a 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



**Fig. 21** In this installation, the chimney connector enters the fireplace opening and then connects to chimney.

connector pipe. Do not make the narrowest width less than 5½”.

- 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.**

## Operation

### The Vigilant Controls

#### The Thermostat Lever

Adjust the thermostat lever to control the heat level. Move the thermostat lever to the left to make the fire burn hotter. Move it to the right for less heat.

The thermostat regulates the heat level when the stove is operating by controlling the amount of combustion air entering the stove. The heat level is based on the setting of the thermostat lever and the strength of your chimney's draft. (Refer to Page 4 for more information on draft.)

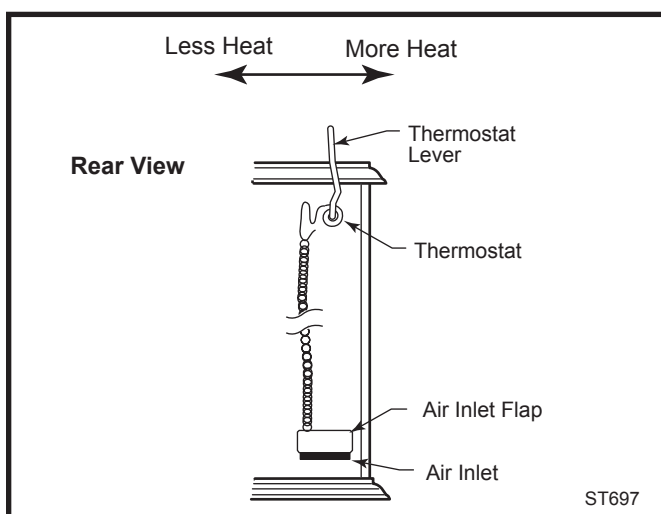


Fig. 22 The components that regulate incoming air.

#### The Damper

Use the internal damper to control the direction of exhaust flow within the stove.

When the damper is open, smoke goes directly to the chimney. The resulting heat warms the chimney and helps develop and maintain the strongest draft.

When the damper is closed, smoke—and heat—is held in the stove longer. This results in more heat radiated into the room and less heat going up the chimney.

The Vigilant II Coal Stove may be set for a long burn with the damper either open or closed. However, some chimneys may require the extra heat provided when the damper is open for best operation.

The thermostat lever will continue to control the amount of combustion air entering the stove to ensure a steady heat output.

### Fuel

High quality fuel gives best results

Pea or nut-sized coal, either anthracite or bituminous, may be burned. Anthracite coal that has a low ash content will provide more heat with less ash than most other types of coal. Your fuel dealer may be able to provide you with information about the ash content of the coal he sells.

The Vigilant II Coal Stove is designed to burn anthracite (hard coal) or bituminous coal (soft coal). Do not burn other fuels. As shipped from the factory it is set up to burn bituminous coal.

If you wish to burn anthracite, call your Vermont Castings Authorized Dealer, and request that your stove be modified to burn anthracite. The dealer will make the modification and attach a label to the top of the ash door stating that the stove has been modified to burn anthracite, and warning against burning bituminous coal in the modified stove. If your stove has the label attached to the top of the ash door, it has already been modified. Refer to Page 26.

**Do not burn bituminous coal in a stove which has been modified to burn anthracite.** Burning bituminous coal in a stove which has been modified to burn anthracite could cause very high temperatures and create a hazardous condition.

Coal should be stored under cover to maintain dryness. Even for short term storage, keep coal a safe distance from the heater and keep containers of coal out of the areas around the heater used for refueling and ash removal.

### Starting a Coal Fire

The most important step to a successful coal fire is to build a thick bed of hardwood or charcoal briquette coals on the grates. Coal requires a high ignition temperature compared to wood, and a concentrated ember bed is necessary to get a coal fire going. In addition, the heat produced during this step is necessary to warm the flue and establish a strong draft.

Follow this procedure to start a coal fire:

1. Cover the grates with crumpled newspaper. Add a layer of short, finger-sized kindling wood, preferably hardwood. **NOTE:** Do not build the fire close to the glass. Open the damper, close the griddle, and move the thermostat lever to the left.
2. Light the paper, and once the kindling is burning briskly, add a layer of larger wood or untreated charcoal.



