

INSTALLATION

Woodstock Soapstone Co. has been designing, building, and innovating since 1978. A properly installed and operated Woodstock 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 Navajo 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 wood stove, 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.

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

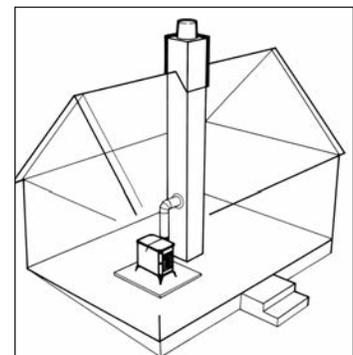
Most people install their stove in a room they use frequently where they can enjoy the beauty and comfort of the stove. This also helps in the monitoring and reloading the stove as needed. A well-planned placement will enhance your enjoyment of your stove and may save installation costs.

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 (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 your installation in writing.

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.



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 212 NAVAJO 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.

STOVEPIPE AND CHIMNEYS

Stovepipe (Connector Pipe):

Connector pipe is either single wall (sheet metal) or double wall (sheet metal outer pipe with a stainless steel inner pipe). Connector pipe is designed to connect your stove to your approved prefabricated chimney system. The connector pipe should be 6 inch diameter to match the flue collar of the stove. If you use single wall pipe, we strongly recommend 22 gauge pipe (26 or 28 gauge is too thin for use with a woodstove). Attach the 3 foot pipe shield to the first three feet of stovepipe. Use three sheet metal screws to secure each pipe joint, including the pipe to stove connection.



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

It is important to know that connector pipe (either single wall or double wall) CANNOT be used to pass through a combustible surface like a ceiling or wall, or to pass through a window. Single wall pipe can be used inside the home, but must connect to insulated chimney pipe to pass through a ceiling, roof or wall.



DO NOT USE GALVANIZED SINGLE WALL PIPE AS CONNECTOR PIPE.

Stovepipe Shields:

The Navajo Hybrid includes a three foot pipe shield that must be attached to the back of the pipe, and a round ceiling shield/trim collar that must be attached where the connector pipe attaches to the chimney pipe. These shields are considered part of the stove and must be attached to the pipe and ceiling.

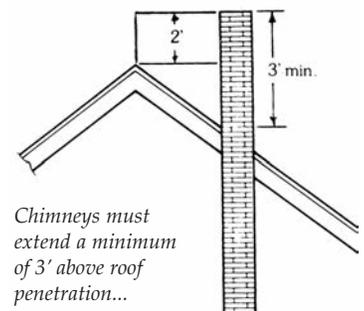
Approved Chimney Type: "UL 103 Type HT Class A":

For high efficiency, freestanding woodstoves, like the Navajo Hybrid 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 Navajo Hybrid stove.



UL 103 HT Stainless Chimney Connection

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 like an attic or second storey, 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 the height requirements above.



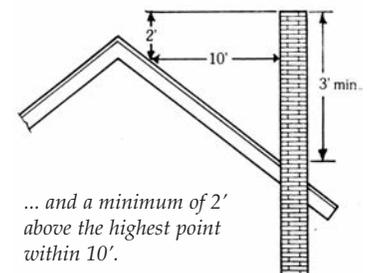
Chimneys must extend a minimum of 3' above roof penetration...

Chimney Flue Sizing: 6" Round ID

The Navajo Hybrid has been designed for use with a 6" (28 sq.in.) chimney system, which is the same diameter as the stove's flue collar.

Chimney 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.



... and a minimum of 2' above the highest point within 10'.

The recommended minimum chimney height for the Navajo Steel Hybrid is 10 feet from the flue collar of the stove to the top of the chimney, provided the pipe extends 3' above the roof and 2' above and obstruction in a 10

foot radius. There may be other factors, like local building codes, high wind, high altitude, etc., that may make the *minimum* height undesirable or a violation of building codes.

If a chimney is too short, or the flue too large, the hot exhaust can cool and slow down. This can lead to poor stove performance, smoke spillage, or back puffing. Generally if the Navajo Hybrid is installed with a 10-12 foot chimney and there is smoke spillage or backpuffing, the height of the chimney may have to be increased by adding another section of pipe on the outside of the home, to create better flow through the stove and up the chimney.



