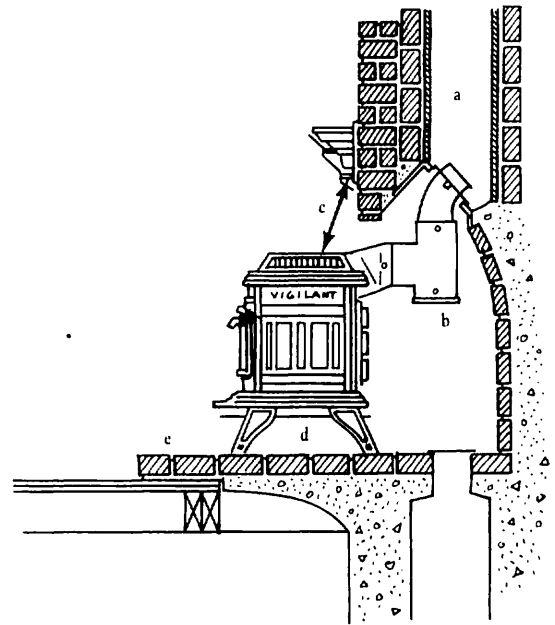


FIREPLACE INSTALLATION—ABOVE DAMPER

- a) Tile-lined masonry chimney
- b) Thimble
- c) Stovepipe should not project into flue
- d) Horizontal pipe heat shield allows min. 7" clearance to combustible ceiling
- e) Vertical pipe heat shield allows min. 7" clearance to combustible mantle
- f) Damper closed and sealed
- g) Bottom heat shield protects combustibles beneath hearth
- h) Hearth extension provides floor protection min. 18" from stove front, load door & 12" from stove sides



VERMONT CASTINGS FIREPLACE STOVE ADAPTOR

- a) Tile-lined masonry chimney
- b) Vermont Castings Fireplace stove adaptor kit (fully assembled)
- c) Combustible mantle protected by custom fabricated heat shield—allows 18" clearance to stove top
- d) Bottom heat shield protects unknown combustible hearth construction (floor joists, etc.)
- e) Hearth extension to provide min. 18" floor protection from stove front, load door & 12" from stove sides

and eighteen inches beyond the front and loading door end. This means that the minimum hearth pad dimensions for the three stoves are as follows:

- Defiant: 64 inches wide x 48 inches deep
- Vigilant: 53 inches wide x 48 inches deep
- Resolute: 52 inches wide x 46 inches deep

The hearth pad must also cover the floor directly under the stovepipe and extend two inches on either side of the pipe.

With the legs installed, the hearth in place, the flue connections made, and the stovepipe connections secured the only additional preparation that needs to be done is the addition of about 1½ inches of ashes or sand to the bottom of the stove as an insulating, protective layer. This should be spread evenly across the bottom of the stove to protect the bottom of the stove as well as the floor beneath from excessive heat. Ashes taken from

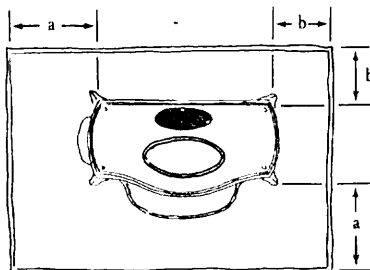
another stove or fireplace are preferable, but sand may be used as well.

Wall Protection

Clearances to combustible walls can be further reduced with the use of Vermont Castings stove and stovepipe heat shields and a properly sized and constructed wall shield. Wall shields should be spaced at least one inch from the wall on noncombustible spacers. Noncombustible materials applied directly to sheet rock or wood studs are not adequate protection for a combustible wall. Even noncombustible materials will transfer heat to the combustible wall or framing members behind them. The ventilated shield should be supported one inch off the floor and, if extended to the ceiling, should stop one inch below the ceiling to allow for adequate air circulation.

A screen applied to the top and bottom of the shield will prevent any materials from lodging behind the shield and reducing its effectiveness. This screen must have a mesh large enough to allow at least 50% of the air to pass through it. The wall shield itself should consist of one sheet of one-quarter inch asbestos cementboard or millboard or any noncombustible material you prefer over a one-quarter inch sheet of asbestos cementboard or millboard.

For further information regarding wall shield sizing and construction refer to the Vermont Castings Installation Guide.



DEFIANT FLOOR PROTECTION
a = 18"
b = 8"

OPERATION

Please read this section carefully. Improper stove operation can create hazardous conditions and may result in damage to your stove.

Cast iron expands as it is heated and contracts as it is cooled. Like an old Model A, your wood stove requires a break-in period to allow the cast iron plates to settle in. If allowed to gradually adjust to these changes, the metal will withstand a great deal of thermal stress with no damage. Extreme, rapid temperature changes, however, may cause the castings to fracture or fatigue.

