

# INSTALLATION

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 entire manual carefully.** It explains how to install your Woodstock Soapstone Ideal Steel Hybrid Wood 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. Failure to follow instructions may result in property damage, bodily injury, or death.**

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 be aware of any changes and updates to local and state codes and may be best suited to handle your installation work.

Many chimney sweeps are qualified installers. If you are unfamiliar with sweeps or need to locate a certified sweep in your area, you can check listings at [www.csia.org](http://www.csia.org) (Chimney Safety Institute of America). Builders and contractors are another option. In some cases, homeowners install their own stoves. Before installing your stove, please review carefully the stove installation, clearance, and safety information in this manual. Woodstock Soapstone has NFI (National Fireplace Institute) certified woodburning specialists on staff and available to answer any questions you may have about your installation. If you have questions, please call us toll free at 1-800-866-4344.

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, and approve in writing, your installation.

When this room heater is not properly installed, a house fire may result. To reduce the risk of fire, follow the installation instructions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.


## LOCATION

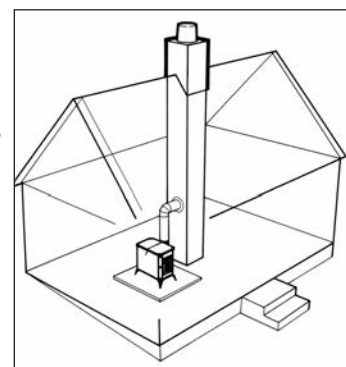
A stove which is centrally located will heat the greatest area of your home. Heat should be able to circulate easily into nearby rooms. Placing your stove near an open stairway or register in the floor will help transfer heat to other rooms.

Other installation considerations are:

- Clearance to Combustibles
- Adequate Space for Wood Loading and Ash Removal
- Room Traffic Patterns

Most people install their stove in a room they use frequently where they can enjoy the beauty and comfort of the stove. This also helps in the monitoring and reloading the stove as needed. A well-planned placement will enhance your enjoyment of your stove and may save installation costs.

 It is not recommended to install a high efficiency stove in an unfinished basement. Heat loss in an unfinished basement is significant, and it is common for high efficiency stove to be overfired in order to compensate for the heat loss through the unfinished basement walls. For a full article on Basement Installation, visit [www.woodstove.com](http://www.woodstove.com) or call 1-800-866-4344.



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

### ALCOVE INSTALLATIONS

**THE MODEL 210 IDEAL STEEL HYBRID WOODSTOVE IS NOT APPROVED FOR AN ALCOVE INSTALLATION. AN ALCOVE IS DESCRIBED AS AN AREA LESS THAN 512 CUBIC FEET, WHICH IS EQUIVALENT TO AN 8'X8'X8' SPACE.**

# CHIMNEYS

Your chimney is a critical component of your wood heating system. A properly designed and constructed chimney will help to provide safe and efficient woodstove operation. Hot exhaust rising up through the chimney also pulls combustion air into the stove through the air damper. If a chimney is too short, or the flue too large, the hot exhaust will cool and slow down. This can lead to poor stove performance, smoke spillage, back puffing, and even creosote build up in the chimney itself. An excessively tall chimney could lead to a strong draft, which may make the fire difficult to control with the stove damper. This could result in over firing the stove and lead to damage to the steel components as well as the catalytic combustor. Whether you are installing a new chimney, or adapting an existing chimney to your woodstove, close attention to chimney height, flue size, and location should be considered.

## Chimney Flue Sizing:

The ideal flue size for the Ideal Steel Hybrid is 6" (28 in<sup>2</sup>), which is the same diameter as the stove's flue collar.

If upsizing needs to occur due to an existing chimney the following general rules apply:

1. **Interior Chimney** (no walls of the chimney exposed to the outside below the roofline): the inside cross-sectional area of your chimney should be no more than 3x (85 in<sup>2</sup>) the cross-sectional area of the woodstove flue collar.
2. **Exterior Chimney** (if there are one or more walls exposed to the outside below the roofline)
  - The flue should be no more than 2x (57 in<sup>2</sup>) the cross-sectional area of the flue collar.

**Recommendation:** The Ideal Steel Hybrid has a 6 inch flue collar, thus an 8 inch x 10 inch rectangular or 10 inch round flue tile for an **inside** chimney are the maximum flue sizes we recommend for this stove. For an **outside** chimney, an 8 inch x 8 inch square or 8 inch round would be the largest acceptable. The smallest size we recommend is 6 inches round, as the flue should not be less than the flue collar size.

Note: For flues that exceed the recommended area, a stainless steel chimney liner is recommended.

## Height Requirements:

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

The recommended minimum chimney height is 15 feet from the flue collar of the stove to the top of the chimney. This includes connector pipe and chimney pipe. There may be other factors to conform to code for clearances on the roof, high wind, high altitude, etc., that may make the minimum height undesirable or a violation of building codes. Woodstock Soapstone does not list a maximum chimney height requirement, but it is important to know that a tall chimney (often at or over 30'), can overdraft. Overdrafting chimneys can cause internal firebox damage. Often the draft can be controlled with the use of a pipe damper. If you think your chimney may be overdrafting, call us at 1-800-866-4344.

## CHIMNEY TYPES

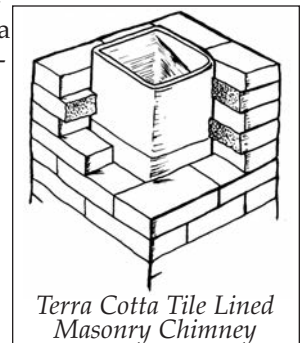
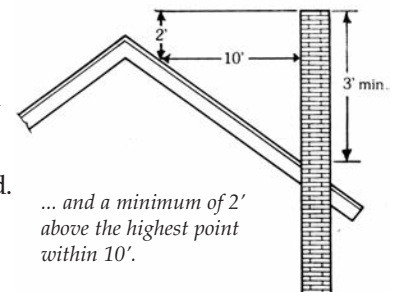
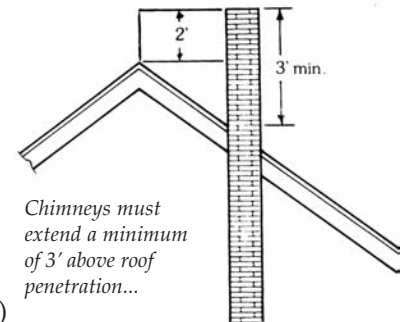
**DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.**

There are two acceptable types of chimneys: (1) A chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance UL 103 **OR** A code-approved masonry chimney with a flue liner.

### Lined Masonry Chimneys:

Always have the chimney inspected prior to your stove installation. If your chimney is not lined with appropriately sized clay flue tiles, or the clay tiles are old, cracked, damaged or otherwise compromised, a stainless steel chimney liner or poured liner will be required. Depending on the condition of your flue or clay tiles, the stainless steel liner may need to be wrapped in a high temperature insulation blanket. A liner may also be recommended if your flue is too large for the draft to flow properly (please refer to the section on chimney sizing). Our customer service department can answer any questions regarding the use of a liner and/or insulating blanket. Call 1-800-866-4344.