Approved 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 UL 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- Through ceiling, attic or second floor, and roof

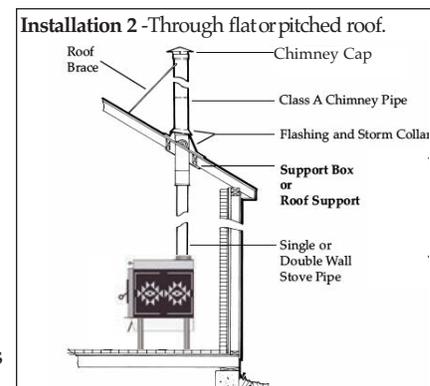
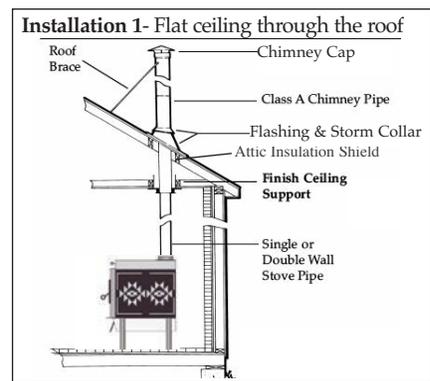
Installation 2- Through flat or pitched roof

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 support in the ceiling/roof above. Cut the appropriate sized hole in the ceiling and frame in the necessary supports to secure the chimney support.

Install the pipe adapter onto the first section of chimney pipe, and lower the pipe into the appropriate support. *If the chimney passes through an attic, use an insulation shield in the attic to keep any insulation away from the pipe. If it passes through a second story living space, the chimney will need to be enclosed.*

As the pipe extends through the roof, install the appropriate flashing and storm collar to keep the weather out. If the height of the chimney above the roof is 5 feet or greater, a roof brace will be used. 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 chimney 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).



FLOOR PROTECTION REQUIREMENTS

Your Navajo Hybrid stove comes with an approved hearth pad. 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. 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.



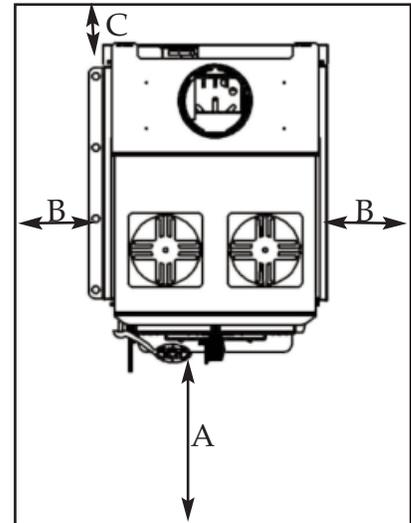
DO NOT INSTALL YOUR NAVAJO HYBRID STOVE ON A COMBUSTIBLE SURFACE (WOOD, CARPET, LAMINATE, OR VINYL, FOR EXAMPLE).

Your stove **MUST** sit on one of the following: (1) the Hearth pad provided with the stove; (2) a floor of solid non-combustible material (masonry, brick or tile on concrete and mortared in place), or (3) a custom designed pad constructed of approved non-combustible materials which will protect the floor from sparks, hot coals, and ashes..

The Navajo Hearth Pad

The Navajo Hearth Pad is a sturdy pad made with a steel frame, 1/2 inch plywood on the bottom, 1/4" of cementboard on top of the plywood, and six pieces of tile on top of the cementboard. The tiles are "loose fit," but can be mortared in place by an owner if desired.

