

QUADRA-FIRE

North America's Best

Installation, Operation, and Maintenance Instructions
Models: Quadra-Fire 2100, 3100 & 4100

Clean Air



We Care

CONGRATULATIONS—You are now the proud owner of one of the finest stoves in the world for your home - the **QUADRA-FIRE**.

Now, before installing your stove and building your first fire — record serial number on warranty card.

PLEASE READ ALL OF THE OWNERS MANUAL AND SAFETY NOTES.

IMPORTANT SAFETY NOTES:

1. When installing your stove, particular attention should be paid to fire protection. If this unit is not properly installed, a house fire may result. For your safety, follow the installation instructions and contact local building or fire officials about restrictions and installation inspection requirements in your area.
2. Never use gasoline or similar liquids to start a fire in this unit. Keep all such liquids well away from stove.
3. During operation, if any part of the stove starts to glow, the stove is in an overfired condition. Close the air controls completely until the glowing has stopped. **OVERFIRING VOIDS WARRANTY.**
4. Cool ashes should be disposed of carefully - using a metal container.
5. Do not burn wet or green wood. Store wood in dry location.
6. Do not burn garbage, treated wood, or wood with salt (driftwood, etc.).
7. Do not permit creosote or soot to accumulate excessively in the chimney or inside the firebox.
8. Check your chimney system thoroughly when installing into an existing metal or masonry chimney. Seek professional advice if in doubt about its condition.
9. Do not connect this unit to a chimney flue already serving another appliance.
10. Comply with all minimum clearances to combustibles as shown in this manual.
11. Build fire on brick firebox floor -- **Do not use grates, andirons or other method to support fuel.**
12. Hot while in operation. Keep children, clothing and furniture away. Contact can cause skin burns.
13. Do not connect to any air distribution duct or system.



ALADDIN STEEL PRODUCTS, INC.

401 N. WYNNE

COLVILLE, WASHINGTON 99114

SAVE THESE INSTRUCTIONS

NOTES

TABLE OF CONTENTS

I.	Installation Materials Needed	4
II.	Installation (U.S.)	4
	Clearances to Combustibles (U.S.)	4
	Floor Protector (U.S.)	4
	Installation (Canada)	5
	Clearances to Combustibles (Canada)	5
	Floor Protector (Canada)	5
	Venting System	6
	Chimney Connector	7
	Connection to a Masonry Chimney	7
	1. Chimney	9
	2. Thimble	9
	A. Brick chimney thimble assembly	10
	B. 6 inch solid pack chimney with metal supports	11
	Connection to a Masonry Fireplace	11
	Connection to a Metal Prefabricated Chimney	12
	Mobile Home Installation	15
	Outside Combustion Air	15
III.	Operating Instructions	16
	Primary and Secondary Air Systems	16
	Fan Operating Instructions	16
	Operating Tips	17
	Building A Fire	17
	Care & Cleaning of Glass & Plated Surface	18
	Ash Removal	18
	Firebrick	18
	Wood Selection & Storage	18
	Optional Blower Installation Instructions	19
	Door handle & Glass Replacement	20
	Baffle Removal	21
IV.	Brick Patterns	23
	Maintenance Instructions	23
	Creosote	23
	1. Formation and need for removal	23
	2. Inspection and removal	23
V.	Warranty	23
	Warranty Card	Insert

INSTALLATION (U.S.) MATERIALS NEEDED FOR YOUR SAFETY

CHIMNEY CONNECTOR: (also known as flue pipe or stove pipe) The chimney connector joins the stove to the chimney. It should be 6 inch diameter 24 MSG black or blued steel 24 gauge minimum.

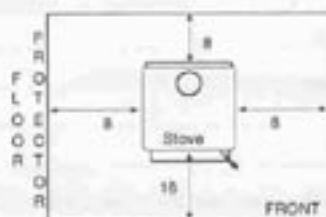
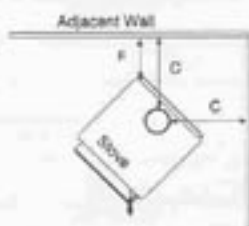
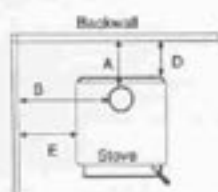
THIMBLE: A manufactured or site-constructed device installed in combustible walls through which the chimney connector passes to the chimney. *It is intended to keep walls from igniting.*

CHIMNEY: APPROVED MASONRY [see specifications on page 3 with at least 5/8" fire clay lining joined with refractory cement or other listed system suitable for use with wood stoves

or

PREFABRICATED 6 inch listed high temperature or residential type and building heating appliance chimney. Components required by manufacturers for installation such as the chimney support base, firestop [as appropriate], attic insulation shield, insulated tee, etc., are necessary to assure a safe chimney installation. Use only components manufactured for the chimney.

CLEARANCE TO COMBUSTIBLES



Floor protector must be 3/8" min. thickness non-combustible material or equivalent, extending beneath heater and to the front/sides/rear as indicated.

Minimum Clearances to Combustible Materials (in inches) for Quadra-Fire 2100

Installation	Clearance	Chimney & Connector	Dimensions					
			A	B	C	D	E	F
Residential	Standard	Note: 1	14	24	16	12	17	9
Residential/Mobile Home	Reduced	Note: 2	10	22	14	8	15	7
Alcove	Standard	Note: 2 & 3	10	22	N/A	8	15	7

Minimum Clearances to Combustible Materials (in inches) (With Top Shield)

Installation	Clearance	Chimney & Connector	Dimensions					
			A	B	C	D	E	F
Residential	Standard	Note: 1	12	24	14	10	17	7
Residential/Mobile Home	Reduced	Note: 2	8	22	12	6	15	5
Alcove	Reduced	Note: 2 & 3	8	22	N/A	8	15	5

Minimum Clearances to Combustible Materials (in inches) for Quadra-Fire 3100 & 4100

Installation	Clearance	Chimney & Connector	Dimensions					
			A	B	C	D	E	F
Residential	Standard	Note: 1	14	26	18	12	18	10
Residential/Mobile Home	Reduced	Note: 2	12	26	16	10	18	8
Alcove	Standard	Note: 2 & 3	12	26	N/A	10	18	8

Minimum Clearance to Combustible Materials (in inches) (With Top Shield)

Installation	Clearance	Chimney & Connector	Dimensions					
			A	B	C	D	E	F
Residential	Standard	Note: 1	12	24	16	10	16	8
Residential/Mobile Home	Reduced	Note: 2	10	24	14	8	16	6
Alcove	Reduced	Note: 2 & 3	10	24	N/A	8	16	6

- Note 1:** 6 inch diameter single wall, minimum 24 MSG black or blued steel connector pipe with a listed factory-built chimney suitable for use with solid fuels or a masonry chimney.
- Note 2:** 6 inch diameter double wall air insulated connector pipe with listed factory-built Class "A" chimney or a masonry chimney. (Mobile Home must be equipped with a rain cap and spark arrestor).
- Note 3:** Alcove specifications: Maximum depth of Alcove shall be no more than 48", and a minimum of 36" high above stove top to a combustible, 18" high above top to a noncombustible. Minimum distance from stove is 16" to sidewall on 3100 and 4100, 15" to sidewall on 2100, 36" to ceiling.
- Note:** Unit has not been tested with a horizontal connector. Refer to local building codes.

When locating your stove, consider safety, convenience, traffic flow, and the fact that the stove will need a chimney and chimney connector.

Floor protector must be 3/8" minimum thickness non-combustible material or equivalent, extending beneath heater and to the front/sides/rear as indicated.

AVOID FIRE: Maintain the designated clearance distance to combustibles. Insulation must *not* touch the chimney. There must be the designated air space clearance around the chimney. This air space around a chimney is necessary to allow natural heat removal from the area. Insulation in this space will cause a heat buildup which may ignite wood framing.

INSTALLATION (CANADA) MATERIALS NEEDED FOR YOUR SAFETY

IMPORTANT

These instructions have been reviewed and accepted by Underwriter's Laboratories of Canada as being appropriate for installation of the ULC labelled products identified herein. The use of these instructions for the installation of products NOT bearing the ULC Label and NOT identified herein may result in an unacceptable or hazardous installation.

FIRE SAFETY: To provide reasonable fire safety, the following should be given serious consideration:

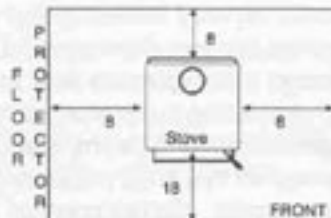
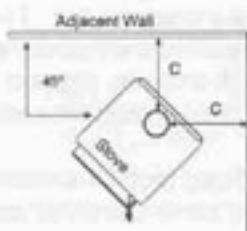
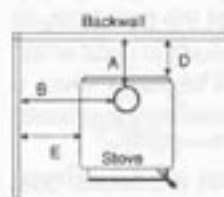
1. The installation of smoke detectors.
2. A conveniently located Class A fire extinguisher to contend with small fires resulting from burning embers.
3. A practiced evacuation plan.
4. A plan to deal with a chimney fire as follows:

In the Event of a Chimney Fire

- A. Notify fire department
- B. Prepare occupants for immediate evacuation
- C. Close all openings into the stove
- D. While awaiting fire department watch for ignition of adjacent combustibles from overheated stove pipe or hot embers or sparks from the chimney.

CHIMNEY: Approved Masonry (with a liner suitable for use with wood stoves) or 6" diameter, ULC Labelled 650°C factory built chimney installed in accordance with the chimney manufacturer's instructions.

CLEARANCE TO COMBUSTIBLES



Floor protector must be 3/8" min. thickness non-combustible material or equivalent, extending beneath heater and to the front/sides/rear as indicated.

CANADA (Continued)

Minimum Clearances to Combustible Materials

2100	3100	4100
A-18" (457mm)	A-18" (457mm)	A-18" (457mm)
B-24" (610mm)	B-26-1/2" (673mm)	B-27-1/2" (698mm)
C-18" (457mm)	C-18" (457mm)	C-18" (457mm)
D-12" (365mm)	D-12" (365mm)	D-12" (365mm)
E-17" (432mm)	E-18" (457mm)	E-18" (457mm)

NOTE: If closer clearance is required, clearance reduction may be achieved by using listed pipe shields, double wall pipe or wall pads. If these systems are used, follow the manufacturer's listed reduction values.

