

INSTALLATION

1.

For over two centuries, New Englanders have heated their homes with soapstone stoves. A properly installed and operated soapstone stove will warm your home and delight your eye for a lifetime.

Read this manual carefully. It explains how to install your Woodstock Soapstone Stove safely and how to operate it correctly and efficiently. The clearances and procedures recommended in this guide are in compliance with the recommendations of the National Fire Protection Association (NFPA), the Underwriters Laboratories (UL), and the U. S. Environmental Protection Agency (EPA). You may feel some of them are very stringent, but they should be followed. They were designed to protect you, your home, and the environment. Improper installations are a major cause of serious fires.

Before installing a woodstove, check your local building codes, and any requirements established by your insurance company.

You may need a local building permit to install your stove. Any changes in your home must comply with building codes. If the codes have not been fully updated, you may want to check with the Building Inspection Department, or your local Fire Department. A qualified stove installer should handle your installation work.

Many chimney sweeps are qualified installers. If you are unfamiliar with sweeps in your area, you might want to check the listings at www.csia.org (Chimney Safety Institute of America). Builders and contractors are another option. In some cases, homeowners install their own stoves. Before attempting your own installation, please review the stove installation information carefully.

You should notify your insurance company that you are using a woodstove. Before you light your first fire, have a local building inspector and your insurance representative inspect your installation and approve it in writing.

Location

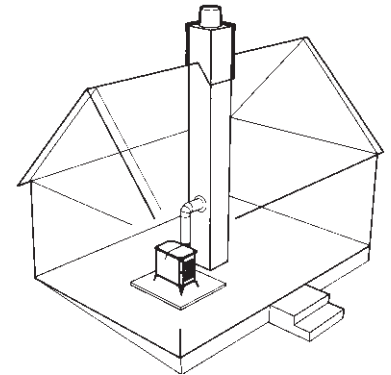
A stove which is centrally located will heat the greatest area of your home. Heat should be able to circulate easily into nearby rooms. Placement near an open stairway or an open register in the floor will help the heat transfer to other rooms.

Other considerations are:

- clearances to combustibles
- adequate space for wood loading and ash removal
- foot traffic patterns

Most people install their woodstoves in a frequently used room, where they get the greatest enjoyment of the stove. Placement in a frequently used room also helps in the ease of monitoring and refueling the stove.

The cost of installing a stove often varies according to how much planning is done beforehand. We urge you to consider all aspects of your installation before beginning.



The best location for a chimney and woodstove installation is in the center of the house. The chimney will be warmer, draft will be better, and radiant heat will be distributed more evenly.

2. Chimneys

Chimney construction is important for wood heating safety and efficient stove performance. Unsafe chimneys are the cause of many house fires. A properly designed and constructed chimney will provide good draft, reduce creosote problems, and reduce the risk of a chimney fire.

Stove heating performance is affected by the chimney because the chimney performs two vital functions: (1) it exhausts smoke from the stove and (2) it pulls combustion air (oxygen) into the stove.

The basic principle to remember about the chimney is that smoke rises in the chimney and creates “draft,” which pulls oxygen into the stove to fuel the fire. Smoke rises because it is warmer than the surrounding air, and therefore more buoyant. If smoke in the chimney is allowed to cool to the same temperature as the surrounding air, it will no longer rise. As a result, there will be little draft - your stove will burn sluggishly, and problems with creosote, moisture condensation, or back-puffing may result. **Back-puffing and smoke spillage usually result from chimney draft problems.**

On the other hand, a burning rate that is consistently too rapid can result from excessive chimney draft. Too much draft may cause extreme temperatures in the stove, resulting in damage to the catalytic combustor, or other internal components.

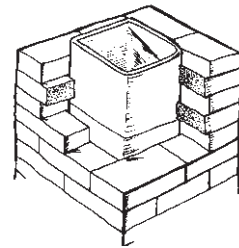
Chimney Types:

There are only two types of acceptable chimneys: **Lined Masonry Chimneys**, and **Prefabricated Metal Chimneys**.