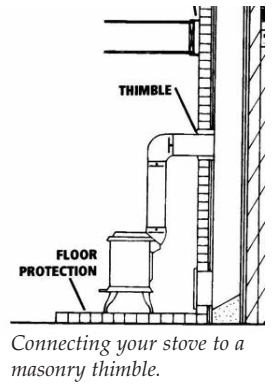
Existing chimneys should be checked twice a year for obstructions, creosote deposits, surface cracks, chemical deterioration and poor construction. Any damage should be repaired immediately. Two other chimney related areas that should be checked are chimney penetrations at the floor or ceiling joists, and at the roofline. There



should be at least 2 inches of clearance between the chimney and floor joists or other combustible materials. Poor flashing between the chimney and the roofline can cause leaks and deterioration of 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 official or certified chimney professional inspect your chimney. If repairs are required, be sure to use someone who is knowledgeable in chimney work and familiar with local code requirements.

In addition: All brick or cinder block chimneys should have clean out access with a tightly 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 downdrafts caused by wind.



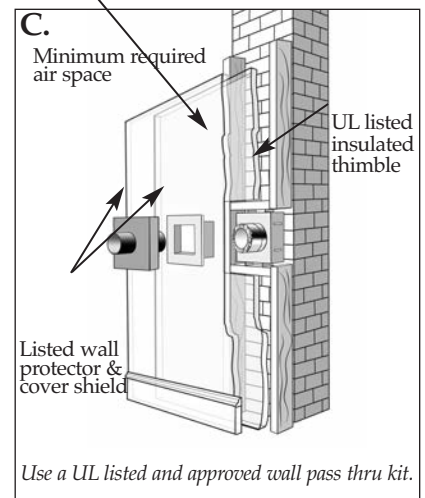
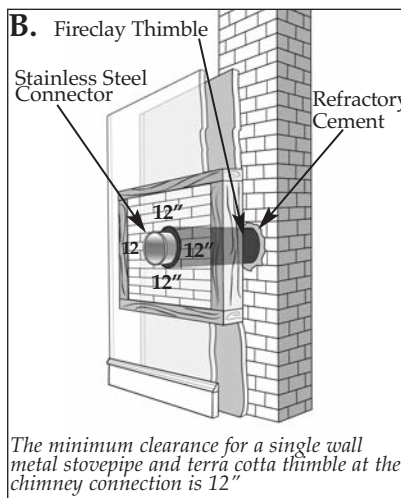
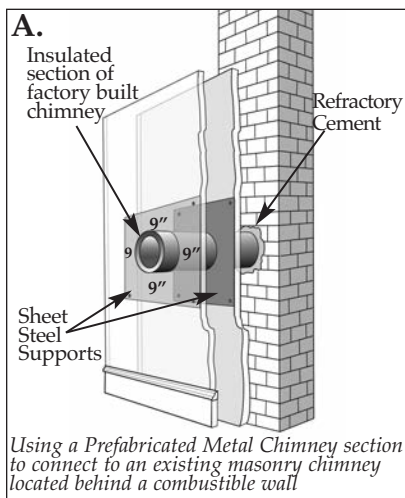
## Passing Through A Combustible Wall:

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 Solid Insulated Prefabricated Metal Chimney to connect to the chimney** - Use a section of insulated prefabricated 2100° Class A chimney pipe listed to UL 103 HT (at least 1" of insulation or greater) the same inside 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. (See Diagram A Below)

**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. (See Diagram B Below)

**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. Please note: there are several UL listed wall pass through kits available, always follow the specific manufacturers installation instructions. (See Diagram C Below)



For other methods, please refer to NFPA 211.

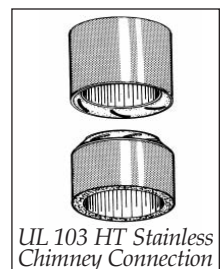
**REMEMBER, UNPROTECTED SINGLE OR DOUBLE WALL STOVE PIPE SHOULD NOT PASS THROUGH A COMBUSTIBLE WALL OR CEILING TO CONNECT TO THE CHIMNEY. YOU MUST USE AN APPROVED METHOD WHICH PROVIDES GREATER PROTECTION THAN SINGLE OR DOUBLE WALL PIPE.**

## Prefabricated Metal Chimneys:

For high efficiency, freestanding woodstoves, like your Woodstock Soapstone stove, a Prefabricated Metal Chimney must be listed as Class A and carry a UL Listing of 103 HT (high temperature). The "UL 103 Type HT Class A" prefabricated chimney will have a temperature rating of 2,100° F.

There are prefabricated chimney systems that are approved only to 1,700° F and are suitable only for fireplace inserts or factory built fireplaces. **DO NOT** use these with your Woodstock Soapstone stove.

At the point of the first penetration of a combustible surface (i.e., wall or ceiling) all subsequent venting components need to be prefabricated "UL Type HT Class A". If your prefabricated chimney



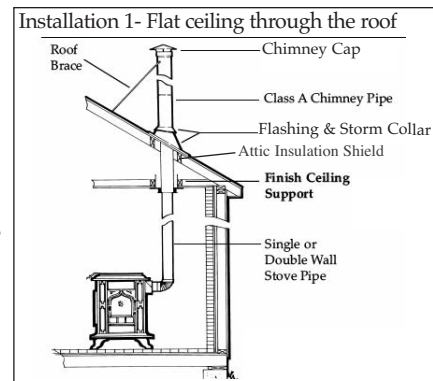
goes through a living space it must be enclosed, and that enclosure must conform to clearance standards for the prefabricated chimney. Your chimney must pass through your roof and extend above the roof line in accordance with code standards. Please refer to height requirements on Page 2.

## Prefabricated Chimney Configurations

The diagrams below represent the most common and acceptable installations using prefabricated chimney pipe. The necessary components are listed and shown in their appropriate locations. These components are Class A listed to U.L. 103HT (tested to 2100 degrees F.) Only components listed to UL 103HT can be used to install your wood stove. Installation instructions are described below **as examples only**. More detailed instructions are available through Woodstock Soapstone or the pipe manufacturer. **ALWAYS FOLLOW THE SPECIFIC MANUFACTURER'S INSTALLATION INSTRUCTIONS.**

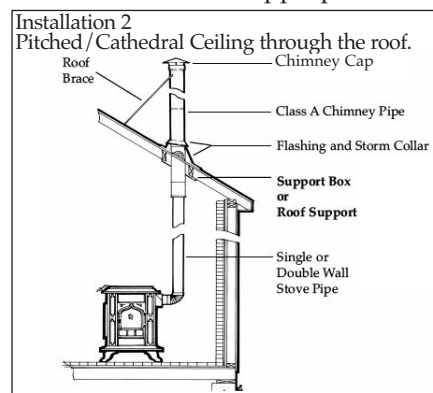
### Installation 1- Flat ceiling through the roof

