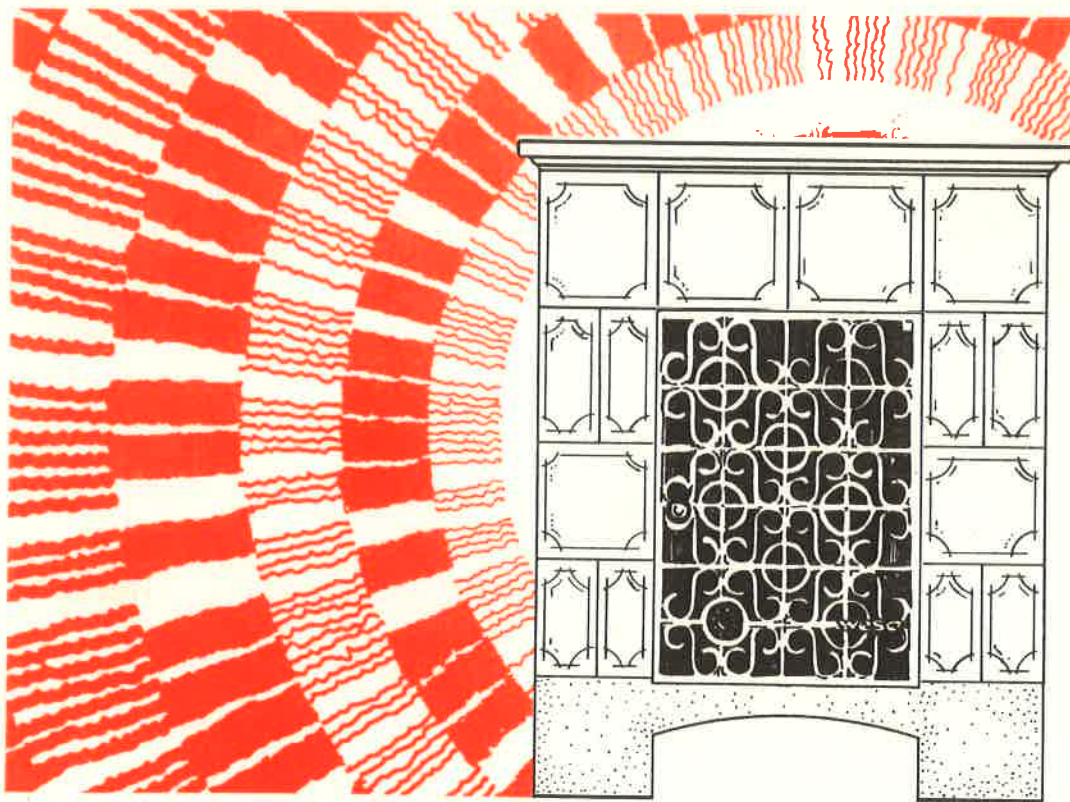


Installation MANUAL

MODEL 125 • MODEL OSK 120-150 • MODEL 225-A & B • MODEL 425



CERAMIC RADIANT HEAT

Pleasant Drive, Lochmere, N.H. 03252

Sole Importer and Distributor of WESO Ceramic Tile Stoves in U.S.A./Canada

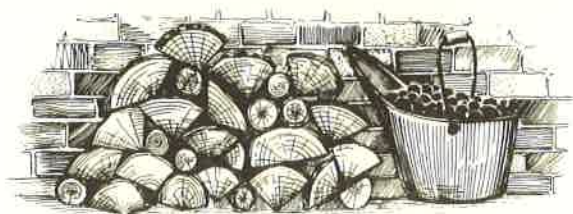
Congratulations!

You have just purchased one of the finest, safest, most efficient stoves available on the market today. Please read the following material carefully before attempting to install your WESO CERAMIC TILE STOVE. This manual will assist you in the proper installation procedures. If you have any questions after thoroughly reading the enclosed material, please feel free to call Ceramic Radiant Heat at 603-524-9663 for further assistance, or your local WESO dealer.

SAFETY NOTICE!

IF THIS WOODSTOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY, FOLLOW THE INSTALLATION DIRECTIONS. CONTACT LOCAL BUILDING OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

It is important for your safety that the WESO Tile Stove be installed correctly. Refer to the Consumer Safety Products Label attached to the heat shield of your WESO Stove for required clearances.