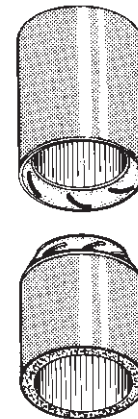
Always use either a lined masonry, or a prefabricated metal chimney that is listed “UL Type HT Class A”. The Class A prefabricated chimney must be approved to 2,100° F for your Woodstock Soapstone Stove. There are prefabricated chimneys available that are **not** approved to temperatures as high as 2,100° F; **do not** use one of these to vent your woodstove. **Single wall stove pipe should never be used as a chimney; it should only be used to connect a stove to a chimney.**

STOVE PIPE vs. PREFABRICATED METAL CHIMNEY PIPE: Stove pipe (or connector pipe, as it is sometimes called) and chimney pipe are two different, distinct products:

- **STOVE PIPE** connects the stove to the chimney.
- **STOVE PIPE** is either single wall or double wall sheet metal pipe (use either 22 or 24 gauge stove pipe; 26 or 28 gauge is too thin for use with a woodstove).
- **STOVE PIPE** that goes up more than 8 feet above the flue collar of the stove should be double wall pipe.
- **STOVE PIPE** must **never** pass through a ceiling, wall, window, closet, attic, or roof.
- **PREFABRICATED METAL CHIMNEY PIPE** must be rated “UL Type HT Class A - Approved to 2,100° F.”
- **PREFABRICATED METAL CHIMNEY PIPE** is used to pass through a ceiling, wall, attic, and roof, and must extend above the roof line. It must be installed according to the the manufacturer’s recommended clearances.



Masonry chimneys (brick, cinder block, or stone) should have tile liners.



Cross section views of Prefabricated Metal Chimney Pipe.

Chimney Sizing:

The size and location of a chimney is as important as its construction. If a chimney is too large in diameter (internally) it will be difficult to maintain high flue gas temperatures, which will result in reduced draft. The internal cross sectional area of a chimney flue should be no more than 3 times the cross sectional area of the appliance flue collar if no chimney walls are exposed to the outside below the roofline. The cross sectional area of the chimney flue with one or more walls exposed to the outside below the roofline should be no more than 2 times the cross sectional area of the flue collar.

The Fireview Stove has a 6" flue collar, thus 8" x 10" rectangular or 10" round are the maximum flue sizes we recommend for this stove. For an outside chimney, we recommend an 8" x 8" square or 8" round inside dimensions. The smallest size we recommend is 6" round, as the flue size should not be less than the flue collar size. Remember, round flues are more efficient and easier to clean than square or rectangular flues. Do not vent the Fireview into a chimney less than 6 inches in diameter.

Height Requirements:

The chimney must extend 3 feet above the point where it passes through the roof and must also be 2 feet higher than any roof surface or obstruction within 10 feet (measured horizontally) of the chimney. Check your local building codes for any additional requirements.

To insure adequate draft, we recommend a **minimum** total venting height of 14 feet above the flue collar of the stove. Total venting height includes your chimney and connector pipe. However, other environmental factors such as prevailing winds, high altitude, or adjacent structures might necessitate a chimney that is taller than the minimum.

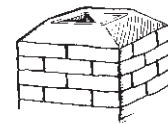
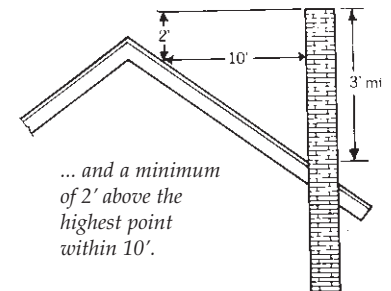
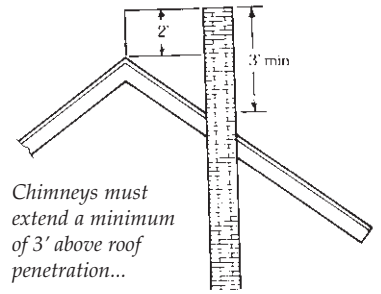
Existing Chimneys:

All masonry chimneys should have tile liners. The liner contributes to the safety and durability of the chimney. The liner makes the chimney air-tight, and protects the masonry from moisture damage and corrosion. Unlined chimneys should have flue liners installed. These can be either cast-in-place masonry or stainless steel. Most chimney sweeps can give you details. Stainless steel liners are also available from Woodstock Soapstone Company.

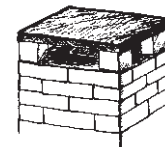
Existing chimneys should be checked twice each year for obstructions, creosote deposits, surface cracks, chemical deterioration and poor construction. Any damage should be repaired immediately.