3. Continue building up the fire until there is a thick bed of hot embers on the grates.

**IMPORTANT:** Don't hurry this part of the burn. Inadequate preheating of the chimney system is the most common cause of poor coal stove performance.

**NOTE:** The cast iron plates in your Vigilant will "season" as they heat and cool 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.

4. Add a moderate layer (1" - 2") of coal. When this is burning well, indicated by a blue flame just above the first layer, you may add coal layer by layer. Be sure each new layer is burning well before adding the next layer.

**CAUTION: Hot while in operation. Keep children, clothing, and furniture away. Contact may cause skin burns.**

5. 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 an inch below the exhaust ports.

**SAFETY NOTE: Do not burn garbage or flammable fluids such as gasoline, naphtha, or engine oil. 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 if ignited.**

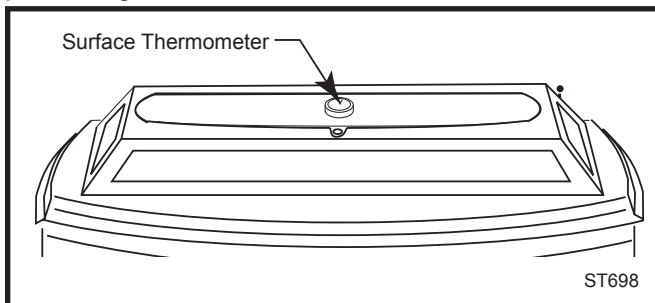
**CAUTION:** Follow these instructions carefully to get the safest, most efficient results with your stove. Failure to follow these instructions may result in a dangerous chimney or house fire.

## Daily Operation

### Surface Thermometer

Use a surface thermometer to monitor stove performance.

The Vigilant's surface temperature, determined by placing a stove thermometer in the middle of the griddle, can provide helpful information about how the stove is performing.



**Fig. 23** A stove thermometer can provide helpful information about how the stove is performing.

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The normal range of operating temperatures is between 400° and 700° F, although temperatures slightly outside of this range may be expected. However, if temperatures go above 700° F for extended periods, decrease the air supply (move the thermostat lever to the right) and slow the fire to avoid overfiring.

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.

If the surface temperature drops below 400° F, revive the fire by one of the following:

- Increase the air supply by moving the thermostat lever to the left.
- Open the damper.
- Clear ash from the grates and empty the ash pan.
- Re-load the stove.
- Add a layer of untreated charcoal or NON-SELF-STARTING charcoal briquettes.
- If the coal needs to be re-ignited, try placing a small amount of very dry, finely split kindling on top of the coal bed. The heat produced by the burning kindling will increase the draft, and the improved draft will increase the air flow through the coal bed to create better conditions for ignition.

## Internal Damper

The internal damper provides operating flexibility

Operate the Vigilant with the damper open when starting the fire, when re-building the fire after a long burn, or when burning a small fire with moderate heat output. Close the damper only after establishing a strong fire and a good draft by burning the stove with the damper open.

Because installation characteristics vary, the time necessary to establish a good draft may also vary, from approximately 5 to 30 minutes or more. Exterior chimneys are generally more difficult to heat up, and may require the longest period of time.

On large and/or outside chimneys, the damper may always need to be open for the flue to be sufficiently warmed so that it will support an adequate draft. Even if this is necessary, the Vigilant will operate effectively.

Be sure to open the damper and run the stove for a few minutes before opening either the griddle or the front doors. This will direct extra heat to the flue to increase the draft, and will clear exhaust gases from the baffle system. Do not leave doors and griddle open simultaneously to avoid having gases escape.

### Reloading the Stove

Put on a small layer of fresh coal and allow it to catch before clearing the grates of ash. Once the new coal is ignited, 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 ash from between the bars of the front grill. Also, clear ash from along the sides and the back of the grate area. Leave a bed of hot coals on the grates to ignite new fuel.

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. Once the fire is burning briskly again, you may add coal layer by layer until you have re-built a full bed.

The new fuel must be burning briskly before you reduce the air supply or close the damper.

### Important Warm-weather Considerations

Draft strength depends on the temperature difference between the outside air and flue gases. When the outside temperature rises, this temperature difference becomes smaller and draft problems can result.

Avoid draft problems when the outside temperature is 35°F. or higher, by operating your stove with the damper open to keep flue temperatures high.