Before Installing Your Stove

Before installing your stove, learn the local building codes and insurance specifications. A building permit may be required and alterations to your home will have to conform to building codes. The best sources for this information are your local Building Inspection Agency and the Fire Department.

Notify your insurance company that you will be heating with a solid fuel heater; it could change the status of your policy. Before operating your stove, have both a local building inspector and a representative from your insurance company inspect and approve your installation in writing.

Some people are more "handy" than others. If you are in doubt about your ability to adequately perform any of the inspection, repair, construction or maintenance procedures required throughout this manual, hire a certified and insured professional to make certain the job is done correctly.

If you live in a rental property, consult your landlord and obtain permission before installing your stove.

Stove Placement

The first consideration before installing your new WESO stove is to determine an appropriate location.

If at all possible, select a centralized area, free from obstructions to maximize heat distribution. Take advantage of staircases and interior balconies to promote thermal circulation throughout the building.

Provide for easy access to the stove for convenient loading, ash removal and general maintenance. Select a location that will not block an exit.

If possible, position your WESO stove so the thermostat that controls the central furnace will not be affected by direct radiant heat.

Another placement consideration is the proximity of the stove to a safe and working chimney. The distance from the stove to the chimney should be as short as possible.

Safe Clearances from Flammable Surfaces

Your WESO Ceramic Tile Stove is, without a doubt, one of the safest stoves to use. You can place it much closer to flammable surfaces than most stoves.

Allow for a 9 inch minimum clearance from ceramic portions of the stove.

As an added safety factor, the WESO stove is equipped with a rear mounted heat shield that will enable you to position the back of the stove to within 24 inches of an unprotected combustible wall. (Such as sheetrock, plaster and lath, wood, or any other combustible surface.)

If the rear wall has been equipped with a heat shield, the safe

tolerance becomes 11 inches from the combustible surface. The heat shield can be 28 gauge or lower gauge sheet metal, 1/4 inch asbestos millboard, or a combination of the two, mounted one inch from the wall on porcelain, angle iron or other non-flammable spacers.

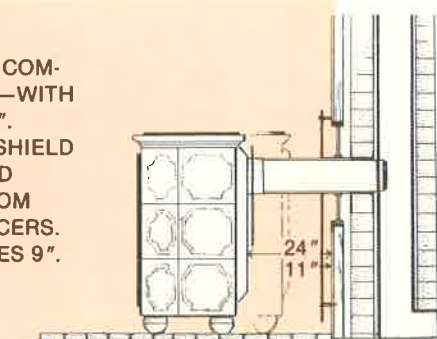
36 inches is a safe distance from the front grille of the stove for flammable objects.

Spacers and protective wall shield materials are available at most hardware and lumber stores. Note: Asbestos millboard is non-carcinogenic.

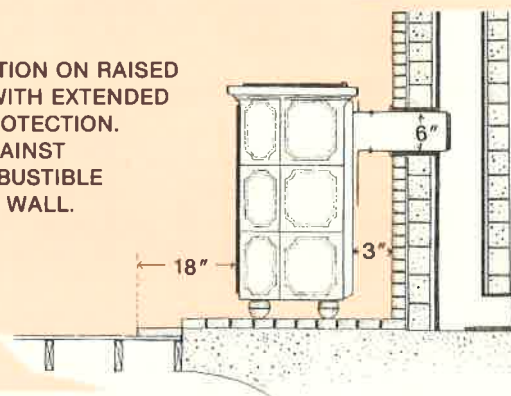
PLEASE NOTE: Any vertical, uninsulated stovepipe must be installed no closer than 18" from combustible surfaces. If the same wall shields are used as behind the stove, this clearance can be reduced to 9". Such a stovepipe should not be used as a chimney, only as a connector into a chimney!

Solid masonry walls will not burn. If your WESO stove will set against a masonry or cement wall, only three inches of clearance is necessary, provided the mortar is tight and the brick, block or concrete is in sound condition.

STOVE AGAINST COMBUSTIBLE WALL—WITH HEAT SHIELD 11".
WITHOUT HEAT SHIELD 24". HEAT SHIELD MOUNTED 1" FROM WALL WITH SPACERS.
SIDE CLEARANCES 9".