Before kindling your first fire, the bottom of the stove must be insulated with 1½" of sand or ashes. Never start a fire in the stove without this insulating layer.

Be sure to wash the oil coating off of the griddle with warm, soapy water and then towel it dry. The griddle will gradually darken as it is heated.

Wood and coal are very different fuels and require not only different types of equipment, as we have seen earlier, but also very different techniques of operation. We have separated the Operation chapter into distinct sections for each fuel. It is recommended, however, that you read both sections, as some of the information pertains to both fuels.

WOOD

The First Fire

The break-in procedure consists simply of a series of eight to twelve small to moderate fires burned in the updraft mode. Set the damper in the open (updraft) position and move the thermostat lever to open the air intake shutter. The secondary air inlet, on the left side of the Defiant, Vigilant, and Resolute, should also be left open. Build a small paper and kindling fire. After the kindling has caught well and a good draft has been established, add two or three small diameter logs to the kindling charge. Let this fire burn out and allow the stove to cool down before lighting the next fire.

DO NOT USE CHARCOAL LIGHTER FLUID, GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, OR OTHER FLAMMABLE LIQUID TO START OR 'FRESHEN' UP A FIRE IN YOUR STOVE. KEEP ALL FLAMMABLE LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE. ALSO, NEVER USE SELF-STARTING CHARCOAL BRIQUETTES.

We suggest that the damper be left open during the break-in period. The temperature generated by these small fires may not be high enough to sustain draft strength if the damper is closed. Maintain a small, lively fire. Avoid the extremes of a slow, smokey fire or a very rapid burn rate.

Daily Use

Kindle the fire in the same manner as you did during the break-in period. When a moderately hot fire has been established, (500°F stovetop surface temperature), you may fully load the firebox. Since a new charge of wood may slow the fire, leave the damper open until the fire has recovered sufficiently to bring the surface temperature back to 500°F. You may then close the damper and adjust the thermostat lever to maintain the desired burn rate and heat output throughout the burn period.

You are urged to get into the habit of burning moderately hot fires twice daily for 30 to 40 minutes in the updraft mode. By preheating the stove and flue system before closing the damper, you will promote efficient wood combustion and minimize creosote development.

We recommend use of a Vermont Castings surface thermometer to monitor stovetop temperatures and help you obtain peak performance from your wood stove. Generally, our stoves operate most efficiently when generating surface temperatures ranging between 350°F and 550°F in the horizontal mode (damper closed). Long, smoldering fires should be avoided.

Surface temperatures higher than 700°F are considered excessive. If any part of the stove or chimney connector glows, you are overfiring. Overfiring may cause a house fire and can damage your stove. Should overfiring occur, close the air inlet shutter enough to reduce the intensity of the fire.

Consistent good performance depends on air flow through the stove. Periodically, use the ash shovel to clear ash accumulation away from the air ports in the air tubes and fireback. (Two air ports are located on the underside of the Vigilant primary air tube.)

Loading/Fireplace Use

When the stove has been burning in the horizontal mode (damper closed), and you wish to open the doors for loading or viewing, first open the damper and air inlet. This will re-establish a fast, direct air flow through the stove into the flue and prevent smoking when the doors are opened. Check through the side or griddle door and move any wood or coals leaning against the front doors before opening them.

When using the stove as a fireplace, always keep the spark screen in place to reduce the hazard of flying sparks or embers.

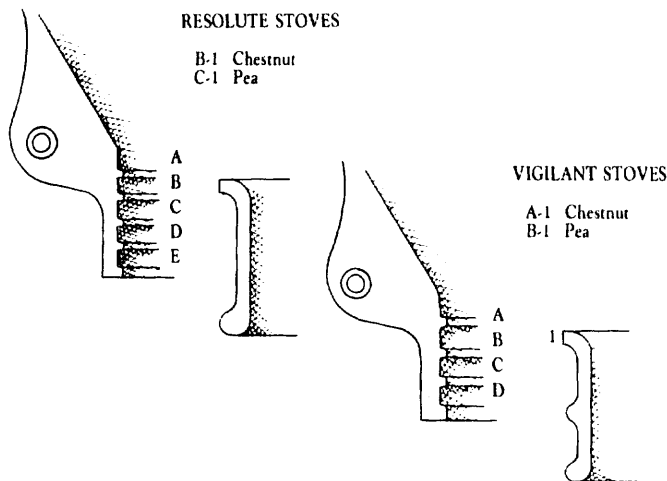
COAL OPERATION

A Precaution

Your new coal stove does not require a formal break-in period. Since an anthracite coal fire requires a great deal of air to kindle, it will be difficult to follow the same procedure outlined for wood. Take care, however, especially while the stove is new, to allow a bed of ashes to build on the grates before shaking them down. Over-shaking can result in damage to the grates. The proper shakedown procedures are detailed in the "Daily Tending" section of this manual.