First, determine where the stove will be placed. Pay close attention to all required clearances for the stove **and** connector pipe. Next, use a plumb line to locate the finish ceiling support in the ceiling above. Cut the appropriate sized hole in the ceiling and frame in the necessary supports to secure the ceiling support. Install the pipe adapter onto the first section of chimney pipe, and lower them into the ceiling support. Use an insulation shield in the attic to keep any insulation away from the pipe. If the attic is a living space the chimney pipe must be fully enclosed. As the pipe extends through the roof, install the appropriate flashing and storm collar to keep the weather out. As the height of the chimney increases to meet code, it may be necessary to install a roof brace (typically recommended at 5' intervals). All chimneys should have the appropriate cap installed at the top to reduce wind and weather related downdrafts as well as deter any animals from building nests. The connector pipe should extend from the flue collar of the stove to the pipe adapter at the ceiling support. The male (crimped) end should always point down toward the stove. Be sure that each joint has enough overlap for a secure connection. All connections should be fastened with screws, including at the flue collar and pipe adapter. (Please refer to the manufacturers full set of installation instructions)



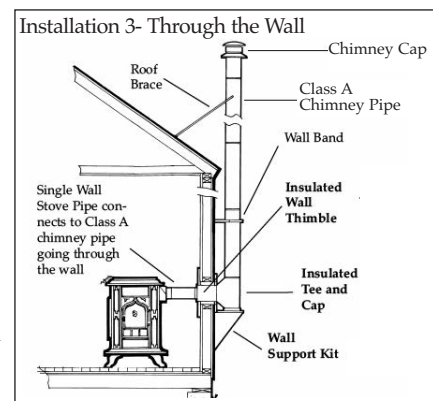
### Installation 2- Pitched/Cathedral Ceiling through the roof

Determine where the stove will be placed. Be sure all clearance requirements are satisfied. Choose the appropriate support for your installation (support box or roof support). Use a plumb line to locate the support in the ceiling above. Cut the appropriate sized hole in the ceiling and install the necessary framing to secure the support. Install the support according to its specific instructions. Be sure that the support hangs down below the ceiling far enough to maintain proper clearance for the connector pipe (steeper slopes require more chimney pipe below the ceiling). Install the pipe adapter to the first section of chimney pipe and lower it into the support box (or connect it to the bottom of the roof support). As the pipe extends through the roof, install the appropriate roof flashing and storm collar. Install the proper chimney pipe lengths to meet code and recommended chimney height. It may be necessary to install a roof brace for stability. Always install the appropriate cap to the top of the chimney. Double wall connector pipe is recommended for installations that have 8' or more from the stove to the chimney. Be sure that all joints in the connector pipe are secure and fastened with screws, including at the flue collar and chimney pipe adapter. (Please refer to the manufacturers full set of installation instructions)



### Installation 3- Through the wall

This installation requires the use of an insulated wall thimble to penetrate a combustible wall. Typically a 9"-12" chimney pipe and pipe adapter will pass through the thimble and make the connection between the interior connector pipe and an insulated tee with a clean out on the outside of the building. The tee and chimney rising up from it rest on a wall support designed to bear the weight of the chimney. Install lateral supports as specified as the chimney rises along the exterior wall. The appropriate flashing and storm collar should be installed if the chimney penetrates an eave or overhang. An offset of 15 or 30 degrees may also be used to go around an overhang. As the chimney extends above the roof to meet code recommended heights it may be necessary to install a roof brace. (Please refer to the manufacturers full set of installation instructions).



## Stovepipe (Connector Pipe):

Connector pipe is either single wall (sheet metal) or double wall (sheet metal outer pipe with a stainless steel inner pipe). We strongly recommend 22 gauge pipe (26 or 28 gauge is too thin for use with a woodstove). The connector pipe should be 6 inch diameter to match the flue collar of the stove. If your connection to either a masonry chimney or prefabricated chimney system is more than 8 feet tall, we recommend the use of double wall connector pipe. If you need to reduce clearances for your connector pipe installation, double wall connector pipe would be recommended. All pipe connections, including at the flue collar, must be secured with screws. **DO NOT USE GALVANIZED SINGLE WALL PIPE.**

Connector pipe is designed to connect your stove to your masonry lined or approved prefabricated chimney system. **CONNECTOR PIPE SHOULD NEVER BE USED AS A CHIMNEY AND SHOULD NEVER PASS THROUGH A COMBUSTIBLE WALL, CEILING, WINDOW, CLOSET, OR ROOF.** At the point where your stovepipe meets the chimney, you must either vent into a masonry chimney with approved non-combustible transition, or a prefabricated chimney system with a specially designed transition piece.

## FIREPLACE INSTALLATION

Your Model 210 Ideal Steel Hybrid Woodstove has variable height legs, giving you a greater range of flue heights for ease of installation when venting through an existing fireplace. The variable height legs have a range of 5". The height adjustment is in 1" increments. The centerline height of the rear flue exit at the lowest leg height is 24.5". Installing the Ideal Steel Hybrid soapstone stove in a fireplace setting is a great way to enjoy the view of the fire, while greatly increasing the efficiency and reducing heat loss to the fireplace chimney. **PLEASE NOTE: You cannot have an ash pan if you are setting the stove to 30.5" .**

We do not recommend placing the stove inside the fireplace, as it would make routine maintenance such as cleaning the combustor more difficult, and much of the heat radiating off the stove would not circulate into the room.

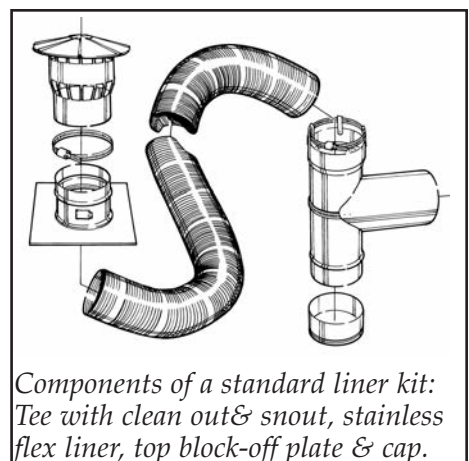
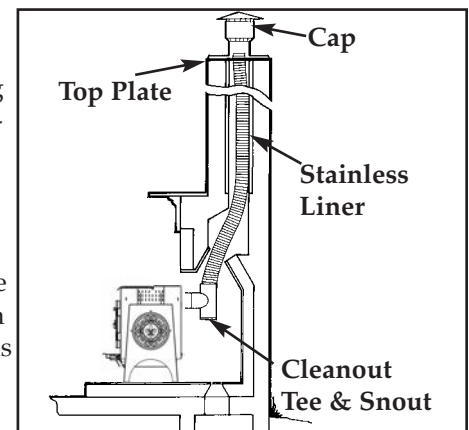
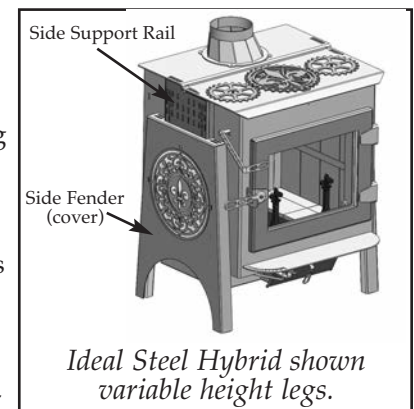
The preferred method for installing a stove in front of a fireplace is by running a stainless steel 'flex' liner down the chimney, connecting it to the stove at the fireplace. Chimneys with large flues should be relined to achieve proper draft. If the chimney does not have flue tiles or if the tiles are cracked or compromised, an additional insulating material must be used.