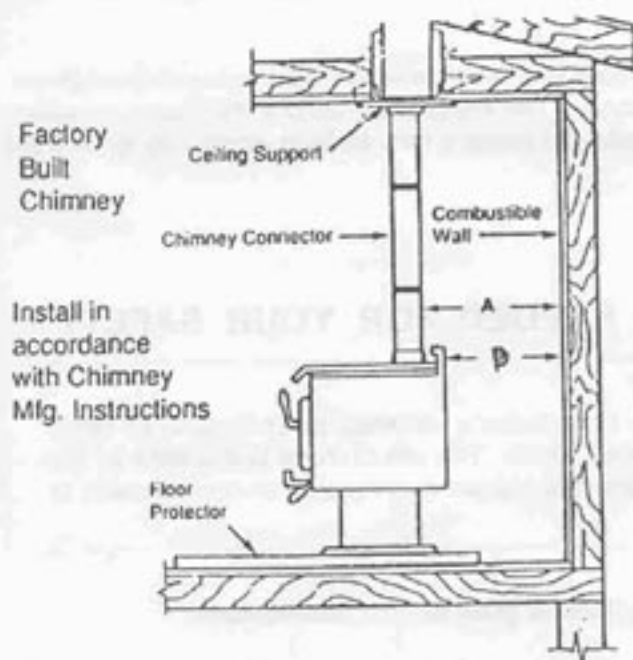


Figure 1

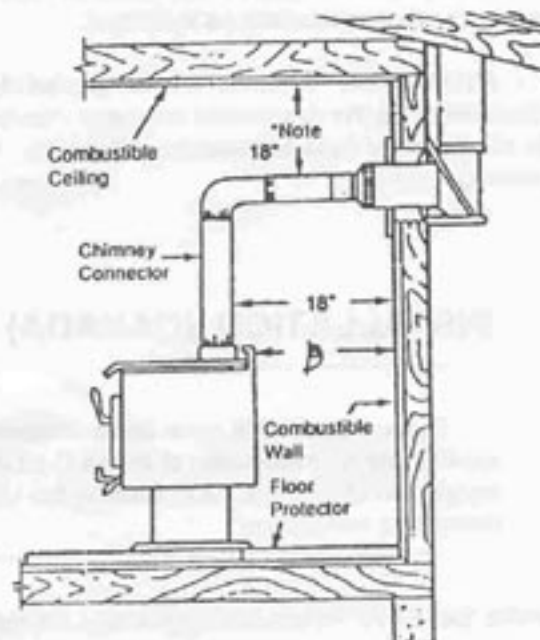


Figure 2

CHIMNEY: The stove must be connected to a 650°C Underwriter's Laboratories of Canada Labelled Factory Built Chimney, installed in accordance with the manufacturer's instructions or a Lined Masonry Chimney, acceptable to the authority having jurisdiction. An existing masonry chimney should be inspected, and if necessary repaired by a competent mason. The chimney serving the stove should not serve any other appliances. If you intend to use a fireplace chimney, the fireplace must be sealed. The overall height of the chimney, measured from the floor on which the stove is installed, must be at least 15-ft. Do not use more than two elbows.

VENTING SYSTEM

The venting system consists of a chimney connector and a chimney. These get extremely hot during use. Temperatures inside the chimney may exceed 2000° in the event of a creosote fire. To protect against the possibility of a house fire, the chimney connector and chimney must be properly installed and maintained. A thimble *must* be used when a connection is made through a combustible wall to a chimney. A chimney support package *must* be used when a connection is made through the ceiling to a prefabricated chimney. These accessories are absolutely necessary to provide safe clearances to combustible wall and ceiling material.

This stove may be connected to a lined masonry chimney or a listed high temperature prefabricated residential type building heating appliance chimney. Do not connect it to a chimney serving another appliance. To do so will affect the safe operation of both appliances.

CHIMNEY CONNECTOR

The chimney connector must be 6 inch diameter with a minimum thickness of 24 gauge. Do not use aluminum or galvanized steel. They cannot properly withstand the extreme temperatures of a wood fire. Do not use chimney connector pipe as a chimney. You must connect your stove to a chimney comparable to those illustrated in this manual.

Chimney connector sections must be attached to the stove and to each other with the crimped end toward the stove (FIGURE 3). This allows creosote to run into the stove and not onto the outside of the pipe. All joints should be secured with three metal screws. Otherwise, in the event of a creosote fire, the connector may vibrate apart.

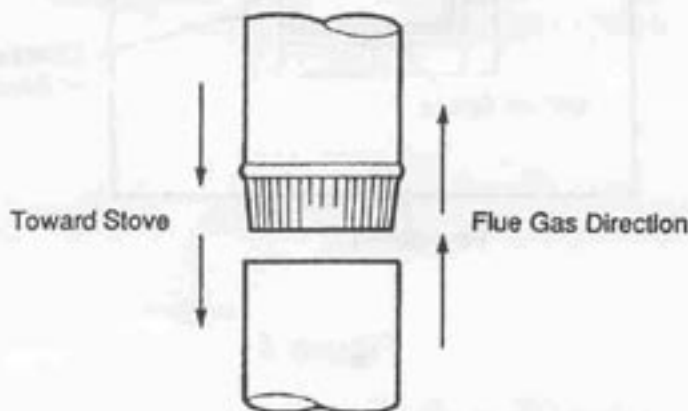


Figure 3

CHIMNEY HEIGHT/DRAFT

To insure that your Quadra-Fire stove burns properly, the chimney draft (Static Pressure) should be approximately 0.1000 in. water column (W.C.) during a high burn and 0.040 in. W.C. during a low burn, measured 6-inches above the top of the stove after one hour of operation at each burn setting.

Your Quadra-Fire stove was designed and tested on a 6-in. chimney, 12 - 14 feet high, measured from the top of the stove. The further your stack height or diameter varies from this configuration, the probability of performance problems increases. In addition, exterior conditions such as roofline, surrounding trees, prevailing winds and nearby hills can influence stove performance.

CONNECTION TO A MASONRY CHIMNEY

1. Chimney – Should the stove be connected to masonry chimney, the chimney should be examined for cracks, loose mortar, other signs of deterioration and blockage. The stove should not be installed until it is determined that the chimney is safe for use. Since an oversized flue contributes to the accumulation of creosote, the size of the flue should be checked to determine that it is not too large for the stove. The chimney should also be checked to assure it meets the minimum standards of the National Fire Protection Association [NFPA] Standard 211. Following is a list of the more critical minimum requirements for a properly constructed chimney.

- The masonry wall of the chimney, if brick or modular block, must be a minimum of 4 inches nominal thickness. A mountain or rubble stone wall must be at least 12 inches thick.
- The chimney must have a fire clay flue liner (or equivalent) with a minimum thickness of 5/8 inch and must be installed with refractory mortar. There must be at least 1/2 inch air space between the flue liner and the chimney wall (FIGURE 4). An equivalent liner must be a listed chimney liner system or other approved material.

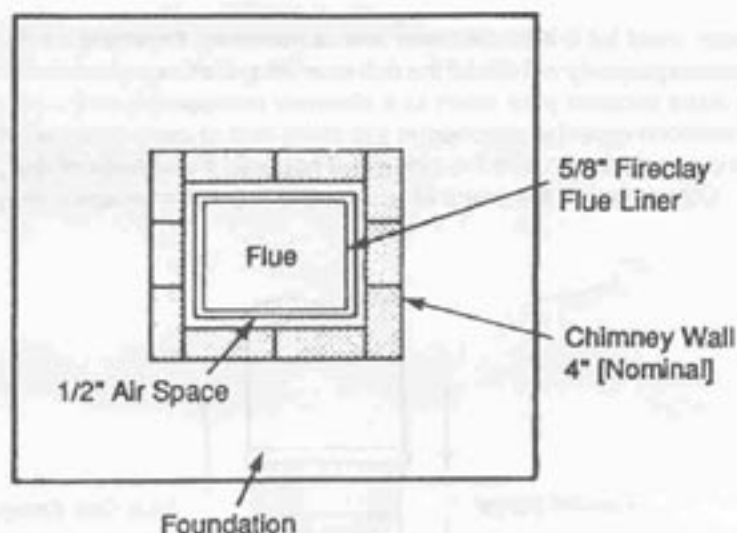


Figure 4

- A chimney inside the house must have at least 2 inches of clearance to the combustible structure. A chimney outside the house must have at least one inch clearance to the combustible structure. Fire stops must be installed at the spaces where the chimney passes through floors and/or ceiling (FIGURE 5).

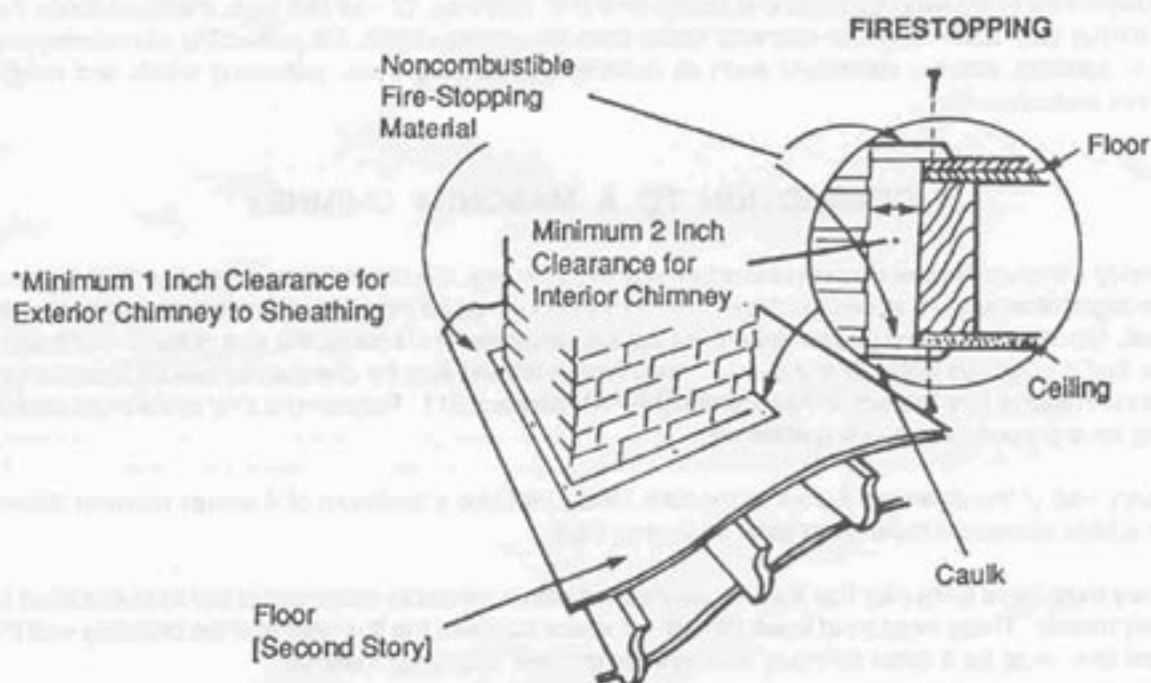


Figure 5

Remember that insulation must not contact the chimney. There must be air space around the chimney. Insulation must be 2 inches or more from the chimney (FIGURE 6).

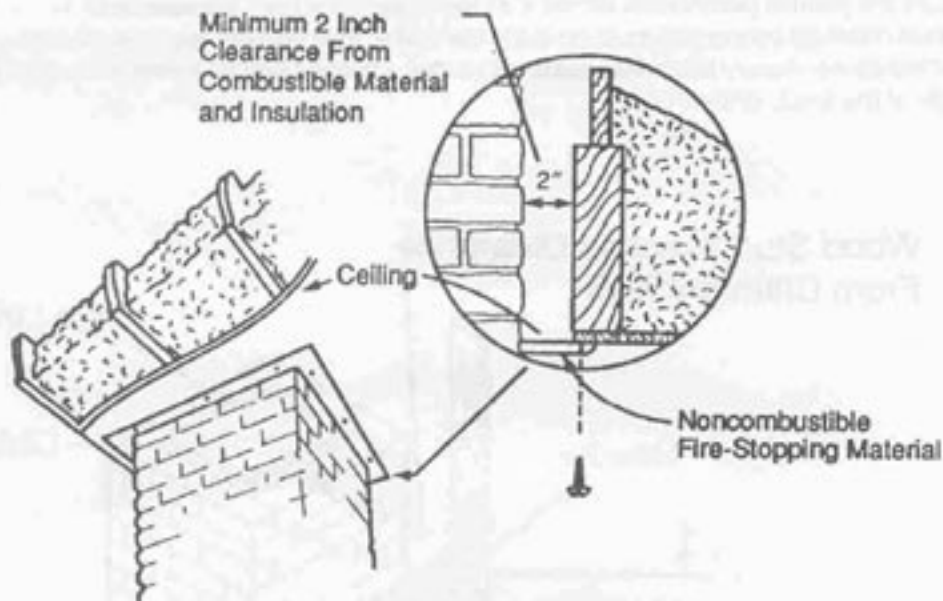


Figure 6

- A chimney must be the required height above the roof or other obstruction for safety and for proper draft operation. The requirement is that the chimney must be at least 3 feet higher than the highest point where it passes through the roof and at least 2 feet higher than the highest part of the roof or structure that is within 10 feet of the chimney, measured horizontally (FIGURE 7).