The Navajo Hearth pad is 32" x 40", and provides 6" of protection to the sides of the stove (B), 2" behind the back legs of the stove (C), and 16" in the front of the stove (A) where wood is loaded and ashes are removed (see diagram at right)



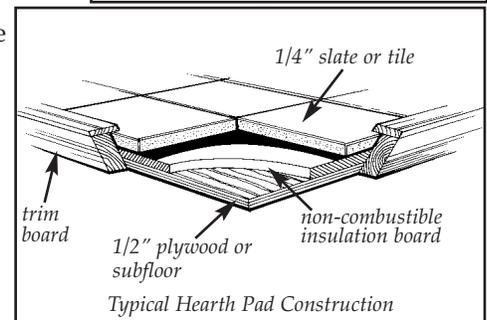
To Build Your Own Hearth Pad

- 1) Start with a plywood base or subfloor.
Over this apply:
- 2) A layer of cement board.
Over this apply:
- 3) Cover with a non-combustible material such as steel, tile, slate, stone, or brick. Use mortar or grout to set the material in place, then grout the seams.

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.

REQUIRED CLEARANCES

The Model 211 Navajo Hybrid stove has been tested to UL standards for clearances to combustible walls. The stove comes with two side shields, a back shield, and a shield for under the ash pan. There is also a pipe shield and a ceiling shield. All of these shields are considered part of the stove and must be installed before the stove is operated.



These shields enable the stove to be installed in small areas where space is limited and the stove must be placed near a combustible wall. The two side shields are decorative as well as protective.

Stove Shields and Pipe Shields:

Clearances for the Navajo Hybrid were determined by testing with heat shields designed specifically for this stove. When using these shields, **clearance is measured from the back of the stove to the combustible wall** (the shield is not included in the clearance calculation). In addition, there is a three foot pipe shield that must be attached to the back of the pipe, and a round ceiling shield/trim collar that must be attached where the connector pipe attaches to the chimney pipe.

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).

Clearance Table:

The Navajo Steel Hybrid can be installed at a 9" clearance with no additional protection, provided that all of the stove and pipe shields are installed.

Clearance Table For Model 211 Navajo Hybrid			
Type of Installation ►	<i>Back clearances, installed parallel to walls, top vent, & stove pipe which goes straight up</i>	<i>Side clearances, installed parallel to walls, top vent, & stove pipe which goes straight up</i>	<i>Corner installation clearances, when stove is installed in corner at 45 degrees to 2 walls</i>
Type of protection ▼			
Top Vent, Straight Up, With all Shields (sides, back, 36" pipe shield, and ceiling shield)	9" stove back 11.5" stove pipe	9" stove sides 15" stove pipe	9" stove corners 16" stove pipe
No Protection	36"	36"	36"* stove corners
3 1/2" thick Masonry Against Combustible Wall*	24"	24" stove sides 30" stove pipe	24" stove sides 28" stove pipe
3 1/2" thick Masonry with 1" ventilated airspace*	12"	12" stove sides 18" stove pipe	12" stove sides 18" stove pipe
24 ga. sheet metal with 1" ventilated airspace*	12"	12" stove sides 18" stove pipe	12" stove sides 18" stove pipe
1/2" thick non-combustible insulation board with 1" airspace*	12"	12" stove sides 18" stove pipe	12" stove sides 18" stove pipe

*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.**

- 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 24" of vertical connector pipe.
- At least 30" is required from the front of the stove to combustibles (such as curtains, wall hangings, and furniture).

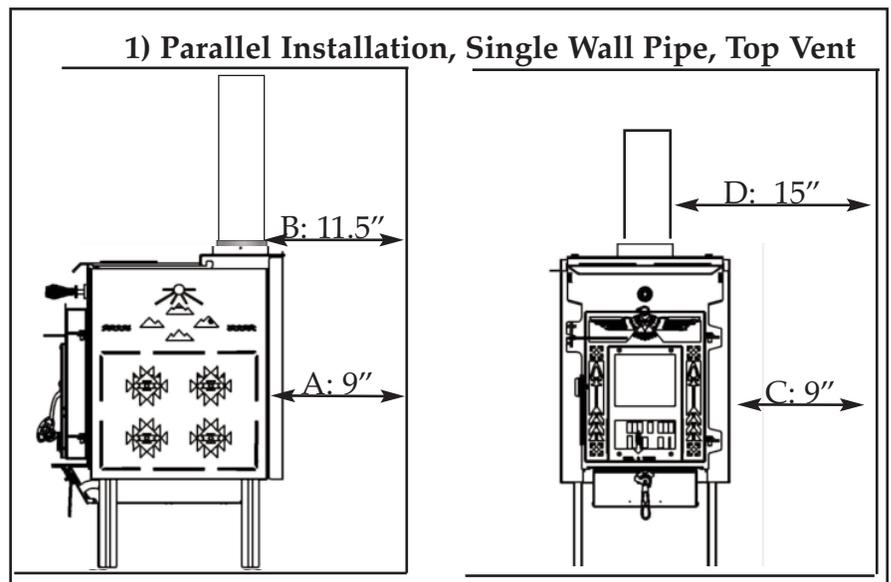
Note: The only approved method allowing for a rear stove clearance less than 12" is the Approved Rear Heat Shield (#N-997) provided by Woodstock Soapstone Co.

