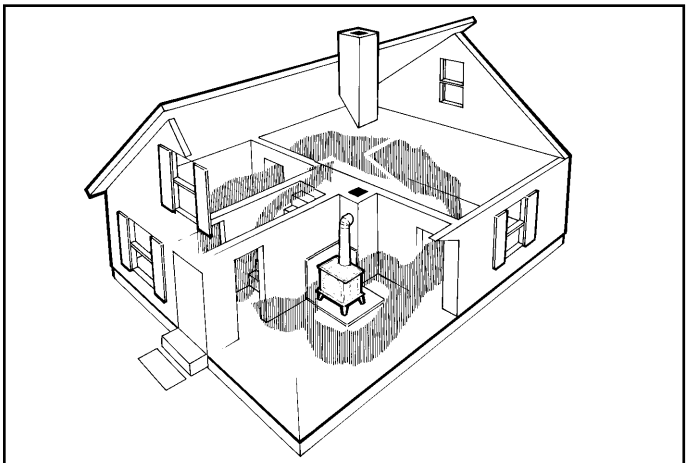
Woodstove
Preliminary Installation Guide

Bringing a new wood stove into your home is like welcoming a new member to the family. Your hearth will quickly become the heart of your home, where everyone, including the cat and the dog, will gather on winter evenings. You'll soon be wondering how you got along without it. Creating a successful installation that not only performs to your expectations, and that's safe and attractive as well, requires making the right decisions ahead of time.

There are a few key issues you'll need to address early in the planning stages. These include the location of the stove in the home, the chimney (whether existing or new), sizing the stove to the heat demand, and, most importantly, proper clearances to combustibles. An installation that conforms to fire codes and manufacturer's requirements will safely provide years of warmth and help everyone sleep better at night.

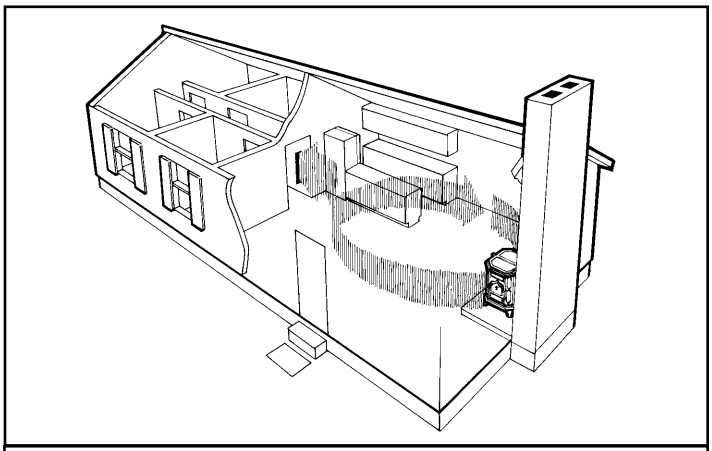
1. Location

Ideally, a wood stove should be located in a central part of the house so its heating capability can be maximized. Living rooms and family rooms are often centrally located as well, so they become an obvious choice for a hearth. If possible, situate the stove near a room with a stairwell to take advantage of heat's natural tendency to rise. If this is not an option, heat registers can be installed in the ceiling to let the warm air up into the second floor. If the home is spread out, or rectangular, as many ranch-style homes are, ceiling and doorway fans can be used to help distribute warm air.



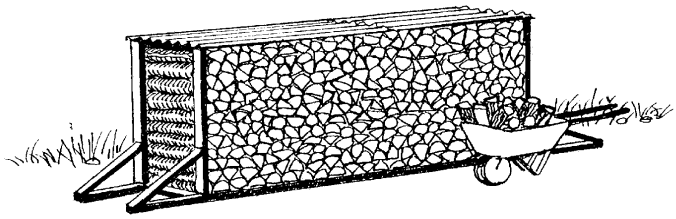
A centrally located stove will easily allow heat to flow from room to room.