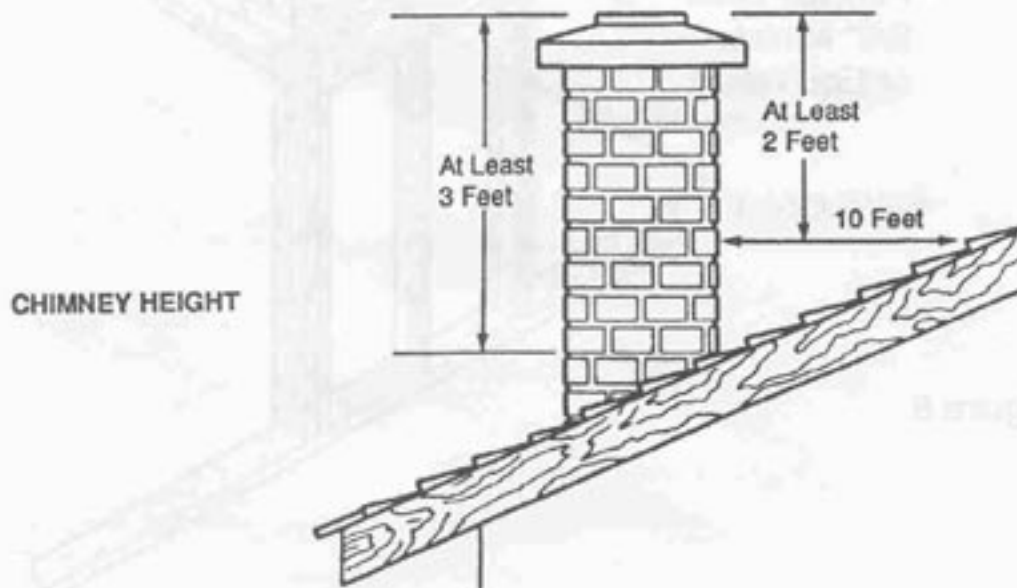


Figure 7

2. Thimble – A thimble must be used when the connection from the stove is made through a combustible wall to a masonry chimney. There are several methods to use for connection through a combustible wall, two of which are illustrated in this manual. Local building authorities may be consulted or (NFPA) 211 may be used for additional methods of chimney connection.

Also, listed prefabricated metal thimbles can be bought for use with wood stoves. The manufacturer's installation for the thimbles must be strictly followed to assure the safety of the system. Be sure to maintain the designated clearance to combustible materials.

A. Brick chimney thimble assembly – Construction of the brick thimble assembly requires 12 inches of brick around a fire clay liner. Be sure the point of penetration allows a 24 inch clearance from the connector to the ceiling. An opening of 30 inches (for a 6 inch chimney connector) must be cut in the wall to maintain the required 12 inches of brick separation from combustibles. It will be necessary to cut wall studs and install a header and sill frame to maintain proper dimensions and to hold the weight of the brick. (FIGURE 8).

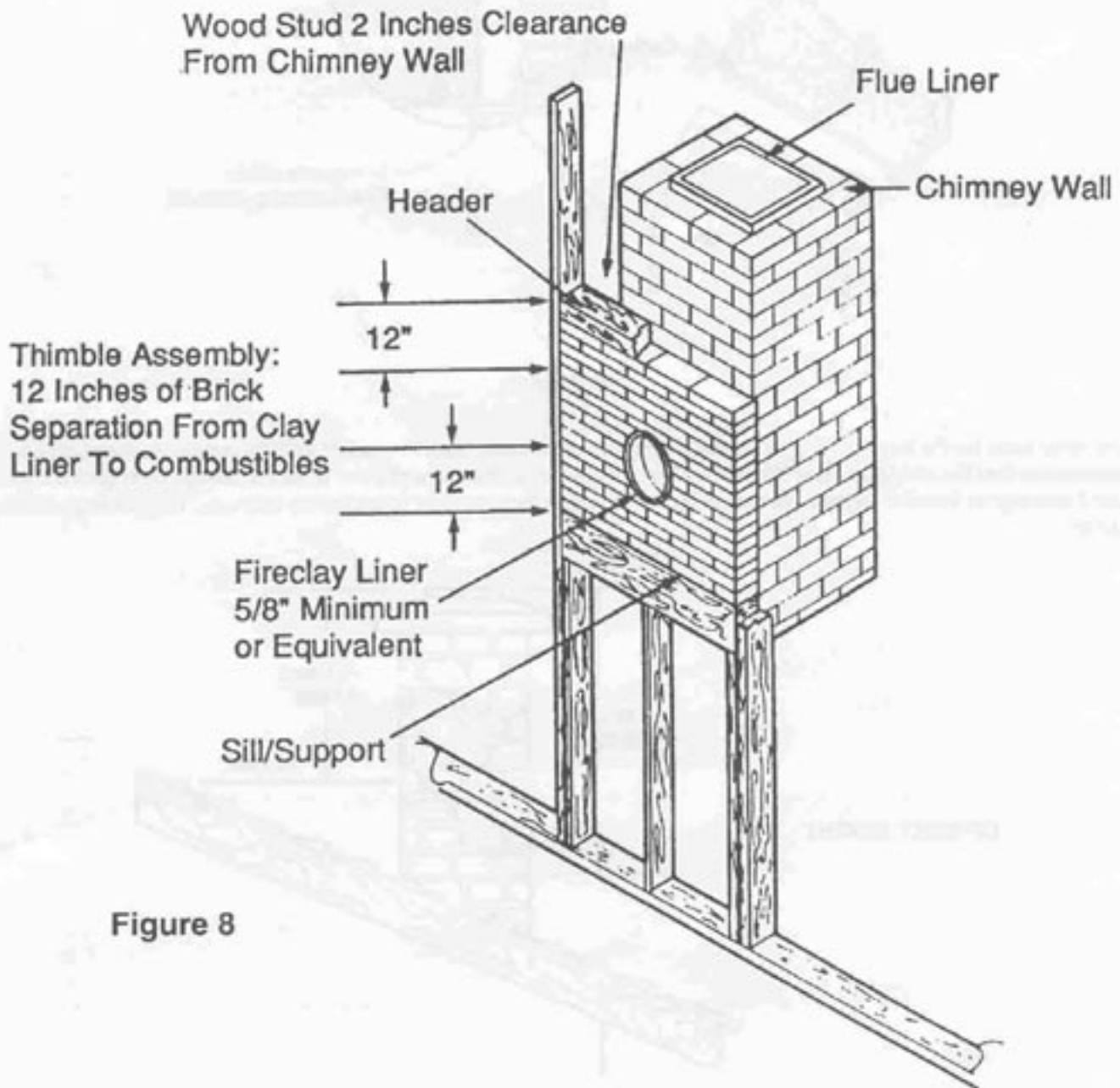


Figure 8

Minimum 3-1/2 inch (4 inch nominal) thick solid bricks are to be used. The fire clay liner (ASTM C35 or equivalent), minimum 5/8 inch wall thickness, must not penetrate into the chimney beyond the inner surface of the chimney flue liner and must be firmly cemented in place. If it is necessary to cut a hole in the chimney liner, use extreme care to keep it from shattering. Refractory mortar must be used at the junction to the chimney liner (FIGURE 9). After the assembly is complete, insert the chimney connector in the fire clay liner. Do not push it beyond the inside edge of the chimney liner because this will affect the draw of the chimney.

B. 6 inch solid pack chimney with metal supports as a thimble – For the method of installation to a masonry chimney shown in FIGURES 10 and 11, it will be necessary to purchase a 6 inch inside diameter 12 inch long section of prefabricated listed solid pack chimney to use a thimble. Purchase a wall spacer, trim collar and wall band that are manufactured to fit the chimney section you purchase.

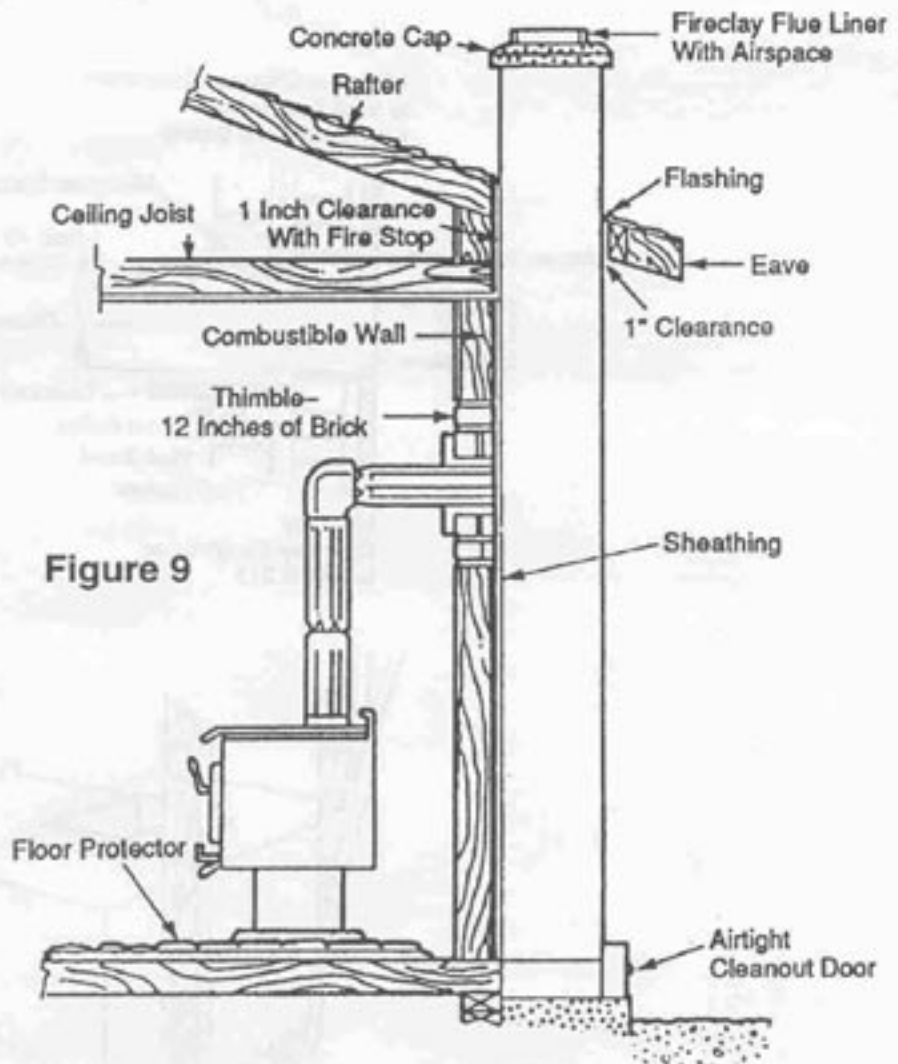


Figure 9

The safety features of this system are: the 2 inch air space between the chimney section and combustible wall, and the 1 inch air space around the chimney connector as it passes through the chimney section to the chimney.