It is important that there be a secure connection between the stove and the flue liner. It is **NOT** acceptable to simply install a plate in front of the fireplace and run a stovepipe through it. The stove pipe must connect with the liner for a continuous outlet to the top of your chimney.

Stainless steel flex liner kits come in a variety of lengths and are readily available. These kits include a flexible stainless steel pipe, tee with snout & clean out, a block-off plate for the top of the chimney, and a cap. Please contact Woodstock Soapstone Company for more information on these kits. **ALWAYS FOLLOW THE SPECIFIC MANUFACTURER'S INSTALLATION INSTRUCTIONS.**

If the fireplace surround is clad in wood trim, the proper clearance to a combustible will need to be maintained. Please refer to the clearance charts on pages 7-10. An unprotected wood mantel needs to be a minimum of 30" from the top of the stove. If a mantel shield is installed that clearance can be reduced to 12".

**DO NOT VENT YOUR WOOD STOVE THROUGH A FACTORY BUILT FIREPLACE UNLESS IT IS SPECIFICALLY LISTED FOR SUCH AN INSTALLATION .** Most factory-built fireplace chimney systems are only rated to 1,700° F, which is not sufficient for a freestanding wood burning stove.



# FLOOR PROTECTION REQUIREMENTS

Your Woodstock Soapstone stove must be set on an approved hearth or floor protection. The hearth protects your floor from two hazards:

- Heat Transfer: Heat radiation from the bottom, front, and sides of the woodstove
- Ember Protection: Sparks and hot coals that may fall out during ash removal and reloading of firewood

**DO NOT INSTALL YOUR WOODSTOCK SOAPSTONE STOVE ON A COMBUSTIBLE SURFACE (WOOD, CARPET, LAMINATE, OR VINYL, FOR EXAMPLE).**

Even if you have a stone or tile overlay on wood, it is still considered combustible since the surface materials will not provide adequate heat transfer protection.

Your stove **MUST** sit on one of the following:

- A hearth pad of solid masonry (brick or tile on concrete and mortared in place)
- A prefabricated hearth pad listed to UL1618 approved standards. These pads are made to be placed on an existing floor. Woodstock Soapstone Company has a good selection of these pre-made pads.
- A custom designed pad constructed of approved non-combustible materials which will protect the floor from sparks, hot coals, and ashes; and prevents heat from being transferred onto the floor beneath.

## IF YOU CHOOSE TO BUILD YOUR OWN HEARTH PAD

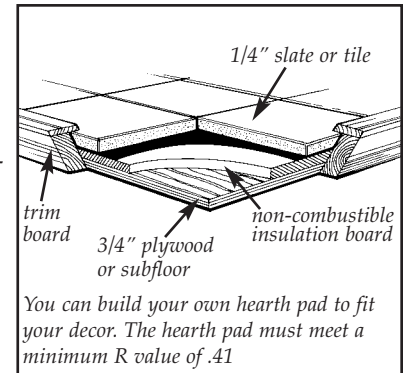
1) Start with a plywood base or subfloor.

*Over this apply:*

2) a layer of insulating board with an R-Value of at least 0.41. Depending on the material you choose, the insulating board can be as little as 1/2" thick. For additional help with material specifications, contact Woodstock Soapstone Company at 1-800-866-4344 or info@woodstove.com.

*Over this apply:*

3) 1/4" or greater of a decorative, non-combustible material such as tile, slate, stone, or brick. Use mortar or grout to set the material in place, then grout the seams.



Specifications for floor protectors may be listed in terms of R-value, K-value, or C-value. To convert K or C value to R-value use the following formulas.

K to R:  $R=1/K \times T$  (Thickness of the alternate material)

C to R:  $R=1/C$

Once alternate materials have been converted to R-values, the values of multiple layers can be added to determine the combined protection. If the overall R-value meets or exceeds the specified .41 then the materials are acceptable.

### **R-values of common hearth materials:**

Ceramic Tile	1/4"	0.020
Granite	1/4"	0.020
Slate	1/4"	0.025
Cement Mortar	1/2"	0.025
Cementboard	1/4"-1/2"	0.20-0.39
Common Brick	2.25"	0.450
Common Brick	4.00"	0.800
Mineral/Ceramic Fiber Board	1/2"	1.10-1.470

**Please Note:** Always check with the manufacturer of the hearth material used to verify the R or K value.

K Values cannot be added. Convert to R value before adding multiple layers.

**DO NOT USE:** Old-fashioned stove boards that were commonly sold in hardware stores as they **DO NOT** have adequate protection and **ARE NOT** approved for primary floor protection under your stove.

Hearth Rugs also **ARE NOT** meant to be used as primary hearth protection. These are made to be used in addition to an approved hearth, and are an auxiliary decorative protection. They are not a substitute for an approved hearth pad.

## Hearth Sizing:

Clearances for your Ideal Steel Hybrid stove on the front, back and sides must be taken into consideration when determining the placement and size of your floor protection. The floor protection must extend under any horizontal connector pipe and 2 inches beyond each side of that connector.

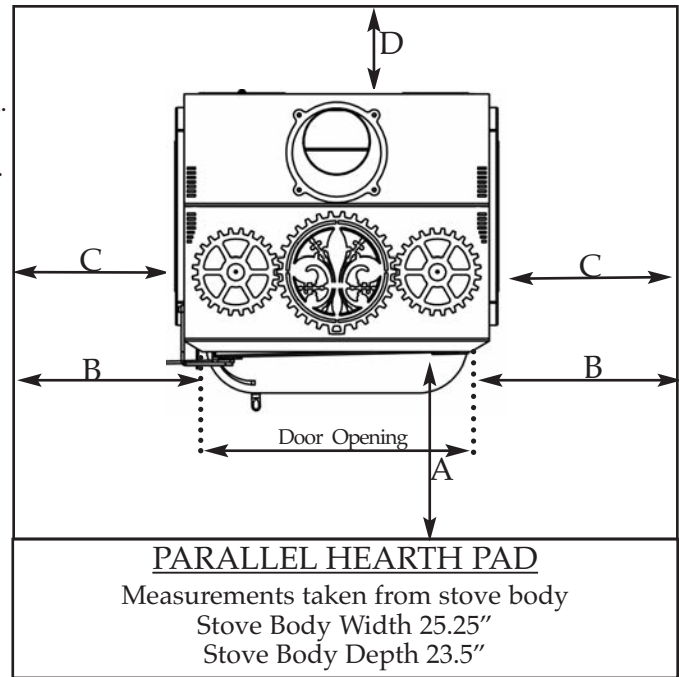
### PARALLEL HEARTH PAD

#### MINIMUM DIMENSIONS

- A. Floor protection in front of load door opening = 16"
- B. Protection to either side of the loading door /ash door opening = 8"
- C. Floor protection non-loading door sides = 6"
- D. Floor protection behind stove (top vent or rear vent) = 6"

Minimum hearth size in a parallel installation is 46"D x 38"W. Recommended size is 48" D x 48"W or larger.