Two areas that should be checked with particular care are the area where the chimney penetrates the floor or ceiling joists, and the area where the chimney penetrates the roof line. There should be at least two inches of clearance between the chimney and the floor joists or other combustible materials. The area where the chimney penetrates the roof line may have deteriorated because of poor flashing, causing leaks that allows moisture to weaken chimney mortar.

You should make preliminary checks, but if you have any doubts, or are unfamiliar with chimney construction, cleaning, or maintenance, have a local fire marshal or a certified professional chimney sweep inspect your chimney. If the chimney needs repair, hire



A wash or "cement cap" prevents water damage to masonry chimneys.



Chimney caps help prevent downdrafts and back puffing.

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someone who is skilled in chimney work and familiar with local building code requirements.

Do not vent more than one heating device into a single flue. Double venting can cause back-drafts, and create fire hazards. A fire in a double vented system could burn out of control.

If there are flue openings other than the one you plan to use with the stove, they should be completely sealed. Do not use snap-on metal covers (frequently called 'pie plates') for this purpose - a chimney fire could easily pop them off, allowing smoke or sparks into the house. Fill the unused flue opening with a tile lining, if possible, and masonry built up to the same thickness as the chimney.

In addition:

- Brick and cinder block chimneys should have a clean-out with a tight fitting door.
- Masonry chimneys should have a wash at the top.
- All chimneys should have a cap to keep out rain and snow, and to minimize down drafts caused by wind.

Building New Chimneys:

If you are building a house with a masonry chimney, we recommend an interior, centrally located, tile lined chimney. A chimney located inside a house will heat up faster, stay warmer, and perform better.

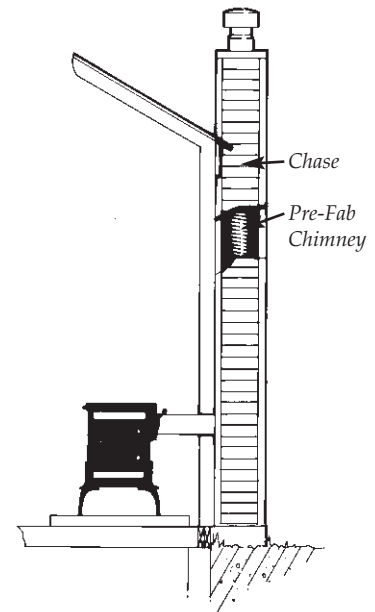
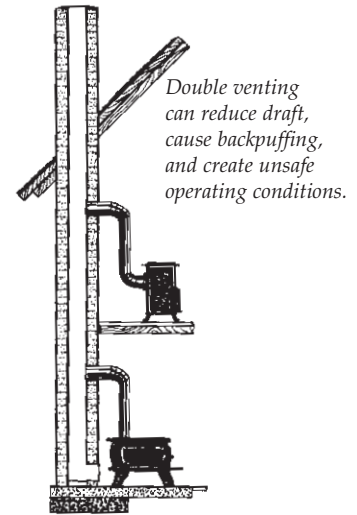
If you are adding a masonry chimney to an existing structure, an interior masonry chimney is still best, but you may find that an exterior, tile lined masonry chimney is less expensive. An exterior masonry chimney will still provide the necessary combination of safety and durability.

Remember, all chimneys must extend at least three feet above the highest point where they pass through the roof of a building, and at least two feet higher than any part of the roof, or building, within 10 feet of the chimneys, measured horizontally. The chimney must be of adequate height and area to provide proper draft. Large hills, trees, or other natural obstructions can reduce draft or cause back-puffing.

If you decide to install a Prefabricated Metal Chimney, be sure it is rated "UL Type HT Class A, approved to 2,100° F." When installing a metal chimney, it is preferable to do an interior installation, running the connector pipe and chimney straight up from the stove, through the ceiling and roof.

If you have no choice but to install an outside metal chimney, consider building a sealed, insulated chase around it. If possible, vent the chase cavity into the house so it becomes part of your heated building envelope. Be aware, however, that even an outside chimney enclosed in a chase is unlikely to perform as well as one installed inside the house.

There are several kinds of Prefabricated Metal Chimney. Remember, you must use UL Type HT Class A Chimney Pipe, approved to 2,100° F. The type of Prefabricated Metal Chimney that has two stainless steel walls separated by solid insulation should maintain a high interior temperature and provide good protection against condensation and creosote build-up.