The location of the opening through the wall to the chimney must leave a minimum 24 inch vertical clearance between the connector pipe and the ceiling to prevent the ceiling from catching fire.

Cut out a 14-1/2 inch diameter opening in the wall. It may be necessary to cut wall studs and install a header and sill frame to maintain the wall support. The hole in the chimney must have at least a 6 inch diameter fire clay liner or equivalent secured with refractory mortar. If it is necessary to cut a hole in the chimney liner, use extreme care to keep it from shattering.

First, make the frame for the thimble, being sure it is no smaller than 14-1/2 inch diameter, to maintain a 2 inch air space around the chimney section. Attach the wall spacer to the chimney side of the frame. Then insert the frame into the opening, toe-nailing it to the wall studs. Install the wall band in the framing to secure the chimney section in place. Insert a single section of chimney connector into the chimney through the wall band, being sure it does not protrude into the chimney beyond the edge of the chimney flue lining. Apply high temperature furnace cement to the end of the chimney section and install it over the connector, through the wall band, and through the wall spacer. Tighten the wall band to hold the chimney section firmly in place and against the chimney. Install the trim collar on the outside of the opening. Check to assure there is a 1 inch air space between the connector and the chimney section. Also, during installation, always check to assure that a 2 inch air space is being maintained to the wood framing. Do not fill this space with insulation. Insulation in this air space will cause a heat buildup which may ignite the wood framing.

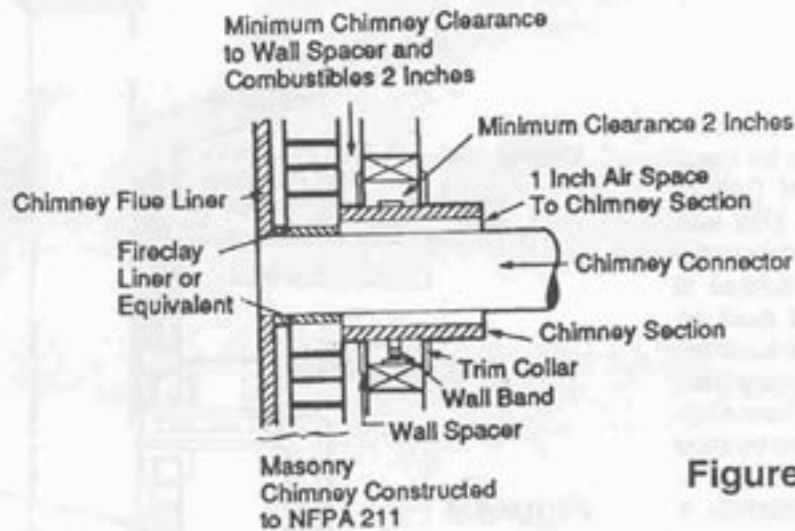


Figure 10

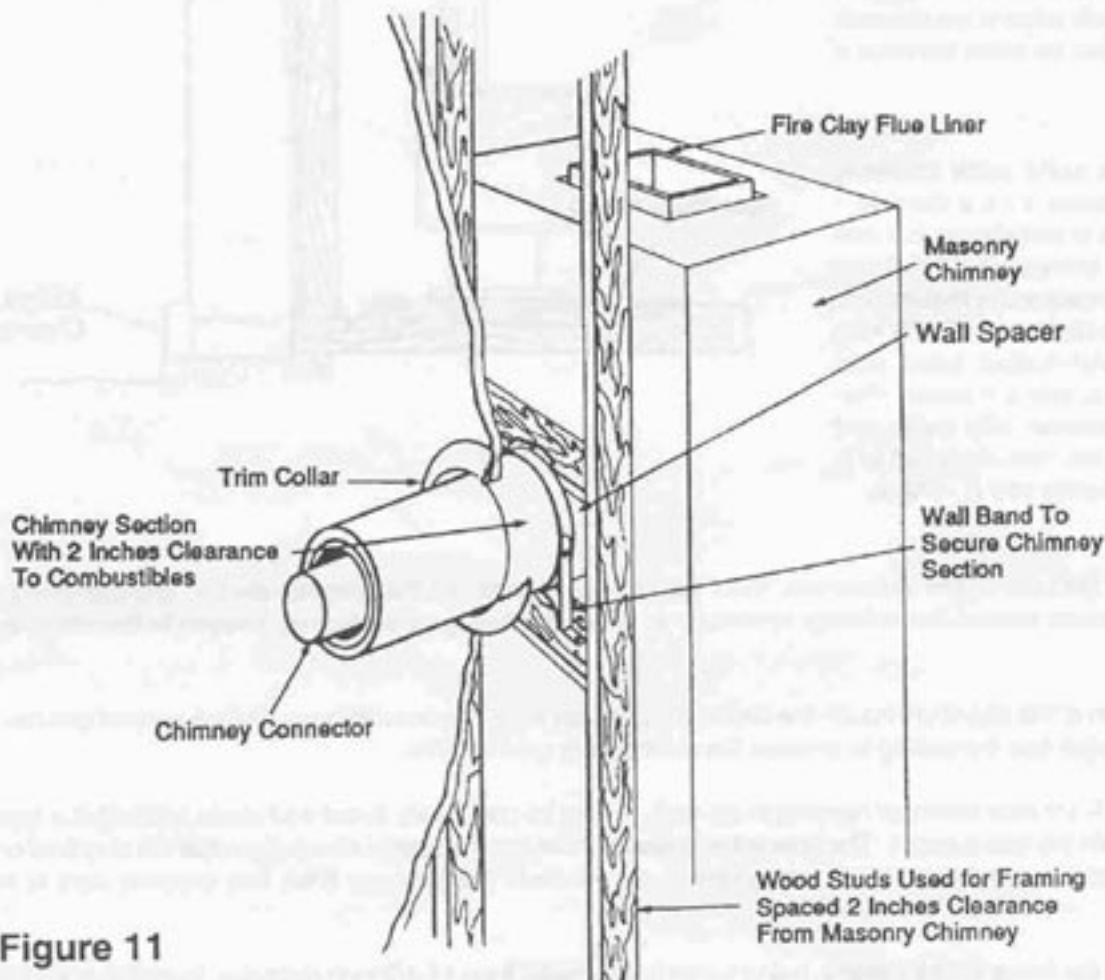


Figure 11

CONNECTION TO A METAL PREFABRICATED CHIMNEY

When a metal prefabricated chimney is used, the manufacturer's installation instructions must be followed precisely. You must also purchase [from the same manufacturer] and install the ceiling support package or wall pass through and "T" section package, firestops (when needed), insulation shield, roof flashing, chimney cap, etc. Maintain the proper clearance to the structure as recommended by the manufacturer. This clearance is usually a minimum of 2 inches, although it may vary by manufacturer or for certain components.

There are basically two methods of metal chimney installation. One method is to install the chimney inside the residence through the ceiling and the roof (FIGURE 12). The other method is to install an exterior chimney that runs up the outside of the residence (FIGURES 13 and 14). The components illustrated may not look exactly like the system you purchase, but they demonstrate the basic components you will need for a proper and safe installation.

The chimney must be the required height above the roof or other obstruction for safety and for proper draft operation. The requirement is that the chimney must be at least 3 feet higher than the highest point where it passes through the roof and at least 2 feet higher than the highest part of the roof or structure that is within 10 feet of the chimney, measured horizontally (FIGURE 5).

REMEMBER: Follow the manufacturer's installation instructions and maintain the manufacturer's specified clearance distances.

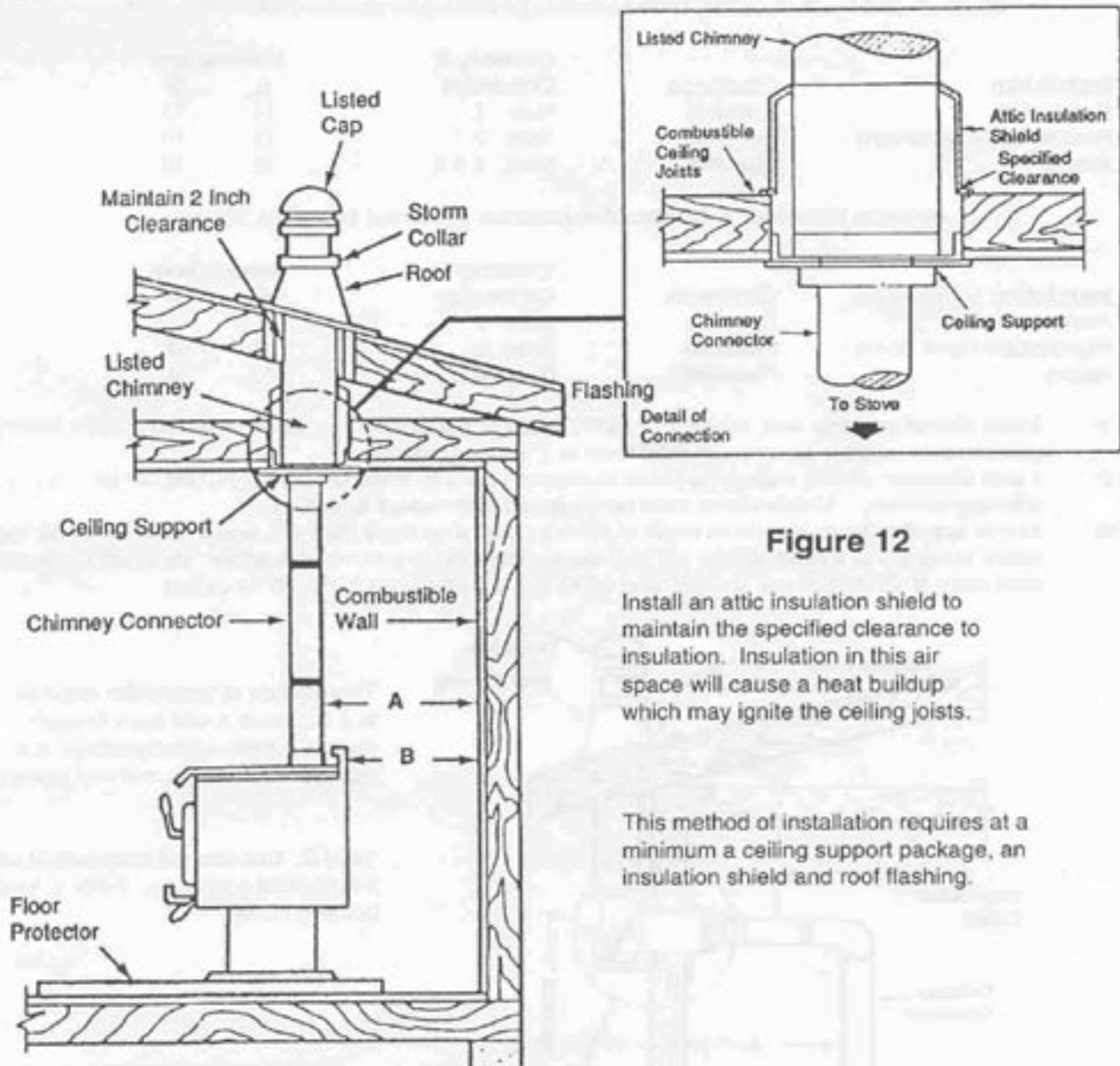


Figure 12

Install an attic insulation shield to maintain the specified clearance to insulation. Insulation in this air space will cause a heat buildup which may ignite the ceiling joists.