A 48" x 48" square hearth pad will allow for 6" behind the stove, 11" on either side, and 18" in front of the stove. The hearth pad must have a minimum R value of 0.41 (1/2" of "cementboard" covered with 1/4" of tile or stone).



### CORNER HEARTH PAD

Minimum hearth size in a corner installation must be 54.5" x 54.5" (with the front corner cut off). **NOTE:** To achieve the minimum hearth dimension, the stove must be top vented.

Calculating a Corner Hearth Pad (per NFPA 211):

$$A = C \times 1.414 + W/2 + D + \text{Front Hearth Requirement}$$

A = distance from corner to the front of the hearth pad

C = clearance from rear corner of appliance to wall (rear heat shield is recommended but not required)

1.414 = a constant

W/2 = one half the appliance width (12.625")

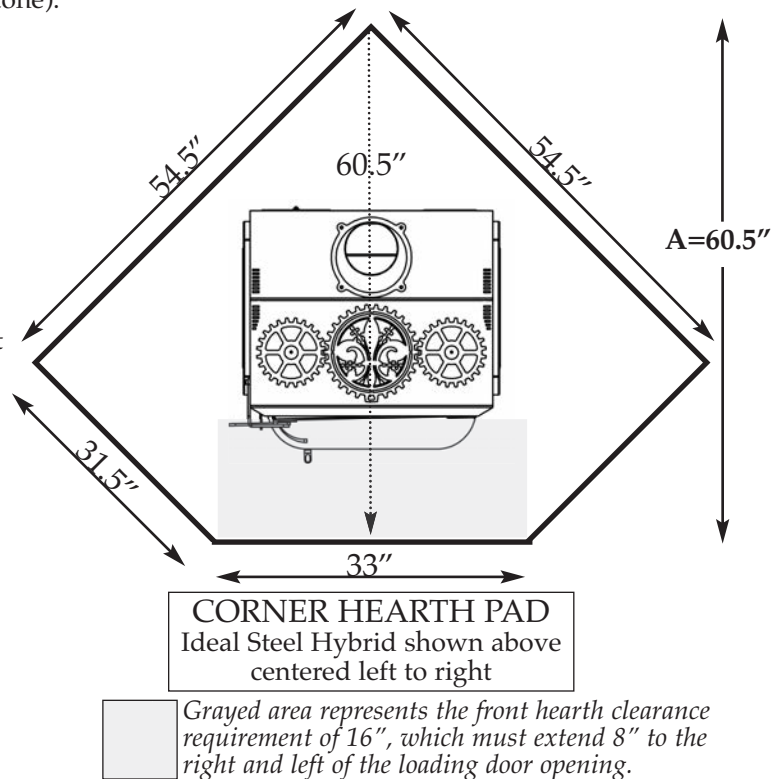
D = appliance depth (23.5")

Front Hearth Clearance = 16"

Example:

Ideal Steel with the Rear Heat Shield & Pipe Shield

$$A = 6" \times 1.414 + 12.625 + 23.5" + 16" \quad A = 60.5"$$



## WALL PROTECTION

The Model 210 Ideal Steel Hybrid stove has been tested to UL standards for clearances to combustible walls. The minimum clearances to unprotected walls are as follows:

Minimum clearances with no heat shields to unprotected combustible walls:

From the back----- 14"

From the sides-----19"

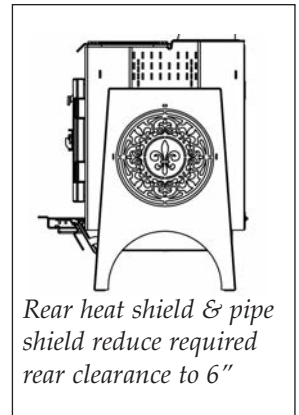
**Do not assume that a wall is not combustible because it has a nonflammable surface.** A wall with any combustible materials in it must be considered combustible. For example, a brick wall attached to wood studs is considered a combustible wall. Over time, heat will pass through bricks and heat the wood, lowering the ignition temperature of the

studs, possibly resulting in a fire. As waves of radiant heat 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 an approved stove & pipe shield, or mount a ventilated, non-combustible shield on the wall.

## Stove and Pipe Shields:

Clearances can be reduced by attaching an approved heat shield, part #IS-256 and pipe shield, part #W-413. Woodstock Soapstone Company carries heat shields specifically designed for this stove. When using one or both of these shields, **clearance is measured from the back of the shield to the combustible wall**. The clearance behind the stove can be reduced to 6 inches. The clearance behind the pipe can be reduced to 6 inches.



Rear heat shield & pipe shield reduce required rear clearance to 6"

## Clearance Table:

The Ideal Steel Stove can be installed at a 14" clearance with no additional protection, if the stove pipe is top vented, and the provided shield, is used to cover the rear flue cover plate. To further reduce the rear clearance to 6", you must attach an approved rear heat shield and a 36" pipe shield.

Clearance Table For Model 210 IDEAL STEEL						
Type of Installation▶	Clearance from stove back, top vent, with stove pipe which goes straight up	Clearance from stove back and pipe, which goes straight back	Clearance from stove back and vertical single wall connector pipe with elbow at stove back		Stove Sides	
Type of protection▼			Stove Back	Stovepipe		
No Protection	14"	14"	23"	15"	19"	
With 36" Pipe Shield			14"	6"	19"	
With Approved Rear Heat Shield (Part #IS-256) and 36" Pipe Shield	6"		14"	6"*	19"	
			*Controlling clearance			
3 1/2" thick Masonry Against Combustible Wall*	12"	12"	20"	12"	13"	See note below regarding NFPA 211 clearance reduction methods and implementation.
3 1/2" thick Masonry with 1" ventilated airspace*	12"	12"	14"	6"	12"	See note below regarding NFPA 211 clearance reduction methods and implementation.
24 ga. sheet metal with 1" ventilated airspace*	12"	12"	14"	6"	12"	See note below regarding NFPA 211 clearance reduction methods and implementation.
1/2" thick non-combustible insulation board with 1" airspace*	12"	12"	14"	6"	12"	See note below regarding NFPA 211 clearance reduction methods and implementation.