If you go up an outside wall with Prefabricated Metal Chimney, you may want to build a chase (enclosure) around it. The chase will keep the chimney warmer, and improve the draft. It also looks better, and provides some protection against snow sliding off the roof.

Passing Through A Combustible Wall:

With an exterior chimney, in most cases the chimney connector (or stove pipe) will need to pass through a combustible wall. The following are acceptable methods:

A. Use a section of Prefabricated Metal Chimney to connect to the chimney - Use a section of insulated prefabricated chimney pipe the same diameter as the stove pipe and maintain a 9" air space between the wall of the prefabricated chimney and the combustible wall. This section of chimney pipe can be supported by a sheet metal plate securely fastened to the combustible wall, with a hole cut in the middle of it. This will close the gap around the chimney pipe and the framed opening.

B. Build a solid brick surround around a tile liner - Frame a 3.5" thick brick surround into the combustible wall you need to pass through. Maintain a minimum 12" brick separation from the clay liner to combustibles. The minimum 5/8" thick clay liner should be cemented in place and run from the outer surface of the brick to the inner surface of the chimney.

C. There are also UL Listed kits available that are specifically designed for passing through a combustible wall. For more information on these kits, please contact Woodstock Soapstone Company.

Remember, unprotected stove pipe should not pass through a combustible wall or ceiling to connect to the chimney. You must use an approved method which provides greater protection than single wall pipe.

Stove Pipe

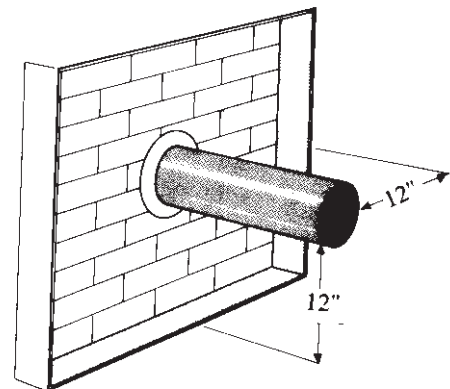
The stove pipe that connects the stove to the chimney is called the chimney connector. Install the sections of stove pipe that form the chimney connector so that the pipe joints overlap and fit snugly. In general, the connector should be as short as possible, with as few bends as possible. Offsets and elbows inhibit draft. There should be no more than two ninety degree elbows with a top vent stove, nor more than three ninety degree bends in a rear vent stove in the connector pipe. Do not vent a Fireview into a thimble of less than 6 inches in diameter.

Stove pipe sections should be secured with three sheet metal screws in each joint. There are three holes drilled in the stove's flue collar. Attach the first section of stove pipe to the flue collar using three screws.

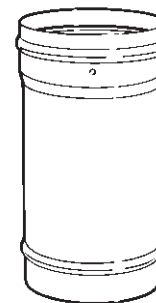
The flue collar on your Woodstock Soapstone stove is designed so the smaller (or crimped) end of the stove pipe will fit inside the flue collar. The smaller (or crimped) ends of the stove pipe should always point downward, toward the stove, to allow water or creosote to fall back into the stove. Smoke will not escape through the joints with the crimped ends pointing downward.

The stove pipe should be secure, but not so tight that it cannot be disassembled for inspection and cleaning.

Creosote build-up in your stovepipe or chimney can be dangerous, and can occur rapidly. We recommend that you check the chimney connector and chimney at least twice a year to guard against creosote build-up.



The minimum clearance for a single wall metal stovepipe and terra cotta thimble at the chimney connection is 12".



Single wall stovepipe should be used to connect the stove to the chimney. The crimped end (small end) should always point down, toward the stove.

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Any horizontal installation of stove pipe should have a rise of at least 1/4" for every 12 inches of horizontal run. The point of connection to the chimney should always be higher than the one to the stove. Only stove pipe of 24 gauge or heavier should be used. Remember, the lower the gauge, the heavier the pipe. Woodstock Soapstone Company offers a high quality, 22 gauge stove pipe that you may order factory-direct.

Stove pipe dampers are usually not necessary with Woodstock Soapstone Stoves. One should only be considered if it is required by local building codes, or if you experience excessive chimney draft. See the "Operation" section of this manual for more information about excessive draft.