The ideal layout for a woodstove is where the rooms are all connected to each other so that air can circulate. In this respect, traditional colonials are ideal for woodstoves. They often have a central staircase surrounded by four connected rooms – living room, dining room, kitchen and sitting room. A ranch house, on the other hand, presents more of a challenge. The open area is easy to heat, but the bedrooms can be difficult. The bedrooms in a ranch-style layout are difficult to heat because they are usually not connected to each other, and circulation is poor.



Moving heat down long hallways and into the rooms furthest from the stove is more difficult. Sometimes cold air returns or doorway fans can help.

It's also worth thinking about how you plan to get your firewood to the stove. Again, this argues for a central location, which usually has a short route to the outside. If you've always wanted a wood stove in your bedroom, or on the second floor, remember, you'll have to get the stove up there and then keep it supplied with firewood. Whether you are planning for your stove to be the primary source of heat or simply a back up can also affect your choice of its location. Maybe the stove's purpose is only to provide atmosphere – a place for the family to gather on cold nights, instead of in front of the TV. These choices should all be considered ahead of time.



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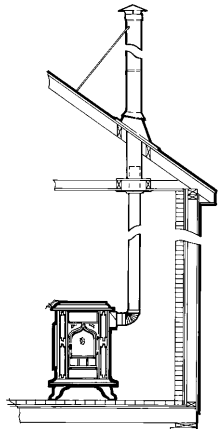
2. The Chimney

In some cases, the decision of where to place a stove is already made. If there is a fireplace in the house, or if you're replacing an old stove, the hearth will already be in place. If you're bringing a wood stove into an existing home, there are chimney options available that allow flexibility for almost every house style or layout. Some installations have more restrictions than others, but, if you're willing to make some accommodations, a suitable location can almost always be found. If you are building or remodeling, you'll be in a position right from the start to decide exactly where and how the stove will fit in with your design plans.

A. Adding a New Chimney

The stove and the chimney work together. You can't plan for one without the other. It's helpful if the stove location allows for an interior chimney (illus.), which will draw better than an exterior chimney. If you route a chimney up through the house in a way that it can be concealed or boxed in satisfactorily, and meet clearance requirements, it is preferable to an outside chimney. Prefabricated chimney components can't come in contact with combustible building materials but they only require a clearance of two inches and are easy to install. Chimney location requires careful planning and is discussed in more depth elsewhere, but it has to be considered as early in the planning process as possible. See "What Makes A Good Chimney" for more details.



A chimney that stays inside the house as long as possible will perform better than one that runs through the wall and along the outside of

B. Existing Fireplace

If there is already a fireplace in the house, this may be where you would like to locate the stove. Fireplace installations make beautiful backdrops for Woodstock Soapstone Stoves. If you are planning to use your fireplace as your hearth, we recommend that the wood stove be placed in front of the fireplace, rather than set back into it. The beauty of a soapstone stove is its even, radiant heat. You don't want to heat the inside of your fireplace instead of the house. In addition, the loading door is on the side and the air intake and bypass controls are on the back of the stove, making it impossible to set the stove back inside most fireplaces.

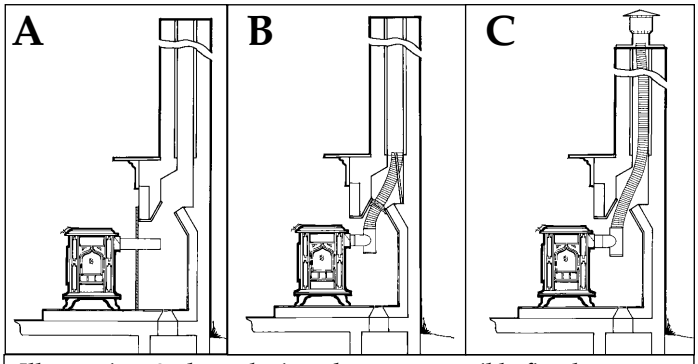


*Illustration **A** above depicts the worst possible fireplace installation - leading to creosote and backpuffing. **B** is a halfway point - a flexible pipe runs just up to the point where the chimney's tile liner starts. **C** is the best fireplace installation - one full liner from top to bottom. These liners come in kits complete with cap, top plate, tee and flexible stainless steel liner.*

The National Fire Code requires a "positive connection" from the stove to the bottom of the chimney above the damper. This means that stovepipe, usually flexible pipe, must run from the stove through the fireplace and up beyond the damper, preferably to the top of the chimney. The connection between stove and chimney must be such that the chimney can only draw air through the stove. The "positive connection" means that there are no leaks in the system that allow the chimney to draw air from the room, rather than the stove.