Setting Up the Coal Stove

The throat of the magazine must be set at the proper position to maintain the fuel bed depth for the particular size coal you are burning. While the throat can be raised or lowered to accommodate a variety of sizes of anthracite coal, we recommend use of "nut" or "pea" sizes. The appropriate throat settings for each are illustrated below.



Soft Coal (bituminous, subbituminous coal and lignite) may be burned in your coal stove with removal of the magazine. The fuel bed with the magazine removed must not extend above the front, side and rear vertical grates, which serve to contain the coal fire and protect other parts of the stove from extreme heat.

When burning bituminous (soft coal), do not operate the stove with the damper closed (horizontal mode).

Use of soft coal will necessitate frequent chimney inspection and cleaning.

WE RECOMMEND USE OF ANTHRACITE PEA AND NUT COAL FOR YOUR STOVE

Rice	3/16"-5/16"
Buckwheat	5/16"-9/16"
Pea	9/16"-13/16"
Nut	13/16"-1-5/8"
Stove	1-5/8"-2-7/16"
Egg	2-7/16"-3-1/4"
Lump	3-1/4"-4-5/8"



Building A Fire

Anthracite coal has a higher kindling point than wood and, therefore, takes a bit longer to light. The procedure is simple but the first time around will probably take you a half hour or so to get the fire going. If you get over anxious and inadvertently put the fire out, let the stove cool, remove the front grate, shovel the coal out and start again.

DO NOT USE CHARCOAL LIGHTER OR ANY FLAMMABLE LIQUID TO KINDLE OR RE-ESTABLISH A FIRE IN YOUR WOOD OR COAL BURNING STOVE. ALSO, NEVER USE SELF-STARTING CHARCOAL BRIQUETTES.

Crinkle up 7 or 8 pages of newspapers and stuff them over the bottom grates. Cover the paper with 5 or 6 handfuls of kindling. Short (4"-5" and thin 1" in diameter) hardwood kindling pieces work best.

Open the stove damper, light the paper, close the front doors and griddle, and set the thermostat in the wide open position.

After the kindling has caught on, add more wood until a hot fire is established. (Charcoal may be used in place of this second load of wood). Open the griddle loading door and dump a shovel full or two of coal into the magazine. The coal will snap and pop as it begins to burn.

When the coal is burning brightly add another shovel full or two. Keep adding coal a bit at a time until the whole fire bed below the magazine is filled with burning coal.

At this point you may fill the magazine to within an inch of the loading door. *Do not* poke the coal down into the magazine as doing so will prevent the coal from feeding properly.

Close the stove damper when all the coal below the magazine is burning brightly.

Adjust the thermostat lever down to a lower setting. Keep in mind that a coal fire will respond slowly to changes in the thermostat lever position. To avoid over-shooting the heat output you desire, make small changes in the setting and wait 10 or 15 minutes for the temperature to stabilize, then readjust the lever.

In the Vigilant, the secondary air port serves no function when burning anthracite coal. Keep it closed unless you are burning high volatile coal such as bituminous or lignite or when burning wood. The air port should remain open when burning any fuel in the Resolute.

Daily Tending

Ash Handling

Since the ash content of coal is five to twenty times higher than wood (by weight), and coal is more dense than wood, you will find that ash handling is a major concern. American anthracite produces a heavy, granular ash which clings to each lump of coal. This accumulation must be removed periodically in order to sustain an efficient fire. Left undisturbed, the ash will block air flow through the fuel bed with the eventual result that the fire will die.

Your stove incorporates a double system of ash handling which will remove the heaviest build-up with ease. First, the bottom grates (or shaker grates), can be rocked to agitate the burning coal, thus loosening the ash and allowing it to drop into the ash pan. Second, a slicer/poker is provided with the stove for insertion between the front and bottom grates. Any ash or clinkers blocking the gaps between the grate teeth may be removed by sliding and jabbing the poker back and forth over the grates. Together, these two methods allow for simple, effective maintenance of an efficient coal fire.

Proper Shakedown Procedures

Generally, at a low heat setting, the ash will have to be shaken down once in the morning and once in the evening. For the higher heat outputs, 3 to 5 tendings per day may be necessary.

The shakedown should start vigorously and use the full range of the shaker handle motion. This vigorous motion should continue until most of the ash has fallen through the grates. When the incandescent coal reaches the grates, the operator will feel the resistance of the hard coal against the shaker mechanism and should reduce shaking to one-quarter of the full range motion. This shorter stroke should be continued until red coal starts to drop into the ash pan. This procedure removes the bulk of the ash before it has a chance to mix with the coal.

Before each shakedown, open the damper. If the magazine requires refueling do it after the ashes have been removed from the fuel bed. You will find that it is much easier to liven up the fire if the stove is refilled before the coal level drops below the bottom of the magazine.