INSTALLATION ON RAISED HEARTH WITH EXTENDED FLOOR PROTECTION.
STOVE AGAINST NON-COMBUSTIBLE MASONRY WALL.



Protecting Your Floor

When you have determined a safe, convenient location for your WESO stove, consider a protective covering for your floor.

Compared to other stoves, the WESO radiates very little heat downward. Because the air intakes and ash pan are situated below the fire chamber, there is no potential heat damage to the floor; however, sparks, ash or live embers could fall out onto the floor when servicing the stove.

The WESO should be placed on a fireproof surface such as 24 gauge sheet metal, sheet metal and asbestos millboard, metal on masonry or any other non-combustible surface. Your protective shield should cover the entire area under the heater unit and ex-

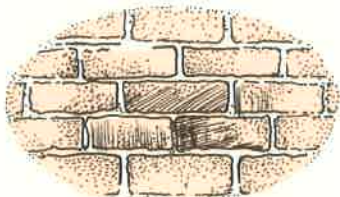
tend at least 16 inches in front of the door of the stove, 8 inches on either side of the stove and 8 inches in back of it. Floor protection should also cover the area beneath and 2 inches to either side of the chimney connector (see section on chimney connectors).

If your WESO stove will rest on a cement or masonry floor or hearth, no protection is necessary, provided the masonry meets

the above dimensions for adequate floor covering as specified above.

For added decor, the protective covering can be concealed with brick, tile, stone or any other attractive, noncombustible material.

Chimneys



Chimneys

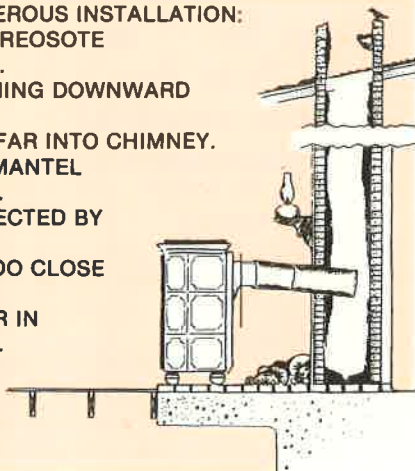
After determining the best placement for your stove and taking the necessary safety precautions, the next step is to provide the stove with a chimney to vent smoke and gases to the outside of the house. This can be accomplished via an existing chimney, by the construction of a masonry chimney, or by the installation of a factory-built metal chimney. Your WESO stove is a solid fuel appliance burning wood or coal. Solid fuel requires an air supply for proper combustion. The quality of your stove's performance as a safe, reliable heat source is highly dependent upon the condition and construction of your chimney. A well designed chimney will provide the "draft" necessary for efficient burning, effective operation of thermostatic controls and complete combustion to minimize creosote build-up. It should also allow for easy maintenance and clean-out.

Existing Masonry Chimneys

If you intend to make use of an existing chimney, be sure that it is in sound condition and that it will safely accommodate your stove. A masonry chimney should stand on a level, solid footing. Many old houses have chimneys that are supported by or "hung from" the building's frame. Settling could cause these chimneys to crack apart.

A POOR AND DANGEROUS INSTALLATION:

- BIRD NEST AND CREOSOTE BUILD-UP IN FLUE.
- STOVE PIPE RUNNING DOWNWARD INTO CHIMNEY.
- STOVE PIPE TOO FAR INTO CHIMNEY.
- FLAMMABLE ON MANTEL TOO NEAR STOVE.
- MANTEL UNPROTECTED BY HEAT SHIELD.
- WOOD STORED TOO CLOSE TO STOVE.
- CHIMNEY MORTAR IN POOR CONDITION.



Chimneys should be equipped with a tight fitting clean-out door at the base and be fitted with fireproof clay flue liners (6" or larger diameter) the entire length of the chimney. Flue liners make the chimney airtight, protect the masonry from heat and moisture damage, and are mandatory in Class A masonry chimneys. If you do not have a flue liner, have one installed (minimum 6 inches—maximum 8 inches) before operating your woodstove. Consult your local chimney sweep.

When installing a flue liner, it is preferable to use round tiles as opposed to rectangular tiles, if available. Rectangular tiles may cause disruptive turbulence which can inhibit the draft. Round tiles induce a beneficial air flow pattern which improves the draft.