This method of installation requires at a minimum a ceiling support package, an insulation shield and roof flashing.

Minimum Clearance to Combustible Materials (in inches) for Quadra-Fire 2100

Installation	U.S. Clearance	Chimney & Connector	Dimensions	
			A	B
Residential	Standard	Note: 1	14	12
Residential/Mobile Home	Reduced	Note: 2	10	8
Alcove	Standard	Note: 2 & 3	10	8

U.S. (Continued)

Minimum Clearance to Combustible Materials (in inches) (With Top Shield)

Installation	Clearance	Chimney & Connector	Dimensions	
			A	B
Residential	Standard	Note: 1	12	10
Residential	Reduced	Note: 2	8	6
Alcove	Reduced	Note: 2 & 3	8	6

Minimum Clearance to Combustible Materials (in inches) for Quadra-Fire 3100 & 4100

Installation	Clearance	Chimney & Connector	Dimensions	
			A	B
Residential	Standard	Note: 1	14	12
Residential/Mobile Home	Reduced	Note: 2	12	10
Alcove	Standard	Note: 2 & 3	12	10

Minimum Clearance to Combustible Materials (in inches) (With Top Shield)

Installation	Clearance	Chimney & Connector	Dimensions	
			A	B
Residential	Standard	Note: 1	12	10
Residential/Mobile Home	Reduced	Note: 2	10	8
Alcove	Reduced	Note: 2 & 3	10	8

- Note 1: 6 inch diameter, single wall, minimum 24 MSG black or blued steel connector pipe with a listed factory-built chimney suitable for use with solid fuels or a masonry chimney.
- Note 2: 6 inch diameter, double wall air insulated connector pipe with listed factory-built Class "A" chimney or a masonry chimney. (Mobile Home must be equipped with a spark arrestor.)
- Note 3: Alcove specifications: Maximum depth of Alcove shall be no more than 48", and a minimum of 36" high above stove top to a combustible, 18" high above stove top to a non-combustible. Minimum distance from stove is 16" to sidewall on 3100 and 4100, 15" to sidewall on 2100, 36" to ceiling.

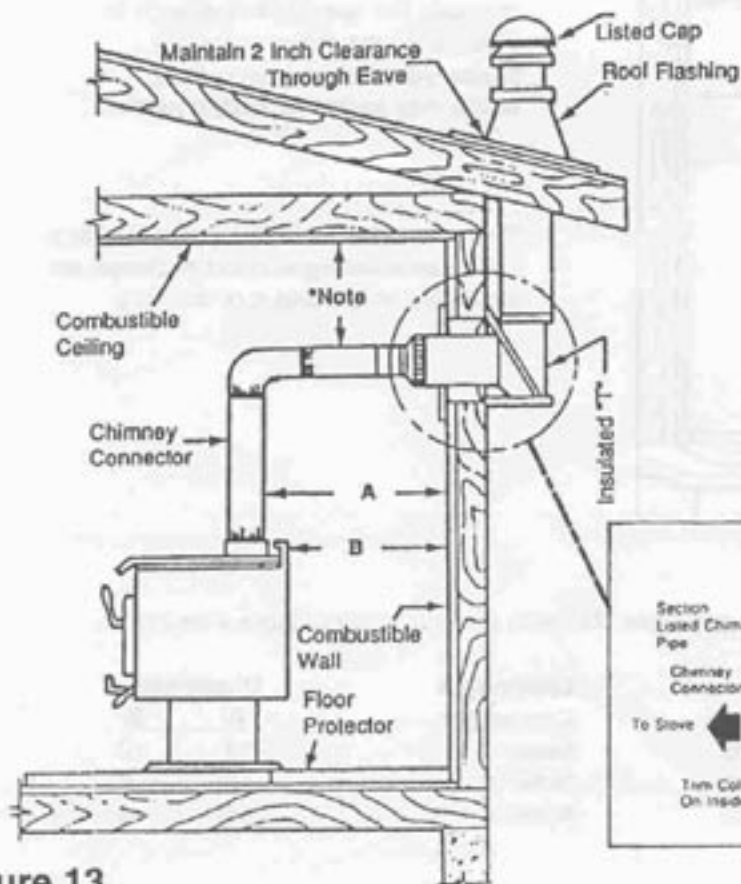


Figure 13

This method of installation requires at a minimum a wall pass through device, a wall support package and insulated "T" section and roof flashing.

*NOTE: Unit has not been tested with a horizontal connector. Refer to local building codes.

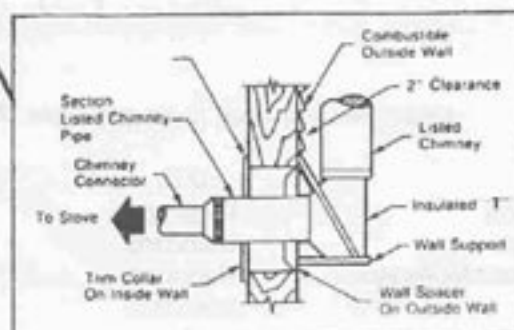


Figure 14

MOBILE HOME INSTALLATION

Must use required outside air kit (see FIGURE 14) for installation into mobile home.

1. An outside air inlet must be provided for combustion and be unrestricted while unit is in use.
2. Unit is to be secured to mobile home structure.
3. Do not install unit in a sleeping room.
4. The structure integrity of the mobile home floor, walls, and ceiling/roof must be maintained.
5. Unit is to be grounded with #8 copper grounding wire or equivalent and terminated at each end with N.E.C. approved grounding device.
6. Refer to clearance to combustibles section page 2 for listing to combustibles plus appropriate chimney and connector.

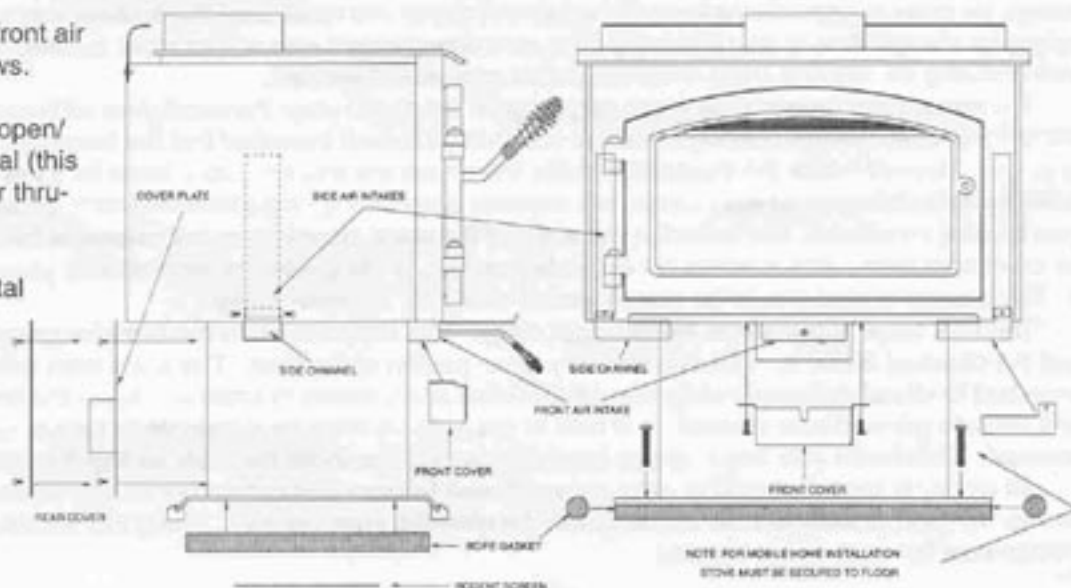
QUADRA-FIRE 2100, 3100, 4100 PEDESTAL

Mount front cover over the front air intake with (2) 1/4"-20 screws.

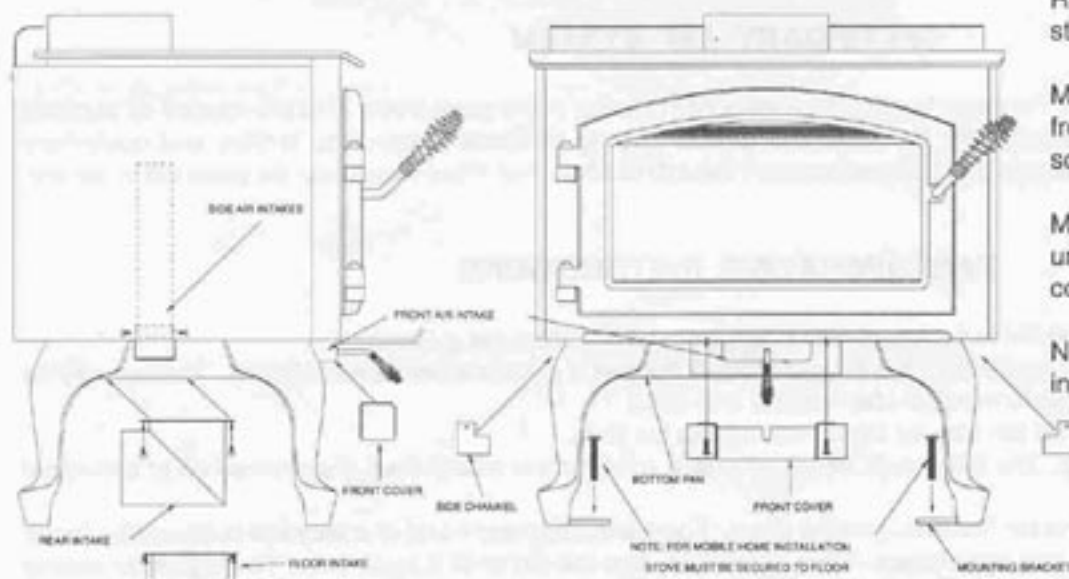
Mount cover plate over the opening in the rear of the pedestal (this plate may have a 3" tube for thru-the-wall installation).

Seal the sides of the pedestal base with fiberglass rope supplied.

Cover hole in hearth beneath the pedestal with rodent screen (thru-the-floor installation only).



QUADRA-FIRE 3100 (ONLY)



Remove 1/4"-20 screws from stove bottom.

Mount front cover over the front air intake with (2) 1/4"-20 screws.

Mount floor or rear intake on underside of bottom pan and connect to ducting.

Note: For Mobile Home installation.

Remove leveling bolts from legs and slide bolt through mounting bracket and back into leg, attach stove to floor with mounting brackets.

IMPORTANT, PLEASE READ BEFORE USING STOVE

In recent years there has been an increasing concern about the quality of air. Much of the blame for poor air quality has been placed on the burning of wood for home heating. In order to improve the situation, we at **Quadra-Fire** have developed cleaner burning woodstoves that surpass the requirements for emissions established by our governing agencies.

These woodstoves, like any other appliance, must be properly operated in order to insure that they perform the way they should. Improper operation can turn most any woodstove into a smoldering environmental hazard.