To prevent any possibility of coal gases escaping into the room, open the loading door slowly. This will allow any gas in the magazine to be drawn out into the combustion zone.

In most instances there is no need to readjust the thermostat when you refill the stove or shake down the ashes. The fire will recover to its original heat output in a few minutes, once air movement is restored through the fuel bed. If, however, the fire is very low due to ash buildup around the perimeter of the fuel bed, it's a good idea to adjust the thermostat to a higher setting, let the fire become more established, *then set the thermostat back to its original position before shaking the ashes.* Also, leave the damper in the open position. In this way you will avoid drawing fly ash into the smoke passageways and flue.

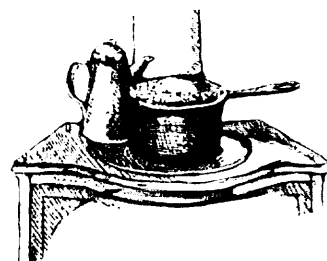
CAUTION: Over-shaking or slicing the ashes can damage coal grates. $\frac{1}{4}$ " to $\frac{3}{4}$ " of ash on the grates acts as an insulator

to protect the iron from overheating. Stop shaking or slicing when you see incandescent coal drop into the ash pan. With a little practice, you will be able to "feel" when sufficient ash has been shaken from the coal.

ALWAYS OPEN THE STOVE DAMPER DURING THE ASH REMOVAL PROCESS. After the fire is re-established (in 15 or 20 minutes), close the damper.

Empty the ash pan at least once each day. Use the hooked end of the shaker handle to draw the ash pan out from under the grates, then lift the pan out by its bail. Be sure to wear stove gloves whenever you are doing this. To avoid having to deal with hot ash, empty the pan *before* you shake or slice down the ashes.

Ash buildup under the grates prevents air cooling of the bottom grates and will overheat and damage the grates. It is important to set up a schedule for emptying the ashes at least once a day then stick to it.



COOKING

The polished cast iron griddle on our stoves is made of the same material as a good frying pan.

If you want to cook directly on the griddle surface (pancakes, etc.), curing should be completed before first use. Wash with soap and water and dry completely. Then coat the griddle with unsalted fat (preferably suet) and heat it on the stove or in a moderate oven (300°) for two hours. Wipe off the excess fat with a paper towel. The griddle should be cleaned with a rag or paper towel after each use, and from time to time with salt. If you use soap and water, make sure to dry your griddle completely.

The Defiant griddle plate is held in place by two latches on either end. Remove this griddle for cleaning only when the fire is completely out. The Vigilant and Resolute, however, are designed for top loading and their griddles can easily be removed for cleaning. Simply open the griddles fully and lift straight up. These griddles should not be removed if there is more than a small load of wood in the stove, however, as large amounts of oxygen will be drawn down into the fireplace, eliminating your control of burn rate.

Temperature control of the griddles is easily accomplished by adjusting the thermostat and the damper handle. If more heat is required, the damper can be opened, causing flames to rise upwards in the magazine and quickly ignite the preheated wood. Response to adjustment of the damper control is very rapid, approximating the response of an electric range. In the case of the Defiant, the temperature of the top is not uniform, which is an advantage. In general, the griddle plate will be the hottest part of the stove, for it is directly over the fire, and since it is ground it will transfer more heat than the other parts of the top.

MAINTENANCE

ASH REMOVAL

Wood and coal ashes must be disposed of carefully. Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

Wood

During constant use ashes should be removed every few days, or when they have built up around the air distribution ports to noticeably affect operation. This is easily done when the stove has died down with only a log or so left, as in the morning.

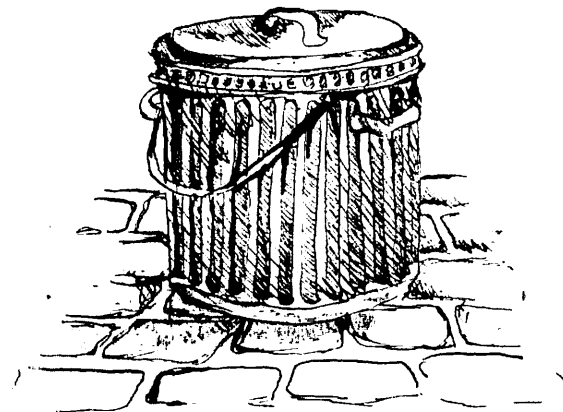
The lack of grates and an ash drawer was not an omission. In order to achieve the high efficiencies horizontal combustion offers, it is necessary to burn the primary fire mass in as compact and hot a manner as possible. Burning logs lying directly on a good bed of hot coals, which in turn are insulated from the cooling iron of the bottom, is the best way to do this. Grates with relatively cool air circulating underneath, tend to disperse the high temperatures required by allowing coals to fall from the fire zone. Grates make it more difficult to control oxygen flow to the fire mass.