For example, if you run a flex liner only to the bottom of a fireplace flue, the area around the flex pipe must be tightly sealed at the damper, or chimney draft will be reduced and stove performance will suffer. This is a common installation problem. Flexible liner kits are readily available and can be installed by chimney sweeps, or you can do it yourself if you are handy. It is not acceptable to simply run a pipe from the stove into the fireplace and leave it at that (see illustration A above). It's against the fire code, it will soot up your fireplace, and you won't get the draft you need to run the stove properly. Chimney liners are described in more detail in "Masonry Chimneys".

C. Basement Installations

If your plan is to put the stove in the basement, we caution you to insulate it well. Foundation materials like concrete, cinder block, and stone all absorb heat and have no "R" value. If the basement is left unfinished, or uninsulated, the stove will be losing heat to the foundation instead of the house. If you do plan to put the stove in the basement, be sure to consider how the chimney will be installed. Will you have a clear path for it all the way up and out through the roof? Will you have to elbow out through an exterior wall at some point? How will a chimney affect the rooms that it passes through?

No matter what your choice for the stove's location, the most important consideration is safety, and that is largely determined by proper clearances to combustible materials.

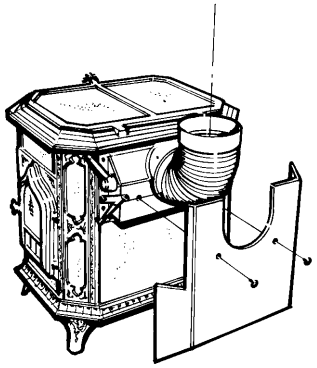
3. Clearance to Combustibles

A wood stove generates quite a bit of heat in all directions, and over a long period of time. Accidents involving fire are rarely caused by wood stoves themselves. They are almost always caused by improper installations. The importance of protecting nearby combustibles cannot be overstated. This protection will prevent sparks and hot embers from coming in contact with floorboards, carpet, drapes, and furniture. It will also provide thermal protection as well. The steady heat from the stove will gradually cause chemical changes in nearby walls and floors that lowers their ignition point. This could, at some point, cause a fire by way of spontaneous combustion. The argument that "the stove has been there for years with no problem" may be sadly proven wrong next year or the year after that.

Fortunately, test labs, working with manufacturers and fire protection experts, have established guidelines that are simple to follow and that will ensure safe stove installations. Never try to shortcut clearances because it seems like "overkill". Everyone in the household will enjoy the stove for years to come if it has been installed according to the recommended clearances and standards.

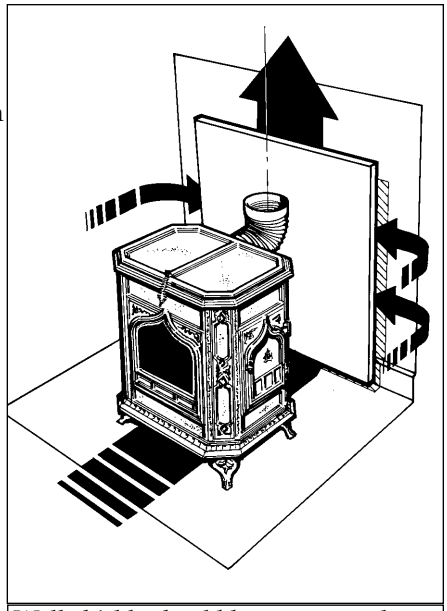
A. Clearance to Walls

Most stoves require at least thirty inches of clearance to combustible walls, furniture, etc. This distance can be reduced by heat shields on either the stove or the wall. At Woodstock Soapstone we offer a rear heat shield for the stove that fits right on the back of the stove, is painted to match the casting color of the stove and is barely visible from the front. We also make a shield for the back of the stovepipe. These shields reduce the clearance for our stoves to fifteen or eighteen inches, depending on the stove model. If you are planning on installing the stove in the corner of a room, the rear corners of the stove can be within twelve inches if our heat shield kit is used (eighteen inches otherwise).