Check to insure that the chimney is not double vented. Only one appliance can safely be installed per flue. You cannot use the chimney if your gas or oil burner or any other heater is vented into the same flue.

Double venting could cause one or both of the devices to malfunction. Poisonous fumes could seep into the house or flue gases could back up into the heating unit and explode.

The flue opening in an oil or gas furnace cannot be closed. If a chimney fire broke out, this air supply would cause the fire to burn out of control.

Check the chimney for any flue inlets other than the one you will be using, and seal them shut. Insert a piece of clay liner into the hole and completely fill the inlet with masonry material built out to the chimney's thickness. Do not use snap-on covers ("pie plates"). Snap-on covers are not air-tight and may affect your draft. Further they could blow out during a chimney fire, allowing flames into the room and uncontrolled oxygen to feed the fire.

It is wise to check behind paneling and wallpaper that "masks" the chimney for possible unsealed flue inlets.

Check the outside of your chimney thoroughly for broken mortar, missing bricks and creosote stains. Pay special attention to the attic and areas where the chimney passes through the roof or by floor joists.

Poke a screwdriver into the joints to be sure the mortar has not rotted. Crumbly mortar will have to be removed with a chisel and the damaged area repaired.

Examine the inside of the chimney for missing masonry, blockage or creosote, by inserting a mirror into the clean-out door and angling it upward.

From the roof, inspect the cap and lower a light down into the chimney to look for areas in need of repair.

Before operating your woodstove, clean the chimney thoroughly or have it cleaned by a professional chimney sweep.

Using An Existing Metal Chimney

If you plan to use an existing metal chimney, be sure that it is a Class "A" type chimney, approved by Underwriters Laboratories, that meets the specifications listed in the section of this manual on new metal chimneys. It must be at least 6 inches in diameter inside. Be certain that the interlocking sections are fastened securely with keeper rings firmly in place.

Check for rust and corrosion. Coal does not produce creosote, but it does form acids which can deteriorate the inside of a metal chimney and create a very serious fire hazard. If this condition exists, your metal chimney should be replaced.

New Chimneys

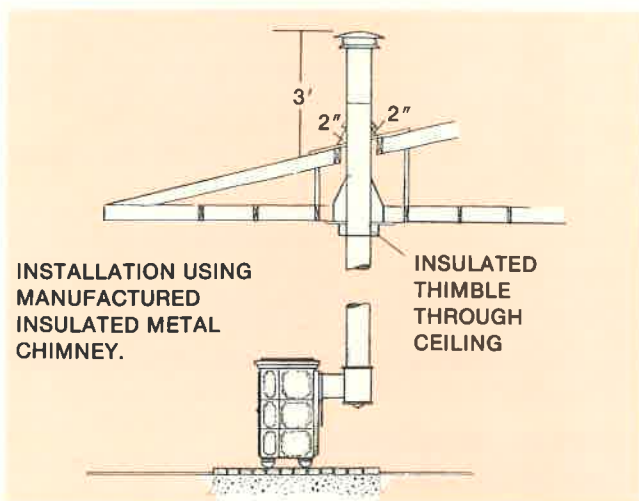
If you are building or installing a new chimney, you have two choices: masonry, constructed of brick or cement block, and prefabricated metal or factory-built chimneys.

New Masonry Chimneys

Masonry chimneys are more durable and longer lasting. They are also more expensive, requiring a poured foundation, flue liners made of high temperature tiles and sufficient air space clearance from combustible framing. Masonry chimneys must meet the specifications of local building codes and be constructed with an adequate clean-out opening (see specifications for existing masonry chimneys). A good masonry chimney will allow for expansion of the tile liner.

If you intend to build a masonry chimney, it is preferable to have an interior chimney. Heat stored in the dense brick and concrete of a chimney located inside the dwelling will help keep your house warmer. A warm chimney will allow the flue gases to maintain their heat, improving the draft and resulting in a better performance of your stove.

When building a new masonry chimney, use round chimney tiles, if available, at least 6 inches in diameter.