CLEARANCE INSTALLATION DIAGRAMS

The Navajo Hybrid Combination stove is a top vent stove designed to be installed along a side or back wall, or at a 45 degree angle to a corner wall. Straight up venting will provide the best draft and easiest operation.

PARALLEL INSTALLATION WITH STOVE SHIELDS, PIPE/CEILING SHIELDS

- A. Back of stove to wall = 9"
 B. Back of pipe shield to wall = 9"
 C. Side of stove to wall = 9"
 D. Side of pipe to wall = 15"

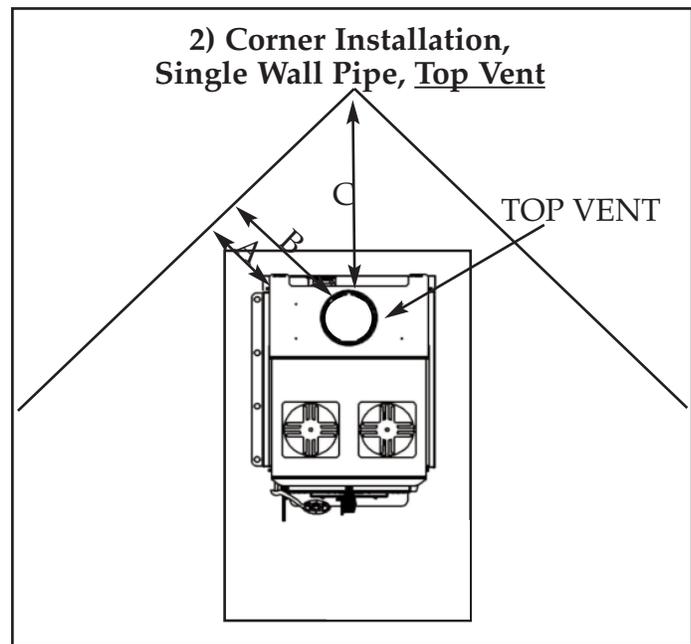


CLEARANCE INSTALLATION DIAGRAMS, Continued

In a corner installation, the distance from the stove corners to the side walls dictates where the stove can, and cannot, be placed. The minimum distance from the back corners to the side walls is 9"

CORNER INSTALLATION WITH STOVE SHIELDS, PIPE/CEILING SHIELDS

- A. Stove corners to side walls = 9"
(determines placement)
B. Pipe to side walls = 16"



MOBILE HOME INSTALLATION

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, read the requirements below 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. 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

1. Outside Air must be used for combustion. Many mobile homes have very tight construction, so wood stoves need a way to get adequate combustion air from *outside the home* to avoid the risk of depleting oxygen in the living space and to reduce the likelihood of smoldering and spilling smoke because there is a lack of combustion air. 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.

The outside air adapter has a four-inch collar on the back of the stove. Use 26 gage pipe to make a duct from this collar, through the floor, and then horizontally to the outside of the foundation or skirting. The ter-

mination of the outside air adapter should be covered with wire mesh with openings no larger than 1/4 inch by 1/4 inch.