Rear heat shields are unobtrusive, and attach to easily to the back of the stove.

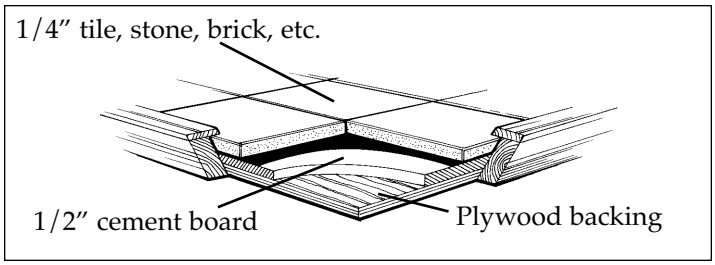
Another option for protecting walls is to construct a heat shield directly on the wall itself. Effective wall shields are built with an airspace between the shield and the wall to allow for ventilation. A wall is still considered combustible if it's in direct contact with the shield, regardless of material (brick, tile, stone, metal, etc.). A table with detailed information on clearances is included in "Planning Your Hearth".



Wall shields should be open on at least three sides to allow for air flow.

B. Floor Protection

Floor protection is not only a requirement for a wood burning stove, it can be a beautiful foundation for your hearth area. A wood stove cannot be placed directly on wood, carpet, vinyl or any other combustible material. The stove will have to sit on a non-combustible surface, which extends beyond the perimeter of the stove at least eight inches on three sides, and at least sixteen inches on the loading door side. The purpose is to provide spark and ember protection as well as to prevent heat from being conducted over time to the floor materials. We prefer larger hearths, about 4' by 5', to allow plenty of room for storing wood and hearth tools, re-loading the firebox safely, drying boots, or just sitting near the stove to warm up.



Hearth pads can be raised several inches above the floor or can be flush with it, depending on location and preference. You can build one on site or purchase pre-fabricated pads made from different materials such as stone, brick, and ceramic tile. Several styles are pictured in our accessories brochure. Again, masonry materials conduct heat, so they will need to be insulated from the floor with a non-conductive material such as half-inch cement backer board. More detailed instructions and specifications on hearth pads are included in "Planning Your Hearth".