Installation of WESO Stoves Using New Metal Chimneys

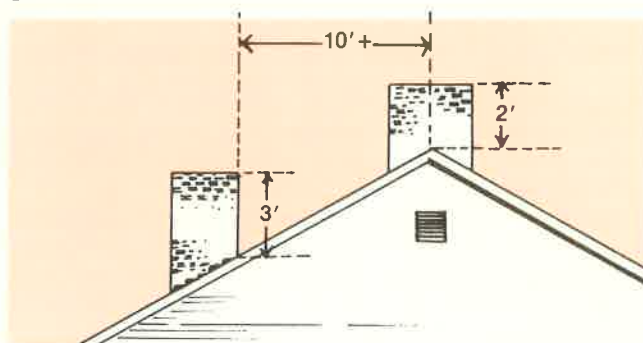
You may decide to use a prefabricated metal chimney. Metal chimneys are more versatile and allow for greater freedom in stove placement. They are easier to install and somewhat less expensive than masonry.

There are three types of factory-built metal chimneys: double-wall insulated (also called "solid" or "mass" insulated); air insulated; and air cooled (also called thermosyphon). Single wall metal pipe or "stack pipe" should never be used as a chimney, only as a connector to a chimney.

Select a Class "A", all fuel, factory-built chimney with a high insulation factor, such as the double-wall insulated system. This will help maintain high flue gas temperatures and protect surrounding walls and ceiling from excessive heat. The chimney should have an inside diameter no smaller than 6 inches, carry an Underwriters Laboratories Approved label and be rated to withstand stack temperatures up to 2100 °F., which is the temperature a chimney fire may reach.

Such a chimney can be installed as close as 2" to a combustible wall.

Some metal chimneys are *not* suited for use with coal stoves because they corrode too easily. * Do not use Class "B" type chimney pipe. This is designed only for use with low temperature gas appliances.



CLEARANCE OF A CHIMNEY ABOVE A ROOF—3' IF MORE THAN 10' FROM THE HIGHEST POINT OF THE ROOF, AND 2' HIGHER THAN THE HIGHEST POINT IF WITHIN 10' OF THE PEAK.

Chimney Height

Regardless of the type of chimney you choose, masonry or prefabricated metal, the height of your chimney is an important factor in the successful operation of your WESO stove. The top of the chimney should extend at least 3 feet above the roof line and be at least 2 feet higher than the peak of the roof if within 10 feet of the peak. This will prevent downdrafts. (see illustration)

The Chimney Connector

The last element in the installation of your WESO stove is the chimney connector. The chimney connector is the length of stovepipe that joins the stove to the chimney. The connector should be as short as possible and it must be at least 24 gauge or heavier. (The *lower* the number, the *heavier* the metal.) Lighter gauge pipe (26 or 28) is more susceptible to rust, corrosion and deterioration under high heat. It will wear more quickly. In many states, safety codes prohibit the use of 26 or 28 gauge stovepipe for woodstove installations.

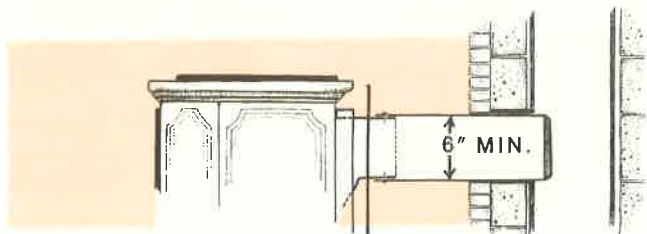
If more than one section of pipe is used, the pipe joints should overlap at least 2 inches and fit snugly. The joints should be secured with three sheet metal screws each. (Drill a 1/8 inch pilot

*Metal chimneys specifically manufactured for coal burning are available.

hole and use #8 by 1/2 inch sheet metal screws.) The sections of pipe should be securely fastened but must be able to be conveniently disassembled for cleaning and inspection. Where the connector enters your chimney, make certain that it does not extend more than 1" into the tile liner; however, make certain that it does protrude into the liner.

Please note that on the WESO stove, the crimped end of the stovepipe fits into the flue collar, and the crimped end should always face downward.

We also recommend that rather than installing an elbow in the back of the stove, you invest in a "T". It makes the removal of soot and creosote a lot easier (see illustration).