To empty the ashes, a few shovel scoops is all that is required. They may be taken from any door which allows good access, even with a log or two still left within the firebox. Of course, one inch or so of ashes should always be left to protect the bottom of the stove from excessive heat.

Coal

Ashes should not be allowed to get so high in the ash pan that they touch the underside of the grates. When this happens, the ability of the incoming air to pass over and cool the hot metal is lost. Ash level that is in constant contact with the grates would significantly shorten their lives. Of course, it is not always possible to avoid the situation entirely, but try to minimize it.

Ash removal in the coal units simply consists of lifting out the ash pan, transferring the hot ashes to a metal container, and replacing the pan.



CHIMNEY CLEANING

Soot and creosote can ignite and burn at very high temperatures. In the event that a chimney fire should ever occur, close the damper and air inlets. Then call your local fire department.

Wood

Creosote Formation and Need for Removal

When wood is burned slowly, it produces tars and other vapors, which combine with moisture to form creosote. Creosote vapors condense in the relatively cool chimney flue, and creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire.

The chimney connector and chimney should be inspected at least twice monthly during the heating season to determine if creosote build-up has occurred.

If creosote has accumulated, it should be removed to reduce the chance of a chimney fire.

Regular chimney cleaning is best accomplished using chimney brushes sized for your particular flue liner. A full line of chimney cleaning components is available directly from Vermont Castings or your local dealer. If you do not wish to clean the chimney yourself, contact a certified professional chimney sweep.

Coal

The major problem with chimneys when burning anthracite coal will be fly ash, which will form only a light coating on the sides of the lower portion of the flue. Some types of coal from certain parts of the country have been known to attack the mortar or chimney liner, because of sulphur and chlorides which can form acids. It is a good idea to thoroughly inspect your chimney on an annual basis regardless of the fuel burned.

TROUBLE-SHOOTING

The stove does not hold a fire as long as you would like it to:

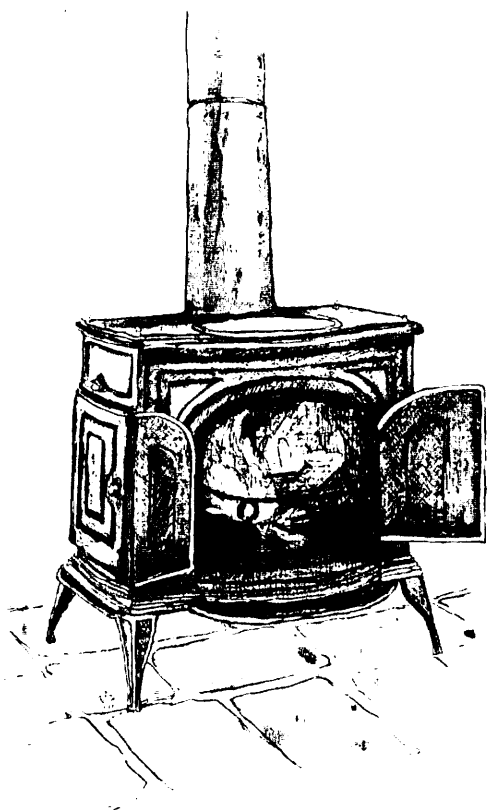
Check the thermostat adjustment. When the stove is warm (too hot to touch, but not overly hot) move the thermostat lever to its lowest setting. Does the inlet air damper close? If not, then adjust the ball chain at the bottom down a ball or two and try again.

Perhaps your wood is too small in diameter or too short, as was mentioned earlier, and the charge is just burning too quickly. Burning soft woods such as pine will significantly reduce the burn time because they will combust at a more rapid rate than hardwood. Maximum burn time is achieved by burning hard wood cut to proper length.

Did you remember to close the damper and adjust the thermostat? It is very easy to forget these two things.

Check the gasketing. Perhaps a piece of charcoal has dislodged or compressed the gasketing so that the door has lost its seal. In time the door latches will need to be tightened, a procedure which is explained under "Maintenance."

It is possible (though it happens rarely) that you have excessive draft. This usually occurs with a tall interior masonry chimney that is located so that prevailing breezes constantly blow across the top, as in the case of a house located high on a hill or near the shore. Should this prove to be the case, first experiment with closing down the secondary air control slightly. Easy does it here. A 30 percent closing is probably all that it will require. In extreme cases, try installing a flue damper to partially restrict the draft.



The stove smokes as a fireplace:

Chimney deposits may have built up in the stovepipe or chimney and are restricting the draft. Remove the pipe and clean. Is there another stove or heating device on the same flue?

How tight is your house? Sometimes new homes are constructed and insulated so effectively that a sufficient volume of oxygen is not available for the burning process. Try opening a window a crack. If this solves your problem, then you know your house is too tight and outside air will have to be introduced.