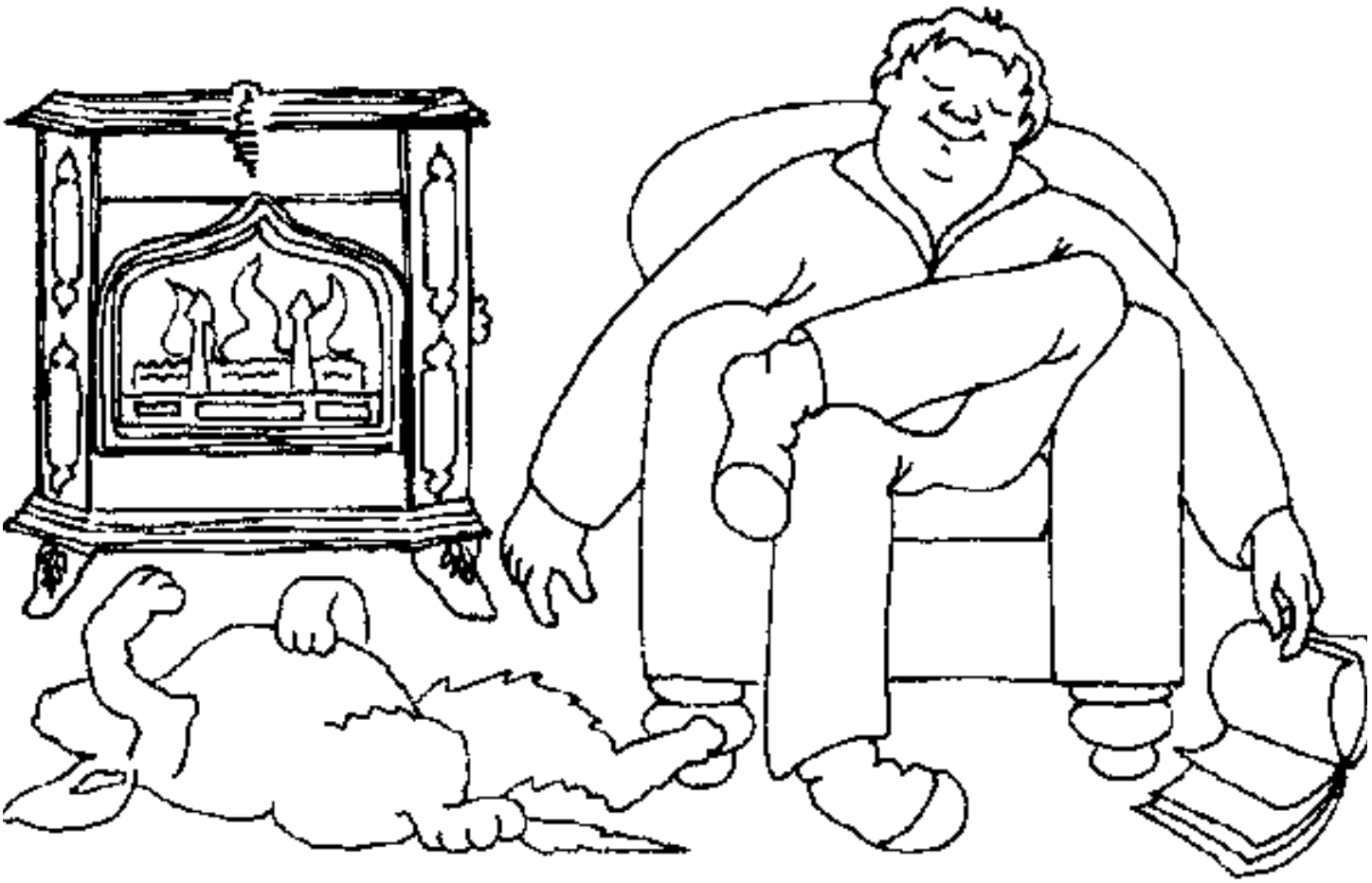
4. Sizing the stove

Choosing the right size stove can prove to be more of an art than science. A stove that is too big may heat you out of the room. A stove that's too small might leave parts of your home unheated. The old wood burner's wisdom that it's better to undersize a stove and burn it hot than to oversize it and burn it low and slow doesn't really hold up with catalytic stoves such as ours. A stove with a catalytic combuster does best with a low to moderate fire. This gives the combuster time to do its job of allowing the smoke to re-ignite before going up the chimney. The soapstone will continue to radiate heat even after the fire has dwindled to just a few coals, a phenomenon some refer to as "coasting". Burning too hot, or "over firing", can damage the combuster or other stove parts. Wood stoves, and especially soapstone stoves, can't be quickly turned up or down to adjust to the room temperature. Soapstone heats gently and evenly, rather than spiking up or down with the size of the fire.

Most stoves have a btu rating and a suggested square footage of heated area. It's a good idea to know the square footage of your home, or the area you plan on heating when you make your stove purchase. A well insulated home with tight window and door construction will hold heat much better than a drafty house with poor insulation. If it's possible to make improvements in this area your stove will perform more efficiently.

Our Fireview and Classic Stoves will comfortably heat an area from 900 to 1600 square feet. The Keystone and Palladian models will heat an area from 800 to 1400 square feet. The range in square footage is determined by type of wood available for fuel, climate, weather, insulation and, again, how well the house holds heat. Rather than burning the stove hot or burning it low, size it to the square footage you'd like to heat, keeping the above factors of insulation and draftiness in mind, and then burn the stove at a moderate range throughout the heating season.

We love talking about our stoves and have helped many a customer plan and execute beautiful and safe installations. If you'd like to talk to us about your stove installation – give us a call. We are happy to help. Our hours are 9am to 5pm Monday through Saturday at our factory and showroom in West Lebanon, NH or by phone, toll-free 1-800-866-4344.



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