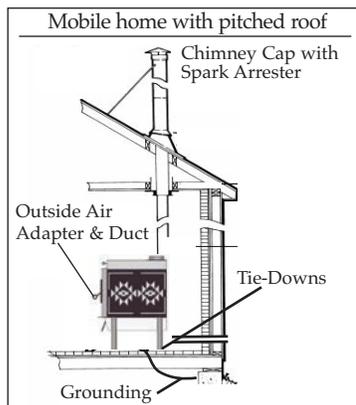
2. Tie Downs: HUD requires that the stove must be attached to the floor. This is to prevent tipping in the event the home is moved. It also provides some protection if the mobile home is installed in an earthquake zone. Two legs of the Navajo Stove have a plate at the bottom to enable bolting opposite corners to the floor.

3. Spark Arrestor: The chimney cap must have a spark arrestor screen for fire-protection. These are available with most prefabricated chimney systems.

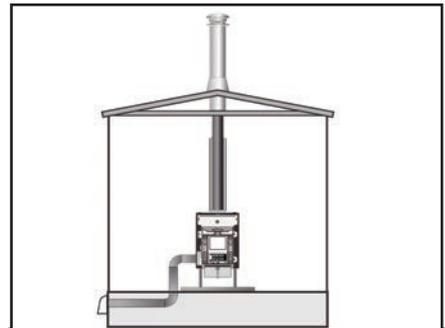
4. Grounding: The stove should be grounded to the home chassis.

5. Not allowed in mobile home bedrooms: Wood stoves are not permitted for installation in sleeping rooms.

Note: A heat shield is provided for the stovepipe to prevent excessive heat from being radiated to nearby walls. The heat shield should be attached to the back of the stovepipe with screws provided. Double wall pipe is often used in mobile homes to connect the stove to the chimney, but when the Navajo Hybrid was tested to UL Standards the heat shield provided better protection than double wall pipe.



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

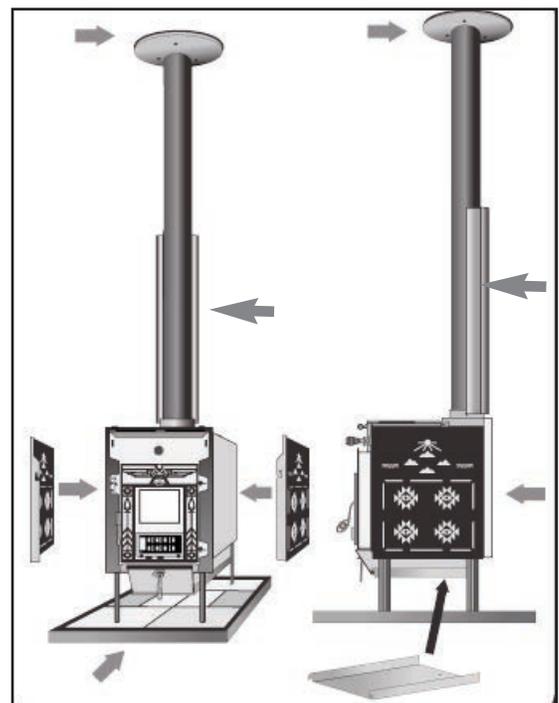


An optional outside air kit is available if the Navajo Hybrid is being installed in a mobile home. The outside air kit has a 4" collar on the back of the stove. From this collar, a 4" metal duct must be installed through the floor and horizontally to the outside of the house. The termination of the duct must be covered with a screen with holes no greater than 1/4" square.

INSTALL SHIELDS BEFORE YOU LIGHT YOUR STOVE

Your Model 211 Navajo Hybrid Stove has been shipped assembled except for heat shields. You must install all required shields before lighting your stove. Each shield comes with instructions and hardware (if needed) attached to the shield. These shields are considered parts of the stove, and must be installed before lighting the first fire. The shields that you need to install are diagrammed below.

- Bottom Heat Shield (protects the floor)
- Side Heat Shields (2) (protects walls)
- Back Heat Shield (protects walls)
- Pipe Shield (protects walls from heat from pipe)
- Ceiling Shield (protects ceiling)



Woodstock Soapstone Company
66 Airpark Road, West Lebanon, NH 03784
800-866-4344 • www.woodstove.com