In moderate weather establish a strong fire with the front doors closed, then open the front doors to the fireplace mode. This will prime the installation to maximize the draft.

Back Puffing:

In the spring you will notice your draft is less strong. If you experience back puffing during unusual weather conditions, you may have temporarily lost the chimney draft. To regain a positive draft open the damper and adjust the thermostat to the open position. This condition can be prevented by closing the secondary air control and leaving the stove on updraft. Cold weather back puffing usually is a result of gusts of wind and can be partially avoided by the use of a chimney cap.

Reduced Heat Output

A reduction in the heat output of your coal stove is usually due to an insufficient oxygen supply. Combustion air is not being evenly distributed through the fuel bed. Commonly, improper or infrequent shaking has allowed ash accumulation to inhibit air flow through the fire mass. The air supply, however, may also be restricted by blockage of the air port. Be sure to clear ash out from between the ash pan and fireback when you empty the pan.

Occasionally, a difference in heat output will be noted between different coal types. Depending on the ash content, one type of coal may require more frequent shaking than another. If you or your supplier changes the type or brand of coal during the heating season, be prepared to adjust your stove tending habits according to the properties of that coal.

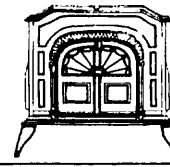
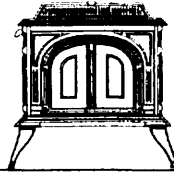
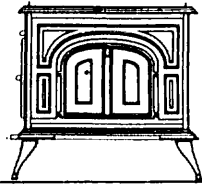
The coal fire burns up into the magazine:

Normally, the magazine fuel supply system will automatically supply the proper amount of coal to keep the combustion zone at the proper level. From time to time you might notice that the fire tends to burn up into the magazine. This will happen if:

- A) You let the level of fuel in the magazine get to low.
- B) Air is leaking in through the loading doors.
- C) Your coal is too large for the magazine throat position you have chosen. Raise the height of the throat by one position.

Fill the magazine each time you shake or slice the ashes down. Be sure there are no loose chips of coal holding the inner loading door open.

Which stove is right for you?



SPECIFICATION	DEFIANT	VIGILANT	RESOLUTE	INTREPID
Maximum heat* output	60,000 BTU/hr.	50,000 BTU/hr.	40,000 BTU/hr.	25,000 BTU/hr.
Space Heated**	Up to 10,000 cubic feet	Up to 8,500 cubic feet	Up to 7,000 cubic feet	Up to 4,500 cubic feet
Fuel Capacity	80 lbs.	60 lbs.	50 lbs.	22 lbs.
Size & Type of Fuel	24" wood logs	18" wood logs	16" wood logs	16" wood logs
Loading	side & front	top or front	top or front	top or front
Flue collar size	8"	8"	6"	6"
Flue Exit Positions	top or rear	adjustable top & rear	adjustable top, rear & 45°	adjustable top & rear
Primary Air Control	thermostat	thermostat	thermostat	thermostat
Stove Weight	354 lbs.	295 lbs.	253 lbs.	200 lbs.
Porcelain-Enamel Finish	-	optional	optional	optional
Glass Door Panels	-	optional	optional	standard
Water-Heating Capability	yes	yes	yes	no
Rear & Bottom Heat Shields	optional	optional	optional	optional
Mitten Racks	optional	standard	optional	optional
Height				
Top Exit	33 5/8"	31 3/4"	28 1/4"	25"
Rear Exit	31 1/2"	31 3/4"	25 1/2"	23 3/4"
Width	34 1/2"	28 1/4"	25 1/4"	21 1/4"
Depth	18"	19 1/2"	17"	18"
Coal Conversion	-	yes	yes	yes
Maximum Heat Output*	-	45,000 BTU's/ hour	35,000 BTU's/ hour	20,000 BTU's/ hour
Space Heated**	-	Up to 7,500 cubic feet	Up to 6,000 cubic feet	Up to 3,500 cubic feet
Fuel Capacity	-	38 lbs.	32 lbs.	22lbs.
Loading	-	top	top	top
Size & type fuel	-	Anthracite pea, nut	Anthracite pea, nut	Anthracite pea, nut
Stove weight with kit installed	-	393 lbs.	306 lbs.	225 lbs.

All other specifications same as wood-burning models.

* These values can vary depending on how the stove is operated, the type and moisture content of fuel used, as well as the design, construction, and climatic location of your home. Figures are based on maximum fuel consumption obtained under laboratory conditions and on average wood and coal stove 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 stove sizing, consult your Vermont Castings representative to determine which model is right for your home.