It helps to know a little about the actual process of burning in order to understand what goes on inside a stove. The first stage of burning we will call the kindling stage. This is when the wood is initially heated to a high enough temperature to evaporate the moisture which is found in all wood. The fuel will reach the boiling temperature of water (212°F.) and will not get any hotter until the water is evaporated. This process takes heat from the coals and tends to cool the stove. Fire requires three things; fuel, air, and heat, so if heat is robbed from the stove during the drying stage, the new load of wood has reduced the chances for a good clean burn. For this reason it is always best to burn dry seasoned firewood. This isn't always the case though. Sometimes the wood isn't dry so you must open the controls and burn the stove at a high burn setting for a longer time to start it burning. The control on the right side of your stove is called the primary control, it is used mainly during the kindling stage of burning or for maximum burn rate.

The next stage of burning, the secondary stage, is the period when the wood gives off flammable gases which burn above the fuel with bright flames. During this stage of burning it is most important that the flames be maintained and not allowed to go out. This will insure the cleanest possible fire. If you are adjusting your stove for a low burn rate, you should close down the air to the point where you can still maintain some flame. If the flames tend to go out the stove is set too low for your burning conditions. The control in the center of the stove, beneath the ash catcher is the one used to adjust the stove for lower burn rates. This is called the secondary control. Pulling either control towards you closes it, pushing it in opens it. The primary control should be closed (pulled outward), for lower burns.

The final stage of burning is the charcoal stage. This happens when the flammable gases have been mostly burned and the charcoal remains. This is a naturally clean portion of the burn. The coals burn with hot blue flames. It is very important to reload your stove while enough lively hot coals remain in order to provide the amount of heat needed to dry and rekindle the next load of wood. It is best to open the controls for a short while before reloading. This livens up the coalbed. You should also break up any large chunks and distribute the coals so that the new wood is laid on hot coals.

Air quality is important to all of us and if we choose to use wood to heat our homes we should do so responsibly. To do this we need to learn to burn our stoves in the cleanest possible way. Doing this will allow us to continue using our woodstoves for many years to come.

PRIMARY AIR SYSTEM

The primary combustion air enters in at the rear of the firebox through the primary air tubes. This air supply is controlled by the push rod located at the front right side of the stove. For maximum burn rates (more heat) push rod in, for minimum burn rates (less heat) pull rod out.

SECONDARY AIR SYSTEM

The secondary air enters at the upper front of the firebox near the top of the glass door. This pre-heated air supplies the necessary fresh oxygen to mix with the unburned gases, helping to create secondary, tertiary and quaternary combustions. This air is regulated by the push rod beneath the ash catcher. For more secondary air, push rod in, for less secondary air, pull rod out.

FAN OPERATING INSTRUCTIONS

If your **Quadra-Fire** wood stove is equipped with a fan, you should follow the guidelines:

1. **Initial (Cold) Startup:** Leave fan off until your stove is hot and a good coalbed is established. The fan may be turned on approximately 30 minutes after loading with fuel.
2. **High Burn Setting:** The fan may be left on throughout the burn.
3. **Medium Burn Setting:** The fan should be left off until a good burn is established, then turned on at a medium or high rate.
4. **Low Burn Setting:** The fan tends to cool the stove. If you are using wet wood or a very low burn setting, leave fan off until the burn is well established. Then if you wish, turn the fan on at a lower rate. Too high a fan setting with a low burn rate may adversely affect emissions.
5. The fan is equipped with a rheostat. The highest fan speed is obtained by turning the rheostat on and then adjusting back towards off as far as is possible without turning the fan off. For a low fan speed, turn the control knob clockwise as far as possible.

OPERATING TIPS

Here are a few tips on operating your **Quadra-Fire** stove to obtain efficiency with lowest emissions.

1. Regardless of desired heat output, when loading stove, burn your **Quadra-Fire** with both air controls wide open for a minimum of 15 minutes.
2. Regulate burn rate [heat output] by using the secondary draft control (center, under ash catcher. The primary control (on the right) is mainly for initial startup, reloading, or high burns.
3. Heat output settings: Following 15 minute controls open (see #1 above)

B.T.U./Hr.	Secondary			
	Primary	2100	3100	4100
1. Below 10,000	Closed after 5 min.	7/8" - 1" Open	Pull to stop	Pull to stop
2. 10,000-15,000	Closed after 5 min.	1-3/8" - 1-1/2" Open	7/8" - 1-1/8" Open	3/4" - 7/8" Open
3. 15,000-30,000	Closed after 5 min.	1-7/8" - 2-1/8" Open	1-5/8" - 1-7/8" Open	1-1/4" - 1-3/8" Open
4. Maximum heat	Full Open	Full Open	Full Open	Full Open

These are approximate settings and will vary with wood or chimney draft.

4. Burn dry, well-seasoned wood (See Wood Selection and Storage).

SUMMARY OF OPERATING INSTRUCTIONS

Aladdin Steel Products is deeply concerned with the air quality in your community. In order to maintain clean air, it is very important to burn your woodstove in the most efficient manner possible. Following these guidelines will ensure environment-friendly operation.

OPACITY

This is the measure of how clean your stove is burning. Opacity is measured in percent; 100% opacity is when an object is totally obscured by the smoke column from a chimney and 0% opacity means that no smoke column can be seen. As you become familiar with your stove you should periodically check the opacity. This will allow you to know how to burn your stove as nearly smoke-free as possible.

WOOD

Burn only dry seasoned wood. Store wood under cover, out of the rain and snow.

HIGH BURN RATE

Open (push in) both controls fully. It is important to do this when reloading the stove. Failure to do this could result in excessive emissions (opacity).

MEDIUM BURN RATE

After a wood load has been burning on high for at least 15 minutes (longer for very large pieces or wet wood), close (pull out) the control on the right side of the stove. Leave the center (under the ash catcher) open (pushed in).

LOW BURN RATE

After a wood load has been burning on high for at least 15 minutes (longer for very large pieces or wet wood), close (pull out) the control on the right side of the stove. Then close down the center control gradually making sure to maintain flames in the stove. It is very important to maintain flames in your stove during the first few hours of a low burn to avoid excessive air pollution.

BUILDING A FIRE

There are many ways to build a fire. The basic principle is to light easily ignitable tinder or paper, which ignites the fast-burning kindling, which in turn ignites the slow burning firewood. Here is one method that works well:

1. Push baffle to rear of stove.
2. Place several wads of crushed paper on the firebox floor.
3. Lay small dry sticks of kindling on top.
4. Open primary and secondary air controls fully.
5. Make sure that no matches or other combustibles are in the immediate area of the stove. Be sure the room is adequately ventilated and the flue unobstructed.
6. Light the wadded paper in the stove, **NEVER** light or rekindle stove with kerosene, gasoline, or charcoal lighter fluid; results can be fatal.

7. Once the kindling is burning quickly, add several full length logs three or four inches in diameter. Be careful not to smother the fire. Stack the pieces of wood carefully – near enough to keep each other hot, but far enough away to allow adequate air flow between them.
8. When ready to reload the stove, add more logs. Large logs burn slowly, holding a fire longer. Small logs burn fast and hot, giving quick heat. Larger logs create less creosote and emissions than smaller logs.
9. Adjust the primary and secondary air controls: the more you close down the controls, the lower and slower the fire will burn. The more open the controls are, more heat will be produced.

As long as there are hot coals, repeating steps eight and nine will maintain a continuous fire throughout the season.

Note: The special high temperature paint that your stove is finished with will cure as your stove heats. You will notice an odor and perhaps see some vapor rise from the stove surface, this is normal. We recommend that you open a window until the odor dissipates and paint is cured.

CARE AND CLEANING OF GLASS

Quadra-Fire stoves are equipped with "Pyroceram II" super heat resistant glass which can only be broken by impact or misuse. Do not slam stove door or impact the glass. When closing door, make sure that logs do not protrude against glass.

Clean glass with a non-abrasive glass cleaner such as Elco Glass Cleaner, available from your Aladdin dealer. Abrasive cleaners may scratch and cause glass to crack.

Inspect glass regularly. If you find a crack or break, immediately put fire out and return door to your dealer for replacement of glass before further use. Do not substitute materials for glass replacement.

CARE AND CLEANING OF PLATED SURFACES

Clean 24K gold plated surfaces with warm soapy water before lighting first fire. Polishes with abrasive agents will scratch.

CHIMNEY CLEANING

Note: Disconnect flue pipe from stove before cleaning chimney.

ASH REMOVAL

Remove cold ashes [never hot] from the stove by shoveling them into a metal container with a tight-fitting lid. Always treat ashes as if they contain hot coals and store the container on a non-combustible floor away from combustible material pending final disposal.

FIREBRICK

The firebox of your **Quadra-Fire** stove is lined with high quality firebrick which has exceptional insulating properties. No need for a grate, simply build a fire on the firebox floor of your stove.

OVERFIRING

Do not overfire. Using flammable liquids or too much wood, or burning trash in the stove, may result in overfiring. If the chimney connector or stove glows red or even worse, white, the stove is overfired. This condition may ignite creosote in the chimney, possibly causing a house fire.

If you overfire, immediately close the stove dampers and door, if open, to reduce the air supply to the fire.

WOOD SELECTION AND STORAGE

Dry and well-seasoned wood will not only minimize the chance of creosote formation but will give you the most efficient fire. Even dry wood contains at least 15% moisture by weight, and should be burned hot enough to keep the chimney hot for as long as it takes to dry it out - about one hour. It is a waste of energy to burn unseasoned wood of any kind.

Dead wood lying on the forest floor should be considered wet and requires full seasoning time. Standing wood can be considered to be about 2/3 seasoned. To tell if wood is dry enough to burn, check the ends of the logs. If there are cracks radiating in all directions from the center, it's dry. If your wood sizzles in the fire, even though the surface is dry, it may not be fully cured. Splitting of wood before it is stored reduces drying time. Wood should be stacked so that both ends of each piece are exposed to air, if space is available, since more drying occurs through the cut ends than the sides. This is true even with wood that has been split. Store wood undercover, such as in a shed, or covered with a tarp, plastic, tarpaper, sheets of scrap plywood, etc.