If draft problems occur when the wind is blowing, install a chimney cap designed to stabilize draft under windy conditions.

### Remove Ash Regularly

To avoid blocking incoming air, empty the ash pan before the ash reaches the top of the pan. Empty the ash pan before shaking the grates so you do not have to handle an ashpan that is full of hot embers. Use care when handling and disposing of ash, particularly if there are hot embers.

To empty the ash pan, open the ash door and remove the pan from the stove. Carry the pan to your ash disposal container.

Check that there is no accumulation of ash in the bottom of the stove, and remove any that is found before replacing the ashpan.

### Dispose of Ash Safely

A container for ash disposal must be made of metal and must have a tight fitting lid. It must be located outdoors away from all combustible material. Ash taken from an operating stove may continue to burn and to generate heat and gases for many days.

Dispose of ash properly. Coal ash should not be used in the garden, as it may contain unacceptable levels of toxic heavy metals.

## Maintenance

The fire must be out and the stove no longer hot before you work on the stove. We suggest you wear gloves and safety goggles when working on your stove.

### 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.

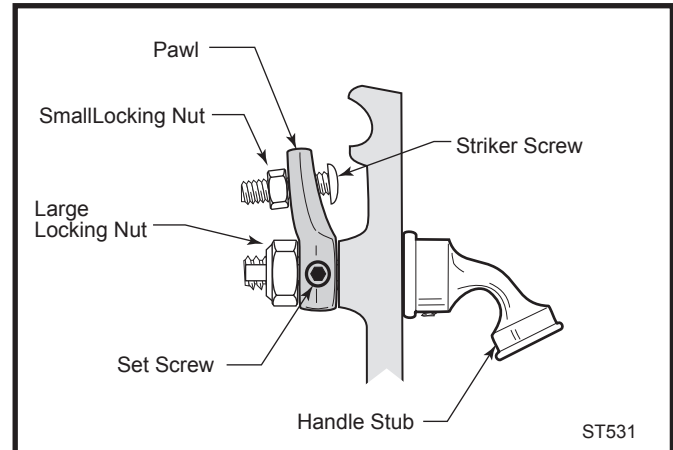
### Cleaning Porcelain Enamel

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 finish.

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.

### Adjusting 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.



**Fig. 24** Turn the door latch striker screw in or out to tighten or loosen the door latch.

### Check 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.

Be sure the gaskets are in good condition

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 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.

- Lift the Front Grille straight up so that you may direct the tabs on either side of the top of the grille into the exhaust ports at the top of the side plates. Slide the tabs of the grille backward and lift the grille to a horizontal position.
- Move one end of the grille forward and the other end backward so the tabs may be disengaged from the exhaust ports. Then lift the grille out through the griddle opening.

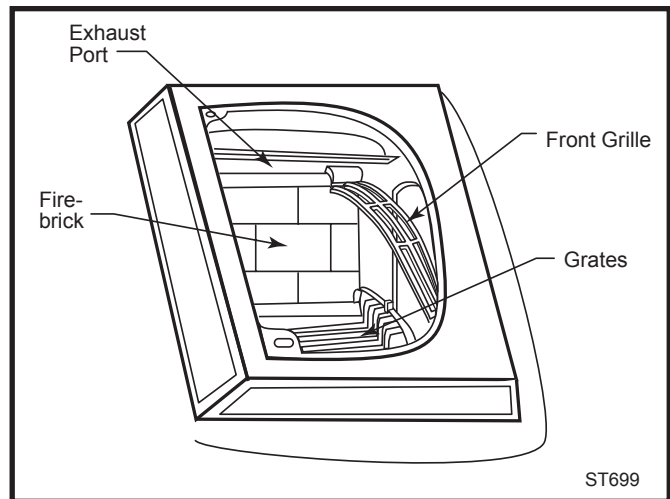


Fig. 25 Interior parts of the Vigilant II.

- 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.