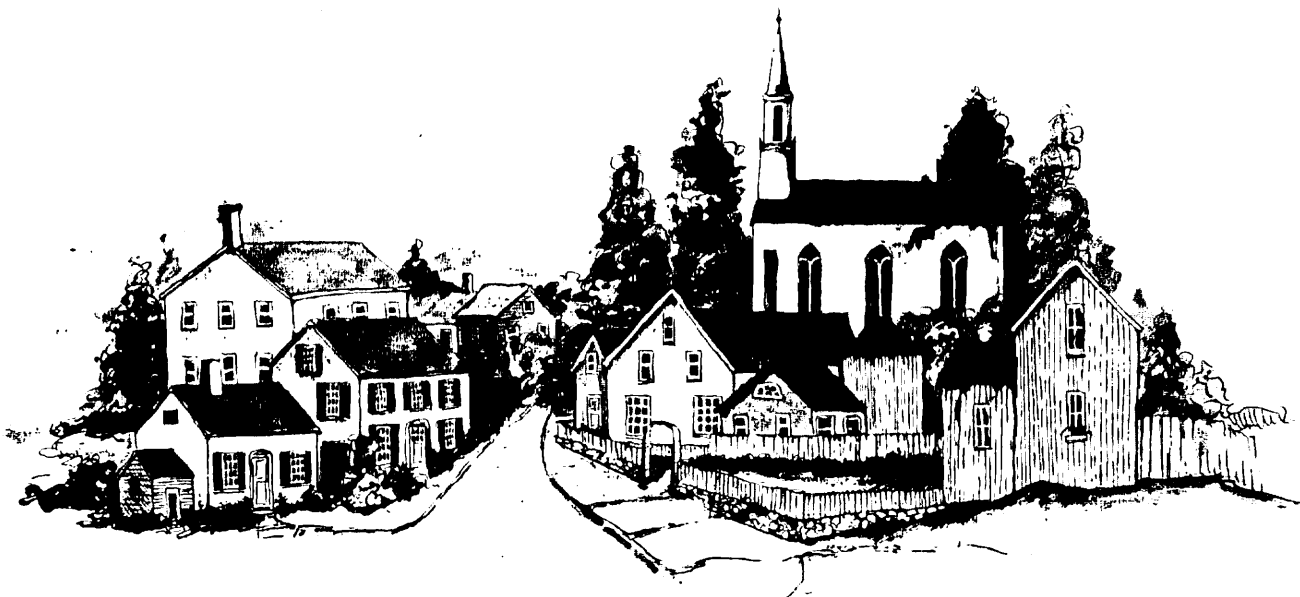
The Defiant, Vigilant, Resolute and Intrepid have been tested to Underwriters Laboratories standard ANSI-UL 737 and UL 1482 by independent laboratories. The Defiant, Vigilant and Resolute are listed with the following building official organizations: Building Officials & Code Administrators, Inc. (BOCA), Southern Building Code Congress International, Inc. (SBCCI) and The International Conference of Building Officials (ICBO).

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The RESOLUTE® Parlor Stove, Mech. Pat. U.S. 4279238, Taiwan 13436, Des. Pat. U.S. D262198, D260032, D260033, D260034, D260284, D260285, D260286, Taiwan 3223, Des. Reg. Austria 519,738, France 801308, G.B. 994417, W. Germany MR 16,643, Ire. 4956, Denmark, 222-1981, Norway 81,1881, Sweden 27731, India RD 149424, Benelux R.D. 7039-01-02, Korea RD 31,507, Can. RD No. 47730 (1980), U.S. & For. Mech. Pats. Pend. on Coal Burning Resolute®, Taiwan 14505, For. Mech. & Des. Pats. Pend. Des. 1979 Vermont Castings, Inc.

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We are proud of our stoves and proud of the heritage of cast iron stoves which have warmed so many Vermont farm houses over so many generations. We have tried to maintain that tradition while furthering the art of home heating. The design of our stoves, inspired by the architectural history that surrounds us in these small northern communities, depicts the Federal period of the early 19th century, the same period which contributed so many of the graceful churches that overlook our town greens.

Should you have any questions on the use and maintenance of your stove, please contact us. Our Customer Relations Department will continue to provide assistance and advice to you for as long as you own your Vermont Castings stove.

Finally we would like to hear your thoughts and suggestions. We recognize that the purchase of a wood or coal burning stove is a serious investment, one that warrants careful consideration and the comparison of other stoves with ours. We hope in your search you found, as we did, the need for stoves like the Defiant, the Vigilant, and the Resolute long overdue.



SBCCI 8142
BOCAI 80-93
ICBO 3797

CERTIFICATION AND WARRANTY. The DEFIANT, VIGILANT and RESOLUTE have been tested to Underwriters' Laboratories Standard 1482 by Arnold Greene Testing Laboratories, Inc., Natick, MA 01760. The results are listed with Building Officials & Code Administrators International, Inc. (BOCA) and Southern Building Code Congress International, Inc. (SBCCI), and the International Conference of Building Officials (ICBO). (ICBO listing is subject to periodic review.)