OPTIONAL FREESTANDING BLOW INSTALLATION INSTRUCTIONS FOR QUADRA-FIRE STOVES

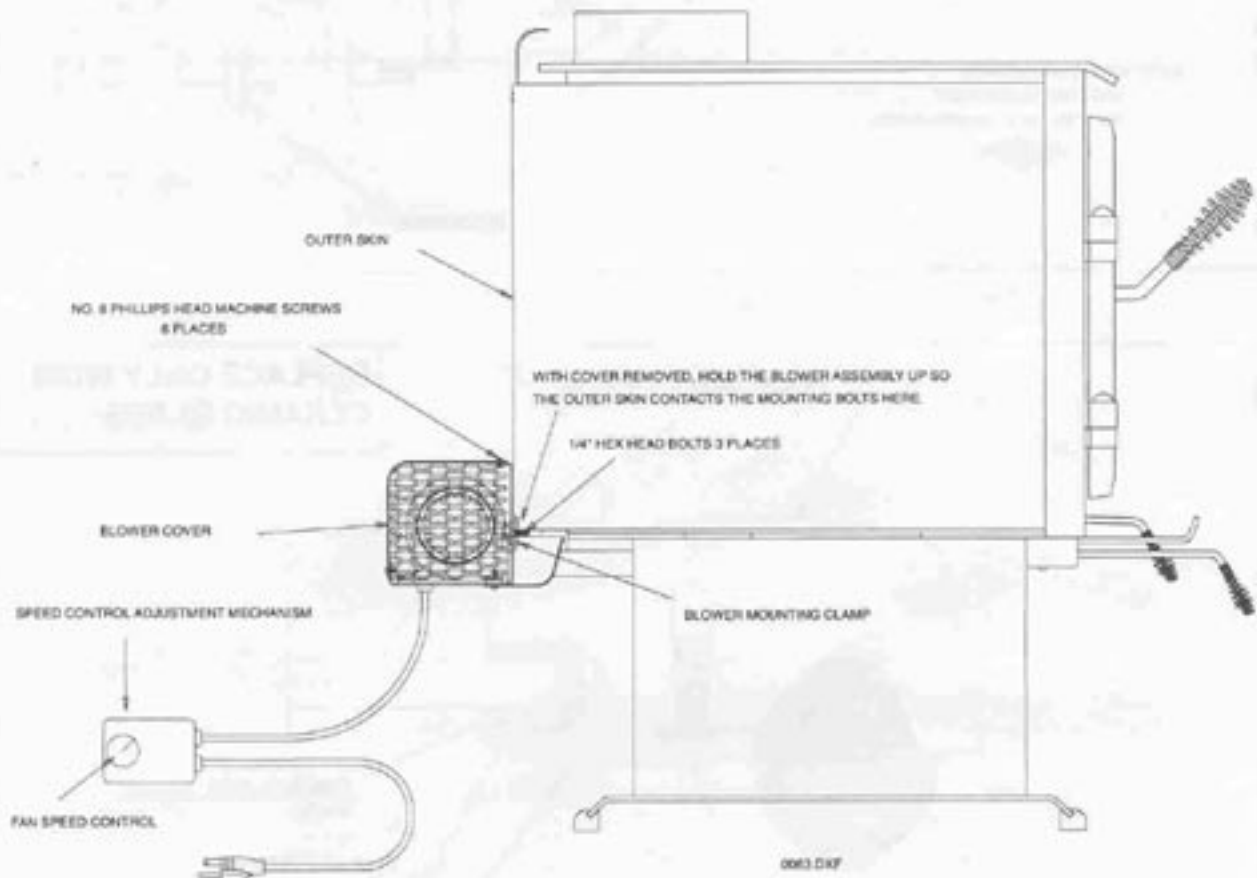
Tools Required:

- No. 2 Phillips Screwdriver
- 3/8" socket and ratcheted, or wrench

The blower is shipped fully assembled and ready for installation.

Step:

1. Remove the blower cover by removing the six No. 8 Phillips head mounting screws.
2. Position the blower so the mounting clamp slides behind the outer skin centered at the rear of the stove.
3. Tighten the three 1/4" bolt (3/8" hex head) to secure the blower to the outer skin.
4. Reinstall the blower cover and tighten the six Phillips head screws.
5. Plug the unit in and adjust the fan control as required.



Blower Switch Adjustments

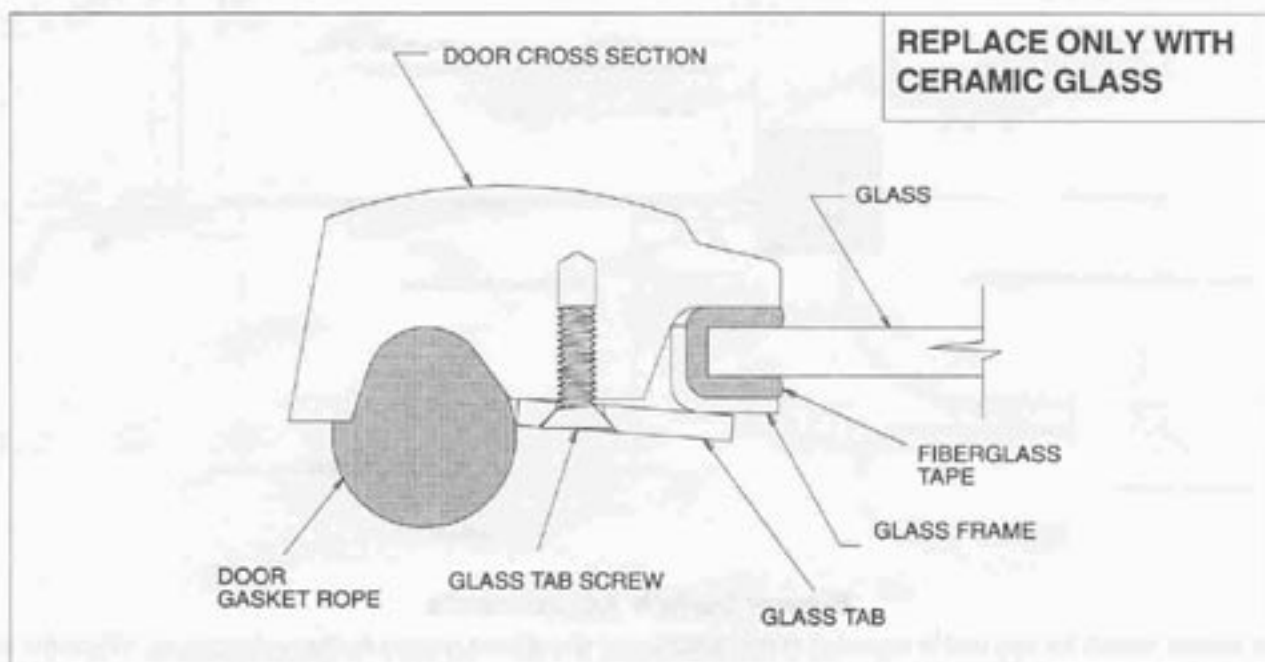
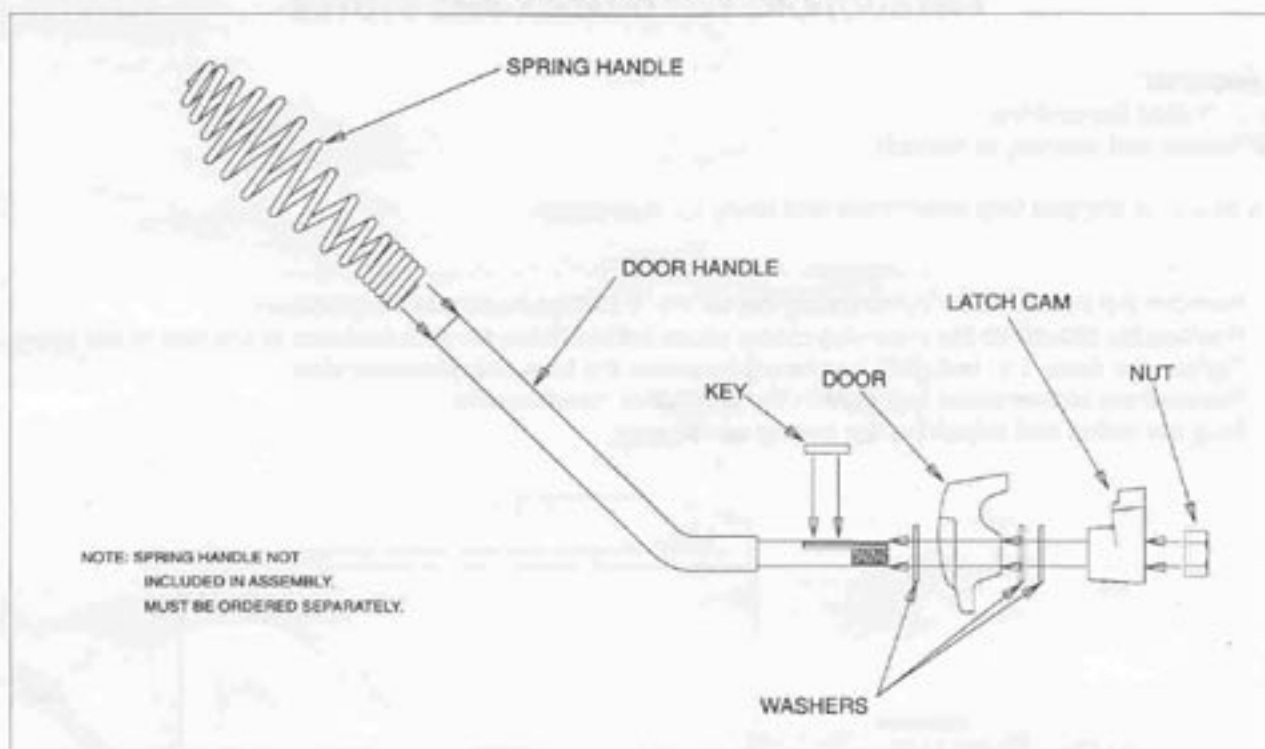
The blower switch for this unit is adjusted at the factory and should not require further adjustment. When the blower switch is turned clockwise it will click on to high speed. Turn the switch more clockwise to decrease the speed. At full clockwise the fan should blow very gently but should not stop.

Steps For Adjusting The Blower Speed Control

1. With the unit plugged in turn the speed control knob to slow (Full clockwise).
2. With a small screwdriver adjust the fan speed by turning the adjustment mechanism through the hole on the side of the speed control.
3. Adjust the speed so the fan runs slowly, but does not stop. Turn clockwise to slow the fan and counterclockwise to increase the speed.

Note: Some controls do not have access holes for speed adjustments. These controls must be disassembled to access the adjustment mechanism.

Door Handle Assembly



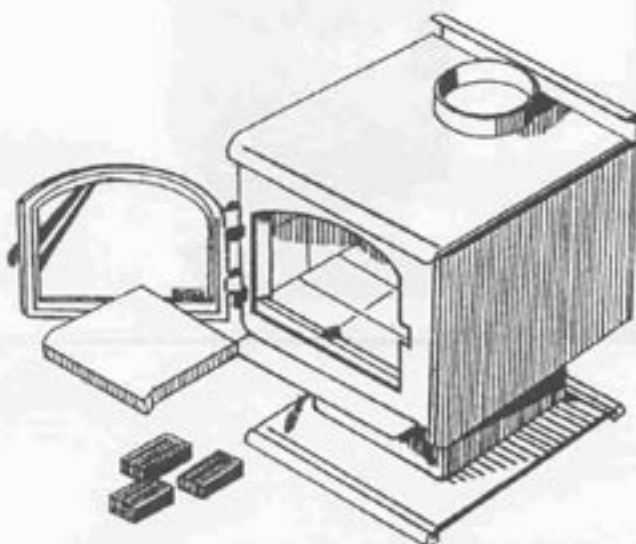
Glass Replacement Instructions

1. Remove door from stove and lay on a padded flat surface.
2. Remove glass tabs and screws with a Phillips screwdriver (turn screws counterclockwise).
3. Lift glass frame pieces and glass out of the door frame.
4. Lay new glass with fiberglass tape around it into the door frame making sure the **Quadra-Fire** logo reads correctly to the outside.
5. Place glass frame pieces over the fiberglass tape on the edges of the glass. Be sure glass is centered in the opening (i.e., same space top and bottom, left and right sides).
6. Reinstall screws and glass tabs tight enough to hold things in place.
7. Check again for centering of glass in door frame and give all screws a final tightening.