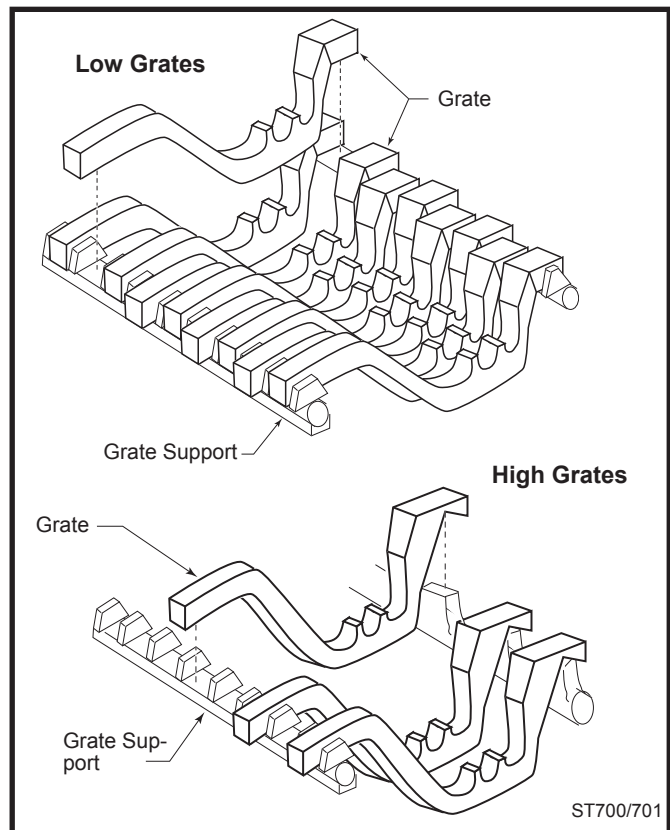


Fig. 26 Placing low grates on grate support.

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 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
- Front Grille

### Clean the Glass as Needed

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.

### How to Replace Damaged Glass

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:

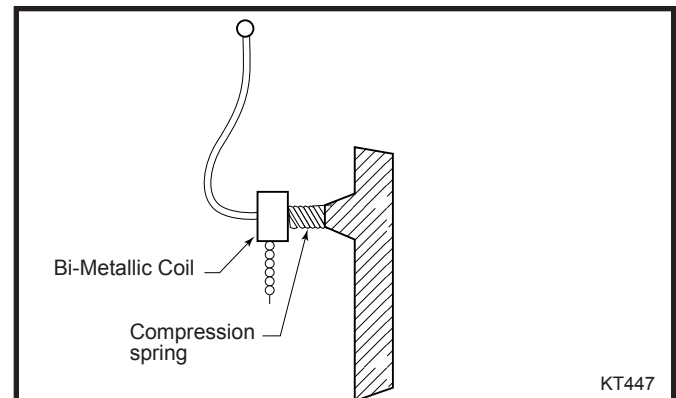
1. Place the door, interior side up, on a level work surface.
2. Remove the two retainer clips. Carefully remove the old glass.
3. Examine the gasketing. Worn gasketing should be replaced. Remove the old gasketing. Cut new gasketing to fit around the sides and top of the window opening. Secure the new gasketing in place with a thin bead of gasket cement.

4. 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.
5. Reinstall the retainer screws; do not overtighten.

## Replace Thermostat Assembly

### Remove the Old Thermostat Assembly

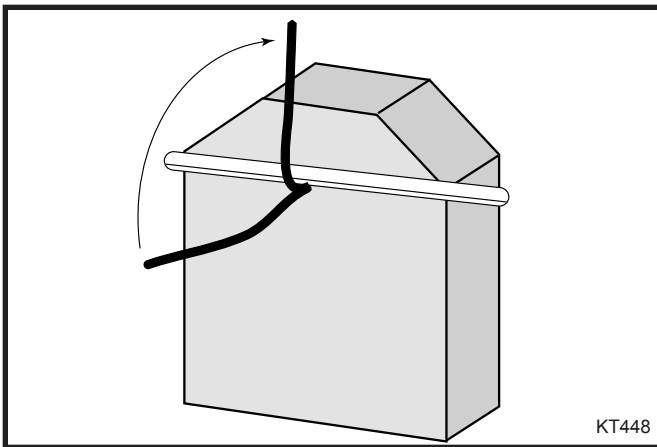
1. Disconnect the ball chain from the air intake shutter. You may need to grip the chain with pliers.
2. Remove the screw that holds the sheet metal or cast iron thermostat cover in place, and take the cover off. You may need to bend the thermostat lever away from the stove to remove the cover.
3. Unscrew the thermostat lever from the back of the stove. Save the small compression spring for use with the new lever.