\*These clearance reductions meet or exceed requirements of NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances. Approved NFPA 211 clearance reduction methods **DO NOT** allow stove clearances to be reduced below 12". **NFPA WALL SHIELDS MUST BE SIZED TO NFPA 211 SPECIFICATIONS. CONSULT NFPA 211 AND A QUALIFIED EXPERT BEFORE IMPLEMENTING THESE REDUCTIONS.**

The only approved method allowing for a rear stove clearance less than 12" is the Approved Rear Heat Shield (#IS-256) provided by Woodstock Soapstone Co. If your installation requires the use of the Approved Rear Heat Shield call 1-800-866-4344.

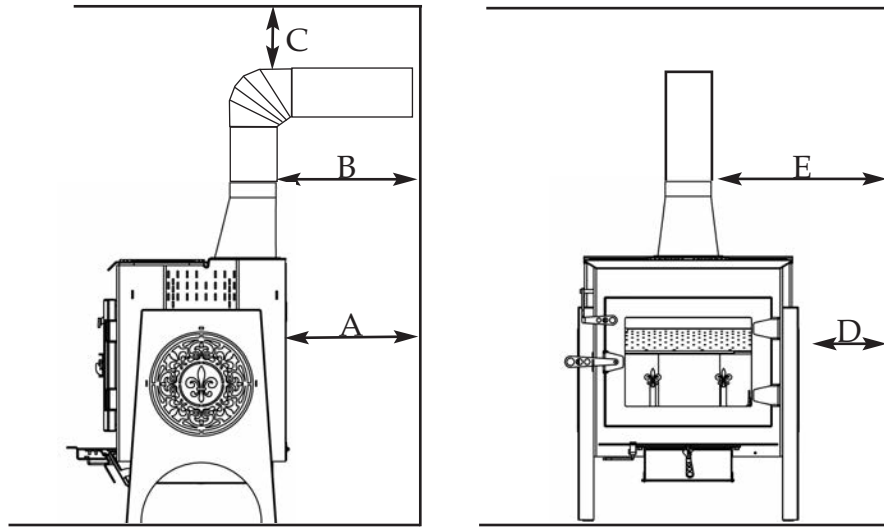
- These clearances apply to walls, ceilings, furniture and other combustibles.
- The 36" Vertical Stack Shield attaches to the back of the stove pipe and prevents excess heat from being radiated from the pipe. Heat shield protection is only required for the first 36" of vertical connector pipe.
- At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

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 mantel or a wood fireplace facade. You must maintain a 30" clearance to an unprotected wood mantel. See Fireplace Installations on Page 5.



CLEARANCE INSTALLATION DIAGRAMS

**1) Parallel Installation, Single Wall Pipe, Top Vent**



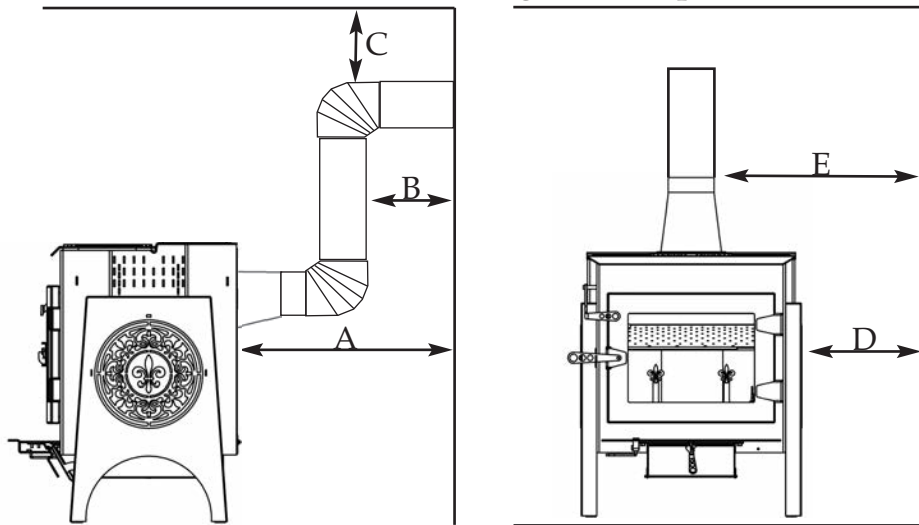
**NO HEAT SHIELD**

- |                          |       |                          |         |
|--------------------------|-------|--------------------------|---------|
| A. Back of stove to wall | = 14" | D. Side of stove to wall | = 19"   |
| B. Back of pipe to wall  | = 15" | E. Side of pipe to wall  | = 29.5" |
| C. Above pipe to ceiling | = 18" |                          |         |

**WITH REAR HEAT SHIELD & PIPE SHIELD ATTACHED**

- |                                 |       |                          |         |
|---------------------------------|-------|--------------------------|---------|
| A. Back of stove shield to wall | = 6"  | D. Side of stove to wall | = 19"   |
| B. Back of pipe shield to wall  | = 6"  | E. Side of pipe to wall  | = 29.5" |
| C. Above pipe to ceiling        | = 18" |                          |         |

**2) Parallel Installation, Single Wall Pipe, Back Vent**



**NO HEAT SHIELD**

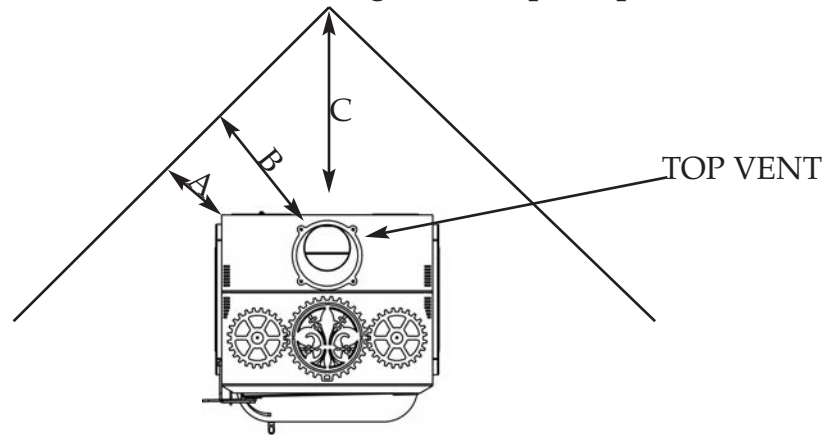
- |                          |       |                          |         |
|--------------------------|-------|--------------------------|---------|
| A. Back of stove to wall | = 23" | D. Side of stove to wall | = 19"   |
| B. Back of pipe to wall  | = 15" | E. Side of pipe to wall  | = 29.5" |
| C. Above pipe to ceiling | = 18" |                          |         |

**WITH REAR SHIELD & PIPE SHIELD ATTACHED**

- |                                 |       |                          |         |
|---------------------------------|-------|--------------------------|---------|
| A. Back of stove shield to wall | = 14" | D. Side of stove to wall | = 19"   |
| B. Back of pipe shield to wall  | = 6"  | E. Side of pipe to wall  | = 29.5" |
| C. Above pipe to ceiling        | = 18" |                          |         |