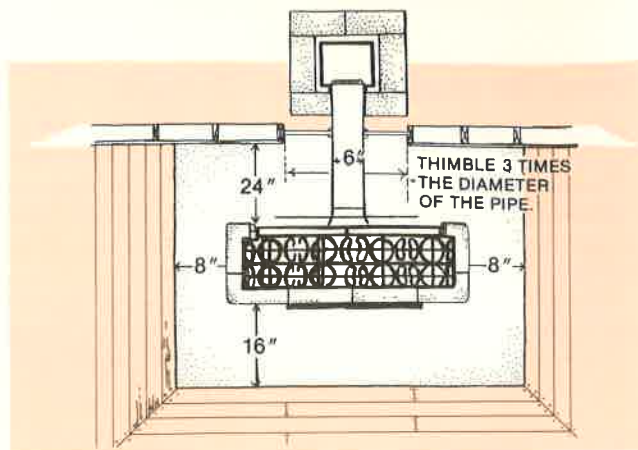
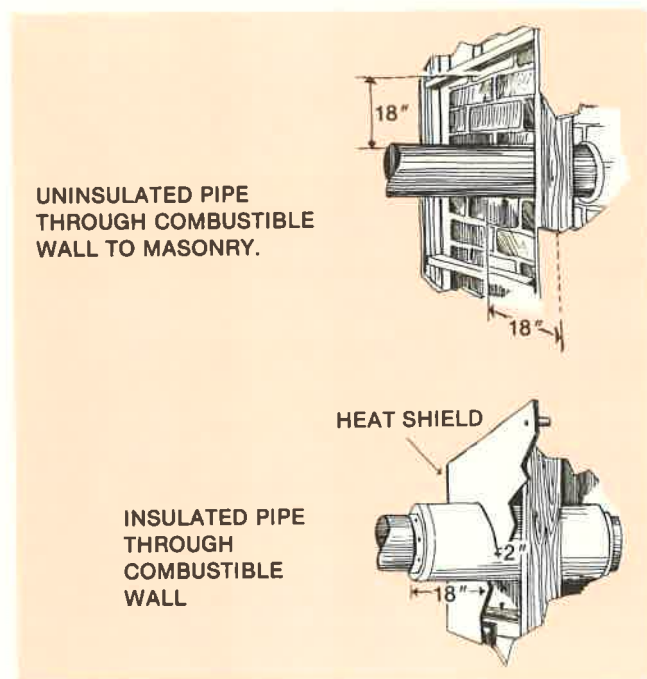


DIRECT PIPE CONNECTION INTO A MASONRY CHIMNEY.

Smoke rises, and the point of connection to the chimney should always be higher than the outlet on the stove. Any horizontal sections of stovepipe should rise at a rate of 1/2 inch vertical for every foot of horizontal run.

Do not use more than two ninety degree elbows if possible. Elbows cut down on draft and increase soot and creosote build-up.

The WESO Ceramic Tile Stove is air-tight and the rate of combustion is effectively controlled by the primary air control dial. This added feature makes a damper in the chimney connector unnecessary for controlled burning. However, the presence of a damper can extract a little more heat from the stove and some states and municipalities require stovepipe dampers as an additional safety precaution. (They *can* help to shut off the air supply to the chimney in case of a fire.)



INSTALLATION THROUGH COMBUSTIBLE WALL. STOVE 24" FROM WALL, THIMBLE THROUGH WALL 3 TIMES THE DIAMETER OF THE PIPE. STOVE SITTING 16" FROM WOODEN FLOOR TO THE FRONT, AND 8" FROM FLOOR TO THE SIDES.

Where a non-insulated pipe passes through a combustible wall, a thimble is required. This includes the wall that covers the chimney. The thimble is a protective insert that lines the hole in the wall or chimney and insulates flammable surfaces. The thimble, as well as the stack pipe, must have interior openings at least 6 inches in diameter. The thimble and stovepipe must fit snugly together. The formula for determining the diameter of the thimble is:

Pipe diameter x 3 = thimble outside diameter. Where an insulated pipe penetrates a combustible wall, only a 2 inch clearance is necessary. Remember, a combustible wall is wood, sheet rock, plaster, lath or any other flammable material.

The chimney connector should not pass through enclosed or concealed places such as closets, attics or under stairs where it cannot be routinely observed. The chimney connector should not come within 18 inches of any combustible surface, walls, ceilings, etc. Reduced clearances are possible only if added precaution has been taken to protect combustible materials, such as the installation of 28 gauge metal heat shields spaced properly from the combustible surface. This will reduce the clearance to 9".

Uninsulated smokepipe should not pass through ceilings, roofs, or through exterior walls.