**Fig. 27** Save compression spring for new thermostat lever.

### Install the New Thermostat Assembly

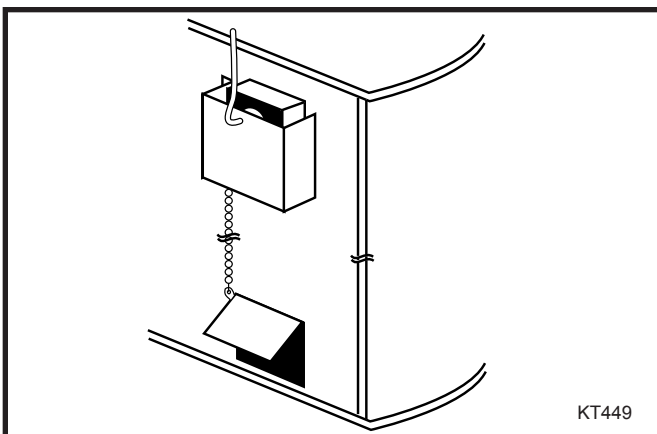
1. Put the compression spring on the threaded shaft of the new lever. Start screwing the lever into the back of the stove, being careful to avoid cross-threading. The lever should turn easily. If it does not, back the lever out and start over. A drop of light machine oil on the threads may help.
2. Keep turning the lever until you feel resistance caused by the spring being compressed. Turn the lever one more revolution.
3. Replace the thermostat cover.
4. Bend the thermostat lever into position. The thermostat lever may need to be bent slightly toward the stove to be easily accessible. (Fig. 28)



**Fig. 28** Hold the bar in place as you bend the new lever into position.

### Adjust the Chain Length

1. Make the initial chain adjustment when the stove is cold. With the lever pointing straight up, connect the ball chain to the air intake shutter so the shutter is half open. This setting will work well for most installations.
2. Replace the back heat shield if there was one installed originally.
3. Check these three important points when the stove is hot:
  - The chain should be long enough so the air intake shutter can close all the way.
  - The chain should be short enough so that even at high temperatures the air intake shutter can be opened a little.
  - The lever should always be accessible over the stove top.



**Fig. 29** On a cold stove, a properly adjusted thermostat assembly will draw the shutter half open when the lever is straight up.

## The Chimney System

For safety, good stove performance, and to protect your chimney and chimney connector, inspect your chimney and chimney connector on a regular schedule. Clean the system if necessary. Failure to keep the chimney and connector system clean can result in a serious chimney fire.

When coal is burned, the products of combustion combine with moisture to form a soot residue which accumulates on the flue lining. When ignited, this soot makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every two weeks during the heating season to determine if a soot buildup has occurred. If soot has accumulated, it should be removed to reduce the risk of a chimney fire.

Fly ash, carried from the fuel bed by draft in the chimney, should also be removed from the chimney and chimney connector. While these particles are non-combustible, they may accumulate enough to reduce the size of the flue, 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.

To inspect the chimney, let the stove cool completely. Then, using a strong light, sight up through the flue collar into the chimney flue. If it is not possible to inspect the flue system in this fashion, the stove must be disconnected to provide better viewing access.

Clean the chimney using a specially designed brush the same size and shape as the flue liner. Flexible fiberglass rods are used to run the brush up and down the liner, causing any deposits to fall to the bottom of the chimney where they can be removed. The chimney connector should be cleaned by disconnecting the sections, taking them outside, and removing any deposits with a stiff wire brush. Reinstall the connector sections after cleaning, being sure to secure the individual sections with sheetmetal screws.

If you feel any uncertainties about chimney inspection, contact your local Vermont Castings Authorized Dealer, or engage a professional chimney sweep in your area to perform the inspection and cleaning of the chimney.

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.

### 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.
- Inspect chimney connector and chimney. Clean if necessary.

### Two Months:

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

- Check the grates and gasketing for wear; replace gasketing if necessary.
- Inspect the stove interior air ports and passageways; look for fly ash or coal that might block either incoming or outgoing gases.
- 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.
- 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.
- Is the door handle adjusted so the doors close tightly? Instructions for adjusting the handle are given in the Maintenance Section.