## CLEARANCE INSTALLATION DIAGRAMS

### 3) Corner Installation, Single Wall Pipe, Top Vent



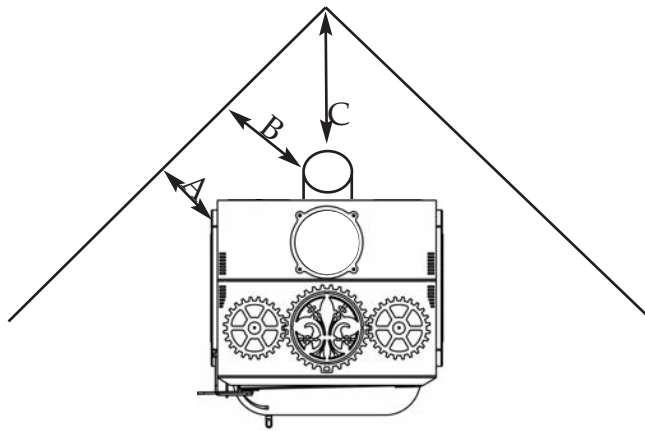
#### NO HEAT SHIELD

- A. Stove corners to side walls = 6" (determines placement)
- B. Pipe to side walls = 17"
- C. Pipe to corner = 17"

#### WITH REAR HEAT SHIELD & PIPE SHIELD ATTACHED

- A. Stove corners to side walls = 6" (determines placement)
- B. Pipe to side walls = 17"
- C. Pipe to corner = 17"

### 4) Corner Installation, Single Wall Pipe, Back Vent



#### NO HEAT SHIELD

- A. Stove corners to side walls = 10.5"
- B. Pipe to side walls = 17"
- C. Pipe to corner = 17" (determines placement)

#### WITH REAR SHIELD & DOUBLE WALL CONNECTOR PIPE

- A. Stove corners to side walls = 6" (determines placement)
- B. Back of pipe shield to side walls = 6" (Double Wall Connector Pipe)
- C. Pipe to corner = 6" (Double Wall Connector Pipe)

# SETTING UP YOUR STOVE

Your Model 210 Ideal Steel Hybrid woodstove has been shipped assembled except for four parts:

1) Changing the height of the stove; 2) the flue collar, 3) the ash lip 4) and door handle.

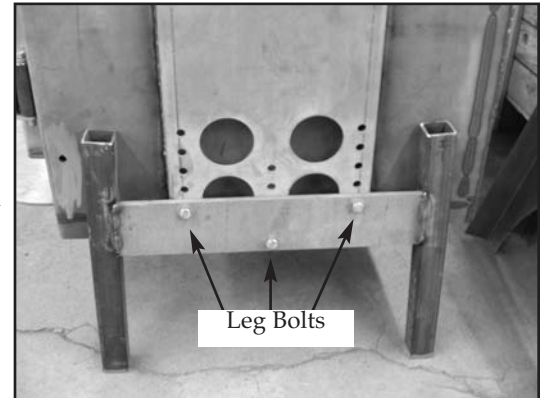
Your stove is factory set at the 33.5" height, if you need it raised or lowered, follow the directions below. The ash lip, flue collar, door handle, as well as the center burner are packed inside the firebox of the stove. All necessary hardware and instructions are also packed in the firebox. Any optional items such as heat shields will be packed separately.

## (1) How to adjust stove height:

The Ideal Steel Leg system has both a structural element as well as a customizable decorative outer fender. The structural steel legs offer a total of 5" of height adjustment in 1" increments. The decorative fender is designed to match the height of the legs once the desired height is set. **Please note: You cannot have an ash pan if you are setting the stove at the lowest stove height of 30.5".**

To adjust the height of the stove you will need to first remove the decorative leg fender. a means to lift and support the stove safely and a 9/16" wrench and 9/16" socket and ratchet.

1. First remove your decorative fenders. First lift up on the fender assembly and then swing the bottom away from the stove to remove the fender assembly from the body of the stove, repeat the process on the other side.
1. Raise and support one side of the stove at a time to make height adjustments. A small automotive or bottle jack may work to elevate the stove but be sure to use safety supports as well. Do not rely on the jack alone for support while working on the stove. Be aware of the air control components located at the bottom left side of the stove to avoid damage.
2. The steel legs are attached to the body of the stove with (3) 3/8" bolts, nuts, and lock washers. Use a 9/16" socket, ratchet, and wrench to loosen and remove the hardware.
3. Move the steel legs to the desired height setting. Each row of holes is 1" apart. Insert the bolt from the outside and through the corresponding hole in the stove body. Place a lock washer over the bolt and secure with a nut. Be sure that the two outside bolts are positioned in the same row. Firmly tighten each bolt and nut.
4. Repeat this process on the opposite side.
5. Reinstall the fender assemblies. Align the bottom of the fender with the legs. Lift it slightly until the lower tabs rest over the leg bracket. Rotate the top of the fender in toward the body of the stove to align the top tabs with the slots in the body, and push the fender down to secure it.



## 2) How to attach the Ideal Steel Hybrid flue collar & cover plate:

The Ideal Steel is designed to be vented out the top or out the rear with an easily convertible flue collar and cover plate. Each part is secure to the stove body with 4 bolts. You will need a 1/2" wrench or socket and ratchet to install these parts. The stove is shipped with the cover plate installed over the rear flue exit. The flue collar is packed inside the firebox.

1. Decide which way you would like to vent your stove. This may be dependent on the location of an existing chimney or the design of an existing hearth. Always pay close attention to required clearances when considering stove placement
2. Install the flue collar in the desired location. Be sure that the gasket on it is secure and stays in place while installing. Use four of the bolts to attach the flue collar to the stove body. The holes in the stove body are threaded to accept the bolts. Alternate between the bolts while tightening to ensure even pressure. The bolts should be tight enough to firmly compress the gasket. Do not over tighten.
3. Repeat the process to install the cover plate over the flue exit not being used.

Note: If the flue collar is installed on the rear flue exit, the sloped side must face the floor.

## 3) How to attach the Ideal Steel Hybrid Ash Lip:

The Ideal Steel ash lip is packed inside the firebox. The ash lip must be installed prior to using your stove. You will need a 7/16" wrench or deep socket and ratchet to install the ash lip.