Baffle Removal & Installation for Models 2100, 3100 & 4100

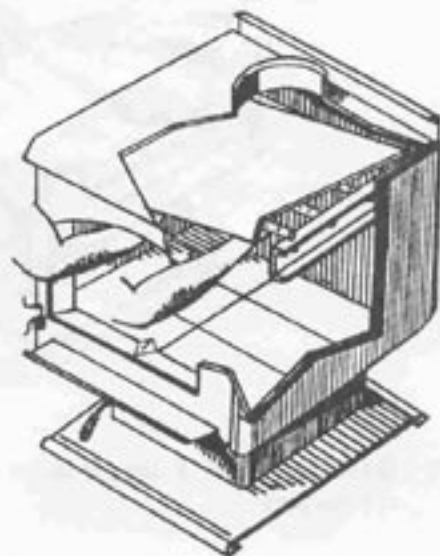
NOTE: Baffles in Quadra-Fire stoves are heavy. The 2100 Baffle weighs 25-lbs. The 3100 Baffle weighs 29-lbs. and the 4100 Baffle weighs 33-lbs. Moving the baffle around inside the stove takes strength and patience. Removing hardware exposed to combustion processes can be frustrating. If your reason for removing the baffle is simply to clean the chimney you have alternatives that will save time and effort. Read instructions thoroughly before proceeding.

1. Remove all ash from the Firebox and extinguish all hot embers before disposal.
2. Remove the Kaowool Blanket from above the Baffle.
3. Remove the Firebrick from the sides of the stove on 2100 and 3100 models. Remove all the brick from the 4100.

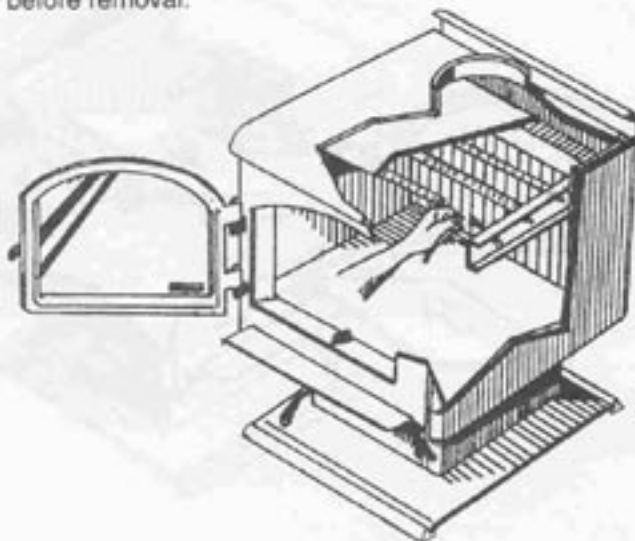


5. To remove the Secondary Combustion Tubes, slide them to one side until one end is out of its hole. Then, while lifting that end of the baffle plate, pull the tube up over the Secondary Air Channel and out of the hole at its other end.

Note: When replacing the Secondary Tubes on 3100 and 4100 models, the tube with the larger holes is in front.

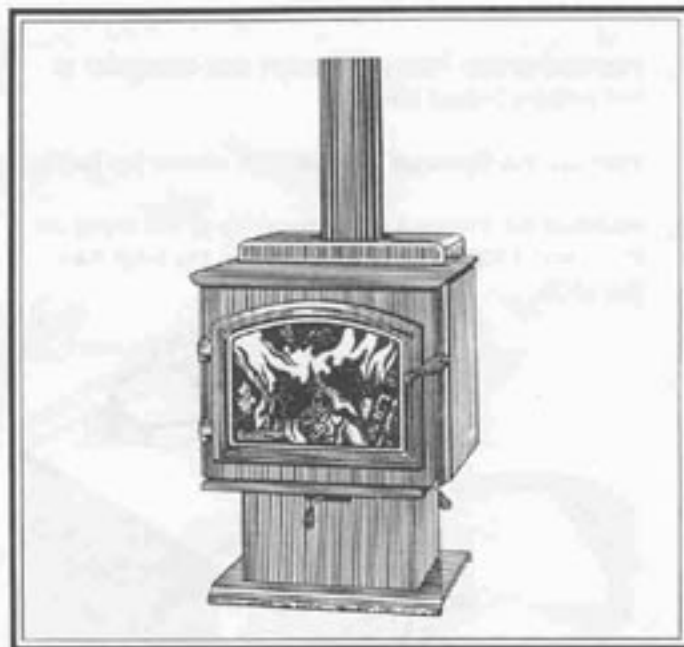
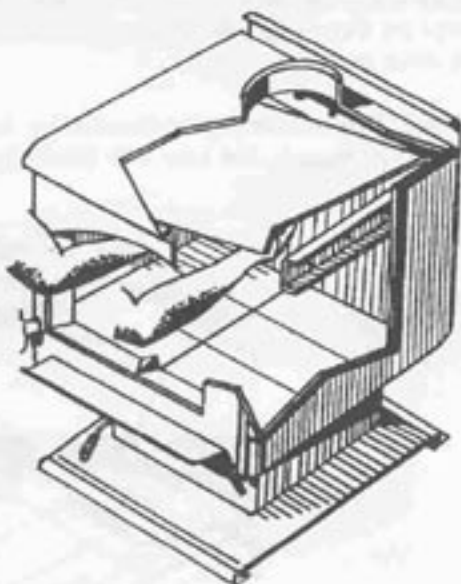


4. With a 3/16" Allen Wrench, remove the Secondary Combustion Tube Retainer Bolts on the Secondary Air Channel under the end of each tube. **Note:** Soak the bolts with penetrating oil at least 15 minutes before removal.

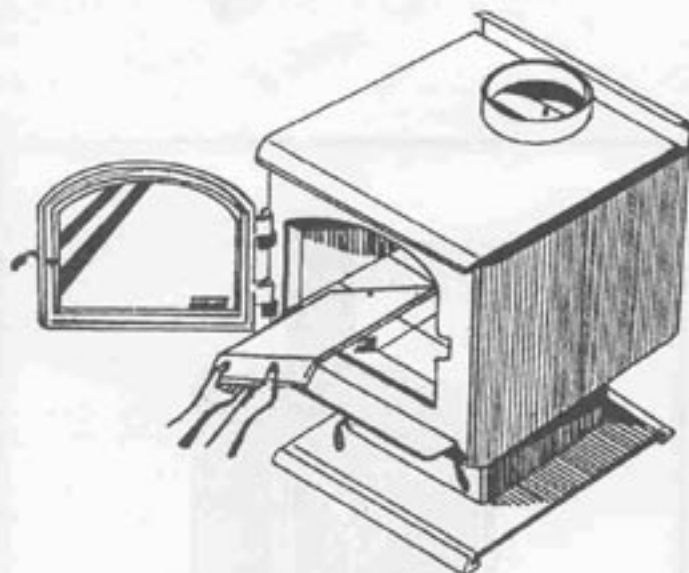


Baffle Removal & Installation for Models 2100, 3100 & 4100 (continued)

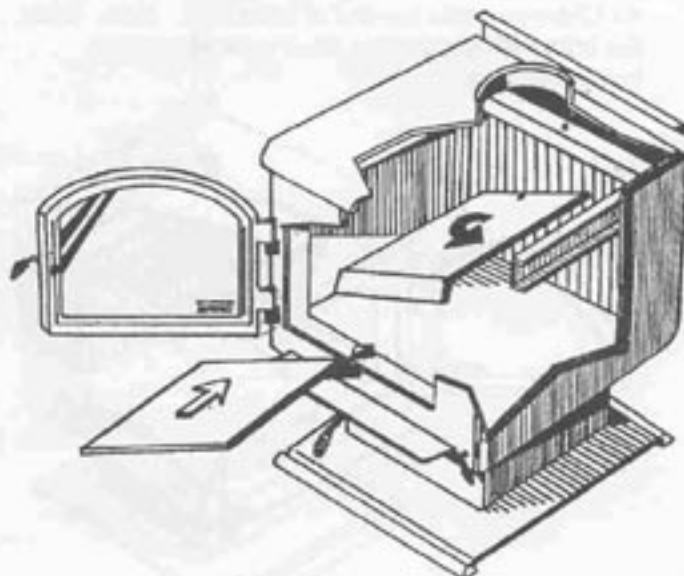
6. To remove the Baffle Plate, use both hands to lift it from the alignment pin at the center rear. Then tilt it as you slide it to one side until the other side clears the shelf.



7. (2100 and 3100) Keep the Baffle tilted as you lift it out the door.

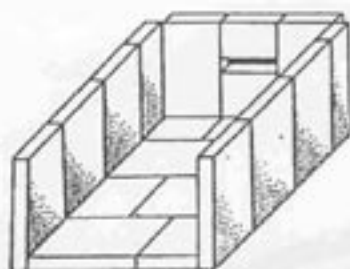


7. (4100 Only) With the Baffle Plate tilted and lowered in the Firebox it must be rotated 180° so the tip-down at the front of the Baffle is facing the rear of the stove. As you lift the Baffle out, tilt it down so the tip-down will fit through the door.

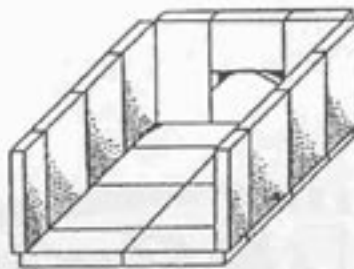


8. To install the Baffle reverse Steps 1 through 7. The hole in the Baffle must be on its alignment pin on the rear shelf.

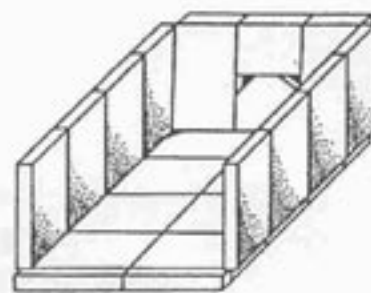
BRICK PATTERNS



2100



3100



4100

MAINTENANCE INSTRUCTIONS

CREOSOTE

1. Formation and need for removal - When wood is burned slowly, it produces tar and other organic vapors which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a newly started fire or from a slowly burning fire.

As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire which may damage the chimney or even destroy the house.

The chimney connector and chimney should be inspected at least twice monthly during the heating season to determine if a creosote buildup has occurred.

If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

2. Inspection and removal - Inspect the system at the stove connection and at the chimney top. Cooler surfaces tend to build creosote deposits quicker, so it is important to check the chimney from the top as well as from the bottom.

The creosote should be removed with a brush specifically designed for the type of chimney in use. A chimney sweep can perform this service. It is also recommended that before each heating season, the entire system be professionally inspected, and cleaned and repaired if necessary.

ALADDIN STEEL PRODUCTS, INC. LIMITED WARRANTY

Aladdin Steel Products, Inc. warrants the **Quadra-Fire** 2100, 3100 and 4100 models against defects in materials or workmanship (except optional electrical component parts) for a period of five (5) years following the date of retail purchase. Optional electrical components parts are warranted against defects in materials or workmanship for a period of one (1) year following the date of retail purchase. Proof of purchase is required to secure warranty. To secure this warranty, the purchaser must return the warranty card within ten (10) days of the purchase to:

ALADDIN STEEL PRODUCTS, INC.
401 North Wynne
Colville, WA 99114

The manufacturer is responsible only for repair or replacement of the defective part and may request that the purchaser ship the part to the manufacturer or authorized repair facility in your state. Warranty claims should be made directly to the manufacturer at the above address. The manufacturer is not responsible for special, incidental or consequential damages.

Misusing or altering the stove or optional electrical component parts **VOIDS** this warranty - this includes but is not limited to, using other than recommended fuels, over heating, and any alterations or modifications.

This warranty does not cover freight, glass, paint, plated surfaces, gaskets or firebrick.

QUADRA-FIRE

North America's Best

ALADDIN

ALADDIN STEEL PRODUCTS, INC.