## Draft Problems

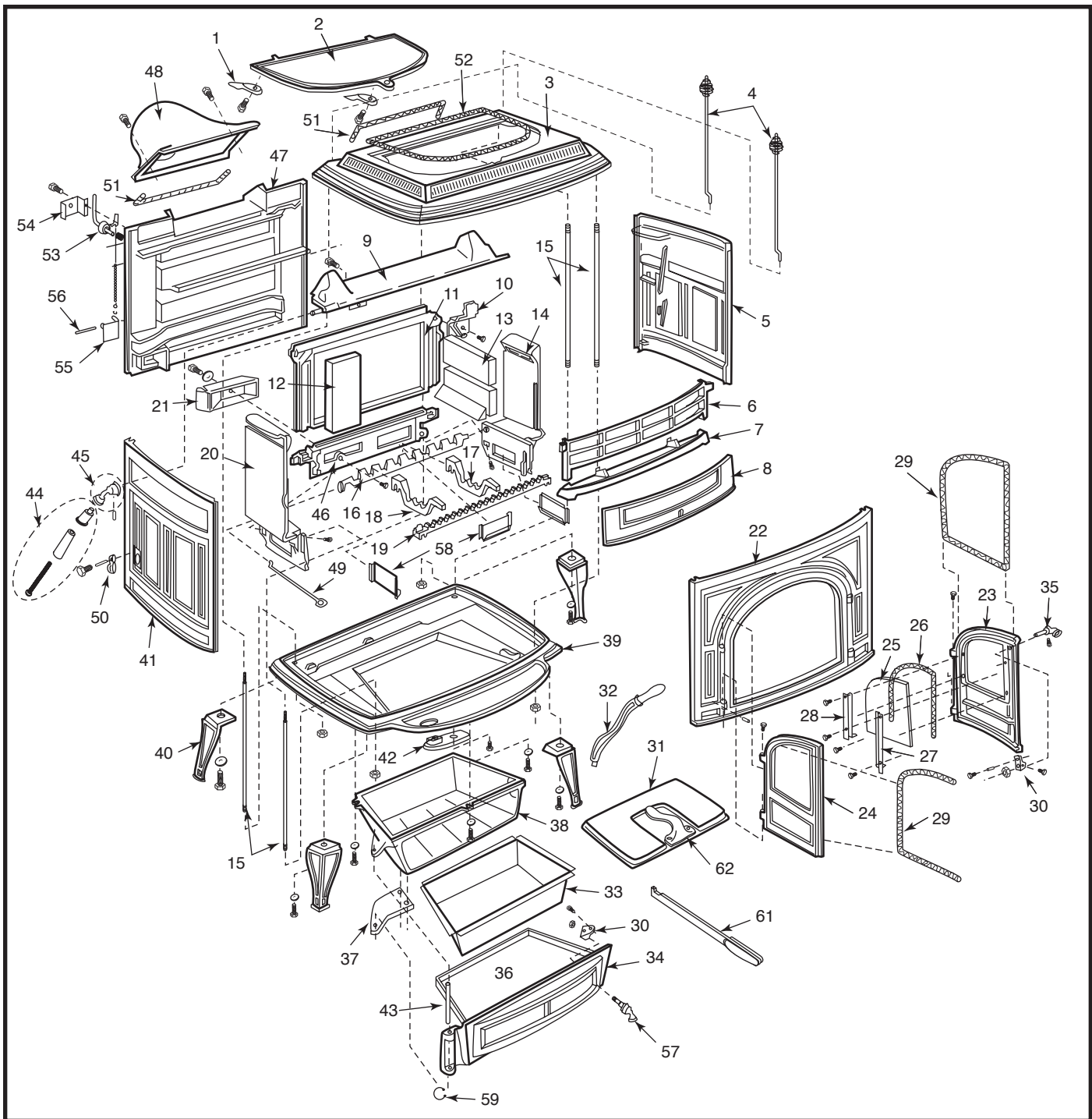
If the draft in the chimney is interrupted, smoke, which contains carbon monoxide and other toxic gases, may be forced out of the stove and chimney and into living areas. This is a potentially hazardous condition. If you notice a sulfur-like smell or if smoke backs out of the stove frequently, let the 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.

## Safety Tips

- 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.