1. Locate the two threaded studs on the ash lip. The studs will be on the bottom side of the ash lip. The air damper markings should be on the left as you face the stove.
2. Align the threaded studs with the holes in the flat lip that extends out from the front of the stove. Insert the studs

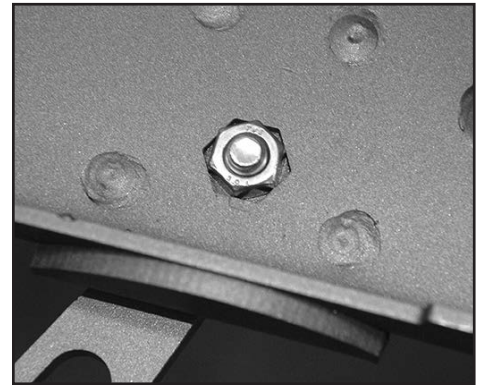
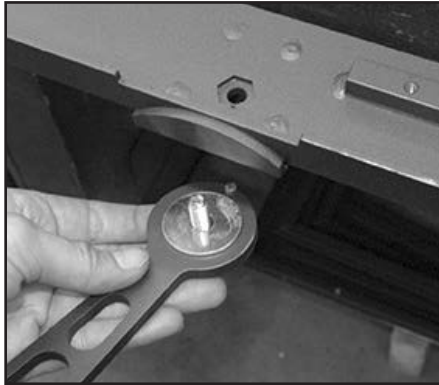
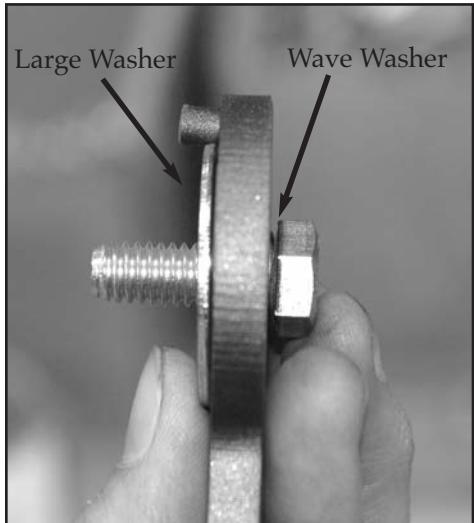
into the holes.

3. Secure the ash lip with the washers and nuts provided.

#### 4) How to attach the Ideal Steel Hybrid Door Handle:

For shipping purposes the door handle for your Ideal Steel stove has been packed in the firebox with the appropriate hardware for installation. You will need a ½" socket and ratchet or wrench to install the handle.

1. Slide the small wave washer onto the bolt first.
2. Place the bolt through the hole in the handle. Slide the large spacer washer over the bolt so that it is between the handle and the exterior of the loading door.
3. Place the handle through the hole on the door and line up the pin up with the slot in the door.
4. Using a wrench and a socket and ratchet, tighten the bolt until you feel some resistance when the handle travels up and down.



*The large spacer washer gets sandwiched between the door handle and the OUTSIDE of the loading door. The lock nut will secure the door handle assembly on the inside of the loading door.*

## OPTIONAL ACCESSORIES

Your Model 210 Ideal Steel Hybrid wood stove has several optional add-on components depending on individual installation needs.

**1) Rear Heat Shield:** Reduces the rear clearance from the back of the stove to a combustible surface from 14" to 6". See page 8 for additional clearance details.

**2) Pipe Shield:** Reduces the clearance requirement for single wall connector pipe. See page 8 for additional clearance details.

**3) Outside Air Adapter:** Typically required or recommended in certain installations, including Mobile Homes (HUD Homes), WA State, tightly sealed construction, as well as certain state wood stove change-out programs. The outside air adapter allows combustion air to be drawn directly to the stove from the outside or ventilated crawl space. The outside air adapter easily attaches to the bottom of the stove (over the air intake) and has a 4" round collar to attach 4" ductwork. The connecting ductwork (usually 4" aluminum dryer vent) should only run straight back or down, and the duct should be as short and direct as possible.

**4) Side Shelf:** Part PG-29 can be seen on page 31 of the manual.

**5) Hearth Tools & Tool Hanger:** Includes a rake, poker, shovel, and side mount tool hanger (or optional stand): Made right in our NH Factory, choose from a variety of designs (deer, leaves, moose, fish, dogs, etc.).

# MOBILE HOME INSTALLATIONS

**CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED.**

Because mobile homes are also referred to by HUD as “manufactured” homes, regulations present a gray area. Many “mobile” homes are set on a permanent foundation and connected to public utilities. If you are installing a stove in a mobile or manufactured home, check out the requirements above and check with your local code officials. More questions? Give us a call Monday through Saturday from 9 to 5 Eastern time at 1-800-866-4344.

While all stove installations have to meet National Fire Safety codes, mobile homes are given special consideration when it comes to installing a wood burning stove. These additional regulations were established by the Department of Housing and Urban Development (HUD), and result in the following additional requirements:

1. Double Wall Connector Pipe
2. Outside Air for Combustion
3. Tie Downs for the Stove
4. Spark Arrestor on the Chimney Cap
5. Stove Grounded to Chassis
6. Stoves May Not Be Installed in Mobile Home Bedrooms

**Mobile Home Prohibition:  
WARNING:  
DO NOT INSTALL IN SLEEPING ROOM**

**Double wall pipe** must be used to connect the stove to the chimney. This is stove pipe that is constructed with two walls, usually with the inner wall made of stainless steel. It reduces the required clearance to combustible building materials and furnishings.

**Outside Air** must be used for combustion. Because of the tight construction of mobile homes, wood stoves need a way to get adequate air for complete combustion from outside the home in order to avoid the risk of depleting oxygen in the living space. Having outside air for combustion is a requirement for all woodburning stoves in the state of Washington and is recommended for woodstoves in “super tight” new construction.

**Tie Downs:** The stove must be attached to the floor. This is to prevent tipping in the event the home is moved. (We can provide tie downs for our stoves at no extra charge).

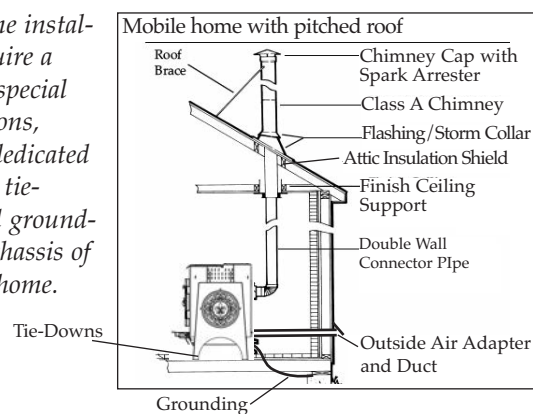
**Spark Arrestor:** The chimney cap must have a spark arrestor screen. These are available with most prefabricated chimney systems.

**Grounding:** The stove should be grounded to the home chassis.

**Not allowed in mobile home bedrooms:** wood stoves are not permitted for installation in bedrooms in mobile homes.

The Outside Air Adapter attaches to the bottom of stove over the air damper inlet. The four inch round outlet allows you to connect ducting from the stove to the outdoors. Woodstock Soapstone Company manufactures an Outside Air Adapter that fastens directly over the air damper inlet on the Ideal Steel Hybrid. It has a four-inch collar which allows you to attach a four inch pipe, usually flexible dryer duct, from the stove to the outside. For long runs, the flexible pipe can transition to PVC or aluminum pipe, if you wish.

*Mobile home installations require a number of special considerations, including dedicated outside air, tie-downs, and grounding to the chassis of the mobile home.*



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