Floor Protection

Your floor needs protection against two hazards:

- radiation from the bottom and sides of the wood stove
- sparks and hot coals that may fall out during ash removal and reloading

Do not install your Woodstock Soapstone stove on a combustible surface (wood floor, carpet, or vinyl floor for example). Even if you have a stone or tile overlay on wood, it is still considered combustible since the surface materials will not protect the floor from radiant heat.

Your Woodstock Soapstone stove must stand on either:

- 1) a hearth of solid masonry (brick, stone, or tile supported by concrete),
- 2) a prefabricated hearth pad listed to UL standards. These pads can be placed on top of a wood or carpeted floor. (Woodstock Soapstone Company carries a selection of these pads.)
- 3) a custom designed pad made up of approved non-combustible materials which will protect the floor from sparks, hot coals and ashes; and prevents heat from being radiated onto the floor underneath.

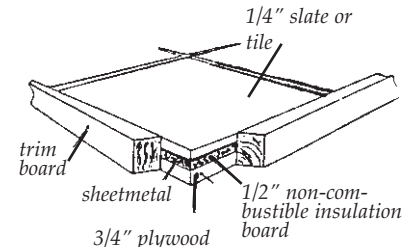
If you decide to build your own hearth to go over a combustible floor, start with a plywood base. Over this apply:

- 1) a layer of 24 gauge galvanized sheetmetal,
- 2) a 1/2 inch layer of an approved non-combustible insulation board (such as DUROCK cement board or WonderBoard Backer Board),
- 3) decorative non-combustible material such as tile, slate, stone or brick.

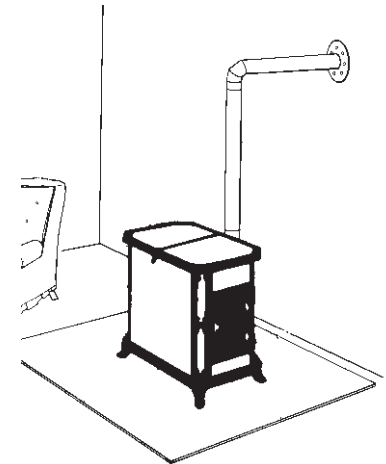
The hearth for a Fireview Stove must extend 16" beyond the loading door side. The hearth should extend 16" beyond the back of the stove and 8" beyond the front of the stove and beyond the side opposite the loading door. A hearth size of 48" D x 60" W will meet the safety requirements and be more pleasing.

<u>Hearth Sizes:</u>	<u>Minimum</u>	<u>Recommended</u>
	44" D x 50" W	48" D x 60" W

For a corner installation, your hearth should measure at least 60" along each wall, and a minimum of 66" from the corner to 8" in front of the stove in order to get adequate clearances. See also illustration on page 7 for clearances from the corners of the stove.



You can build your own hearth pad to fit your decor.



This illustration shows a stove with no heat shields or other protection. Clearances for a Fireview stove with no protection are 30 inches to the back of the stove, and 18 inches to the sides.

Wall Protection

The Fireview Stove has been tested to UL Standards for clearances to combustible walls. The minimum clearances to unprotected walls are as follows:

Minimum Clearances to Unprotected Combustible Walls:

From the Back:	30"
From the Sides:	18"

Do not assume that a wall is not combustible because it has a nonflammable surface. A wall with any combustible materials in it must be considered combustible. For example, a brick wall attached to wood studs is considered a combustible wall. Over time, heat will pass through bricks and heat the wood, lowering the ignition temperature of the studs, possibly resulting in a fire. As waves of radiant energy meet a combustible object, heat is absorbed and the temperature of the object is raised, which can result in spontaneous combustion. Similarly, wood-framed walls which are covered with tile, stone, or fire-rated sheetrock must be considered combustible. Fire-rated sheetrock is also considered combustible due to the paper covering.

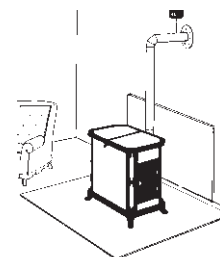
If you wish to install your stove closer to a combustible wall than standard clearances will permit, you can either attach a UL approved shield to the stove and stove pipe, or mount a protective non-combustible shield on the wall.