MHSC reserves the right to make changes in design, materials, specifications, prices and discontinue colors and products at any time, without notice. 0898

# Vigilant Coal II

## Model 2310

Item Description	Part Number
1. Griddle Quad	1300809
2. Griddle	1300797
3. Top	1304251
4. Mittenrack	1601705

Item Description	Part Number
5. Right End	1304262
6. Front Grille	1305029
7. Fettle	1305047
8. Ashpan Front	1305033
9. Damper Assembly w/Welded Pin	5000992
10. Damper Retainer	1305018
11. Upper Fireback	1305022
12. Split Firebrick	1601103



## Vigilant Coal II

### Model 2310 (continued)

Item Description	Part Number
13. Triangle Firebrick	1600906
14. Right Inner Side	1305002
15. Tie Rod (1)	1601629
Tie Rod Set (4)	5007497
16. Rear Grate Support	1305011
17. High Grate Bar	1305040
18. Low Grate Bar	1305039
19. Front Grate Support	1305009
20. Left Inner Side	1305001
21. Primary Air Tube	1305015
22. Front	1304273
Front with Doors Assembly	5000945
23. Right Door	1304216
24. Left Door	1304224
Door Pin (Hinge Pin) 3/16 x 1 1/8 - NJ	1600546
25. Glass Panel	1401119
26. 3/16" Fiberglass Gasket and Black	1203556
27. Long Glass Clip Retainer - s/s	1601392
28. Short Glass Clip Retainer - s/s	1601391
29. 5/16" Fiberglass Gasket	1203588
30. Latch Pawl Assembly	5004024
31. Ashpan Cover w/ Handle	1601027
32. Shaker Handle	1600903
33. Ashpan	1400927
34. Ashdoor	1305045
35. Front Door Handle Assembly	5004237
36. Ashpan Bracket	1601039

Item Description	Part Number
37. Ashdoor Hinge	1305046
38. Ashdrop	1305044
39. Bottom	1305043
40. 10" Leg	1305048
41. Left End	1304269
42. Shaker Handle Support	1305049
43. Ashdoor Hinge Pin	1201835
44. Ceramic Handle Assembly	0004342
45. Damper Handle Assembly	5004265
46. Lower Fireback	1305025
47. Back	1304278
48. 6" Round Flue Collar	1305050
49. Shaker Rod (10 1/2")	1600904
50. Air Control	1300671
51. 5/16" Adhesive-backed Gasket	1203591
52. 5/16" Armaseal Gasket	1203668
53. Thermostat Assembly	5005483
54. Thermostat Cover	1601487
55. Thermostat Flap Assembly	N/A
Substitute:	5005410
56. Thermostat Pivot Pin	1601555
57. Ashdoor Handle with Shaft	5004244
58. Cleanout Cover	1602202
59. C-Clip	1600553
61. Slicer/Poker Assembly	5005708
62. Ashpan Cover Handle	1301254
Airplate	1600908
Allen Wrench, 1/8"	1205116
Allen Wrench, 5/32"	1205147
Door Handle Holder	1600600

## Anthracite Conversion

The Vigilant II Coal Stove is a combination burner, able to burn either bituminous coal (soft coal) or anthracite (hard coal). The Vigilant II Coal stove is shipped from the factory set up to burn bituminous coal.

The stove must be modified to burn anthracite. After the stove has been modified, a label is attached to the top of the ash door. The label warns that there is a risk of excessive temperature and damage to the unit and that proper operation requires the use of only nut or pea size anthracite coal.

Less combustion air is needed when the stove is burning bituminous coal than when burning anthracite. The modification from bituminous to anthracite consists of removing an air restrictor plate from the lower fireback. This allows the correct amount of combustion air into the firebox for efficient burnign of anthracite. Burning bituminous coal with the restrictor plate remvoed would allow too much combustion air into the firebox. Very high temperatures and a hazardous condition could result.

To adapt the Vigilant II for burning anthracite, it will be necessary to remove the restrictor plate and attach the warning label to the top of the ash door.

### Conversion Instructions

Remove the Air Restrictor Plate.

The plate is installed on front left of the left fireback.

A screw passing through the restrictor plate prevents the plate from being lifted and removed from the fireback.

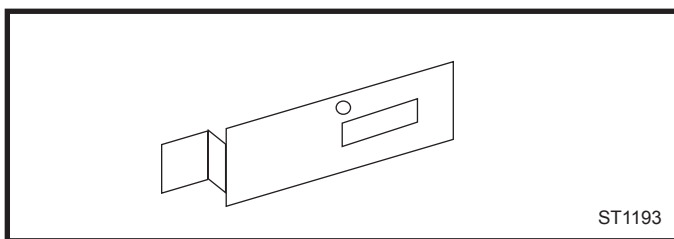


Fig. 30 Air restrictor plate.