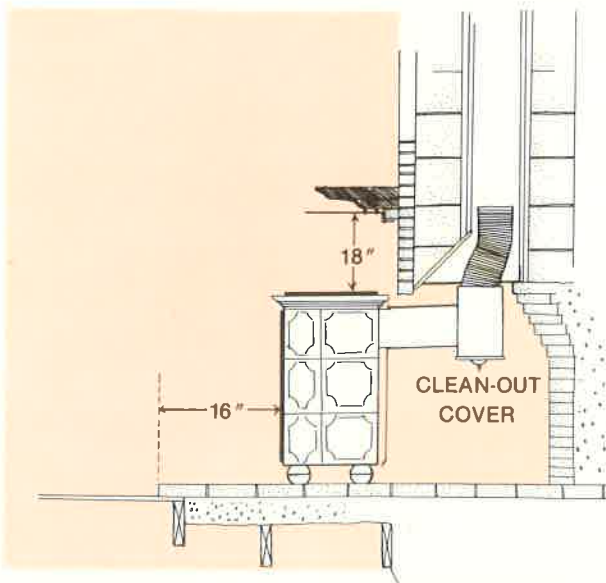
Check the chimney and the chimney connector once a month for the first few months after your initial installation. Look for creosote build-up inside the pipe. Creosote is a crusty black residue that collects on the interior walls of the stovepipe. Most stoves are subject to some creosote when burning wood. Coal does not produce creosote. When creosote builds up to a 1/4 inch or more, the pipe should be cleaned.

Fireplace Installation of Your WESO Stove

It is possible to install your WESO stove in front of a masonry fireplace and utilize the existing chimney. This will make your fireplace far more efficient, but care must be taken to install the stove correctly.*

After extensive research, the National Fire Protection Associa-

*No stove should be installed in front of a prefabricated metal fireplace!



FIREPLACE INSTALLATION—18" FROM STOVE TOP SURFACE TO MANTEL PROTECTED BY 28 GAUGE HEAT SHIELD SPACED AT LEAST 1" FROM MANTEL, 16" FROM FRONT OF STOVE TO FLAMMABLE FLOOR SURFACE. DIRECT STOVE PIPE CONNECTION INTO FIRST TILE LEVEL OF CHIMNEY TILE LINER. CHIMNEY BLOCKED BELOW STOVE PIPE TO KEEP HEAT FROM ESCAPING UP CHIMNEY AND TO PROVIDE A GOOD DRAFT. FLEXIBLE PIPE WITH A CLEANOUT "T".

tion has recommended new regulations for this type of installation. The code mandates the use of a positive connection, extending from the stove outlet into the first tile liner of the chimney. This precaution will ensure that gases from the burning wood/coal will be vented directly up the flue. Flexible piping should be

used between the stove and the flue with an air-tight "T" junction inserted at the stove connection for clean-out purposes.

In addition, a barrier should be placed between the stove and the first flue liner to prevent "uncontrolled" air from entering the venting system. This can be accomplished by replacing the fireplace damper with a steel plate. Check with your local chimney sweep for a recommended insured, certified installer.

If the chimney is short and wide, as it is in many modern ranch houses, it may be necessary to extend the pipe all the way to the top of the chimney and pack it with insulation to ensure a proper draft.

Care must be taken to protect the mantel and all wooden fireplace trim or fascia boards from heat damage. All flammable materials must be at least 36 inches away from the top of the WESO stove, and 9 inches from the ceramic surfaces. Mantels within 36 inches of the stove must be protected by a 28 gauge metal deflector with a 1" air space which will reduce the clearance to 18 inches. If this is not possible with your fireplace, set the stove in front of your mantel or remove the mantel.

If the WESO is placed onto a raised hearth, floor protection must be extended sixteen inches in front of the stove. The hearth dimensions should conform to the minimum clearances stated in the previous section of floor coverings.

Postscript

Now that you have finished reading the installation manual, you are ready to go back to section one and begin the step by step preparations for installing your WESO Ceramic Tile Stove. If your reading has raised any questions pertinent to your stove or its installation, please feel free to call Ceramic Radiant Heat, or your local WESO dealer.

If you would like additional information on safe wood/coal stove installations and use, the following bibliography should prove helpful.

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Your Authorized WESO Dealer