The above information, as well as other important items such as the serial number, are located on a metal plate affixed to the back of the stove. Read this label; should you install a heat shield, remember the label's location.

MANUFACTURER'S LIMITED WARRANTY: Your Vermont Castings Parlor Stove is carefully inspected before leaving the factory, and is guaranteed to be free of defects in material or workmanship for three years. However, those parts that come in contact with the coal fire shall be warranted for one year. We will repair or correct any parts found to be defective when returned to us at our designated warranty station. You must pay shipping charge. This Warranty does not cover damage caused by abuse, improper use contrary to instructions set forth in our Operation Manual, overfiring, normal wear and tear, or damage incurred in transit. See your Warranty Registration Card for a full copy of the terms of our warranty coverage.

VERMONT CASTINGS, INC.

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YOUR SHOVEL



While poking around in an old hardware store up here in Vermont, we came across the shovel that we supply as a standard item with each stove. We were fascinated by seeing something which obviously dated from the Twenties. Sure enough, there was the date stamped right on it: November 30, 1926. The proprietor allowed as how it had "Probably been right in that corner since then, too." So we bought it and took it home. On a lark, we wrote to the manufacturer and were amazed that they were still in business and that they still make the very same shovel. It is hot forged from a single piece of steel; hence the name, "Neverbreak." The handle has been hollowed to make it larger for a good grip and the shaft is strong enough to use as a poker to pry logs around inside the stove. We are glad to be able to provide one with every stove.

Glass Doors

If your stove has glass doors you may wish to clean the glass periodically. It is important that the glass be completely cooled as any cleaning agent applied to hot glass may permanently damage it. Fire-Brite Glass Cleaner, available from us, is specifically formulated for cleaning stove glass safely and effectively. Remove all traces of cleaner and dry the glass before firing the stove. If your glass ever becomes damaged, replace it immediately with Vermont Castings high temperature glass.

FUEL STORAGE

Your Wood Pile

Wood which is excessively wet will reduce the heat output of your stove. It takes approximately 1000 BTU's just to evaporate one pound of water out of the wood. This means roughly that a cord of wood dried only to a 50% moisture content can have over 120 gallons of water in it which will need to be evaporated before there is heat available to your home.

Split lengths of dense hardwood should be dried under cover for at least eight months, though a year is preferable. This air drying of wood will usually allow the moisture content to drop as low as 15-20%, an ideal moisture range for efficient combustion.

Although this is seldom a problem, wood which is excessively dried is also undesirable for the volatiles are released so rapidly that they cannot be adequately mixed with oxygen and will escape unburned up the flue where they will condense and cause deposits of creosote.

Wood grows outward from the center in a series of concentric cylinders or rings. When wood dries, water moves in the spaces between the cylinders ten times faster than it does across or through the cylinder walls. This means that unsplit wood dries

only through the ends of the logs. Large and long logs should be split to expose the spaces between the rings in order to aid the drying process. It really does not help too much to cut the wood and let it dry for a summer and then split it just before use.

Wood should not be cut too small, as this speeds up the gasification process and causes it to burn too quickly. If you are having trouble getting the stove to hold a fire for as long as you would like, perhaps your wood is too small. Anything over twelve inches long and four inches measured across the end of the log will do. The stoves work well with as large a piece of wood as can be fit in. Irregular shapes with stubs of branches that hold the logs apart are not good, and rotten wood is the worst. Burning and rotting are similar chemically; so, in effect, rotten wood is partially consumed and has already given up some, if not most, of its heat value.

Under no circumstances should a piece of wood with ice or snow on it ever be put into any stove. The sudden thermal shock can crack the iron. Leaning an ice-covered piece against the stove to melt the ice is also likely to cause damage. This abuse that causes damage to the stoves is not covered by our limited warranty.

Storing Your Coal

Coal can be easily stored in bags, boxes, loose in an outdoor covered shed, or in your garage or basement. A ton of anthracite coal requires only about a 3 x 3 x 4 foot high bin for storage. Space should be left around the bin, however, for easy access and handling of the coal.

Store the coal any place where it will remain cool and dry. Although coal has an inherent moisture content of only about 2% and does not "take on" moisture when wetted, if allowed to sit exposed to the rain and snow it will become difficult to handle and kindle. If the coal were to freeze this moisture would make it almost impossible to shovel. For this reason we recommend that your storage bin provides a floor or bottom and is under cover.

Keep your coal bin free of combustible materials such as old papers or scrap wood used for kindling.

Purchase your anthracite coal in the summer or order in the summer for a fall delivery. Your local coal dealer will appreciate the advance order and you will be assured of supply during the early months of the heating season when coal dealers are the busiest.