Stove Shields: Clearance from the back of the Fireview to a combustible wall can be reduced to 18 inches by attaching a UL approved heat shield and pipe shield. Woodstock Soapstone carries heat shields, specifically designed for the Fireview. These shields are unobtrusive, match the color of your stove castings, and are easy to install. When using one of these shields, clearance is measured from the stove back to the combustible wall.

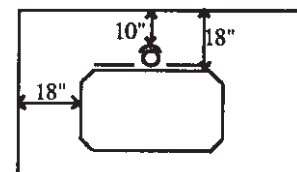
Wall Shields: Clearances can also be reduced by mounting a shield on the wall. (See Clearance Table, next page.) If you are installing a wall protector, it should be spaced out from the wall one inch. This air space allows air to flow freely behind the shield, cooling the combustible wall and preventing a pocket of hot air from being trapped behind the shield. The wall protector can be attached to the studs using long screws and one inch ceramic spacers. The spacers should not be installed directly behind the stove. The top and either a.) both sides; or b.) the bottom, must be left open. This allows for adequate ventilation.

When spacing a 4" brick wall one inch from a combustible wall, the top and bottom course of bricks should be staggered to create openings for ventilation, and the sides should be open.

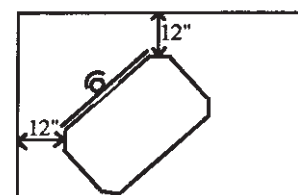
Corner Installations: The Fireview may be installed in a corner installation with 18" clearance from the corners to a combustible wall. Corner clearances may be reduced to 12" if you use an approved rear heat shield and stack shield.



This illustration shows a stove with a heat shield attached to the wall. Rear clearances for a Fireview with acceptable protection on the wall can be as low as 12 inches to the back of the stove (See chart on page 8).



Fireview clearances: installation with rear heat shield.



Fireview clearances: corner installation with rear heat shield.

8.

Clearance Table For Fireview Stove

Type of Protection	Stove Back	Stove Sides	Stove pipe
No Protection	30"	18"	20"
3 1/2" thick Masonry Against Combustible Wall*	20"	14"	16"
3 1/2" thick Masonry with 1" ventilated airspace*	12"	7"	12"
24 ga. sheet metal with 1" ventilated airspace*	12"	7"	12"
1/2" thick non-combustible insulation board with 1" airspace*	12"	7"	12"
UL Listed Rear Heat Shield and 36" vertical stack shield	18" (back only)	18"	10"

*These clearances meet or exceed requirements of NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances.

- These clearances apply to walls, ceilings, furniture and other combustibles.
- The 36" Vertical Stack Shield attaches to the back of the stove pipe, and prevents excess heat from being radiated from the pipe. Heat shield protection is only required for the first 36" of vertical connector pipe.
- At least 30" is required from the front of the stove to combustibles (such as curtains and furniture).

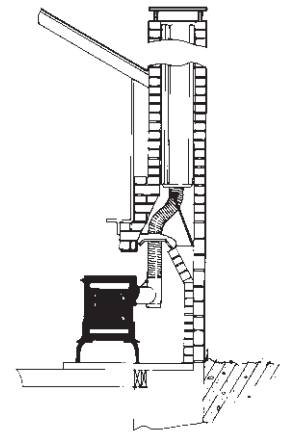
Fireplace Installation

A Fireview Soapstone Stove can be installed in front of an existing fireplace with a lintel opening of at least 27" high. We do not recommend placing the stove inside the fireplace, as it would be difficult to access the control levers, and much of the heat radiating off the stove would not circulate into the room.

The preferred method for installing a stove in front of a fireplace is by running a stainless steel flue liner down the chimney, and connecting it to the stove at the fireplace. Chimneys with large flues should be relined to achieve proper draft. A 6" diameter liner is an ideal match for the Fireview stove.

It is important that there be a positive connection between the stove and the beginning of the flue liner. (It is not acceptable to simply install a plate across the front of the fireplace and run stove pipe through it; the connector must extend up to the flue liner.)

To achieve a positive connection, your connector pipe must pass through the fireplace damper, above the smoke chamber (or throat), and into the liner. You will also need to seal the damper opening around the connector pipe with a block off plate. The only exception would be installation of a liner which would extend to the top of the chimney and be sealed with flashing at the top.