To reach the screw it is necessary to remove some parts of the grate system. Refer to Figure 1.

- Fettle
- Front Retainer Grille
- High and Low Grate Bars from the left half of the firebox

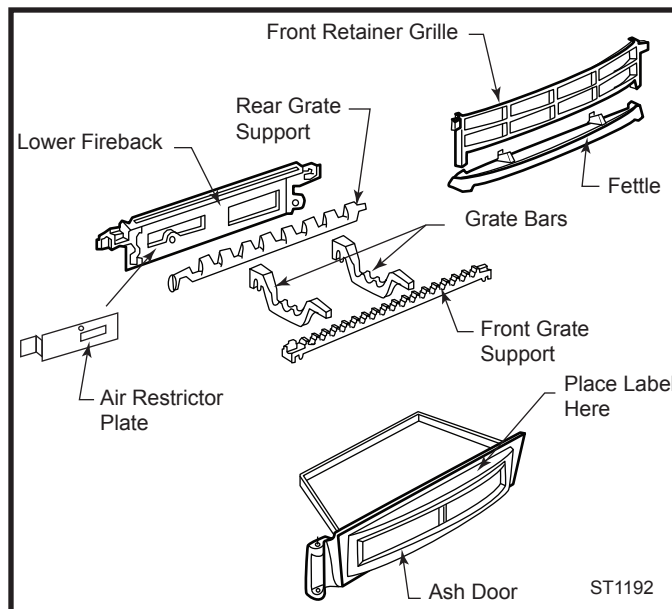


Fig. 31 Parts to remove for anthracite conversion.

The screw can be seen between the “teeth” on the left side of the rear grate support.

- Remove the screw.
- Lift the right end of the plate so the tab folded on the back of the plate clears the opening in the fireback and pull toward you.

Replace the grate bars, front retainer grille and fettle. Attach the warning label to the ash door.

- Clean ash and dust from the top of the ash door.
- Remove the adhesive backing from the label.
- Center the label on the top of the door and press it firmly in place.

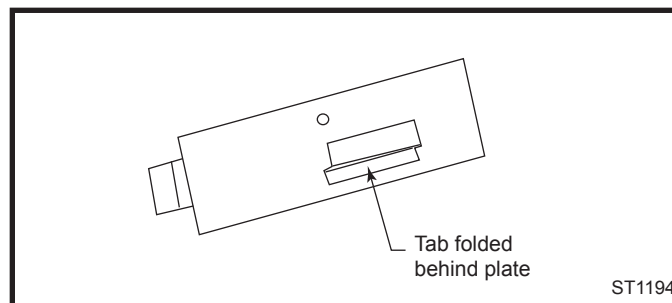


Fig. 32 Rear tab.

## Limited Three Year Warranty

MHSC warrants that this Vigilant II 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 for one year as described below.

MHSC will repair or replace, at its option, any part found to be defective upon inspection by a Vermont Castings Authorized Dealer. The customer must pay for any Authorized Dealer in-home travel fees or service charges. 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 II Coal Stove or part thereof that is repaired or replaced during the limited warranty period will be warranted for a period not to exceed the remaining term of the original limited warranty or six (6) months, whichever is longer.

## Limited One Year Warranty

The following parts of the Vigilant II 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 and Limitations

1. This warranty is transferable; however, proof of original purchase is required.
2. MHSC offers no warranty on chipping of enamel surfaces. Inspect your Vigilant II Coal Stove prior to accepting it for any damage to the enamel.
3. This warranty does not cover misuse of the Vigilant

II Coal Stove as described in the Owners' Manual, nor does it cover a Vigilant II Coal Stove that has been modified unless authorized by a Vermont Castings' representative in writing.

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 II Coal Stove. (Do not operate the Vigilant II Coal Stove as this may negate the 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 the Owner's Guide.

## How To Obtain Service

If a defect is noted within the warranty period, the customer should contact a Vermont Castings' Authorized Dealer 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, ie., installation, mode of operation when defect was noted.

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

**MHSC**

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[www.mhsc.com](http://www.mhsc.com)