In a fireplace installation, the stovepipe must run all the way up to the bottom of the first section of chimney tile and the flue must be sealed off above the damper to prevent room air from entering the chimney. Alternatively, the stovepipe may be attached to a stainless steel liner which runs all the way up the chimney.

You could hire a sheetmetal worker to fabricate a custom fireplace connection, but there are kits available that can make this installation fairly easy. These kits include a flexible stainless steel oval pipe, an adapter to connect the oval pipe to your 6" round stove pipe, a block off plate, and high temperature gasket. Please contact Woodstock Soapstone Co. for information on these kits.

The same clearances from your stove and stove pipe apply to both fireplace and freestanding installations. Be particularly careful to check clearances to a wood mantle, or a wood fireplace facade. You must maintain a 30" clearance to an unprotected wood mantle.

Remember, you may not vent a stove into (or through) a factory-built fireplace unless it is specifically listed for such an installation. Most factory-built fireplace systems are only rated to 1,700°F.

Mobile Home Installation

The Fireview Stove is approved for installation in a mobile home. Along with the general installation requirements for your stove, there are further regulations that must be followed for installing a stove in a mobile home. These regulations assume that the structure is very tightly constructed, made of metal, and that the home can be moved. Mobile home regulations vary from one locality to another, and may include some, or all, of the following:

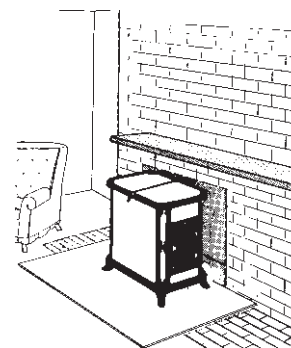
- The stove must be attached to the floor of the home.
- The stove must be grounded to the mobile home's chassis.
- You must maintain the structural integrity of the home.
- You must bring outside air to the stove for combustion.
- You must use close clearance (double wall) connector pipe between stove and chimney.
- You must install a rain cap with spark arrestor.
- You may not install the appliance in a bedroom.

Since mobile homes are tightly constructed, **you must supply outside combustion air directly to the stove.** Woodstock Soapstone Company makes an outside air adapter that attaches to the back of the stove. The flange on this adapter will accept a 4" duct. We recommend flexible aluminum duct for ease of installation. Run the duct through the floor to a ventilated crawl space below, and have it terminate in the crawl space underneath the stove. You may want to install a piece of screen at the termination of the duct to keep out unwanted insects.

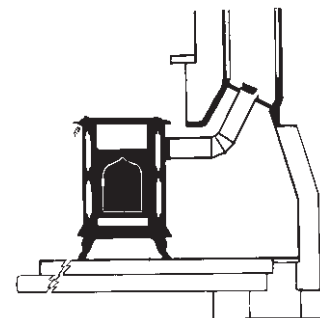
In a mobile home, the interior connector pipe must be close clearance (double wall) pipe. **Single wall connector pipe is not allowed in a mobile home installation.**

Finally, metal straps must be used to bolt the stove to the floor of the mobile home, so it cannot tip over. These straps are available from Woodstock Soapstone Company at no charge.

Additional information about the installation of wood burning appliances in mobile homes is available from the Department of Housing and Urban Development (HUD).



Incorrect fireplace installations are shown above and below. It is not permissible to simply block off the fireplace opening, and run pipe straight back through the block-off plate (above). Nor is it permissible to simply run stovepipe through the fireplace damper (below). The stovepipe must run all the way up to the bottom of the first chimney tile.



10.

In Summary

Stove installation is critical to proper stove performance and safety. Review the following points to be sure your stove is ready for use.

- **Chimney Type** - You must use either (1) UL Type HT Class A, Prefabricated Metal Chimney Pipe, approved to 2100° F or (2) a masonry chimney with a tile liner.
- **Chimney Location** - Interior chimneys are preferable to exterior chimneys, which are located on an outside wall and exposed to the cold.
- **Chimney Size** - Both height of the chimney system, and flue size are important. To create adequate draft, your chimney must meet or exceed minimum specifications.
- **Connector Pipe** - Only use “stove pipe” to connect the stove to the chimney (never use it instead of chimney pipe).
- **Floor Protection** - Your stove must stand on an approved hearth to provide protection against heat, sparks, and ashes.
- **Clearances** - Maintain correct clearances from the stove to all combustible surfaces, including walls, curtains, and furniture.